CONTRACT NO: HK/2009/05

WANCHAI DEVELOPMENT PHASE II AND CENTRAL WANCHAI BYPASS SAMPLING, FIELD MEASUREMENT AND TESTING WORK (STAGE 1)

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

QUARTERLY ENVIRONMENTAL MONITORING AND AUDIT REPORT

- SEPTEMBER TO NOVEMBER 2011 -

CLIENTS:

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and

Highways Department

PREPARED BY:

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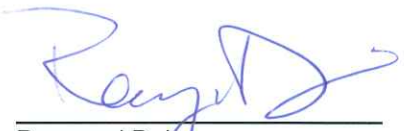

Raymond Dai
Environmental Team Leader

DATE:

4 January 2012

ENVIRON

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5 January 2012

AECOM Asia Company Limited
8/F, Tower 2
Grand Central Plaza
138 Shatin Rural Committee Road,
Shatin, New Territories,
Hong Kong

By Post and Fax (2691 2649)

Attention: Mr. Kelvin CHENG

Dear Sir,

Re: Wan Chai Development Phase II and Central-Wan Chai Bypass Quarterly Environmental Monitoring and Audit Report (September 2011 to November 2011) 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 Quarterly Environmental Monitoring and Audit (EM&A) Report for September 2011 to November 2011 dated 4 January 2012.

Please be informed that we have no adverse comments on the captioned submission and thereby write to verify the captioned submission.

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

c.c.	HyD	Mr. Jones Lai	by fax: 2714 5289
	CEDD	Mr. Patrick Keung	by fax: 2577 5040
	AECOM	Mr. Julian Ling / Mr. Stephen Lai	by fax: 2691 2649
	Lam	Mr. Raymond Dai	by fax: 2882 3331

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EXECUTIVE SUMMARY

i. This is the Quarterly Environmental Monitoring and Audit (EM&A) Report – September to November 2011 prepared 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 and audit findings and information during the period from 28th September to 27th November 2011. The cut-off date of reporting is at 27th of each reporting quarter.

Construction Activities for the Reported Period

ii. During this reporting period, the principle work activities for Contract no. HY/2009/11 are summarized as below:

Table I Principle Work Activities for Contract no. HY/2009/11

September 2011	October 2011	November 2011
• Reclamation works; • Geo-textile laying; • Drainage Construction works; • Outfall construction works (Open Channel U); • Sheet Pilling; • Pre-casting of Coping; and • Construction & installation of Seawall Concrete Block	• Sheet Pilling; • Geo-textile laying; • Slotted panel fixing; • Reclamation works; • Precasting of Coping; • Drainage Construction works; • Installation of berm blocks; • Construction of FEHD carpark and associated works; • Outfall construction works (Open Channel U); and • Installation of precast concrete blocks at seawall type 6 & 7	• Geo-textile laying; • Slotted panel fixing; • Reclamation works; • Installation of Precast Coping; • Drainage Construction works; • Installation of Berm Blocks; • Outfall construction works (Open Channel U); • Installation of precast concrete blocks at seawall type 6 & 7; • Construction of Seawall Type 8; and • Placing Granite Facing Stone

iii. During this reporting period, the principle work activities for Contract no. HK/2009/01 are summarized as below:

Table II Principle Work Activities for Contract no. HK/2009/01

September 2011	October 2011	November 2011
• Installation of silt screen (type 1) at TST; • Seawall toe block installation for reinstating seawall at Zone B1-3; • Dredging within HKCEC Water Channel from CH160 to CH190 for Type 1 & 2 sediment; • Trench backfilling and seawall reinstatement for both the completed cross-harbour watermains and the seawall near Expo Promenade (Zone B1-3); • Installation of cross-harbour watermains nos. A8 & B8; • Final trimming within Principle Fairway for cross-harbour watermains installation; • Platform erection for crawler crane mobilization near the existing seawall at Salisbury Garden had been completed	• Installation of silt screen (type 3) at TST; • Removal of rock armour at North Bank of HKCECC Water Channel between CH156 and CH185; • Rockfilling for sheet pile water channel from Ch120 to Ch160; • Installation of sheet pile for cooling water intake at Dome Promenade between CH120 and CH160; • Construction of retaining wall (Base Slab) at Zone B1-3; • Construction of precast RC outfall for subsequent seawall reinstatement at Zone B1-3; • Reclamation HKCEC3w (up to Ch110) within HKCEC Water Channel; • Installation of cross harbour watermains nos. A9/B9 and A10; • Thrust block construction for A5B5;	• Rock-filling for sheet pile water channel from CH120 to CH160; • Dredging works within HKCEC Water Channel from CH190 to CH260 for Type 1&2 sediment; • Removal of rock armours from CH150 to CH260 at the north bank of HKCEC Water Channel; • Installation of sheet pile for cooling water intake at Dome Promenade between CH120 and CH160; • Pre-cast RC outfall for subsequent seawall reinstatement at Zone B1-3 has been concreted; • Reclamation of HKCEC3W (up to CH110) with in HKCEC Water Channel has been commenced and substantially completed; • Installation of cross-harbor watermains nos. B10, A11/B11, A12/B12 and A13;

September 2011	October 2011	November 2011
and WSD's consent had been given for mobilization of crawler crane to the jack-up barge. Mobilization; • The trench excavation works at Zone B1-4, B4-2, A1-2, A2-4A, A3-3, A4-3B, A4-3B, A4-3C and A5-5; • Trench excavation works at Zone A3-2A; • Excavation for jacking pits for pipe laying works by heading method along Convention Avenue at Zone A1-2A, A1-4A and A2-4A; • Heading No. H2, H5 and H6 (Mainlaying works by trenchless method); and • Trench excavation for a 1000 dia. Watermains at Salisbury Garden	• Dredging of Type 2 sediment from Ch50 to CH250 for subsequent cross-harbour watermains installation off Tsim Sha Tsui; • Installation of pipe pile wall at TST landfall section was commenced; • Installation of sheet pile wall for pipe trench dredging at TST; • The trench excavation works at Zone B1-4, B4-2m B4-5m A1-2, A2-4A, A3-3, A3-2A, A4-3B, A4-4C and A5-5; • The trench excavation works at Zone B 4-2 and B4-5; • Heading No H2, H5 and H7 (Mainlaying works by trenchless method); • Tree transplant and its corresponding planter modification at Expo Drive were commenced. Such preparation works was catered for subsequent TTA implementation at the time when Zone B1-6 and B202 was being fenced off for the subsequent mainlaying works; and • Trench excavation and pipe laying works for a 1000 dia. watermains (CHF) at Salisbury Garden	• Trust block construction for A5B5 was substantially completed; • Dredging of Type 3 sediment from CH50 to Ch250 for subsequent cross-harbor watermains installation off Tsim Sha Tsui; • Installation of pipe pile wall at TST seafront; • Installation of sheet pile wall for pipe trench dredging at TST was substantially completed; • Mainlaying works at Zone B1-4, B4-2, B4-5, A3-3, A3-2A, HKCEC Way In/Out, A4-3B, A2-23B and A5-5; • Reinstatement works at Zone B1-4 and A3-3; • Mainlaying works at Zone A1-2 was substantially completed; • Mainlaying works at Zone HKCEC Way In/Out; • Headind No. H2 was substantially complete; • Heading No. H3, H4, H5 and H7; • Mainlaying works and the subsequent carriageway reinstatement in Zone A4-3C was substantially completed; • Tree transplantation and its corresponding planter modification at Expo Drive; and • Trench excavation and pipe laying works for a 1000 dia. Watermains (CHF) at Salisbury Garden

iv. During this reporting period, the principle work activities for Contract no. HK/2009/02 are summarized as below:

Table III Principle Work Activities for Contract no. HK/2009/02

September 2011	October 2011	November 2011
• Tseung Kwan O public fill sorting facility 18,615.6 m3 sorted fill produced this month. • Steel fixing of Passenger Terminal Building was completed on 8 September 2011; • Demolition of existing ferry pier; • Racking piles and dredging work of Ferry Pier; • Formwork for lift shaft of Passenger Terminal Building; • Fixing G/F to 1/F R.C wall waling on Passenger Terminal Building; • Construction of wash out chamber at Harbour Road and access manhole at Harbour Centre; • Reinstatement work for footpath	• Digging trial pit for bus shelter footing at Expo Drive East; • Fixing up reinforcement for 1/F beam of Passenger Terminal Building; • Erecting formwork of 1/F slab of of Passenger Terminal Building; • Fixing 1/F to 2/F R;C wall waling on Passenger Terminal Building; • Formwork for lift shaft of Passenger Terminal Building; • Demolition of existing ferry pier; • Racking piles and dredging work of Ferry Pier; • Demolition of remaining portion of cover walkway of New Public Toilet; • Construction of wash out chamber at Harbour Road and access manhole at Harbour	• Trial panel of the 300mm thick topping slab; • R/F formwork erection and steel fixing of Passenger Terminal Building; • Formwork for lift shaft of Passenger Terminal Building; • Sheet piling for Noise Barrier 2 of Helipad; • Demolition of existing ferry pier; • Dismantling and erection of formwork for concrete coping; • Casting of Expo Drive East mass concreting coping formwork erection of Bays 8 and 9 were completed on 11 November 2011, and Bay 5; • Formwork and rebar fixing for the bus shelter footing at Expo Drive East;

September 2011	October 2011	November 2011
and existing inspection chamber at Great Eagle Centre; • Trench excavation and deck over works along Tonnochy Road; • Approximate 55m cooling water pipe was laid at Harbour Centre, Harbour Road and ex-pet garden; • Grouting for the cross road pipeline of Harbour Road; • Installation of PVC and G.I cable ducts was ongoing at Harbour Road; • Wall and column construction below -0.8 mPD; • Installation of submarine outfall pipe up to CHA-105 and CHB-130, continue backfill on the HDPE pipelines; • Dredging for submarine outfall pipe; • 3 out of 12 nos of pre-bored H-pile for box culverts N1 was reached to founding levels; • 1st and 2nd loading test of New Ferry Pier; • Marine piling works for new ferry pier was ongoing. 83 out of 83 nos. marine piles; • Dredging inside the piles was ongoing. 45 out of 83 piles; • Wall and column construction below -0.8 mPD; • Casting of the base slab of WSD Receiving Pit; • Excavation and lateral support for DSD receiving pits; • Half landing slab for P7, P8 & P9 Pumping Stations was completed, top slab false work & formwork erection; • Expo Drive East mass concreting coping formwork erection; • Levelling for proposed bream blocks in progress at Vertical Seawall T4 to T6; and • Commenced fabricating the steel frames for water diversion and temporary sheet piles walls for WCR2 reclamation.	Centre; • Reinstatement work for footpath and existing inspection chamber at Great Eagle Centre; • Trench excavation and deck over works along Tonnochy Road; • Installation of PVC and G;I cable ducts was ongoing at Harbour Road; • Approximate 56m cooling water pipe was laid at Harbour Centre; Harbour Road and ex-pet garden; • Installation of submarine outfall pipe up to CHA-105 and CHB-130; continue backfill on the HDPE pipelines; • Dredging for submarine outfall pipe; • Filling up grade 75 to gap between casing sleeves and pile casing of new ferry pier; • 3rd and 4th loading test of New Ferry Pier were completed on 26 September 2011 and 11 October 2011; • Grouting plug in piles of New Ferry Pier; • Dredging inside the piles was completed; • Installation of lateral support and excavation for common trench for 132kV cable and manholes of Wan Shing Street; • Rock filling and blinding of Wan Shing Street at Bay 22 was completed; • Excavation and lateral support for DSD receiving pits; • 8 out of 12 nos of pre-bored H-pile for box culverts N1 was reached to founding levels as of 20 October 2011; • Re-bar fixing for vent shaft of P7; P8 and P9 pumping station; • Casting of top soffit slab of P7 and P9 pumping station were completed on 4 October 2011; and P8 pumping station were completed on 10 October 2011; • Expo Drive East mass concreting coping formwork erection; • Dismantling and erection of formwork for concrete coping; • Commenced fabricating the steel frames for water diversion and temporary sheet piles walls for WCR2 reclamation; • Installation of temporary sheet pile seawall of WCR-2	• Approximate 50m cooling water pipe was laid at Harbour Centre, Harbour Road, Tonnochy Raod and ex-pet garden; • Approximate 50m cable duct was laid at Harbour Road and Tonnochy Road; • Construction of wash out chamber at Harbour Road and access manhole at Harbour Centre; • Trench excavation and cooling mains installation along Tonnochy Road; • Installation of PVC and G.I cable ducts was ongoing at Harbour Road; • Installation of submarine outfall pipe up to CHA-105 and CHB-130, continue backfilling on the HDPE pipelines; • Dredging for submarine outfall pipe; • Filling up grade 75 to gap between casing sleeves and pile casing of new ferry pier; • Installation of lateral support and excavation for common trench for 132kV cable and manholes of Wan Shing Street; • Rebar fixing of base slab and formwork completed of Wan Shing Street at Bay 22 was completed; • Rock filling and blinding of Wan Shing Street at Bays 23 and 24 were completed on 11 November 2011, and Bay 21 was completed on 18 November 2011; • Base slab of Wan Shing Street at Bays 24; • Excavation and lateral support for DSD receiving pits; • Commence D610 pipe pile wall construction at landside cofferdam of salt water intake culvert; • 11 out of 12 nos of pre-bored H-pile for box culverts N1 was casted as of 20 November 2011; • Removal of falsework of P9 was completed on 13 November 2011, and P8 was completed on 19 November 2011; • Fabrication of the steel frames for water diversion and temporary sheet pile walls of WCR2 reclamation commenced; and • Installation of temporary sheet pile seawall of WCR-2

v. Contract no. HY/2009/15 was commenced on 10 November 2010. During this reporting period, the principle work activities for Contract no. HY/2009/15 are summarized as below:

Table IV Principle Work Activities for Contract no. HY/2009/15

September 2011	October 2011	November 2011
• Seawall block construction, reclamation work at TS4; • Maintenance dredging of navigation channel and mooring area; • Night time protection works at CHT; • Construction of dewatering well at Hung Hing Road and POC; and • Precautionary works at Abutment A	• Seawall block construction, reclamation work and diaphragm wall construction preparation works at TS4; • Maintenance dredging of navigation channel and mooring area; and • Night time protection works at CHT	• Seawall block construction and reclamation work at TS4; • Dredging works at ME4; • Night time protection works at CHT; • Precautionary works at Abutment A

vi. Contract no. HK/2010/06 was commenced on 22 March 2011. During this reporting period, the principle work activities for Contract no. HK/2010/06 are summarized as below:

Table V Principle Work Activities for Contract no. HK/2010/06

September 2011	October 2011	November 2011
• Installation of bored pile casing; • Excavation of bored piles; • Pre-drilling works; and • Installation of temporary staging platforms	• Installation of bored pile casing; • Excavation of bored piles; • Pre-drilling works; • Installation of temporary staging platforms	• Installation of bored pile casing; • Excavation of bored piles; • Concreting of bored piles; and • Pre-drilling works •

Noise Monitoring

vii. Noise monitoring during day time and evening time were conducted at the M1a, M2b, M3a, M4b and M5b on a weekly basis in the reporting quarter. The Action and Limit level exceedances recorded in the reporting quarter are listed below. Investigation found that exceedances were not related to the Project. Investigation found that exceedances were not related to the Project.

- Ten limit level exceedances at M1a on 7, 15 and 20 September, 7, 25 and 31 October, 8, 15 and 21 November 2011 and at M2b – Noon Day Gun Area on 21 November 2011 2011 during the evening time period; and
- One Action Level exceedance was recorded due to one recorded noise complaints on 6 November 2011.

Real-time Noise Monitoring

viii. 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 and HY/2009/15. No project-related exceedance was recorded in the reporting quarter.

Air Quality Monitoring

ix. 1hr and 24hr TSP monitoring were conducted at CMA1b, CMA2a, CMA3a, CMA4a, CMA5a and CMA6a in the reporting quarter. No exceedance was recorded during the reporting quarter.

x. Since the land located the Oil Street Community Liaison Centre was handed-over to Food and Environmental Hygiene Department (FEHD) for the construction of temporary FEHD depot in the end of September 2011, the air monitoring station – CMA1b was then removed and temporary suspended on 18 September 2011. After liaison with FEHD, the permission of the installation of HVS at temporary FEHD depot was obtained from the premises owner in the early of November 2011. 1hr and 24hr TSP monitoring at CMA1b were resumed on 14 November 2011 and 19 November 2011 respectively.

xi. The odour patrol along the odour route with 8 sniffing locations was conducted by a qualified odour patrol member on 7, 20 September 2011 at the concerned hours (afternoon for higher daily temperature). The odour intensity detected at 8 locations was found to be from level 0 up to level 1 which were below the Action Level.

Water Quality Monitoring

xii. Water quality monitoring was conducted at 18 monitoring stations namely WSD7, WSD9, WSD10, WSD15, WSD17, WSD19, WSD20, WSD 21, C1, C2, C3, C4e, C4w, C5e, C5w, C7, C8 and C9 during the reporting period.

xiii. Total 3 DO exceedances, 51 turbidity exceedances and 41 SS exceedances were recorded during mid-flood while 5 DO exceedances, 29 turbidity exceedances and 11 SS exceedances were recorded during mid-ebb in the reporting period. Investigations were found that all exceedances are not related to the Project works except project-related exceedances were recorded at C3 and C4w on 10 October and C3 on 12 October 2011. The details of the recorded exceedances can be referred to the Section 5.4.

Complaints, Notifications of Summons and Successful Prosecutions

xiv. There were four environmental complaints recorded in the reporting quarter. Investigations revealed that the complaints were followed-up and preventive actions were recommended to the Contractor. Details can be referred to the Section 6.0.

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 10.4 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 during the period from 28th September to 27th November 2011.

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 ***Monitoring Requirements*** – summarizes all monitoring parameters, monitoring locations, monitoring frequency, duration and action plan.

Section 4 ***Monitoring Results*** – summarizes the monitoring results obtained in the reporting period.

Section 5 ***Compliance Audit*** – summarizes the auditing of monitoring results, all exceedances environmental parameters.

Section 6 ***Complaints, Notification of summons and Prosecution*** – summarizes the cumulative statistics on complaints, notification of summons and prosecution

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 ***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. In the reporting period, Contract no. HK/2010/06 - Wan Chai Development Phase II-Central-Wan Chai Bypass over MTR Tsuen Wan Line under the Project was commenced on 22 March 2011. The details of individual contracts are summarized in ***Table2.2***.

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
HY/2009/15	Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)	DP3	10 November 2010
HK/2010/06	Wan Chai Development Phase II-Central-Wan Chai Bypass over MTR Tsuen Wan Line	DP3	22 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 for WDII	Principle Resident Engineer	Mr. Frankie Fan	2587 1778	2587 1877
	Engineer for CWB	Principle Resident Engineer	Mr. Peter Poon	3916 1818	3529 2829
China Harbour-CRBC Joint Venture	Contractor under Contract no. HY/2009/11	Project Director	Mr. Cho Yu Fun	3157 1086	3157 1085
		Project Manager	Mr. Gregory Wong	3157 1086	
		Site Agent	Mr. Daniel Cheung	3157 1086	

Party	Role	Post	Name	Contact No.	Contact Fax
		Environmental Officer	Mr. C. M. Wong	3157 1086	
Chun Wo – Leader Joint Venture	Contractor under Contract no. HK/2009/01	Site Agent	Mr. Paul Yu	9456 9819	2634 1626
		Operation Manager	Mr. Lau Yee Ching	9466 3918	
		Construction Manager	Mr. Jerry Siu	9493 3664	
		Construction Manager	Mr. Ricky Lai	9487 6549	
		Construction Manager	Mr. KK Yuen	3498 1213	
		Environmental Officer (Compliance Manager)	Mr. Andy Mak	9103 2370	
Chun Wo – CRGL Joint Venture	Contractor under Contract no. HK/2009/02	Project Manager	Mr. Chan Sing Cho	3658 3002	2827 9996
		Site Agent	Mr. Eric Lam	3658-3048	
		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 Manager	Mr. M Y Wong	2823 7879	2528 5651
		Site Agent	Mr. Simon Tang	3557 6358	2566 2192
		Construction Manager	Mr. C K Kwok	9779 2162	
		Assistant Construction Manager (East)	Mr. Gene Cheung	6105 4880	
		Assistant Construction Manager (West)	Mr. Tony Chiu	9090 0606	
		Section Agent (West)	Mr. Tang Ka Tung	9473 4771	
		Environmental Manager	Mr. Samuel Tsui	3557 6347	
		Environmental Officer	Mr. Daniel Sin	3557 6215	
Gammon -Leader JV	Contractor under Contract no. HK/2010/06	Manager	Mr. Simon Tong	9124 2471	2529 2880
		Site Agent	Mr. Keith Tse	2529 2068	
		Environmental Officer	Mr. Lee Wai Man	9481 6024	
ENVIRON Hong Kong Limited	Independent Environmental Checker (IEC)	Independent Environmental Checker (IEC)	Mr. David Yeung	3743 0788	3548 6988

Party	Role	Post	Name	Contact No.	Contact Fax
Lam Geotechnics Limited	Environmental Team (ET)	Environmental Team Leader (ETL)	Mr. Raymond Dai	2882 3939	2882 3331

2.5 Principle Work and Activities

2.5.1. During this reporting period, the principle work activities for Contract no. HY/2009/11 are summarized in **Table2.4**.

Table 2.4 Principle Work Activities for Contract no. HY/2009/11

September 2011	October 2011	November 2011
• Reclamation works; • Geo-textile laying; • Drainage Construction works; • Outfall construction works (Open Channel U); • Sheet Pilling; • Pre-casting of Coping; and • Construction & installation of Seawall Concrete Block	• Sheet Pilling; • Geo-textile laying; • Slotted panel fixing; • Reclamation works; • Precasting of Coping; • Drainage Construction works; • Installation of berm blocks; • Construction of FEHD carpark and associated works; • Outfall construction works (Open Channel U); and • Installation of precast concrete blocks at seawall type 6 & 7	• Geo-textile laying; • Slotted panel fixing; • Reclamation works; • Installation of Precast Coping; • Drainage Construction works; • Installation of Berm Blocks; • Outfall construction works (Open Channel U); • Installation of precast concrete blocks at seawall type 6 & 7; • Construction of Seawall Type 8; and • Placing Granite Facing Stone

2.5.2. During this reporting period, the principle work activities for Contract no. HK/2009/01 are summarized in ***Table 2.5***.

Table 2.5 Principle Work Activities for Contract no. HK/2009/01

September 2011	October 2011	November 2011
• Installation of silt screen (type 1) at TST; • Seawall toe block installation for reinstating seawall at Zone B1-3; • Dredging within HKCEC Water Channel from CH160 to CH190 for Type 1 & 2 sediment; • Trench backfilling and seawall reinstatement for both the completed cross-harbour watermains and the seawall near Expo Promenade (Zone B1-3); • Installation of cross-harbour watermains nos. A8 & B8; • Final trimming within Principle Fairway for cross-harbour watermains installation; • Platform erection for crawler crane mobilization near the existing seawall at Salisbury Garden had been completed and WSD's consent had been given for mobilization of crawler crane to the jack-up barge. Mobilization;	• Installation of silt screen (type 3) at TST; • Removal of rock armour at North Bank of HKCECC Water Channel between CH156 and CH185; • Rockfilling for sheet pile water channel from Ch120 to Ch160; • Installation of sheet pile for cooling water intake at Dome Promenade between CH120 and CH160; • Construction of retaining wall (Base Slab) at Zone B1-3; • Construction of precast RC outfall for subsequent seawall reinstatement at Zone B1-3; • Reclamation HKCEC3w (up to Ch110) within HKCEC Water Channel; • Installation of cross harbour watermains nos. A9/B9 and A10; • Thrust block construction for A5B5; • Dredging of Type 2 sediment from Ch50 to CH250 for subsequent cross-harbour watermains installation off Tsim Sha Tsui;	• Rock-filling for sheet pile water channel from CH120 to CH160; • Dredging works within HKCEC Water Channel from CH190 to CH260 for Type 1&2 sediment; • Removal of rock armours from CH150 to CH260 at the north bank of HKCEC Water Channel; • Installation of sheet pile for cooling water intake at Dome Promenade between CH120 and CH160; • Pre-cast RC outfall for subsequent seawall reinstatement at Zone B1-3 has been concreted; • Reclamation of HKCEC3W (up to CH110) with in HKCEC Water Channel has been commenced and substantially completed; • Installation of cross-harbor watermains nos. B10, A11/B11, A12/B12 and A13; • Trust block construction for A5B5 was substantially completed; • Dredging of Type 3 sediment from CH50 to Ch250 for

September 2011	October 2011	November 2011
• The trench excavation works at Zone B1-4, B4-2, A1-2, A2-4A, A3-3, A4-3B, A4-3B, A4-3C and A5-5; • Trench excavation works at Zone A3-2A; • Excavation for jacking pits for pipe laying works by heading method along Convention Avenue at Zone A1-2A, A1-4A and A2-4A; • Heading No. H2, H5 and H6 (Mainlaying works by trenchless method); and • Trench excavation for a 1000 dia. Watermains at Salisbury Garden	• Installation of pipe pile wall at TST landfall section was commenced; • Installation of sheet pile wall for pipe trench dredging at TST; • The trench excavation works at Zone B1-4, B4-2m B4-5m A1-2, A2-4A, A3-3, A3-2A, A4-3B, A4-4C and A5-5; • The trench excavation works at Zone B 4-2 and B4-5; • Heading No H2, H5 and H7 (Mainlaying works by trenchless method); • Tree transplant and its corresponding planter modification at Expo Drive were commenced. Such preparation works was catered for subsequent TTA implementation at the time when Zone B1-6 and B202 was being fenced off for the subsequent mainlaying works; and • Trench excavation and pipe laying works for a 1000 dia. watermains (CHF) at Salisbury Garden	subsequent cross-harbor watermains installation off Tsim Sha Tsui; • Installation of pipe pile wall at TST seafront; • Installation of sheet pile wall for pipe trench dredging at TST was substantially completed; • Mainlaying works at Zone B1-4, B4-2, B4-5, A3-3, A3-2A, HKCEC Way In/Out, A4-3B, A2-23B and A5-5; • Reinstatement works at Zone B1-4 and A3-3; • Mainlaying works at Zone A1-2 was substantially completed; • Mainlaying works at Zone HKCEC Way In/Out; • Headind No. H2 was substantially complete; • Heading No. H3, H4, H5 and H7; • Mainlaying works and the subsequent carriageway reinstatement in Zone A4-3C was substantially completed; • Tree transplantation and its corresponding planter modification at Expo Drive; and • Trench excavation and pipe laying works for a 1000 dia. Watermains (CHF) at Salisbury Garden

2.5.3. During this reporting period, the principle work activities for Contract no. HK/2009/02 are summarized in ***Table 2.6***.

Table 2.6 Principle Work Activities for Contract no. HK/2009/02

September 2011	October 2011	November 2011
• Tseung Kwan O public fill sorting facility 18,615.6 m3 sorted fill produced this month. • Steel fixing of Passenger Terminal Building was completed on 8 September 2011; • Demolition of existing ferry pier; • Racking piles and dredging work of Ferry Pier; • Formwork for lift shaft of Passenger Terminal Building; • Fixing G/F to 1/F R.C wall waling on Passenger Terminal Building; • Construction of wash out chamber at Harbour Road and access manhole at Harbour Centre; • Reinstatement work for footpath and existing inspection chamber at Great Eagle Centre; • Trench excavation and deck	• Digging trial pit for bus shelter footing at Expo Drive East; • Fixing up reinforcement for 1/F beam of Passenger Terminal Building; • Erecting formwork of 1/F slab of of Passenger Terminal Building; • Fixing 1/F to 2/F R;C wall waling on Passenger Terminal Building; • Formwork for lift shaft of Passenger Terminal Building; • Demolition of existing ferry pier; • Racking piles and dredging work of Ferry Pier; • Demolition of remaining portion of cover walkway of New Public Toilet; • Construction of wash out chamber at Harbour Road and access manhole at Harbour Centre; • Reinstatement work for footpath and existing inspection chamber	• Trial panel of the 300mm thick topping slab; • R/F formwork erection and steel fixing of Passenger Terminal Building; • Formwork for lift shaft of Passenger Terminal Building; • Sheet piling for Noise Barrier 2 of Helipad; • Demolition of existing ferry pier; • Dismantling and erection of formwork for concrete coping; • Casting of Expo Drive East mass concreting coping formwork erection of Bays 8 and 9 were completed on 11 November 2011, and Bay 5; • Formwork and rebar fixing for the bus shelter footing at Expo Drive East; • Approximate 50m cooling water pipe was laid at Harbour Centre, Harbour Road, Tonnochy Raod

September 2011	October 2011	November 2011
over works along Tonnochy Road; • Approximate 55m cooling water pipe was laid at Harbour Centre, Harbour Road and ex-pet garden; • Grouting for the cross road pipeline of Harbour Road; • Installation of PVC and G.I cable ducts was ongoing at Harbour Road; • Wall and column construction below -0.8 mPD; • Installation of submarine outfall pipe up to CHA-105 and CHB-130, continue backfill on the HDPE pipelines; • Dredging for submarine outfall pipe; • 3 out of 12 nos of pre-bored H-pile for box culverts N1 was reached to founding levels; • 1st and 2nd loading test of New Ferry Pier; • Marine piling works for new ferry pier was ongoing. 83 out of 83 nos. marine piles; • Dredging inside the piles was ongoing. 45 out of 83 piles; • Wall and column construction below -0.8 mPD; • Casting of the base slab of WSD Receiving Pit; • Excavation and lateral support for DSD receiving pits; • Half landing slab for P7, P8 & P9 Pumping Stations was completed, top slab false work & formwork erection; • Expo Drive East mass concreting coping formwork erection; • Levelling for proposed bream blocks in progress at Vertical Seawall T4 to T6; and • Commenced fabricating the steel frames for water diversion and temporary sheet piles walls for WCR2 reclamation.	at Great Eagle Centre; • Trench excavation and deck over works along Tonnochy Road; • Installation of PVC and G;I cable ducts was ongoing at Harbour Road; • Approximate 56m cooling water pipe was laid at Harbour Centre; Harbour Road and ex-pet garden; • Installation of submarine outfall pipe up to CHA-105 and CHB-130; continue backfill on the HDPE pipelines; • Dredging for submarine outfall pipe; • Filling up grade 75 to gap between casing sleeves and pile casing of new ferry pier; • 3rd and 4th loading test of New Ferry Pier were completed on 26 September 2011 and 11 October 2011; • Grouting plug in piles of New Ferry Pier; • Dredging inside the piles was completed; • Installation of lateral support and excavation for common trench for 132kV cable and manholes of Wan Shing Street; • Rock filling and blinding of Wan Shing Street at Bay 22 was completed; • Excavation and lateral support for DSD receiving pits; • 8 out of 12 nos of pre-bored H-pile for box culverts N1 was reached to founding levels as of 20 October 2011; • Re-bar fixing for vent shaft of P7; P8 and P9 pumping station; • Casting of top soffit slab of P7 and P9 pumping station were completed on 4 October 2011; and P8 pumping station were completed on 10 October 2011; • Expo Drive East mass concreting coping formwork erection; • Dismantling and erection of formwork for concrete coping; • Commenced fabricating the steel frames for water diversion and temporary sheet piles walls for WCR2 reclamation; • Installation of temporary sheet pile seawall of WCR-2	and ex-pet garden; • Approximate 50m cable duct was laid at Harbour Road and Tonnochy Road; • Construction of wash out chamber at Harbour Road and access manhole at Harbour Centre; • Trench excavation and cooling mains installation along Tonnochy Road; • Installation of PVC and G.I cable ducts was ongoing at Harbour Road; • Installation of submarine outfall pipe up to CHA-105 and CHB-130, continue backfilling on the HDPE pipelines; • Dredging for submarine outfall pipe; • Filling up grade 75 to gap between casing sleeves and pile casing of new ferry pier; • Installation of lateral support and excavation for common trench for 132kV cable and manholes of Wan Shing Street; • Rebar fixing of base slab and formwork completed of Wan Shing Street at Bay 22 was completed; • Rock filling and blinding of Wan Shing Street at Bays 23 and 24 were completed on 11 November 2011, and Bay 21 was completed on 18 November 2011; • Base slab of Wan Shing Street at Bays 24; • Excavation and lateral support for DSD receiving pits; • Commence D610 pipe pile wall construction at landside cofferdam of salt water intake culvert; • 11 out of 12 nos of pre-bored H-pile for box culverts N1 was casted as of 20 November 2011; • Removal of falsework of P9 was completed on 13 November 2011, and P8 was completed on 19 November 2011; • Fabrication of the steel frames for water diversion and temporary sheet pile walls of WCR2 reclamation commenced; and • Installation of temporary sheet pile seawall of WCR-2

2.5.4. Major construction activities for Contract no. HY/2009/15 was commenced on 10 November 2010. During this reporting period, the principle work activities for Contract no. HY/2009/15 are summarized as below:

Table 2.7 Principle Work Activities for Contract no. HY/2009/15

September 2011	October 2011	November 2011
• Seawall block construction, reclamation work at TS4; • Maintenance dredging of navigation channel and mooring area; • Night time protection works at CHT; • Construction of dewatering well at Hung Hing Road and POC; and • Precautionary works at Abutment A	• Seawall block construction, reclamation work and diaphragm wall construction preparation works at TS4; • Maintenance dredging of navigation channel and mooring area; and • Night time protection works at CHT	• Seawall block construction and reclamation work at TS4; • Dredging works at ME4; • Night time protection works at CHT; • Precautionary works at Abutment A

2.5.5. Contract no. HK/2010/06 was commenced on 22 March 2011. During this reporting period, the principle work activities for Contract no. HK/2010/06 are summarized as below:

Table 2.8 Principle Work Activities for Contract no. HK/2010/06

September 2011	October 2011	November 2011
• Installation of bored pile casing; • Excavation of bored piles; • Pre-drilling works; and • Installation of temporary staging platforms	• Installation of bored pile casing; • Excavation of bored piles; • Pre-drilling works; • Installation of temporary staging platforms	• Installation of bored pile casing; • Excavation of bored piles; • Concreting of bored piles; and • Pre-drilling works •

2.5.6. Implementation status of the recommended mitigation measures during this reporting period is presented in ***Appendix 2.1***.

3. MONITORING REQUIREMENTS

3.1. Noise Monitoring

NOISE MONITORING STATIONS

3.1.1. The noise monitoring stations for the Project are listed and shown in ***Table 3.1*** and ***Figure 3.1***. ***Appendix 3.1*** shows the established Action/Limit Levels for the monitoring works.

Table 3.1 Noise Monitoring Stations

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

3.1.1. The noise monitoring stations for the Project are listed and shown in ***Table 3.2*** and ***Figure 3.1***. ***Appendix 3.1*** shows the established Action/Limit Levels for the monitoring works.

Table 3.2 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

3.1.2. The construction noise level shall be measured in terms of the A-weighted equivalent continuous sound pressure level (L_{eq}). $L_{eq\ (30\ minutes)}$ shall be used as the monitoring parameter for the time period between 0700 and 1900 hours on normal weekdays. For all other time periods, $L_{eq\ (5\ minutes)}$ 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.

3.1.3. 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.

3.1.4. 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.

3.1.5. 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.

3.1.6. Real time noise shall be carried out at the designated monitoring stations. The following is an initial guide on the regular monitoring frequency for each station on a 24 hours daily basis when noise generating activities are underway:

- One set of measurements between 0700 and 1900 hours on normal weekdays.
- One set of measurements between 1900 and 2300 hours on normal weekdays and 0700 and 2300 hours on public holidays.
- One set of measurements between 2300 and 0700 hours on next day on everyday.

3.1.7. Noise baseline level review was commenced in this reporting period. Detailed review report showed in ***Appendix 3.2***.

3.1.8. Real time noise baseline level review at night time period (2300 to 0700) was commenced in this reporting period. Detailed review report showed in ***Appendix 3.3***.

3.2. Air Monitoring

AIR QUALITY MONITORING STATIONS

3.2.1. The air monitoring stations for the Project are listed and shown in ***Table 3.3*** and ***Figure 3.1***. ***Appendix 3.1*** shows the established Action/Limit Levels for the monitoring works.

Table 3.3 Air Monitoring Stations

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

3.2.2. 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.

3.2.3. 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.

3.2.4. 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.

IMPACT MONITORING FOR ODOUR PATROL

3.2.5. 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

3.2.6. Odour patrol shall be conducted by independent trained personnel / competent persons patrolling and sniffing around the shore as shown in ***Figure 3.1*** to detect any odour at the concerned hours (afternoon is preferred for higher daily temperature).

3.2.7. 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.

3.2.8. 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.

3.2.9. 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 3.1***.

3.2.10. 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***.

3.3. Water Quality Monitoring

3.3.1. 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.

Water Quality Monitoring Stations

3.3.2. 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 3.4*** and ***Figure 3.1***. ***Appendix 3.1*** shows the established Action/Limit Levels for the monitoring works.

Table 3.4 Marine Water Quality Stations for Water Quality Monitoring

Station Ref.	Location	Easting	Northing
WSD Salt Water Intake			
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
Cooling Water Intake			
C1	HKCEC Extension	835885.6	816223.0
C2	Telecom House	835647.9	815864.4
C3	HKCEC Phase I	835836.2	815910.0
C4e	Wan Chai Tower and Great Eagle Centre (Eastern)	835932.8	815888.2
C4w	Wan Chai Tower and Great Eagle	835629.8	815889.2

Station Ref.	Location	Easting	Northing
	Centre (Western)		
C5e	Sun Hung Kai Centre (Eastern)	836250.1	815932.2
C5w	Sun Hung Kai Centre (Western)	836248.1	815933.2
C6	World Trade Centre	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

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.

WATER QUALITY PARAMETERS AND FREQUENCY

3.3.3. 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.

3.3.4. 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.

3.3.5. 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 3.5*** 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 3.5 Marine Water Quality Monitoring Frequency and Parameters

Activities	Monitoring Frequency[1]	Parameters[2]
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.

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

3.3.6. 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.

3.3.7. 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 3.6*** and ***Figure 3.1***.

Table 3.6 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

3.3.8. 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 less than 3m, only the mid-depth will be monitored).

DAILY SS MONITORING AND 24 HOURS TURBIDITY MONITORING SYSTEM

3.3.9. 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.

3.3.10. The 24 hours monitoring of turbidty 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 sahll be downloaded daily and compared with the Action and Limit level determined during the baseline water qualtiy monitoring at the cooling water intake locations.

4. MONITORING RESULTS

4.0.1. 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 3.1***. The monitoring results are presented in according to the Individual Contract(s).

4.1. Noise Monitoring Results

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

4.1.1. The proposed division of noise monitoring stations for Contract no. HY/2009/11 are summarized in ***Table 4.1*** below:

Table 4.1 Noise Monitoring Stations for Contract no. HY/2009/11

Station	Description
M4b	Victoria Centre
M5b	City Garden

4.1.2. There was no exceedance recorded in reporting quarter. Noise monitoring results measured in this reporting period are reviewed and summarized. Details of graphical presentation can be referred in ***Appendix 4.1***.

Contract no. HK/2009/01 - Wan Chai Development Phase II – Central –Wanchai Bypass at HKCEC and Contract no. HK/2009/02 - Wan Chai Development Phase II – Central – Wan Chai Bypass at WanChai East

4.1.3. The proposed division of noise monitoring stations are summarized in ***Table 4.2*** below.

Table 4.2 Noise Monitoring Station for Contract nos. HK/2009/01 and HK/2009/02

Station	Description
M1a	Harbour Road Sports Centre

4.1.4. Nine limit level exceedances at M1a on 7, 15 and 20 September, 7, 25 and 31 October, 8, 15 and 21 November 2011 during construction works at evening time for Contract no. HK/2009/02 in reporting quarter. Major noise source was contributed from Tonnochy Road and water sport competition at Wan Chai Training Swimming Pool. The construction work was complied with the conditions under valid Construction Noise Permit during the measurement.

4.1.5. One Action Level exceedance was recorded due to one noise complaint on 6 November 2011 in relation to HK/2009/01. Details of noise monitoring results and graphical presentation can be referred in ***Appendix 4.1***.

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

Shelter Section)

4.1.6. The noise monitoring for HY/2009/15 was commenced on 10 November 2010. The proposed division of noise monitoring stations are summarized in ***Table 4.3*** below.

Table 4.3 Noise Monitoring Station for Contract nos. HY/2009/15

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

4.1.7. One limit level exceedance was recorded at M2b on 21 November 2011 during construction works at evening time for Contract no. HK/2009/02 in reporting quarter. Details of noise monitoring results and graphical presentation can be referred in ***Appendix 4.1***.

4.2. Real Time Noise Monitoring Results

4.2.1 No construction activity was conducted during night time period (2300 to 0700) in this reporting quarter.

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

4.2.2 The proposed division of real time noise monitoring stations are summarized in ***Table 4.4*** below. Real time noise monitoring for the filling works under contract no. HY/2009/11 was commenced on 5 October 2010.

Table 4.4 Real Time Noise Monitoring Station for Contract no. HY/2009/11

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

4.2.3 Real time noise monitoring results were reviewed and no project-related Action and Limit level exceedance were recorded in the reporting period. Details of real time noise monitoring results and graphical presentation can be referred to ***Appendix 4.2***

4.3. Air Monitoring Results

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

4.3.1. The proposed division of air monitoring stations is summarized in ***Table 4.5*** below.

Table 4.5 Air Monitoring Stations for Contract no. HY/2009/11

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

4.3.2. Since the filling work was commenced in mid-August 2010, the 1hr and 24-hr TSP monitoring were commenced on 12 August and 11 August 2010 respectively. Until the commencement of the permanent power supply connection at CMA1b on 22 September 2010, the 24hr TSP at CMA1b was then commenced on 27 September 2010.

4.3.3. Since the land located the Oil Street Community Liaison Centre was handed-over to Food and Environmental Hygiene Department (FEHD) for the construction of temporary FEHD depot in the end of September 2011, the air monitoring station – CMA1b was then removed and temporary suspended on 18 September 2011 due to not available for the air quality monitoring in the existing location at Oil Street Community Liaison Centre and the rejection or no response from the nearby air sensitive receivers in allowing the implementation of impact air quality monitoring. After liaison with FEHD, the permission of the installation of HVS at temporary FEHD depot was obtained from the premises owner in the early of November 2011. 1hr and 24hr TSP monitoring at CMA1b were resumed on 14 November 2011 and 19 November 2011 respectively.

4.3.4. No exceedance was recorded in the reporting quarter. Details of noise monitoring results and graphical presentation can be referred in ***Appendix 4.2***.

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

4.3.5. 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 division of air monitoring stations are summarized in ***Table 4.6*** below. No exceedance was recorded in the reporting period.

Table 4.6 Air Monitoring Stations for Contract no. HK/2009/01

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

* Remarks: As per the ENPC meeting in January 2011, the monitoring stations CMA6a - Future AECOM site office at Work Area was renamed as remark.

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

4.3.6. 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 is summarized in ***Table 4.7*** below. No exceedance was recorded in the reporting period.

Table 4.7 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)

4.3.7. 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 4.8*** below. No exceedance was recorded in the reporting period.

Table 4.8 Air Monitoring Station for Contract no. HY/2009/15

Station	Description
CMA3a	CWB site office at Wanchai Waterfront Promenade

4.3.8. The odour patrol along the odour route with 8 sniffing locations was conducted by a qualified odour patrol member on 7, 20 September 2011 at the concerned hours (afternoon for higher daily temperature). The odour intensity detected at 8 locations was found to be from level 0 up to level 1 which were below the Action Level. The details of the odour patrol results and meteorological conditions and on the date of odour patrol are shown in ***Appendix 4.2***.

4.3.9. Additional sniffing location, OP2a was conducted for the place where is in the new shoreline of ex-WPCWA (reclamation area) or odour likely detected by the odour patrol member. The odour patrol route and the sniffing locations are shown in ***Figure 3.1***.

4.4. Water Monitoring Results

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

4.4.1. Water quality monitoring for Contract no. HY/2009/11 was commenced on 19 March 2010. The proposed division of water monitoring stations for Contract no. HY/2009/11 is summarized in ***Table 4.9*** below:

Table 4.9 Water Monitoring Stations for Contract no. HY/2009/11

Station Ref.	Location	Easting	Northing
WSD Salt Water Intake			
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
Cooling Water Intake			
C8	City Garden	837970.6	816957.3
C9	Provident Garden	838355.0	817116.6

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

4.4.2. Water quality monitoring for Contract no. HK/2009/01 was commenced on 8 July 2010. The proposed division of water monitoring stations is summarized in ***Table 4.10*** below.

Table 4.10 Water Monitoring Stations for Contract no. HK/2009/01

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

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

4.4.3. Water quality monitoring for Contract no. HK/2009/02 was commenced on 8 July 2010. The proposed division of water monitoring stations is summarized in ***Table 4.11*** below.

Table 4.11 Water Monitoring Stations for Contract no. HK/2009/02

Station Ref.	Location	Easting	Northing
WSD Salt Water Intake			
WSD21	Wan Chai	836220.8	815940.1
Cooling Water Intake			
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.

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

4.4.4. 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 4.12*** below.

Table 4.12 Water Monitoring Stations for Contract no. HK/2010/06

Station Ref.	Location	Easting	Northing
Cooling Water Intake			
C2	Telecom House	835647.9	815864.4

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

4.4.5. 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 is summarized in ***Table 4.13*** below.

Table 4.13 Water Monitoring Stations for Contract no. HY/2009/15

Station Ref.	Location	Easting	Northing
Cooling Water Intake			
C6	Excelsior Hotel	837009.6	815999.3
C7	Windsor House	837193.7	816150

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.

4.4.6. The enhanced water quality monitoring at C6, C7, Ex-WPCWA-SW and Ex-WPCWA-SE was commenced on 13 January 2011. Total 33 Action level and 34 Limit level exceedances of dissolved oxygen level at Causeway Bay Typhoon Shelter and ex-Public Cargo Works Area were recorded.

4.4.7. During dredging of the sediment at the south-western corner of the Causeway Bay Typhoon Shelter and seawall collapse at Tunnel Section 4, TS4 (within TCBR1W) between 26 October and 28 November 2011, daily monitoring of suspended solids and 24 hours monitoring of turbidity at the cooling water intakes at C7 was conducted. No project-related exceedance was recorded in the daily SS monitoring and 24 hours turbidity monitoring.

4.4.8. 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.

4.4.9. Water monitoring results measured in this reporting period are reviewed and summarized in **Table 4.14** and **Table 4.14a**. Details of water quality monitoring results and graphical presentation can be referred in ***Appendix 4.3***.

Table 4.14 Summary of Water Quality Monitoring Exceedances in Reporting Quarter

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	WSD9	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
	WSD10	0	0	1	1	0	1	0	0	0	1	0	0
	WSD15	0	0	1	3	0	6	0	0	2	1	0	1
	WSD17	0	0	3	2	0	5	0	0	2	0	0	0
	C8	0	0	4	4	4	0	0	0	7	1	0	0
	C9	0	0	4	3	1	0	0	0	0	1	0	0
HK/2009/01	WSD19	0	0	1	3	5	2	0	0	1	2	1	1
	WSD20	0	0	3	4	2	3	0	0	2	1	1	2
	WSD7	0	0	3	2	0	2	0	0	1	0	1	0
	C1	0	0	0	0	0	0	0	0	0	0	0	0
	C3	0	0	0	3	2	1	0	0	1	1	0	1
	C4e	0	0	0	0	0	0	0	0	0	0	0	0
	C4w	0	0	0	2	1	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	C5e	0	0	0	0	0	0	0	0	0	0	0	0
	C5w	0	0	0	1	1	0	0	0	1	0	1	0
	WSD21	0	0	0	0	0	2	0	0	2	0	0	0
HY/2009/15	C7	3	0	1	2	3	0	5	0	1	1	2	0
Total		3	0	21	30	19	22	5	0	20	9	6	5

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.

Table 4.14a Summary of Enhanced Dissolved Oxygen Monitoring Exceedances in Reporting Quarter

Contract no.	Water Monitoring Station	Mid-flood		Mid-ebb	
		DO		DO	
		AL	LL	AL	LL
HY/2009/15	C6	3	2	4	1
	C7	6	1	6	2
	Ex-WPCWA SW	0	4	2	9
	Ex-WPCWA SE	5	7	7	8
Total		14	14	19	20

4.4.10. All exceedances have been investigated and were considered unlikely to be related to project works except project-related exceedances were recorded at C3 and C4w on 10 October and C3 on 12 October 2011. Water monitoring results measured in this reporting period are reviewed and summarized. Details of graphical presentation can be referred in ***Appendix 4.2***.

4.5. Waste Monitoring Results

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

4.5.1. Non-inert C&D waste was disposed in this reporting period. Details of the waste flow table are summarized in ***Table 4.15***

Table 4.15 Details of Waste Disposal for Contract no. HY/2009/11

Waste Type	Quantity this quarter	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Inert C&D materials disposed, m^3	NIL	NIL	N/A
Inert C&D materials recycled, m^3	NIL	NIL	N/A
Non-inert C&D materials disposed, m^3	175.5	619.125	SENT Landfill
Non-inert C&D materials recycled, m^3	NIL	NIL	N/A
Chemical waste disposed, kg	N/A	N/A	N/A
Marine Sediment (Type 1 – Open Sea Disposal), m^3	0 (Bulk Volume)	89,500 (Bulk Volume)	South of Cheung Chau
Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal), m^3	0 (Bulk Volume)	129,200 (Bulk Volume)	East of Sha Chau

4.5.2. There was no marine sediment disposed and no dredging work undertaken in the reporting period. Contractor submitted a letter dated 20 July 2011 to confirm that the dredging works and dumping operation were completed.

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

4.5.3. Inert and non-inert C&D waste was disposed of for the site preparation works in this reporting period. Details of the waste flow table are summarized in ***Table 4.16.***

Table 4.16 Details of Waste Disposal for Contract no. HK/2009/01

Waste Type	Quantity this quarter	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Inert C&D materials disposed, m^3	5,037.85	11,866.6	TKO137
Inert C&D materials recycled, m^3	0	389.96	N/A
Non-inert C&D materials disposed, m^3	103.34	504.56	SENT Landfill
Non-inert C&D materials recycled, kg	10,463	126,921	N/A

Waste Type	Quantity this quarter	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Chemical waste disposed, kg	1,300	5,130	N/A
Marine Sediment (Type 1 – Open Sea Disposal) , m^3	6,912 (Bulk Volume)	83,482.2 (Bulk Volume)	South of Cheung Chau
Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) , m^3	5,414 (Bulk Volume)	17,730 (Bulk Volume)	East of Cha Chau
Dredged Sediment Requiring Type 3 – Special Treatment / Disposal contained in Geosynthetic Containers	257 (Bulk Volume)	257 (Bulk Volume)	East of Cha Chau

4.5.4. There were marine sediments Type 1 – Open Sea Disposal, Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal and Type 3 – Special Treatment / Disposal contained in Geosynthetic Containers disposed in the reporting period. The maximum dredging rate in HKCEC3w and cross harbour water main are 446m^3 and 623m^3 per day respectively, which were complied with the recommended maximum dredging rate per day listed in Table 2 of FEP-02/356/2009.

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

4.5.5. Inert and non-inert C&D waste was disposed of for the site preparation works in this reporting period. Details of the waste flow table are summarized in ***Table 4.17.***

Table 4.17 Details of Waste Disposal for Contract no. HK/2009/02

Waste Type	Quantity this quarter	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Inert C&D materials disposed, m^3	28,101	53,736	TKO137
Inert C&D materials recycled, m^3	NIL	NIL	N/A
Non-inert C&D materials disposed, m^3	91	259	SENT Landfill
Non-inert C&D materials recycled, m^3	NIL	NIL	N/A
Chemical waste disposed, kg	0	2,115	N/A
Marine Sediment (Type 1 – Open Sea Disposal), m^3	4,338 (Bulk volume)	154,495 (Bulk Volume)	South of Cheung Chau
Marine Sediment (Type 1 – Open Sea	6,242 (Bulk Volume)	110,632	East of Sha Chau

Waste Type	Quantity this quarter	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal), m^3		(Bulk Volume)	

* Remarks: The quantities of the disposed sediments have been further clarified by the Contractor and recorded in the Monthly EM&A Report (Aug 2011). The cumulative quantity of disposed marine sediment Type I and sediment Types I & II in last reporting quarter were 118,779m3 and 94,678m3 respectively.

4.5.6. There were marine sediments Type 1 – Open Sea Disposal and Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal marine sediment disposed in the reporting period at a maximum dredging rate 640m^3 per day, which was complied with the recommended maximum dredging rate per day in sub-marine pipeline work zone listed in Table 2 of FEP-03/356/2009.

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

4.5.7. Inert and non-inert C&D waste was disposed of for the site preparation works in this reporting period. Details of the waste flow table are summarized in ***Table 4.18.***

Table 4.18 Details of Waste Disposal for Contract no. HY/2009/15

Waste Type	Quantity this quarter	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Inert C&D materials disposed, m^3	48,998.8	58,548.7	Tuen Mun Area 38
	507.6	566.3	TKO137 FB
Inert C&D materials recycled, m^3	0	184.0	To Contract HY/2009/11
	275	304	Ex-PCWA
	109	109	TS4
Non-inert C&D materials disposed, m^3	39.1	143.6	SENT Landfill
Non-inert C&D materials recycled, kg	0	13,815	N/A
Chemical waste disposed, kg	3,800	5,800	N/A
Marine Sediment (Type 1 – Open Sea Disposal) , m^3	5,764 (Bulk Volume)	33,427 (Bulk Volume)	N/A
Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) , m^3	16,770 (Bulk Volume)	158,812 (Bulk Volume)	East of Sha Chau
Marine Sediment (Type 3 – Special Treatment / Disposal contained in Geosynthetic Containers)	4,300 (Bulk Volume)	7,050 (Bulk Volume)	East of Sha Chau

4.5.8. There were marine sediments Type 1 – Open Sea Disposal, Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal and Type 3 – Special Treatment / Disposal contained in Geosynthetic Containers disposed from the dredging works at TCBR and TPCWA in the reporting period at a maximum dredging rate 1,460m^3 per day, which was complied with the recommended maximum dredging rate per day in shoreline zone listed in Table 2 of FEP-04/356/2009.

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

4.5.9. Inert C&D waste was disposed of for the site preparation works in this reporting period. Details of the waste flow table are summarized in ***Table 4.19.***

Table 4.19 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, m^3	3,169.5	3,169.5	Tuen Mun Area 38
Inert C&D materials recycled, m^3	NIL	NIL	N/A
Non-inert C&D materials disposed, m^3	NIL	NIL	N/A
Non-inert C&D materials recycled, kg	NIL	NIL	N/A
Chemical waste disposed, L	0	600	N/A
Marine Sediment (Type 1 – Open Sea Disposal), m^3	319 (Bulk Volume)	2,657 (Bulk Volume)	South Cheung Chau
Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) , m^3	344 (Bulk Volume)	11,509 (Bulk Volume)	East Sha Chau

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

5. COMPLIANCE AUDIT

5.0.1. The Event Action Plan for construction noise, air quality and water quality are presented in ***Appendix 5.1***.

5.1. Noise Monitoring

5.1.1 Nine limit level exceedances at M1a on 7, 15 and 20 September, 7, 25 and 31 October, 8, 15 and 21 November 2011 and during construction works at evening time in reporting quarter. Major noise source at M1a was contributed from Tonnochy Road and water sport competition at Wan Chai Training Swimming Pool. The construction work was complied with the conditions under valid Construction Noise Permit during the measurement.

5.1.2 One limit level exceedance as recorded at M2b – Noon Day Gun Area on 21 November 2011. After checking contractor's work schedules and investigation found that contractor complied with the requirement in valid CNP.

5.1.3 One Action levels were recorded due to one recorded noise complaints on 6 November 2011

5.2. Real-time Noise Monitoring

5.2.1 No project-related exceedance was recorded in the real-time noise results in reporting quarter.

5.3. Air Monitoring

5.3.1. No exceedance was recorded in the reporting quarter.

5.4. Water Quality Monitoring

5.4.1. The summary of water quality exceedances recorded in reporting quarter is presented in the ***Table 5.1*** and ***Table 5.1a***.

Table 5.1 Summary of Water Quality Monitoring Exceedances in Reporting Quarter

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	WSD9	0	0	0	0	0	0	0	0	0	0	0	0
	WSD10	0	0	1	1	0	1	0	0	0	1	0	0
	WSD15	0	0	1	3	0	6	0	0	2	1	0	1
	WSD17	0	0	3	2	0	5	0	0	2	0	0	0
	C8	0	0	4	4	4	0	0	0	7	1	0	0
	C9	0	0	4	3	1	0	0	0	0	1	0	0
HK/2009/01	WSD19	0	0	1	3	5	2	0	0	1	2	1	1
	WSD20	0	0	3	4	2	3	0	0	2	1	1	2
	WSD7	0	0	3	2	0	2	0	0	1	0	1	0
	C1	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
	C3	0	0	0	3	2	1	0	0	1	1	0	1
	C4e	0	0	0	0	0	0	0	0	0	0	0	0
	C4w	0	0	0	2	1	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	C5e	0	0	0	0	0	0	0	0	0	0	0	0
	C5w	0	0	0	1	1	0	0	0	1	0	1	0
	WSD21	0	0	0	0	0	2	0	0	2	0	0	0
HY/2009/15	C7	3	0	1	2	3	0	5	0	1	1	2	0
Total		3	0	21	30	19	22	5	0	20	9	6	5

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.

6.4.1. All exceedances in Table 5.1 have been investigated and only the turbidity and/or SS exceedances recorded at C3 on 10 and 12 October and at C4w on 10 October 2011 were considered likely to be related to project works.

6.4.2. Checking with Contractor works, there were filling at HKCEC3W and rock bund filling works along the promenade deck which was carried out to facilitate subsequent sheet piling works on that day. The frame type silt screen at intake, frame type silt curtain for rock-filling and additional silt curtain along the promenade deck were deployed. Other than that, Contractor's daily records were checked. It shows silt curtains were deployed during filling works and both silt curtains were in proper condition in their daily inspection.

6.4.3. According to contractor provided information, same grade of filling materials were used for filling works during June to August 2011, no exceedance was recorded that was related to filling at that time. Nevertheless, Contractor was reminded to open the grab used for rock bund filling at lower level so as to avoid any loose materials spreading out of silt curtain and enter into the water body. Contractor has implemented the mitigation measures to replace the geotextile and add additional 20m long silt curtain at promenade deck on 13 Oct 2011 to minimize the water quality impact arising from the rock-filling. After reviewing the trend of water quality data, the remedial measures have function effectively and no further exceedance was recorded the week after the exceedance.

Table 5.1a Summary of Enhanced Dissolved Oxygen Monitoring Exceedances in Reporting Quarter

Contract no.	Water Monitoring Station	Mid-flood		Mid-ebb	
		DO		DO	
		AL	LL	AL	LL
HY/2009/15	C6	3	2	4	1

Contract no.	Water Monitoring Station	Mid-flood		Mid-ebb	
		DO		DO	
		AL	LL	AL	LL
	C7	6	1	6	2
	Ex-WPCWA SW	0	4	2	9
	Ex-WPCWA SE	5	7	7	8
Total		14	14	19	20

5.4.2. All exceedances in Table 5.1a have been investigated and were considered unlikely to be related to project works. The low DO levels were possible in relation to the low flow and recorded low water depth. In view that no odour nuisance was detected during monitoring, the DO exceedances were considered not related to the Project. With reference to the odour patrol results on 7 and 20 September 2011, the detected odour intensity at ex- WPCWA and Causeway Bay Typhoon Shelter was found to be from level 0 up to level 1 which were below the Action Level. These DO exceedances were considered as the natural variation and not related to the Project works.

5.5. Site Audit

5.5.1. There was no non-compliance from the site audits in the reporting period. During environmental site inspections conducted during the reporting quarter, minor deficiencies were noted.

5.6. Review of the Reasons for and the Implications of Non-compliance

5.6.1 The turbidity and/or SS exceedances recorded at C3 on 10 and 12 October and at C4w on 10 October 2011 were recorded when filling at HKCEC3W and rock bund filling works were conducted along the promenade deck on that day. Proper condition of the silt screens and silt curtains were deployed. Nevertheless, Contractor was reminded to open the grab used for rock bund filling at lower level so as to avoid any loose materials spreading out of silt curtain and enter into the water body.

5.7. Summary of action taken in the event of and follow-up on non-compliance

5.7.1 When the project-related exceedances were recorded at C3 and C4w on 10 October and C3 on 12 October 2011, repeated in-situ measurement and additional turbidity measurement were immediately taken outside the silt screen when the Action Level or Limit Level exceedance was recorded inside the silt screen for checking of relation from the rock filling works.

5.7.2 Contractor has implemented the mitigation measures to replace the geotextile near the water monitoring station C3 and add additional 20m long silt curtain at promenade deck on 13 Oct 2011 to minimize the water quality impact arising from the rock-filling. Diver inspection on the silt screen and silt curtain was conducted on 14 October 2011. After reviewing the trend of water quality data, the remedial measures have function effectively and no further exceedance was recorded the week after the Project-related exceedance.

6. COMPLAINTS, NOTIFICATION OF SUMMONS AND PROSECUTION

6.0.1. There were four environmental complaints received in this quarter.

6.0.2. A water impact complaint was received by ET on 29 August 2011. It was complained by Mr. Au from Cayley Property Management Limited (CPML) that large amount of rubbishes were found at the harbour 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 after the contractors 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. An ad-hoc inspection of the effectiveness of garbage defender was conducted with RSS (CWB project team), contractors of HY/200911 and HY/2009/19, ET and IEC on 29 August 2011.

6.0.3. During on-site inspection, floating refuses were 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. All daily cleaning actions had been taken by contractor to minimize floating refuse inside the construction site. 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. 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. The contractors were reminded to strengthen the communication with City Garden and no further complaint from complainant was received after proposed the mitigation measure.

6.0.4. The complainant, Ms. Tam complained via hotline 1823 about 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). RSS notified ET to carry out investigation on 17 October 2011.

6.0.5. 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 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. After receiving the complaint, the excavator was then removal off-site for checking and maintenance works on 17 October 2011. Contractor was reminded to enhance regular checking and maintenance to all plants at site. 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.

6.0.6. The complainant, Mr. Liu from LCSD complained via Contractor Complaint Hotline on 4 November 2011 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.

6.0.7. A tree near the site of pipe installation works outside Wan Chai Swimming Pool at Harbour Road is confirmed that is the Tree no. TA1122 under Contract no. HK/2009/02. Leaves of a

branch of this tree were shrivelled. Another 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.

6.0.8. 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.

6.0.9. A noise complaint was received by Police Officer and a police officer arrived to Contract HK/2009/01 site at about 6:30 a.m. on 6 November 2011 to inspect noise generated from the site and stop the existed machines operation. 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 CNP was checked by the police officer.

6.0.10. According to the information reported by Contractor, one BC cutter and a hoist were operated for inspecting all bentonite pipes were in good condition and all joints were tightened in good position for Diaphragm Wall construction of Shatin-Central Link. Due to insufficient communication between Contractor HK/2009/01 and their Korean Sub-contractor, Korean Sub-contractor had not notified to Contractor of HK/2009/01 and then started to carry out the inspection of the BC cutter, hoists and bentonite pipes at 6:00a.m to ensure no damages and all the pipe joints in good position.

6.0.11. As such, the Contractor HK/2009/01 was reminded to enhance the communication between Contractor and sub-contractor, and construction Noise Permit should be checked and in place for the construction works during restricted hour, plus providing environmental training to all foreman and operators on restricted hour operation.

6.0.12. The complaint was considered in relation to the 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.

6.0.13. The details of cumulative complaint log and summary of complaints are presented in ***Appendix 6.1***.

6.0.14. No notification of summons or prosecution was received in the reporting period. Cumulative statistic on complaints and successful prosecutions are summarized in ***Table 6.1*** and ***Table 6.2*** respectively.

Table 6.1 Cumulative Statistics on Complaints

Reporting Period	No. of Complaints
Commencement works (Mar 2010) to last reporting quarter	21
Sep - Nov 2011	4
Project-to-Date	**25**

Table 6.2 Cumulative Statistics on Successful Prosecutions

Environmental Parameters	Cumulative No. Brought Forward	No. of Successful Prosecutions this quarter (Offence Date)	Cumulative No. Project-to-Date
Air	-	0	0
Noise	-	0	0
Water	-	0	0
Waste	-	0	0
Total	**-**	**0**	**0**

6.0.15. There was an incident of the leakage of Type III sediment Geosynthetic Container under Contract HK/2009/01 on 28 October 2011. 3 nos. of Type III geosynthetic container containing the Type III sediment dredged from Tsim Sha Tsui side of cross harbour watermains near the Avenue of Starts and Wan Chai Hong Kong Convention and Exhibition Centre (HKCEC) water channel were executed and disposed to East Sha Chau Contaminated Mud Disposal Site – Pit IVc. The preplaced PVC spheres were observed to be floating near the stern of the hopper barge after the geosynthetic containers were completely sunk into the sea.

6.0.16. Based on the investigation result, the suspected causal factors of the incident are listed below.

- The seaming work of the 3rd geosynthetic container was conducted at night time on 27 October 2011. Insufficient light might have affected the quality of seaming work.
- The anti-leakage component at the bottom gate of hopper barge might have interfered the geosynthetic container during dumping operation. The surface of geosynthetic container contacted the bottom edge closely while it was squeezed out through the bottom gate. The steel plate with bolts and nuts might have caused local damage to the geosynthetic container.

6.0.17. To prevent reoccurrence of the incident, Contractor HK/2009/01 has the following enhancements are recommended.

- To eliminate the potential risk of workmanship caused by insufficient light, all the seaming work of geosynthetic container will be carried out at day time (before 1800). Supervision will be enhanced by increasing checking frequency.
- To eliminate the potential risk of damaging the geosynthetic container during dumping operation, an additional steel rod to be welded on top of the steel plate for fixing rubber seal at bottom gate of hopper barge.
- Dumping operation of Type 3 sediment is suspended until investigation report and

preventive measures are submitted and agreed by EPD.

6.0.18. A seawall blocks collapsing incident was occurred at Tunnel Section 4, TS4 (within TCBR1W) under Contractor of HY/2009/15 at around 8:45 on 17 November 2011. An immediate site inspection on the incident location was conducted at 11:30 on that day so as to assess the potential water quality impact with respect to the collapsed seawall and any further impact towards the nearby intake at Windsor House (C7). Initial recommendations were provided to RSS on the formulation of rectification plan to re-establish the seawall at on the same day. Contractor of HY/2009/15 was drawn attention about the incident, highlighting the concern on EP/FEP compliance and urged stop the filling operation.

6.0.19. After the incident occurred, double-layer silt curtain was then enclosed the collapse edge to limit the potential dispersion of the unprotected edge. Grab dredger was immediately deployed to start removing the collapsed seawall blocks. Total 45 out of 62 seawall blocks were removal from seabed until 25 November 2011. The 24-hour turbidity monitoring data and daily SS monitoring at C7 on the incident date onwards were reviewed and no immediate impact on water quality was observed from the data trend. The details of the data trend are enclosed in ***Appendix 4.3***.

6.0.20. It is anticipated that the removal of collapsed seawall blocks will be completed and a detailed diver inspection together with independent hydrographic survey will be conducted in December 2011. Follow-up action will be taken and reported in the coming Monthly EM&A reports.

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, Central-WanChai Bypass and Island Eastern Corridor Link projects.

7.0.2. 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 filling works at NPR2E and HKCEC1, dredging and filling at HKCEC3w, dredging at submarine sewage pipelines, seawall block construction at TCBR1W, maintenance dredging of navigation channel and mooring area, HKCEC3w and marine bored piling at MTR Tunnel Crossing in the reporting quarter. The major environmental impact was water quality impact at North Point, Causeway Bay and Wan Chai.

7.0.3. The major environmental impacts generated from the filling work at Central Reclamation Phase III were only located along the coastline of Central and Admiralty while the adverse water impact was only located in the HKCEC water channel in relation to the rock filling operation causing exceedances in HKCEC water channel in this reporting quarter. Thus, it was unlikely to have cumulative impact from CRIII. It is evaluated the cumulative construction impact from the concurrent projects including Wan Chai Development Phase II and Central Reclamation Phase III was insignificant.

8. CONCLUSION

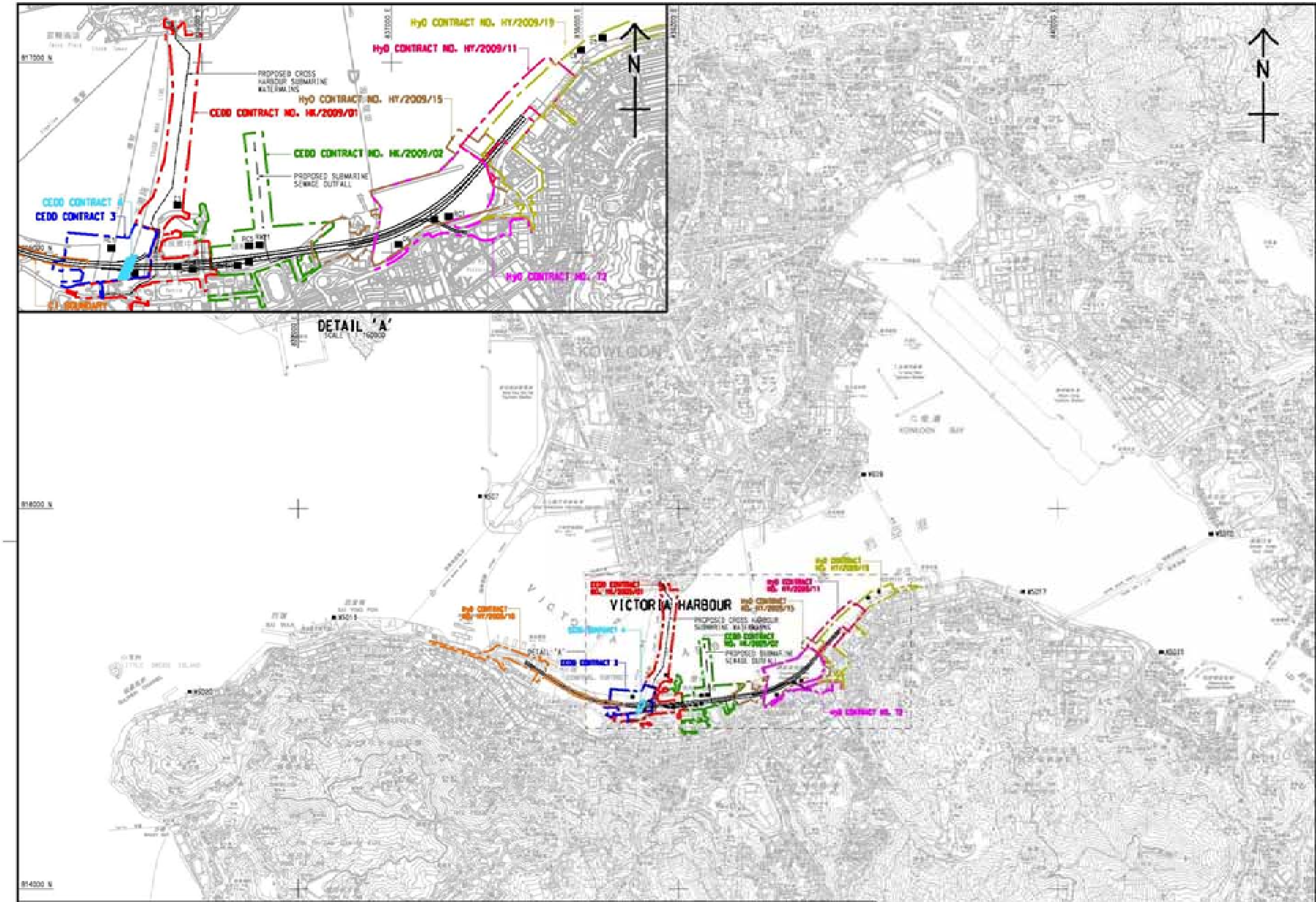
8.0.1. The EM&A programme was carried out in accordance with the EM&A Manual requirements, minor alterations to the programme proposed were made in response to changing circumstances.

8.0.2. No non-compliances were noted and no prosecutions were received during the reporting quarter.

8.0.3. The construction programmes of individual contracts are provided in ***Appendix 8.1***.

Figure 2.1

Project Layout



LEGEND:

■ WATER QUALITY MONITORING STATIONS

COOLING WATER INTAKES

C1	HONG KONG CONVENTION AND EXHIBITION CENTRE EXTENSION
C2	TELECOM HOUSE/HK ACADEMY FOR PERFORMING ARTS / 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 HKCEC EXTENSION
RC5	SUN HUNG KAI CENTRE (REPROVISION)
RC7	WINDSOR HOUSE (TEMPORARY REPROVISION)

WSD SALT WATER INTAKE

WSD21	WAN CHAI
RW1	WAN CHAI (REPROVISION)
WSD7	KOWLOON SOUTH
WSD9	TAI WAN
WSD10	CHA KWO LING
WSD15	SAI WAN HO
WSD17	QUARRY BAY
WSD19	SHEUNG WAN
WSD20	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 RECLAMATION WORKS INCLUDING ASSOCIATED DREDGING WORKS IN WAN CHAI DEVELOPMENT PHASE II (WDII) AREA

~~DP4 - TEMPORARY TYPHOON SHELTER~~ (DP4 NOT TO BE IMPLEMENTED)

DP5 - WAN CHAI EAST SEWAGE OUTFALL

DP6 - DREDGING FOR THE CROSS-HARBOUR WATER MAINS

DP1 IS COVERED BY EP - 314/2009

DP2 IS COVERED BY EP - 316/2009

DP3, DP5 AND DP6 ARE COVERED BY EP - 356/2009

WORKS CONTRACT	DESIGNATED PROJECT INVOLVED	CONSTRUCTION COMMENCEMENT
CEDD CONTRACT NO. HK/2009/01	DP1, DP3, DP6	APRIL 2010
CEDD CONTRACT NO. HK/2009/02	DP1, DP3, DP5	APRIL 2010
CEDD CONTRACT 3	DP1, DP3	END 2011
CEDD CONTRACT 4	DP1, DP3	END 2012
CEDD CONTRACT 5	DP2	2013
HyD CONTRACT NO. HY/2009/11	DP3	18 MARCH 2010
HyD CONTRACT NO. HY/2009/15	DP1, DP3	SEPTEMBER 2010
HyD CONTRACT NO. HY/2009/18	DP1	OCTOBER 2010
HyD CONTRACT NO. HY/2009/19	DP1	NOVEMBER 2010
HyD CONTRACT T2	DP1, DP3	MID 2013

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土木工程拓展署
Civil Engineering and Development Department

WAN CHAI DEVELOPMENT PHASE II

WAN CHAI DEVELOPMENT PHASE II AND CENTRAL - WAN CHAI BYPASS - SAMPLING, FIELD MEASUREMENT AND TESTING WORKS (STAGE 1)

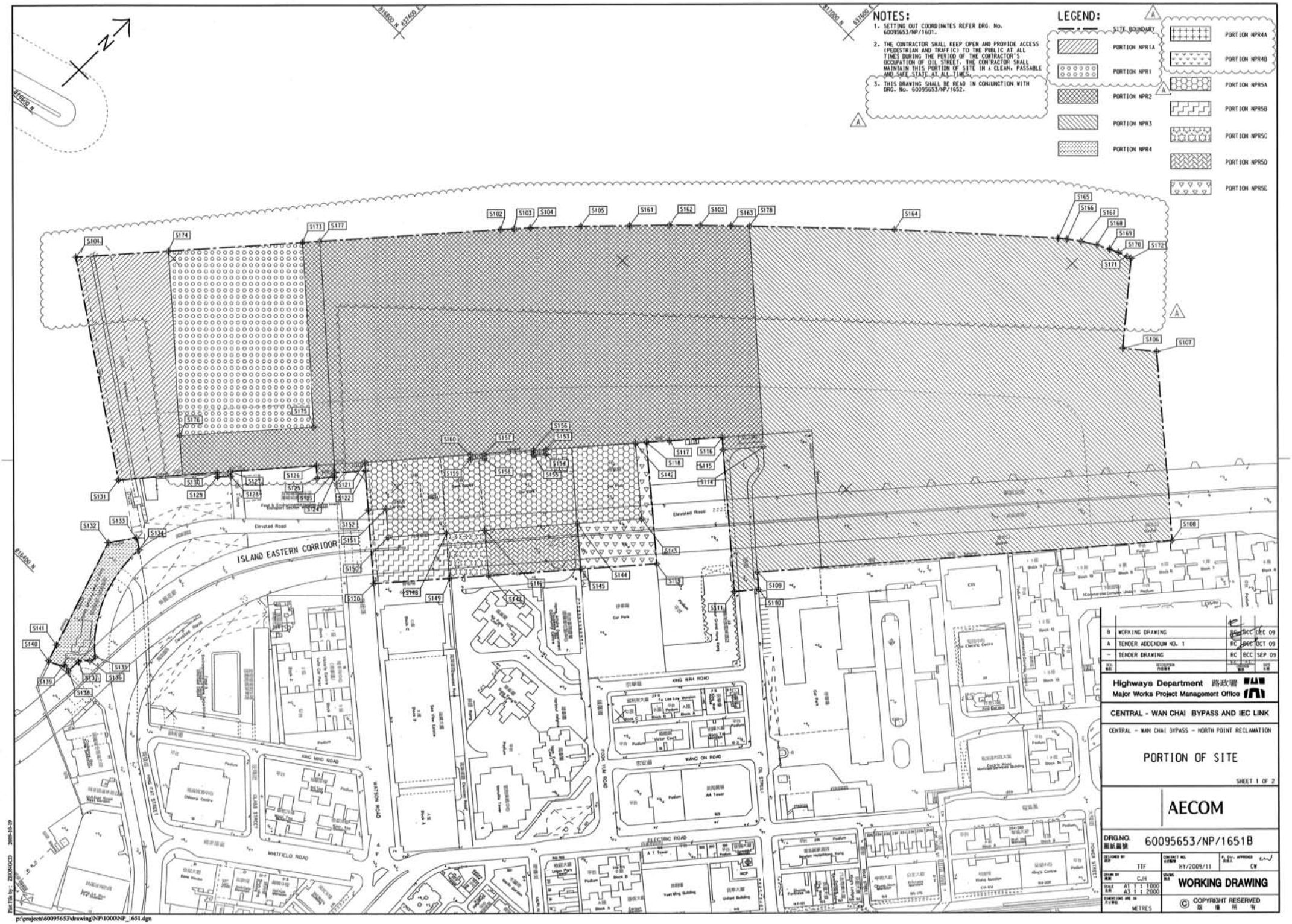
LOCATIONS OF WATER QUALITY MONITORING STATIONS

AECOM

DRG NO. 60041297/C5/SK001

SCALE A1 1:20000

DIMENSIONS IN METRES


NOTES:
1. SETTING OUT COORDINATES REFER DRG. No. 60095653/NP/1601.
2. THE CONTRACTOR SHALL KEEP OPEN AND PROVIDE ACCESS (PEDESTRIAN AND TRAFFIC) TO THE PUBLIC AT ALL TIMES DURING THE PERIOD OF THE CONTRACTOR'S OCCUPATION OF OIL STREET. THE CONTRACTOR SHALL MAINTAIN THIS PORTION OF SITE IN A CLEAN, PASSABLE AND SAFE STATE AT ALL TIMES.
3. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRG. No. 60095653/NP/1652.
LEGEND:
SITE BOUNDARY
PORTION NPR1A
PORTION NPR1
PORTION NPR2
PORTION NPR3
PORTION NPR4
PORTION NPR4A
PORTION NPR4B
PORTION NPR5A
PORTION NPR5B
PORTION NPR5C
PORTION NPR5D
PORTION NPR5E
816600 N
817400 E
817000 N
815600 E
816400 N
ISLAND EASTERN CORRIDOR
Elevated Road
KING WAH ROAD
WANG ON ROAD
ELECTRIC ROAD
KING MING ROAD
WHITFIELD ROAD
HOI TAI ROAD
MARSH ROAD
OIL STREET
CAUSEWAY BAY TYPHOON SHELTER
Car Park
Podium
Victor Court
Yue Hing Building
United Building
Kings Centre
Metro Harbour View
Metro Centre
Cityplaza
Oilsery Centre
Data House
Hong Kong Electric Centre
Hopewell Centre
Harbour Grand Hong Kong
Island Shangri-La
Pacific Place
Admiralty Centre
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B WORKING DRAWING RC DEC DEC 09
A TENDER ADDENDUM NO. 1 RC DEC OCT 09
- TENDER DRAWING RC BCC SEP 09
Highways Department 路政署
Major Works Project Management Office
CENTRAL - WAN CHAI BYPASS AND IEC LINK
CENTRAL - WAN CHAI BYPASS - NORTH POINT RECLAMATION
PORTION OF SITE
SHEET 1 OF 2
AECOM
DRG.NO. 60095653/NP/1651B
DESIGNED BY TTF
CONTRACT NO. HY/2009/11
CHK'D BY CJH
APPROVED CW
STATUS WORKING DRAWING
SCALE A1 1 : 1000 A3 1 : 2000
METRES
COPYRIGHT RESERVED
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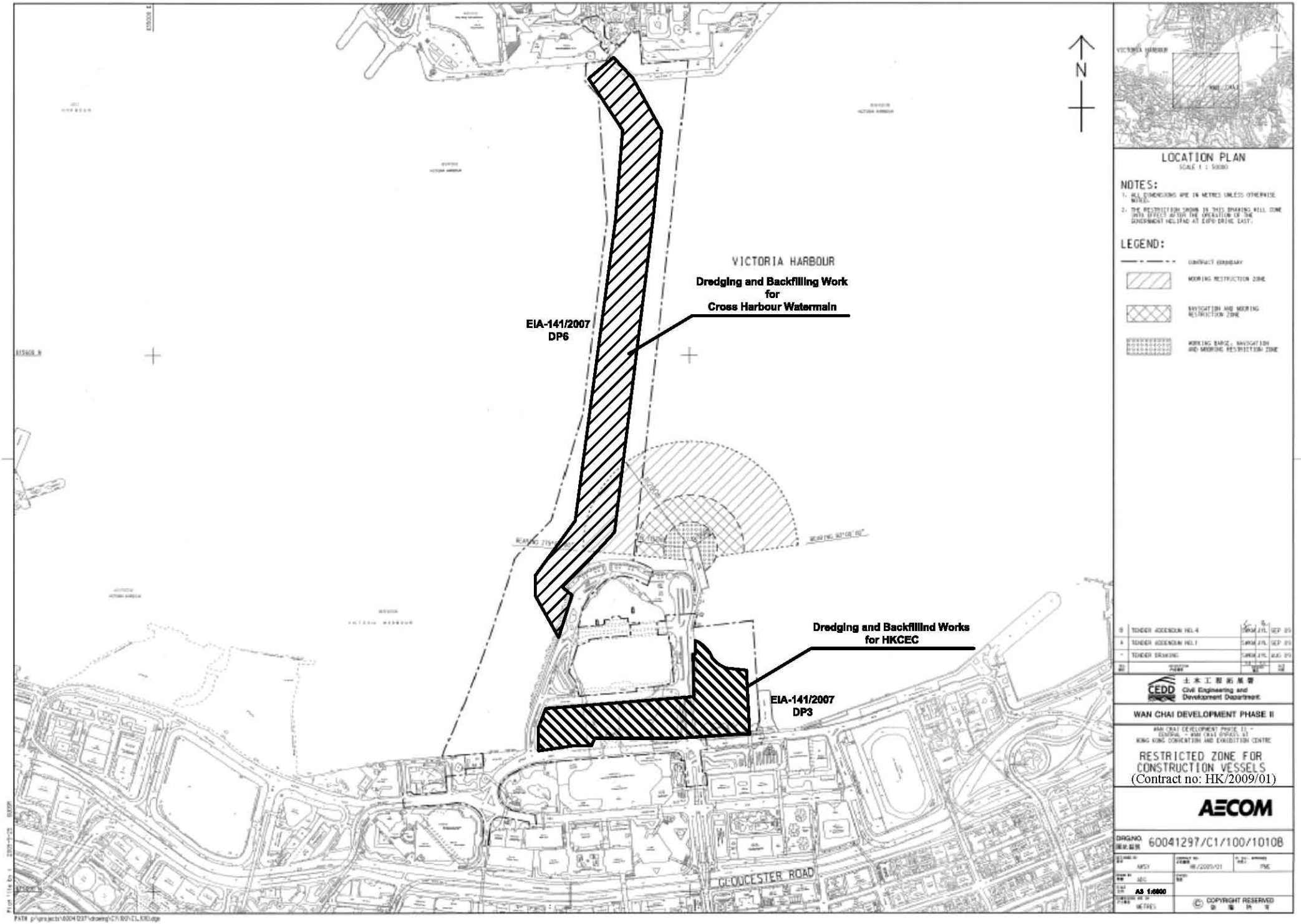
VICTORIA HARBOUR
Dredging and Backfilling Work
for
Cross Harbour Watermain
EIA-141/2007
DP6
Dredging and Backfillind Works
for HKCEC
EIA-141/2007
DP3
GLOUCESTER ROAD
N
LOCATION PLAN
SCALE 1 : 50000
NOTES:
1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
2. THE RESTRICTION SHOWN IN THIS DRAWING WILL COME INTO EFFECT AFTER THE OPERATION OF THE GOVERNMENT HELIPAD AT EXPO DRIVE EAST.
LEGEND:
CONTRACT BOUNDARY
MOORING RESTRICTION ZONE
NAVIGATION AND MOORING RESTRICTION ZONE
WORKING BARGE, NAVIGATION AND MOORING RESTRICTION ZONE
TENDER ADDENDUM NO.4
TENDER ADDENDUM NO.1
TENDER DRAWING
CEDD
土木工程拓展署
Civil Engineering and Development Department
WAN CHAI DEVELOPMENT PHASE II
WAN CHAI DEVELOPMENT PHASE II - EXTERNAL WORKS AT HONG KONG CONVENTION AND EXHIBITION CENTRE
RESTRICTED ZONE FOR CONSTRUCTION VESSELS
(Contract no: HK/2009/01)
AECOM
DRG.NO. 60041297/C1/100/10108
AS 1:6000
METRES
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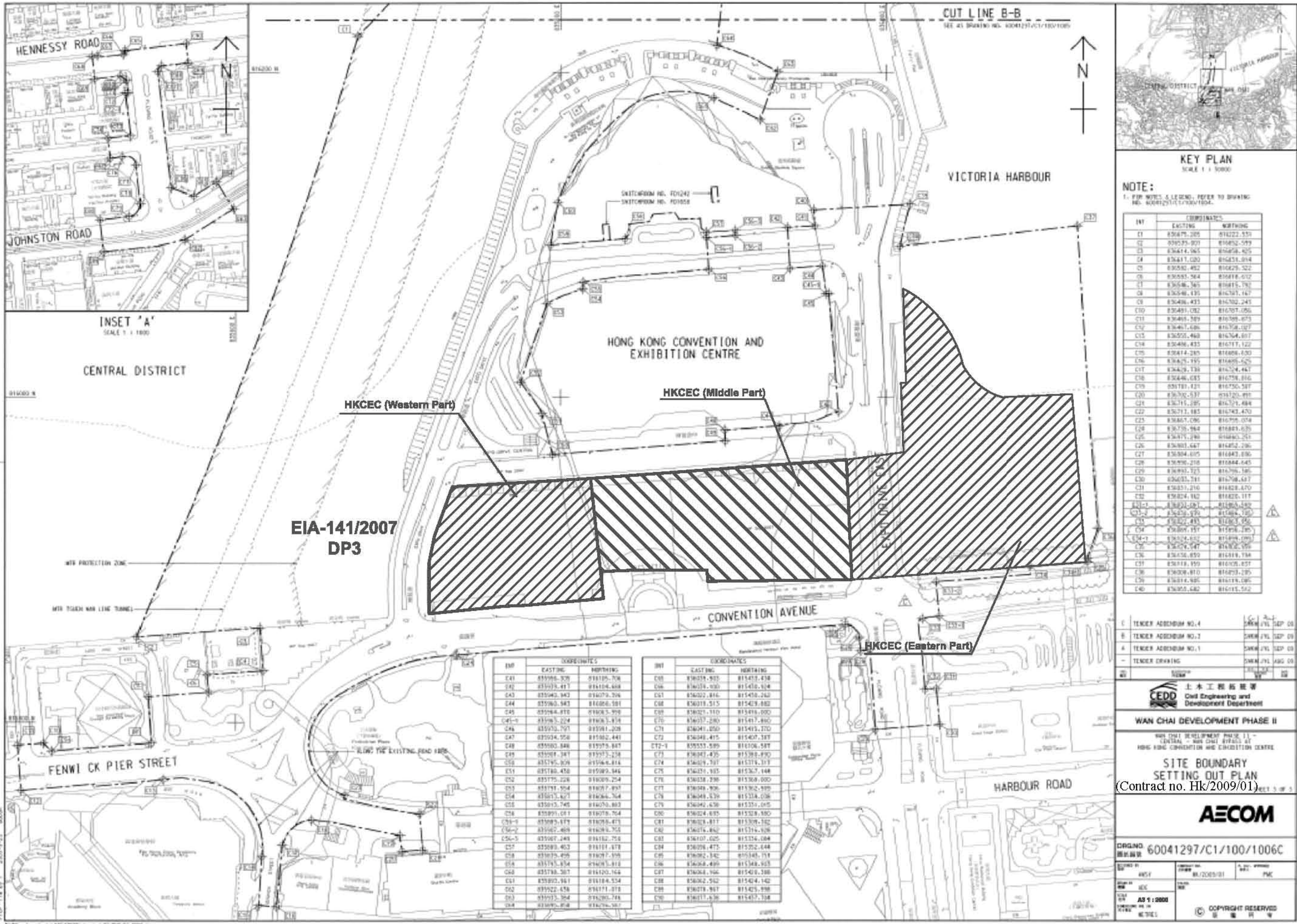

CUT LINE B-B
HENNESSY ROAD
JOHNSTON ROAD
INSET 'A'
SCALE 1 : 1000
CENTRAL DISTRICT
VICTORIA HARBOUR
HONG KONG CONVENTION AND EXHIBITION CENTRE
HKCEC (Western Part)
HKCEC (Middle Part)
HKCEC (Eastern Part)
EIA-141/2007
DP3
MTR PROTECTION ZONE
CONVENTION AVENUE
FENWICK PIER STREET
HARBOUR ROAD
KEY PLAN
NOTE:
TENDER ADDENDUM NO.4
TENDER ADDENDUM NO.2
TENDER ADDENDUM NO.1
TENDER DRAWING
土木工程拓展署
CEDD Civil Engineering and Development Department
WAN CHAI DEVELOPMENT PHASE II
SITE BOUNDARY SETTING OUT PLAN
(Contract no. Hk/2009/01)
AECOM
DRG NO. 60041297/C1/100/1006C
A3 1:2000
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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 (C)	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
XI	A1	Construct western and eastern temporary seawall
XI	A2	Dredging and construct new seawall
XI	A3	Reclamation to level +3.5mPD
IXB	A4	Construct diaphragm wall and barrette pile of tunnel "Portion 1"
IXB	A5	Construct tunnel "Portion 1" structures including excavation and backfilling with ELSW
IVA, IVB, IVC V, VI, VII	A6	Construct all drainage system, pipeworks of intakes and cooling system within Area WCR1

Section of Works	B	Major Work in Associated Area
IVA, IVB, IVC	B1	Construct P7, P8 and P9 new pumping stations
V	B2	Construct WSD's pumping station
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 helipad at Expo Drive
III	B8	Construct new public toilet and passenger terminal building at Expo Drive

Section of Works	C	Other Miscellaneous Works
III	C1	Construct new taxi and coach bus parking space at Expos Drive East
III	C2	Modification work on existing seawall and provide new EVA at Expo Drive
III	C3	Road re-alignment work on existing PTI at Expo Drive
II	C4	Road improvement work at junction of Harbour Road / Tonnochy Road and Fleming Road / Gloucester Road
III	C5	Demolition of existing above ground structure at Expo Drive
V	C6	Demolition of existing staircase of footbridge at Wan Shing Street
IXA	C7	Demolition of existing temporary helipad at ex-PCWA

Section of Works	D	Other Temporary Works
XI	D1	Divert existing 1800 mm diameter drain pipe

N

N 816230

N 816030

N 815830

GOLDEN BAUHINIA SQUARE

VICTORIA HARBOUR

RECLAMATION WORKS BY OTHERS

TUNNEL WORKS BY OTHERS

35m CLEAR SPACE

P7 P8 P9

DIRECTION OF TUNNEL WORKS

EXISTING WATER INTAKES

EXISTING SUBMARINE OUTFALL (SEWAGE)

EXISTING DISCHARGE

DRAINAGE DIVERSION OF 1800 PIPE

B1 B2 B3 B4 B5 B6 B7 B8

A1 A2 A3 A4 A5 A6

C1 C2 C3 C4 C6 C7

D1

0 20 40 60m

1 : 2000 SCALE BAR

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

	DESIGN	DRAWN	CHECKED
INITIAL	-	M.S. SIN	-
DATE	-	07/04/2010	-

DRAWING NO. CWCRJV/HK200902/SK0031 REV C

SCALE 1 : 2000 (A3)

P:\01_Construction Team\CAD (sketch working)\2010_05_19 SK0031C\CWCRJV-HK200902-SK0031C.dwg, 20/5/2010 9:34:20

LEGEND:

WORKS AREA

DREDGING AREA FOR
MITGATION OF ODOUR(DP3)

SITE BOUNDARY

TCBR1E

TCBR2
AND
TCBR3

TCBR4

TCBR1W

TPCWAE

TPCWAW

DP3

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

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

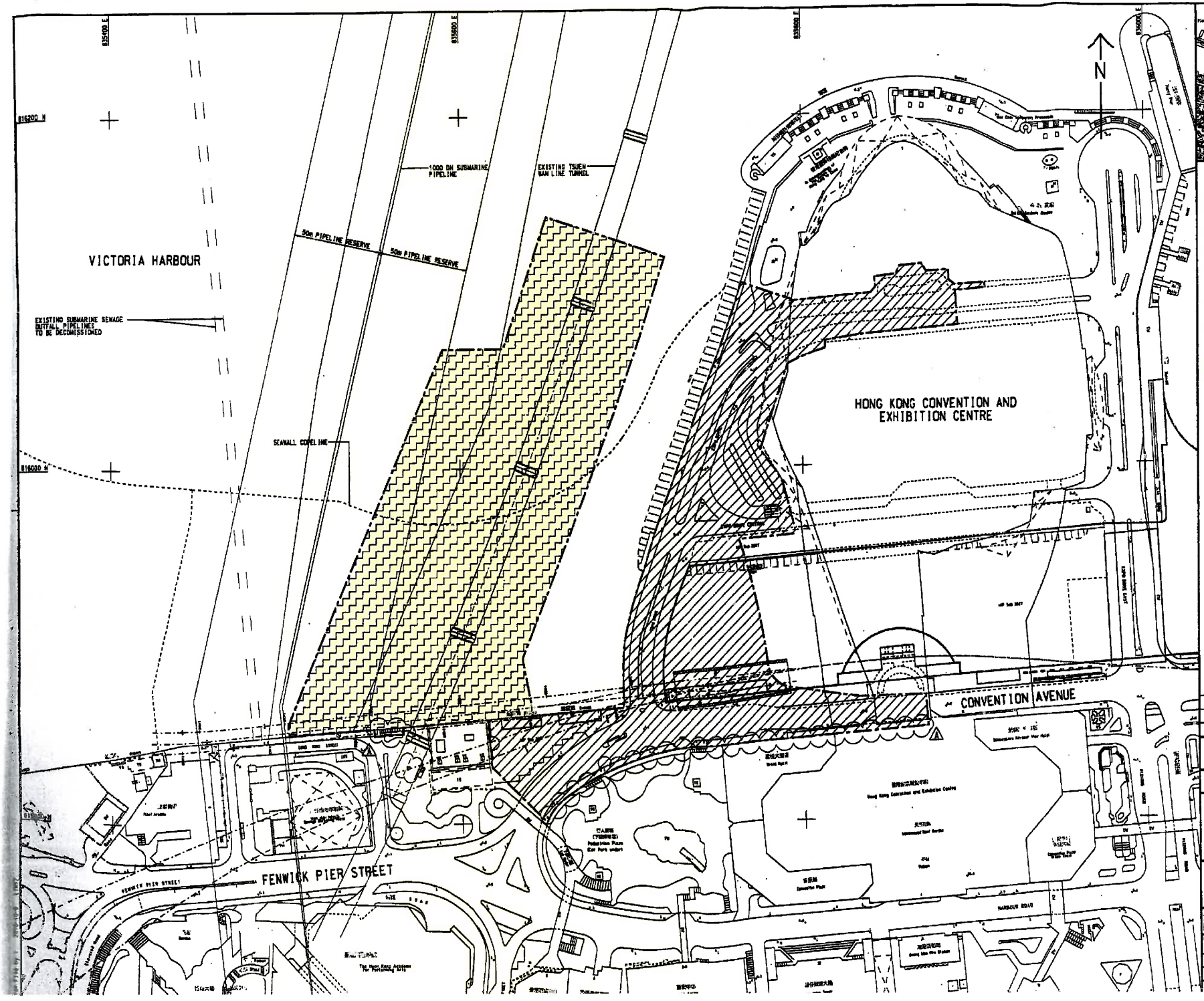
TITLE

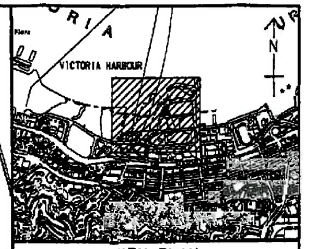
LOCATION PLAN OF WORKS AREA

DRG. NO.

CWBT/EPD/001B

SCALE	STATUS
1:1000 @ A0	
DIMENSIONS ARE IN MILLIMETERS	COPYRIGHT RESERVED





KEY PLAN
SCALE 1 : 20000

NOTES:

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

LEGEND:

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

REV	DESCRIPTION	BY	CHK	DATE
A	TENDER ADDENDUM NO.1	SWKM	JYL	OCT 10
-	TENDER DRAWING	SWKM	JYL	SEP 10

CEDD 土木工程拓展署 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

DRG.NO. 60041297/C4/100/1301A

DESIGNED BY	SWKM	CONTRACT NO.	HK/2010/06
CHECKED BY	ADC	APPROVED	TKH
SCALE	A1 1:1000	STATUS	

Figure 2.2

Project Organization Chart

Project Organization Chart

Project Proponent

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Project Proponent

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Environmental Protection Officer
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Fax: 25910558

Engineer's Representative for WDII

AECOM

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Principal Resident Engineer
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Fax: 2587 1877

Engineer's Representative for CWB

AECOM

Mr. Peter Poon
Principal Resident Engineer
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Fax: 3529 2829

Independent Environmental Checker

ENVIRON Hong Kong Limited

Mr. David Yeung
Independent Environmental Checker
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Fax: 3548.6988

HK/2009/01 Contractor

Chun Wo – Leader JV

Mr. Paul Yu
Site Agent

HK/2009/02 Contractor

Chun Wo – CRGL JV

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Project Manager
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Fax: 2827 9996

HK/2010/06 Contractor

Gamme – Leader JV

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Fax: 2529 2880

HY/2009/11 Contractor

CHEC-CRBC JV

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Fax: 3157 1085

HY/2009/15 Contractor

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Fax: 2566 2192

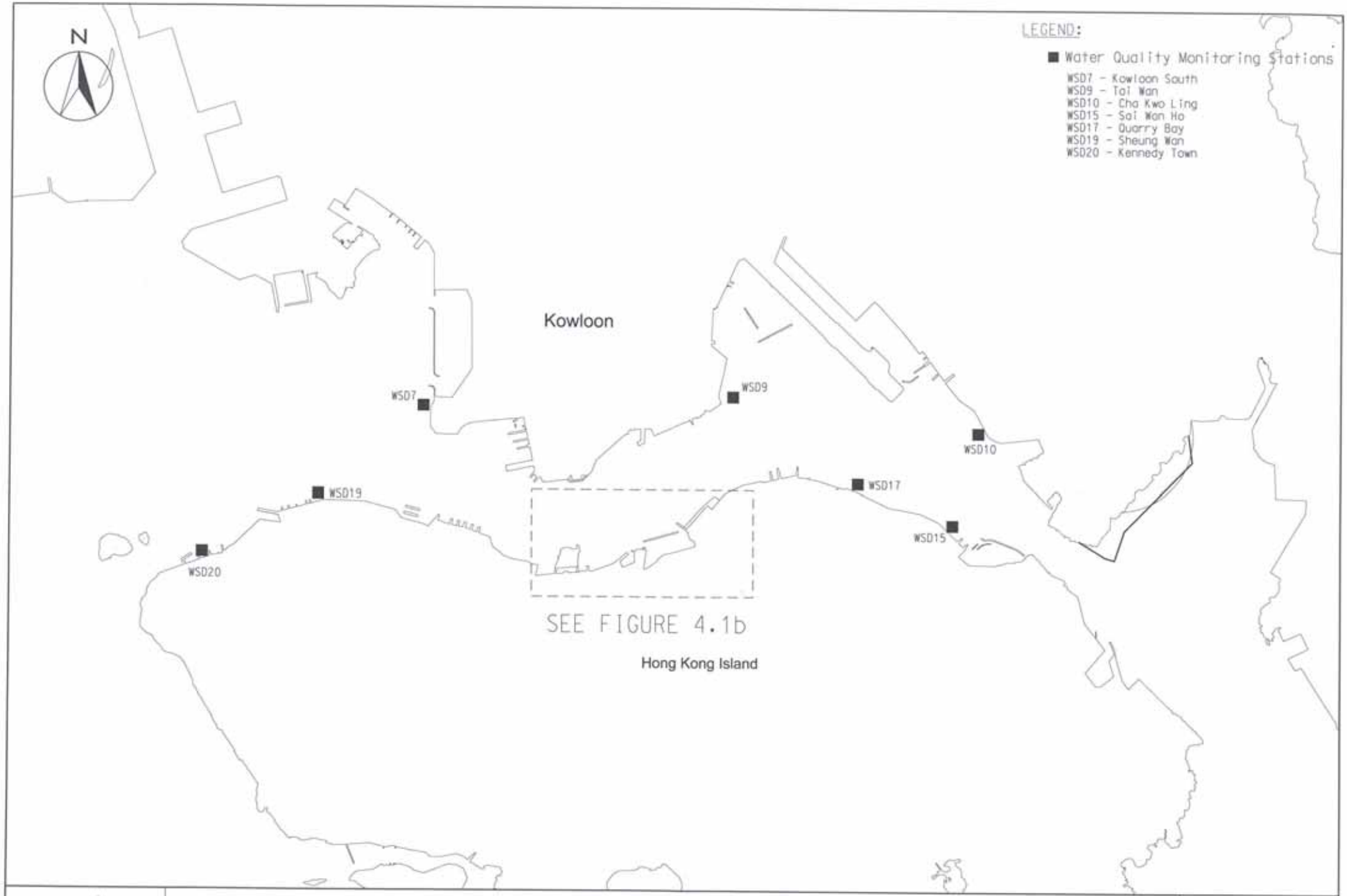
Environmental Team

Lam Geotechnics Limited

Mr. Raymond Dai
Environmental Team Leader
Tel: 2882 3939
Fax: 2882 3331

Figure 3.1

Locations of Monitoring Stations



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Maunsell Consultants Asia Ltd

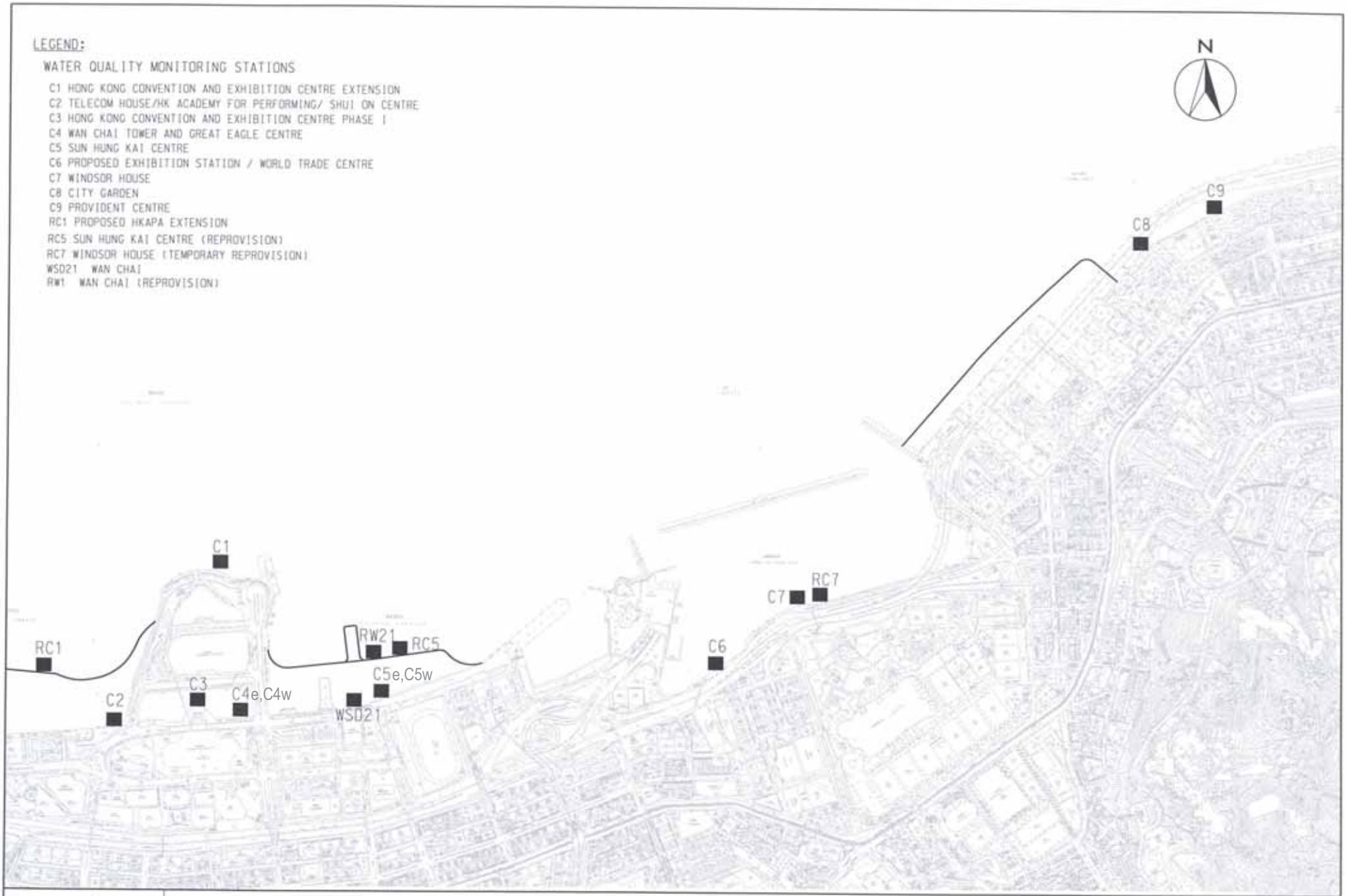
WAN CHAI DEVELOPMENT PHASE II - PLANNING AND ENGINEERING REVIEW

LOCATIONS OF WATER QUALITY MONITORING STATIONS

(SHEET 1 OF 2)

FIGURE 4.1a

P:/60017193/REPORT/DRAWINGS/EM&A-0708/WQ/4.1A.DGN SCALE: N.T.S. (A3)



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Maunsell Consultants Asia Ltd

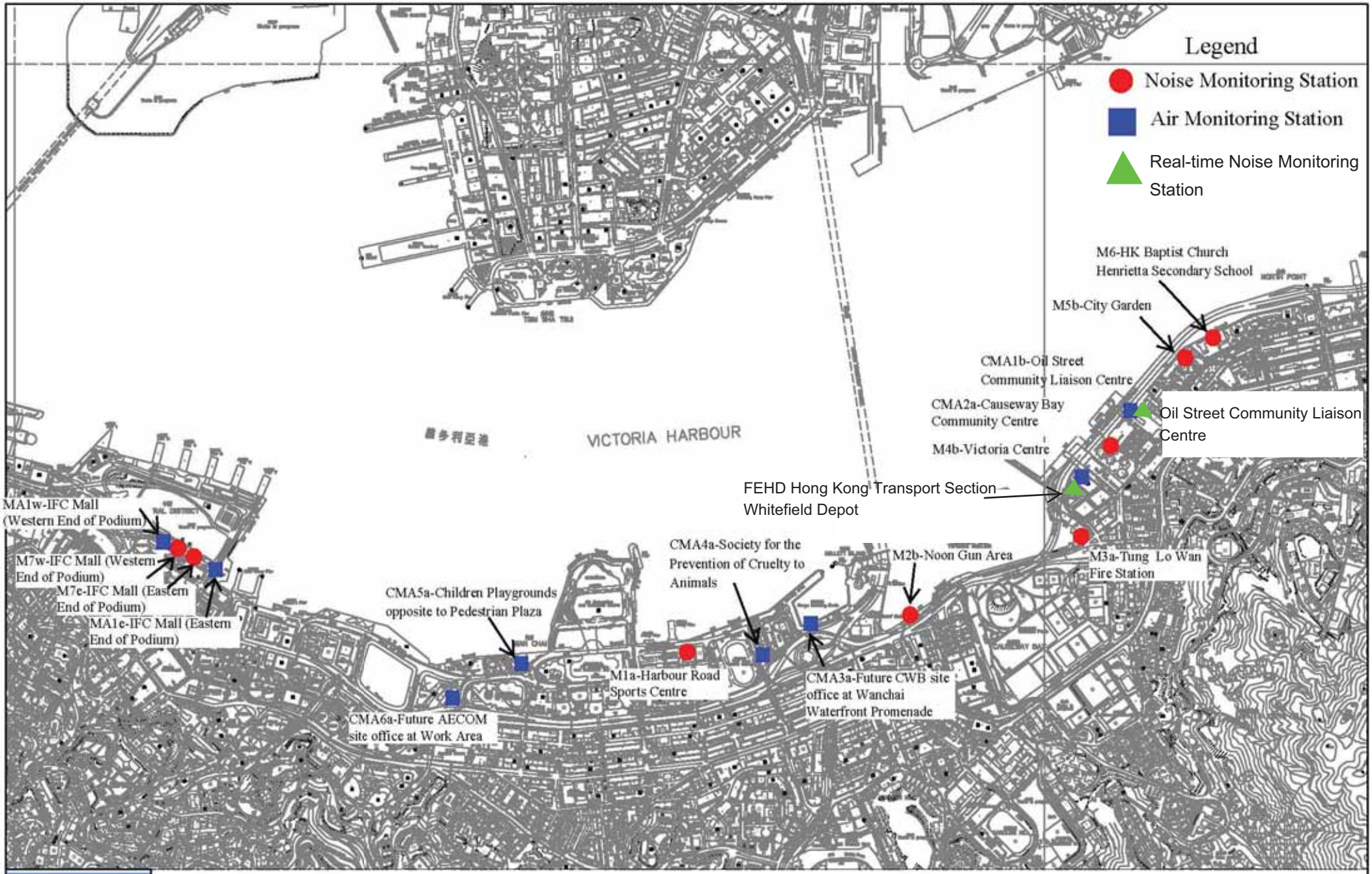
WAN CHAI DEVELOPMENT PHASE II - PLANNING AND ENGINEERING REVIEW

LOCATIONS OF WATER QUALITY MONITORING STATIONS

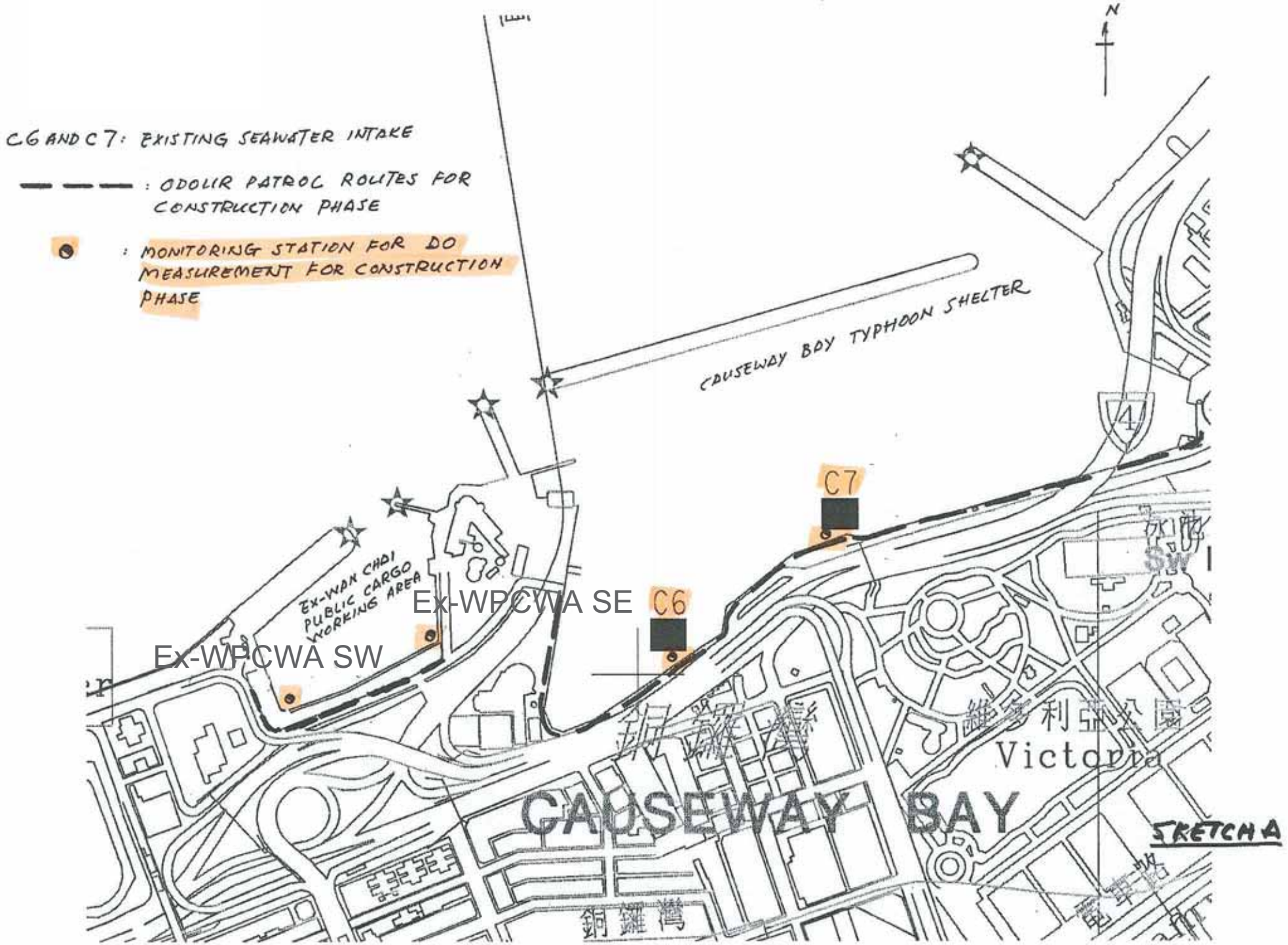
(SHEET 2 OF 2)

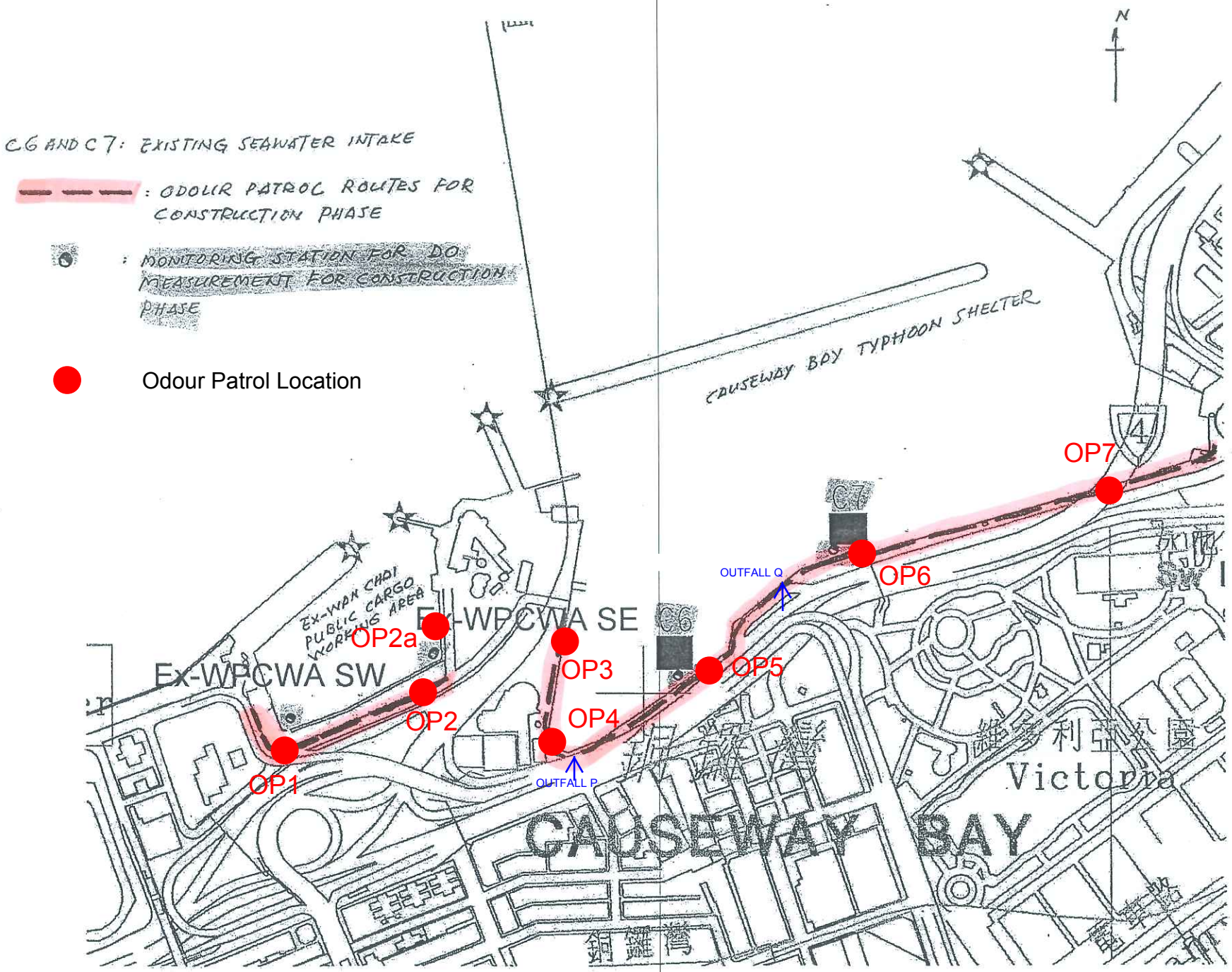
FIGURE 4.1b

P:/60017193/REPORT/DRAWINGS/EM&A-0708/WQ/4.1B.DGN SCALE 1:8000 (A3)



Location plan of Environmental Monitoring Stations


C6 AND C7: EXISTING SEAWATER INTAKE
: ODOUR PATROL ROUTES FOR CONSTRUCTION PHASE
: MONITORING STATION FOR DO MEASUREMENT FOR CONSTRUCTION PHASE
N
CAUSEWAY BAY TYPHOON SHELTER
C7
C6
EX-WAN CHAI PUBLIC CARGO WORKING AREA
Ex-WPCWA SE
Ex-WPCWA SW
CAUSEWAY BAY
Victoria
SKETCH A


C6 AND C7: EXISTING SEAWATER INTAKE
: ODOUR PATROL ROUTES FOR CONSTRUCTION PHASE
: MONITORING STATION FOR DO MEASUREMENT FOR CONSTRUCTION PHASE
Odour Patrol Location
N
CAUSEWAY BAY TYPHOON SHELTER
EX-WAN CHAI PUBLIC CARGO WORKING AREA
Ex-WPCWA SE
Ex-WPCWA SW
OP1
OP2
OP2a
OP3
OP4
OP5
OP6
OP7
OUTFALL P
OUTFALL Q
C6
C7
CAUSEWAY BAY
Victoria

Appendix 2.1

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	
Construction Phase								
For the Whole Project								
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. • Strictly limit the truck speed on site to below 10 km per hour and water spraying to keep the haul roads in wet condition; • Watering during excavation and material handling; • Provision of vehicle wheel and body washing facilities at the exit points of the site, combined with cleaning of public roads where necessary; and • Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.	Work site / during construction	Contractor		√			

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[1]		√			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[2]		√			EIAO-TM
Operation Phase								
For the Whole Project								

[1] CEDD will identify an implementation agent.

[2] 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[1]			√		EIAO-TM
For DP1 – CWB (Within the Project Boundary)								
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	
Construction Phase								
For the Whole Project								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S4.9.4	Good Site Practice: • Only well-maintained plant shall be operated on-site and plant shall be serviced regularly during the construction program. • Silencers or mufflers on construction equipment shall be utilized and shall be properly maintained during the construction program. • Mobile plant, if any, shall be sited as far away from NSRs as possible. • 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. • 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. • Material stockpiles and other structures shall be effectively utilized, wherever practicable, in screening noise from on-site construction activities.	Work Sites / During Construction	Contractor		√			EIAO-TM, NCO
For DP1 – CWB (Within the Project Boundary)								

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	Use of quiet powered mechanical equipment, movable noise barrier and temporary noise barrier for the following tasks: • Slip road 8 tunnel • Construction of diaphragm wall and substructures of the tunnel approach ramp • Excavation • Construction of slabs • Backfill • Demolition and construction of substructures for the IEC • Demolition works of existing piers and crossheads of the marine section of the existing IEC Use of PME grouping for the following tasks: • At-grade road construction • Substructure for IECL connection	Work Sites / During Construction	Contractor		√			EIAO-TM, NCO
For DP2 – WDII Major Roads (Road P2)								
S4.8.3 – S4.8.4	Use of quiet powered mechanical equipment, movable noise barrier and temporary noise barrier for the following tasks: • Temporary road diversion • Resurfacing • At-grade roadwork	Work Sites / During Construction	Contractor		√			EIAO-TM, NCO
For DP3 – Reclamation Works								
S4.8.3 – S4.8.4	Use of quiet powered mechanical equipment for the following task: • Filling behind seawall • Seawall construction	Work Sites / During Construction	Contractor		√			EIAO-TM, NCO

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
For DP5 – Wan Chai East Sewage Outfall								
S4.8.3 – S4.8.4	Use of quiet powered mechanical equipment for the following tasks: • Submarine pipelines (marine section) Use of quiet powered mechanical equipment and movable noise barrier for the following tasks: • Installation of a new pipeline (land section)	Work Sites / During Construction	Contractor		√			EIAO-TM, NCO
For DP6 – Cross-Harbour Water Mains from Wan Chai to Tsim Sha Tsui								
S4.8.3 – S4.8.4	Use of quiet powered mechanical equipment for the following tasks: • Submarine pipelines (marine section) •	Work Sites / During Construction	Contractor		√			EIAO-TM, NCO

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

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S4.8.14 – S4.8.18	• For Existing NSRs • about 235m length of noise semi-enclosure with transparent panel covering the westbound slip road from the IEC • about 230m length of noise semi-enclosure with transparent panel covering the main carriageways (eastbound and westbound) of the CWB and IEC • about 135m length of 5.5m high cantilevered noise barrier with 3m cantilever inclined at 45° with transparent panel on the eastbound slip road to the IEC • about 95m length of 5.5m high cantilevered noise barrier with 1m cantilever inclined at 45° with transparent panel on the eastbound slip road to the IEC • about 350m length of 3.5m high vertical noise barrier with transparent panel on the eastbound slip road to the IEC • low noise road surfacing for the trunk road (except tunnel section and beneath the landscaped deck at the eastern portal area) with speed limit of 70 km/hour	Near North Point / Before commencement of operation of road project	HyD	√	√	√		EIAO-TM
	For Future/Planned NSRs • about 265m length of noise semi-enclosure with transparent panel covering the westbound slip road from the IEC	In between the Electric Centre (next to City Garden) and CDA(1) site / Before occupation of Planned NSRs in CDA and CDA(1) sites.	HyD	√	√ #			

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	• The openable windows of the temple, if any, should be orientated so as to avoid direct line of sight to the existing Victoria Park Road as far as practicable.	Near Causeway Bay Fire Station / During detailed design of the re-provisioned Tin Hau Temple	Project Proponent for the re-provisioned Tin Hau Temple	√				

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

Only the steel frame for this section of noise semi-enclosure would be erected in advance during the construction of the westbound slip road.

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	
Construction Phase								
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)								
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: • Seawall construction in all the reclamation areas; • Construction of the CWB Tunnel • Construction of the proposed WSD water mains; and • Construction of the proposed Wan Chai East sewage outfall pipelines.	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: • Dredging along the proposed cross-harbour water mains; • Dredging along the seawall in the Wan Chai Reclamation (WCR) zone (area between HKCEC Extension and PCWA).	Work site / During the construction period	Contractor		√			EIAO-TM, WPCO

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 CRIII 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

Reclamation Area		Maximum Dredging Rate (m^3 per day)	Maximum Dredging Rate (m^3 per hour (for 16 hrs per day))	Maximum Dredging Rate (m^3 per week)
Dredging along seawall or breakwater				
North Point Shoreline Zone (NPR)		6,000	375	42,000
Causeway Bay Shoreline Zone	TBW	1,500	94	10,500
	TCBR	6,000	375	42,000
PCWA Zone		5,000	313	35,000

<table>
<tr><th rowspan="2">EIA Ref</th><th rowspan="2">Environmental Protection Measures / Mitigation Measures</th><th rowspan="2">Location / Timing</th><th rowspan="2">Implementation Agent</th><th colspan="4">Implementation Stages*</th><th rowspan="2">Relevant Legislation and Guidelines</th></tr>
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<tr><td></td><td>
<table>
<tr><td colspan="2">Wan Chai Shoreline Zone (WCR)</td><td>6,000</td><td>375</td><td>42,000</td></tr>
<tr><td rowspan="2">HKCEC Shoreline Zone (HKCEC)</td><td>HKCEC Stage 1 & 3</td><td>1,500</td><td>94</td><td>10,500</td></tr>
<tr><td>HKCEC Stage 2</td><td>6,000</td><td>375</td><td>42,000</td></tr>
<tr><td colspan="2">Cross Harbour Water Mains</td><td>1,500</td><td>94</td><td>10,500</td></tr>
<tr><td colspan="2">Wan Chai East Submarine Sewage Pipeline</td><td>1,500</td><td>94</td><td>10,500</td></tr>
</table>
Note: 1,500 m^3 per day shall be applied for construction of the western seawall of WCR1.</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>S5.8, Figure 5.3</td><td>Dredging along the seawall at WCR1 shall be undertaken initially at 1,500m^3 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.</td><td>Work site / During the construction period</td><td>Contractor</td><td></td><td>√</td><td></td><td></td><td>EIAO-TM, WPCO</td></tr>
<tr><td>S5.8, Figure 5.3</td><td>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.</td><td>Work site / During the construction period</td><td>Contractor</td><td></td><td>√</td><td></td><td></td><td>EIAO-TM, WPCO</td></tr>
<tr><td>S5.8, Figure 5.3</td><td>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.</td><td>Work site / During the construction period</td><td>Contractor</td><td></td><td>√</td><td></td><td></td><td>EIAO-TM, WPCO</td></tr>
<tr><td>S5.8, Figure 5.3</td><td>Silt screens shall be applied to seawater intakes at interim construction stages as stated below:
<table>
<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, TBW, NP and Water Mains Zone</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 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 Reprovisioned WSD Wan Chai saltwater intake.
Cooling water intakes for MTR South, Excelsior Hotel & World Trade Centre and reprovisioned Windsor House.</td></tr>
</table></td><td>Work site / During the construction period</td><td>Contractor</td><td></td><td>√</td><td></td><td></td><td>EIAO-TM, WPCO</td></tr>
</table>

<table>
<tr><th rowspan="2">EIA Ref</th><th rowspan="2">Environmental Protection Measures / Mitigation Measures</th><th rowspan="2">Location / Timing</th><th rowspan="2">Implementation Agent</th><th colspan="4">Implementation Stages*</th><th rowspan="2">Relevant Legislation and Guidelines</th></tr>
<tr><th>Des</th><th>C</th><th>O</th><th>Dec</th></tr>
<tr><td>S5.8</td><td>Other mitigation measures include:

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;
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;
all hopper barges and dredgers shall be fitted with tight fitting seals to their bottom openings to prevent leakage of material;
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;
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
</td><td>Work site / During the construction period</td><td>Contractor</td><td></td><td>√</td><td></td><td></td><td>ProPECC PN 1/94; WPCO (TM-DSS)</td></tr>
</table>

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	• 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.							
S5.8	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.	Work site / During the construction period	Contractor		√			EIAO-TM, WPCO

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S5.8	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.	Causeway Bay typhoon shelter/Implementation of harbour-front enhancement.	CEDD[3]		√			WPCO

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
For the Whole Project								
S5.8	• Construction Runoff and Drainage • use of sediment traps, wheel washing facilities for vehicles leaving the site, and adequate maintenance of drainage systems to prevent flooding and overflow; • 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; • 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; • 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; • 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; • 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; • 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	• Work site / During the constructi on period	Contractor		√			ProPECC PN 1/94; WPCO (TM-DSS)

[3] 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	
	required. • 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.							
	• 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.							
S5.8	*Sewage from Construction Work Force* 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.	Work site / During the construction period	Contractor		√			ProPECC PN 1/94; WPCO (TM-DSS)
S5.8	*Floating Debris and Refuse* 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.	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	*Storm Water Discharges* Minimum distances of 100 m shall be maintained between the existing or planned stormwater discharges and the existing or planned WSD flushing water intakes.	Work site and adjacent water / During the design and construction period.	Contractor	√	√			WPCO
Operation Phase								
DP1 – CWB (within the Project Boundary)								
S5.8	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: • 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. • Petrol interceptors shall be regularly cleaned and maintained in good working condition. • Oily contents of the petrol interceptors shall be properly handled and disposed of, in compliance with the requirements of the Waste Disposal Ordinance. • Sewage arising from ancillary facilities of CWB (for examples, car park,	CWB/During design and operational period	HyD/TD[3]	√		√		WPCO

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	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. • Road drainage shall also be provided with adequately designed silt trap to minimize discharge of silty runoff. • 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.							

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

[3] if employ Management, Operation and Maintenance (MOM) Contract

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	
Construction Phase								
For DP3 – Reclamation Works								
S6.7.2	***Marine Sediments*** 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^3. 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.							

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: • 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.							

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	• 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. • 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.							
S6.6.12	***Floating Refuse*** 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.	Work site / During the construction period	Contractor		√			
For the Whole Project								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S6.7.7	*Good Site Practices* Recommendations for good site practices during the construction activities include: • 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; • training of site personnel in proper waste management and chemical waste handling procedures; • provision of sufficient waste disposal points and regular collection for disposal; • appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; • regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; and • a recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites).	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	*Waste Reduction Measures* 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: • 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; • 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; • any unused chemicals or those with remaining functional capacity shall be recycled; • use of reusable non-timber formwork, such as in casting the tunnel box sections, to reduce the amount of C&D material. • prior to disposal of C&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; • proper storage and site practices to minimise the potential for damage or contamination of construction materials; and • plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	Work site / During planning and design stage, and construction stage	Contractor	√	√			

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S6.7.10	*General Refuse* General refuse shall be stored in enclosed bins or compaction units separate from C&D material. A licensed waste collector shall be employed by the contractor to remove general refuse from the site, separately from C&D material. 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.	Work site / During the construction period	Contractor		√			Public Health and Municipal Services Ordinance (Cap. 132)
S6.7.11	*Chemical Wastes* 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.	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	*Construction and Demolition Material* C&D material shall be sorted on-site into inert C&D material (that is, public fill) and C&D waste. All the suitable inert C&D material shall be broken down to 250 mm in size for reuse as public fill in the WDII reclamation. C&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.	Work site / During the construction period	Contractor		√			ETWB TCW No. 33/2002, 31/2004, 19/2005

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	*Bentonite Slurry* 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: • 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. • 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. • 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.	Work site / During the construction period	Contractor		√			ProPECC PN 1/94

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

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	
Construction Phase								
For the Whole Project								
S.12.6	• The contaminated site shall be cleaned up before commencement of site clearance and construction work at the concerned area which may disturb the ground.	A King Marine / Before commencement of construction activities at A King Marine.	Project proponent for the re-provisioned Tin Hau Temple	√				"*Guidance Notes for Investigation and Remediation of Contaminated Sites of Petrol Filling Stations, Boatyards, and Car Repair/Dismantling Workshops*" published by EPD, HKSAR EPD ProPECC Note No. 3/94
S7.10	During soil remediation works, the Contractor for the excavation works shall take note of the following points for excavation: • Excavation profiles must be properly designed and executed; • 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; • Quantities of soil to be excavated must be estimated; • It maybe necessary to split quantities of soil according to soil type, degree and nature of contamination. • Temporary storage of soil at intermediate depot or on-site	A King Marine / During soil remediation works	Contractor	√				Air Pollution Control Ordinance Noise Control Ordinance Waste Disposal Ordinance Waste Disposal (Chemical Waste) (General) Regulation

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.							
	• Supply of suitable clean backfill materials is needed after excavation. • Care must be taken of existing buildings and utilities. • Precautions must be taken to control of ground settlement • Speed controls for vehicles shall be imposed on dusty site areas. • Vehicle wheel and body washing facilities at the site's exit points shall be established and used. The following environmental mitigation measures shall be strictly followed during the operation and/or maintenance of the CS/S facilities:							Water Pollution Control Ordinance

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	Air Quality Mitigation Measures • The loading, unloading, handling, transfer or storage of cement shall be carried out in an enclosed system. • 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. • All practicable measures, including speed controls for vehicles, shall be taken to prevent or minimize the dust emission caused by vehicle movement. • Tarpaulin or low permeable sheet shall be put on dusty vehicle loads transported between site locations.							
	Noise Mitigation Measures • The mixing facilities shall be sited as far as practicable to the nearby noise sensitive receivers. • Simultaneous operation of mixing facilities and other equipment shall be avoided. • Mixing process and other associated material handling activities shall be properly scheduled to minimise potential cumulative noise impact on the nearby noise sensitive receivers. • Construction Noise Permit shall be applied for the operation of powered mechanical equipment during restricted hours (if any).							

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	Water Quality Mitigation Measures • 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. *Waste Mitigation Measures* • 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. • Stabilized soils shall be broken into suitable size for backfilling or reuse on site. • A high standard of housekeeping shall be maintained within the mixing plant area. • If necessary, there shall be clear and separated areas for stockpiling of untreated and treated materials.							

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

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	
Construction Phase								
For the Whole Project - Schedule 3 DP								
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.
For DP3 – Reclamation Works								
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.

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	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: • Installation of silt curtains during dredging activities • Use of tightly-closed grab dredger • Reduction of dredging rate • Control of grab descending speed • Construction of leading edges of seawall in the early stages of the reclamation works	Work site / during construction phase	Contractor		√			EIAO TM Annex 16 (Section 8.4) & EIAO Guidance Note No. 3/2002.
	• Adoption of multiple-phase construction schedule							

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	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: • Use of Quiet Mechanical Plant during the construction phase shall be adopted wherever possible. • Adoption of multiple-phase construction schedule. • General measures to reduce noise generated during the construction phase (see noise impact assessment) shall be effectively implemented.	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

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	
Construction Phase								
For the Whole Project								
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
For DP1 – CWB (Within the Project Boundary)								
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

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
For DP2 – WDII Major Roads (Road P2)								
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
For DP3 – Reclamation Works								
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
For DP5 – Wan Chai East Sewage Outfall								
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

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
For DP6 – Cross-Harbour Water Mains from Wan Chai to Tsim Sha Tsui								
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
Operation Phase								
For the Whole Project - Schedule 3 DP								
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

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[4]	√	√	√		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
For DP1 – CWB (Within the Project Boundary)								
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
For DP2 – WDII Major Roads (Road P2)								

[4] 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	
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
For DP3 – Reclamation Works								
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[5]	√	√	√		ETWB TCW 2/2004

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

[5] CEDD will identify an implementation agent

Appendix 3.1

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)[Note 1]

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 $\mu g/m^3$		24-hour TSP Level in $\mu g/m^3$	
	Action Level	Limit Level	Action Level	Limit Level
CMA1b [Note 2]	320.1	500	176.7	260
CMA2a	323.4	500	169.5	260
CMA3a [Note 2]	311.3	500	171.0	260
CMA4a	312.5	500	171.2	260
CMA5a [Note 2]	332.0	500	181.0	260
CMA6a [Note 2]	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
WSD Salt Water Intake				
SS in 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
Cooling Water Intake				
SS in 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

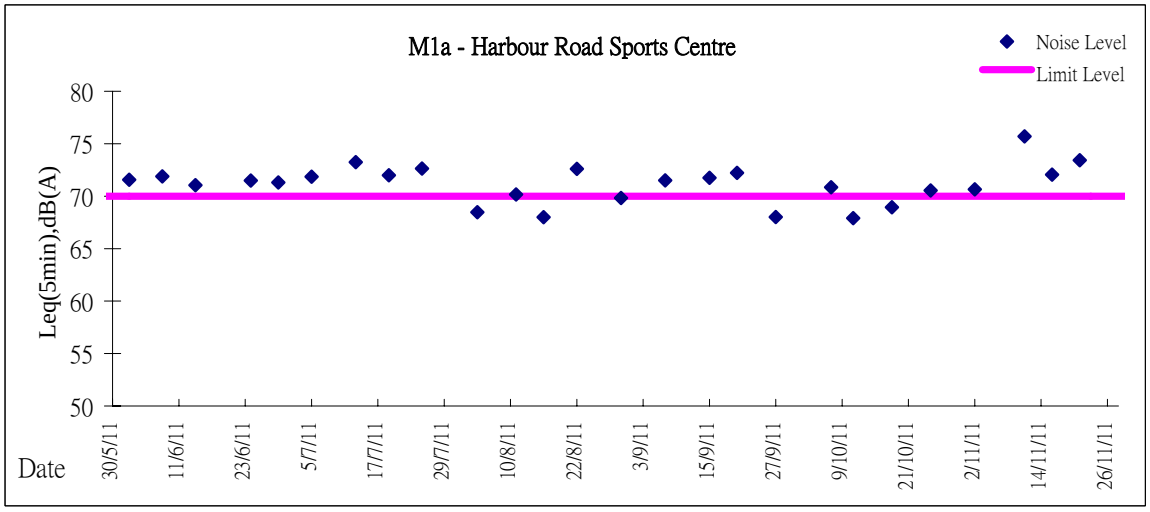
Parameters	Action	Limit
Odour Nuisance (from odour intensity analysis or odour patrol)	• When two documented complaint are received; or • Odour Intensity of 2 is measured from odour intensity analysis.	• Five or more consecutive genuine documented complaints within a week; or • Odour Intensity of 3 or above is measured from odour intensity analysis.

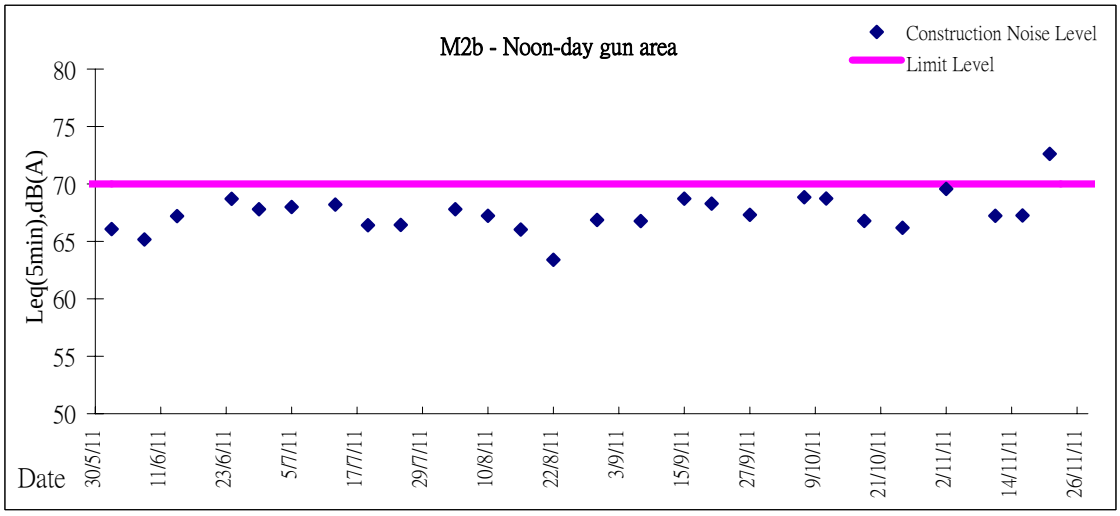
Appendix 4.1

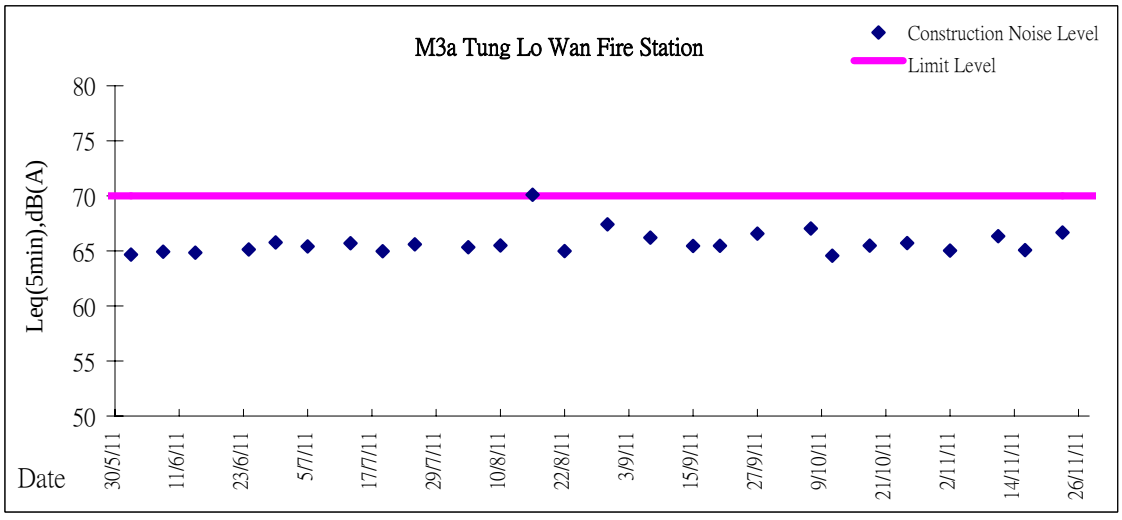
Noise Monitoring Graphical Presentations

Graphic Presentation of Noise Monitoring Result

Restricted Time (1900 - 2300 hrs on normal weekdays and 0700-2300 on holiday)

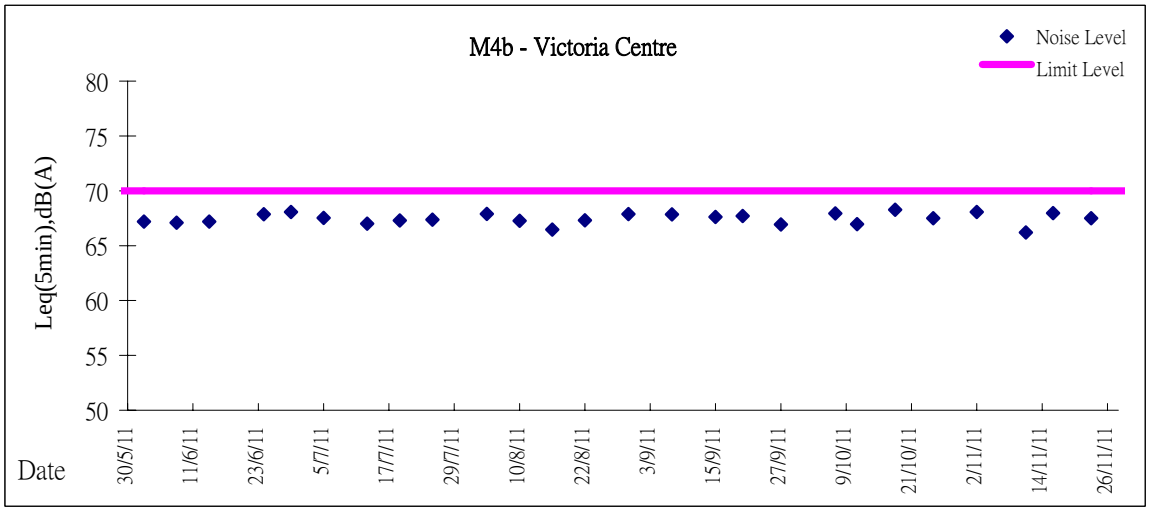


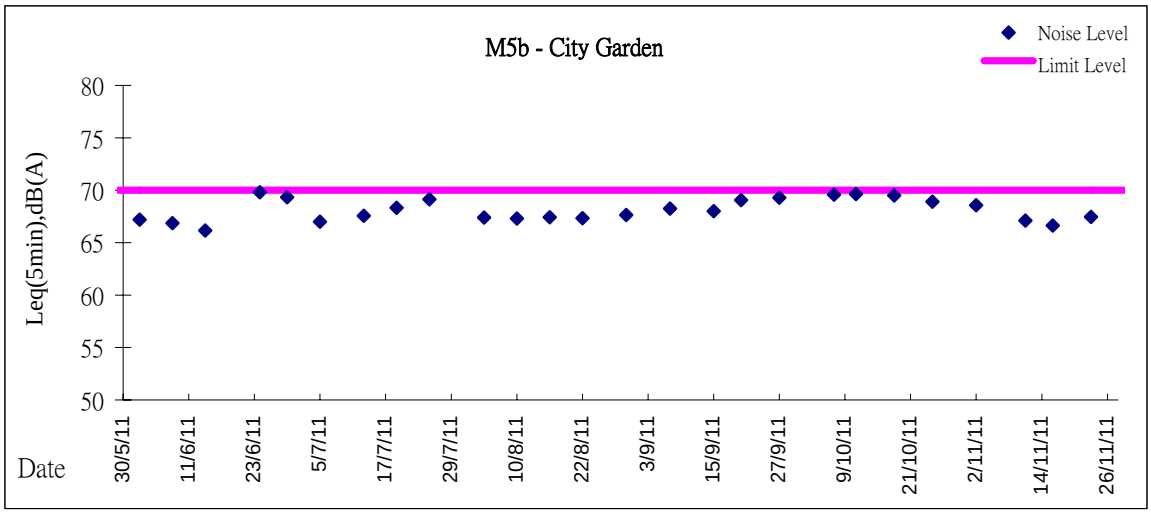




Graphic Presentation of Noise Monitoring Result

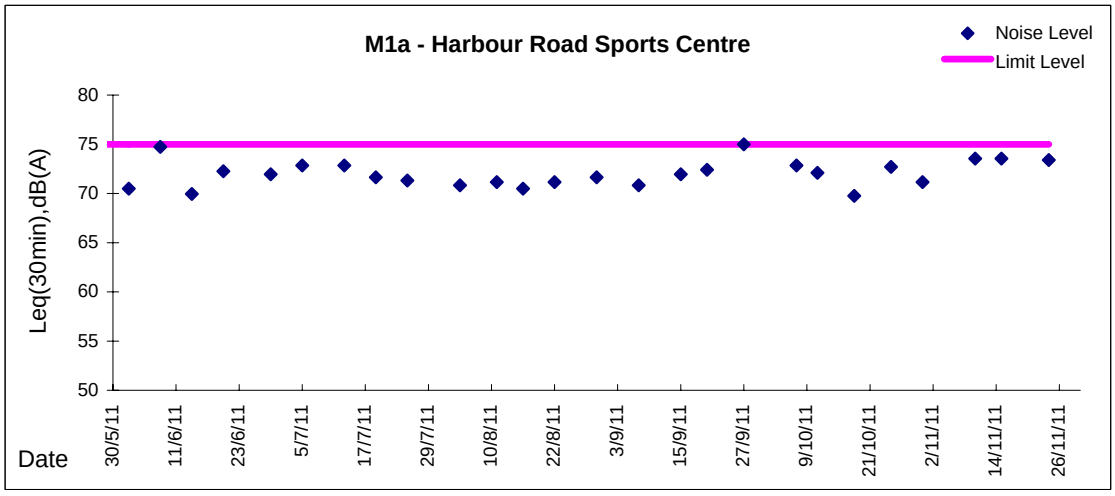
Restricted Time (1900 - 2300 hrs on normal weekdays and 0700-2300 on holiday)

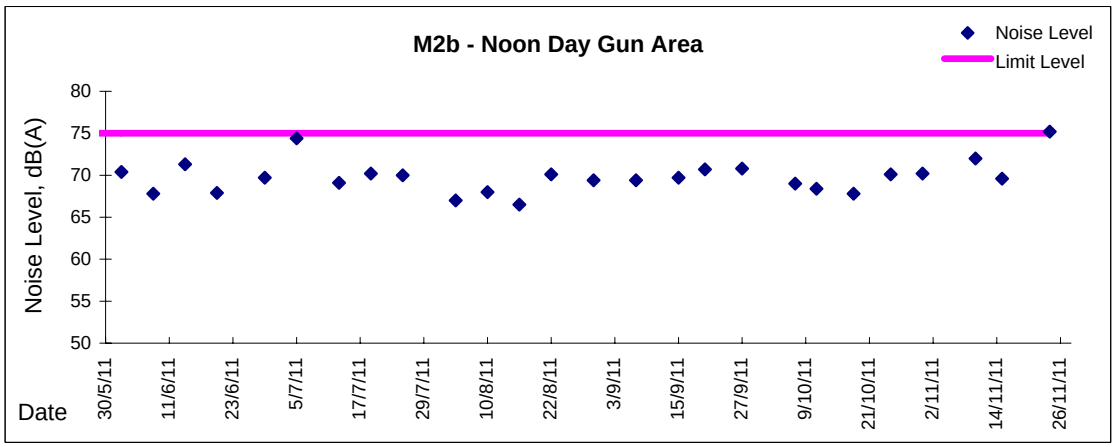


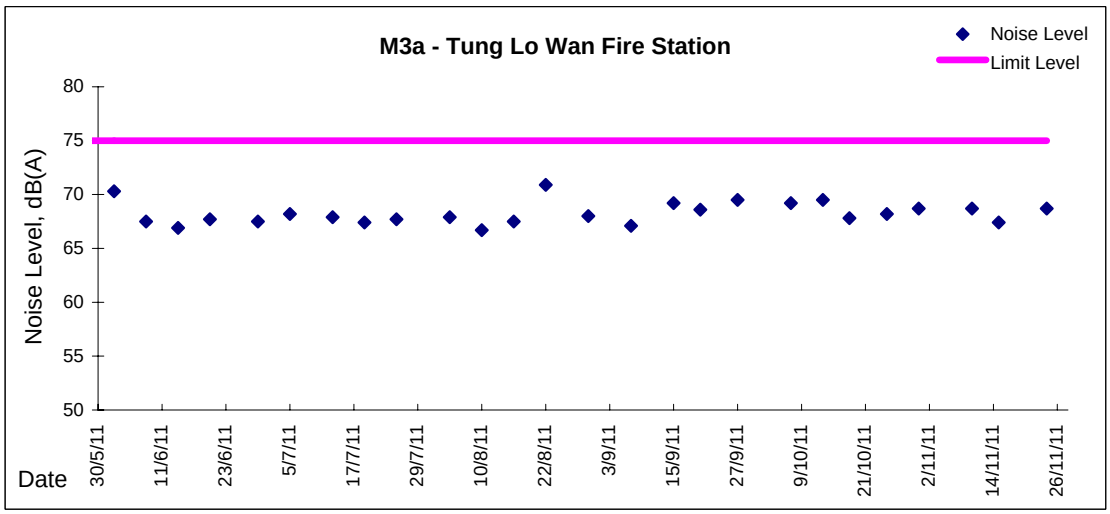


Graphic Presentation of Noise Monitoring Result

Day Time (0700 - 1900hrs on normal weekdays)

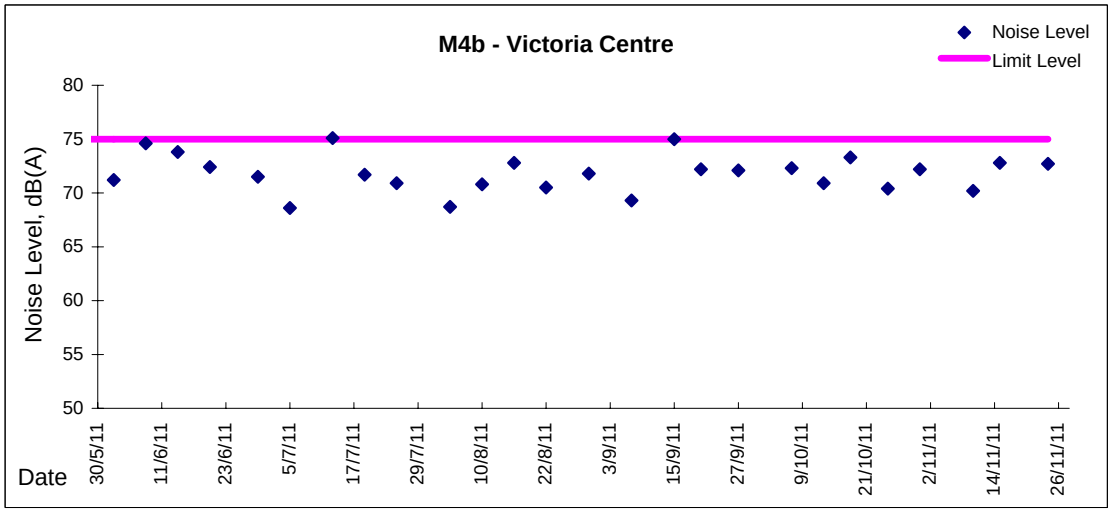


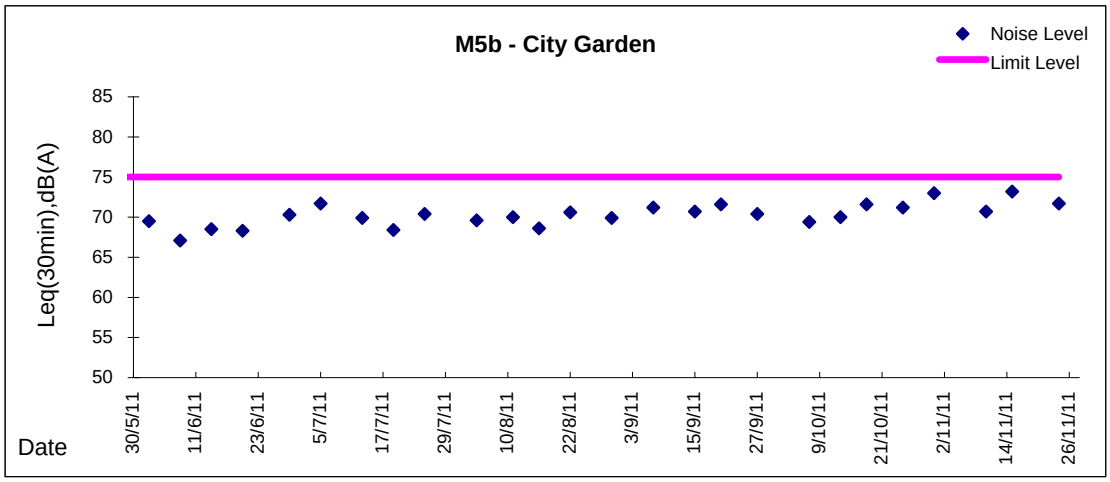




Graphic Presentation of Noise Monitoring Result

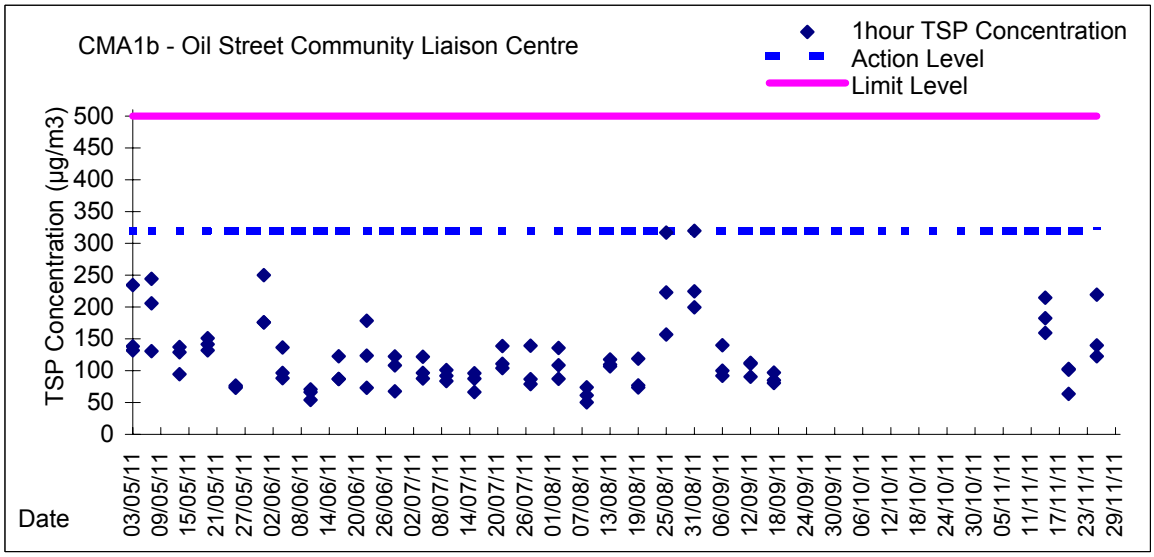
Day Time (0700 - 1900hrs on normal weekdays)

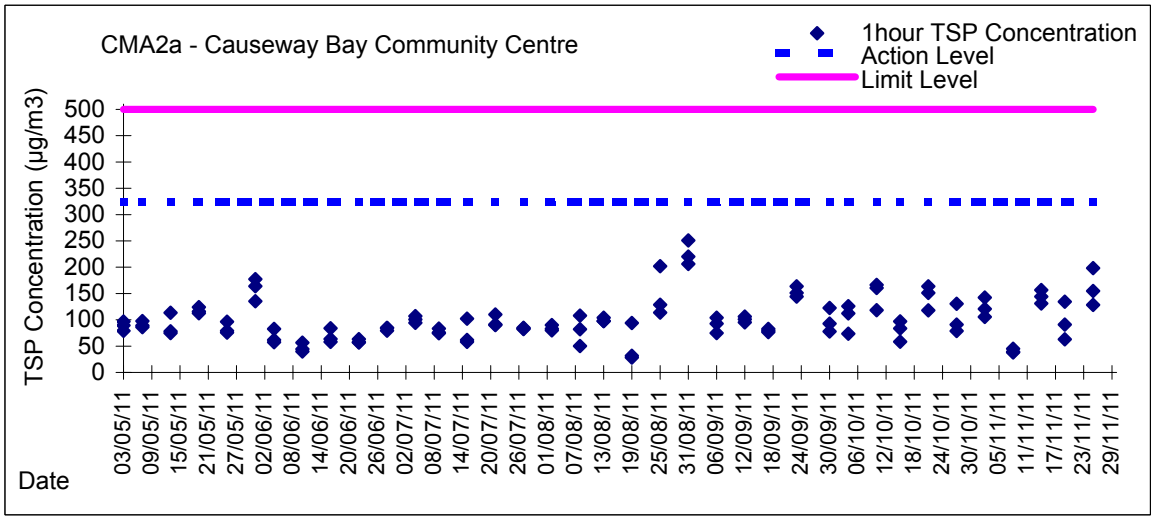


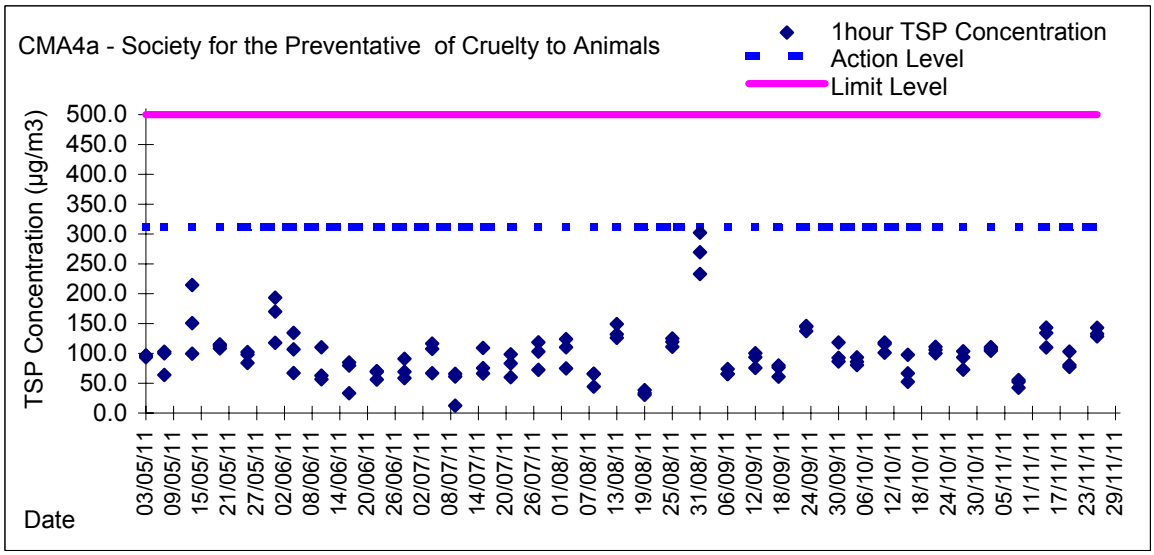


Appendix 4.2
Air Quality Monitoring Graphical Presentations

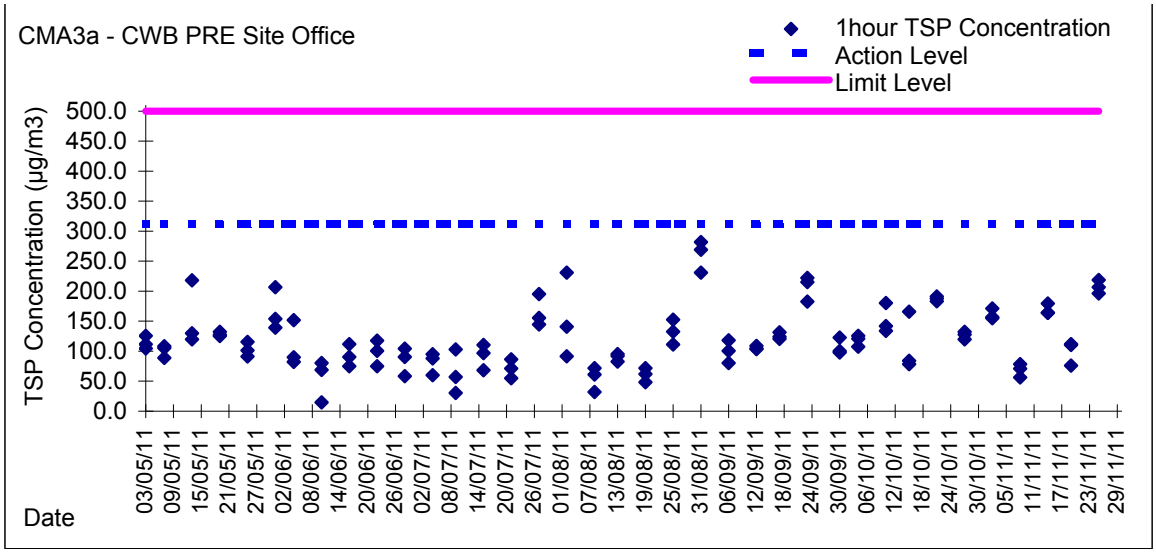
Graphic Presentation of 1 hour TSP Result

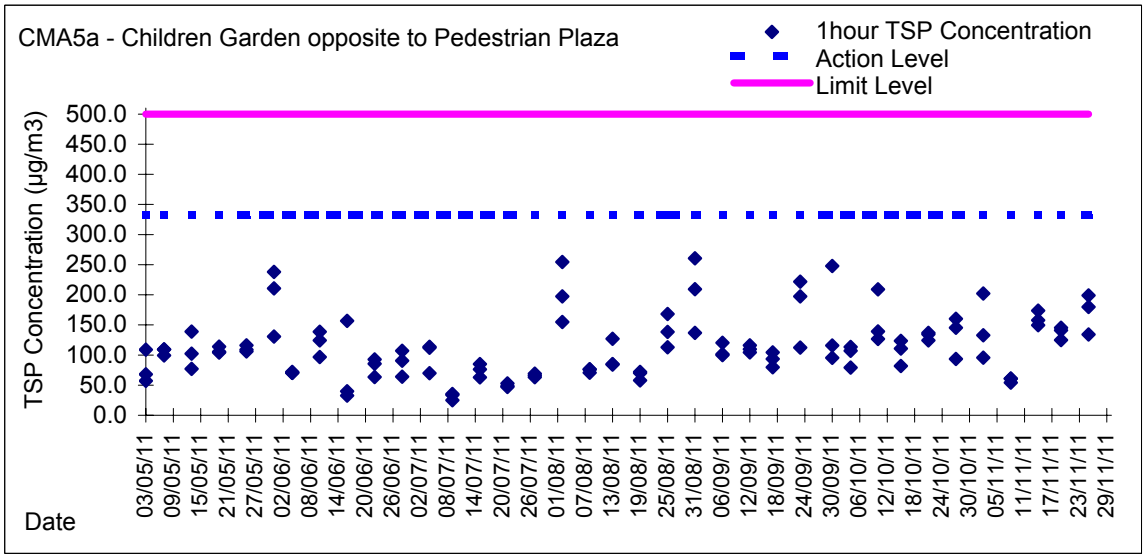


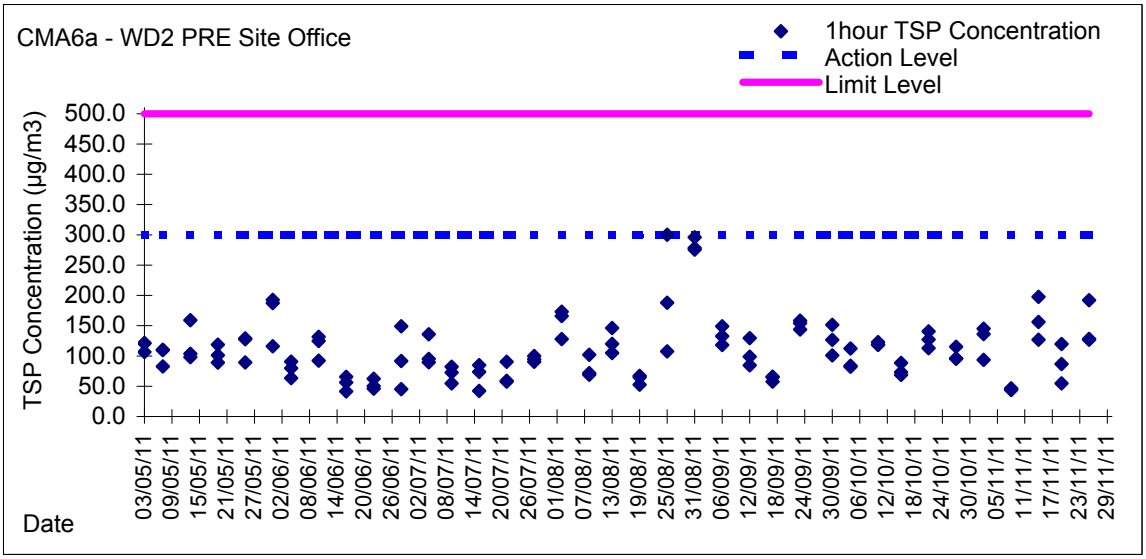




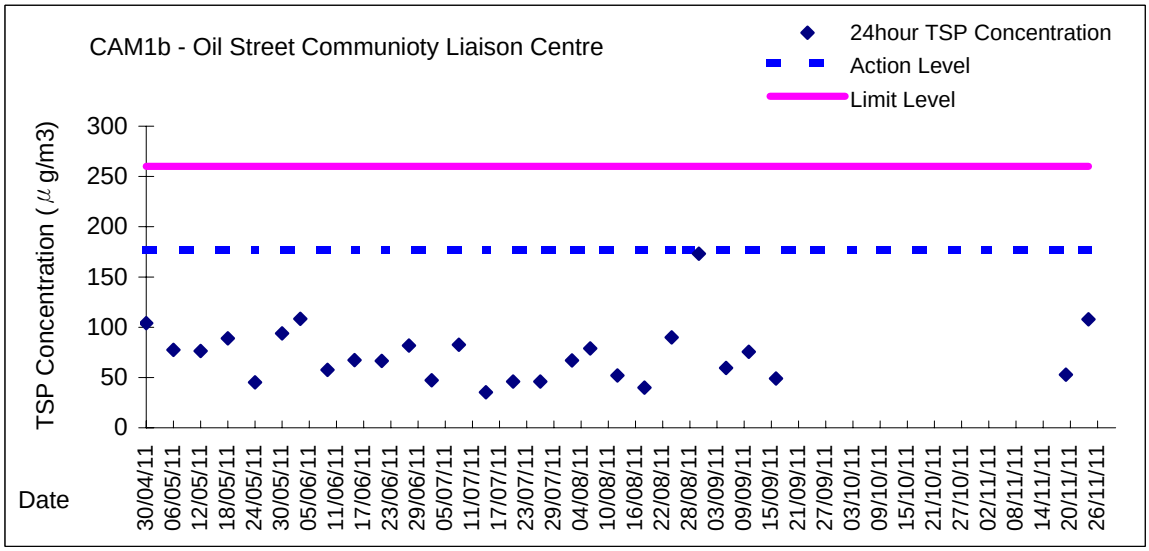
Graphic Presentation of 1 hour TSP Result

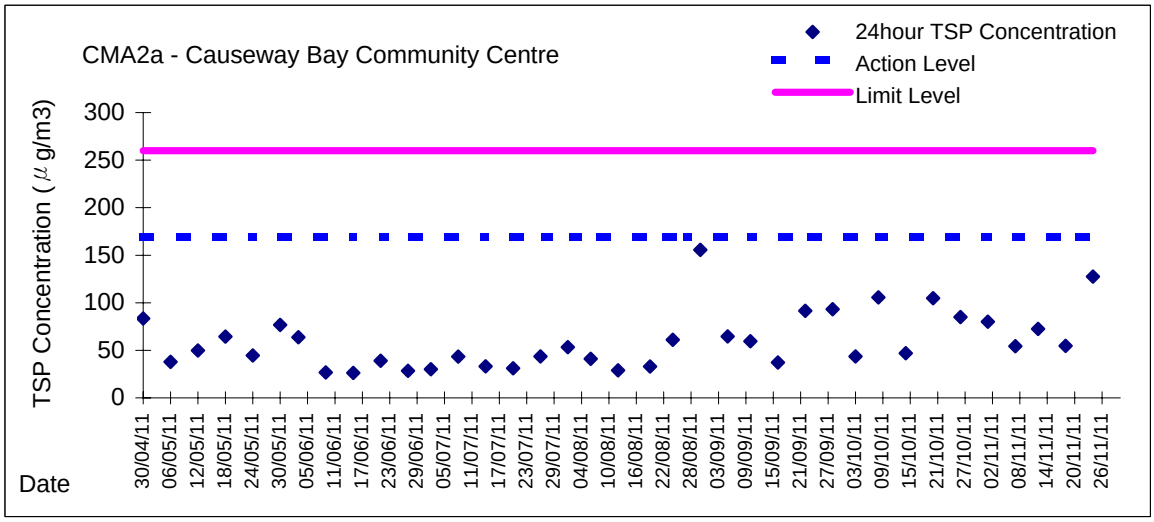


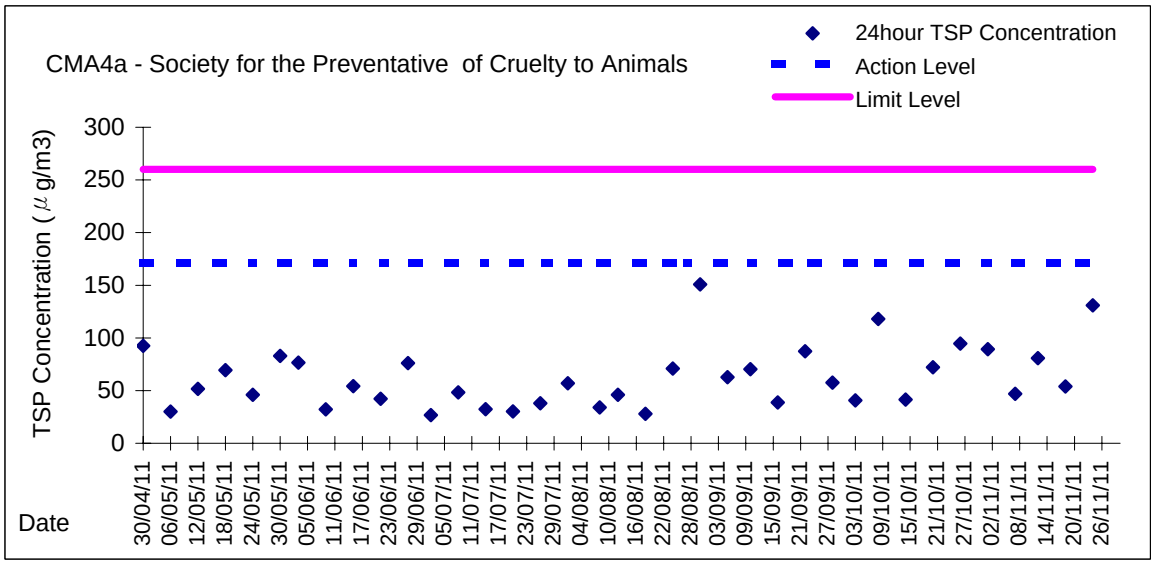




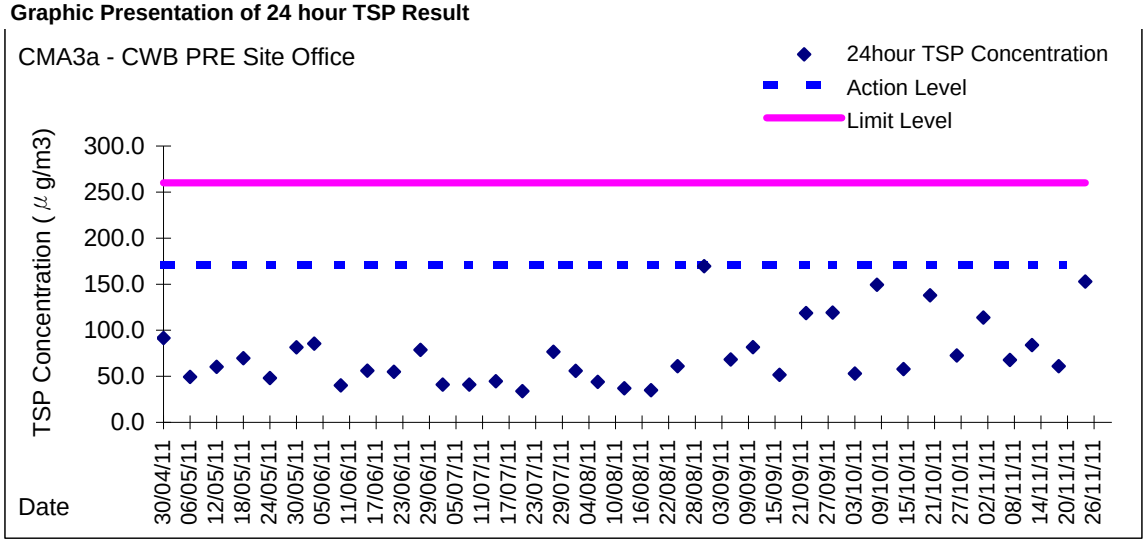
Graphic Presentation of 24 hour TSP Result

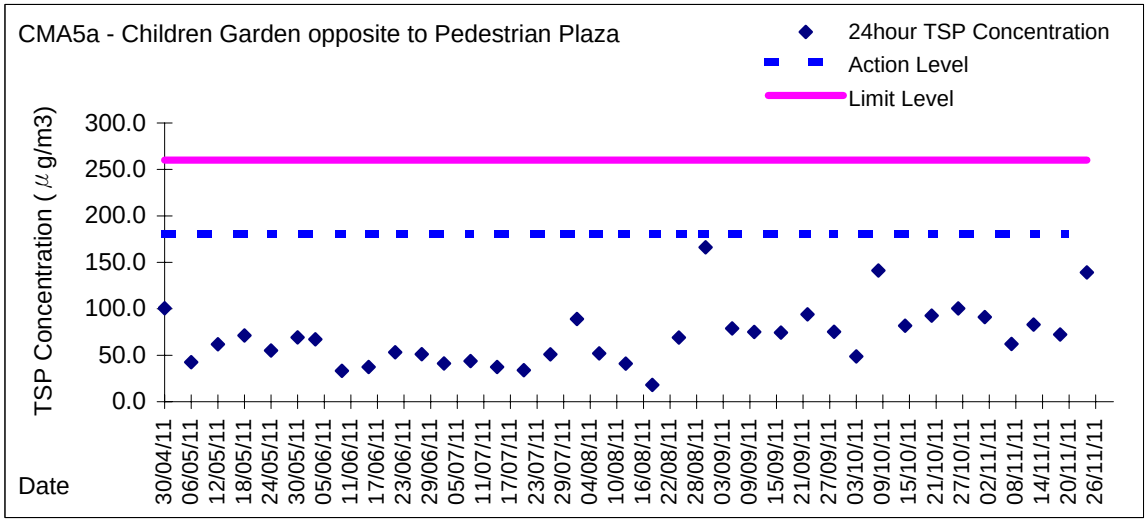


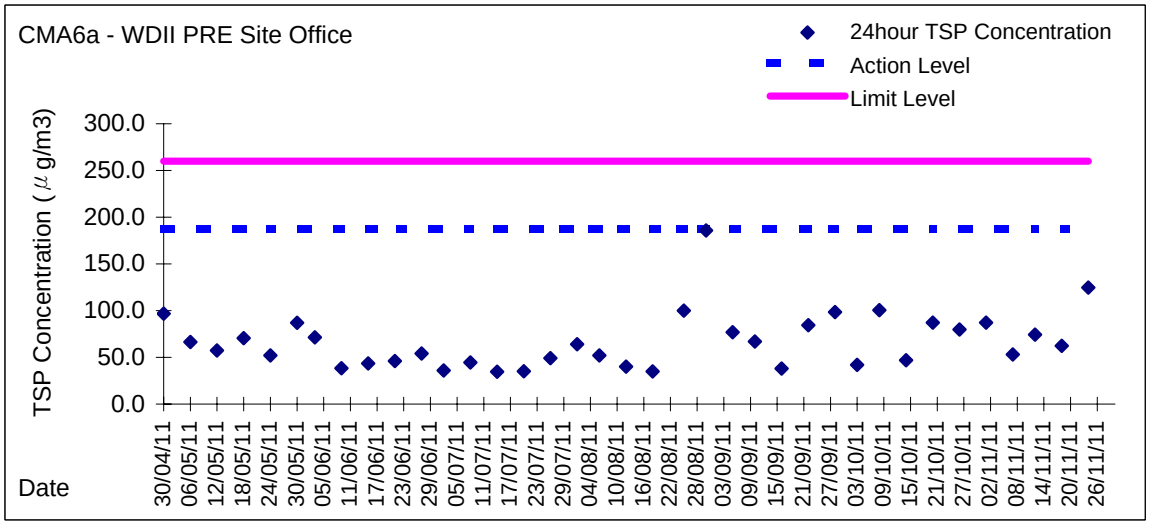




Graphic Presentation of 24 hour TSP Result







Field Data Record Sheet

Monitoring Date: 7 September 2011 **Weather Condition:** Fine **Tidal Condition:** FLOOD

Temperature: 31℃ **Relative Humidity:** 69%

Location	Time	Temperature (℃)	Relative Humidity (%)	Odour Intensity	Odour Nature	Possible Odour Sources	Duration	Wind Speed(m/s)	Wind Direction	Remarks
OP1	14:37	35.0	57.2	0~1	Fishy	Sea	Intermittent	1.4	SE	--
OP2	14:32	34.6	57.7	0	--	--	--	2.5	SE	--
OP2a	14:28	34.2	58.4	0	--	--	--	0.1	SE	--
OP3	14:24	33.5	61.3	0	--	--	--	0.2	SE	--
OP4	14:20	32.4	65.0	1	Oil	Sea	Intermittent	2.6	SE	--
OP5	14:15	31.9	65.6	0~1	Rotten egg	Sea	Intermittent	1.0	SE	--
OP6	14:10	31.2	66.1	0	--	--	--	0.2	SE	--
OP7	14:02	29.8	68.5	0	--	--	--	0.4	SE	--

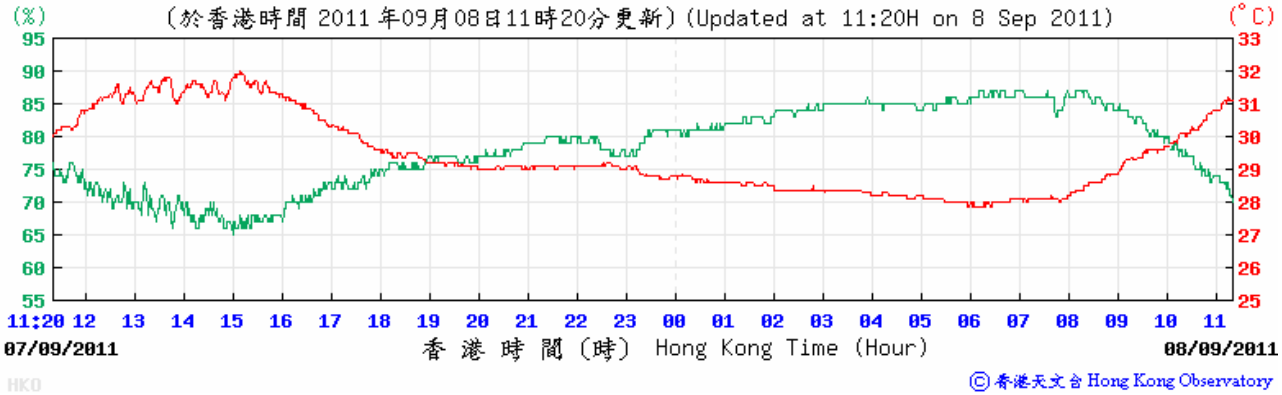
Remarks: The perceived odour intensity is to be divided into 5 levels which are ranked in the descending order as follows:
0 - Not detected. No odour perceived or an odour so weak that it cannot be easily characterised or described;
1 - Slight Identifiable odour, and slight chance to have odour nuisance;
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 odour level.

Meteorological Conditions on 7 September 2011

- **Hong Kong Observatory Weather Station at Hong Kong Observatory**

  Air Temperature: 27.0-32.0℃ Relative humidity: 67-90%

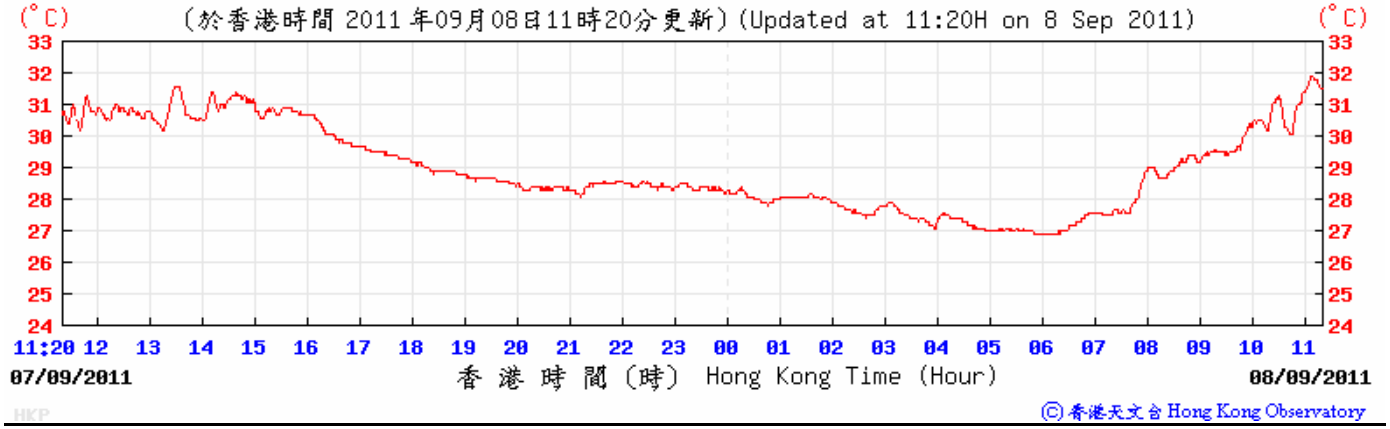
  Tempearture/Humidity:



- **Hong Kong Observatory Weather Station at Hong Kong Park**

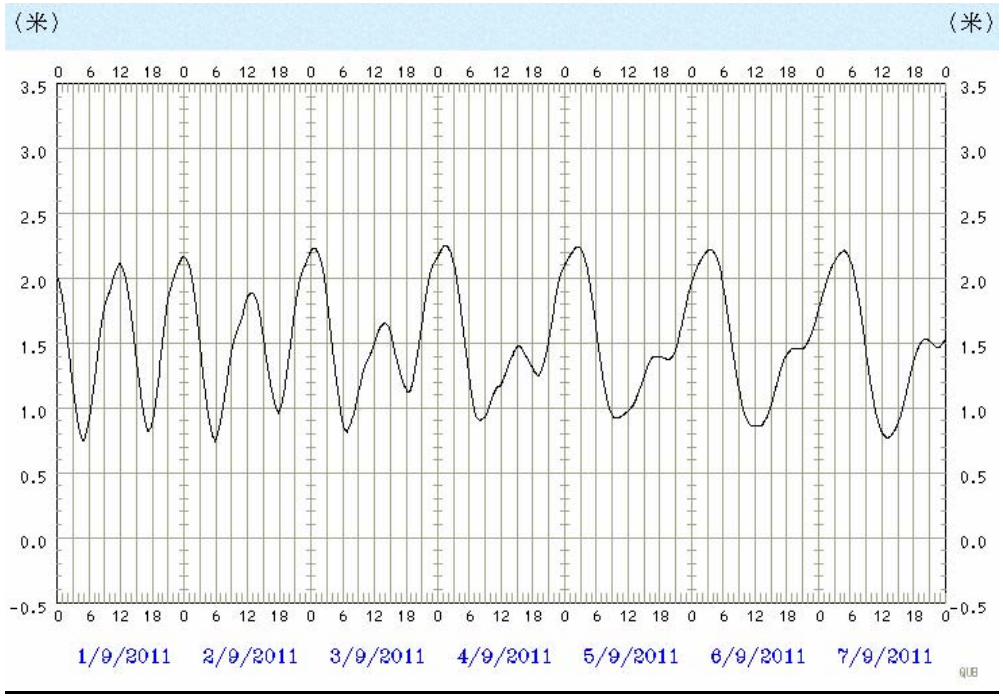
  Air Temperature: 26.9-31.6℃

  Tempearture/Humidity:



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

Date	Tide Time	Tide Height (m)
7 Sep 2011	4:51	2.2
7 Sep 2011	13:03	0.8
7 Sep 2011	20:15	1.5



Field Data Record Sheet

Monitoring Date: 20 September 2011 **Weather Condition:** Cloudy **Tidal Condition:** FLOOD

Temperature: 27℃ **Relative Humidity:** 74%

Location	Time	Temperature (℃)	Relative Humidity (%)	Odour Intensity	Odour Nature	Possible Odour Sources	Duration	Wind Speed(m/s)	Wind Direction	Remarks
OP1	14:45	29.4	62.5	0~1	Fishy	Sea	Intermittent	1.4	N	--
OP2	14:40	30.0	61.1	0	--	--	--	0.3	N	--
OP2a	14:35	29.9	61.7	0	--	--	--	0.3	N	--
OP3	14:30	30.1	61.2	0	--	--	--	0.4	N	--
OP4	14:25	29.0	65.9	1	Oil	Floating debris	Continuous	0.7	N	--
OP5	14:19	29.1	65.7	0~1	Rotten egg	Sea	Intermittent	0.8	N	--
OP6	14:13	27.7	66.1	0~1	Oil	Floating debris	Intermittent	3.9	N	--
OP7	14:04	27.2	69.0	0	--	--	--	3.4	N	--

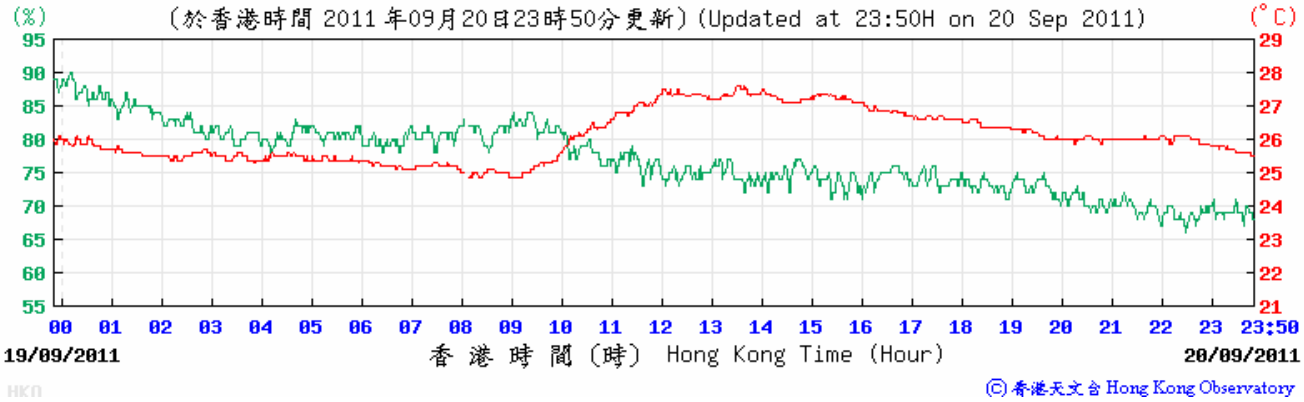
Remarks: The perceived odour intensity is to be divided into 5 levels which are ranked in the descending order as follows:
0 - Not detected. No odour perceived or an odour so weak that it cannot be easily characterised or described;
1 - Slight Identifiable odour, and slight chance to have odour nuisance;
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 odour level.

Meteorological Conditions on 20 September 2011

- **Hong Kong Observatory Weather Station at Hong Kong Observatory**

  Air Temperature: 24.9-27.6℃ Relative humidity: 68-85%

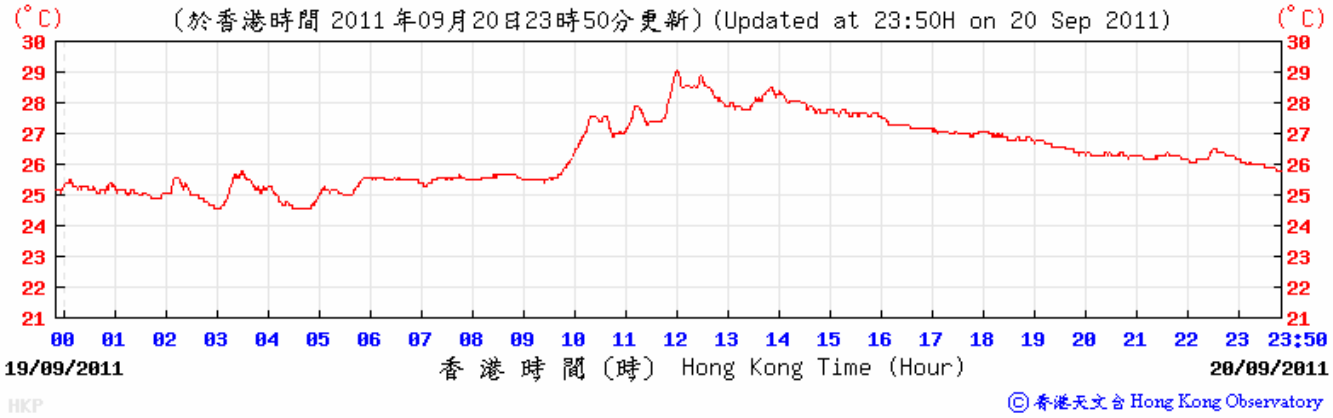
  Tempearture/Humidity:



- **Hong Kong Observatory Weather Station at Hong Kong Park**

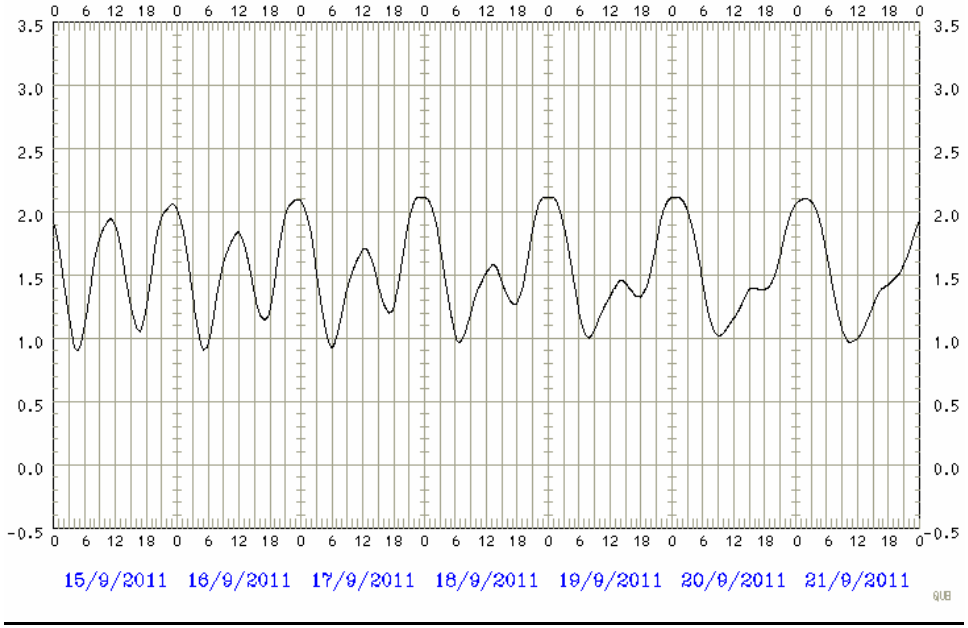
  Air Temperature: 24.6-29.1℃

  Tempearture/Humidity:



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

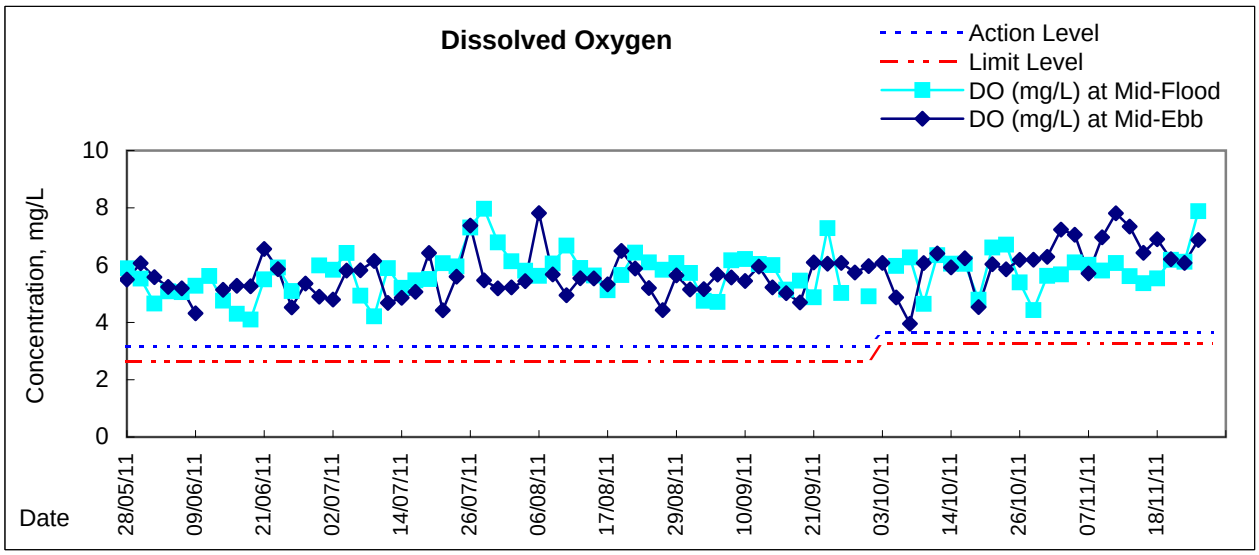
Date	Tide Time	Tide Height (m)
20 Sep 2011	0:13	2.2
20 Sep 2011	9:45	0.9
21 Sep 2011	2:19	2.1

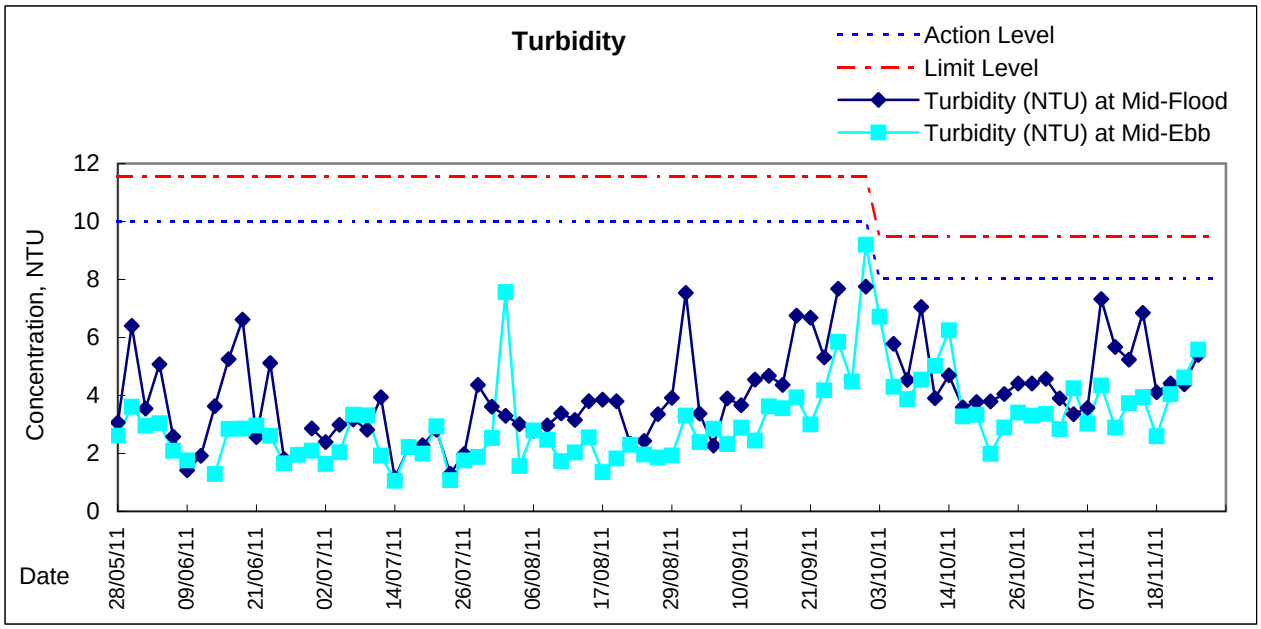


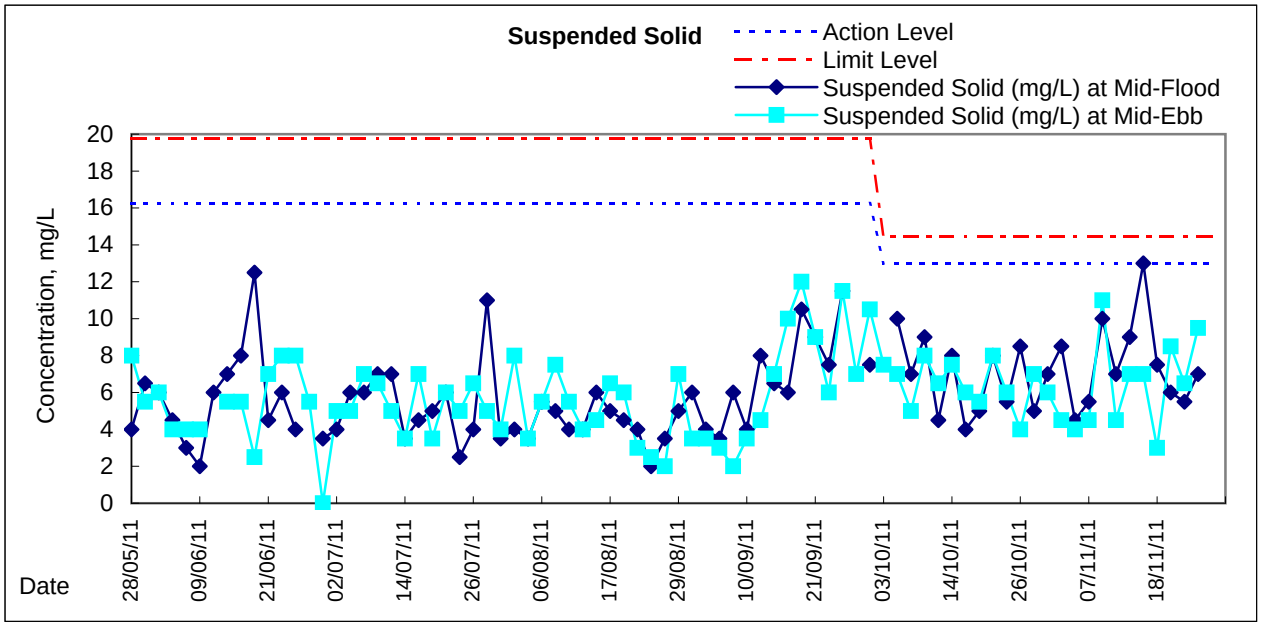
Appendix 4.3

Water Quality Monitoring Graphical Presentations

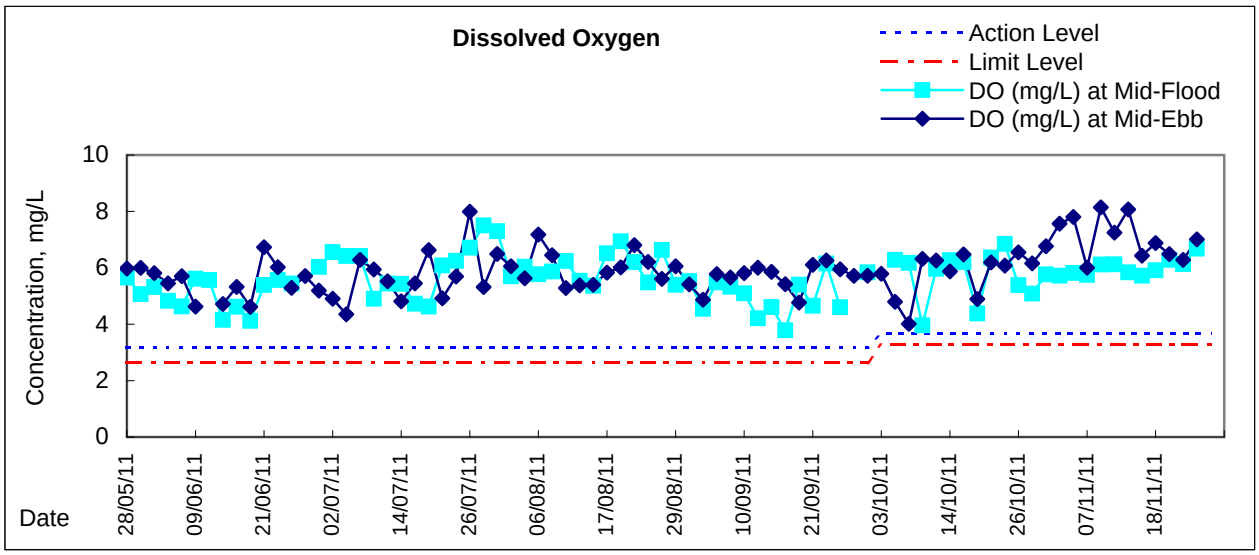
Graphic Presentation of Water Quality Result of WSD9 - Tai Wan

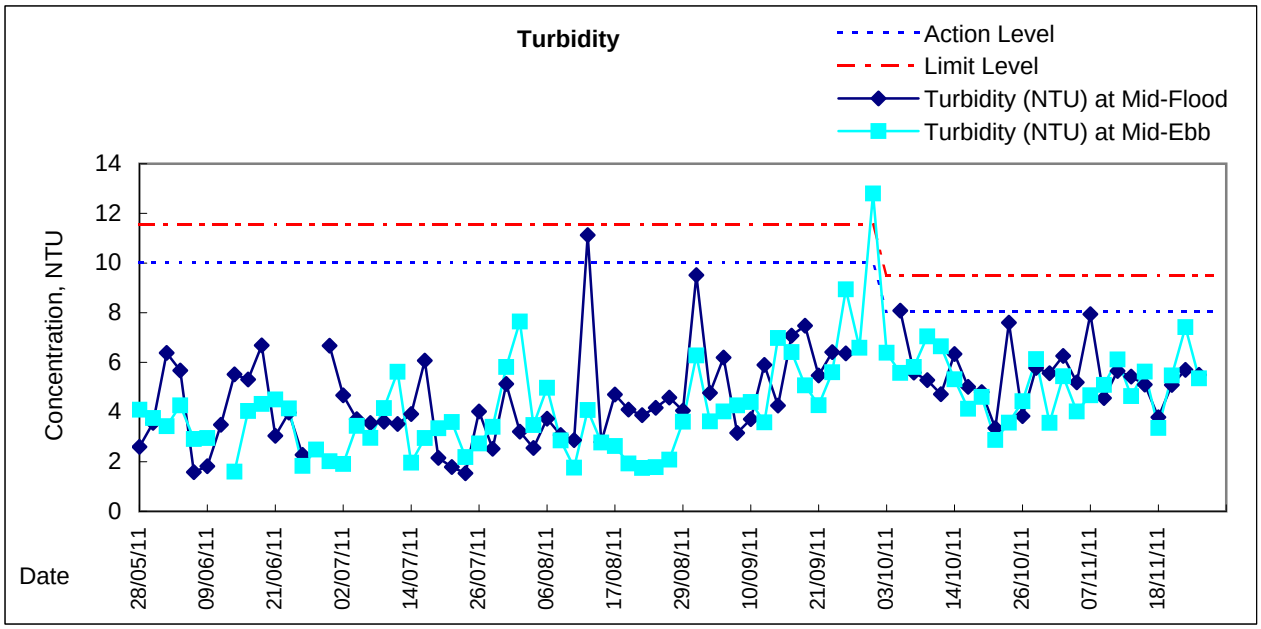


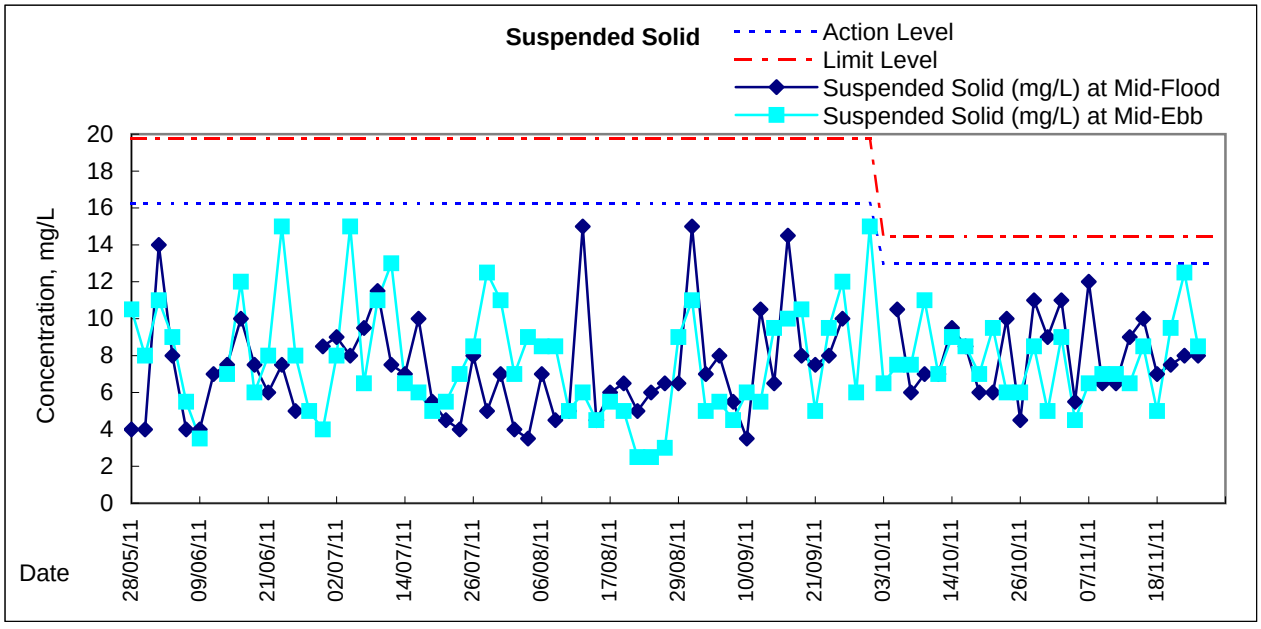




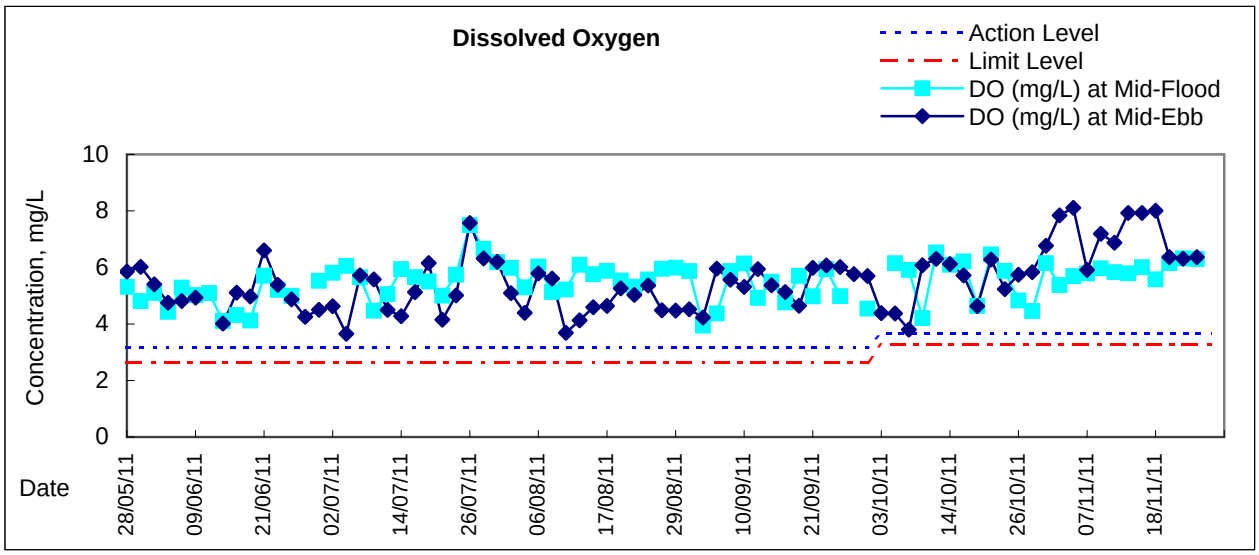
Graphic Presentation of Water Quality Result of WSD10 - Cha Kwo Ling

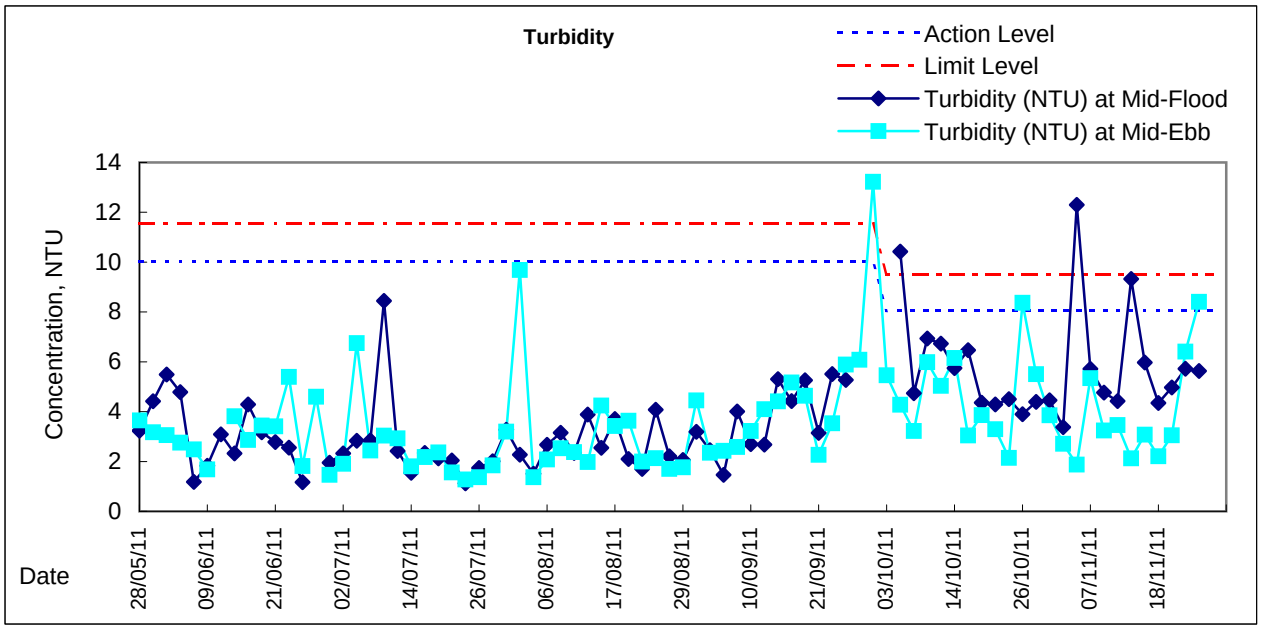


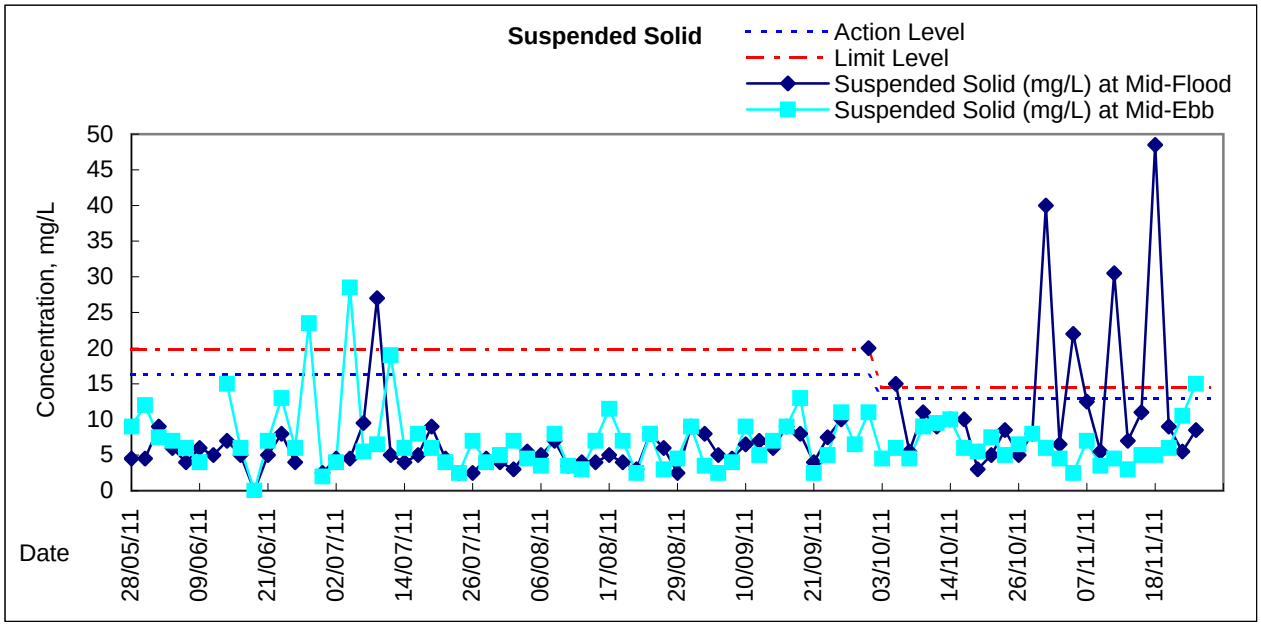




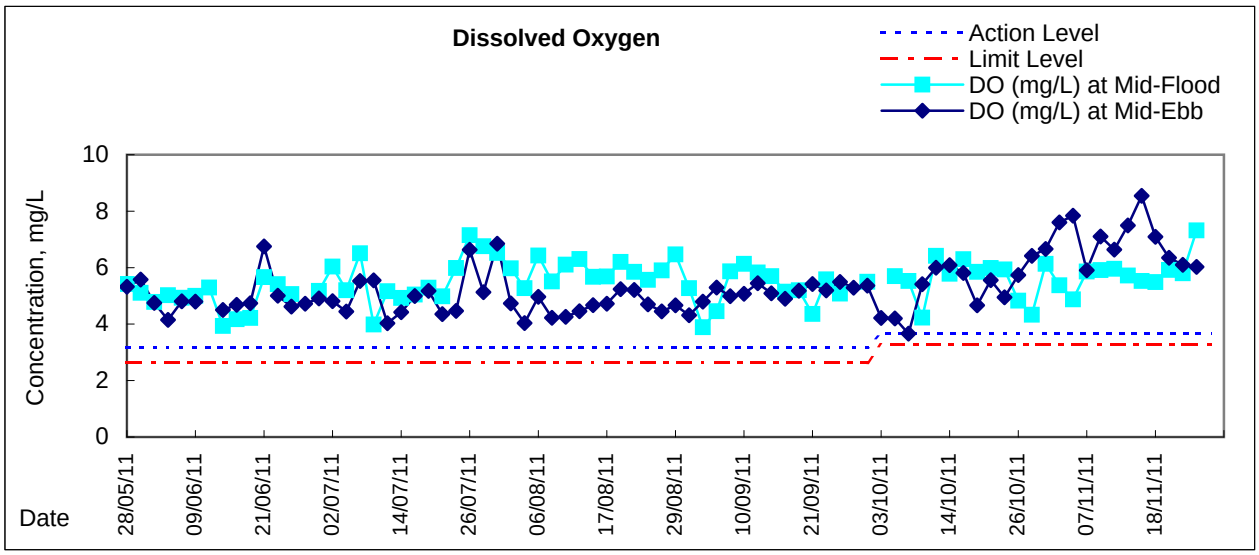
Graphic Presentation of Water Quality Result of WSD15 - Sai Wan Ho

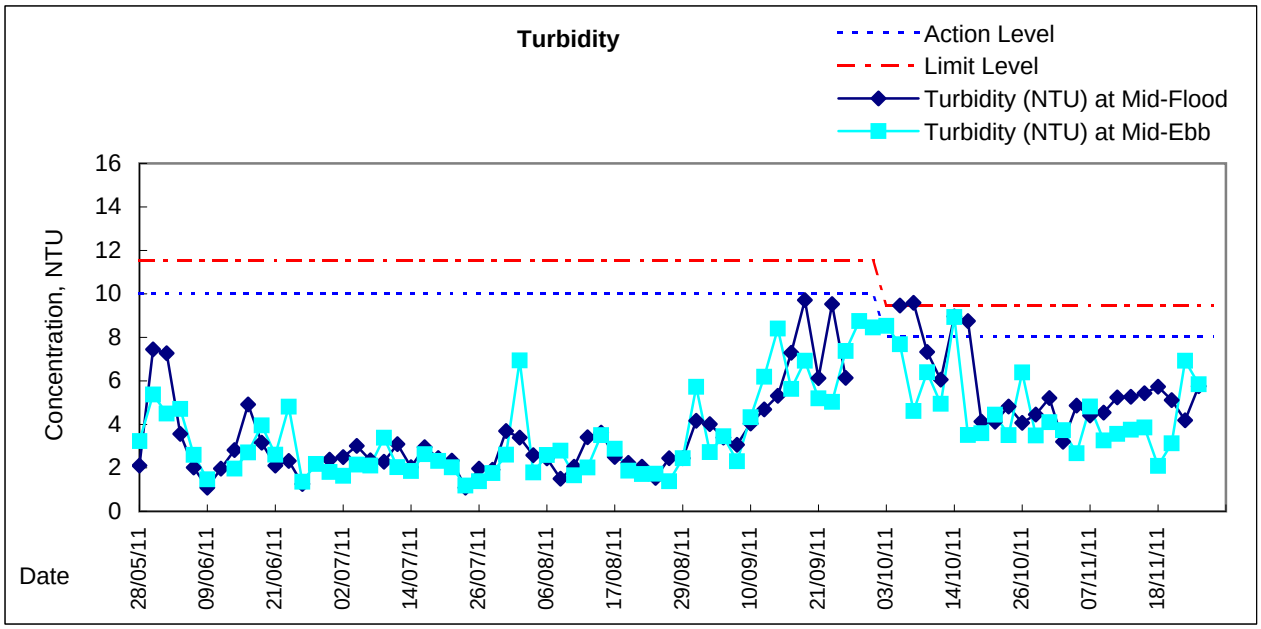


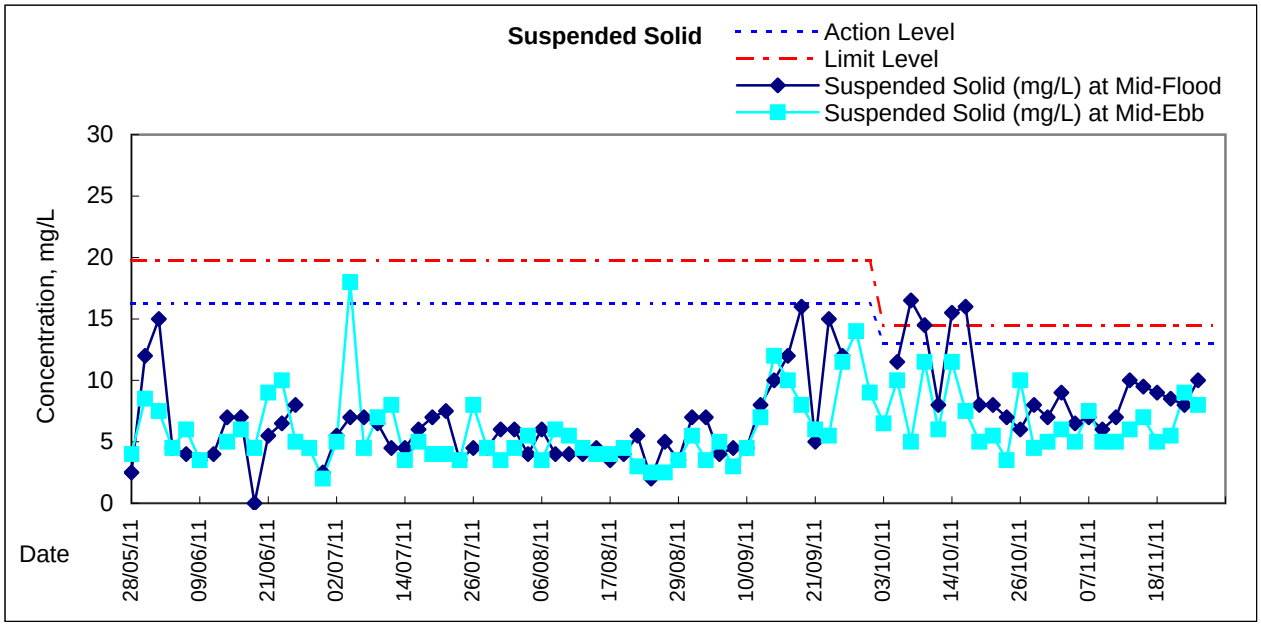




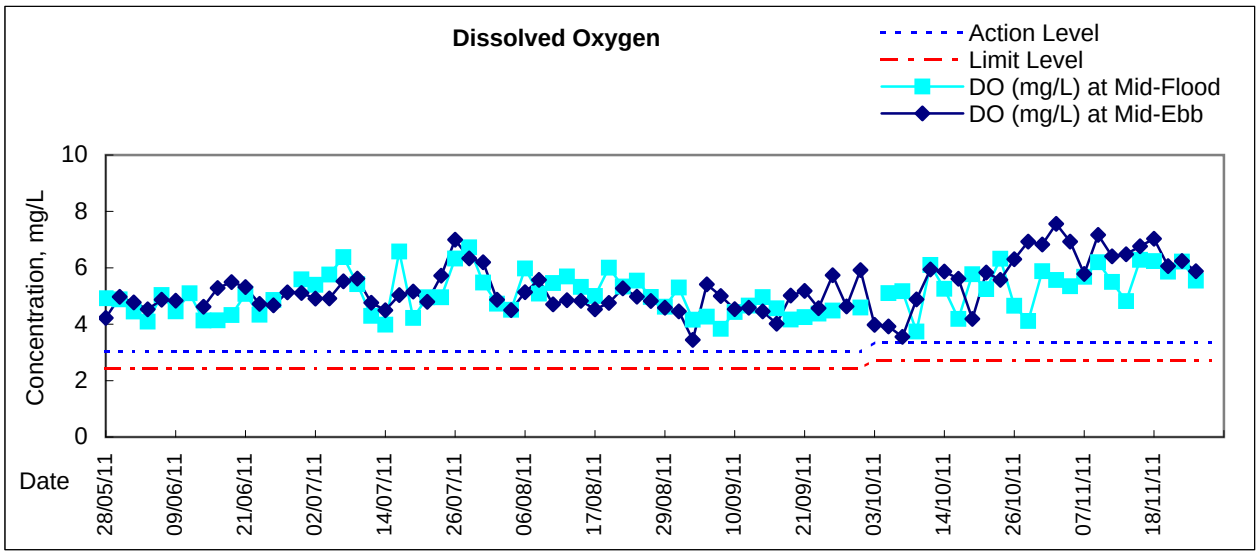
Graphic Presentation of Water Quality Result of WSD17 - Quarry Bay

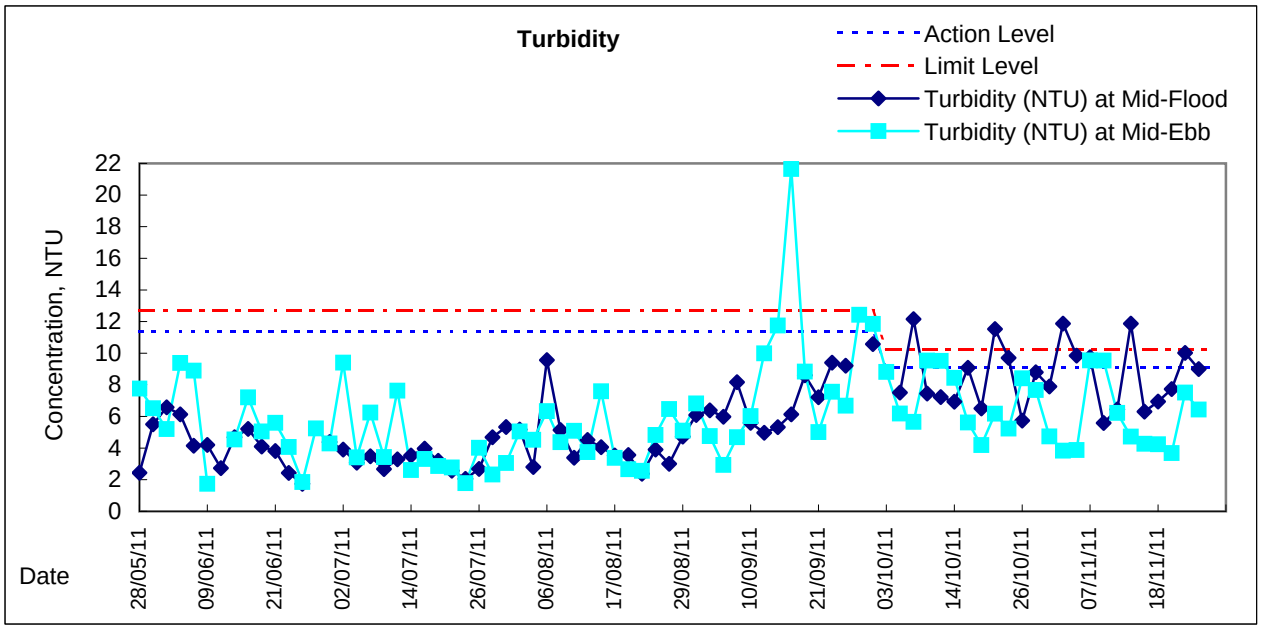


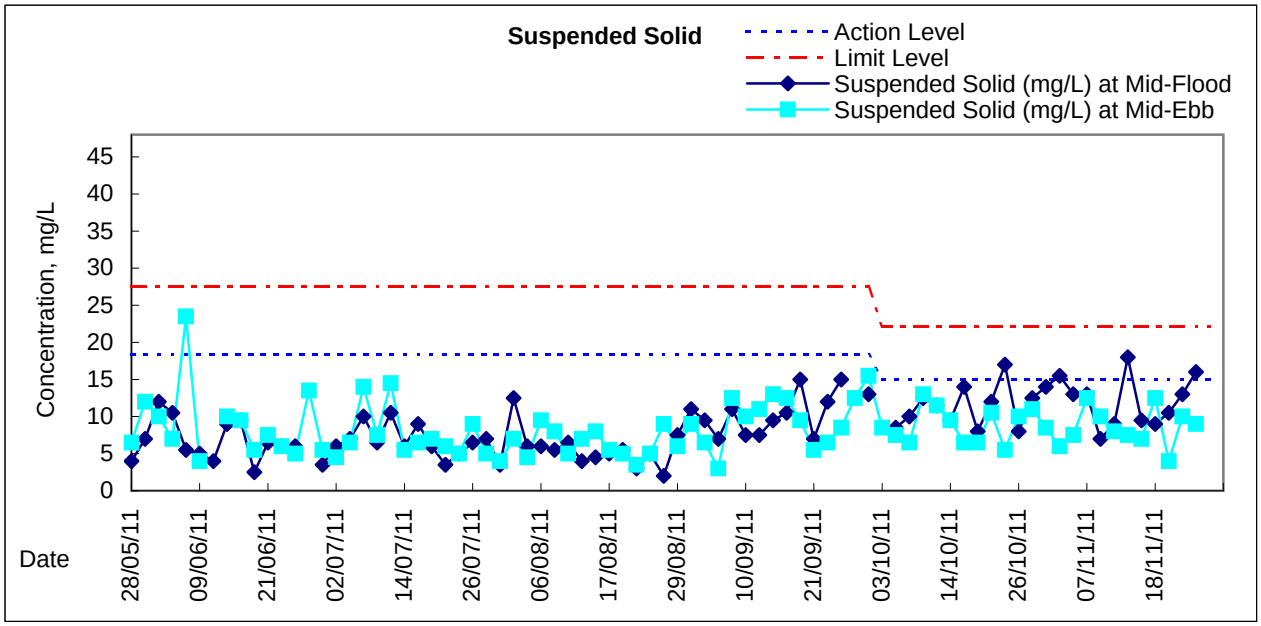




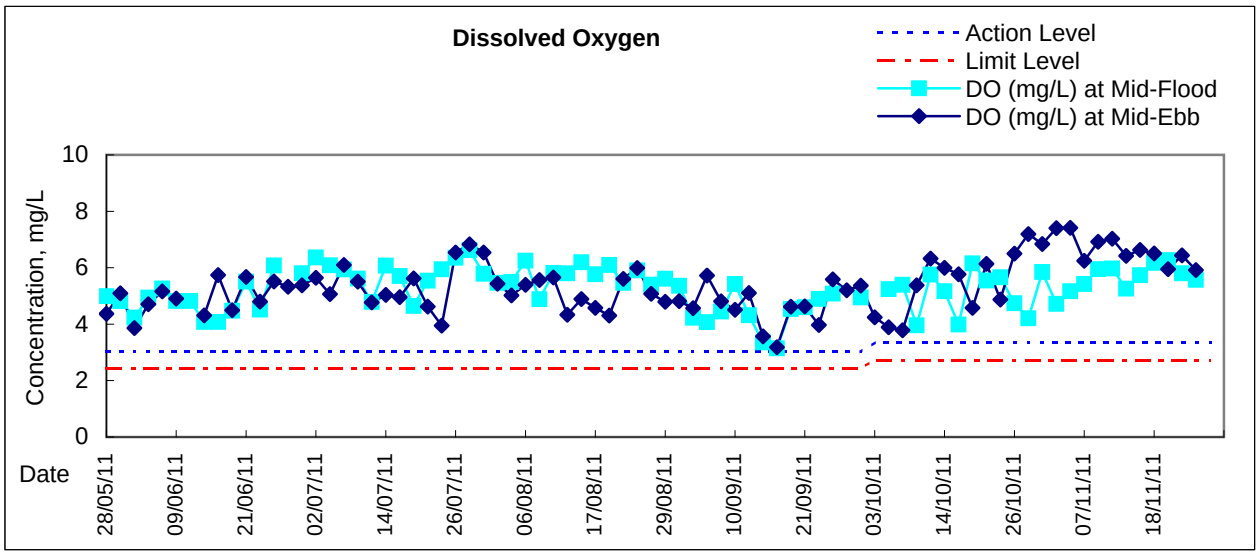
Graphic Presentation of Water Quality Result of C8 - City Garden

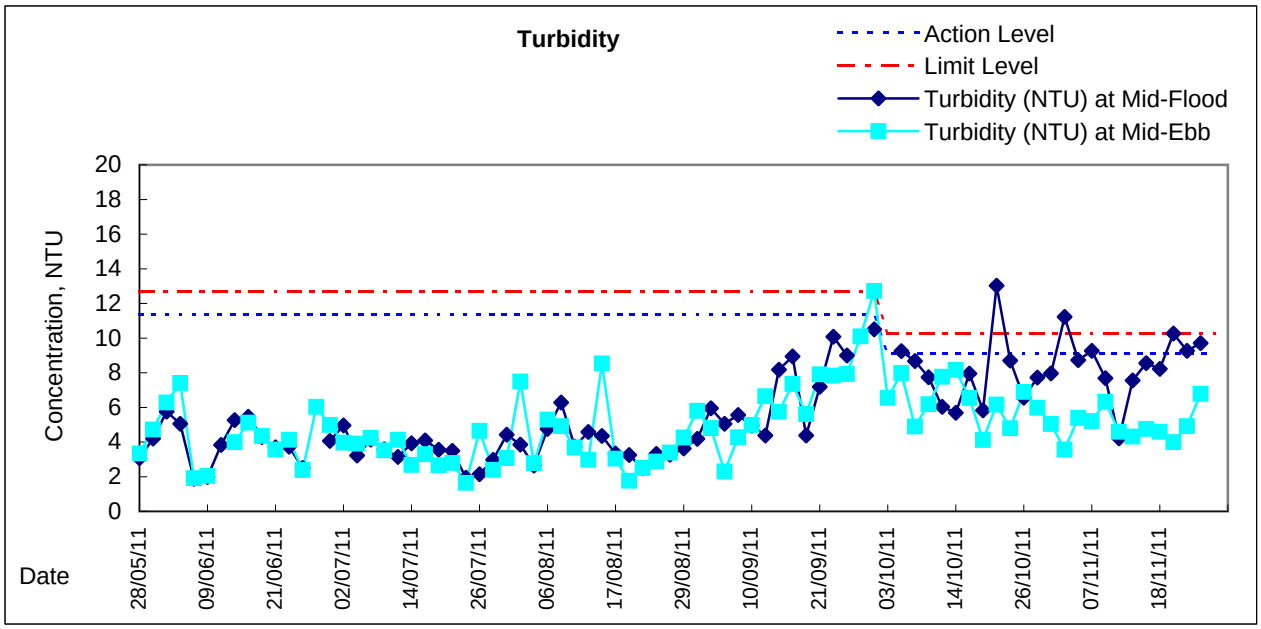


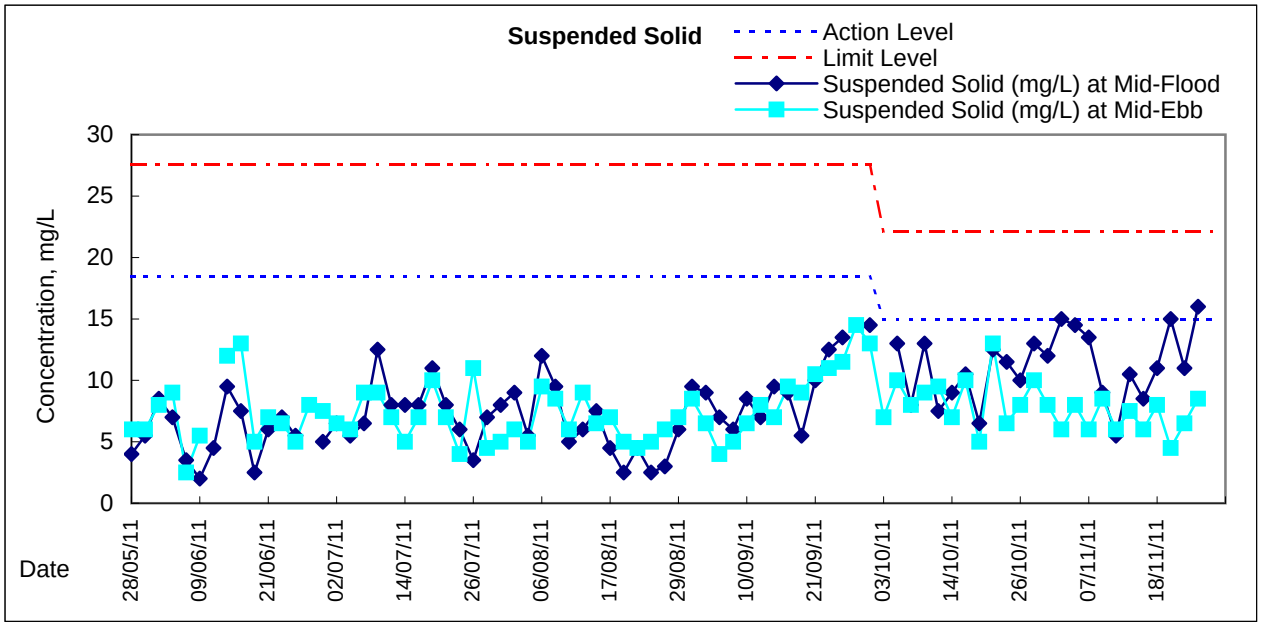




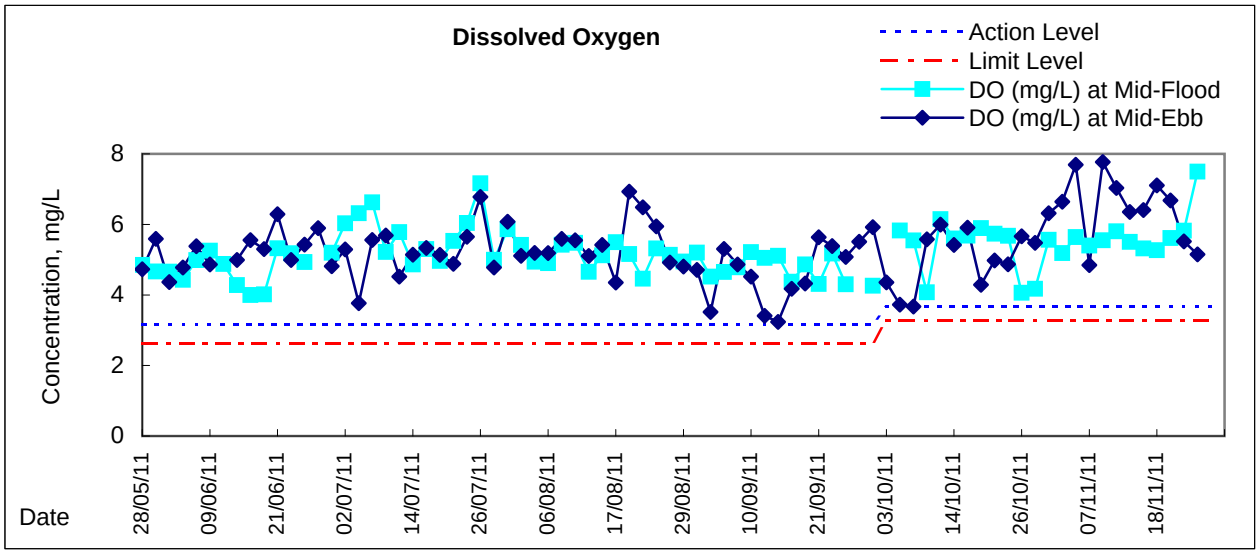
Graphic Presentation of Water Quality Result of C9 - Provident Centre

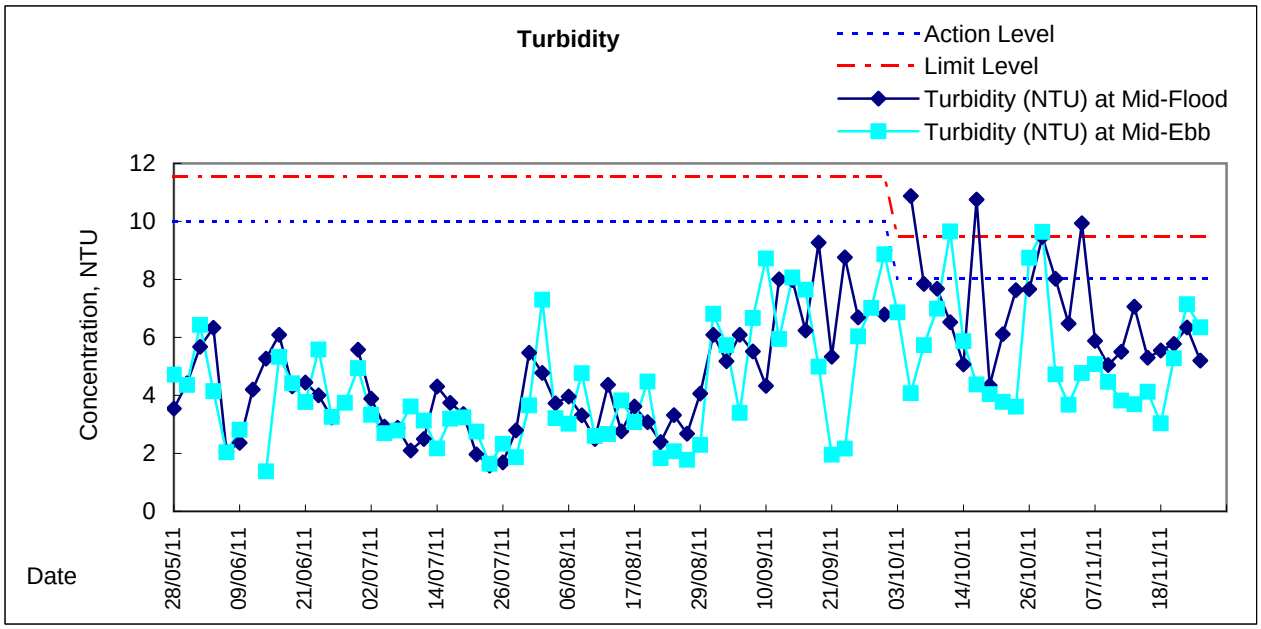


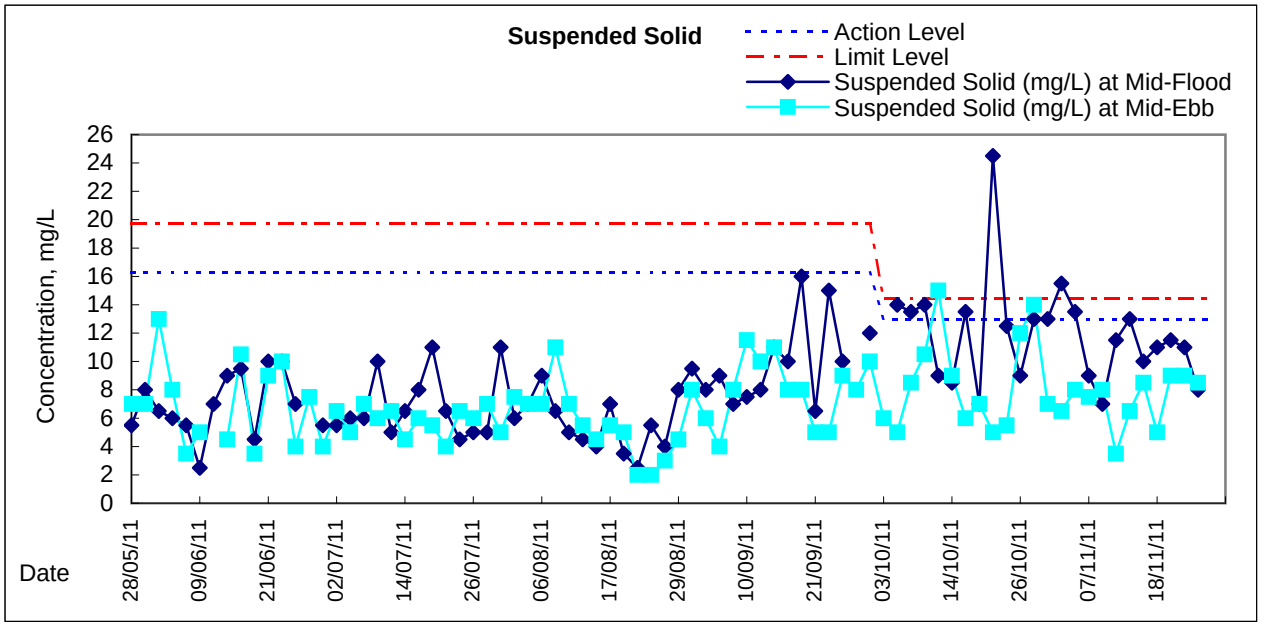




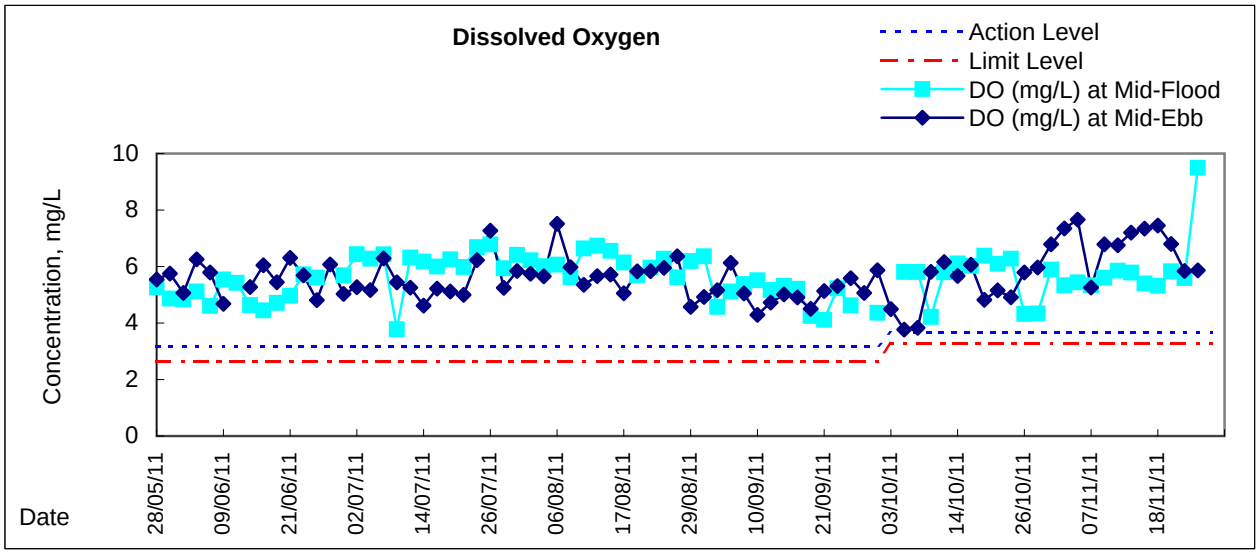
Graphic Presentation of Water Quality Result of WSD19 - Sheung Wan

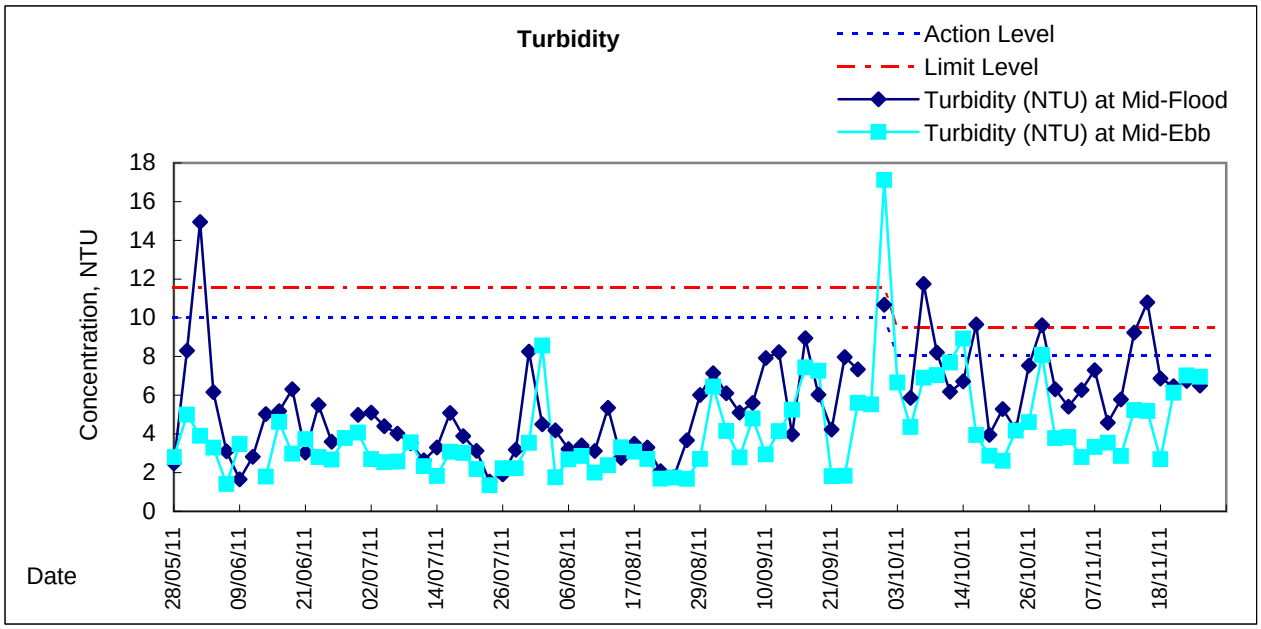


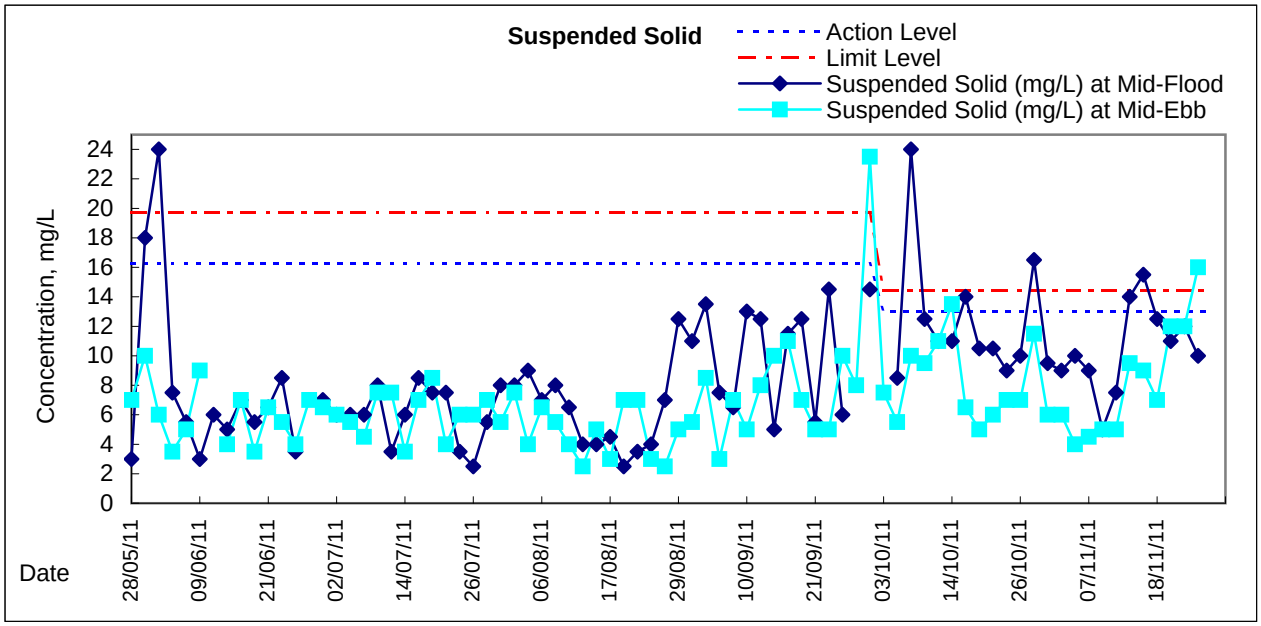




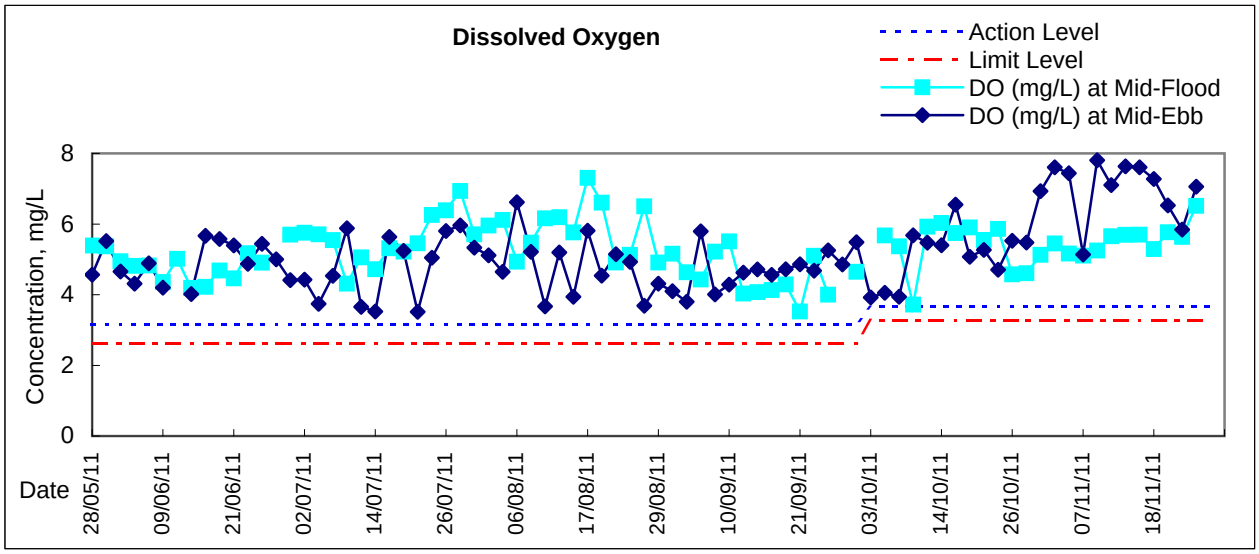
Graphic Presentation of Water Quality Result of WSD20 - Kennedy Town

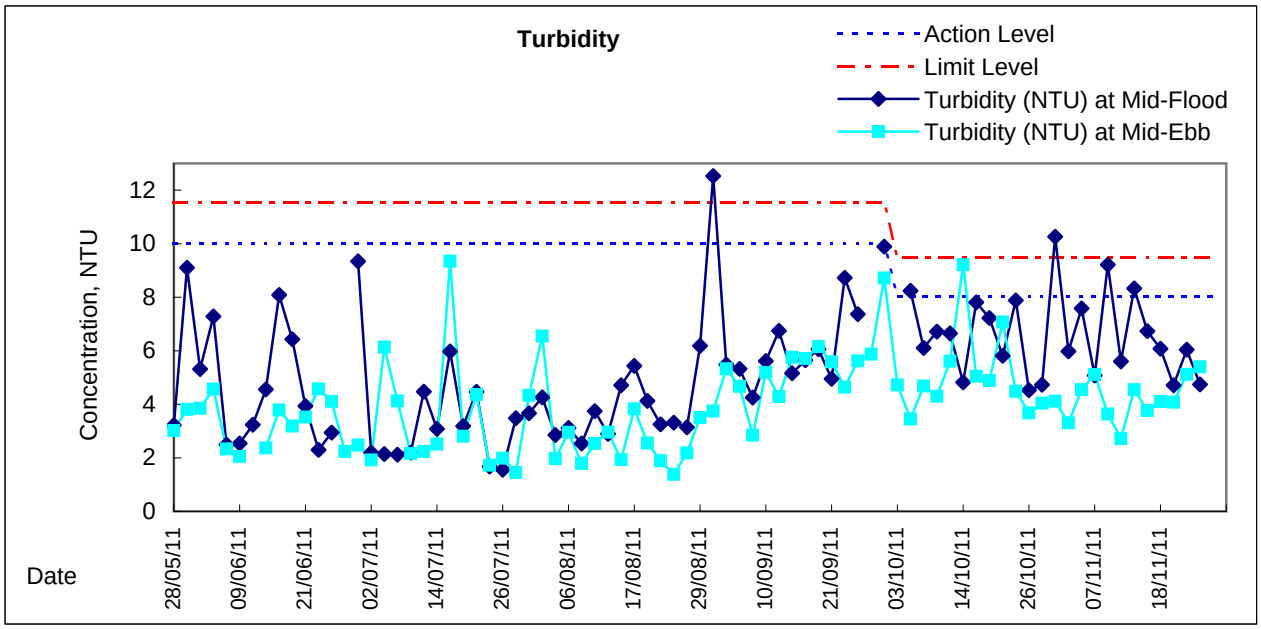


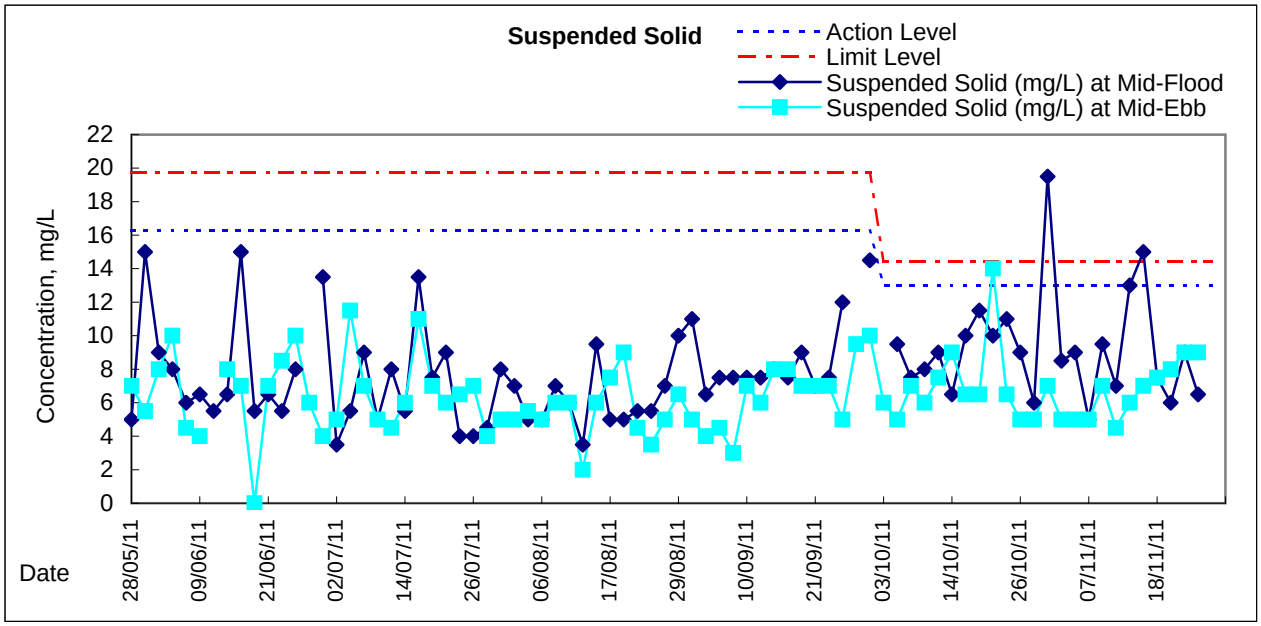




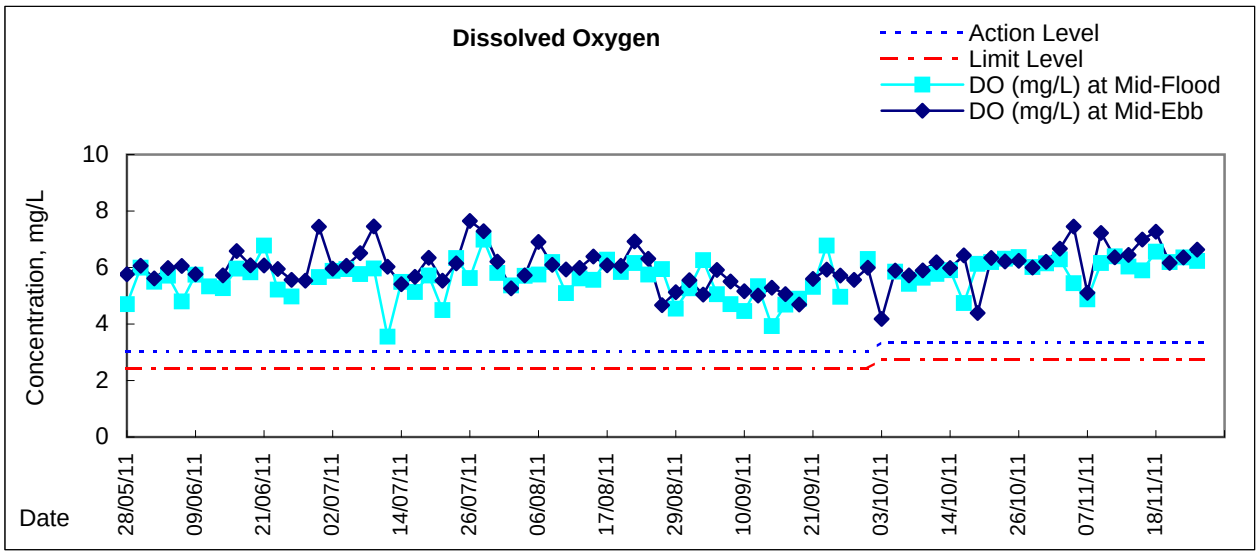
Graphic Presentation of Water Quality Result of WSD7 - Kowloon South

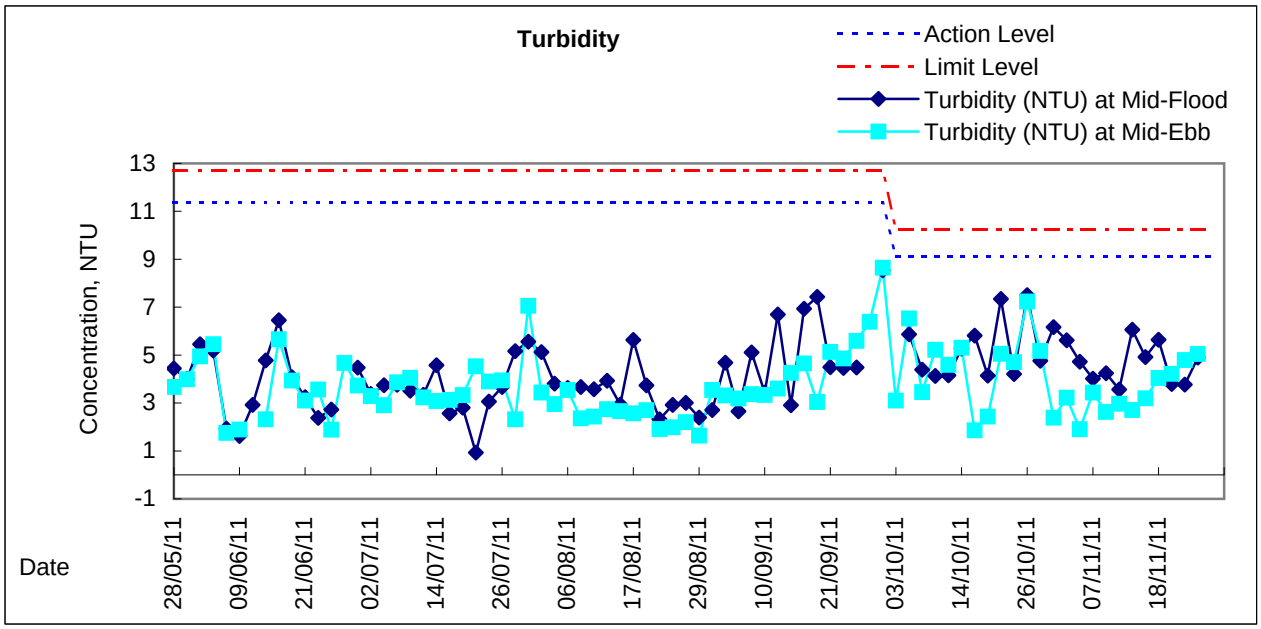


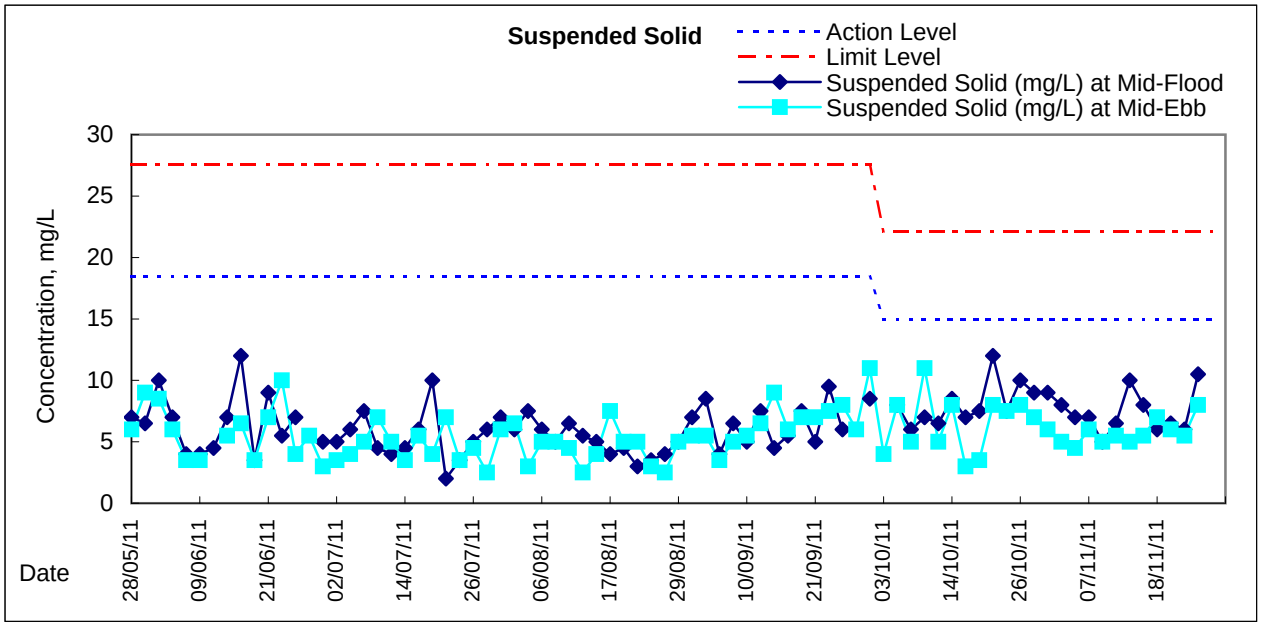




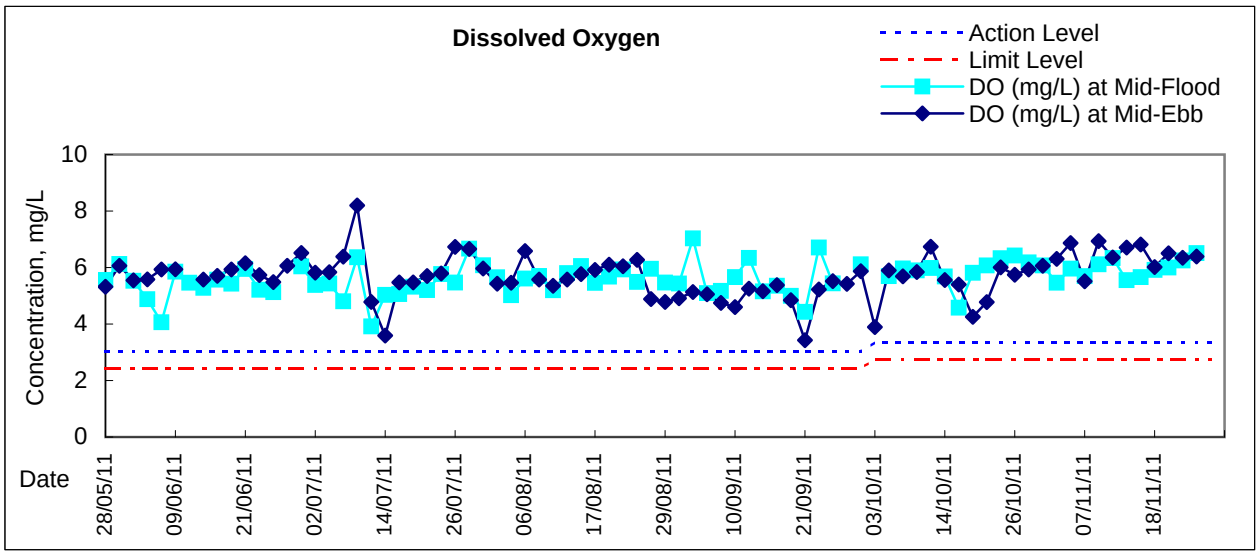
Graphic Presentation of Water Quality Result of C1 - HKCEC

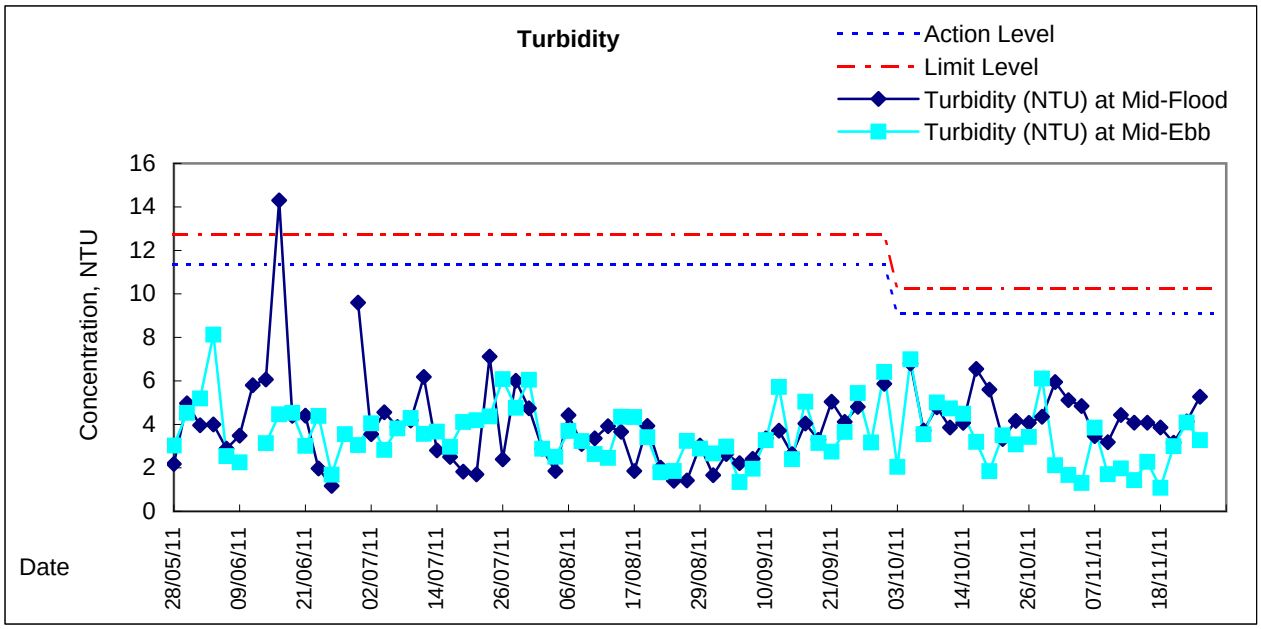


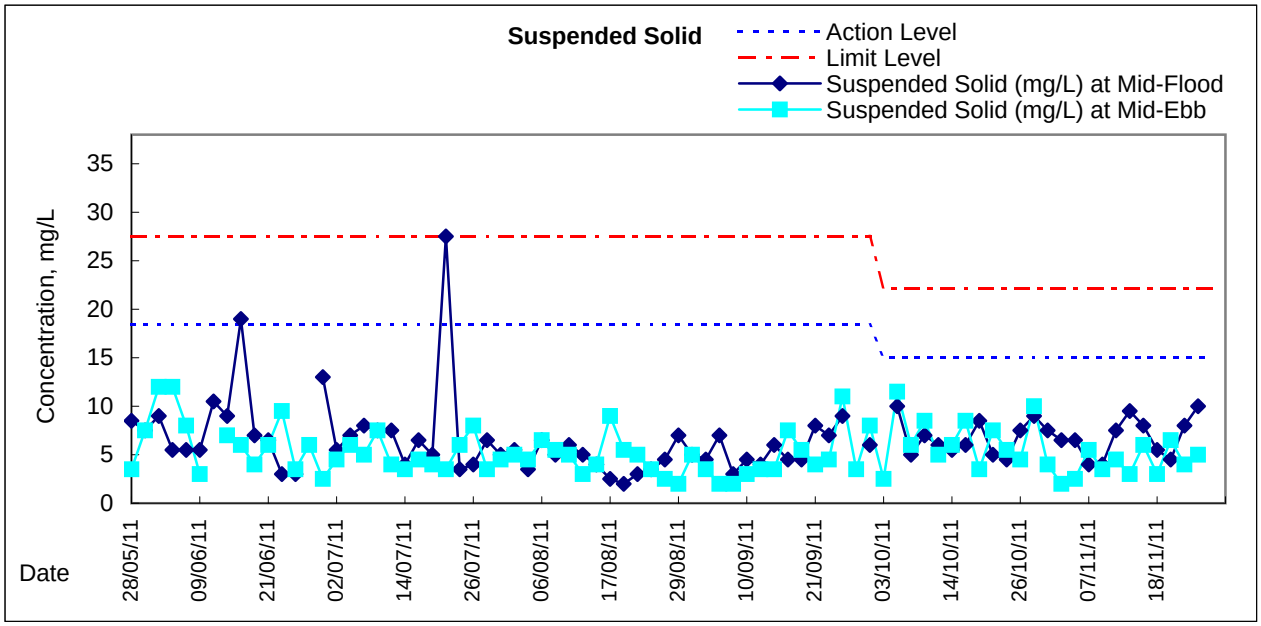




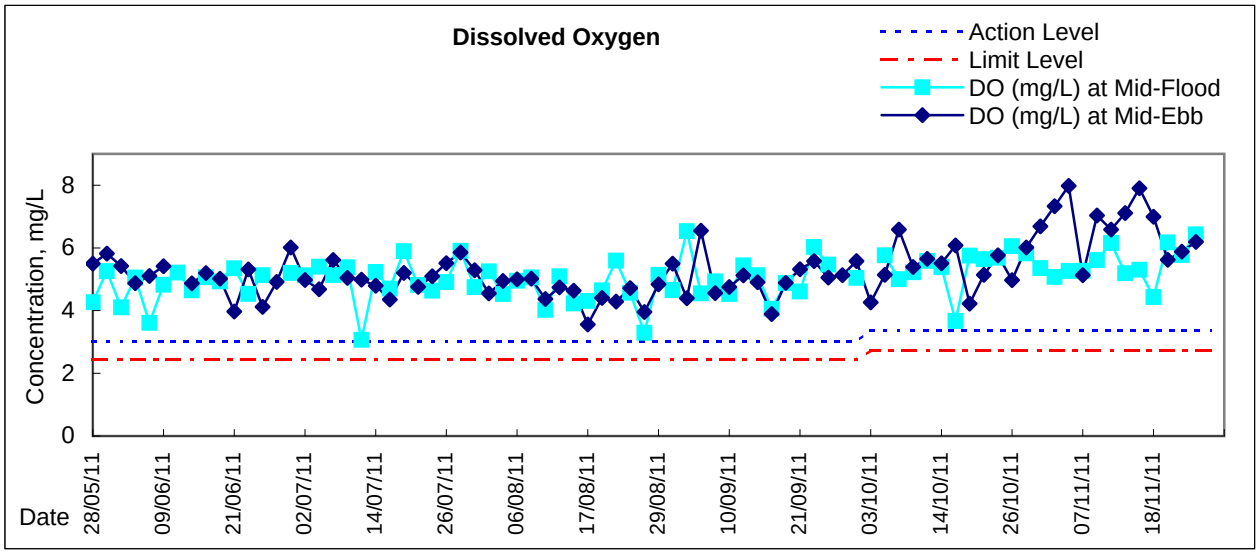
Graphic Presentation of Water Quality Result of C2 - TH / APA / SOC

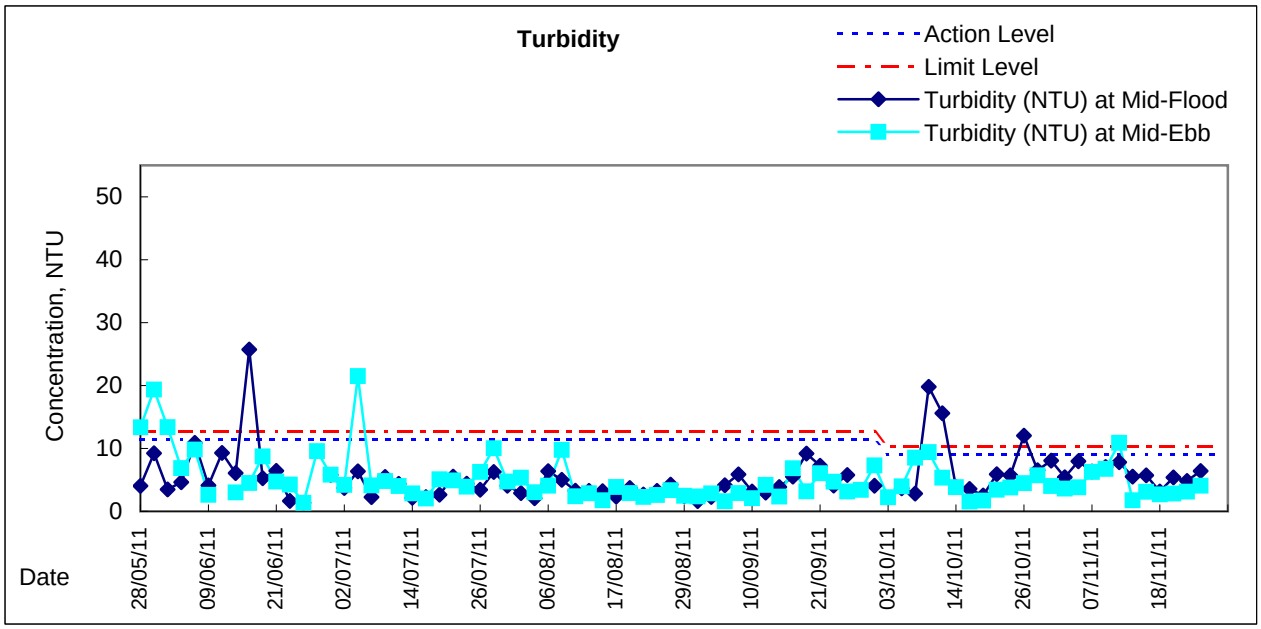


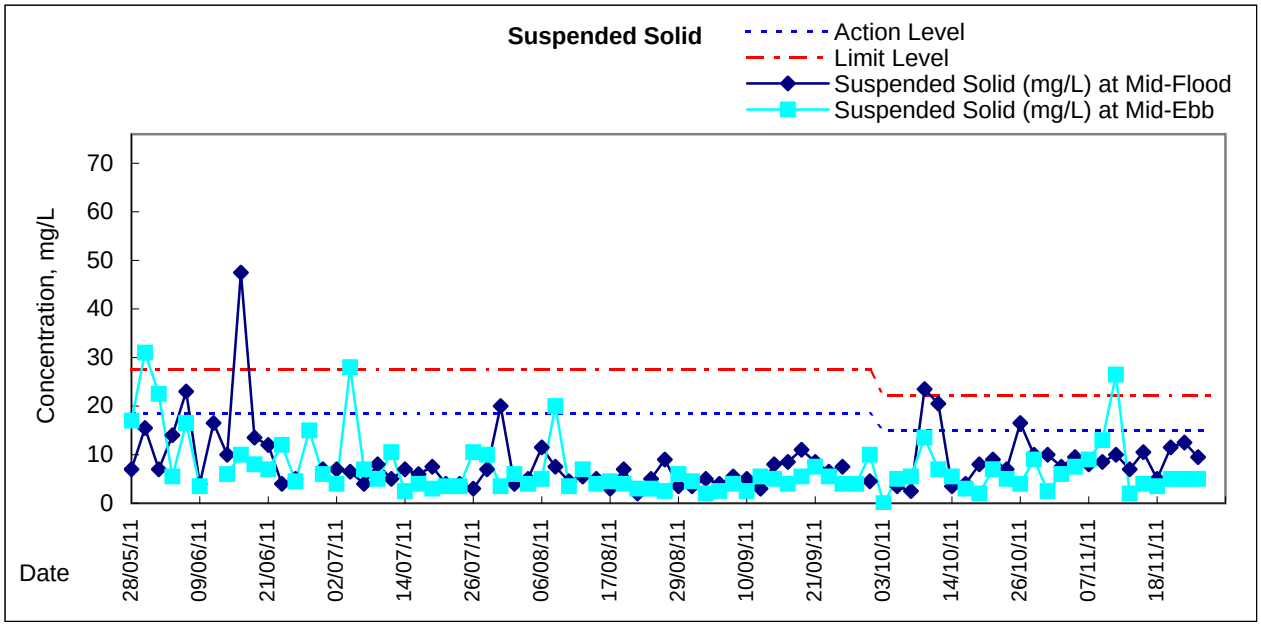




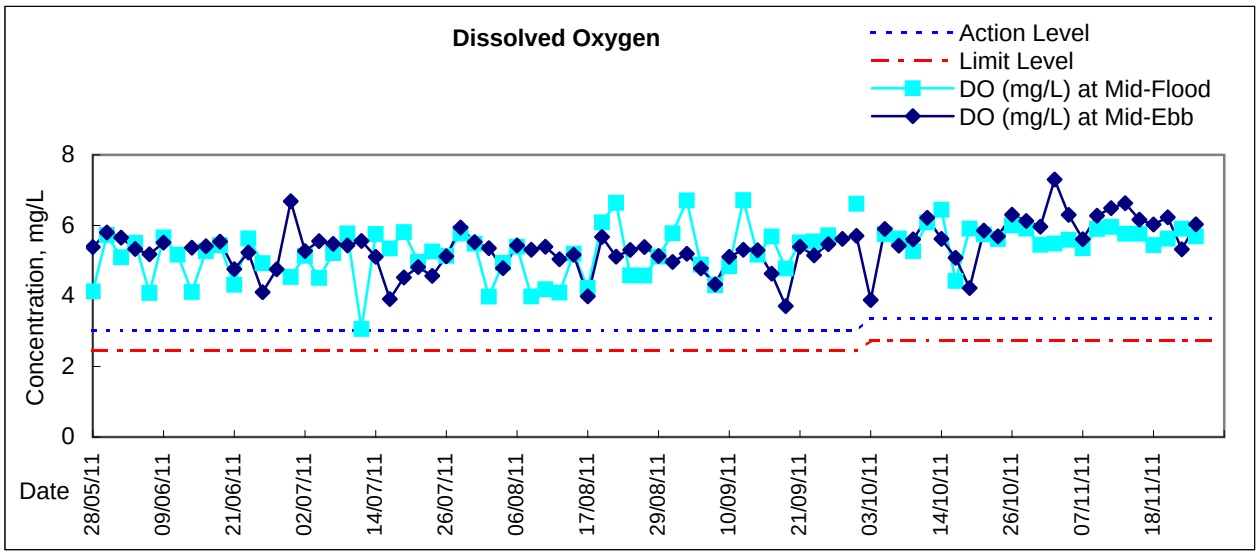
Graphic Presentation of Water Quality Result of C3 - WCT and GEC

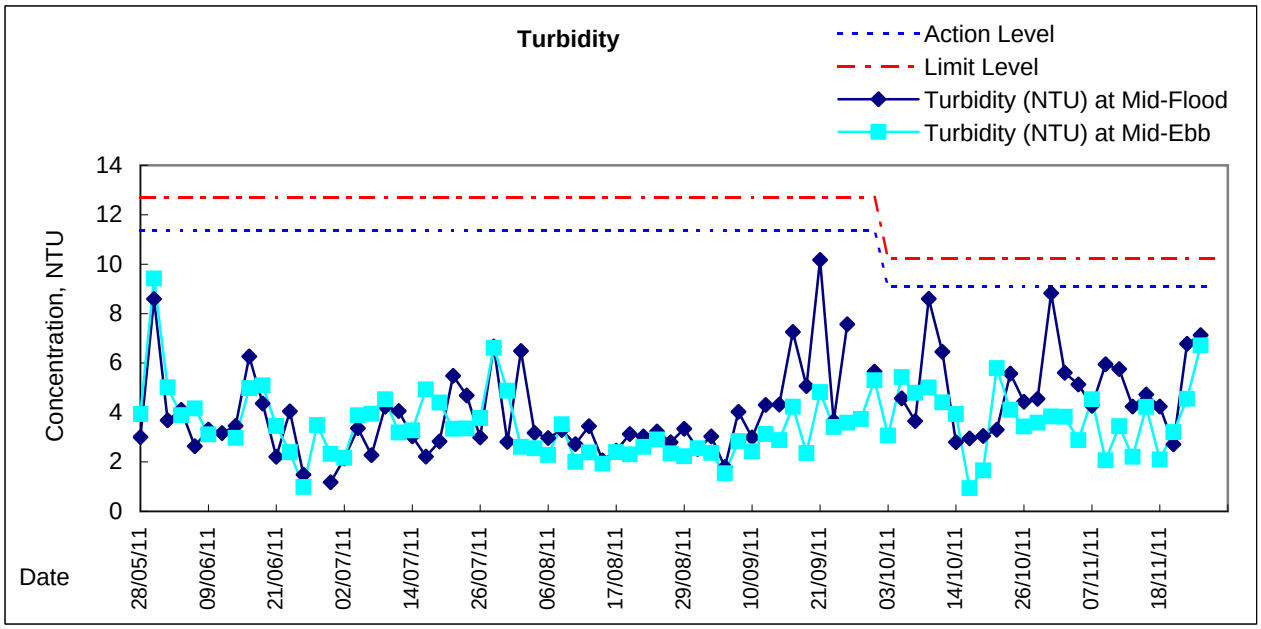


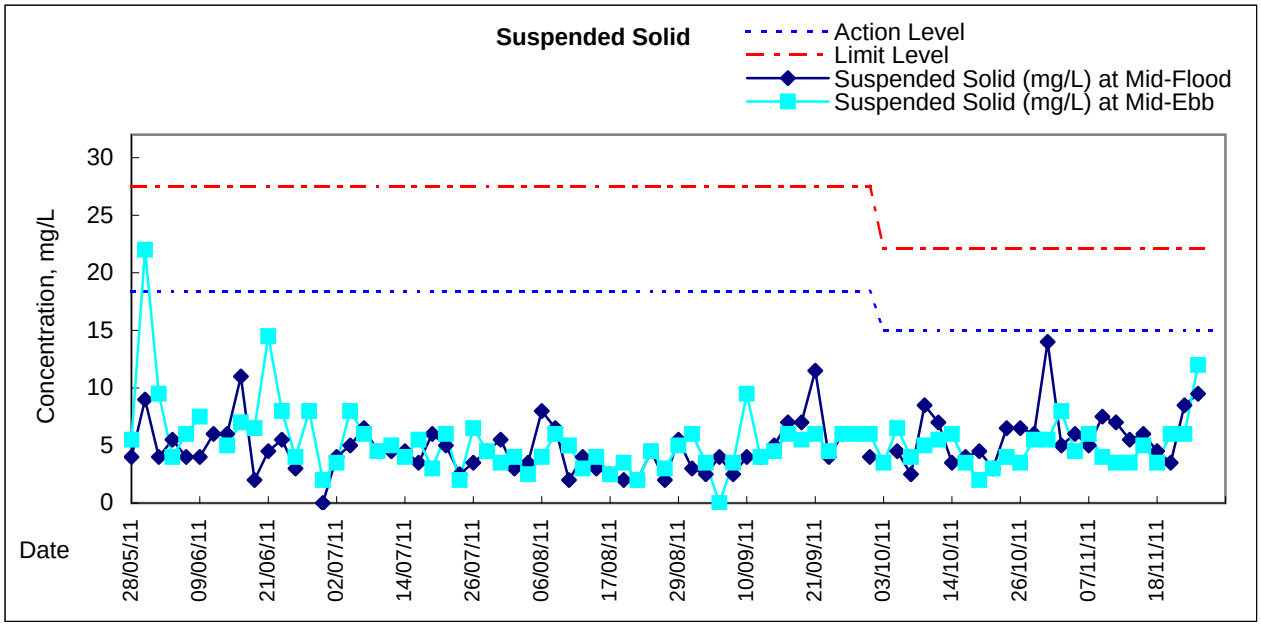




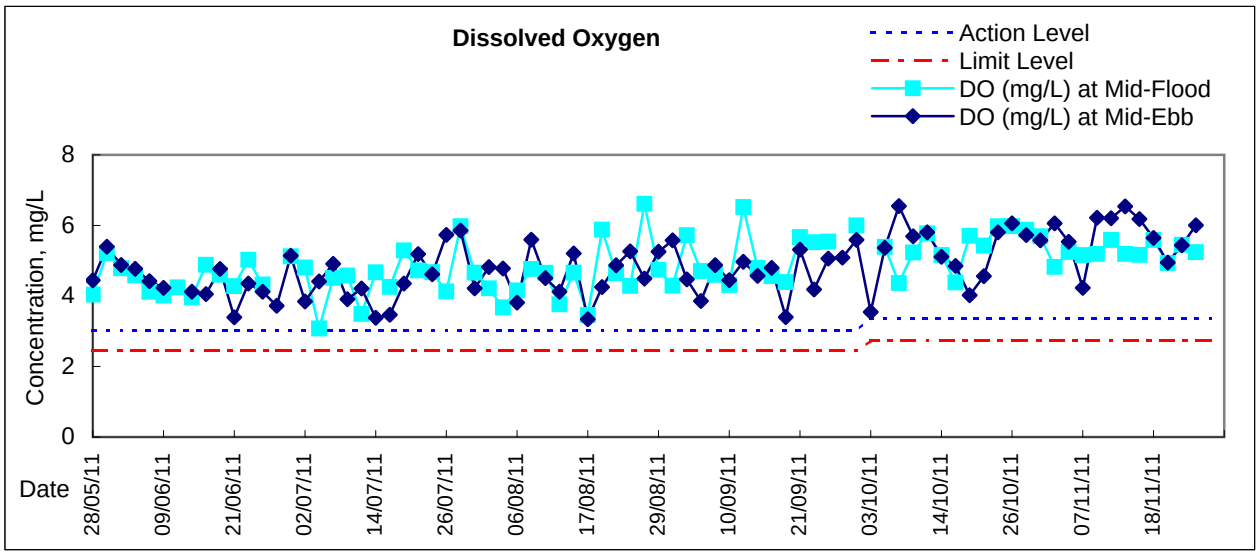
Graphic Presentation of Water Quality Result of C4e - WCT and GEC (Eastern)

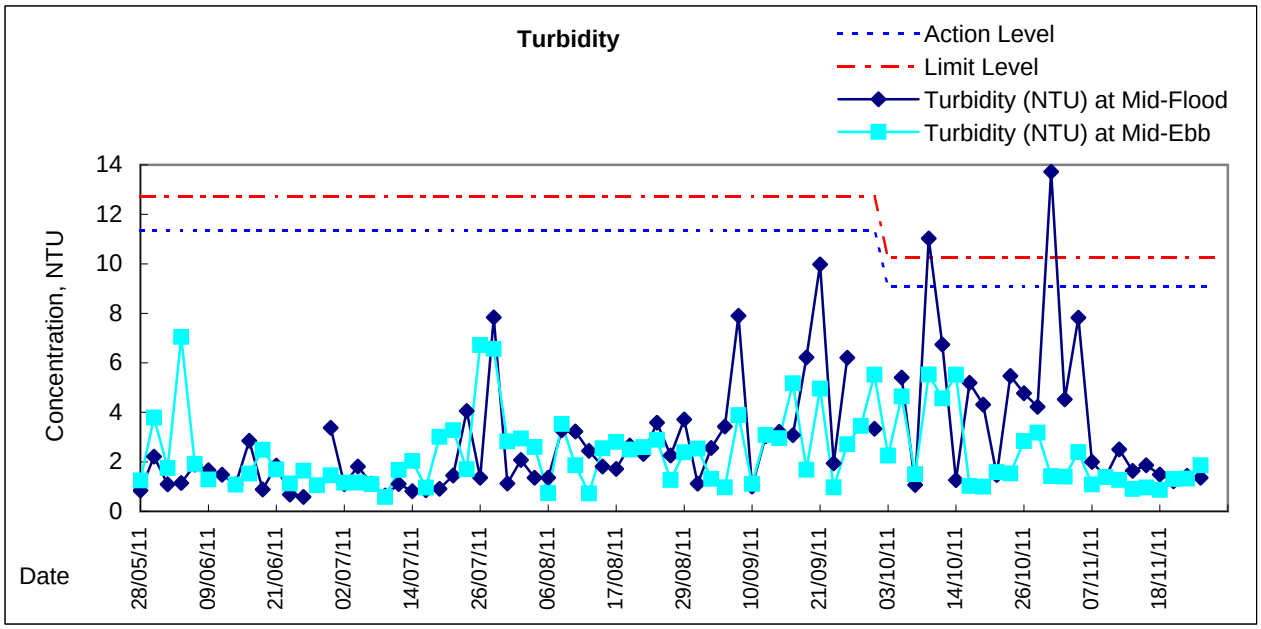


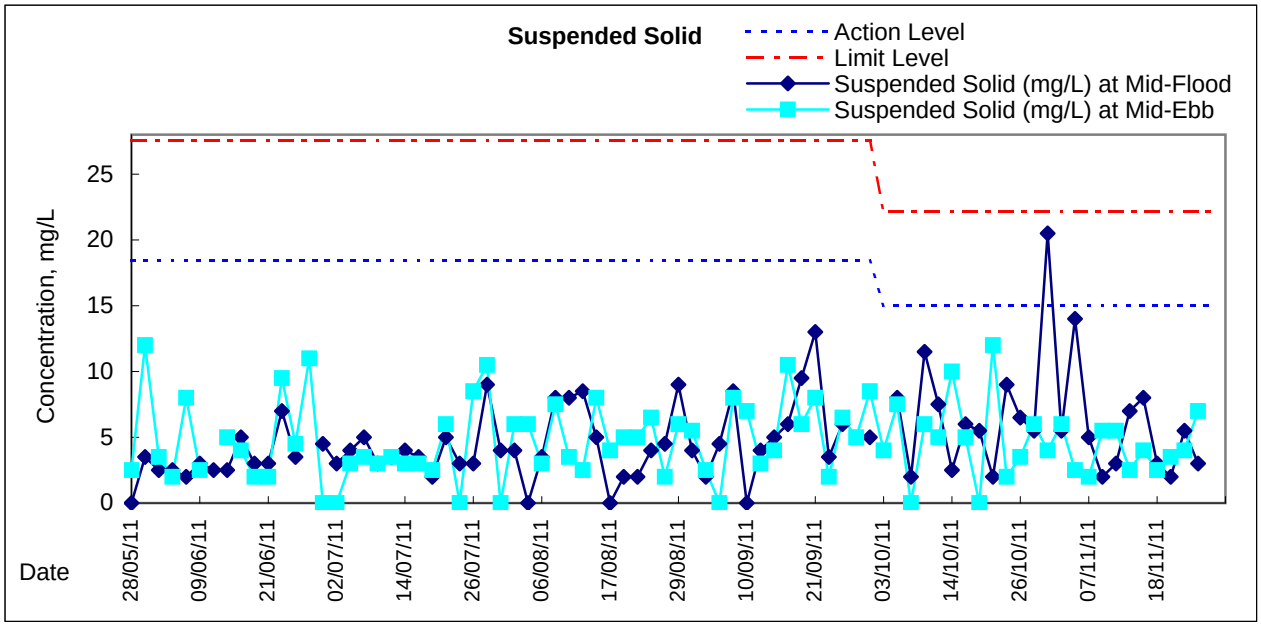




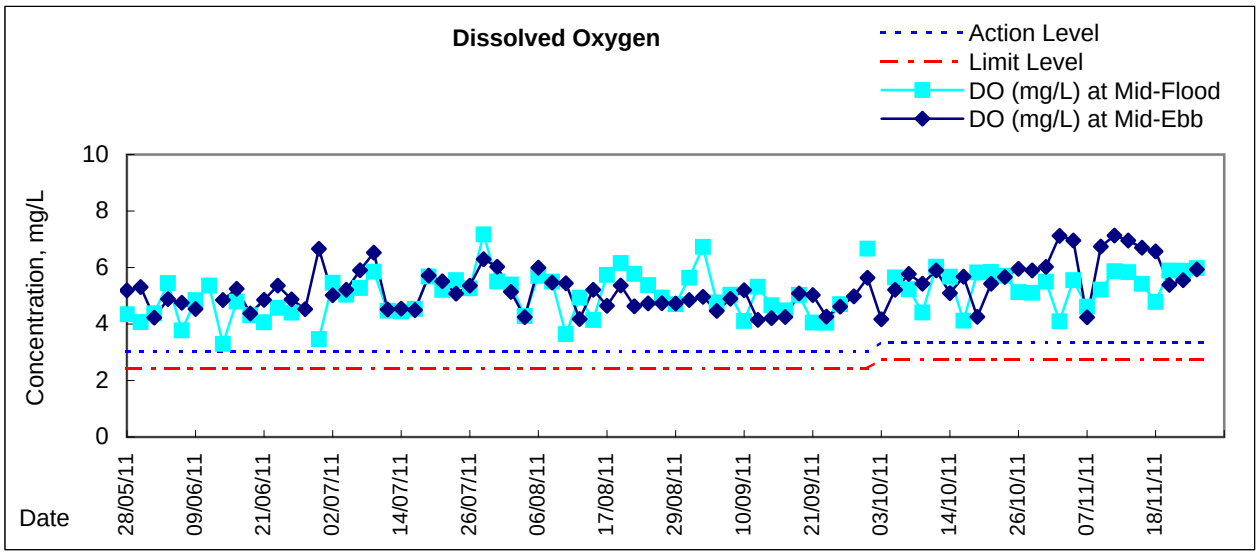
Graphic Presentation of Water Quality Result of C4w - WCT and GEC (Western)

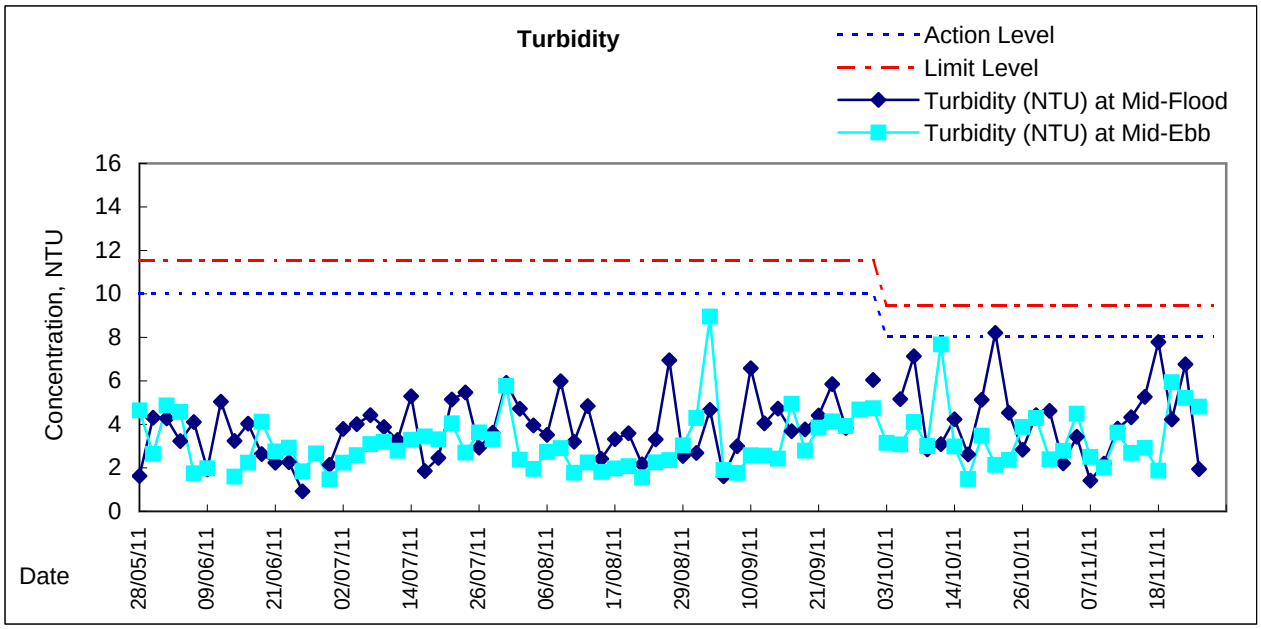


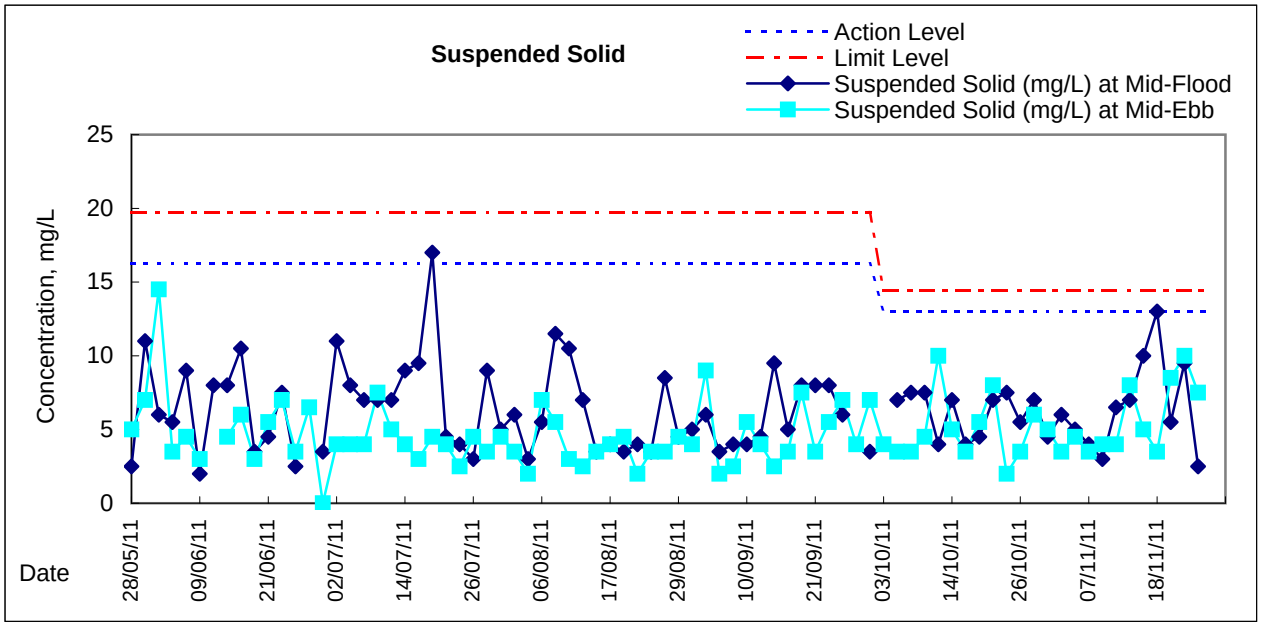




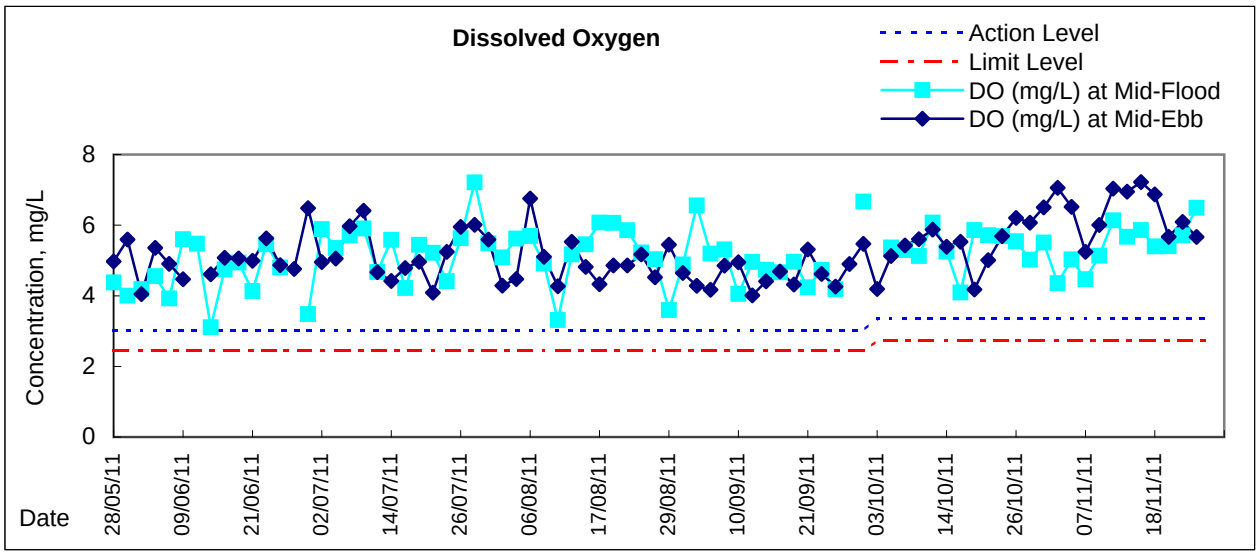
Graphic Presentation of Water Quality Result of C5e - SHKC (Eastern)

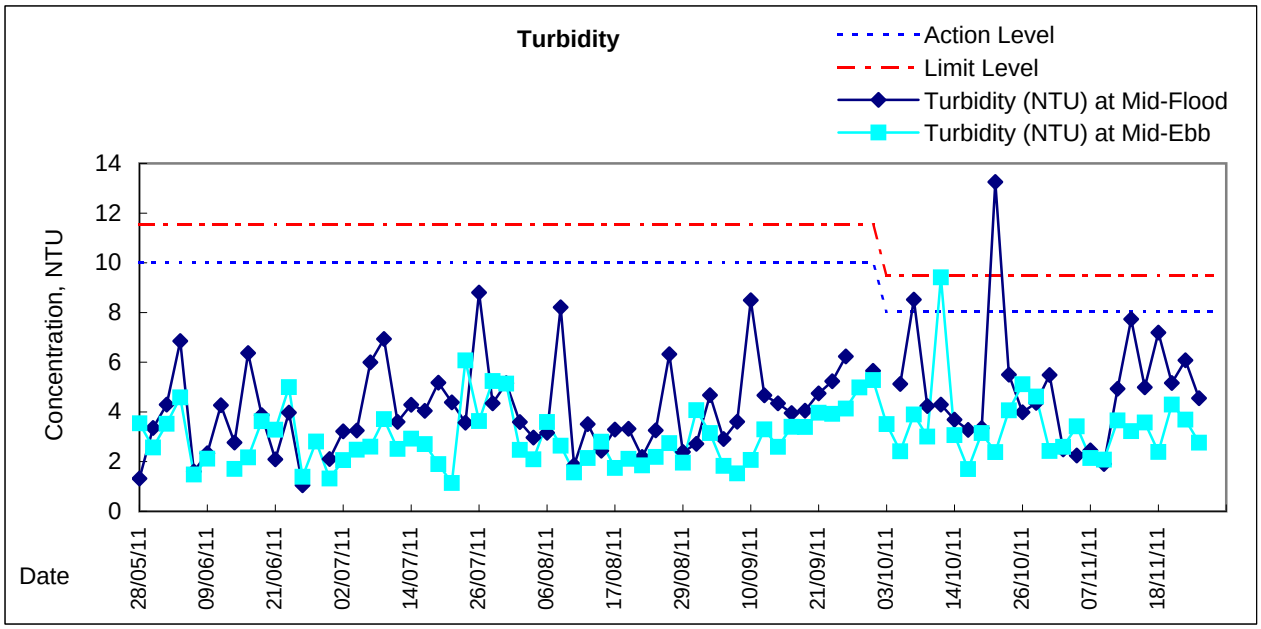


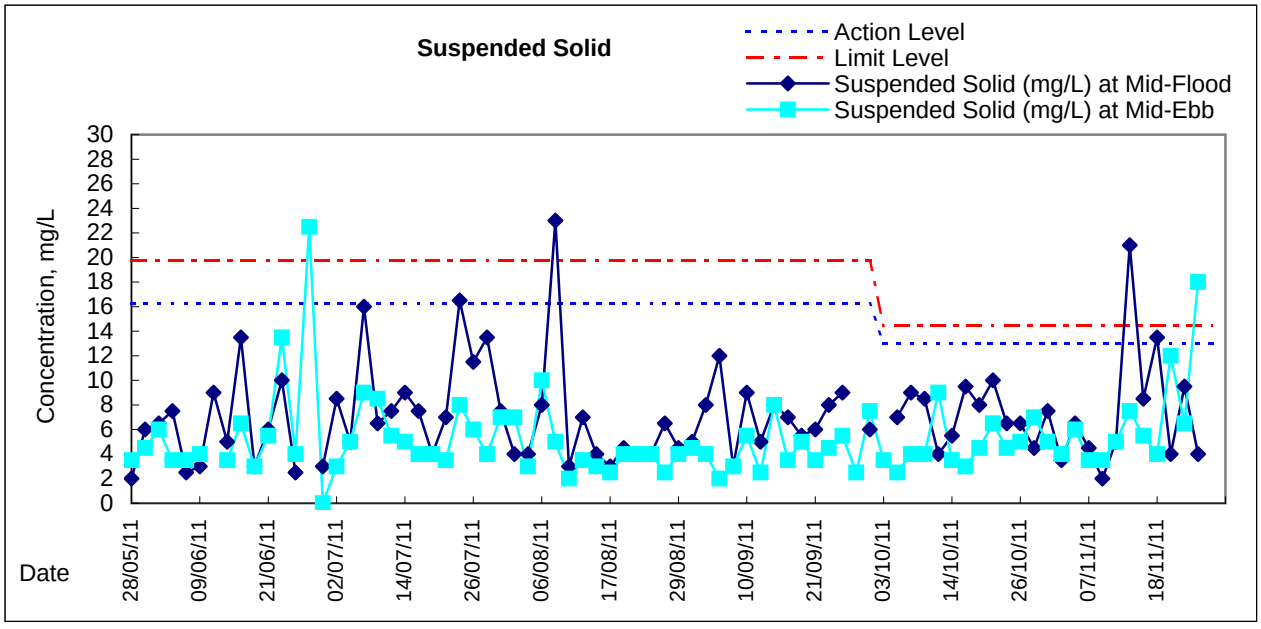




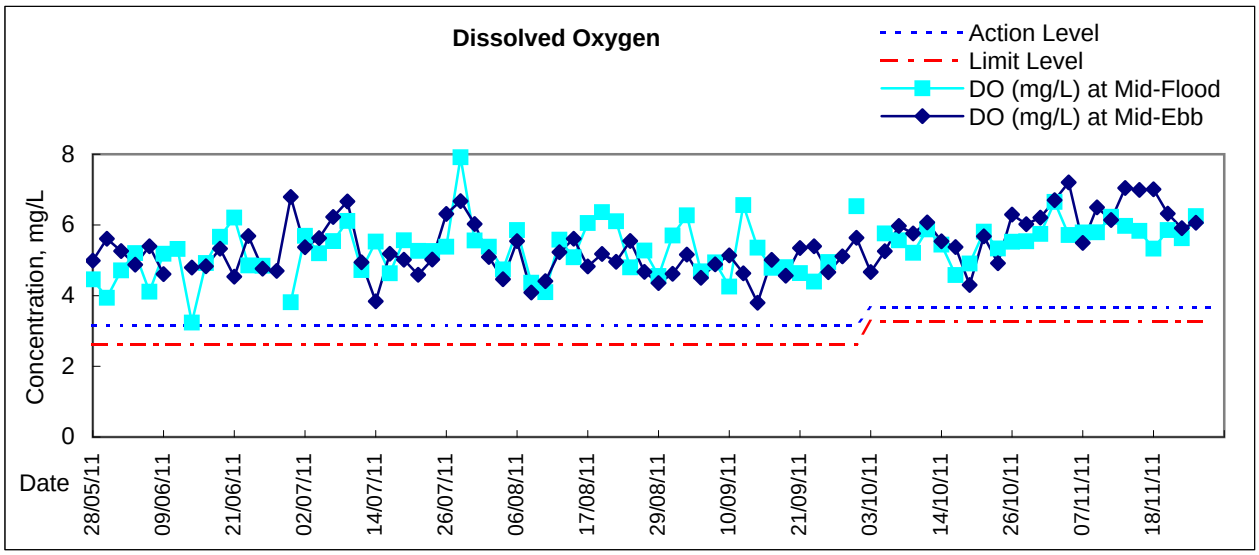
Graphic Presentation of Water Quality Result of C5w - SHKC (Western)

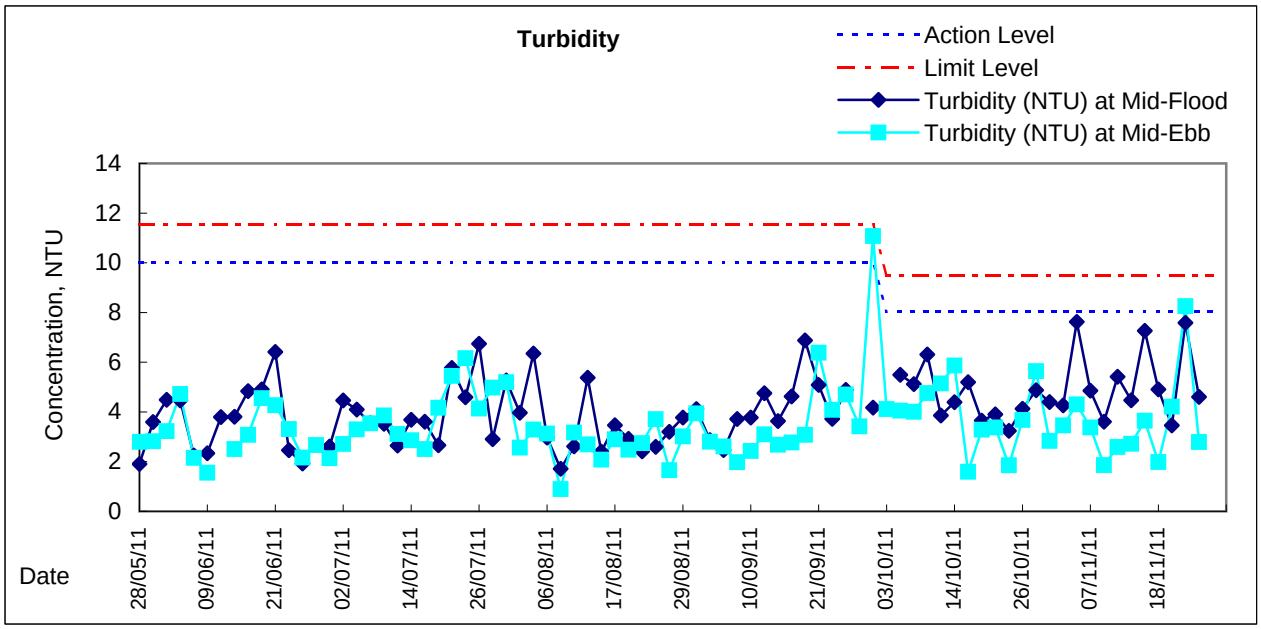


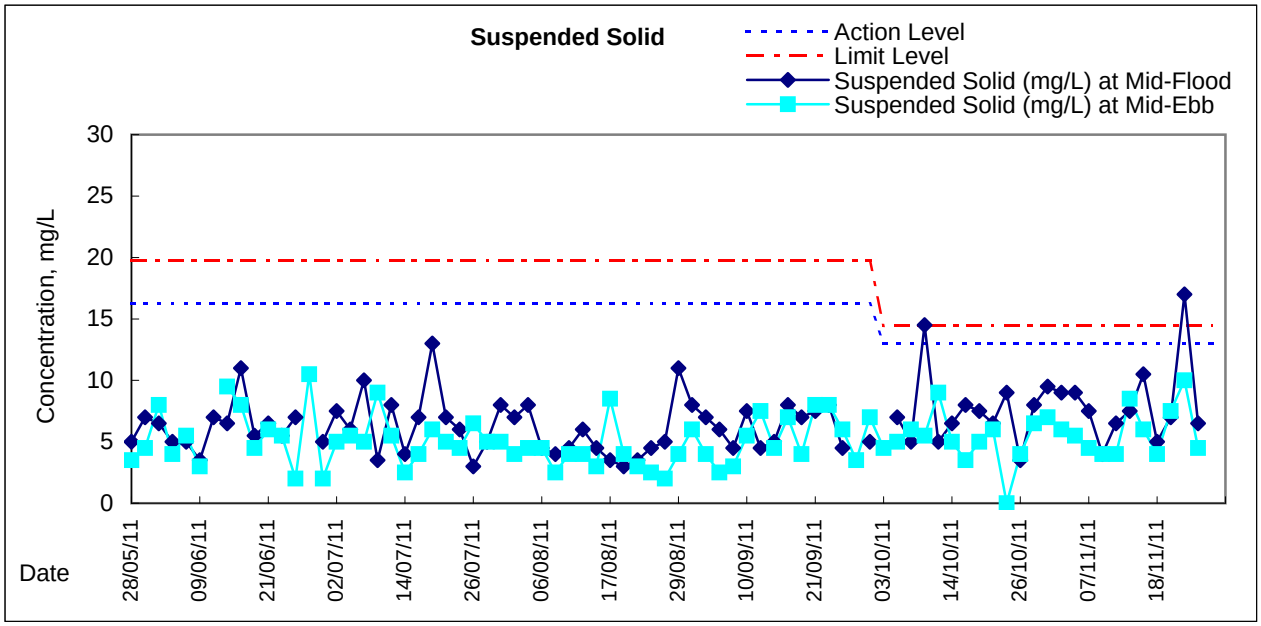




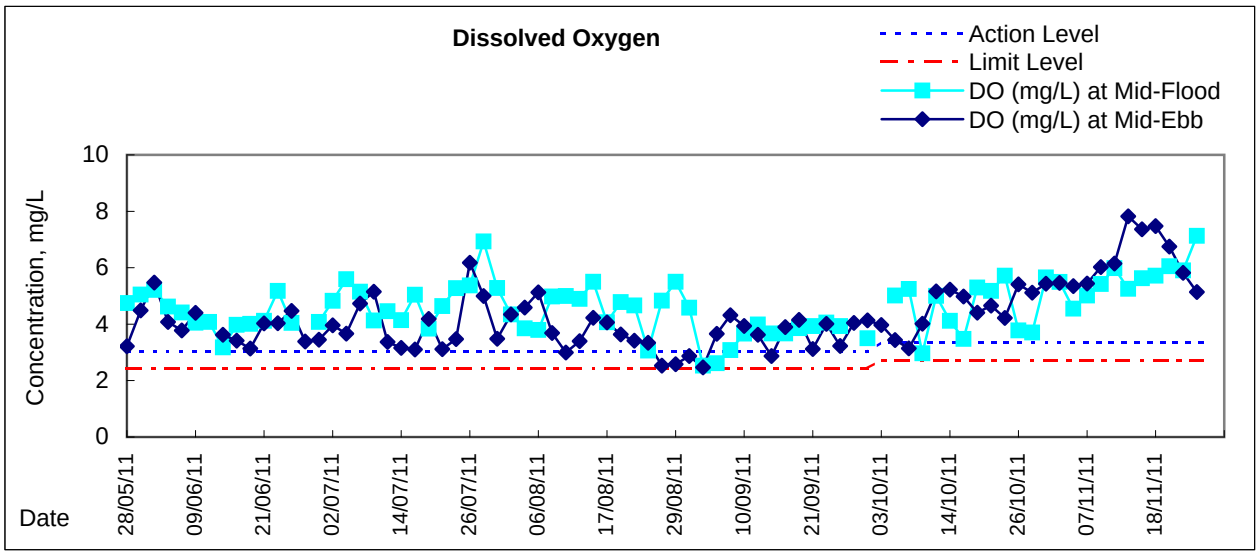
Graphic Presentation of Water Quality Result of WSD21 - Wan Chai

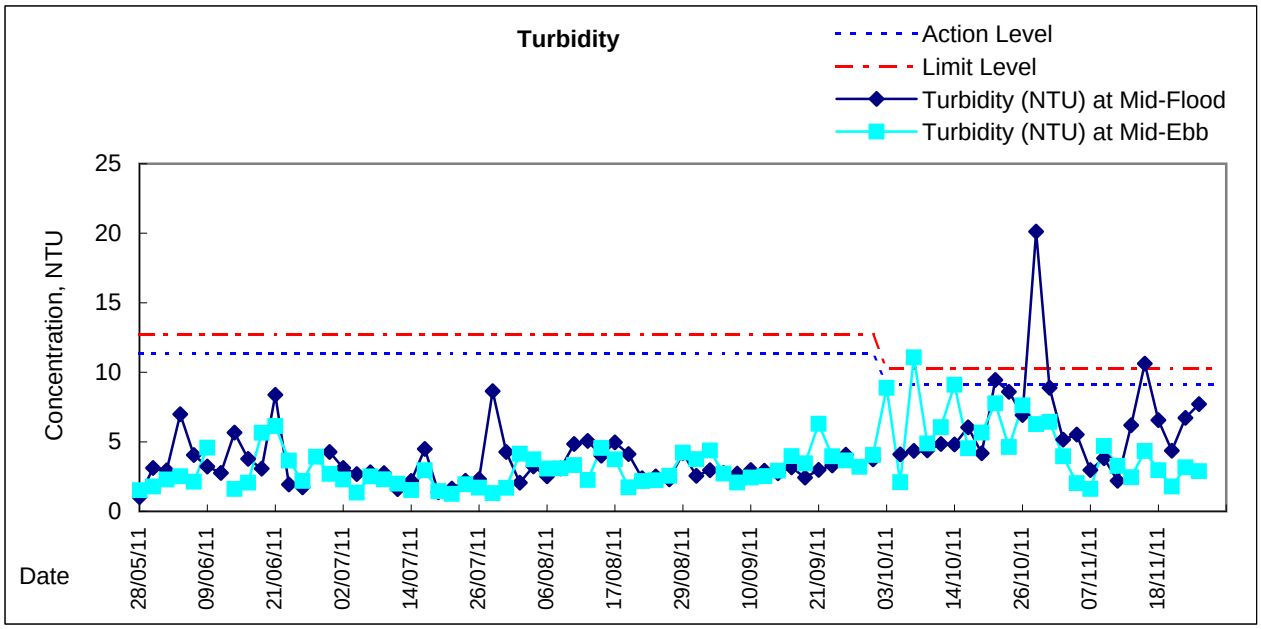


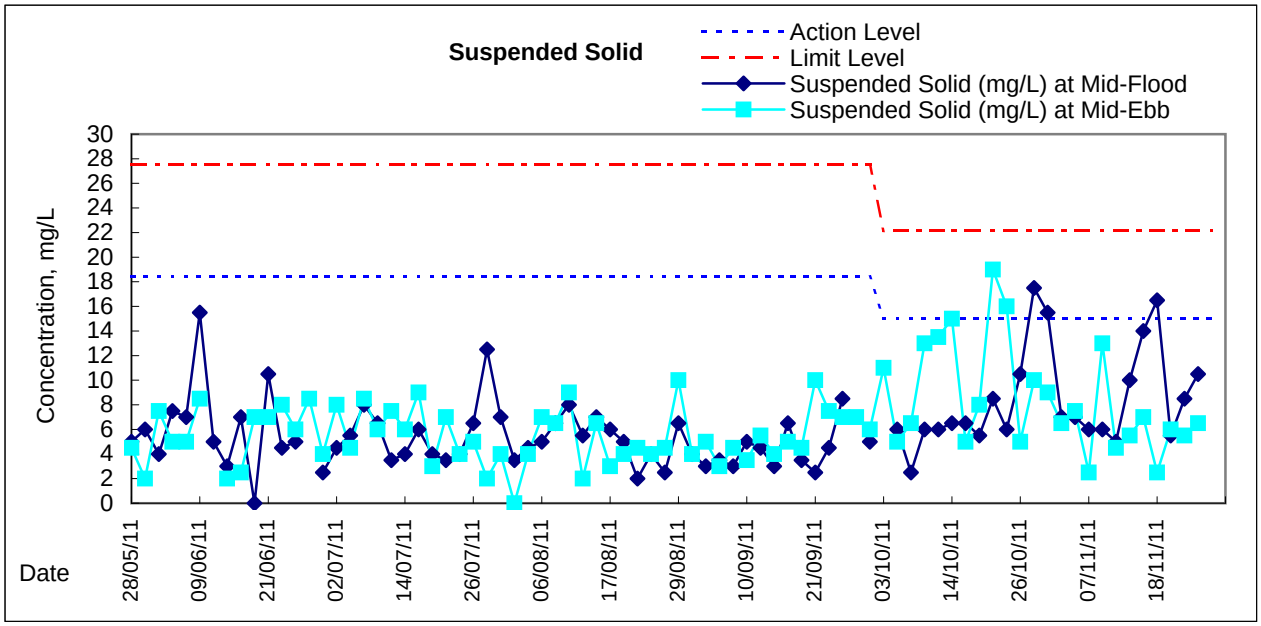




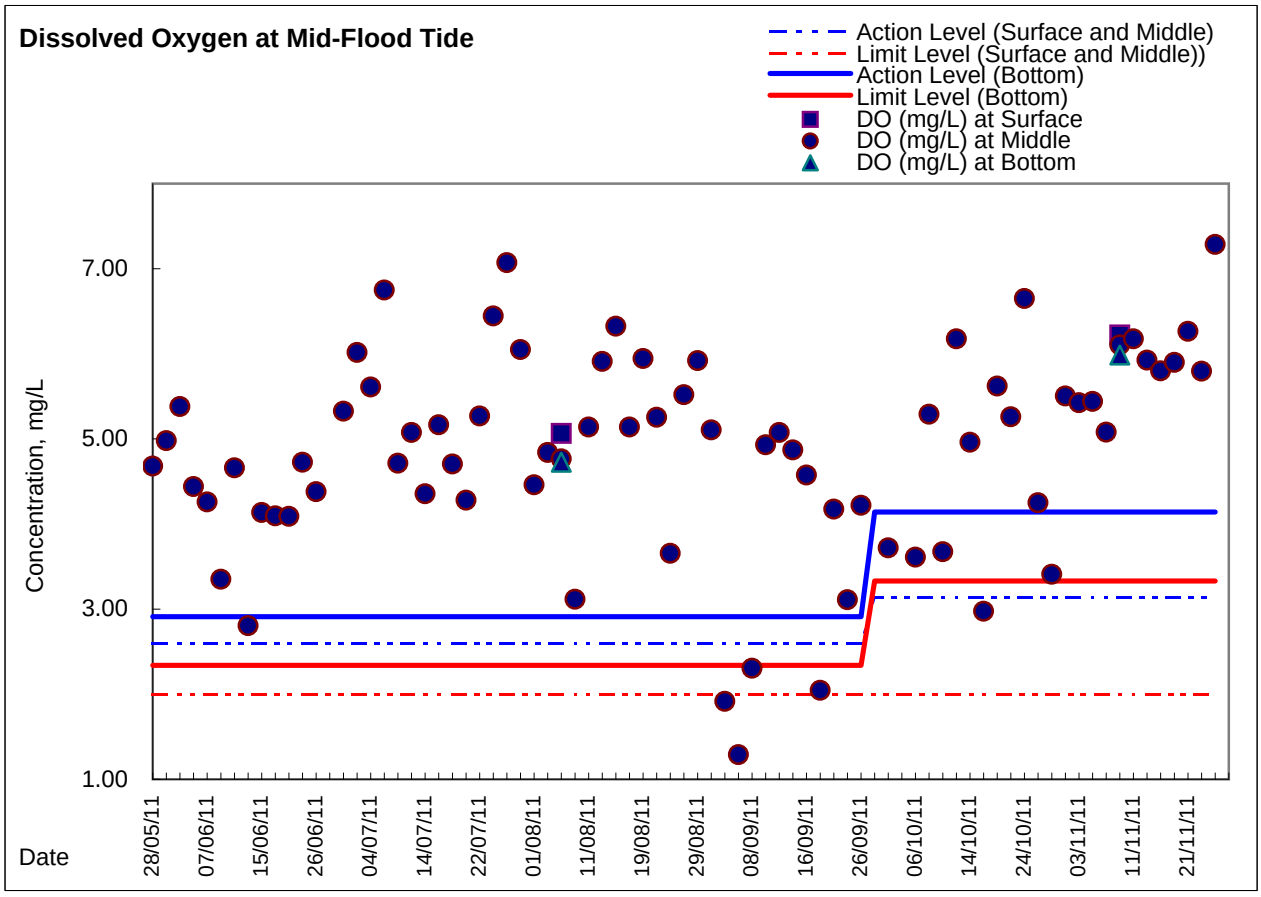
Graphic Presentation of Water Quality Result of C7 - Windsor House

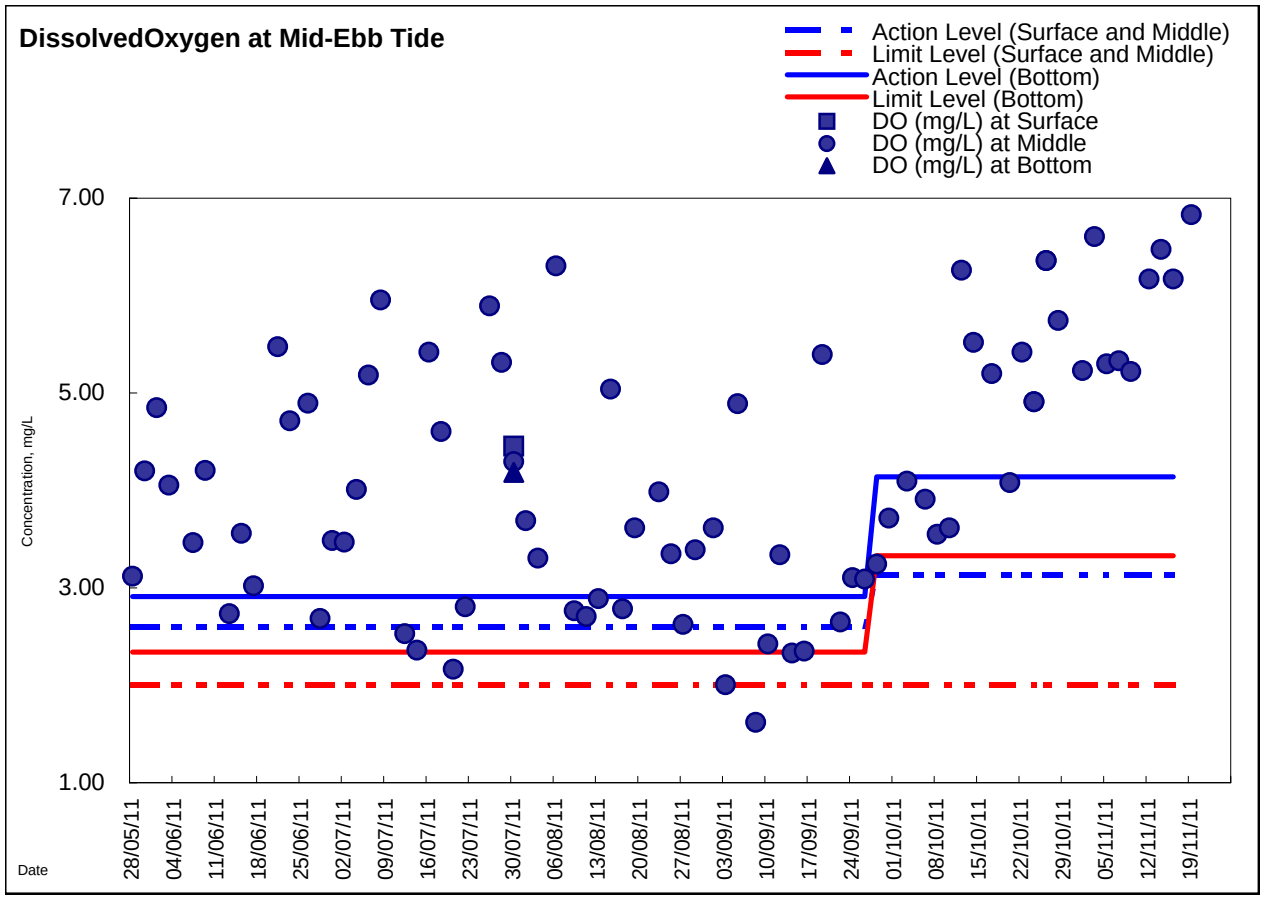




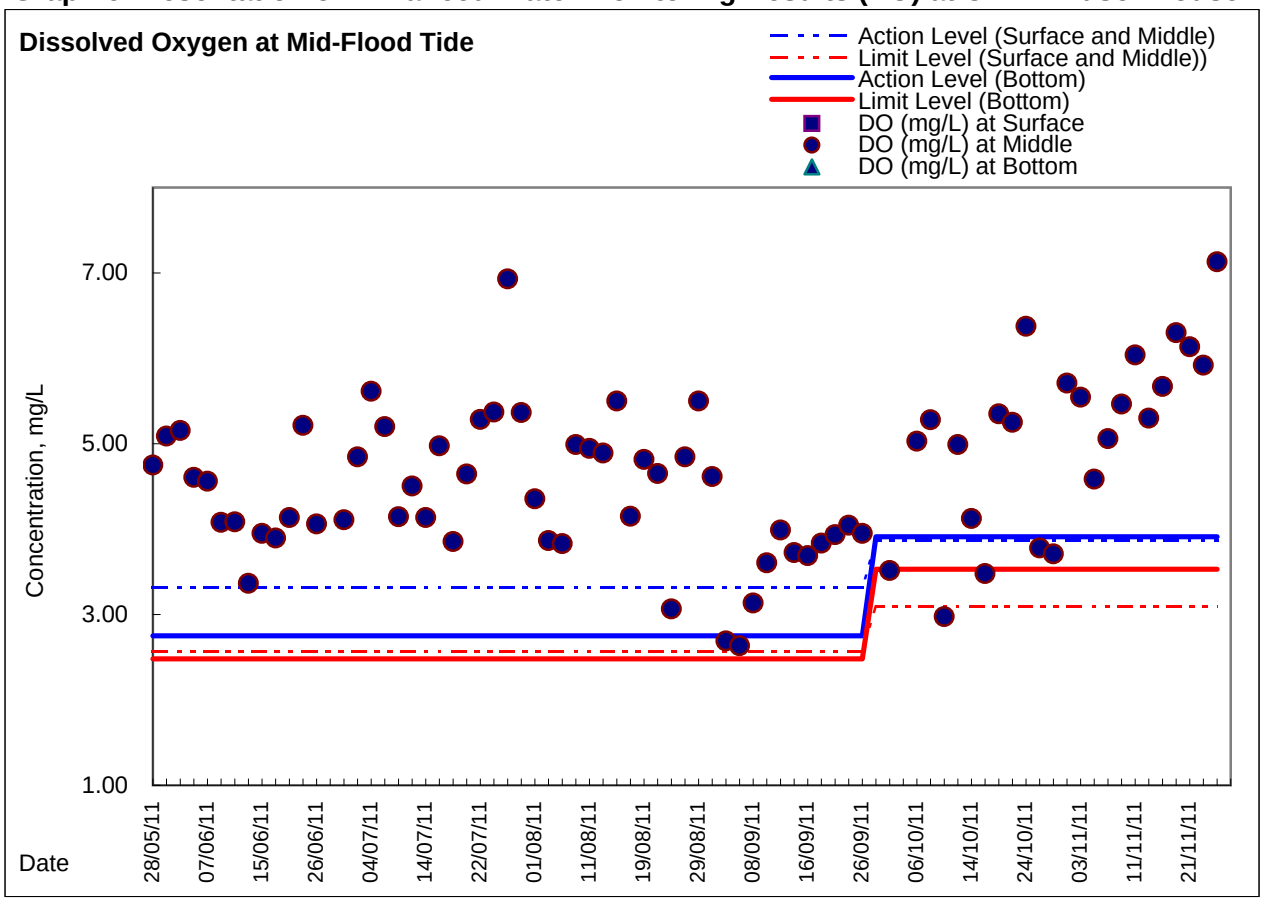


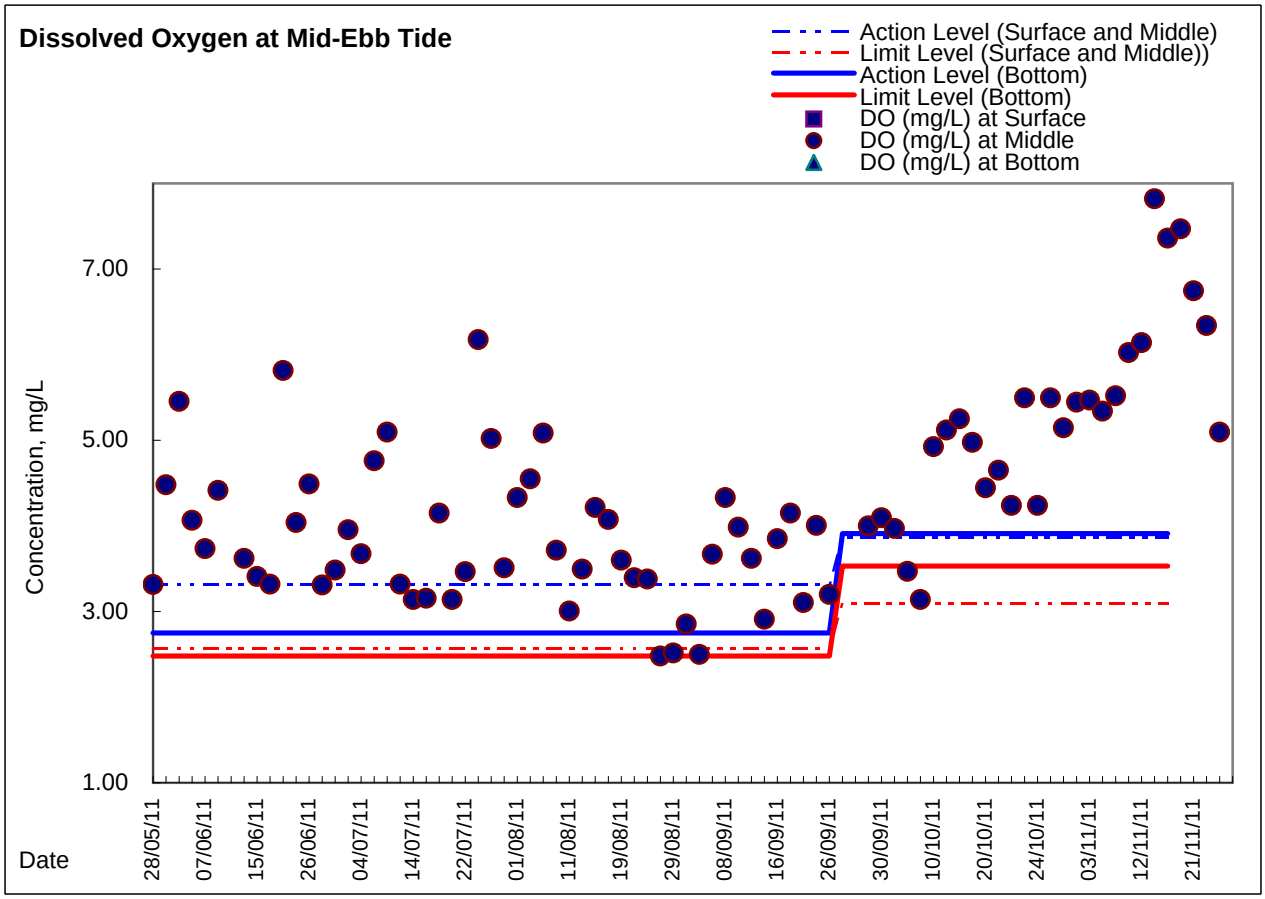
Graphic Presentation of Enhanced Water Monitoring Results (DO) at C6 - Excelsior Hotel



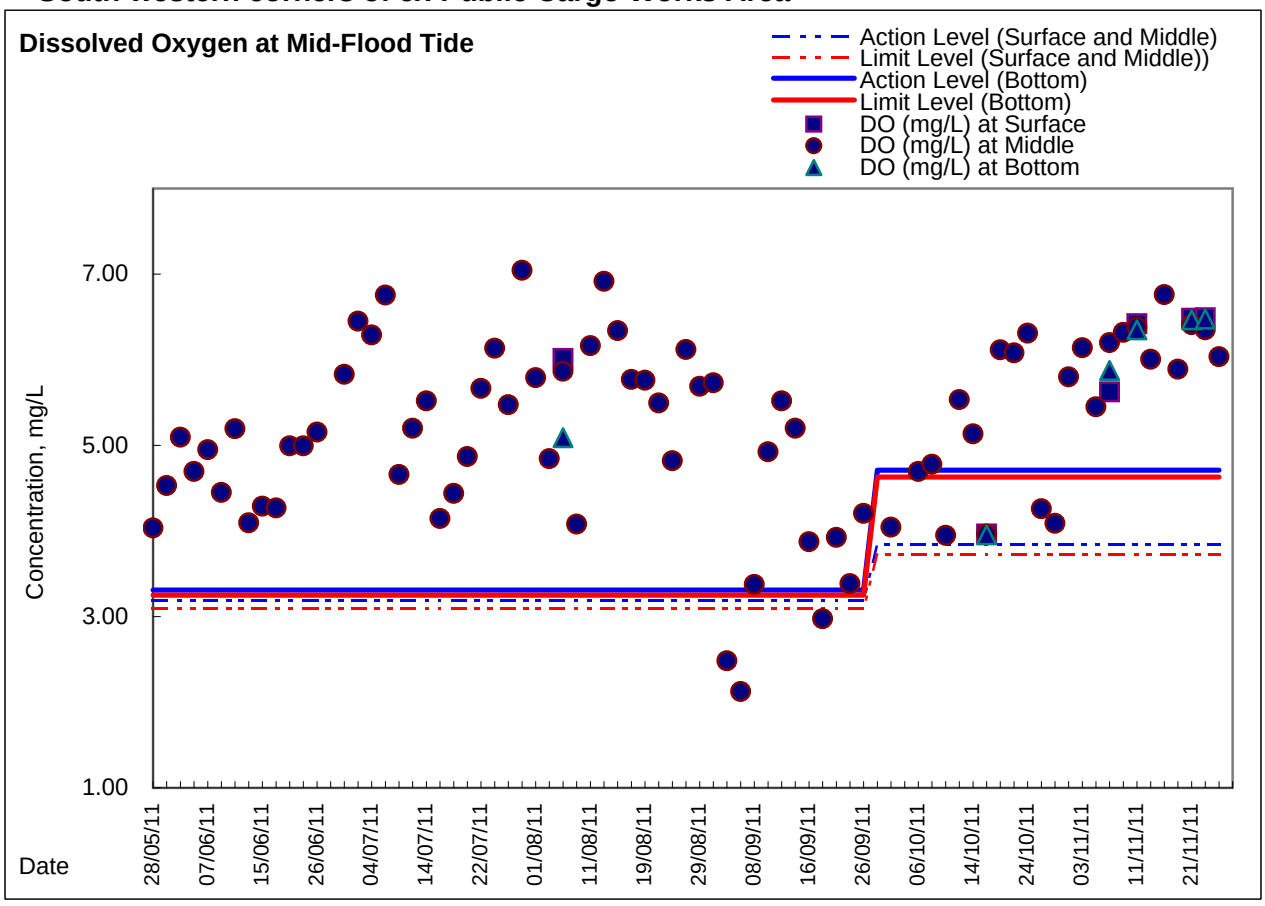


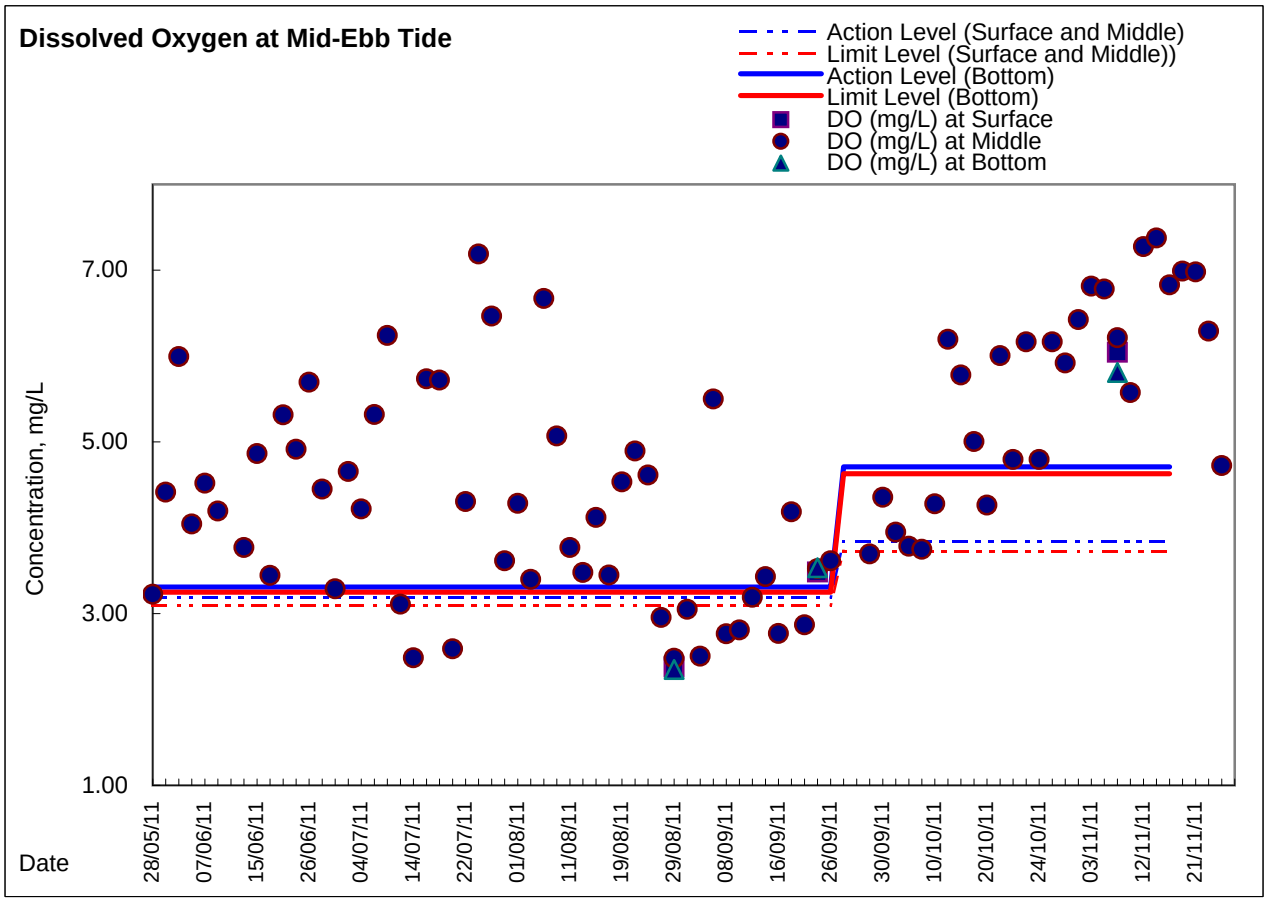
Graphic Presentation of Enhanced Water Monitoring Results (DO) at C7 - Windsor House



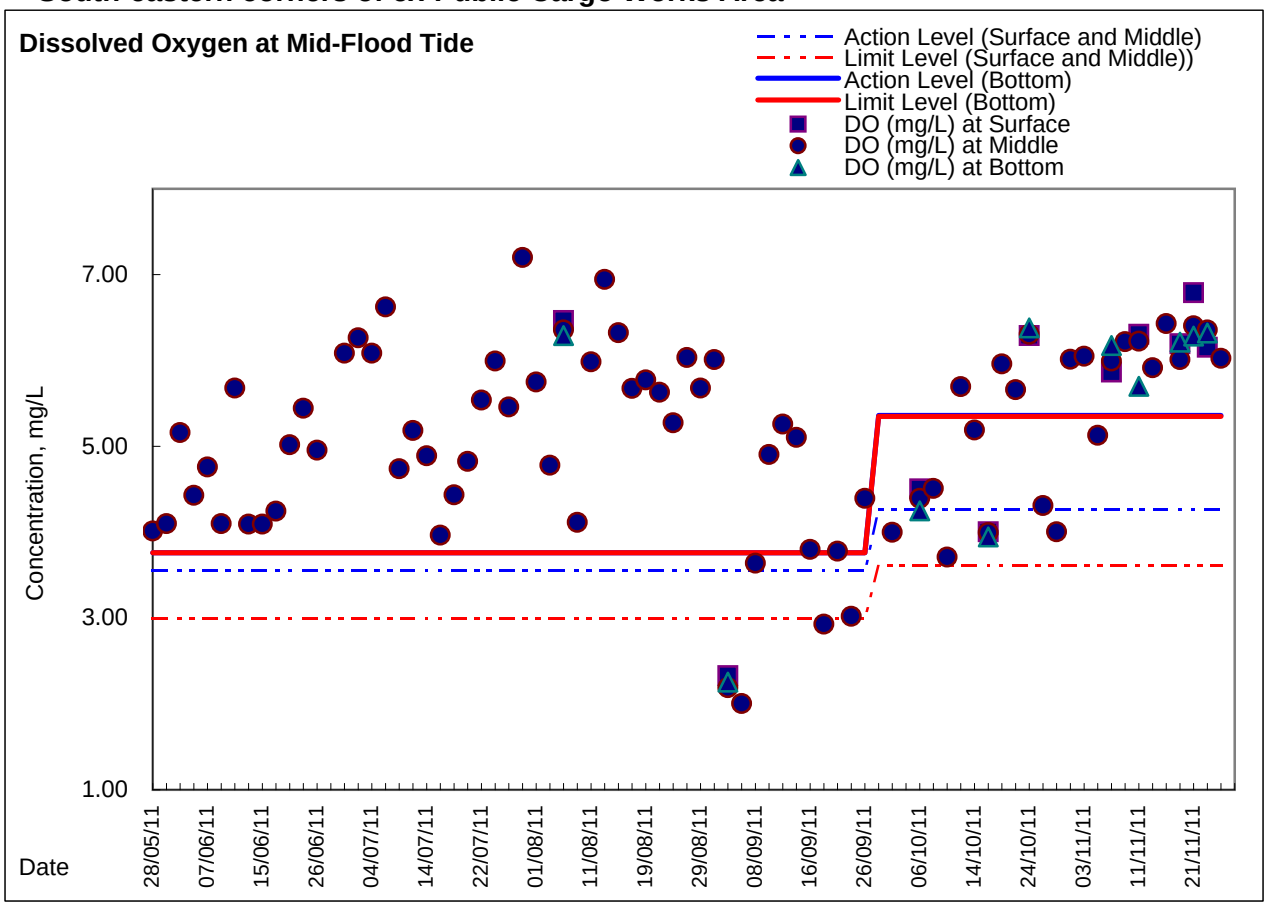


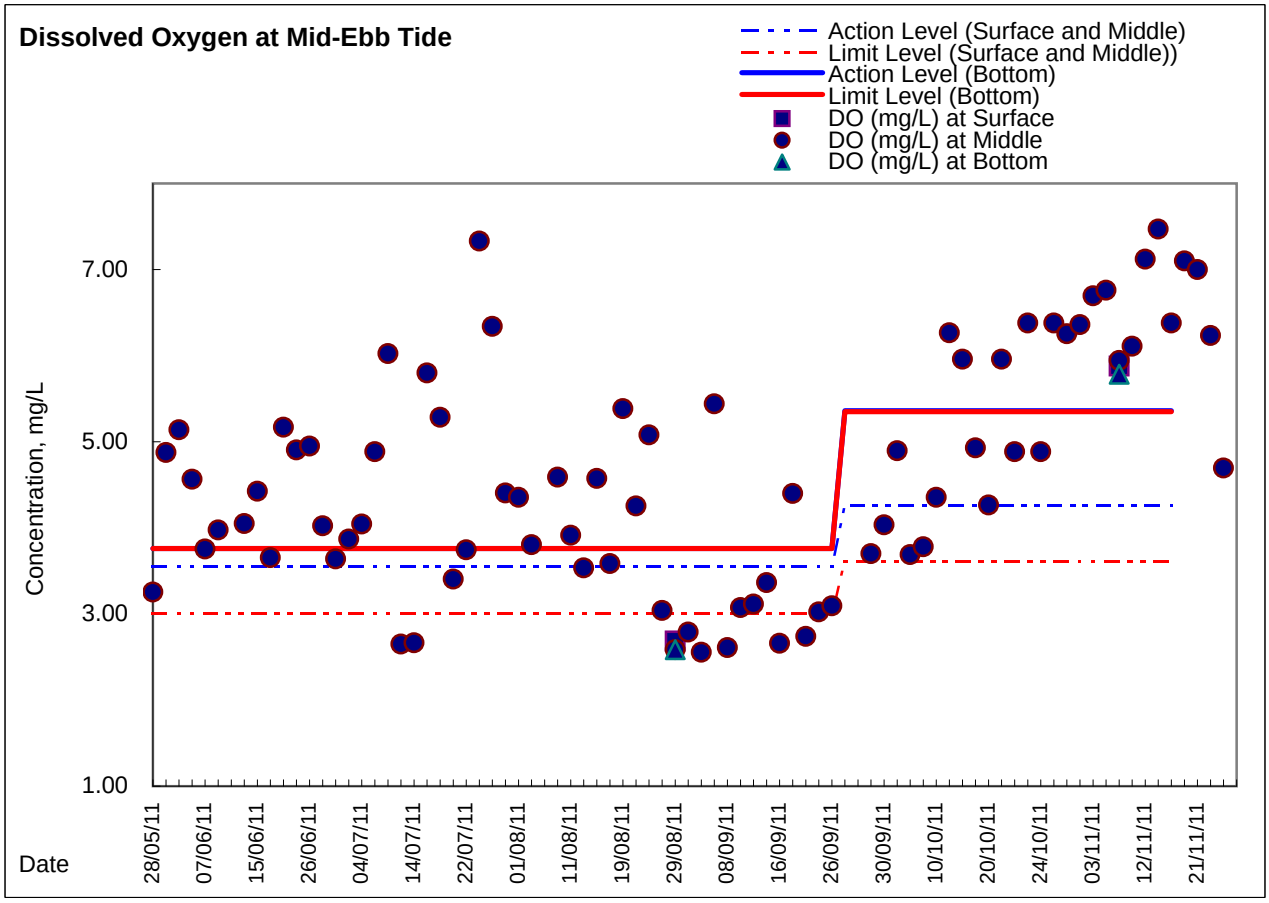
Graphic Presentation of Enhanced Water Monitoring Results (DO) at Ex-WPCWA SW - South-western corners of ex-Public Cargo Works Area

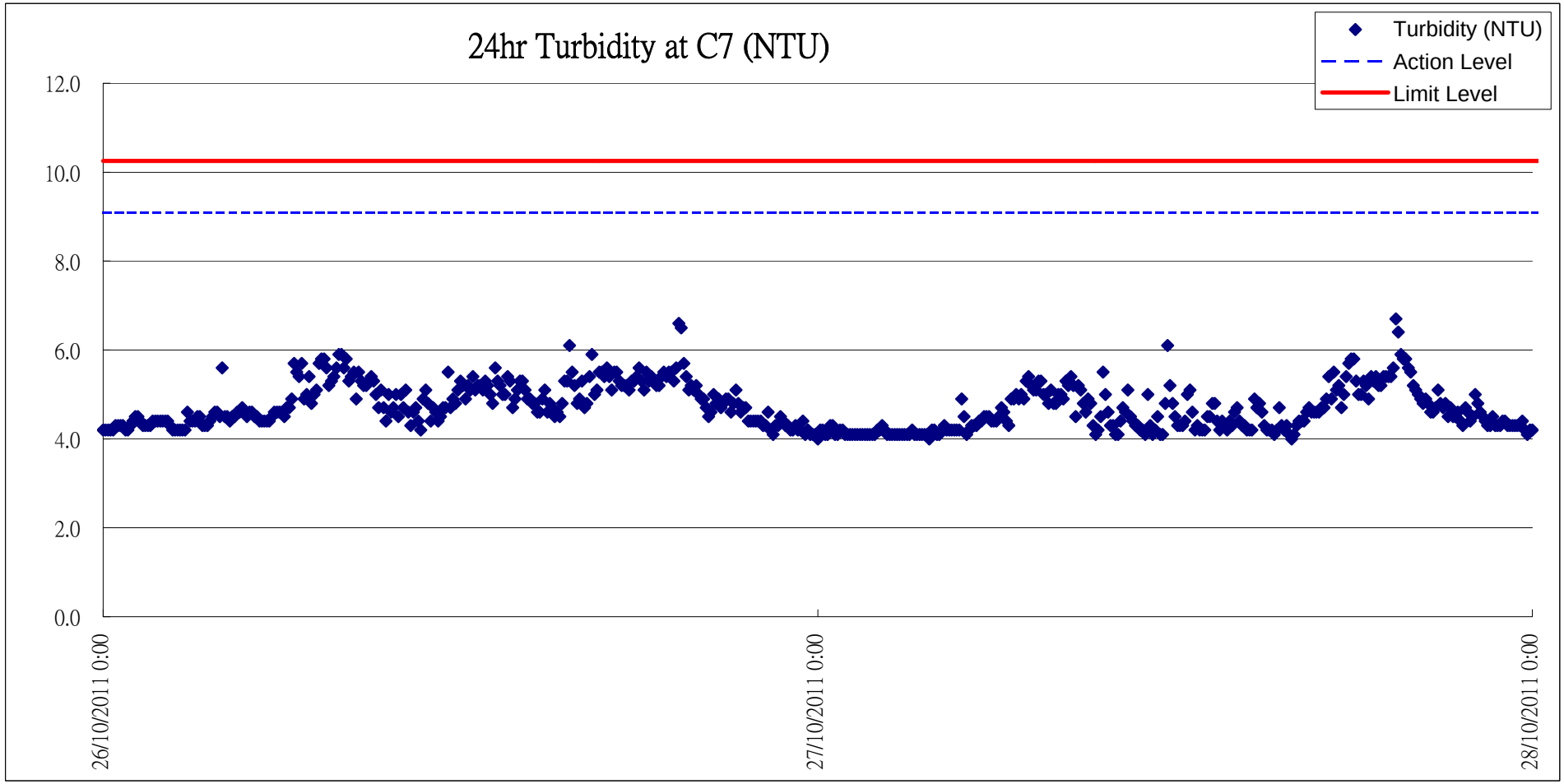




Graphic Presentation of Enhanced Water Monitoring Results (DO) at Ex-WPCWA SE - South-eastern corners of ex-Public Cargo Works Area

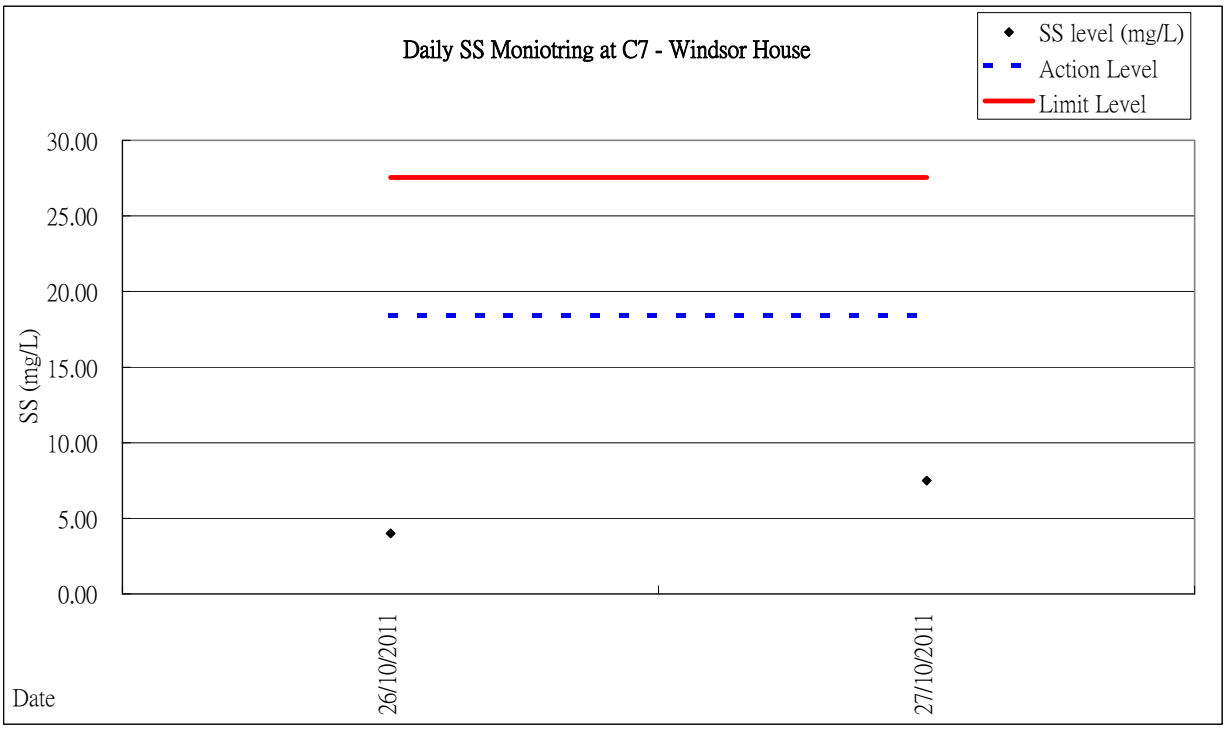


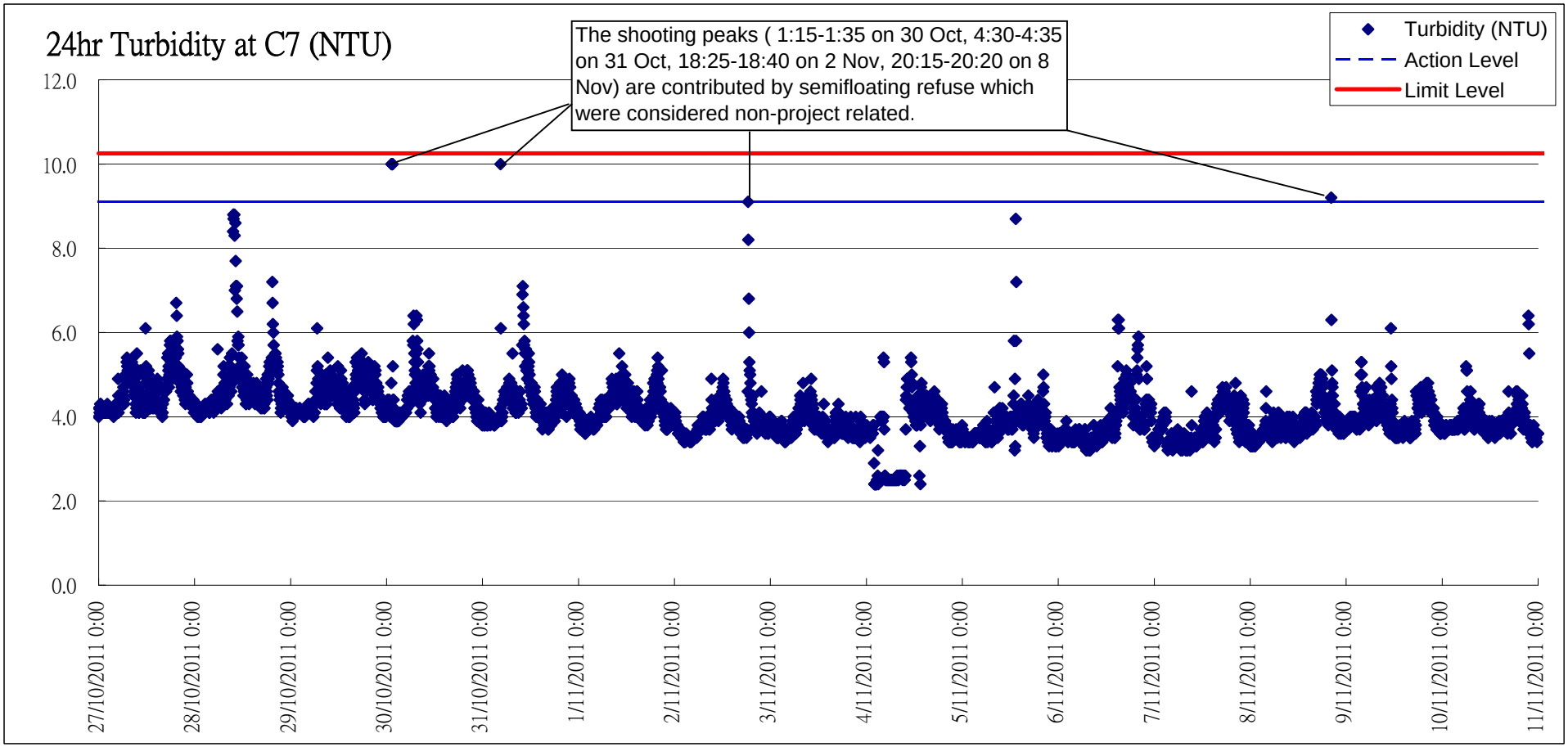



24hr Turbidity at C7 (NTU)
Turbidity (NTU)
Action Level
Limit Level
12.0
10.0
8.0
6.0
4.0
2.0
0.0
26/10/2011 0:00
27/10/2011 0:00
28/10/2011 0:00

Daily SS Monitoring at C7 - Windsor House

Date	Time	Weater Condition	Suspended Solids mg/L	
			Value	Average
26/10/2011	11:30	Cloudy	4	4.00
	11:30		4	
27/10/2011	11:00	Fine	8	7.50
	11:00		7	




24hr Turbidity at C7 (NTU)
The shooting peaks (1:15-1:35 on 30 Oct, 4:30-4:35 on 31 Oct, 18:25-18:40 on 2 Nov, 20:15-20:20 on 8 Nov) are contributed by semifloating refuse which were considered non-project related.
Turbidity (NTU)
Action Level
Limit Level
12.0
10.0
8.0
6.0
4.0
2.0
0.0
27/10/2011 0:00
28/10/2011 0:00
29/10/2011 0:00
30/10/2011 0:00
31/10/2011 0:00
1/11/2011 0:00
2/11/2011 0:00
3/11/2011 0:00
4/11/2011 0:00
5/11/2011 0:00
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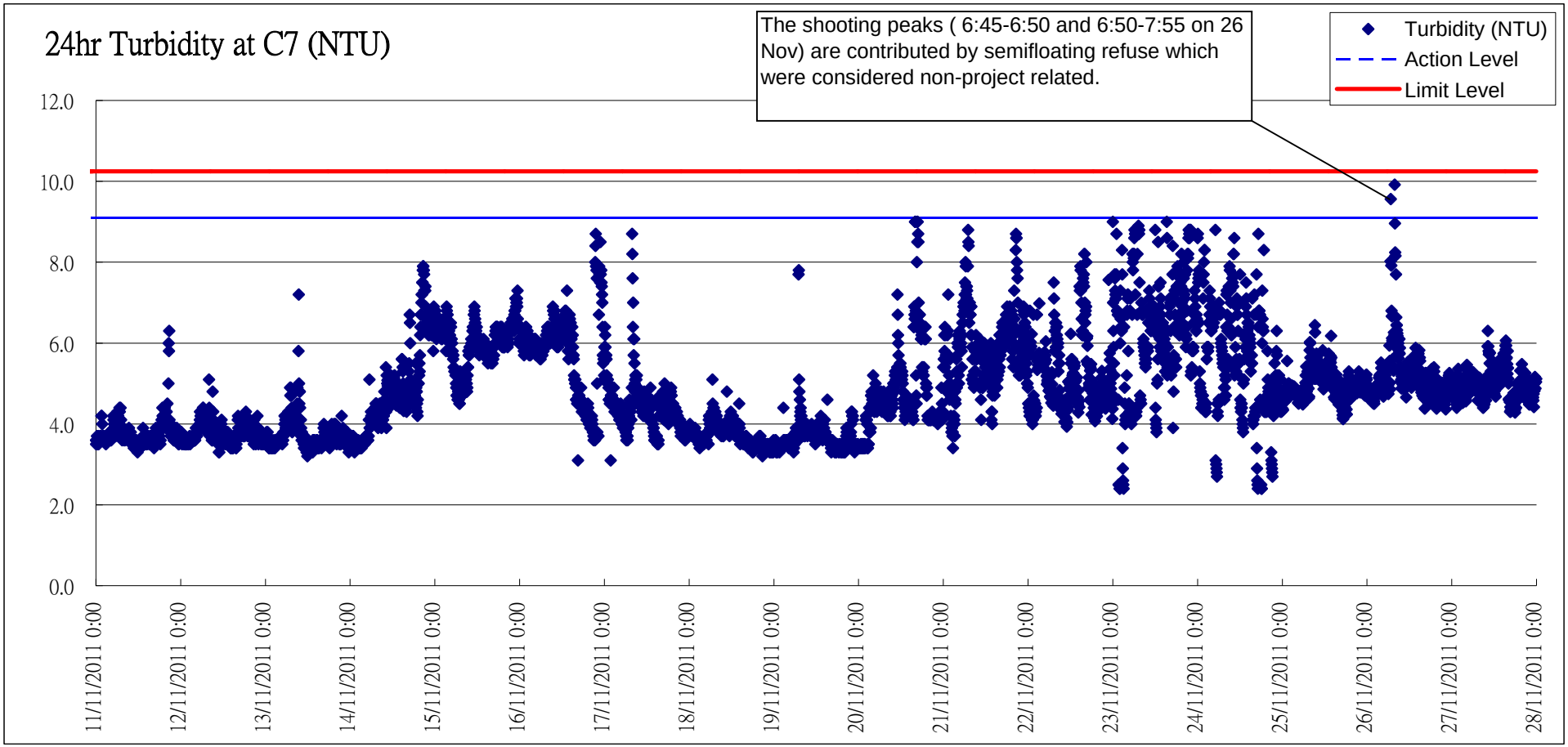
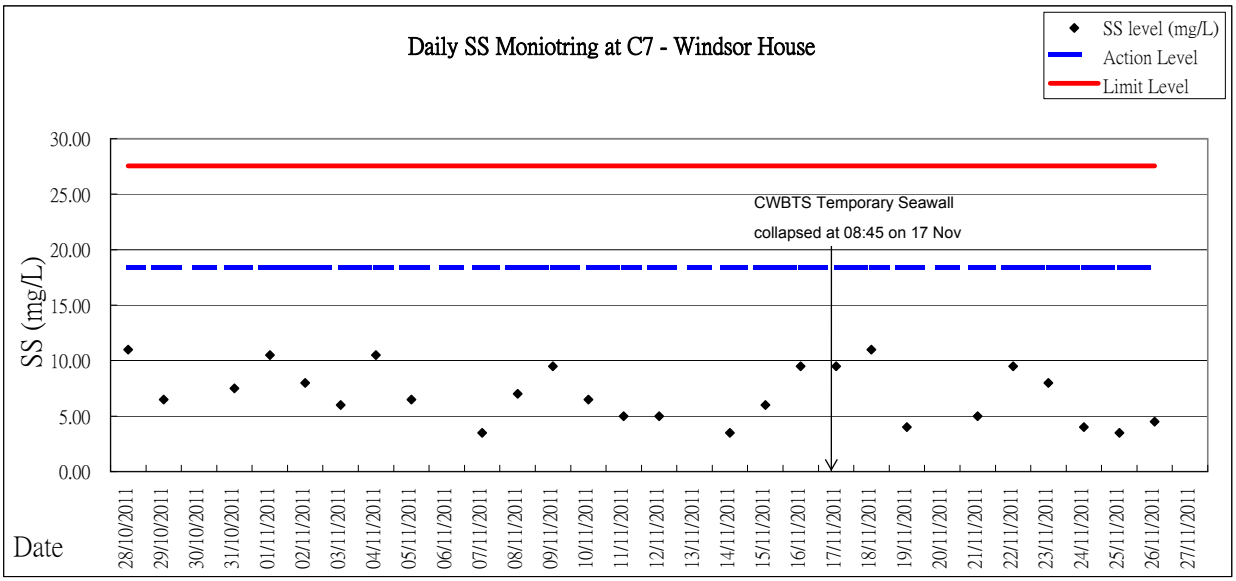
9/11/2011 0:00
10/11/2011 0:00
11/11/2011 0:00


24hr Turbidity at C7 (NTU)
The shooting peaks (6:45-6:50 and 6:50-7:55 on 26 Nov) are contributed by semifloating refuse which were considered non-project related.
Turbidity (NTU)
Action Level
Limit Level
12.0
10.0
8.0
6.0
4.0
2.0
0.0
11/11/2011 0:00
12/11/2011 0:00
13/11/2011 0:00
14/11/2011 0:00
15/11/2011 0:00
16/11/2011 0:00
17/11/2011 0:00
18/11/2011 0:00
19/11/2011 0:00
20/11/2011 0:00
21/11/2011 0:00
22/11/2011 0:00
23/11/2011 0:00
24/11/2011 0:00
25/11/2011 0:00
26/11/2011 0:00
27/11/2011 0:00
28/11/2011 0:00

Daily SS Monitoring at C7 - Windsor House

Date	Time	Weater Condition	Suspended Solids mg/L	
			Value	Average
28/10/11	11:20	Fine	10	11.00
	11:23		12	
29/10/11	8:30	Fine	6	6.50
	8:30		7	
31/10/11	13:15	Fine	7	7.50
	13:15		8	
1/11/11	12:50	Fine	11	10.50
	12:05		10	
2/11/11	11:30	Fine	7	8.00
	11:30		9	
3/11/11	11:30	Cloudy	7	6.00
	11:30		5	
4/11/11	11:10	Fine	7	10.50
	11:11		14	
5/11/11	13:30	Cloudy	7	6.50
	13:30		6	
7/11/11	9:55	Fine	3	3.50
	9:55		4	
8/11/11	12:00	Fine	7	7.00
	12:00		7	
9/11/11	8:15	Cloudy	10	9.50
	8:15		9	
10/11/11	11:10	Fine	7	6.50
	11:10		6	
11/11/11	14:20	Fine	5	5.00
	14:20		5	
12/11/11	10:00	Fine	6	5.00
	10:00		4	
14/11/11	15:00	Cloudy	3	3.50
	15:00		4	
15/11/11	8:15	Fine	6	6.00
	8:15		6	
16/11/11	12:10	Misty	9	9.50
	12:10		10	
17/11/11	11:00	Fine	9	9.50
	11:00		10	
18/11/11	12:45	Fine	12	11.00
	12:45		10	
19/11/11	9:10	Cloudy	3	4.00
	9:10		5	

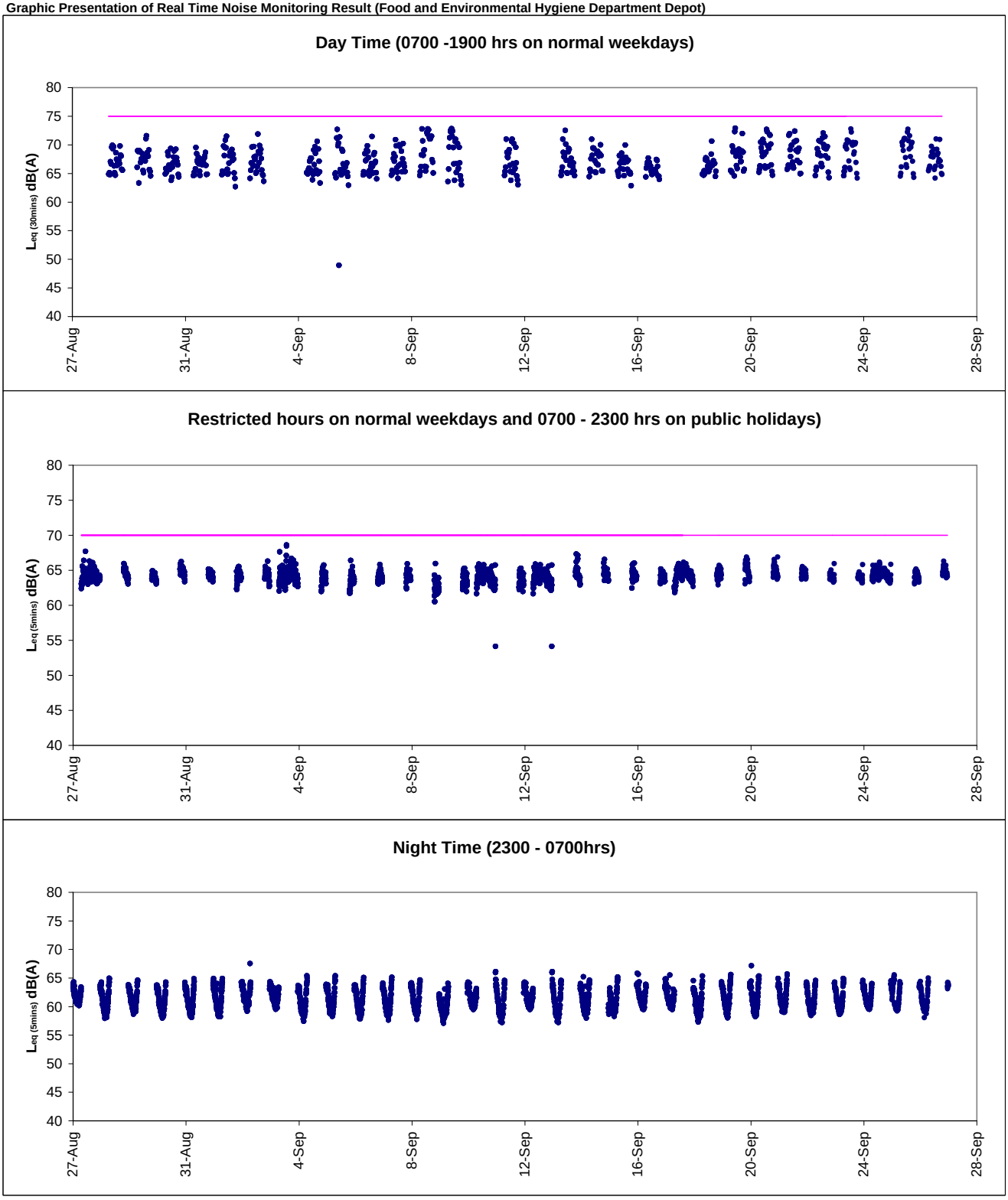
21/11/11	12:00	Cloudy	6	5.00
	12:00		4	
22/11/11	12:00	Cloudy	9	9.50
	12:00		10	
23/11/11	12:30	Cloudy	8	8.00
	12:30		8	
24/11/11	11:00	Fine	4	4.00
	11:00		4	
25/11/11	15:00	Cloudy	4	3.50
	15:00		3	
26/11/11	9:10	Fine	4	4.50
	9:11		5	



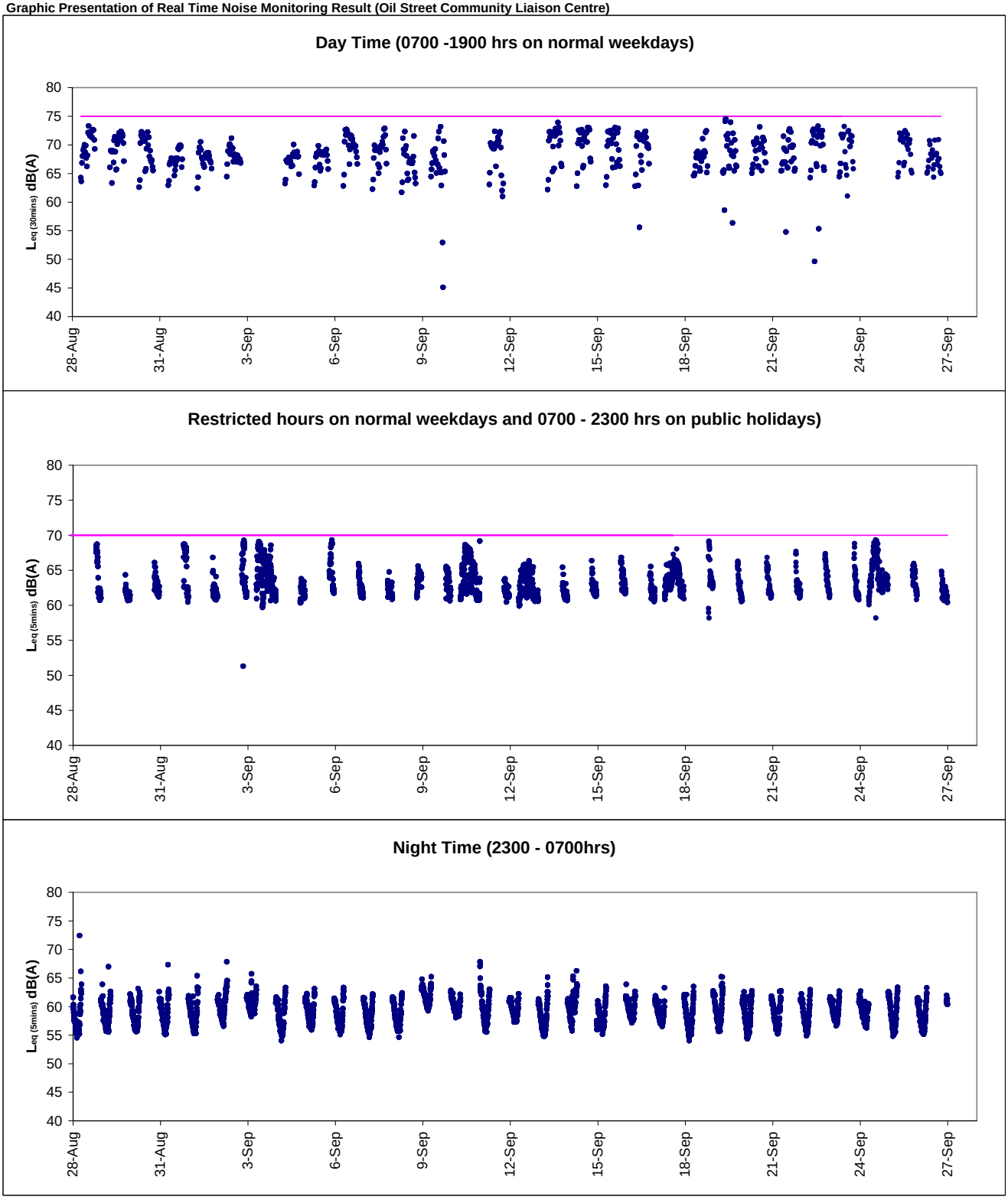
Appendix 4.4

Real-time Noise Monitoring Results and Graphical Presentations

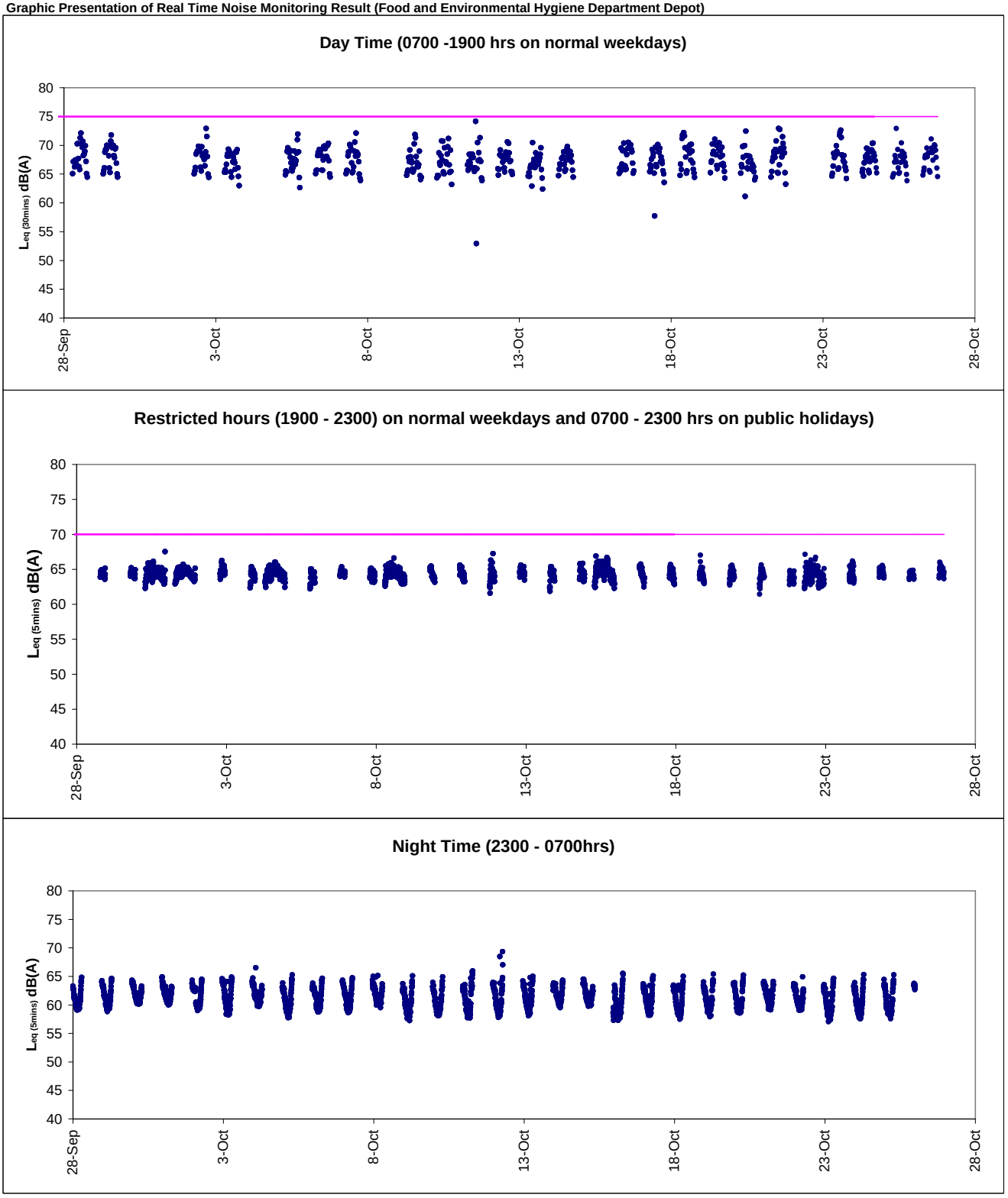
Graphic Presentation of Real Time Noise Monitoring Result (Food and Environmental Hygiene Department Depot)



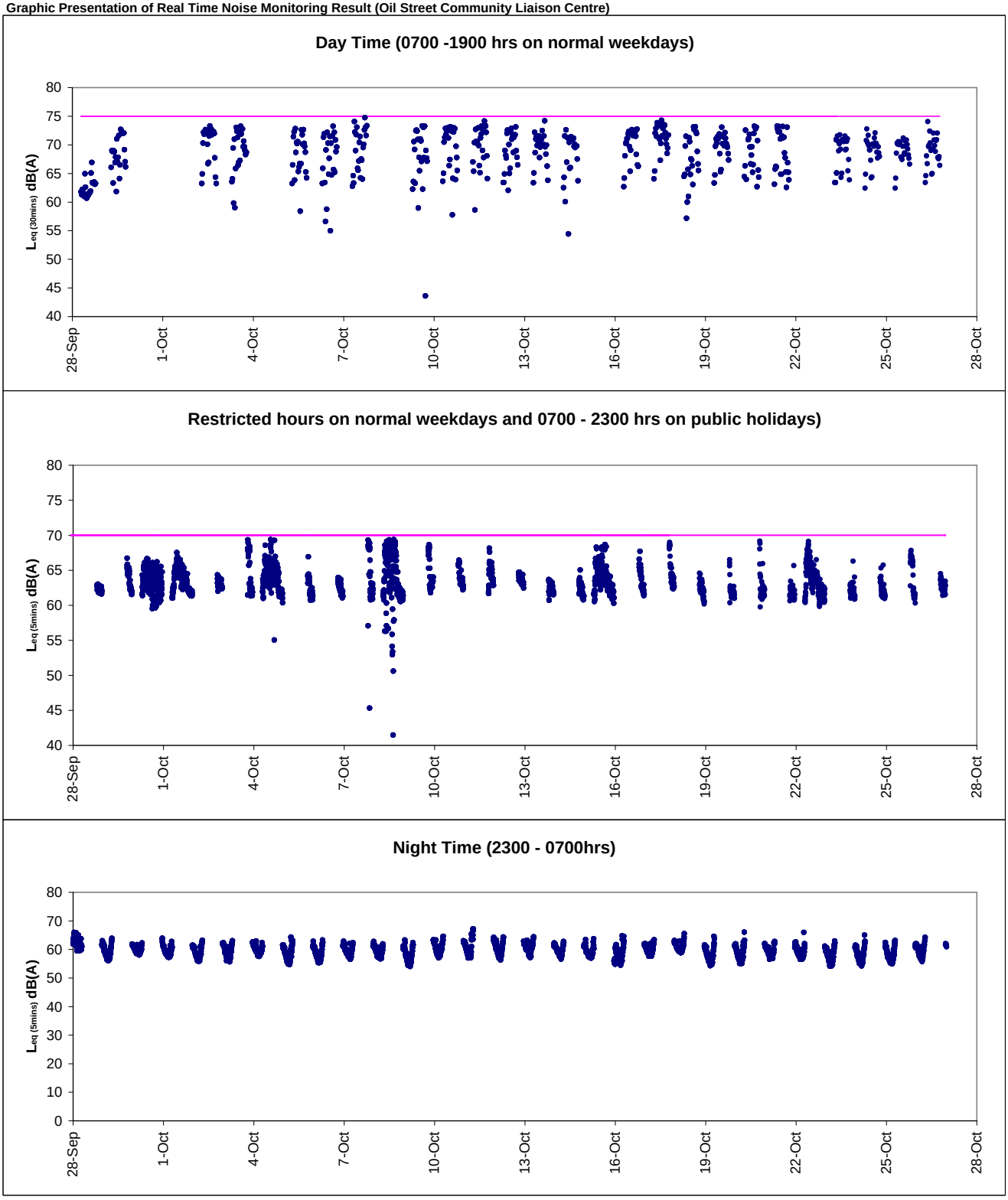
Graphic Presentation of Real Time Noise Monitoring Result (Oil Street Community Liaison Centre)



Graphic Presentation of Real Time Noise Monitoring Result (Food and Environmental Hygiene Department Depot)

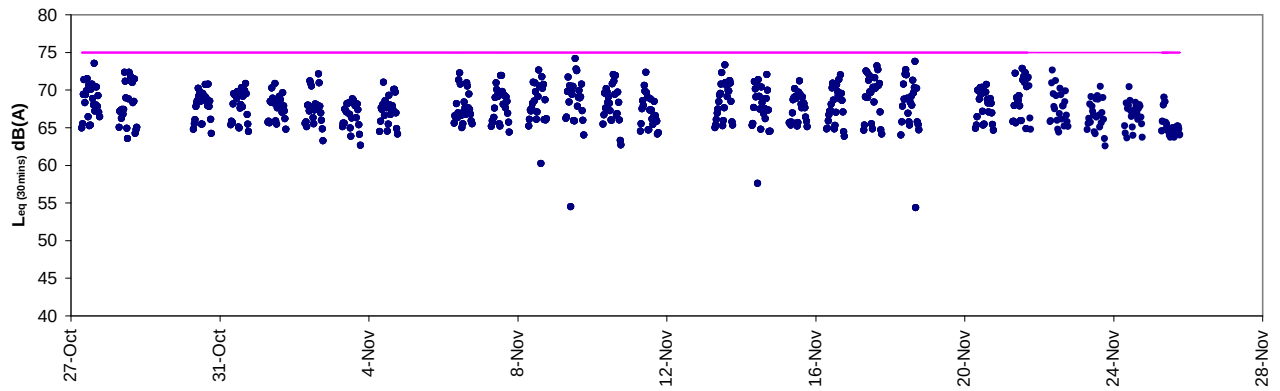


Graphic Presentation of Real Time Noise Monitoring Result (Oil Street Community Liaison Centre)

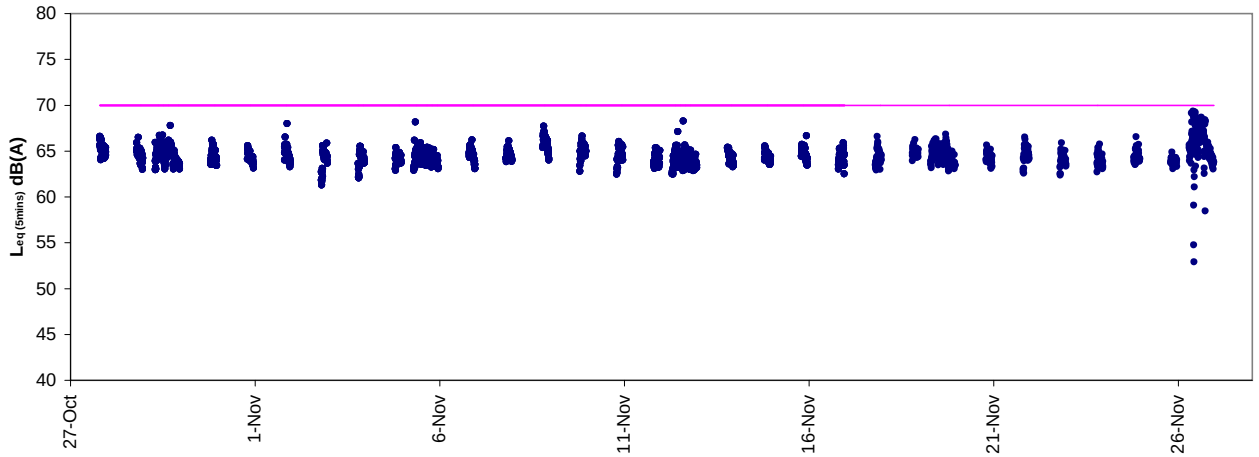


Graphic Presentation of Real Time Noise Monitoring Result (Food and Environmental Hygiene Department Depot)

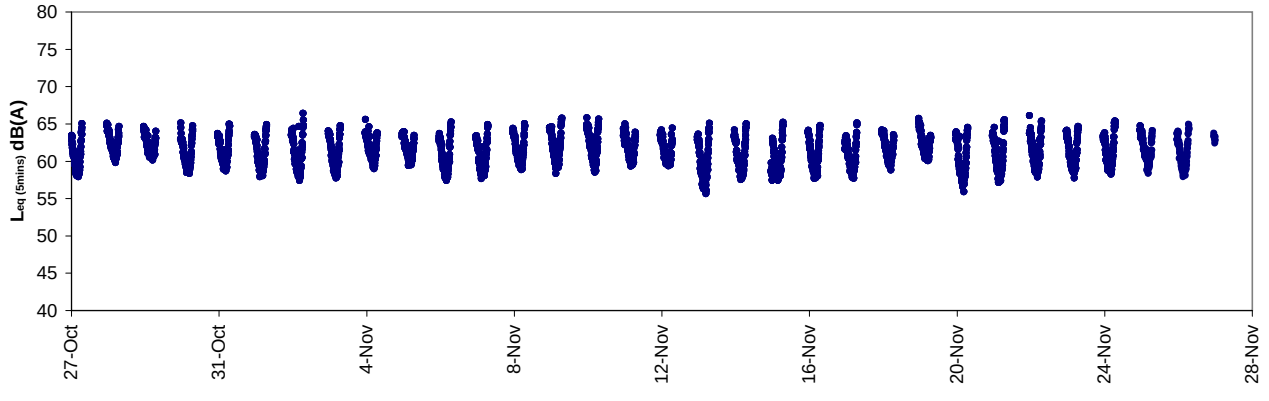
Day Time (0700 -1900 hrs on normal weekdays)



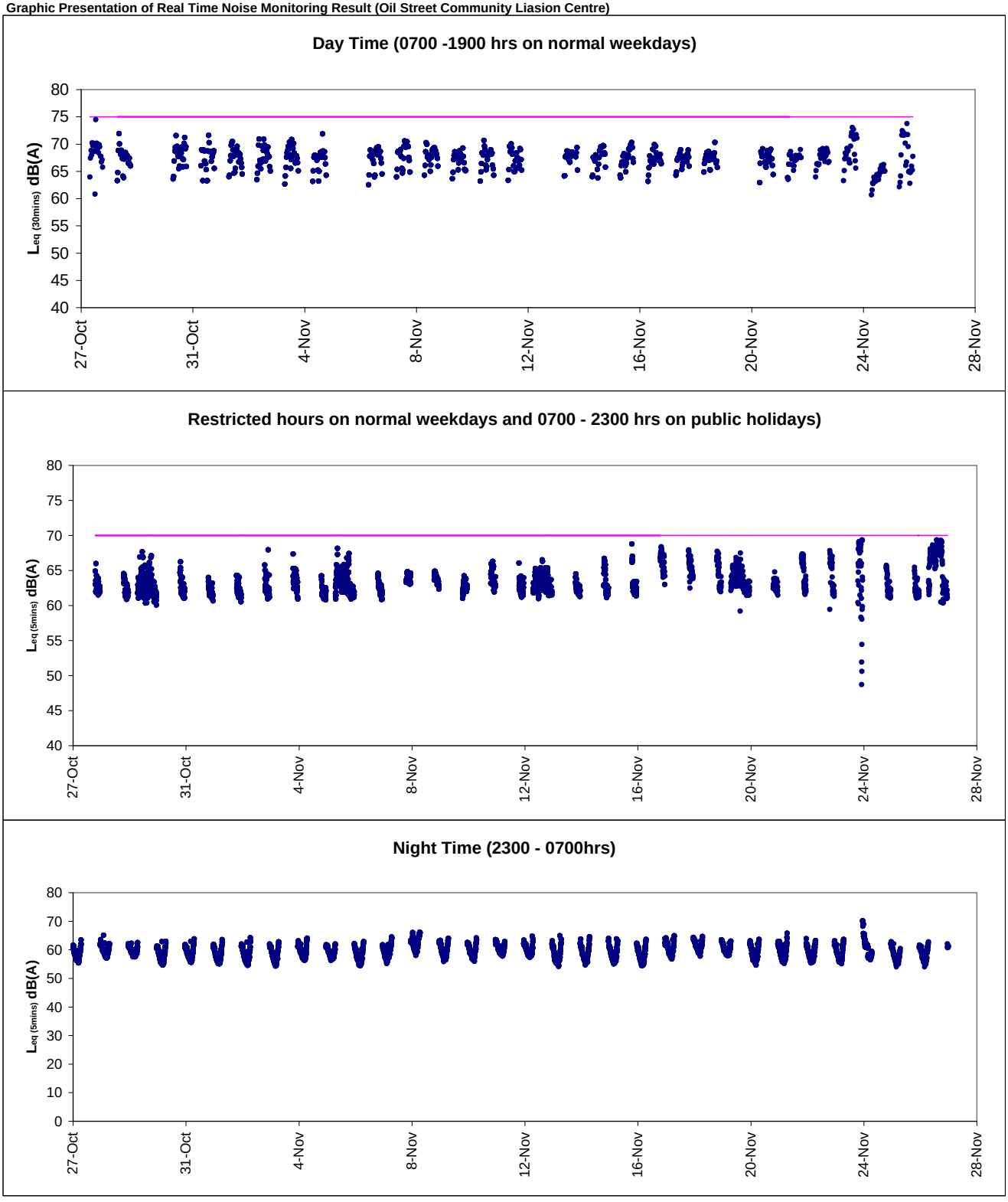
Restricted hours (1900 - 2300) on normal weekdays and 0700 - 2300 hrs on public holidays)



Night Time (2300 - 0700hrs)



Graphic Presentation of Real Time Noise Monitoring Result (Oil Street Community Liasion Centre)



Appendix 5.1

Event Action Plans

Event/Action Plan for Construction Noise

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
Action Level being exceeded	1. Notify ER, IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the IEC and Contractor on remedial measures required; 5. Increase monitoring frequency to check mitigation effectiveness. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Review the investigation results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Advise the ER on the effectiveness of the proposed remedial measures. (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. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Submit noise mitigation proposals to IEC and ER; 2. Implement noise mitigation proposals. (The above actions should be taken within 2 working days after the exceedance is identified)

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. 4. Identify source and investigate the cause of exceedance; 5. 5. Carry out analysis of Contractor's working procedures; 6. 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
ACTION LEVEL				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC and ER; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Check monitoring data submitted by ET; 2. Check Contractor's working method. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Notify Contractor. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate. (The above actions should be taken within 2 working days after the exceedance is identified)
2. Exceedance for two or more consecutive samples	1. Identify source; 2. Inform IEC and ER; 3. Advise the ER on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and ER; 8. If exceedance stops, cease additional monitoring. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ET on the effectiveness of the proposed remedial measures; 5. Supervise Implementation of remedial measures. (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. Ensure remedial measures properly implemented. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Submit proposals for remedial to ER within 3 working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate. (The above actions should be taken within 2 working days after the exceedance is identified)
LIMIT LEVEL				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform ER, Contractor and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures. (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. Ensure remedial measures properly implemented. (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 within 3 working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate. (The above actions should be taken within 2 working days after the exceedance is identified)
2. Exceedance for two or more consecutive samples	1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken; 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; 3. Supervise the implementation of remedial measures.	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. Ensure remedial measures properly implemented; 5. 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. (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 within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. 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)

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	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)	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, 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)	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)
Limit level being exceeded by more than one consecutive sampling days	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)	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, 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)	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)

Appendix 6.1

Complaints 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).	1) A valid Construction Noise Permit no. GW-RS0119-10 was granted from EPD since 18th Feb. 2010 for the dredging works which carry out at area for North Point Reclamation. 2) Officer from Marine Department, Police and EPD's officer attended the scene for inspection and investigation. 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. 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. 5) No further complaints were received from Mr. Tsang in the reporting month. The complaint is considered closed.	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).	1) A valid Construction Noise Permit no. GW-RS0119-10 was granted from EPD since 18th 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. 2) Officer from Marine Department, Police and EPD's officer attended the scene for inspection and investigation. 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. 4) No further complaints were received in the reporting month. The complaint is considered closed.	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.	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. 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. 3) No further complaints were received in the reporting month. The complaint is considered closed.	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.	1) Contractor for HY/2009/11 was granted valid Construction Noise Permit no. GW-RS0371-10 for their dredging works. 2) There was only 1 grab dredger operated by Contractor within NPR project site area for dredging works. 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. 4) It is considered as invalid from the EP and CNP point of view.	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.	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. 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. 3) It is considered as invalid complaint. No further complaints were received in the reporting month. The complaint is considered closed.	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)	1) Contractor for HY/2009/11has 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. 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. 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.	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	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. 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. 3) It is considered as invalid complaint. No further complaints were received in the reporting month. The complaint is considered closed.	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	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. 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. 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.	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	1) ET confirmed the following information with resident site staff on the complaint: • It was referred to the filling operation at North Point	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)		filling operation was louder than the traffic noise & 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; 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.	Reclamation of Central Wan Chai Bypass site area instead of part of Wanchai Development Phase II; • 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; • Flood light on the control mast of derrick barge have no lighting shields for the prevention of glare of flood lights; • No starting work on 7 Dec 2010 at 0630hours. 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; 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; 4) The absence of the lighting shields at flood light results in visual glare to the complainant at night-time. 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; 6) No further complaint was received after implementation of proposed measures	
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.	1) The concerned stockpile was a working stockpile under Contract HY/209/15 and was covered at night time after work. 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. 3) It is considered invalid but preventive actions can be taken because the stockpile is relatively large and easily visible by complainant. 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 5) The concern of mosquitoes breeding is out the scope of EM&A, the follow-up action is not reported in this monthly EM&A report.	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.	1) According to the RSS's record, there was no construction works undertaken under the EP-356/2009 during the concern time period. 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. 3) It is considered as invalid complaint under this Project.	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	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. 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. 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. 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. 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.	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.	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 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. 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. 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.	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.	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. 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. 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	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.	1) It was referred by AECOM to ET on 28 July 2011 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. 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. 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. 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.	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	1) It was referred by AECOM to ET on 8 August 2011 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 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. 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.	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	1) It was referred by AECOM to ET on 28 July 2011 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. 3) No noise exceedance was recorded at construction noise	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.	monitoring station at Victoria Centre on 25 July and 4 August 2011 during daytime while breaking and excavation works were undertaken during monitoring. 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.	
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	1) It was referred by AECOM to ET on 28 July 2011 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. 3) As a mitigation measure to minimize the noise nuisance in the vicinity of the residents, rock breaking activities will be started at 8am.	Closed
	08/08/2011				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. 5) Highways contacted the complainant on 15 August 2011 that the noisy rock breaking operation had been completed. *Remarks: There will be counted as two complaints in this complaint log.*	
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.	1) It was referred by AECOM to ET on 17 August 2011. 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. 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. 4) Contractors were advised to relocate the loose materials	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.	1) Confirmed with the Resident Site Staff that the construction works were referred to the Contractor HK/2009/01. 2) The Excavator mounted breaker at Convention Avenue and Drilling rig at HKCEC1 reclamation area were the dominant construction noise source during this period. 3) The drilling rig at HKCEC1 reclamation area and excavator mounted breaker at Convention Avenue were then temporary suspended after received the complaint. 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. 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. 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.	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.	1) It was referred by AECOM to ET on 29 August 2011. Confirmed with the Resident Site Staff that the • construction works were referred to the Contractors HY/2009/11 and HY/2009/19. • The pump is located on the site area of HY/2009/19 • 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 excluse the outfall. • An ad hoc inspection of the effectiveness of garbage defender was conducted with RSS (CWB project	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
					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. • Daily cleaning near the water intake was conducted twice a day by contractor HY/2009/19. • 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 2) According to the complaint letter from Cayley Property, the outcomes of the preventive measures were not complying wih their expectation. 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. 4) All daily cleaning actions had been taken by contractor to minimize floating refuse inside the construction site. 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. 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. 7) Contractors have fulfilled the requirement of site cleanness and no exceedance was recorded during Water Quality Monitoring. It is consider 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	
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)	1) RSS notified ET to carry out investigation on 17 October 2011. 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 reprovision works along the Harbour Road. The plants including the excavator have been checked before using	Closed

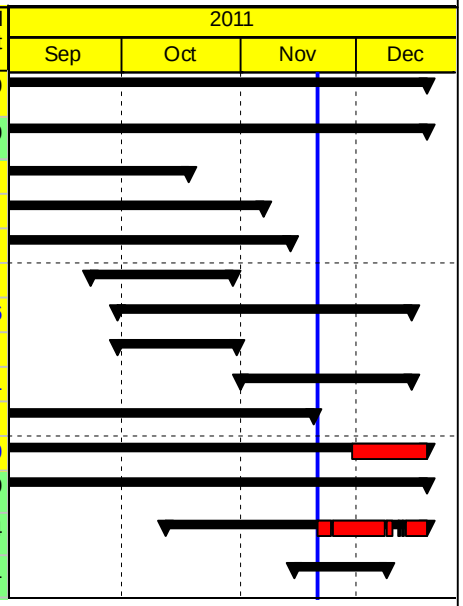
Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
					at the site. However, the polluted fumes and exhausted from the excavator was caused due to insufficient maintenance of the plant after using at site. 3) After receiving the complaint, the excavator was then removal off-site for checking and maintenance works on 17 October 2011. 4) Contractor was reminded to enhance regular checking and maintenance to all plants at site. 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.	
111104	04/11/2011	Mr. Liu from LCSD 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.	1) ET confirmed with the Resident Site Staff that • 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. • 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. 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.	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	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	Keep in view

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
					CNP was checked by the police officer. 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. 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. 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. Futhermore, Construction Noise Permit should be checked and in place for the construction works during restricted hour 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.	

Appendix 8.1

Construction Programme of Individual Contracts

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float
	Reclamation in NPR3 ver.9.5 2011_11_21	115	23	21-Jul-11 A	19-Dec-11	-39
	Landside	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
	Seaside	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

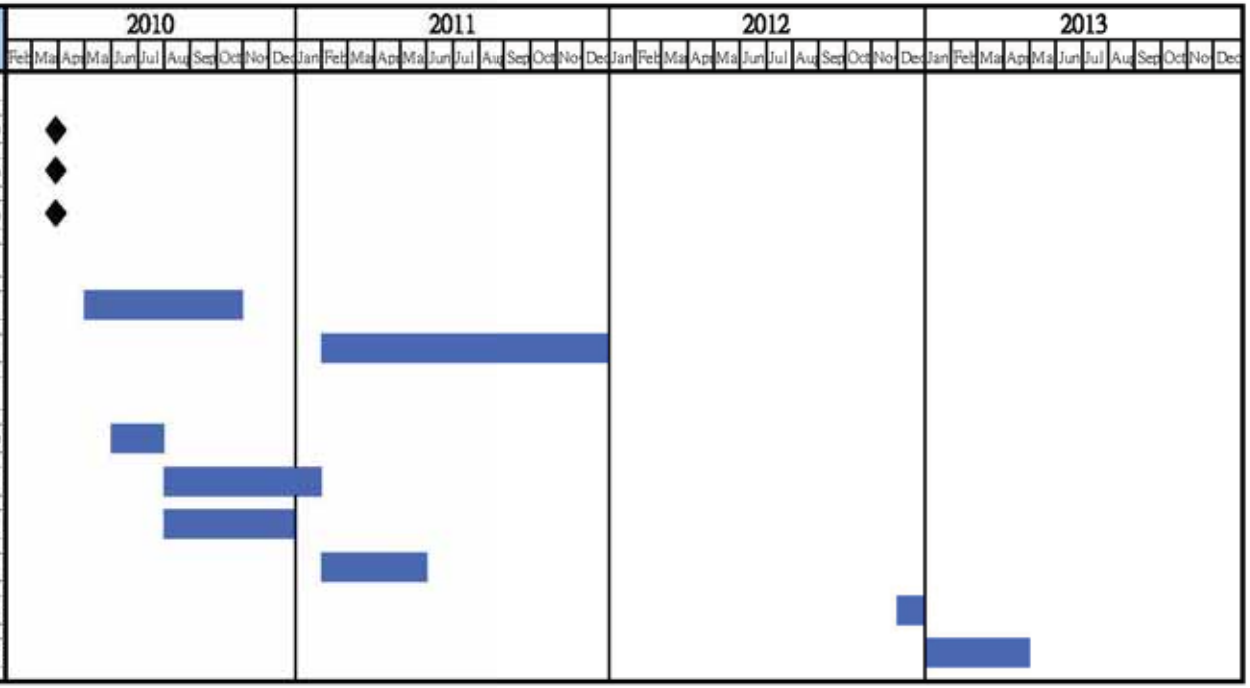


Contract No. HK/2009/01

Contract Title : Wan Chai Development Phase II - Central - Wan Chai Bypass at HKCEC

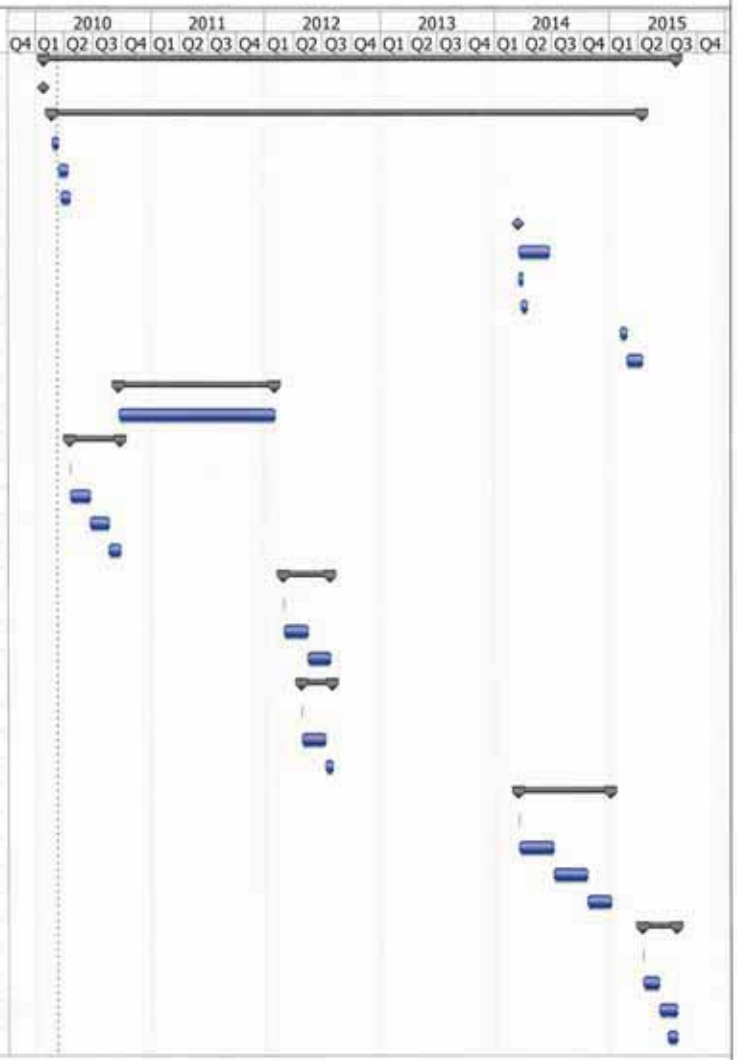
Working Programme for Marine Works (Dredging and Backfilling)

ACTIVITY	START	FINISH
Submissions before Works Commencement		
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
Cross Harbour Watermains from WCN to TST (DP6)		
Trench dredging for marine watermains installation	29/4/10	28/10/10
Backfilling for watermain	28/1/11	14/12/11
Reclamation Works at HKCEC Water Channel (DP3)		
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)

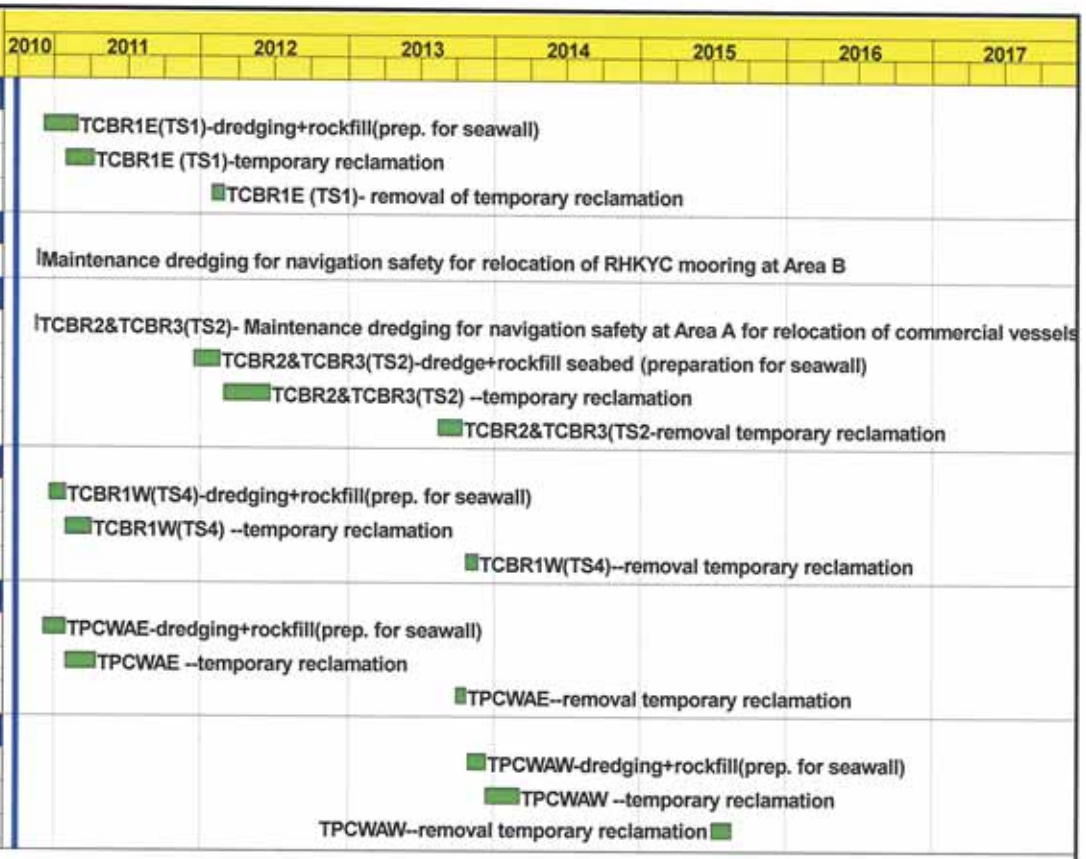
ID	Task Name	Duration	Start
1	**HK/2009/02-Marine & Reclamation Works**	**2008 d**	**Thu 28/1/10**
2	Contract Commencement	0 d	Thu 28/1/10
3	**General**	**1879 d**	**Mon 22/2/10**
4	Submission & obtain approval for marine GI	21 d	Mon 22/2/10
5	Stage 1 Marine GI for reclamation	30 d	Mon 15/3/10
6	Engineer's Design review for Dredging of WCR1, WCR2 & WCR4	30 d	Mon 22/3/10
7	Relocation of New Star Ferry Pier	0 d	Tue 18/3/14
8	Demolition of Existing Star Ferry Pier	100 d	Tue 18/3/14
9	Stage 2 Marine GI for Reclamation	14 d	Tue 18/3/14
10	Engineer's Design review for Dredging of WCR3	21 d	Tue 25/3/14
11	Complete Diversion of Hung Hing Road Traffic Back to Original	20 d	Fri 6/2/15
12	Excavate & remove top of d-wall for permanet seawall construction	50 d	Wed 25/2/15
13	**Submarine Outfall**	**500 d**	**Tue 21/9/10**
14	Dredging, Laying and Backfilling of Submarine Outfall Pipe at Sea	500 d	Tue 21/9/10
15	**Phase 1 - WCR1**	**158 d**	**Wed 21/4/10**
16	Mobilization of plants	1 d	Wed 21/4/10
17	Seabed dredging	63 d	Wed 21/4/10
18	Bedding Filling and Permanent seawall (precast cassion)	60 d	Tue 22/6/10
19	Bulk reclamation	37 d	Fri 20/8/10
20	**Phase 2 - WCR2**	**149 d**	**Thu 1/3/12**
21	Mobilization of plants	1 d	Thu 1/3/12
22	Temp seawall and Seabed dredging	77 d	Thu 1/3/12
23	Bulk reclamation	73 d	Wed 16/5/12
24	**Phase 3 - TWCR4 & WCR4**	**98 d**	**Sat 28/4/12**
25	Mobilization of plants	1 d	Sat 28/4/12
26	Temp Seawall and Seabed dredging	75 d	Sat 28/4/12
27	Bulk & temp reclamation	24 d	Wed 11/7/12
28	**Phase 4 - WCR3**	**294 d**	**Tue 18/3/14**
29	Mobilization of plants	1 d	Tue 18/3/14
30	Seabed dredging for Permanent Seawall	112 d	Tue 18/3/14
31	Backfill and permanent seawall (precast cassion)	108 d	Tue 8/7/14
32	Bulk reclamation	74 d	Fri 24/10/14
33	**Phasee 5 - Construct Permanent Seawall Blocks along curved coastline & Remove TWCR4**	**105 d**	**Wed 15/4/15**
34	Mobilization of plants	1 d	Wed 15/4/15
35	Dredging and Filling for permanent seawall construction	50 d	Wed 15/4/15
36	Construction of Permanent Seawall Blocks for curved coastline	56 d	Wed 3/6/15
37	Remove temp seawall and reinstate the location of TWCR4	30 d	Mon 29/6/15



Project: Reclamation Works Programm
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
TCBR1E (TS1 Area)					
105	1	TCBR1E(TS1)-dredging+rockfill(prep. 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
TCBR4					
100	1	Maintenance dredging for navigation safety for	7	20NOV10*	26NOV10
TCBR2 + TCBR3 (TS2 Area)					
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
TCBR1W (TS4 Area)					
125	1	TCBR1W(TS4)-dredging+rockfill(prep. for seawall)	40	19DEC10*	27JAN11
130	1	TCBR1W(TS4) --temporary reclamation	68	28JAN11	05APR11
165	1	TCBR1W(TS4)--removal temporary reclamation	26	27OCT13*	21NOV13
TPCWAE					
135	1	TPCWAE-dredging+rockfill(prep. for seawall)	55	03DEC10*	26JAN11
140	1	TPCWAE --temporary reclamation	77	27JAN11	13APR11
170	1	TPCWAE--removal temporary reclamation	28	28SEP13*	25OCT13
TPCWAW					
145	1	TPCWAW-dredging+rockfill(prep. 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

?Primavera Systems, Inc.

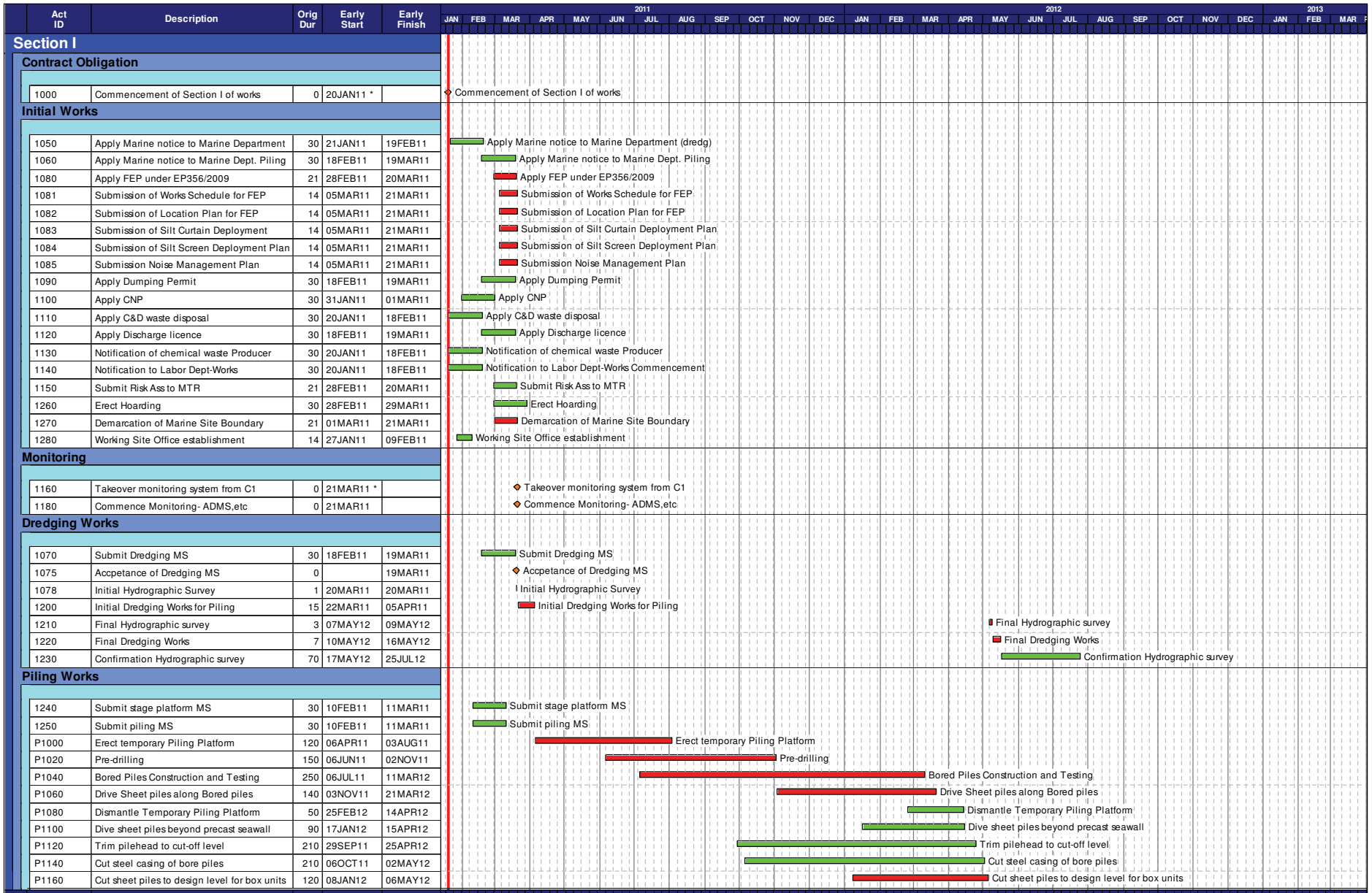
EP02

CHINA STATE CONSTRUCTION ENGG LTD

CONTRACT NO. HY/2009/15: CENTRAL
WAN CHAI BYPASS- TUNNEL (CBTS SECTION)

Prepared based on IWP Rev. 0

Date Prepared: 28 Oct 2010



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 Bypass 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