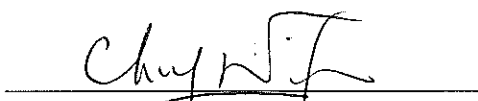


Leader and JEC Joint Venture

Contract No. DC/2009/23
HATS Stage 2A – Upgrading of
Preliminary Treatment Works at
North Point, Wan Chai East and Central

Monthly Environmental
Monitoring and Audit Report
June 2014

(Version 1.0)

Certified By 
(Environmental Team Leader)

REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

CINOTECH accepts no responsibility for changes made to this report by third parties

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CE/Harbour Area Treatment Scheme
Drainage Services Department
Sewage Services Branch
Harbour Area Treatment Scheme Division
5/F, Western Magistracy
2A Pokfulam Road, Hong Kong

18 July 2014
By Post

Attn: Mr. Danny Tang

Dear Sir,

**Agreement No. CE 8/2009(EP)
Harbour Area Treatment Scheme (HATS) Stage 2A
Independent Environmental Checker for Construction Phase – Investigation**

**Contract No. DC/2009/23
Upgrading of Preliminary Treatment Works at North Point, Wan Chai East and Central
Condition 4.4 – Monthly EM&A Report for June 2014 (no. 41) Version 1.0**

I refer to the revised Monthly EM&A for June 2014 (version 1.0) submitted by ETL on 18 July 2014 via email. In accordance with Condition 4.4 of Environmental Permit No. EP-322/2008/G, I hereby verify the captioned Monthly EM&A Report.

Yours faithfully,
for MOTT MACDONALD HONG KONG LIMITED



Dr. Anne F Kerr
Independent Environmental Checker

c.c. Ove Arup & Partners HK Ltd.
Leader and JEC JV
Cinotech Consultants Ltd.

Mr. Ted Y F Tang
Mr. Rex Lau
Dr. Priscilla Choy

Fax: (2370 4377)
By email
By email

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ABBREVIATION AND ACRONYM

AL Levels	Action and Limit Levels
DSD	Drainage Services Department
E / ER	Engineer/Engineer's Representative
EIA	Environmental Impact Assessment
EM&A	Environmental Monitoring and Audit
EMIS	Environmental Mitigation Implementation Schedule
EP	Environmental Permit
EPD	Environmental Protection Department
ET	Environmental Team
HATS 2A	Harbour Area Treatment Scheme Stage 2A
HVS	High Volume Sampler
IEC	Independent Environmental Checker
RE	Resident Engineer
RH	Relative Humidity
QA/QC	Quality Assurance / Quality Control
SLM	Sound Level Meter
WMP	Waste Management Plan

EXECUTIVE SUMMARY

Introduction

1. This is the 41st Monthly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Limited for DSD Contract No. DC/2009/23 “HATS Stage 2A – Upgrading of Preliminary Treatment Works at North Point, Wan Chai East and Central” (The Project) which documents the key information of EM&A and environmental monitoring works by Contract DC/2007/23 HATS Stage 2A with the same Environmental Permit (Permit No. EP-322/2008/G) for June 2014.
2. The site activities undertaken for in the reporting month included:
 - Wan Chai East PTW:
 - ELS work for pile cap;
 - Construction of concrete plinth at the inlet pumping station (Civil);
 - Pump Replacement Work at the inlet pumping station (E&M);
 - Installation of Cable tray in Motor Hall of Inlet Pumping Station (E&M);
 - Installation of steel cage and wall opening for sewage pump replacement at flow distribution chamber (Stage 2).
 - North Point PTW
 - T & C of the new FSGT Building (E&M);
 - Cable tray and cable laying (E&M);
 - Cleaning of the DN1600 pipeline and carry out CCTV;
 - Suspension of pump no. 1,2,3, for final connection;
 - Enhancement work for Construction of RM 2 at the existing pumping station.
 - Central PTW
 - Substructure construction for FSGT Building;
 - Demolition of Existing Fine Screen Chamber, Grit Trap, Medium Screen Channels and Temporary Screening and Grit Handling Area;
 - Modification of shoring system for Rising Main No.2;
 - Electrical work of sewage pump replacement at inlet pumping station (Sewage pump No.3) (E&M);
 - Pre-bore socket H-Pile;
 - External wall finishing work.

Environmental Monitoring Works

3. The environmental monitoring works of the Project was conducted by the ET for the Contract: DC/2007/23 under HATS 2A with same Environmental Permit and in accordance with the EM&A Manual. The monitoring results were checked and reviewed. Site audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.
4. Summary of the non-compliance of the reporting month is tabulated in **Table I**.

Table I Summary Table for Non-compliance Recorded in the Reporting Month

Monitoring Station	Parameter	No. of Exceedance		No. of Exceedance Due to the Project		Action Taken
		Action Level	Limit Level	Action Level	Limit Level	
AM1	1-hr TSP	0	0	0	0	N/A

	24-hr TSP	0	0	0	0	N/A
AM2	1-hr TSP	0	0	0	0	N/A
	24-hr TSP	0	0	0	0	N/A
AM3	1-hr TSP	0	0	0	0	N/A
	24-hr TSP	0	0	0	0	N/A
AM4_2	1-hr TSP	0	0	0	0	N/A
	24-hr TSP	0	0	0	0	N/A
NM1	Noise	0	0	0	0	N/A
NM2	Noise	0	1	0	0	N/A
NM3	Noise	0	0	0	0	N/A

Note: Since the site area where air monitoring station AM4 was located had to be returned to DSD for another Works Contract, AM4 was relocated to AM4_2 on 24 September 2012.

1-hour TSP Monitoring

- All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

24-hour TSP Monitoring

- All 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

Construction Noise

- All Construction Noise monitoring was conducted as scheduled in the reporting month. No Action Level exceedance was recorded, while one non-project related Limit Level exceedance was recorded during the restricted hour noise monitoring on 22nd June 2014 by the ET of DC/2007/23 at NM2. Details of the exceedance could be referred to **Appendix E**.

Environmental Licenses and Permits

- Licenses/Permits granted to the Project include the Environmental Permit (EP) and Registered as a Chemical Waste Producer for North Point, Wan Chai East and Central PTWs sites; water discharge licenses of North Point, Wan Chai East and Central PTWs; also the new Construction Noise Permits (GW-RS0643-14) for construction works at Wan Chai East PTW in the reporting month.

Environmental Mitigation Implementation Schedule

- According to the EIA Report Section 3.74, 4.56, 6.384, 9.154 and 13.44, air quality, noise, water quality, waste management and landscape and visual would be the key environmental issues and mitigation measures shall be implemented during the construction phase. Details of the implementation of mitigation measures are provided in the **Appendix I**.

Key Information in the Reporting Month

10. Summary of key information in the reporting month is tabulated in **Table II**.

Table II Summary Table for Key Information in the Reporting Month

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Complaint received	0	---	N/A	N/A	---
Status of submissions under EP	0	Monthly Environmental Monitoring and Audit Report for May 2014	Submitted to EPD on 16 June 2014	No Comment	---
Notifications of any summons & prosecutions received	0	---	N/A	N/A	---

Summary of Complaints and Prosecutions

11. No environmentally related summons, prosecutions or complaints were received for the Project in the reporting month.

12. There were no environmentally related summons, prosecutions or complaints were received since the commencement of the Project. The Complaint Log is presented in **Appendix J**.

Future Key Issues

13. Major site activities for the coming two months include:

Wan Chai East PTW:

- Construction of concrete plinth at the inlet pumping station (Civil);
- Pump Replacement Work at the inlet pumping station (E&M);
- Installation of Cable tray in Motor Hall of Inlet Pumping Station (E&M);
- Installation of steel cage and wall opening for sewage pump replacement at flow distribution chamber (Stage 2).

North Point PTW

- T & C of the new FSGT Building (E&M);
- Demolition of Existing Grit Handling Area;
- Suspension of pump no. 1,2,3, for final connection;
- Enhancement work for Construction of RM 2 at the existing pumping station (night works).

Central PTW

- Substructure construction for FSGT Building;
- Demolition of Existing Fine Screen Chamber, Grit Trap, Medium Screen Channels and Temporary Screening and Grit Handling Area;
- Modification of shoring system for Rising Main No.2;
- Electrical work of sewage pump replacement at inlet pumping station (Sewage pump No.3) (E&M);
- Pre-bore socket H-Pile;
- External wall finishing work.

14. The environmental concerns in coming months are mainly surface runoff and waste water control in the wet season. Other concerns including noise generated from construction works; dust emission due to strong wind erosion and vehicle movements, and inappropriate storage of construction equipments within the tree protective zones.

1. INTRODUCTION

Background

- 1.1 The Project ‘HATS Stage 2A - Upgrading of Preliminary Treatment Works at North Point, Wan Chai East and Central with Contract No: DC/2009/23’ mainly comprises the following major works:
- Decommissioning, demolition and removal of existing structures and buildings, including the associated E&M works;
 - Relocation of sewers, control room, workshop equipment and the associated E&M works; and
 - Construction of new buildings and structures.
- 1.2 The general location plan of the Project is shown in **Figure 1A** to **1C**.
- 1.3 The Project is under Harbour Area Treatment Scheme (HATS) Stage 2A and is a designated project (Register No. : AEIAR-121/2008). The environmental permit: (Permit No. EP-322/2008/G) which was issued on 9th May 2014 to the Drainage Services Department (hereinafter called the DSD) as the Permit Holder.
- 1.4 Leader and JEC Joint Venture (hereafter called the LJJV) was commissioned by the DSD to undertake the construction of the Contract No. DC/2009/23 “Upgrading of Preliminary Treatment Works at North Point, Wan Chai East and Central”. The date of commencement of construction of the Project is on 14th February 2011.
- 1.5 Cinotech Consultants Limited was commissioned by LJJV to undertake the Environmental Monitoring and Audit (EM&A) works for the project and was appointed as the Environmental Team (ET) of the Project under Condition 2.1 of the EP.
- 1.6 This is the 41st monthly EM&A report summarizing the EM&A works conducted for the Project in June 2014.

Project Organizations

- 1.7 The contacts of the Project are shown in **Table 1.1** and the organization chart of ET for Contract is shown in **Figure 2**.

Table 1.1 Key Project Contacts

Party	Role	Name	Position	Phone No.
Drainage Services Department	Project Proponent	Mr. P K Kwok	Senior Engineer 2	2159 3403
Ove Arup & Partners Hong Kong Ltd	Engineer’s Representative	Mr. Ted Tang	Principal Resident Engineer	2370-4311
	Coordinator	Ms. Natalie Kwok	Resident Engineer	6794 8844
Cinotech	Environmental Team	Dr. Priscilla Choy	ET Leader	2151 2089
		Ms. Janet Wai	Project Coordinator & Audit Team Leader	2151 2078

Party	Role	Name	Position	Phone No.
Mott MacDonald	Independent Environmental Checker	Dr. Anne Kerr	Independent Environmental Checker	28285757
Leader and JEC Joint Venture	Contractor	Mr. Vincent Chan	Site Agent	9650 9410
		Mr. Lawrence Lam	Environmental Officer	9650 9410

Construction Programme

1.8 The site activities undertaken in the reporting month included:

Wan Chai East PTW:

- ELS work for pile cap;
- Construction of concrete plinth at the inlet pumping station (Civil);
- Pump Replacement Work at the inlet pumping station (E&M);
- Installation of Cable tray in Motor Hall of Inlet Pumping Station (E&M);
- Installation of steel cage and wall opening for sewage pump replacement at flow distribution chamber (Stage 2).

North Point PTW

- T & C of the new FSGT Building (E&M);
- Cable tray and cable laying (E&M);
- Cleaning of the DN1600 pipeline and carry out CCTV;
- Suspension of pump no. 1,2,3, for final connection;
- Enhancement work for Construction of RM 2 at the existing pumping station.

Central PTW

- Substructure construction for FSGT Building;
- Demolition of Existing Fine Screen Chamber, Grit Trap, Medium Screen Channels and Temporary Screening and Grit Handling Area;
- Modification of shoring system for Rising Main No.2;
- Electrical work of sewage pump replacement at inlet pumping station (Sewage pump No.3) (E&M);
- Pre-bore socket H-Pile;
- External wall finishing work.

Summary of EM&A Requirements

1.9 The EM&A programme requires construction phase monitoring for air quality and construction noise, landscape and visual and environmental site audit. The EM&A requirements for each parameter are described in the following sections, including:

- All monitoring parameters;
- Action and Limit levels for all environmental parameters;
- Event Action Plans;
- Environmental mitigation measures, as recommended in the project EIA study final report; and
- Environmental requirements in contract documents.

1.10 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in **Section 4** of this report.

- 1.11 This report presents the monitoring results, observations, locations, equipment, period, for required monitoring parameter namely dust, noise levels, and audit works conducted for the Project in June 2014. For the methodology and QA/QC procedures of the monitoring parameters, please refer to the monthly report for the Contract DC/2007/23.

2. AIR QUALITY

Monitoring Requirements

- 2.1 1-hour and 24-hour TSP monitoring were conducted to monitor the air quality. **Appendix A** shows the established Action/Limit Levels for the environmental monitoring works.

Monitoring Locations

- 2.2 Four designated monitoring stations, AM1, AM2, AM3 and AM4_2 were selected for impact dust monitoring for the Project. **Table 2.1** describes the air quality monitoring locations, which are also depicted in **Figure 1A** to **1C**.

Table 2.1 Locations for Air Quality Monitoring

Monitoring Station	Monitored by	Location of Measurement
AM1	DC/2007/23	Chan's Creative School
AM2		Hong Kong & Islands Regional Office, WSD
AM3		Wan Chai East PTW
AM4_2		A Location next to Sheung Wan Fire Station

Note: Since the site area where air monitoring station AM4 was located had to be returned to DSD for another Works Contract, AM4 was relocated to AM4_2 on 24 September 2012.

Monitoring Equipment

- 2.3 **Table 2.2** summarizes the equipment used in the impact air monitoring programme. Copies of calibration certificates are provided in Annex H of DC/2007/23 monthly EM&A report.

Table 2.2 Air Quality Monitoring Equipment

Monitoring Station	Model and Make	
	HVS Sampler	Calibrator
AM1	GMWS-2310 ACCU-VOL	CM-AIR-43
AM2	GMWS-2310 ACCU-VOL	
AM3	GMWS-2310 ACCU-VOL	
AM4_2	GMWS-2310 ACCU-VOL	

Note: Since the site area where air monitoring station AM4 was located had to be returned to DSD for another Works Contract, AM4 was relocated to AM4_2 on 24 September 2012.

Monitoring Parameters, Frequency and Duration

- 2.4 **Table 2.3** summarizes the monitoring parameters and frequencies of impact dust monitoring for the whole construction period. The air quality monitoring schedule for the reporting period is shown in **Appendix B**.

Table 2.3 Impact Dust Monitoring Parameters, Frequency and Duration

Monitoring Station	Parameter	Period	Frequency
All monitoring locations	1-hour TSP	0700-1900 hrs	3 times/ every 6 days
	24-hour TSP	0000-2400 hrs	once in every 6 days

Monitoring Methodology and QA/QC Procedure

2.5 The monitoring methodology and QA/QC procedures are presented in the monthly report for Contract DC/2007/23.

Results and Observations

2.6 **Table 2.4** summarizes the monitoring results at AM1, AM2, AM3 and AM4_2 in reporting month.

Table 2.4 Summary of 1-hour and 24-hour TSP Monitoring Result in Reporting Month

Air Quality Monitoring Station	Average $\mu\text{g}/\text{m}^3$	Range $\mu\text{g}/\text{m}^3$	Action Level $\mu\text{g}/\text{m}^3$	Limit Level $\mu\text{g}/\text{m}^3$
1 hour TSP				
AM1	117	98 - 152	340	500
AM2	118	98 - 141	352	
AM3	119	93 - 155	355	
AM4_2	139	111 - 179	393	
24 hours TSP				
AM1	82	75 - 96	185	260
AM2	78	73 - 82	182	
AM3	79	76 - 84	181	
AM4_2	85	70 - 98	211	

Note: Since the site area where air monitoring station AM4 was located had to be returned to DSD for another Works Contract, AM4 was relocated to AM4_2 on 24 September 2012.

- 2.7 All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. Summary of exceedance is presented in **Appendix E**.
- 2.8 All 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. Summary of exceedance is presented in **Appendix E**.
- 2.9 The monitoring data and graphical presentations of 1-hour and 24-hour TSP monitoring results are extracted from the monthly reports of Contract DC/2007/23 and shown in **Appendix C**.
- 2.10 According to field observations during site inspection, the identified dust sources at the monitoring stations were mainly from loading of material, vehicles movement and construction works in site.

3 NOISE

Monitoring Requirements

3.1 Three noise monitoring stations, namely NM1, NM2 and NM3 were designated in the EM&A Manual for impact monitoring. **Appendix A** shows the established Action and Limit Levels for the environmental monitoring works.

Monitoring Locations

3.2 Noise monitoring was conducted at three designated monitoring stations as listed in **Table 3.1**, which are also depicted in **Figure 1A to 1C**

Table 3.1 Location of Noise Monitoring Stations

Monitoring Station	Monitored By	Location of Measurement
NM1	DC/2007/23	Chan's Creative School
NM2		Hyde Building
NM3		Goldfield Building

Monitoring Equipment

3.3 **Table 3.2** summarizes the noise monitoring equipments. Copies of calibration certificates are provided in Annex H of DC/2007/23 monthly EM&A report.

Table 3.2 Noise Monitoring Equipment

Monitoring Station	Model and Make	
	Sound Level Meter	Calibrator
NM1	Rion NL-31	Rion NC-73
NM2		
NM3		

Monitoring Parameters, Frequency and Duration

3.4 Table 3.3 summarizes the monitoring parameters, frequency and total duration of monitoring. The noise monitoring schedule is shown in **Appendix B**.

Table 3.3 Noise Monitoring Parameters, Frequency and Duration

Monitoring Stations	Parameter	Period	Frequency
NM1	L _{eq} (30 min.) dB(A)	0700-1900 hrs. on weekdays	Once per week
	L _{eq} (5 min.) dB(A)	Restricted hours (1900-2300 on all days and 0700-2300 on general holidays and Sundays)	
NM2 NM3	L _{eq} (30 min.) dB(A)	0700-1900 hrs. on weekdays	

Monitoring Methodology and QA/QC Procedures

3.5 The monitoring methodology and QA/QC procedure are provided in the monthly report for Contract DC/2007/23.

Results and Observations

3.6 **Table 3.4** summarizes the daytime noise monitoring results at NM1, NM2 and NM3 in reporting month.

Table 3.4 Summary of Daytime Noise Monitoring Results in Reporting Month

For the time period 0700-1900 hrs. on weekdays		
Monitoring Station	Range, dB(A) L _{eq} (30 min.)	Limit Level ,dB(A) L _{eq} (30 min.)
NM1	69 - 70	70.0 *
NM2	73 - 73	75.0
NM3	75 - 75	

* 70 dB(A) was adopted as the Limit Level during school normal teaching period in the reporting period.

3.7 **Table 3.5** summarizes the restricted hours noise monitoring results at NM1 and NM2 in reporting month.

3.8

Table 3.5 Summary of Restricted Hours Noise Monitoring Results in Reporting Month

Restricted hours (1900-2300 on all days and 0700-2300 on general holidays and Sundays)		
Monitoring Station	Range, dB(A) L _{eq} (5 min.)	Limit Level ,dB(A) L _{eq} (5 min.)
NM1	67 - 69	70.0 *
NM2	69 - 71	70.0 *

Note: No class was held at the school during all the measurement period

* 70dB (A) was adopted as the Limit Level during restricted hours in the reporting period.

3.9 The construction noise monitoring at the designated locations was conducted by the ET of Contract: DC/2007/23 as scheduled in the reporting month.

3.10 Piling works were conducted during day time at North Point PTW. No construction work was conducted during the restricted hours under the Project in the reporting month.

3.11 All Construction Noise monitoring was conducted as scheduled in the reporting month. No Action Level exceedance was recorded, while one non-project related Limit Level exceedance was recorded during the restricted hour noise monitoring on 22nd June 2014 by the ET of DC/2007/23 at NM2. Details of the exceedance could be referred to **Appendix E**.

3.12 Noise monitoring results and graphical presentations are extracted from the monthly report of Contract DC/2007/23 and shown in **Appendix D**.

3.13 The major noise sources identified at the designated noise monitoring stations were traffic noise and construction activities.

4 ENVIRONMENTAL AUDIT

Site Audits

- 4.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site.
- 4.2 Environmental site audits were conducted on 6th, 13th, 20th and 27th June 2014. No non-compliance was observed during the site audits.
- 4.3 Site inspections were undertaken to ensure and check that the implementation and maintenance of landscape and visual mitigation measures are being properly carried out in the reporting month in accordance to section 14.1 of the EM&A Manual. No non-compliance was observed during the site inspections.
- 4.4 The summaries of site audits are attached in **Appendix F**.

Review of Environmental Monitoring Procedures

- 4.5 The monitoring works were conducted by the monitoring team of Contract DC/2007/23. The monitoring procedures were reviewed by its ET.

Status of Environmental Licensing and Permitting

- 4.6 All permits/licenses obtained for the Contract DC/2009/23 are summarized in **Table 4.1**.

Table 4.1 Summary of Environmental Licensing and Permit Status for Contract DC/2009/23

Ref. No.	Valid Period		Details	Status
	From	To		
Water Discharge License				
WT000944 3-2011	22/6/2011	30/6/2016	Location: Aberdeen	Valid
WT000164 39-2013	2/7/2013	31/5/2016	Location: North Point PTW	
WT000164 65-2013	21/6/2013	30/4/2016	Location: Wan Chai East PTW	
WT000164 62-2013	2/7/2013	30/4/2016	Location: Central PTW	
Registered Chemical Waste Producer				
5213-153- L2743-01	15/02/2011	N/A	Location: North Point PTW	Valid
5213-115- L2737-01	26/01/2011	N/A	Location: Wan Chai East PTW	
5213-134- L2745-01	16/02/2011	N/A	Location: Central PTW	
Construction Noise Permit				
GW- RS0516-13	29/5/2013	28/11/2013	Construction Noise Permit for the use of Powered Mechanical Equipment for the purpose of carrying out construction work other than percussive piling and/or the carrying out of prescribed construction work at North Point Preliminary Treatment Works Plant House, Man Hong Street, North Point, Hong Kong	Expiry
GW- RS0906-13	23/8/2013	22/11/2013	Construction Noise Permit for the use of Powered Mechanical Equipment for the purpose of carrying out construction work other than percussive piling and/or the carrying out of prescribed construction work at North Point Preliminary Treatment Works Plant House, Man Hong Street, North Point, Hong Kong	Expiry
GW- RS1387-13	5/12/2013	21/5/2014	Construction Noise Permit for the use of Powered Mechanical Equipment for the purpose of carrying out construction work other than percussive piling and/or the carrying out of prescribed construction work at North Point Preliminary Treatment Works Plant House, Man Hong Street, North Point, Hong Kong	Expiry
GW- RS0424-14	5/5/2014	5/7/2014	Construction Noise Permit for the use of Powered Mechanical Equipment for the purpose of carrying out construction work other than percussive piling and/or the carrying out of prescribed construction work at North Point Preliminary Treatment Works Plant House, Man Hong Street, North Point, Hong Kong	Valid

Ref. No.	Valid Period		Details	Status
	From	To		
			Kong	
GW- RS0643-14	3/7/2014	30/09/2014	Construction Noise Permit for the use of Powered Mechanical Equipment for the purpose of carrying out construction work other than percussive piling and/or the carrying out of prescribed construction work at Wan Chai East Preliminary Treatment Works, Wan Chai, Hong Kong	Will be valid on 3/7/14
Special Waste Admission Ticket				
10386	17/2/2013	16/2/2014	Location: Central PTW	Expiry
11198	24/2/2014	23/5/2014	Location: Central PTW	Expiry
11287	1/4/2014	30/9/2014	Location: North Point PTW	Valid
11380	24/5/2014	23/8/2014	Location: Central PTW	Valid

Status of Waste Management

- 4.7 The amount of wastes generated by the activities of the Project in the reporting month is shown in **Appendix G**.

Implementation Status of Environmental Mitigation Measures

- 4.8 Details of the implementation of mitigation measures are provided in the **Appendix I**.
- 4.9 During the weekly environmental site inspections in the reporting period, no non-conformance was identified. The observations and recommendations for the Projects are summarized in **Table 4.2**.

Table 4.2 Observations and Recommendations of Site Audit

Parameters	Date/Ref. Number	Observations	Follow Up Action
Water Quality	140606-R03	Properly clear the stagnant water in the drip tray of the chemical waste storage facility at Central-PTW.	The stagnant water in the drip tray of the chemical waste storage facility was cleared at Central-PTW.
	140613-R06	Properly clear the stagnant water at Central-PTW.	The stagnant water was cleared properly at Central-PTW.
	140620-R01	Properly clear the stagnant water at North Point-PTW and Wan Chai-PTW.	Please refer to 140627-R04.
	140627-R04	Properly clear the stagnant water at Wan Chai-PTW and Central-PTW.	The stagnant water was cleared at Wan Chai-PTW and Central-PTW.
	140627-R06	The maintenance of the sediment tank should be provided regularly at North Point-PTW and Wan Chai-PTW.	The maintenance of the sediment tank was provided at North Point-PTW and Wan Chai-PTW.

Air Quality	140606-R02	The dusty material should be cleared properly or covered with the impervious material to prevent the dust generation at North Point-PTW.	The dusty material was cleared at North Point-PTW.
	140613-R02	Properly clear the debris at Wan Chai-PTW.	Please refer to 140620-R02.
	140620-R02	Properly clear the debris at Wan Chai-PTW.	Please refer to 140627-R03.
	140627-R03	The dusty materials and debris should be cleared or covered by impervious materials at North Point-PTW and Wan Chai-PTW.	The dusty materials and debris were cleared and covered by impervious materials at North Point-PTW and Wan Chai-PTW.
Waste/ Chemical Management	140530-O02	The oil leakage was observed from the excavator at Central-PTW. The Contractor was reminded to keep it in a good condition.	Please refer to 140606-O01.
	140606-O01	The oil leakage was observed from the excavators at Central-PTW. The Contractor was reminded to keep them in a good condition.	Please refer to 140613-O01.
	140613-O01	The oil leakage was observed from the excavators at Central-PTW. The Contractor was reminded to keep them in a good condition.	The oil leakage was not observed from the excavators at Central-PTW.
	140613-R03	The chemical containers should be provided with the drip tray at Central-PTW.	The chemical containers were provided with the drip tray at Central-PTW.
	140613-R04	Properly clear the oil stained earth at Central-PTW and the oil stain at Wan Chai-PTW.	The oil stained earth at Central-PTW and the oil stain at Wan Chai-PTW were cleared properly.
	140613-R05	The drip tray should be kept in a good condition at Central-PTW.	The drip tray was kept in a good condition at Central-PTW.
	140620-R03	Properly clear the oil stain at Wan Chai-PTW.	The oil stain was cleared at Wan Chai-PTW.
	140627-O01	The oil leakage was observed from the excavator at Central-PTW. The Contractor was reminded to keep it in a good condition.	The oil leakage was not observed from the excavator at Central-PTW.
	140627-R02	The chemical containers should be provided with the drip tray or cleared properly at Wan Chai-PTW and Central-PTW; and the drip tray should be provided with adequate capacity at Wan Chai-PTW.	The follow up action will be reported during site inspections in July 2014.
	140627-R07	Properly sort out the construction waste at Wan Chai-PTW.	The skip was labelled for preparing to sort out the construction waste at Wan Chai-PTW.
Noise	--	--	--
Landscape and Visual	140620-R04	Properly place the construction material far away the tree protection area at Wan Chai-PTW.	The construction material was placed outside the fence of the tree protection area at Wan Chai-PTW.
	140627-R05	Properly clear and place the construction materials far away from the tree protection area at Central-PTW.	The follow up action will be reported during site inspections in July 2014.
Permit/ Licenses	--	--	--

Implementation Status of Event Action Plans

- 4.10 The Event Action Plans for air quality and noise are presented in **Appendix H**.

1-hr TSP

- 4.11 No Action/Limit Level exceedance was recorded.

24-hr TSP

- 4.12 No Action/Limit Level exceedance was recorded.

Construction Noise

- 4.13 No Action Level exceedance was recorded, while one non-project related Limit Level exceedance was recorded during the restricted hour noise monitoring on 22nd June 2014 by the ET of DC/2007/23 at NM2. Details of the exceedance could be referred to **Appendix E**.

Landscape and Visual

- 4.14 No non-compliance was recorded.

Summary of Complaints and Prosecutions

- 4.15 No environmentally related summons, prosecutions or complaints were received for the Project in the reporting month.
- 4.16 There were no environmentally related summons, prosecutions or complaints were received since the commencement of the Project. The Complaint Log is presented in **Appendix J**.

5. FUTURE KEY ISSUES

Key Issues for the Coming Month

5.1 Key environmental issues in the coming month include:

- Generation of dust from stockpiles of excavated and dusty materials, unpaved site area and vehicle movement, roadwork, excavation works and loading and unloading dusty materials on-site;
- Noise from operation of equipment and machinery on-site;
- Provision well maintenance on the storage facilities of chemicals/fuel and chemical waste/waste oil on-site;
- Ponding water generated in pre-drillings;
- Drainage system should be well designed and maintained to prevent flooding and silty water getting into the public area during and after rainstorm;
- Silty surface runoff generated from the site area; and
- Silt and dust getting into the public area by the leaving site vehicles at the site exits without adequate wheel washing facilities.

Monitoring Schedule for the Next Month

5.2 The tentative environmental monitoring schedules for the next month are shown in **Appendix B**.

5.3 Construction Activities for the Next Two Months:

Wan Chai East PTW:

- Construction of concrete plinth at the inlet pumping station (Civil);
- Pump Replacement Work at the inlet pumping station (E&M);
- Installation of Cable tray in Motor Hall of Inlet Pumping Station (E&M);
- Installation of steel cage and wall opening for sewage pump replacement at flow distribution chamber (Stage 2).

North Point PTW

- T & C of the new FSGT Building (E&M);
- Demolition of Existing Grit Handling Area;
- Suspension of pump no. 1,2,3, for final connection;
- Enhancement work for Construction of RM 2 at the existing pumping station (night works).

Central PTW

- Substructure construction for FSGT Building;
- Demolition of Existing Fine Screen Chamber, Grit Trap, Medium Screen Channels and Temporary Screening and Grit Handling Area;
- Modification of shoring system for Rising Main No.2;
- Electrical work of sewage pump replacement at inlet pumping station (Sewage pump No.3) (E&M);
- Pre-bore socket H-Pile;
- External wall finishing work.

5.4 The tentative construction program is provided in **Appendix K**.

6. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

- 6.1 Environmental monitoring and audit works were performed in the reporting month and all monitoring results were checked and reviewed.

1-hour TSP Monitoring

- 6.2 All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

24-hour TSP Monitoring

- 6.3 All 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

Construction Noise Monitoring

- 6.4 All Construction Noise monitoring was conducted as scheduled in the reporting month. No Action Level exceedance was recorded, while one non-project related Limit Level exceedance was recorded during the restricted hour noise monitoring on 22nd June 2014 by the ET of DC/2007/23 at NM2. Details of the exceedance could be referred to **Appendix E**.

Environmental Audit

- 6.5 Environmental site audits were conducted as weekly basis in the reporting month. No non-compliance was recorded.

Complaint and Prosecution

- 6.6 No environmentally related summons, prosecutions or complaints were received in the reporting month.

Recommendations for the coming reporting month:

- 6.7 According to the environmental audit performed in the reporting month, the following recommendations were made for coming reporting month:

Air Quality Impact

- To provide water spraying on dried site areas or materials regularly for demolition activities; and
- To provide impervious covers for dusty materials to reduce dust generation.

Noise Impact

- To inspect the noise sources inside the site;
- To follow up any exceedance caused by the construction works;
- To space out noisy equipment and position the equipment as far away as possible from sensitive receivers;
- To provide temporary noise barriers for operations of noisy equipment near the noise sensitive receivers in an appropriate location;
- To provide adequate lubricant on mechanical equipments to reduce frictional noise; and
- To well maintain the mechanical equipments / machineries to avoid abnormal noise nuisance.

Water Impact

- To avoid accumulation of stagnant / muddy water on site;
- To avoid water from accumulation on site and carry out larviciding against mosquito breeding for stagnant water when mosquito larvae are observed;
- To avoid the water runoff from the earthworks without the bunding facilities; and
- To provide the maintenance of the sediment tank regularly and make sure the sediment tank is non-malfunctioned.

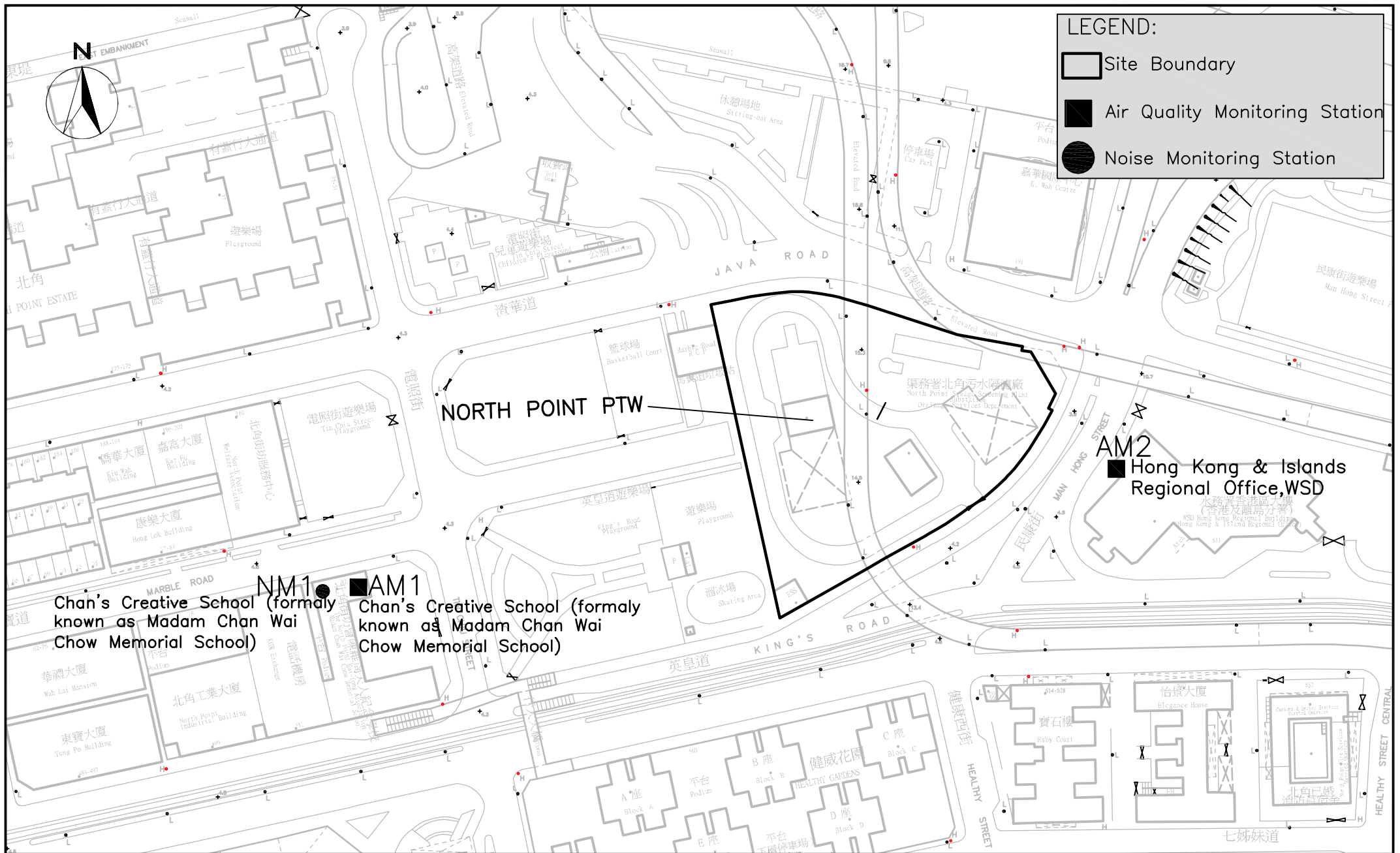
Waste/Chemical Management

- To avoid any discharge or accidental spillage of chemical waste or oil directly from the equipment;
- To well maintain the equipments and drip trays to avoid oil leakage;
- To avoid improper handling or storage of oil drum on site;
- Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport;
- To check for any accumulation of wasted materials or debris on site; and
- To provide adequate skips / containers for waste collection.

Landscape and Visual

- To avoid any heavy materials placed into tree protection zone.

FIGURES



LEGEND:

- Site Boundary
- Air Quality Monitoring Station
- Noise Monitoring Station

NM1 **AM1**
 Chan's Creative School (formerly known as Madam Chan Wai Chow Memorial School)

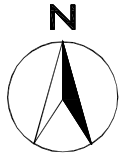
AM2
 Hong Kong & Islands Regional Office, WSD

NORTH POINT PTW



Contract No. DC/2009/23 – Harbour Area Treatment Stage 2A
 – Upgrading of Preliminary Treatment Works at North Point,
 Wan Chai East and Central
Impact Air Quality & Noise Monitoring Stations (North Point)

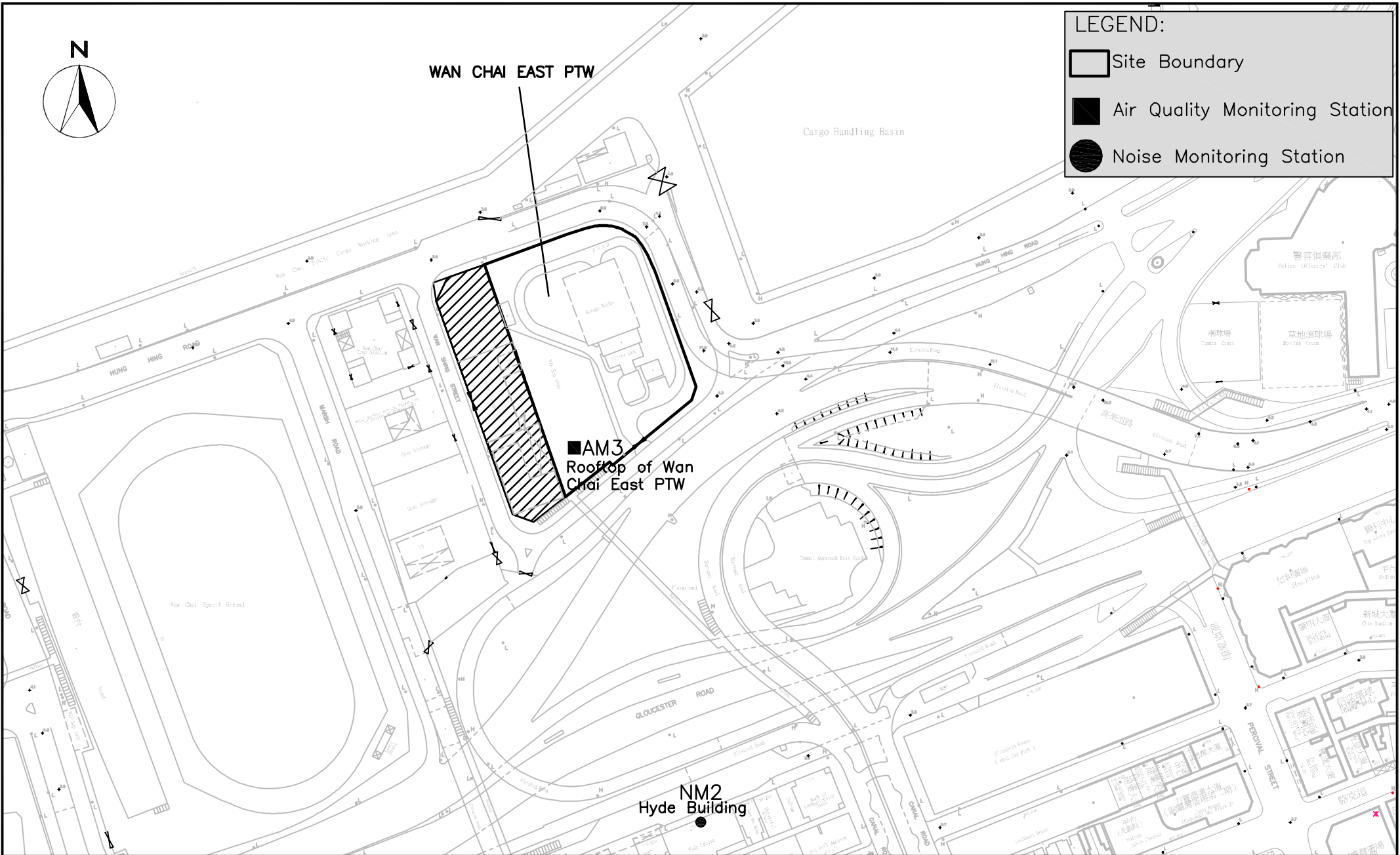
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CHECK	GL	DRAWN	TW	
PROJECT NO.	MA11003	FIGURE NO.	1A	REV —



WAN CHAI EAST PTW

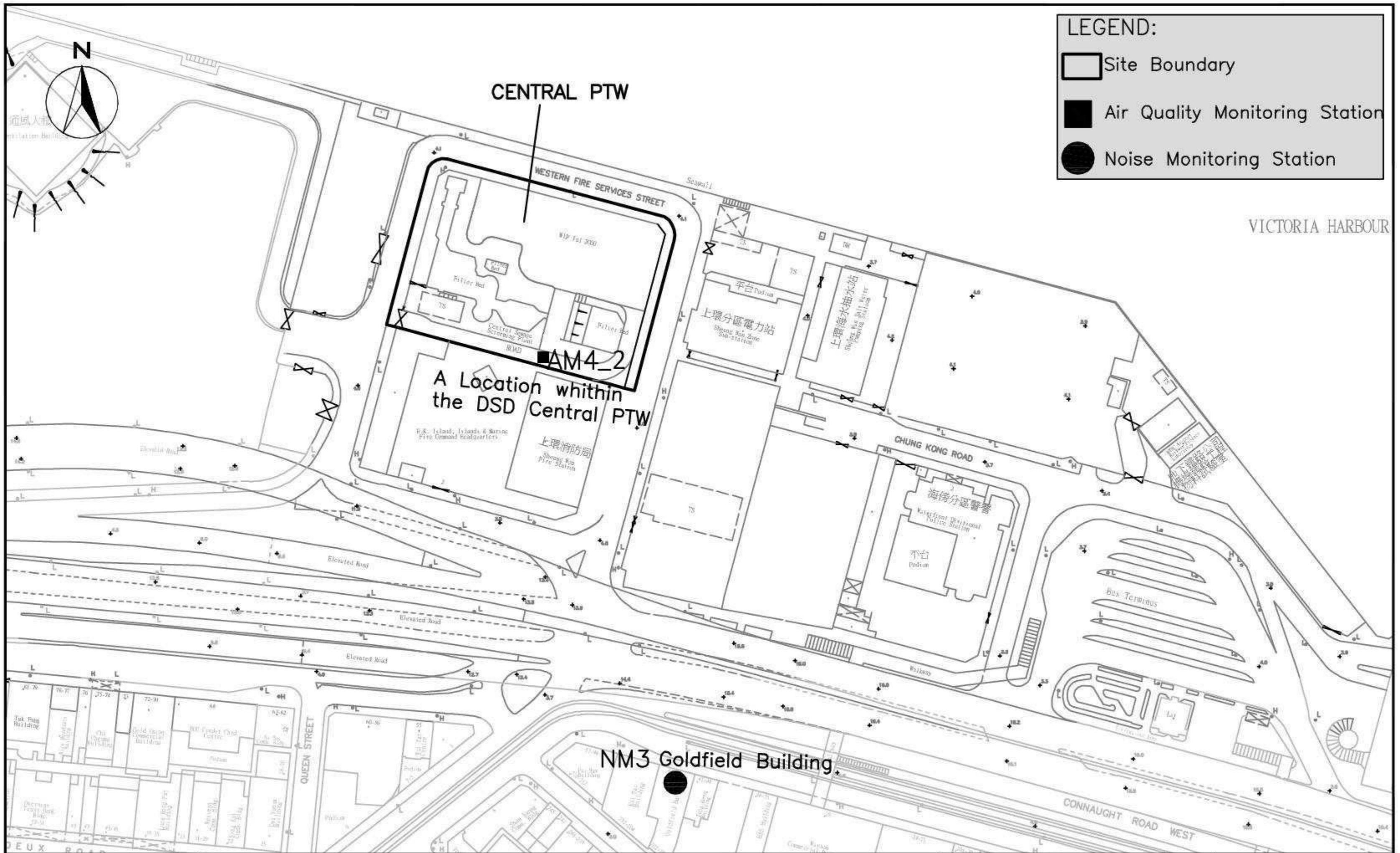
LEGEND:

- Site Boundary
- Air Quality Monitoring Station
- Noise Monitoring Station



Contract No. DC/2009/23 – Harbour Area Treatment Stage 2A
 – Upgrading of Preliminary Treatment Works at North Point,
 Wan Chai East and Central
Impact Air Quality & Noise Monitoring Stations (Wan Chai East)

SCALE	N.T.S	DATE	11 MAR 2011
CHECK	GL	DRAWN	TW
PROJECT NO.	MA11003	FIGURE NO.	1B
		REV	—



LEGEND:

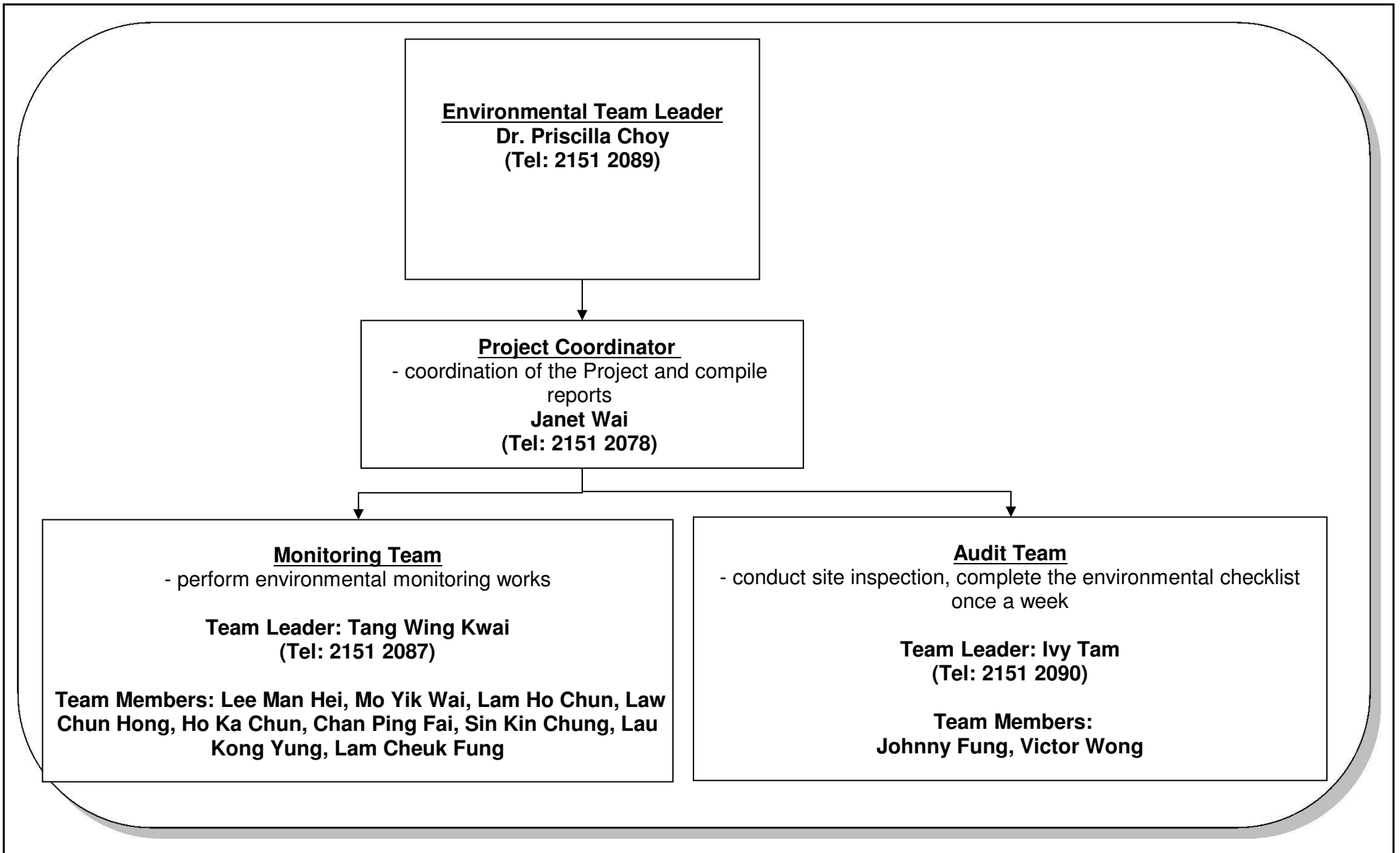
- Site Boundary
- Air Quality Monitoring Station
- Noise Monitoring Station

VICTORIA HARBOUR

Contract No. DC/2009/23 – Harbour Area Treatment Stage 2A
 – Upgrading of Preliminary Treatment Works at North Point,
 Wan Chai East and Central
Impact Air Quality & Noise Monitoring Stations (Central)



SCALE	N.T.S	DATE	11 MAR 2011	
CHECK	GL	DRAWN	TW	
PROJECT NO.	MA11003	FIGURE NO.	1C	REV —



Title	Contract No. DC/2009/23	Scale	N.T.S	Project No.	MA11003	CINOTECH
	HATS Stage 2A – Upgrading of Preliminary Treatment Works at North Point, Wanchai East and Central	Date	Mar-14	Figure	2	
ET's Organization Chart						

**APPENDIX A
ACTION AND LIMIT LEVELS FOR AIR
QUALITY AND NOISE**

Appendix A Action and Limit Levels

Table A-1 Action and Limit Levels for 1-Hour TSP and 24-Hour TSP

Monitoring Stations	Action Level ($\mu\text{g}/\text{m}^3$)		Limit Level ($\mu\text{g}/\text{m}^3$)	
	1-hour	24-hour	1-hour	24-hour
AM1	340	185	500	260
AM2	352	182		
AM3	355	181		
AM4_2	393	211		

Table A-2 Action and Limit Level for Construction Noise

Monitoring Stations	Time Period	Action Level	Limit Level in dB(A)
NM1	0700-1900 hours on normal weekdays	When one documented complaint is received	70 *
	Restricted hours (1900-2300 on all days and 0700-2300 on general holidays and Sundays)		70 **
NM2 and NM3	0700-1900 hours on normal weekdays		75

Notes: If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed.

* 70 dB(A) was adopted as the Limit Level during school normal teaching period in the reporting period.

** 70 dB(A) was adopted as the Limit Level during restricted hours in the reporting period

**APPENDIX B
ENVIRONMENTAL MONITORING
SCHEDULES**

**Contract No. DC/2009/23 HATS 2A – Upgrading of Preliminary Treatment Works at North Point, Wan Chai East and Central
Impact Air Quality and Noise Monitoring Schedule for June 2014**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1-Jun	2-Jun	3-Jun	4-Jun	5-Jun	6-Jun	7-Jun
		Noise Monitoring (NM1) Noise Monitoring (NM2) (Evening time)			1-hr & 24-hr TSP (AM1) 1-hr & 24-hr TSP (AM2) Noise Monitoring (NM1) 1-hr & 24-hr TSP (AM3) Noise Monitoring (NM2) 1-hr & 24-hr TSP (AM4_2) Noise Monitoring (NM3)	
8-Jun	9-Jun	10-Jun	11-Jun	12-Jun	13-Jun	14-Jun
Noise Monitoring (NM1) Noise Monitoring (NM2) (during daytime on sundays/public holidays)				1-hr & 24-hr TSP (AM1) 1-hr & 24-hr TSP (AM2) Noise Monitoring (NM1) 1-hr & 24-hr TSP (AM3) Noise Monitoring (NM2) 1-hr & 24-hr TSP (AM4_2) Noise Monitoring (NM3)		
15-Jun	16-Jun	17-Jun	18-Jun	19-Jun	20-Jun	21-Jun
		Noise Monitoring (NM1) Noise Monitoring (NM2) (Evening time)	1-hr & 24-hr TSP (AM1) 1-hr & 24-hr TSP (AM2) Noise Monitoring (NM1) 1-hr & 24-hr TSP (AM3) Noise Monitoring (NM2) 1-hr & 24-hr TSP (AM4_2) Noise Monitoring (NM3)			
22-Jun	23-Jun	24-Jun	25-Jun	26-Jun	27-Jun	28-Jun
Noise Monitoring (NM1) Noise Monitoring (NM2) (during daytime on sundays/public holidays)		1-hr & 24-hr TSP (AM1) 1-hr & 24-hr TSP (AM2) Noise Monitoring (NM1) 1-hr & 24-hr TSP (AM3) Noise Monitoring (NM2) 1-hr & 24-hr TSP (AM4_2) Noise Monitoring (NM3)				
29-Jun	30-Jun					
	1-hr & 24-hr TSP (AM1) 1-hr & 24-hr TSP (AM2) Noise Monitoring (NM1) 1-hr & 24-hr TSP (AM3) Noise Monitoring (NM2) 1-hr & 24-hr TSP (AM4_2) Noise Monitoring (NM3)					

Air Quality Monitoring Station

AM1 - Works site boundary of DC/2007/23
AM2 - Hong Kong & Islands Regional Office, WSD
AM3 - Wan Chai East PTW
AM4_2 - A Location within the DSD Central PTW

Noise Monitoring Station

NM1 - Chan's Creative School
NM2 - Hyde Building
NM3 - Goldfield Building

**Contract No. DC/2009/23 HATS 2A – Upgrading of Preliminary Treatment Works at North Point, Wan Chai East and Central
Tentative Impact Air Quality and Noise Monitoring Schedule for July 2014**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1-Jul	2-Jul	3-Jul	4-Jul	5-Jul
			Noise Monitoring (NM1) Noise Monitoring (NM2) (Evening time)			1-hr & 24-hr TSP (AM1) 1-hr & 24-hr TSP (AM2) 1-hr & 24-hr TSP (AM3) 1-hr & 24-hr TSP (AM4_2)
6-Jul	7-Jul	8-Jul	9-Jul	10-Jul	11-Jul	12-Jul
Noise Monitoring (NM1) Noise Monitoring (NM2) (during daytime on sundays/public holidays)					1-hr & 24-hr TSP (AM1) 1-hr & 24-hr TSP (AM2) Noise Monitoring (NM1) 1-hr & 24-hr TSP (AM3) Noise Monitoring (NM2) 1-hr & 24-hr TSP (AM4_2) Noise Monitoring (NM3)	
13-Jul	14-Jul	15-Jul	16-Jul	17-Jul	18-Jul	19-Jul
		Noise Monitoring (NM1) Noise Monitoring (NM2) (Evening time)		1-hr & 24-hr TSP (AM1) 1-hr & 24-hr TSP (AM2) Noise Monitoring (NM1) 1-hr & 24-hr TSP (AM3) Noise Monitoring (NM2) 1-hr & 24-hr TSP (AM4_2) Noise Monitoring (NM3)		
20-Jul	21-Jul	22-Jul	23-Jul	24-Jul	25-Jul	26-Jul
Noise Monitoring (NM1) Noise Monitoring (NM2) (during daytime on sundays/public holidays)			1-hr & 24-hr TSP (AM1) 1-hr & 24-hr TSP (AM2) Noise Monitoring (NM1) 1-hr & 24-hr TSP (AM3) Noise Monitoring (NM2) 1-hr & 24-hr TSP (AM4_2) Noise Monitoring (NM3)			
27-Jul	28-Jul	29-Jul	30-Jul	31-Jul		
		1-hr & 24-hr TSP (AM1) 1-hr & 24-hr TSP (AM2) Noise Monitoring (NM1) (Daytime & Evening Time) 1-hr & 24-hr TSP (AM3) Noise Monitoring (NM2) (Daytime & Evening Time) 1-hr & 24-hr TSP (AM4_2) Noise Monitoring (NM3)				

Air Quality Monitoring Station

AM1 - Works site boundary of DC/2007/23
AM2 - Hong Kong & Islands Regional Office, WSD
AM3 - Wan Chai East PTW
AM4_2 - A Location within the DSD Central PTW

Noise Monitoring Station

NM1 - Chan's Creative School
NM2 - Hyde Building
NM3 - Goldfield Building

**APPENDIX C
1-HOUR AND 24-HOUR TSP
MONITORING RESULTS AND
GRAPHICAL PRESENTATIONS**

1-hour TSP Monitoring Results

Station AM1

	Start	Finish	Weather	TSP Concentration	Action Level	Limit Level	Site Conditions /	Temperature	Wind Speed *	Sampler	Filter
Date	Time	Time		($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	Observations / Remarks	($^{\circ}\text{C}$)	(m/s)	ID	ID
6-Jun-14	11:36	12:36	Fine	116	340	500	Construction work in progress	32	<5	GMW GS 2310 (S/N 1808)	3516
	12:38	13:38	Fine	113	340	500	Construction work in progress	32	<5	GMW GS 2310 (S/N 1808)	3518
	13:40	14:40	Fine	113	340	500	Construction work in progress	32	<5	GMW GS 2310 (S/N 1808)	3525
12-Jun-14	10:00	11:00	Sunny	116	340	500	Construction work in progress	32	<5	GMW GS 2310 (S/N 1808)	3520
	11:02	12:02	Sunny	121	340	500	Construction work in progress	32	<5	GMW GS 2310 (S/N 1808)	3523
	12:04	13:04	Sunny	128	340	500	Construction work in progress	32	<5	GMW GS 2310 (S/N 1808)	3529
18-Jun-14	10:00	11:00	Sunny	117	340	500	Construction work in progress	32	<5	GMW GS 2310 (S/N 1808)	3548
	11:02	12:02	Sunny	124	340	500	Construction work in progress	32	<5	GMW GS 2310 (S/N 1808)	3546
	12:04	13:04	Sunny	152	340	500	Construction work in progress	32	<5	GMW GS 2310 (S/N 1808)	3545
24-Jun-14	12:56	13:56	Fine	108	340	500	Construction work in progress	32	<5	GMW GS 2310 (S/N 1808)	3697
	13:58	14:58	Fine	108	340	500	Construction work in progress	32	<5	GMW GS 2310 (S/N 1808)	3554
	15:00	16:00	Fine	136	340	500	Construction work in progress	32	<5	GMW GS 2310 (S/N 1808)	3555
30-Jun-14	12:05	13:05	Sunny	103	340	500	Construction work in progress	32	<5	GMW GS 2310 (S/N 1808)	3543
	13:07	14:07	Sunny	98	340	500	Construction work in progress	32	<5	GMW GS 2310 (S/N 1808)	3675
	14:09	15:09	Sunny	109	340	500	Construction work in progress	32	<5	GMW GS 2310 (S/N 1808)	3676
			Min.	98							
			Max.	152							
			Average	117							

* Wind Speed data is presented in the Meteorological Data table

1-hour TSP Monitoring Results

Station AM2

	Start	Finish	Weather	TSP Concentration	Action Level	Limit Level	Site Conditions /	Temperature	Wind Speed *	Sampler	Filter
Date	Time	Time		($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	Observations / Remarks	($^{\circ}\text{C}$)	(m/s)	ID	ID
6-Jun-14	11:20	12:20	Fine	141	352	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0145)	3519
	12:22	13:22	Fine	118	352	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0145)	3517
	13:24	14:24	Fine	98	352	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0145)	3526
12-Jun-14	09:40	10:40	Sunny	136	352	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0145)	3521
	10:42	11:42	Sunny	129	352	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0145)	3522
	11:44	12:44	Sunny	102	352	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0145)	3524
18-Jun-14	10:20	11:20	Sunny	121	352	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0145)	3532
	11:22	12:22	Sunny	119	352	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0145)	3547
	12:24	13:24	Sunny	134	352	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0145)	3699
24-Jun-14	12:30	13:30	Fine	118	352	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0145)	3898
	13:32	14:32	Fine	112	352	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0145)	3556
	14:34	15:34	Fine	130	352	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0145)	3557
30-Jun-14	11:40	12:40	Sunny	98	352	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0145)	3674
	12:42	13:42	Sunny	100	352	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0145)	3533
	13:44	14:44	Sunny	107	352	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0145)	3534
			Min.	98							
			Max.	141							
			Average	118							

* Wind Speed data is presented in the Meteorological Data table

1-hour TSP Monitoring Results

Station AM3

	Start	Finish	Weather	TSP Concentration	Action Level	Limit Level	Site Conditions /	Temperature	Wind Speed *	Sampler	Filter
Date	Time	Time		($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	Observations / Remarks	($^{\circ}\text{C}$)	(m/s)	ID	ID
6-Jun-14	11:50	12:50	Fine	119	355	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0481)	3341
	12:52	13:52	Fine	151	355	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0481)	3342
	13:54	14:54	Fine	144	355	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0481)	3343
12-Jun-14	11:50	12:50	Sunny	112	355	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0481)	3345
	12:12	13:12	Sunny	127	355	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0481)	3346
	13:54	14:54	Sunny	124	355	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0481)	3347
18-Jun-14	12:00	13:00	Sunny	155	355	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0481)	3749
	13:02	14:02	Sunny	108	355	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0481)	3750
	14:04	15:04	Sunny	114	355	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0481)	3571
24-Jun-14	12:40	13:40	Fine	110	355	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0481)	3753
	13:42	14:42	Fine	112	355	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0481)	3754
	14:45	15:45	Fine	108	355	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0481)	3755
30-Jun-14	12:00	13:00	Sunny	93	355	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0481)	3757
	13:02	14:02	Sunny	108	355	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0481)	3758
	14:10	15:10	Sunny	107	355	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0481)	3759
			Min.	93							
			Max.	155							
			Average	119							

* Wind Speed data is presented in the Meteorological Data table

1-hour TSP Monitoring Results

Station AM4_2

	Start	Finish	Weather	TSP Concentration	Action Level	Limit Level	Site Conditions /	Temperature	Wind Speed *	Sampler	Filter
Date	Time	Time		($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	Observations / Remarks	($^{\circ}\text{C}$)	(m/s)	ID	ID
6-Jun-14	08:00	09:00	Fine	117	393	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 9315)	3319
	09:02	10:02	Fine	144	393	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 9315)	3320
	10:04	11:04	Fine	158	393	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 9315)	3321
12-Jun-14	08:00	09:00	Sunny	111	393	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 9315)	3323
	09:02	10:02	Sunny	122	393	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 9315)	3324
	10:04	11:04	Sunny	146	393	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 9315)	3372
18-Jun-14	08:00	09:00	Sunny	153	393	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 9315)	3550
	09:02	10:02	Sunny	178	393	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 9315)	3551
	10:04	11:04	Sunny	179	393	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 9315)	3552
24-Jun-14	08:30	09:30	Fine	117	393	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 9315)	3558
	09:32	10:32	Fine	144	393	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 9315)	3559
	10:35	11:35	Fine	144	393	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 9315)	3560
30-Jun-14	08:10	09:10	Sunny	139	393	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 9315)	3562
	09:12	10:12	Sunny	115	393	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 9315)	3563
	10:14	11:14	Sunny	125	393	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 9315)	3564
				Min.							
				111							
				Max.							
				179							
				Average							
				139							

* Wind Speed data is presented in the Meteorological Data table

24-hour TSP Monitoring Results

Station AM1

Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m ³ /min)			TSP Conc. (µg/m ³)	Action Level (µg/m ³)	Limit Level (µg/m ³)	Observations / Remarks	Sampler ID	Filter ID			
Date	Time	Date	Time		Initial	Final	Initial	Final		Initial	Final	Average									
6-Jun-14	N/A	7-Jun-14	N/A	Fine	The monitoring was suspended due to problem in electricity supply for the HVS																
12-Jun-14	17:45	13-Jun-14	17:45	Sunny	2.8290	2.9622	17804.03	17828.03	24.00	1.24	1.24	1.24	75	185	260	-	GMW GS 2310 (S/N 1808)	N/A			
18-Jun-14	17:06	19-Jun-14	17:06	Sunny	2.8298	3.0016	17831.03	17855.03	24.00	1.24	1.24	1.24	96	185	260	-	GMW GS 2310 (S/N 1808)	3544			
24-Jun-14	16:34	25-Jun-14	16:34	Fine	2.7924	2.9400	17858.03	17882.03	24.00	1.24	1.24	1.24	83	185	260	-	GMW GS 2310 (S/N 1808)	3965			
30-Jun-14	15:45	1-Jul-14	15:45	Sunny	2.8112	2.9466	17885.03	17909.03	24.00	1.24	1.24	1.24	76	185	260	-	GMW GS 2310 (S/N 1808)	3536			
												Min.	75								
												Max.	96								
												Average	82								

24-hour TSP Monitoring Results

Station AM2

Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m ³ /min)			TSP Conc. (µg/m ³)	Action Level (µg/m ³)	Limit Level (µg/m ³)	Observations / Remarks	Sampler ID	Filter ID			
Date	Time	Date	Time		Initial	Final	Initial	Final		Initial	Final	Average									
6-Jun-14	14:26	7-Jun-14	14:26	Fine	2.8280	2.9570	13417.93	13441.93	24.00	1.23	1.23	1.23	73	182	260	-	GMW GS 2310 (S/N 0145)	3528			
12-Jun-14	12:46	13-Jun-14	12:46	Sunny	2.8232	2.9579	13444.93	13468.93	24.00	1.23	1.23	1.23	76	182	260	-	GMW GS 2310 (S/N 0145)	3371			
18-Jun-14	13:26	19-Jun-14	13:26	Sunny	2.7679	2.9091	13471.93	13495.93	24.00	1.23	1.23	1.23	80	182	260	-	GMW GS 2310 (S/N 0145)	3700			
24-Jun-14	15:36	25-Jun-14	15:36	Fine	2.7957	2.9334	13498.93	13522.93	24.00	1.23	1.23	1.23	78	182	260	-	GMW GS 2310 (S/N 0145)	3969			
30-Jun-14	14:46	1-Jul-14	14:46	Sunny	2.7353	2.8811	13525.93	13549.93	24.00	1.23	1.23	1.23	82	182	260	-	GMW GS 2310 (S/N 0145)	3677			
												Min.	73								
												Max.	82								
												Average	78								

24-hour TSP Monitoring Results

Station AM3

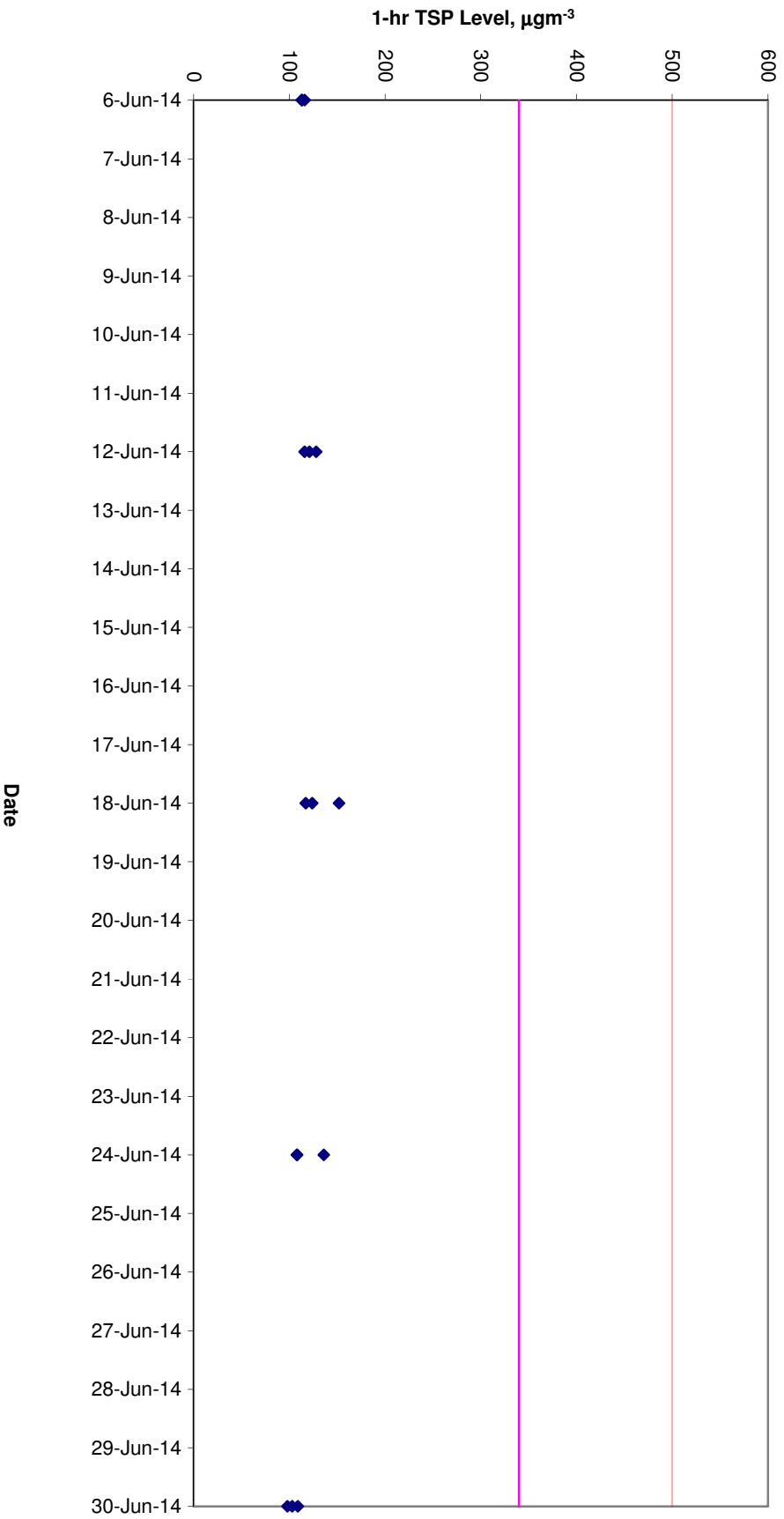
Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m ³ /min)			TSP Conc. (µg/m ³)	Action Level (µg/m ³)	Limit Level (µg/m ³)	Observations / Remarks	Sampler ID	Filter ID			
Date	Time	Date	Time		Initial	Final	Initial	Final		Initial	Final	Average									
6-Jun-14	15:00	7-Jun-14	15:00	Fine	2.8171	2.9557	10058.32	10082.32	24.00	1.26	1.26	1.26	76	181	260	-	GMW GS 2310 (S/N 0481)	3344			
12-Jun-14	14:56	13-Jun-14	14:56	Sunny	2.8207	2.9646	10085.32	10109.32	24.00	1.26	1.26	1.26	79	181	260	-	GMW GS 2310 (S/N 0481)	3348			
18-Jun-14	15:06	19-Jun-14	15:06	Sunny	2.7410	2.8821	10112.32	10136.32	24.00	1.26	1.26	1.26	78	181	260	-	GMW GS 2310 (S/N 0481)	3572			
24-Jun-14	15:47	25-Jun-14	15:47	Fine	2.7327	2.8856	10139.32	10163.32	24.00	1.26	1.26	1.26	84	181	260	-	GMW GS 2310 (S/N 0481)	3756			
30-Jun-14	15:12	1-Jul-14	15:12	Sunny	2.7379	2.8810	10166.32	10190.32	24.00	1.26	1.26	1.26	79	181	260	-	GMW GS 2310 (S/N 0481)	3760			
												Min.	76								
												Max.	84								
												Average	79								

24-hour TSP Monitoring Results

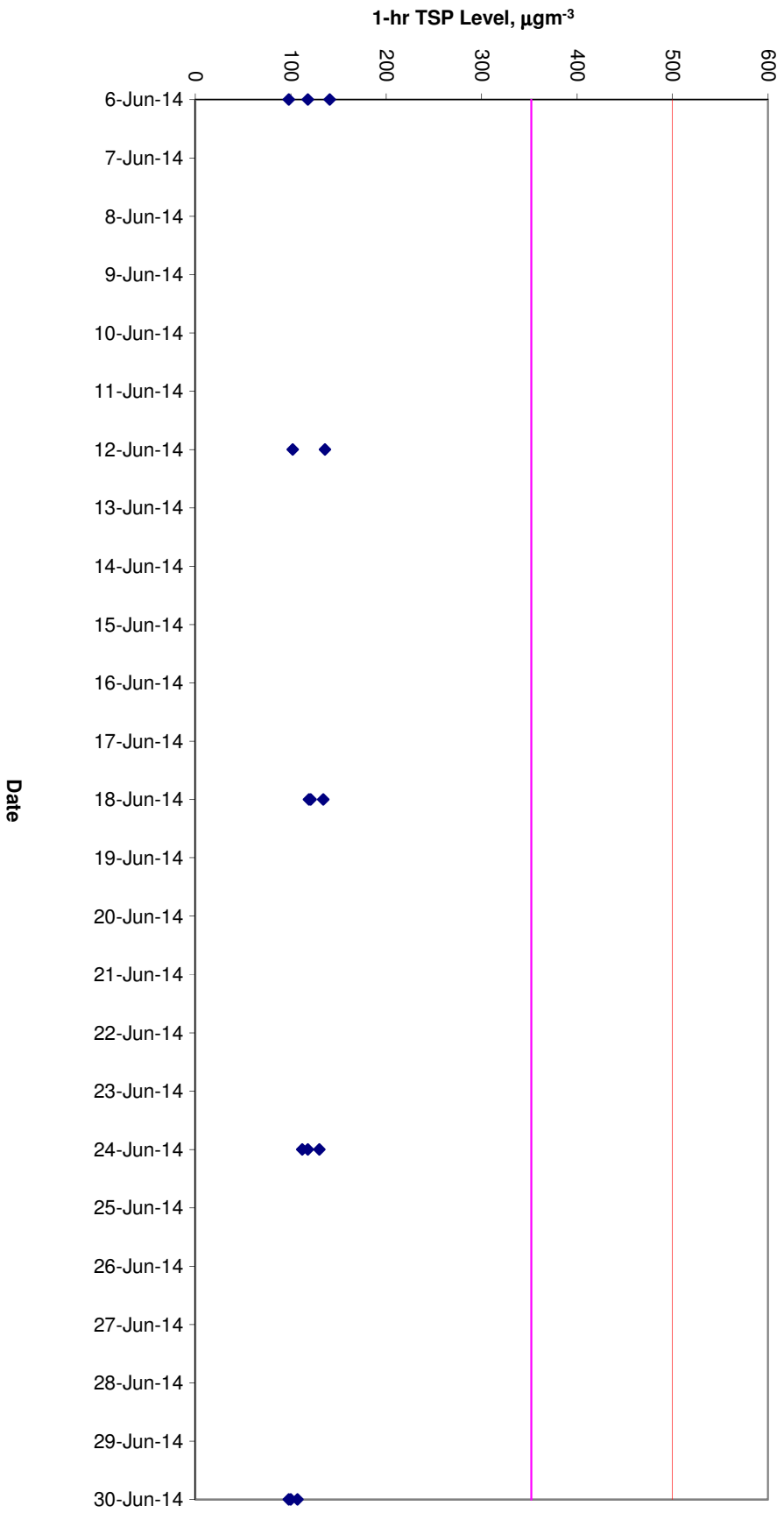
Station AM4_2

Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m ³ /min)			TSP Conc. (µg/m ³)	Action Level (µg/m ³)	Limit Level (µg/m ³)	Observations / Remarks	Sampler ID	Filter ID
Date	Time	Date	Time		Initial	Final	Initial	Final		Initial	Final	Average						
6-Jun-14	11:12	7-Jun-14	11:12	Fine	2.8192	2.9710	16230.85	16254.85	24.00	1.20	1.20	1.20	88	211	260	-	GMW GS 2310 (S/N 9315)	3322
12-Jun-14	11:10	13-Jun-14	11:10	Sunny	2.8337	2.9551	16257.85	16281.85	24.00	1.20	1.20	1.20	70	211	260	-	GMW GS 2310 (S/N 9315)	3549
18-Jun-14	11:15	19-Jun-14	11:15	Sunny	2.8558	3.0254	16284.85	16308.85	24.00	1.20	1.20	1.20	98	211	260	-	GMW GS 2310 (S/N 9315)	3553
24-Jun-14	11:50	25-Jun-14	11:50	Fine	2.8580	2.9919	16311.85	16335.85	24.00	1.20	1.20	1.20	77	211	260	-	GMW GS 2310 (S/N 9315)	3561
30-Jun-14	11:23	1-Jul-14	11:23	Sunny	2.8446	3.0021	16338.85	16362.85	24.00	1.20	1.20	1.20	91	211	260	-	GMW GS 2310 (S/N 9315)	3565
													Min.	70				
													Max.	98				
													Average	85				

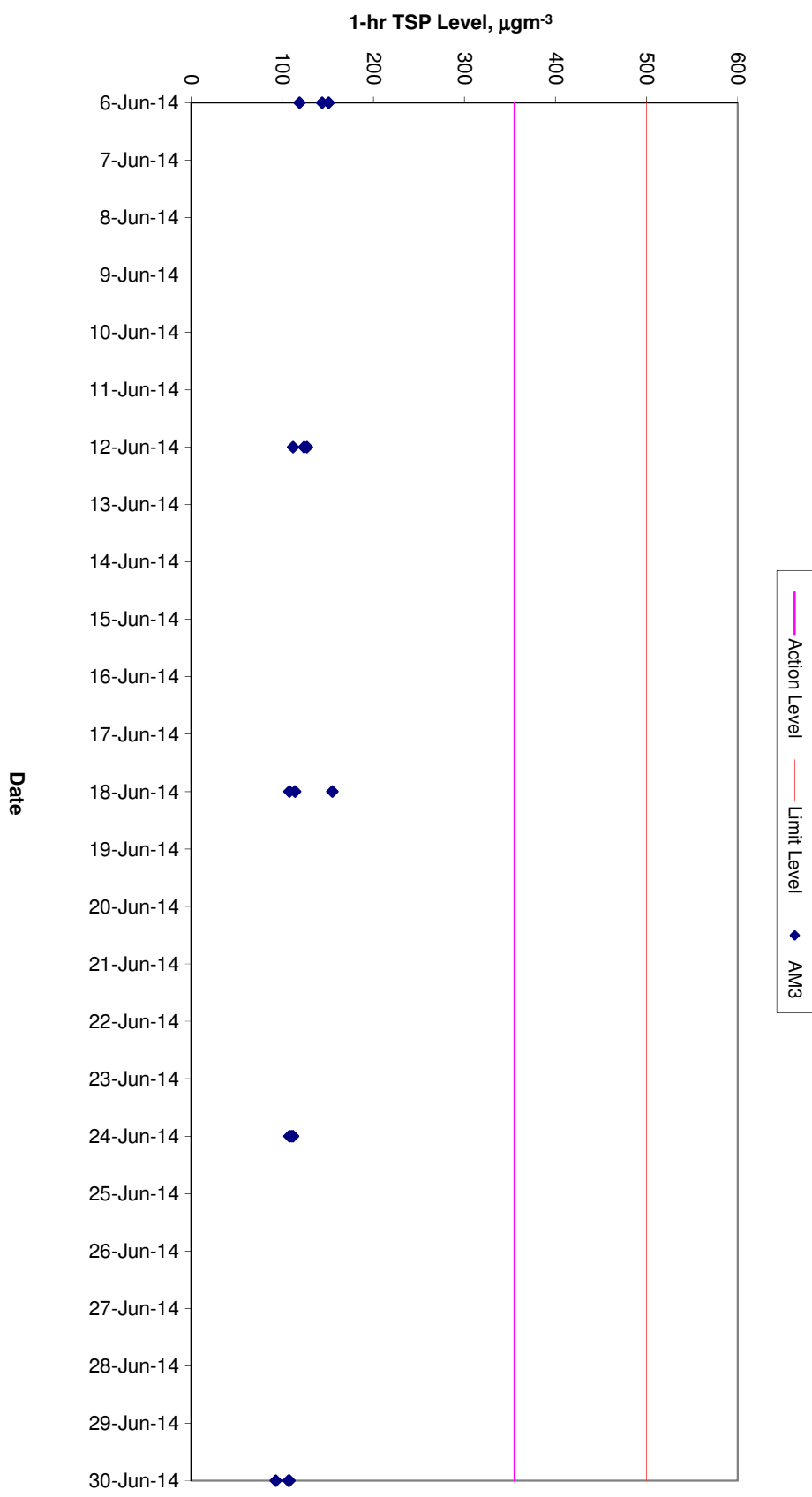
1-hr TSP Levels AM1 (Chan's Creative School)

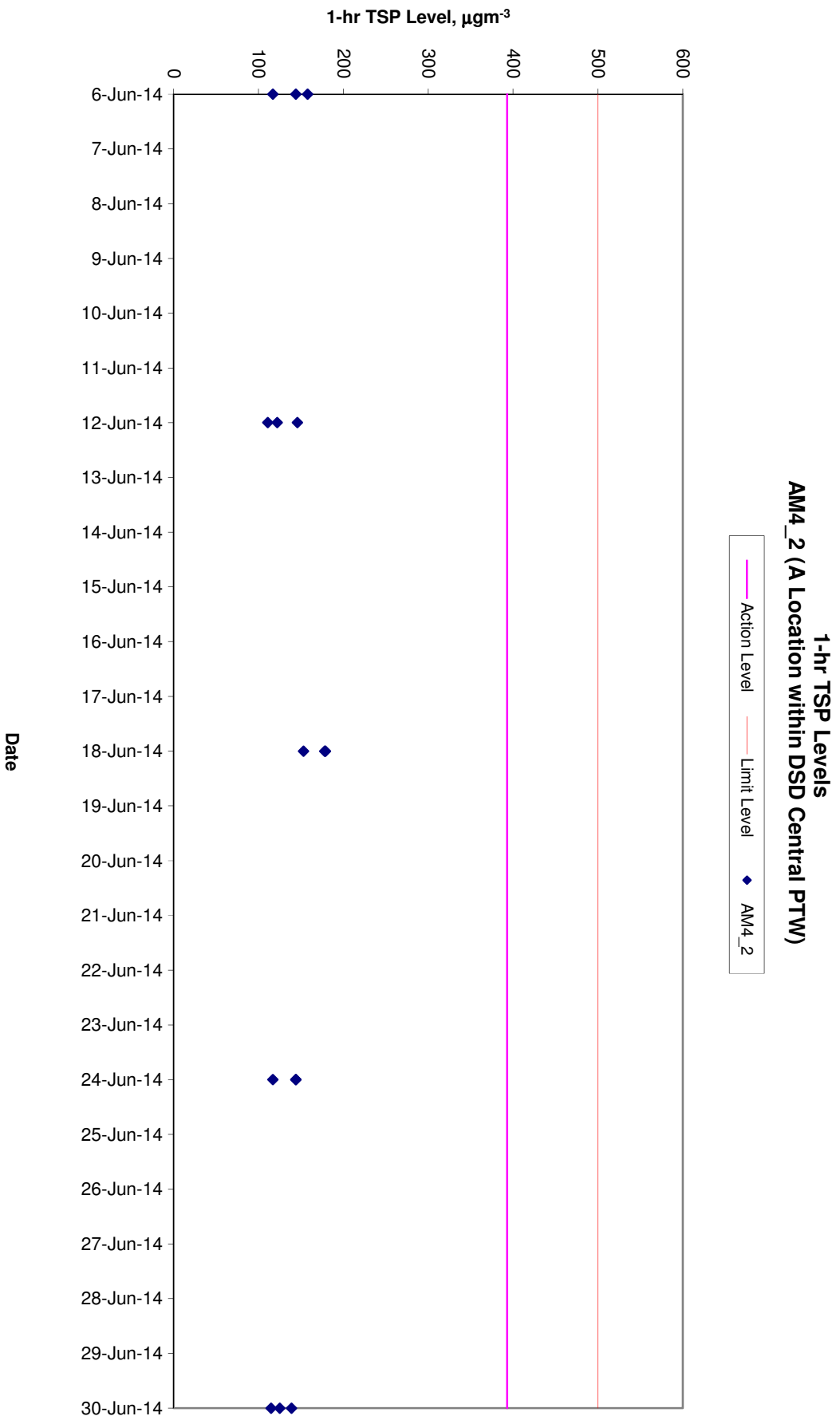


**1-hr TSP Levels
AM2 (Hong Kong & Island Regional Office, WSD)**

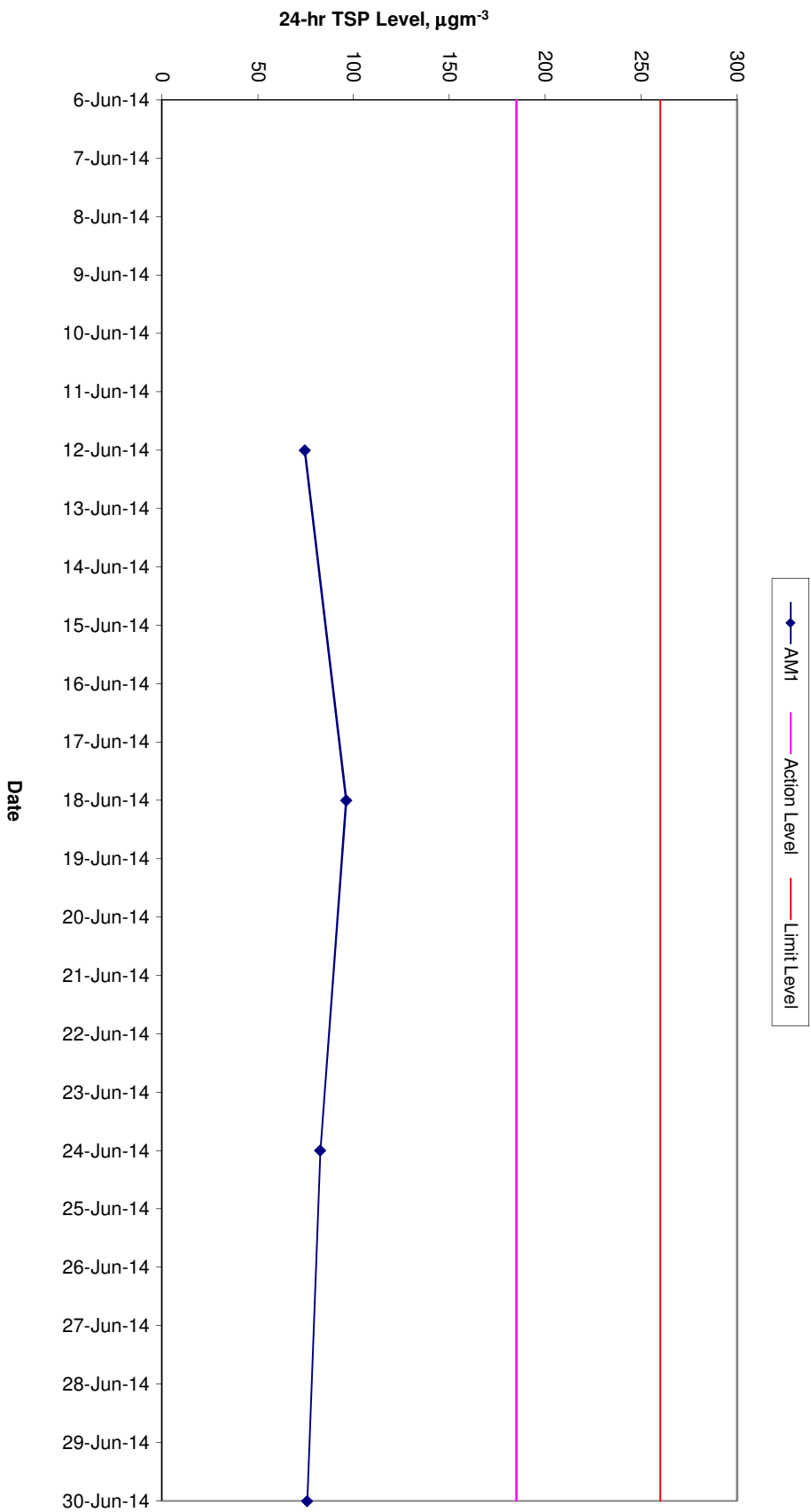


1-hr TSP Levels AM3 (Wan Chai East PTW)

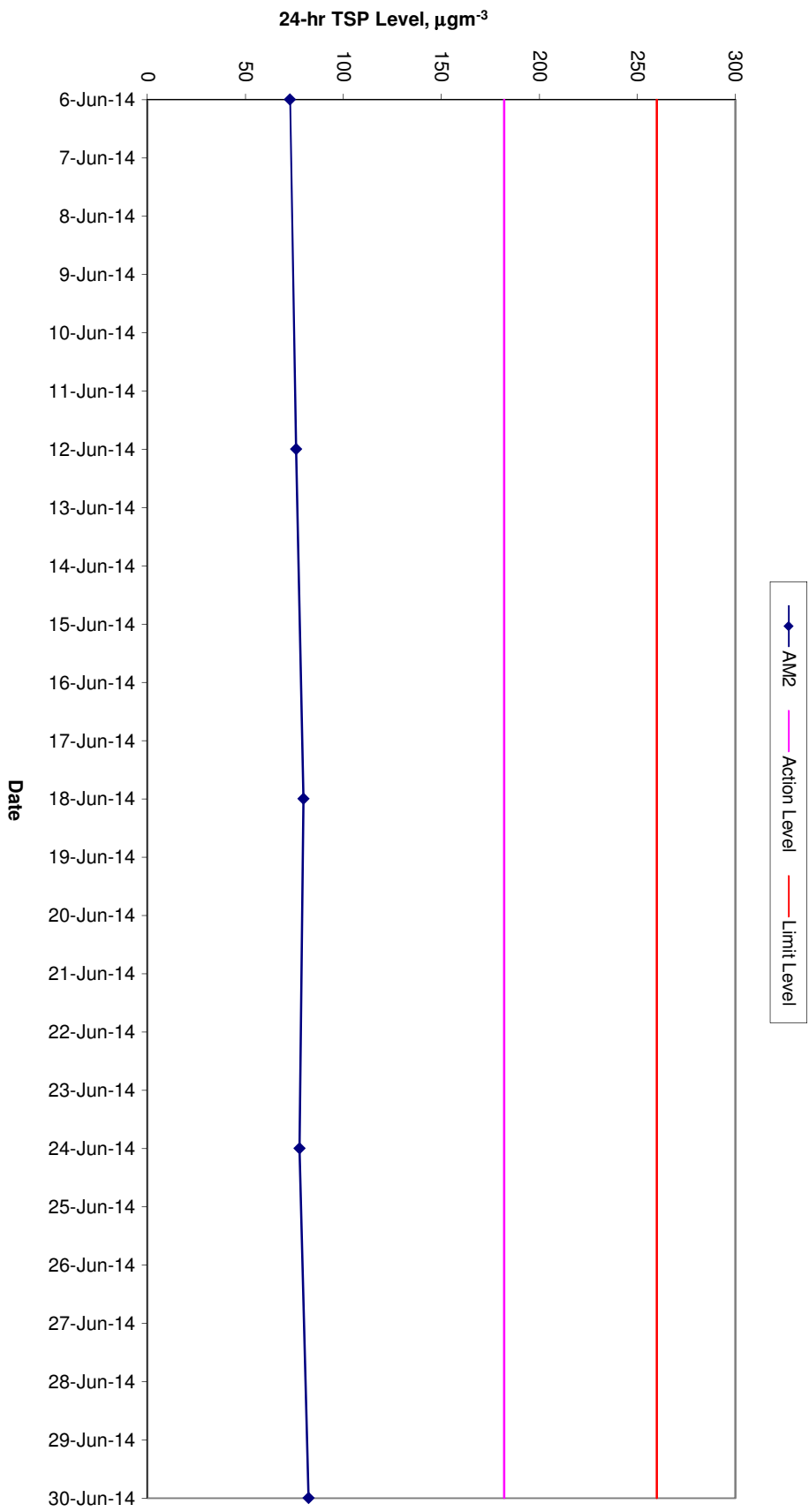


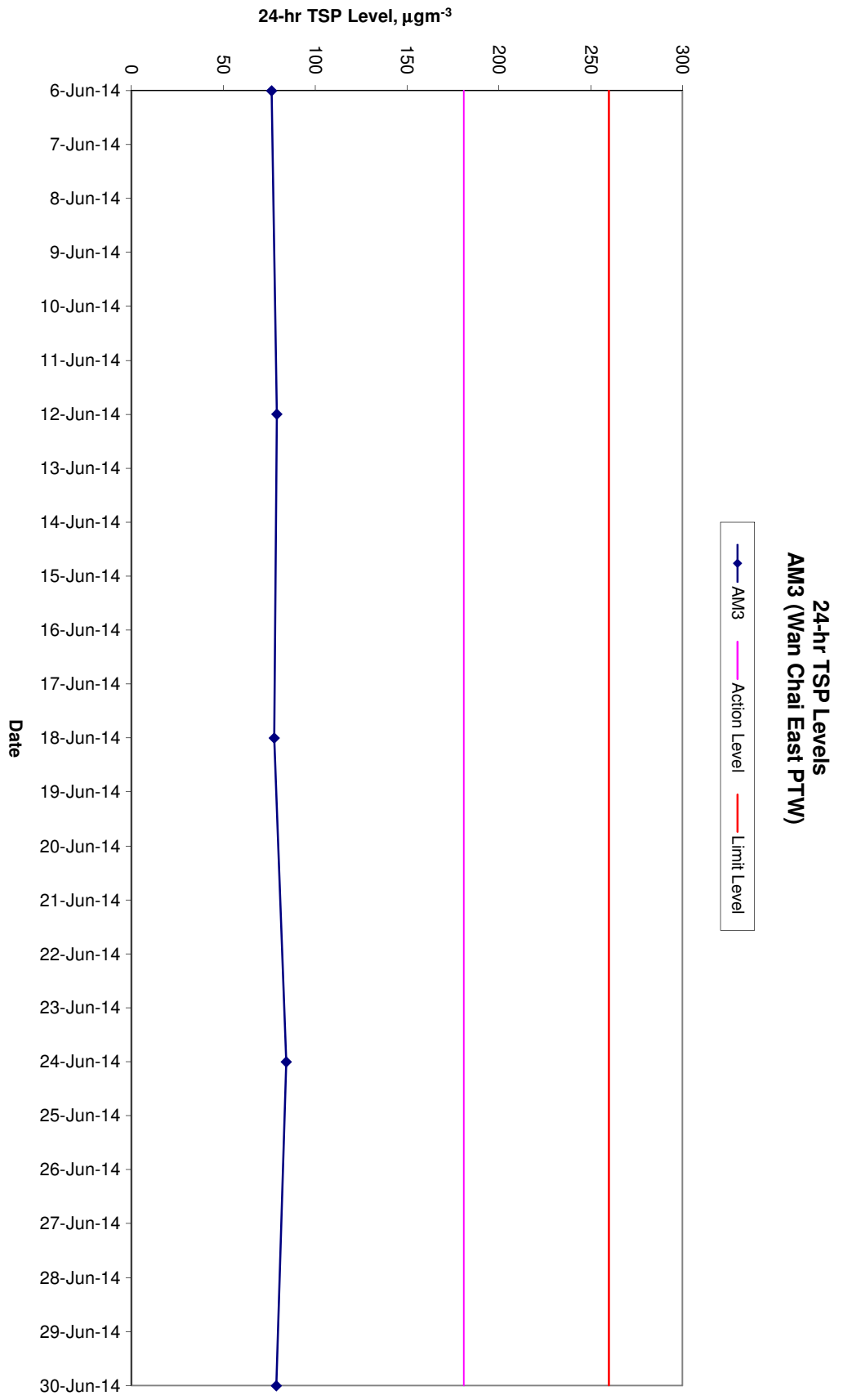


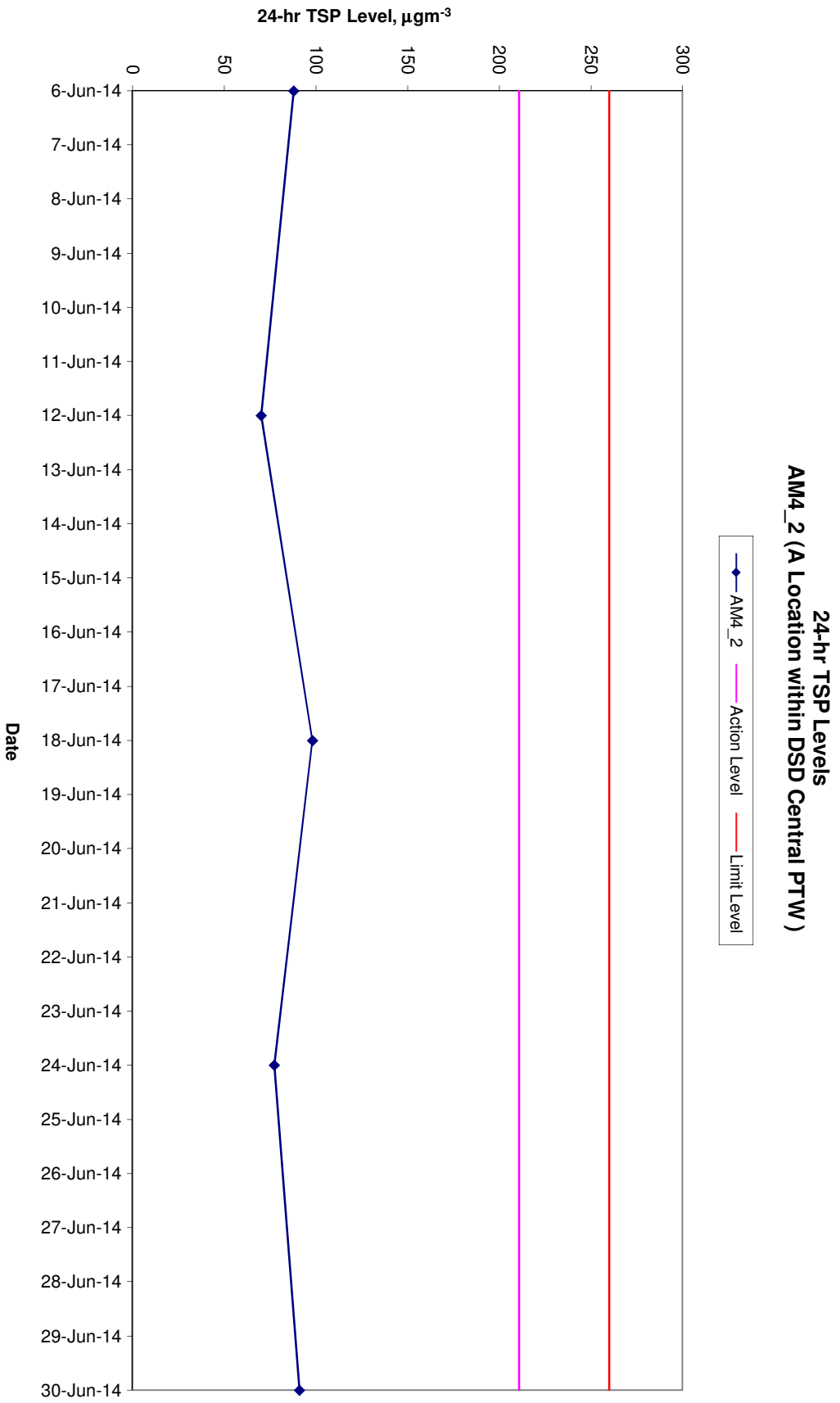
24-hr TSP Levels AM1 (Chan's Creative School)



24-hr TSP Levels
AM2 (Hong Kong & Island Regional Office, WSD)







**APPENDIX D
NOISE MONITORING RESULTS AND
GRAPHICAL PRESENTATIONS**

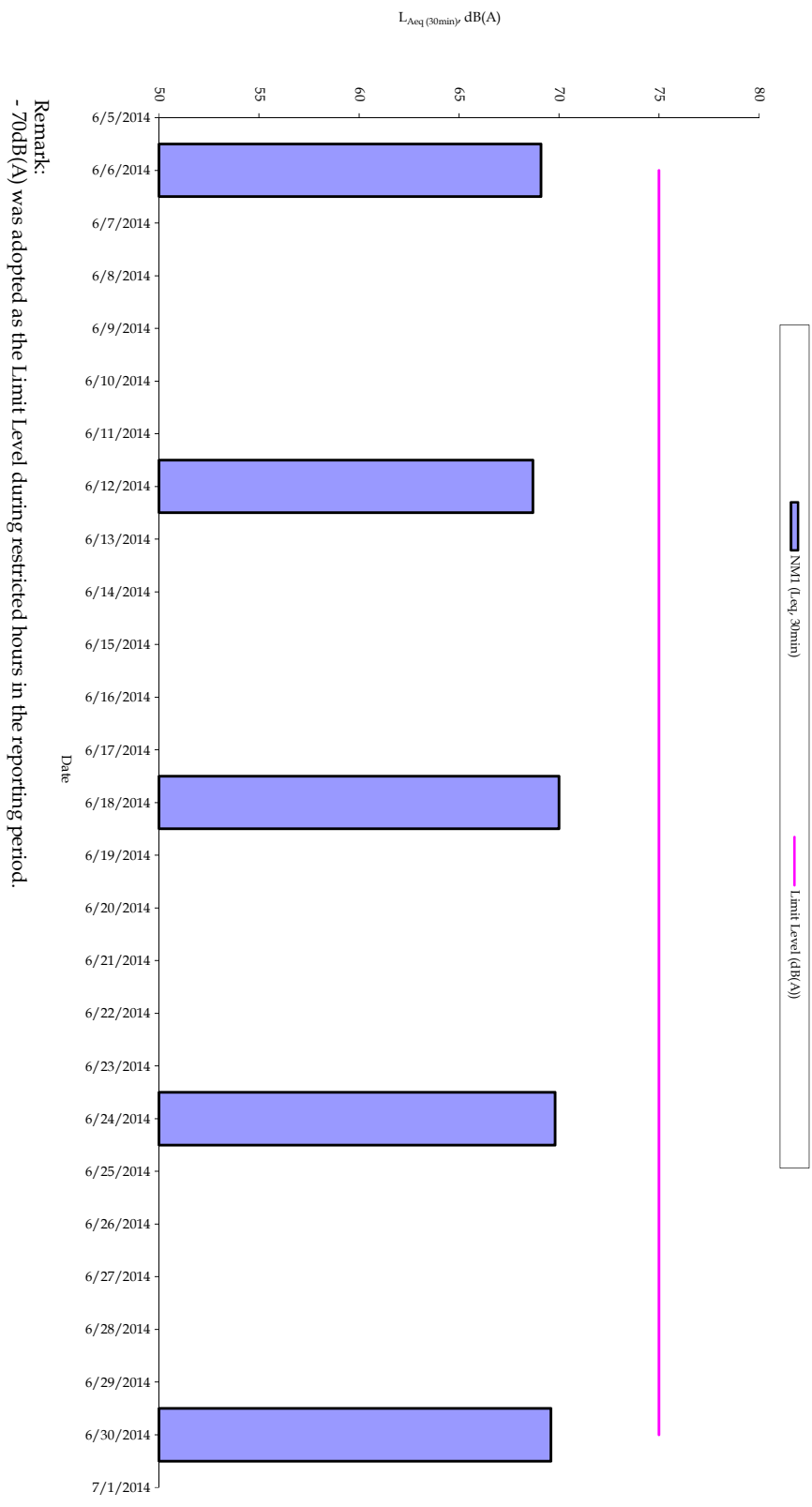
Restricted Hours Noise Monitoring Results ^[1]

Station NM1

Date	Start Time	End Time	Weather	Noise level (dB(A)), 5 min			Major Construction Noise Source(s) Observed	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
3-Jun-14	22:00	22:05	Fine	67	70	65	Noise from nearby playground	Traffic Noise	-	30	0.2	RION- NL31 (S/N 00410224)	RION - NC73 (S/N 10997142)
	22:05	22:10	Fine	68	70	66			-				
	22:10	22:15	Fine	69	70	66			-				
	22:00	22:15	Fine	68	70	66			-				
8-Jun-14	10:00	10:05	Sunny	68	70	66	Noise from nearby playground	Traffic Noise	-	28	0.2	RION- NL31 (S/N 00410224)	RION - NC73 (S/N 10997142)
	10:05	10:10	Sunny	68	71	66			-				
	10:10	10:15	Sunny	68	70	65			-				
	10:00	10:15	Sunny	68	70	66			-				
17-Jun-14	21:45	21:50	Fine	68	71	66	Noise from nearby playground	Traffic Noise	-	30	0.2	RION- NL52 (S/N 00131627)	RION - NC73 (S/N 10997142)
	21:50	21:55	Fine	68	71	66			-				
	21:55	22:00	Fine	68	71	66			-				
	21:45	22:00	Fine	69	71	66			-				
22-Jun-14	10:43	10:48	Sunny	68	70	66	Noise from nearby playground	Traffic Noise	-	27	0.3	RION- NL52 (S/N 00131627)	RION - NC73 (S/N 10997142)
	10:48	10:53	Sunny	69	71	66			-				
	10:53	10:58	Sunny	68	70	66			-				
	10:43	10:58	Sunny	68	70	66			-				
			Min.	67									
			Max.	69									

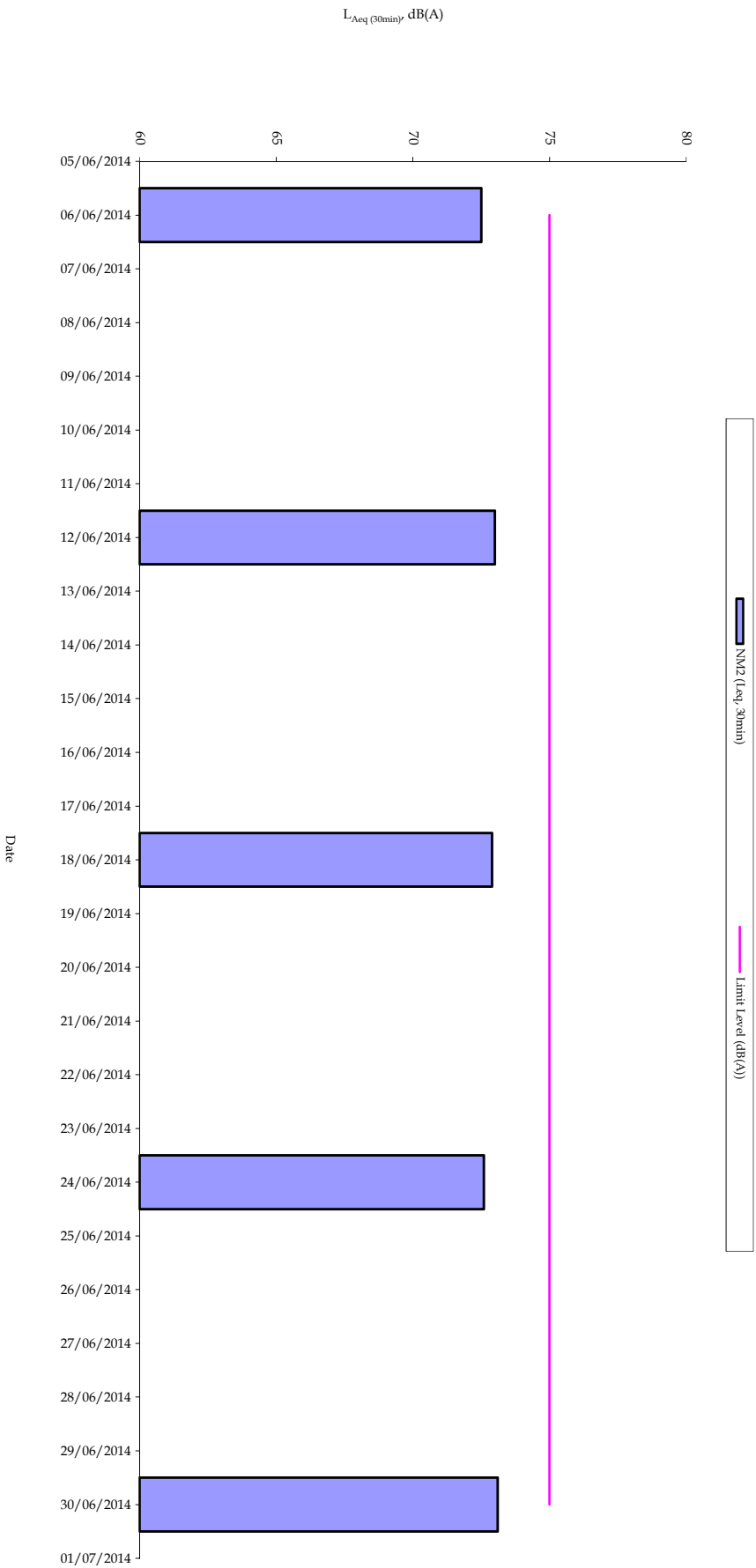
[1] No class was held at the school during all the measurement period.

Normal Weekdays Noise Monitoring Results at NMI ($L_{Aeq, 30min}$)



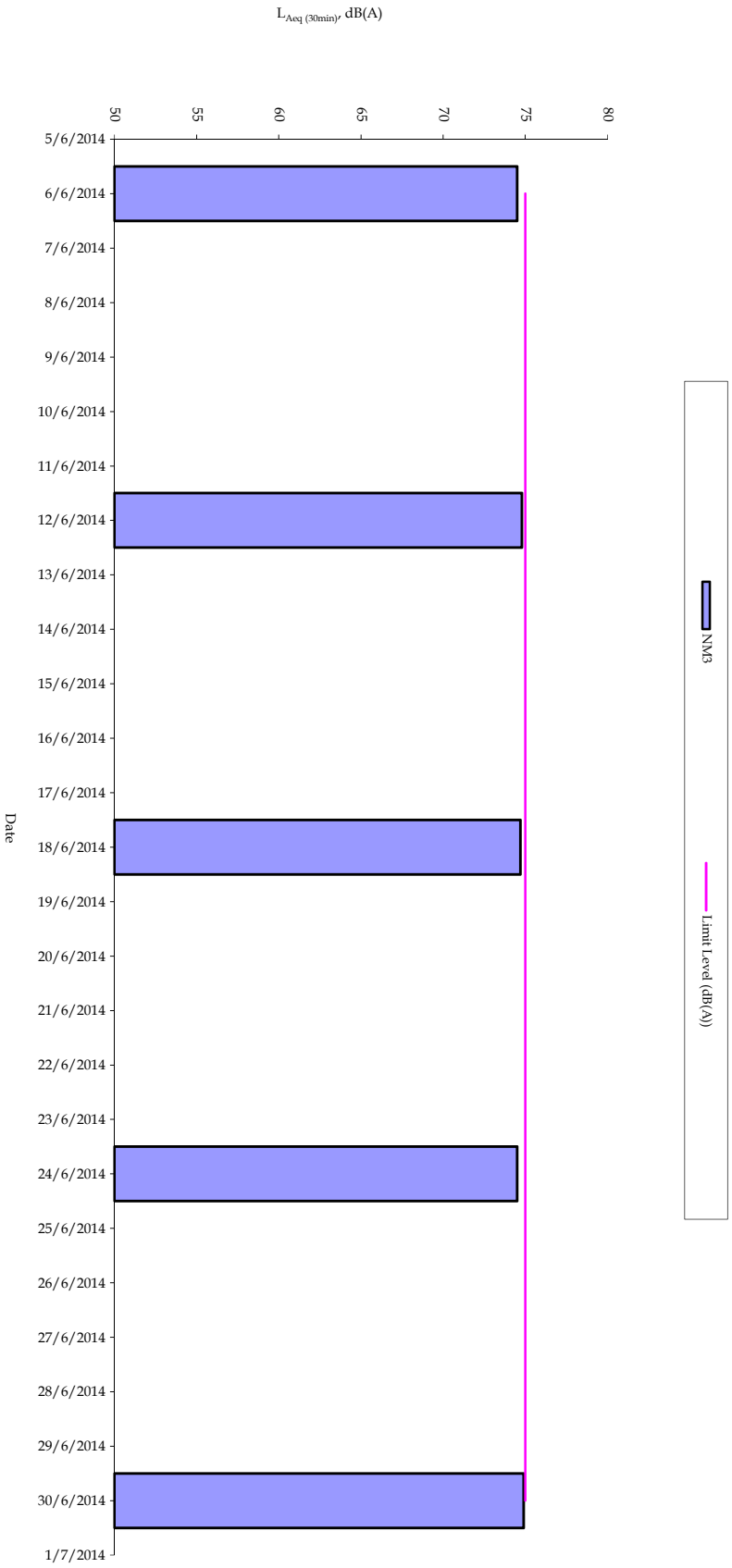
Remark: - 70dB(A) was adopted as the Limit Level during restricted hours in the reporting period.

Normal Weekdays Noise Monitoring Results at NM2 ($L_{Aeq, 30min}$)



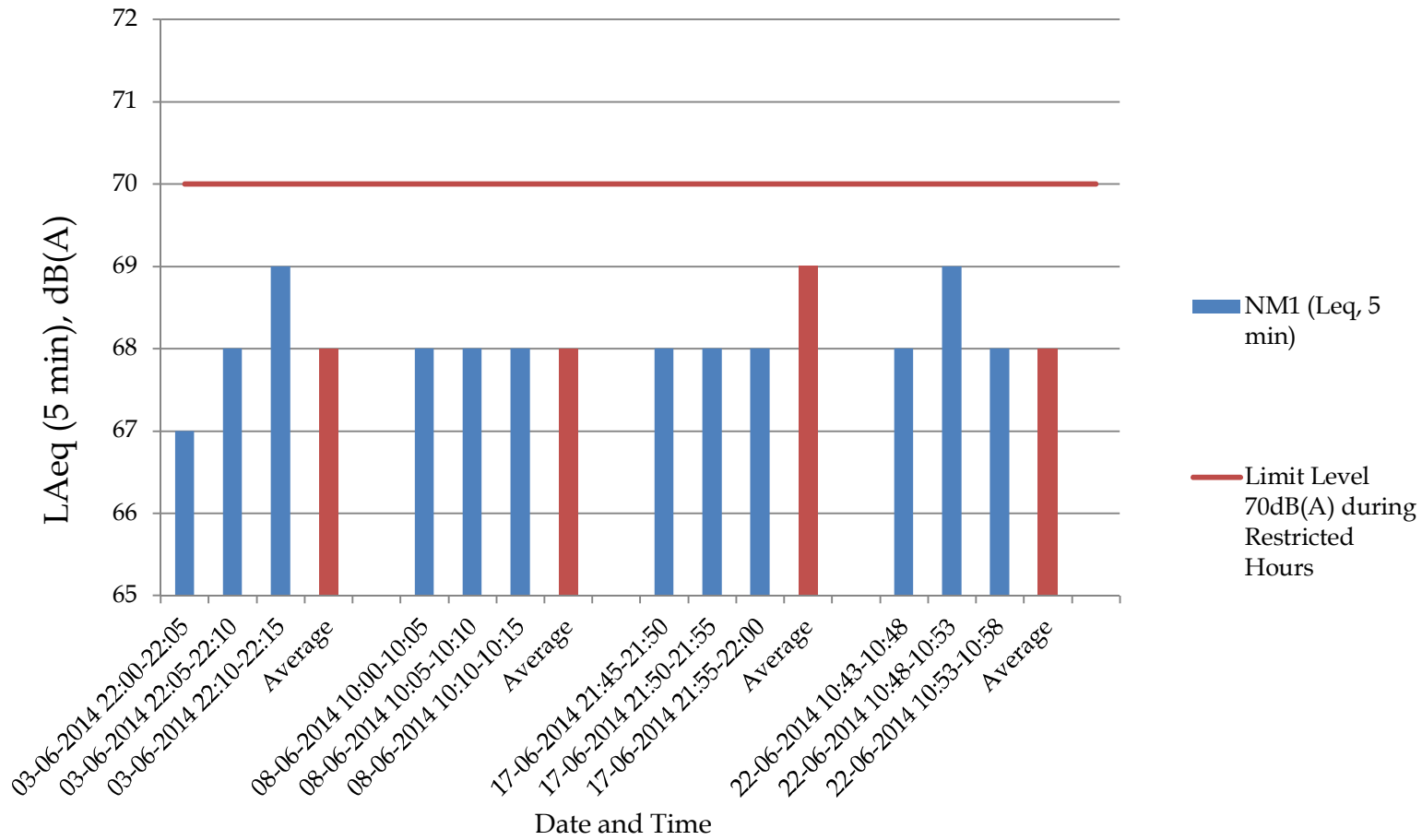
Remark:
 - 75dB(A) was adopted as the Limit Level during normal weekdays in the reporting period

Normal Weekdays Noise Monitoring Results at NM3 ($L_{Aeq, 30min}$)

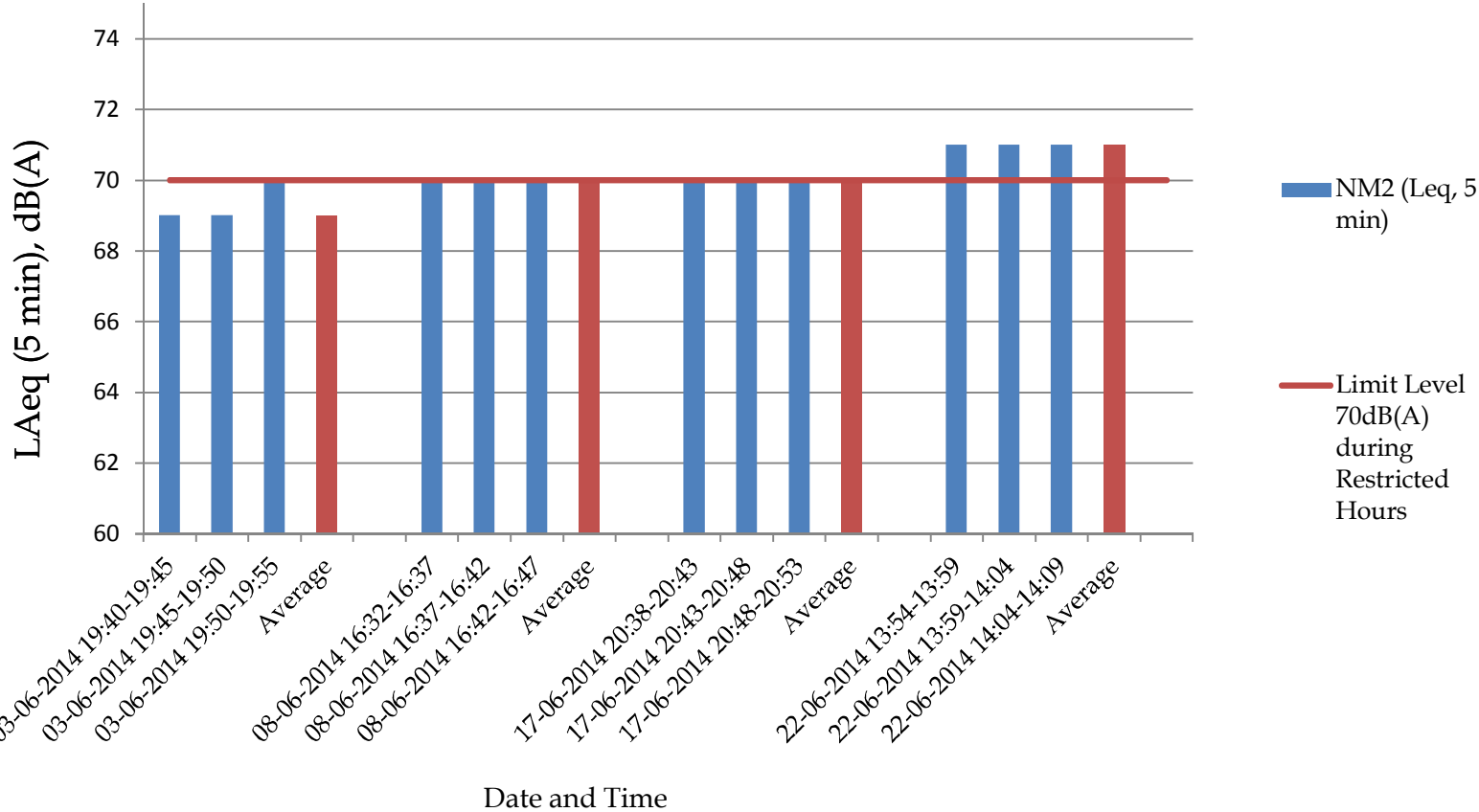


Remark:
 - 75dB(A) was adopted as the Limit Level during normal weekdays in the reporting period

Restricted Noise Monitoring at NM1 (LAeq, 5 min)



Restricted Noise Monitoring at NM2 (LAeq, 5 min)



APPENDIX E
SUMMARY OF EXCEEDANCE

APPENDIX E – SUMMARY OF EXCEEDANCE

Reporting Month: June 2014

- a) Exceedance Report for 1-hr TSP (NIL)**
- b) Exceedance Report for 24-hr TSP (NIL)**
- c) Exceedance Report for Construction Noise (1)**

No Action Level exceedance was recorded, while one non-project related Limit Level exceedance was recorded during the restricted hour noise monitoring on 22nd June 2014 by the ET of DC/2007/23 at NM2. According to the information provided by the Contractor, no construction works were carried out during the restricted hours period on 22nd June 2014 at Wan Chai East Preliminary Treatment Works under DC/2009/23.

**APPENDIX F
SITE AUDIT SUMMARY**

Contract No: DC/2009/23

HATS 2A - Upgrading of PTWs at North Point, Wan Chai East and Central

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	140606
Date	6 June 2014 (Friday)
Time	14:00 – 16:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
140606-R03	<p>Part A - Water Quality</p> <ul style="list-style-type: none">Properly clear the stagnant water in the drip tray of the chemical waste storage facility at Central-PTW.	A 11
140606-R02	<p>Part B - Landscape and Visual</p> <p>No environmental deficiency was identified during the site inspection.</p> <p>Part C - Air Quality</p> <ul style="list-style-type: none">The dusty material should be cleared properly or covered with the impervious material to prevent the dust generation at North Point-PTW. <p>Part D - Noise</p> <p>No environmental deficiency was identified during the site inspection.</p>	C 6
140606-O01	<p>Part E - Waste / Chemical Management</p> <ul style="list-style-type: none">The oil leakage was observed from the excavators at Central-PTW. The Contractor was reminded to keep them in a good condition. <p>Part F - Permit / Licenses</p> <p>No environmental deficiency was identified during the site inspection.</p> <p>Follow up:</p> <ul style="list-style-type: none">For previous audit session (Ref. No. 140530), outstanding item 140530-O02 is required to be followed up and remarked as 140606-O01 which will be reviewed in next weekly site inspection (Ref. No. 140613). <p>Remark:</p> <ul style="list-style-type: none">--	E 7i

	Name	Signature	Date
Recorded by	Janet Wai		6 June 2014
Checked by	Dr. Priscilla Choy		6 June 2014

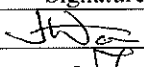
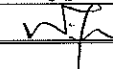
Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	140613
Date	13 June 2014 (Friday)
Time	14:00 – 16:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
140613-R06	<p>Part A - Water Quality</p> <ul style="list-style-type: none"> Properly clear the stagnant water at Central-PTW. 	A 11
140613-R02	<p>Part B – Landscape and Visual</p> <p>No environmental deficiency was identified during the site inspection.</p> <p>Part C - Air Quality</p> <ul style="list-style-type: none"> Properly clear the debris at Wan Chai-PTW. <p>Part D – Noise</p> <p>No environmental deficiency was identified during the site inspection.</p>	C 6
140613-O01	<p>Part E –Waste / Chemical Management</p> <ul style="list-style-type: none"> The oil leakage was observed from the excavators at Central-PTW. The Contractor was reminded to keep them in a good condition. 	E 7i
140613-R03	<ul style="list-style-type: none"> The chemical containers should be provided with the drip tray at Central-PTW. 	E 7ii
140613-R04	<ul style="list-style-type: none"> Properly clear the oil stained earth at Central-PTW and the oil stain at Wan Chai-PTW. 	E 7i
140613-R05	<ul style="list-style-type: none"> The drip tray should be kept in a good condition at Central-PTW. <p>Part F - Permit / Licenses</p> <p>No environmental deficiency was identified during the site inspection.</p> <p>Follow up:</p> <ul style="list-style-type: none"> For previous audit session (Ref. No. 140606), outstanding item 140606-O01 is required to be followed up and remarked as 140613-O01 which will be reviewed in next weekly site inspection (Ref. No. 140620). <p>Remark:</p> <ul style="list-style-type: none"> -- 	E 7ii

	Name	Signature	Date
Recorded by	Janet Wai		13 June 2014
Checked by	Dr. Priscilla Choy		13 June 2014

Contract No: DC/2009/23

HATS 2A - Upgrading of PTWs at North Point, Wan Chai East and Central

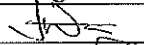

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	140620
Date	20 June 2014 (Friday)
Time	14:00 – 16:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
140620-R01	<p>Part A - Water Quality</p> <ul style="list-style-type: none"> Properly clear the stagnant water at North Point-PTW and Wan Chai-PTW. 	A 11
140620-R04	<p>Part B – Landscape and Visual</p> <ul style="list-style-type: none"> Properly place the construction material far away the tree protection area at Wan Chai-PTW. 	B 1
140620-R02	<p>Part C - Air Quality</p> <ul style="list-style-type: none"> Properly clear the debris at Wan Chai-PTW. 	C 6
140620-R03	<p>Part D – Noise</p> <p>No environmental deficiency was identified during the site inspection.</p> <p>Part E –Waste / Chemical Management</p> <ul style="list-style-type: none"> Properly clear the oil stain at Wan Chai-PTW. <p>Part F - Permit / Licenses</p> <p>No environmental deficiency was identified during the site inspection.</p> <p>Follow up:</p> <ul style="list-style-type: none"> For previous audit session (Ref. No. 140613), outstanding item 140613-R02 is required to be followed up and remarked as 140620-R02 which will be reviewed in next weekly site inspection (Ref. No. 140627). <p>Remark:</p> <ul style="list-style-type: none"> -- 	E 7i

	Name	Signature	Date
Recorded by	Janet Wai		20 June 2014
Checked by	Dr. Priscilla Choy		20 June 2014

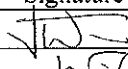

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	140627
Date	27 June 2014 (Friday)
Time	14:00 – 16:15

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
140627-R04 140627-R06	<p>Part A - Water Quality</p> <ul style="list-style-type: none"> Properly clear the stagnant water at Wan Chai-PTW and Central-PTW. The maintenance of the sediment tank should be provided regularly at North Point-PTW and Wan Chai-PTW. 	A 11 A 5iv
140627-R05	<p>Part B – Landscape and Visual</p> <ul style="list-style-type: none"> Properly clear and place the construction materials far away from the tree protection area at Central-PTW. 	B 1
140627-R03	<p>Part C - Air Quality</p> <ul style="list-style-type: none"> The dusty materials and debris should be cleared or covered by impervious materials at North Point-PTW and Wan Chai-PTW. 	C 6
	<p>Part D – Noise</p> <p>No environmental deficiency was identified during the site inspection.</p>	
140627-O01	<p>Part E –Waste / Chemical Management</p> <ul style="list-style-type: none"> The oil leakage was observed from the excavator at Central-PTW. The Contractor was reminded to keep it in a good condition. 	E 7i
140627-R02	<ul style="list-style-type: none"> The chemical containers should be provided with the drip tray or cleared properly at Wan Chai-PTW and Central-PTW; and the drip tray should be provided with adequate capacity at Wan Chai-PTW. 	E 7ii
140627-R07	<ul style="list-style-type: none"> Properly sort out the construction waste at Wan Chai-PTW. 	E 4ii
	<p>Part F - Permit / Licenses</p> <p>No environmental deficiency was identified during the site inspection.</p>	
	<p>Follow up:</p> <ul style="list-style-type: none"> For previous audit session (Ref. No. 140620), outstanding item 140620-R01 & 140620-R02 are required to be followed up and remarked as 140627-R04 & 140627-R03 which will be reviewed in next weekly site inspection (Ref. No. 140704). 	
	<p>Remark:</p> <ul style="list-style-type: none"> -- 	

	Name	Signature	Date
Recorded by	Janet Wai		27 June 2014
Checked by	Dr. Priscilla Choy		27 June 2014

**APPENDIX G
SUMMARY OF AMOUNT OF WASTE
GENERATED**

APPENDIX G MONTHLY SUMMARY WASTE FLOW TABLE FOR June (2014)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly					Special Waste			
	Total Quantity Generated	Broken Concrete (4)	Reused in the Contract	Reused in other Projects	Disposal as Public Fill	Import Fill	Metals	Paper / Cardboard Packaging	Plastics (3)	Chemical Waste	Other, e.g. general refuse	Screening (CPTW)	Grit (CPTW)	Screening (NPPTW)	Grit (NPPTW)
	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	
Year2013	11.148	0	0	0	11.148	0	18.170	1.023	0.144	0.2	0.630	0.264	0.923	0	0
JAN	0.317	0	0	0	0.317	0	0	0.180	0.080	0	0.038	0.061	0.028	0	0
FEB	0.147	0	0	0	0.147	0	0	0.050	0	0	0.060	0.076	0.014	0	0
MAR	1.152	0	0	0	1.152	0	11.210	0.170	0.080	0	0.048	0.114	0.026	0	0
APR	0.029	0	0	0	0.029	0	15.340	0.110	0	0	0.045	0.118	0.028	0.028	0.009
MAY	0.196	0	0	0	0.196	0	15.410	0.170	0	0.40	0.023	0.126	0.033	0.045	0.021
JUN	0.087	0	0	0	0.087	0	0	0.160	0	0.23	0.038	0.117	0.033	0.046	0.024
SUB-TOTAL	13.076	0.000	0.000	0.000	13.076	0.000	60.130	1.863	0.304	0.830	0.882	0.876	1.085	0.119	0.054
JUL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	13.076	0.000	0.000	0.000	13.076	0.000	60.130	1.863	0.304	0.830	0.882	0.876	1.085	0.119	0.054

Forecast of Total Quantities of C&D materials to be Generated from the Contracts *											Special Waste		Special Waste	
Total Quantity Generated	Broken Concrete (4)	Reused in the Contract	Reused in other Projects	Disposal as Public Fill	Import Fill	Metals	Paper / Cardboard Packaging	Plastics (3)	Chemical Waste	Other, e.g. general refuse	Screening (CPTW)	Grit (CPTW)	Screening (NPPTW)	Grit (NPPTW)
[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	
18.5	2.4	0.2	1	14.2	0.7	100	8	1	3	3.5	4.5	3	1.5	1

- Notes :
- (1) The performance targets are given in PS Clause 6(14).
 - (2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the site.
 - (3) Plastics refer to plastic bottles / containers, plastic sheets / foam from packaging material.
 - * (4) The contractor shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the Works, together with a breakdown of the nature where to total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000m³. (PS Clause 25.25S (6)(b) refers).
[Delete Note (4) and the table above on the forecast, where inapplicable].
 - (5) The assumed density (kg/m³) for both C&D material and general refuse.
C&D material 2000kg/m³
General refuse 500kg/m³
 - (6) Conversion factors for reporting purpose: in-situ: rock = 2.5 tonnes/m³ ; soil = 2.0 tonnes/m³ excavated: rock = 2.0 tonnes/m³ ; soil = 1.8 tonnes/m³
broken concrete and bitumen = 2.4 tonnes/m³ C&D Waste = 0.9 tonnes/m³ bentonite slurry = 2.8 tonnes/m³ Chemical Waste 1 litres = 1 kg
 - (7) The actual quantities of other (general refuse) generated in year 2011 was 0.079m³ and in year 2012 was 0.214m³ which were amended with the updated information by Contractor in the reporting month (July 2014).
 - (8) The actual quantities of other (general refuse) generated in year 2013 was amended with the updated information by Contractor in the reporting month (July 2014).
 - (9) The forecast of total quantities of metal, paper/ cardboard packaging, chemical waste and special waste at Central PTW to be generated were amended by Contractor in the reporting month (July 2014).

APPENDIX H
EVENT ACTION PLANS

APPENDIX H – Event / Action Plans

Table H-1 Event / Action Plan For 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.	1. Check monitoring data submitted by ET; 2. Check Contractor’s working method.	1. Notify Contractor.	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.
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	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.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented	1. Submit proposals for remedial to ER within 3 working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
	actions required; 7. If exceedance continues, arrange meeting with IEC and ER; 8. If exceedance stops, cease additional monitoring			
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.	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	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented	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

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 4. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 5. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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

Table H-2 Event / Action Plan For Construction Noise

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action Level being exceeded	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 1. Submit noise mitigation proposals to IEC and ER; 2. Implement noise mitigation proposals
Limit Level being exceeded	<ol style="list-style-type: none"> 1. Inform IEC, ER, Contractor and EPD; 2. Repeat measurements to confirm findings; 3. Increase monitoring frequency; 4. Identify source and investigate the cause of exceedance; 5. Carry out analysis of Contractor's working procedures; 6. Discuss with the IEC, Contractor and ER on remedial measures required; 7. Assess effectiveness of 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 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

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
	Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring		until the exceedance is abated	the ER until the exceedance is abated

**APPENDIX I
ENVIRONMENTAL MITIGATION
IMPLEMENTATION SCHEDULE (EMIS)**

APPENDIX I IMPLEMENTATION SCHEDULE OF ENVIRONMENTAL MITIGATION MEASURES (EMIS)

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
A	Air Quality		
3.74	Skip hoist for material transport should be totally enclosed by impervious sheeting.	All construction sites	^
	Vehicle washing facilities should be provided at every vehicle exit point.		^
	The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcore.		^
	Where a site boundary adjoins a road, streets or other areas accessible to the public, hoarding of not less than 2.4 m high from ground level should be provided along the entire length except for a site entrance or exit.		^
	Use of regular watering, with complete coverage, to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather.		^
	Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines.		*
	Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs.		^
	Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.		^
	Imposition of speed controls for vehicles on unpaved site roads. Ten kilometers per hour is the recommended limit.		^
	Every stock of more than 20 bags of cement should be covered entirely by impervious sheeting placed in an area sheltered on the top and the 3 sides.		^
	Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.	^	
3.74	Instigation of an environmental monitoring and auditing program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise.	All construction sites	^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
B	Airborne Noise		
4.56– 4.61	Use of quiet PME, movable barriers and acoustic mats.	All construction sites	^
4.67	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.		^
4.67	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.		^
C	Water Quality		
6.349 to 6.375	Construction Site Runoff and General Construction Activities The mitigation measures as outlined in the ProPECC PN 1/94 Construction Site Drainage should be adopted where applicable.	All construction sites	*
6.376	Effluent Discharge There is a need to apply to EPD for a discharge licence for discharge of effluent from the construction site under the WPCO. The discharge quality must meet the requirements specified in the discharge licence. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the WPCO license which is under the ambit of regional office (RO) of EPD. Minimum distances of 100 m should be maintained between the discharge points of construction site effluent and the existing saltwater intakes.		^
6.377	Accidental Spillage of Chemicals Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General)		*

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
	Regulation should be observed and complied with for control of chemical wastes.		
6.378	Any service shop and maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.		*
6.379	<p>Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows:</p> <ul style="list-style-type: none"> • Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport. • Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents. • Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area. 		#
6.380	<p>Construction Works in Close Proximity of Storm Drains or Seafront</p> <p>To minimize the potential water quality impacts from the construction works located at or near any watercourse, the practices outlined below should be adopted where applicable.</p> <ul style="list-style-type: none"> • The use of less or smaller construction plants may be specified to reduce the disturbance to the storm water courses or marine environment. • Temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction materials should be located well away from any water courses during carrying out of the construction works. • Stockpiling of construction materials and dusty materials should be covered and located away from any water courses. • Construction debris and spoil should be covered up and/or disposed of as soon as possible to avoid being washed into the nearby water receivers. • Construction activities, which generate large amount of wastewater, should be carried out in a distance away from the waterfront, where practicable. • Proper shoring may need to be erected in order to prevent soil/mud from slipping into 	All construction sites	^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
	the storm culvert or sea.		
D	Waste Management		
9.107	Reusable steel or concrete panel shutters, fencing and hoarding and signboard should be used as a preferred alternative to items made of wood, to minimise wastage of wood. Attention should be paid to WBTC No. 19/2001 - Metallic Site Hoardings and Signboards to reduce the amount of timber used on construction sites. Metallic alternatives to timber are readily available and should be used rather than new timber. Precast concrete units should be adopted wherever feasible to minimize the use of timber formwork.	All construction sites	^
9.109	All waste materials should be segregated into categories covering: <ul style="list-style-type: none"> • excavated materials suitable for reuse on-site; • excavated materials suitable for public filling facilities; • remaining C&D waste for landfill; • chemical waste; and • general refuse for landfill. 	All construction sites	^
9.113	Sort C&D waste from demolition of existing facilities to recover recyclable portions such as metals;		^
	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.		*
	Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force.		^
	Any unused chemicals or those with remaining functional capacity shall be recycled.		^
	Proper storage and site practices to minimise the potential for damage or contamination of construction materials.		^
9.115	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.		^
9.115	Develop and provide toolbox talk for on-site sorting of C&D materials to enhance worker's awareness in handling, sorting, reuse and recycling of C&D materials.		^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
	Provision of sufficient waste disposal points and regular collection of waste.		^
	Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.		^
9.125	Bentonite slurries used in diaphragm wall construction should be reconditioned and reused wherever practicable. The disposal of residual used bentonite slurry should follow the good practice guidelines stated in ProPECC PN 1/94 "Construction Site Drainage"	All construction sites	N/A
9.131	Adequate number of portable toilets at temporary works areas or the PTWs to ensure that sewage from site staff would be properly collected.		^
9.133	General refuse should be stored in enclosed bins, skips or compaction units separating from C&D material and disposed of at designated landfill.		^
9.135	The recyclable component of the municipal waste generated by the workforce, such as aluminium cans, paper and cleansed plastic containers should be separated from other waste. Provision and collection of recycling bins for different types of recyclable waste should be set up by the Contractor. The Contractor should also be responsible for arranging recycling companies to collect these materials.		^
9.137	If chemical wastes are produced at the construction site, the Contractor would be required to register with the EPD as a chemical waste producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the approved Chemical Waste Treatment Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.		*
9.142	Prior to excavation of the marine deposit layer, the deposit should be tested in accordance with the ETWB TC(W) No. 34/2002 and the results should be presented in a Preliminary Sediment Quality Report. The marine deposit should be disposed of at the disposal site designated by the Marine Fill Committee (MFC) or Director of Environmental Protection (DEP) depending on the test results.		N/A

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
E	Terrestrial Ecology		
10.94	To implement effective noise mitigation measures as recommended in Section 4 of EIA.	All construction sites	N/A
10.95	Dust control practices such as regular watering, complete coverage of any aggregate or dusty material storage piles, and re-schedule of dusty activities during high-wind conditions as well as other measures recommended in Section 3 of EIA, should be implemented.		*
10.96	Fences/hoardings should be erected and installed along the boundary of the works areas.		^
10.97	Standard good site practices as suggested in Section 10 of EIA should be implemented.		N/A
10.98	Provision of proper drainage system and runoff control measures such as use of sand/silt traps, oil/grease separators, sedimentation tanks, etc.		^
F	Landscape and Visual		
Table 13.7	Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical.	All construction sites	^
	Existing trees to be retained on site should be carefully protected during construction.		#
	Trees unavoidably affected by the works should be transplanted where practical.		^
	Compensatory tree planting should be provided to compensate for felled trees.		^
	Control of night-time lighting.		^
Table 13.7	Erection of decorative screen hoarding compatible with the surrounding setting.	All construction sites	N/A
G	Marine Ecology		
11.137	To minimize the potential indirect impacts on water quality from construction site runoff and various construction activities, the practices outlined in ProPECC PN 1/94 Construction Site Drainage should be adopted.	All construction sites	^
H	Hazard to Life		
14A.201	Limiting use of cranes in terms of locations, lifting height, swing angle and setting up safety zone.	Exact location will be determined on construction site by the engineer	^

Remarks:	^ Compliance of mitigation measure;
	N/A Not Applicable;
	* Recommendation was made during site audit but improved/rectified by the contractor.
	# Recommendation was made during site audit and to be improved / rectified by the contractor.
	X Non-compliance of mitigation measure;
	● Non-compliance but rectified by the contractor;

**APPENDIX J
COMPLAINT LOG**

APPENDIX J – COMPLAINT LOG

Reporting Month: June 2014

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

Remarks: No environmental complaint was received in the reporting month.

**APPENDIX K
CONSTRUCTION PROGRAMME**

DSD - HATSS2 Upgrading of PTW (DC/2009/23)		LEADER - JEC JV							Start Date : 30-Dec-10; Finish Date : 29-Oct-14																									
Clause 16 Programme for DC/2009/23 -Rev2									Data Date : 06-Jan-11; Run Date : 07-May-11																									
Activity ID	Activity Name	Original Duration	Total Float	Early Start	Early Finish	Late Start	Late Finish	2011				2012				2013				2014				2015				2016						
								Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1					
DSD - HATSS2 Upgrading of PTW (DC/2009/23)																																		
Particulars																																		
Key Dates																																		
Commencement / Completion																																		
FGN0010	Contract Award	0	0	30-Dec-10 A		06-Jan-11		◆ Contract Award																										
FGN0030	Date of Commencement of Contract	0	0	06-Jan-11		06-Jan-11		◆ Date of Commencement of Contract																										
FGN0040	Time for Completion for Project	1393	0	06-Jan-11		29-Oct-14			◆ Time for Completion for Project																									
FGN0050	Date of Completion of the Works	0	0			29-Oct-14			◆ Date of Completion of the Works																									
Portion of the Site																																		
North Point																																		
Possession / Vacation of Portions																																		
FNP00010	H/O Date_NP-1 (135 days after start)	0	0	20-May-11		20-May-11		◆ H/O Date_NP-1 (135 days after start)																										
FNP00020	Vacation Date_NP-1 (on Sec. 1 completed)	0	0			01-Jun-13																												
FNP00030	H/O Date_NP-2 (135 days after start)	0	29	20-May-11		18-Jun-11		◆ H/O Date_NP-2 (135 days after start)																										
FNP00040	Vacation Date_NP-2 (on Sec. 3 completed)	0	0			14-Oct-14																												
FNP00050	H/O Date_NP-3 (after Sec. 1 completed)	0	0	02-Jun-13		02-Jun-13																												
FNP00060	Vacation Date_NP-3 (on Sec. 3 completed)	0	0			14-Oct-14																												
Wan Chal East																																		
Possession / Vacation of Portions																																		
FWC00010	H/O Date_WCE-1 (135 days after start)	0	0	20-May-11		20-May-11		◆ H/O Date_WCE-1 (135 days after start)																										
FWC00020	Vacation Date_WCE-1 (on Sec. 5 completed)	0	0			23-Nov-13																												
FWC00030	H/O Date_WCE-2 (135 days after start)	0	0	20-May-11		20-May-11		◆ H/O Date_WCE-2 (135 days after start)																										
FWC00040	Vacation Date_WCE-2 (on Sec. 4ii completed)	0	0			14-Nov-11		◆ Vacation Date_WCE-2 (on Sec. 4ii completed)																										
FWC00050	H/O Date_WCE-2 (after complete Sec. 5-iv)	0	0	27-Jul-13		27-Jul-13																												
FWC00060	Vacation Date_WCE-2 (on Sec. 5 completed)	0	0			23-Nov-13																												
FWC00070	H/O Date_WCE-3 (135 days after start)	0	59	20-May-11		18-Jul-11		◆ H/O Date_WCE-3 (135 days after start)																										
FWC00080	Vacation Date_WCE-3 (on Sec. 5 completed)	0	0			23-Nov-13																												
FWC00090	H/O Date_WCE-4 (135 days after start)	0	59	20-May-11		18-Jul-11		◆ H/O Date_WCE-4 (135 days after start)																										
FWC00100	Vacation Date_WCE-4 (on Sec. 5 completed)	0	0			23-Nov-13																												
FWC00110	H/O Date_WCE-T1 (135 days after start)	0	205	20-May-11		11-Dec-11		◆ H/O Date_WCE-T1 (135 days after start)																										
FWC00120	Vacation Date_WCE-T1 (on Sec. 6 completed)	0	0			22-May-14																												
FWC00130	H/O Date_WCE-T2 (135 days after start)	0	205	20-May-11		11-Dec-11		◆ H/O Date_WCE-T2 (135 days after start)																										
FWC00140	Vacation Date_WCE-T2 (on Sec. 6 completed)	0	0			22-May-14																												
Central																																		
Possession / Vacation of Portions																																		
FCT00110	H/O Date_CTL-1 (45 days after start)	0	0	19-Feb-11		19-Feb-11		◆ H/O Date_CTL-1 (45 days after start)																										
FCT00120	Vacation Date_CTL-1 (on Sec. 9 completed)	0	0			25-May-14																												
FCT00130	H/O Date_CTL-2 (45 days after start)	0	50	19-Feb-11		10-Apr-11		◆ H/O Date_CTL-2 (45 days after start)																										
FCT00140	Vacation Date_CTL-2 (on Sec. 9 completed)	0	0			25-May-14																												
FCT00150	H/O Date_CTL-3 (after Sec. 8 completed)	0	0	22-Mar-13		22-Mar-13																												
FCT00160	Vacation Date_CTL-3 (on Sec.10 completed)	0	0			29-Oct-14																												
FCT00170	H/O Date_CTL-T	0	806	06-Jan-11		22-Mar-13		◆ H/O Date_CTL-T																										
FCT00180	Vacation Date_CTL-T (on Sec.10 completed)	0	0			29-Oct-14																												
Management Plans and Programmes																																		
Contractor's Design, Submission / Approval																																		
Particulars																																		
FGN0200	Prepare/Submit Clause 16 Programme	60	11	06-Jan-11	06-Mar-11	17-Jan-11	17-Mar-11	Prepare/Submit Clause 16 Programme																										
FGN0210	Comment/Approval of Clause 16 Programme	30	41	07-Mar-11	05-Apr-11	17-Apr-11	16-May-11	Comment/Approval of Clause 16 Programme																										
FGN0220	Prepare/Submit Detailed Works Programme	60	11	07-Mar-11	05-May-11	18-Mar-11	16-May-11	Prepare/Submit Detailed Works Programme																										
FGN0230	Comments/Approval of Detailed Works Programme	30	11	06-May-11	04-Jun-11	17-May-11	15-Jun-11	Comments/Approval of Detailed Works Programme																										
FGN0250	Prepare/Submit Safety Plan	14	159	06-Jan-11	19-Jan-11	14-Jun-11	27-Jun-11	Prepare/Submit Safety Plan																										
FGN0260	Comments/Approval of Safety Plan	60	159	20-Jan-11	20-Mar-11	28-Jun-11	26-Aug-11	Comments/Approval of Safety Plan																										
FGN0300	Prepare/Submit Environmental Manag. Plan	21	152	06-Jan-11	26-Jan-11	07-Jun-11	27-Jun-11	Prepare/Submit Environmental Manag. Plan																										
FGN0310	Comments/Approval of Environmental Manag. Plan	60	152	27-Jan-11	27-Mar-11	28-Jun-11	26-Aug-11	Comments/Approval of Environmental Manag. Plan																										
FGN0330	Prepare / Submit Subcontractor Management Plan	30	143	06-Jan-11	04-Feb-11	29-May-11	27-Jun-11	Prepare / Submit Subcontractor Management Plan																										
FGN0340	Comments/Approval of Subcontractor Manag. Plan	60	143	05-Feb-11	05-Apr-11	28-Jun-11	26-Aug-11	Comments/Approval of Subcontractor Manag. Plan																										
FGN0400	Prepare / Submit Interface Management Plan	55	43	06-Jan-11	01-Mar-11	18-Feb-11	13-Apr-11	Prepare / Submit Interface Management Plan																										
FGN0410	Comments / Approval of Interface Management Plan	45	43	02-Mar-11	15-Apr-11	14-Apr-11	28-May-11	Comments / Approval of Interface Management Plan																										
FGN0420	Submit Detailed Interface Documents	60	43	16-Apr-11	14-Jun-11	29-May-11	27-Jul-11	Submit Detailed Interface Documents																										
FGN0430	Approval of Detailed Interface Documents	30	43	15-Jun-11	14-Jul-11	28-Jul-11	26-Aug-11	Approval of Detailed Interface Documents																										
FGN0440	Prepare/Submit Env. Baseline Monitoring report	60	71	19-Feb-11	19-Apr-11	01-May-11	29-Jun-11	Prepare/Submit Env. Baseline Monitoring report																										
FGN0445	Comments/Approval Env. Baseline Report	28	71	20-Apr-11	17-May-11	30-Jun-11	27-Jul-11	Comments/Approval Env. Baseline Report																										
FGN0448	Review/submit Construction Noise Permit	28	129	04-Apr-11	01-May-11	11-Aug-11	07-Sep-11	Review/submit Construction Noise Permit																										
FGN0449	Comments/Approval of Construction Noise Permit	28	129	02-May-11	29-May-11	08-Sep-11	05-Oct-11	Comments/Approval of Construction Noise Permit																										
Technical Information & Drawings																																		
FGN0450	Prepare/Submit initial record for CentralPTW	14	50	19-Feb-11	04-Mar-11	10-Apr-11	23-Apr-11	Prepare/Submit initial record for CentralPTW																										
FGN0455	Prepare/Submit Tree Survey Report Pt. I	14	50	19-Feb-11	04-Mar-11	10-Apr-11	23-Apr-11	Prepare/Submit Tree Survey Report Pt. I																										
FGN0460	Prepare/Submit initial record for remaining area	14	50	20-May-11	02-Jun-11	09-Jul-11	22-Jul-11	Prepare/Submit initial record for remaining area																										
FGN0465	Prepare/Submit Tree Survey Report Pt. II	14	13	20-May-11	02-Jun-11	02-Jun-11	15-Jun-11	Prepare/Submit Tree Survey Report Pt. II																										
Civil & Geo. Submission																																		
Contractor's Design, Submission and Approval																																		
Particulars																																		

Actual Work Critical Remaining Work
Remaining Work Milestone

Activity ID	Activity Name	Original Duration	Total Float	Early Start	Early Finish	Late Start	Late Finish	2011 2012 2013 2014 2015 2016																											
								Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1		
Civil Works Material Delivery on Site																																			
FWC00500	Ordering of Temp. Workshop Material	7	0	02-May-11	08-May-11	02-May-11	08-May-11	■ Ordering of Temp. Workshop Material																											
FWC00550	Manufacturing / Shipment of Temp. Workshop	60	0	09-May-11	07-Jul-11	09-May-11	07-Jul-11	■ Manufacturing / Shipment of Temp. Workshop																											
FWC00600	Temp. Workshop Material Delivery on Site	10	0	08-Jul-11	17-Jul-11	08-Jul-11	17-Jul-11	■ Temp. Workshop Material Delivery on Site																											
Civil Works																																			
Site Clearance & Prep. Works																																			
FWC01100	Construct Temp. Workshop, General Store	60	0	18-Jul-11	15-Sep-11	18-Jul-11	15-Sep-11	■ Construct Temp. Workshop, General Store																											
FWC01150	Construct Temp. D.G. Store	30	0	18-Jul-11	16-Aug-11	18-Jul-11	16-Aug-11	■ Construct Temp. D.G. Store																											
Demolition Works																																			
FWC01450	Demolish Extg. Workshop, General & D.G. Store	60	0	20-Nov-11	18-Jan-12	20-Nov-11	18-Jan-12	■ Demolish Extg. Workshop, General & D.G. Store																											
Building Service Works																																			
FWC01200	Modify Extg. Office to new control room	180	0	20-May-11	15-Nov-11	20-May-11	15-Nov-11	■ Modify Extg. Office to new control room																											
FWC01205	Lay new cable trench for new control room	30	0	17-Sep-11	16-Oct-11	17-Sep-11	16-Oct-11	■ Lay new cable trench for new control room																											
FWC01210	Modify Ex. of f.pantry, locker rm. to new WSoft	90	0	19-Jul-11	16-Oct-11	19-Jul-11	16-Oct-11	■ Modify Ex. of f.pantry, locker rm. to new WSoft																											
FWC01220	Modify & install new staircase to G/F	90	0	19-Jul-11	16-Oct-11	19-Jul-11	16-Oct-11	■ Modify & install new staircase to G/F																											
Transplantation, landscape works																																			
FWC01050	2nos. Tree Transplant	28	31	20-May-11	16-Jun-11	20-Jun-11	17-Jul-11	■ 2nos. Tree Transplant																											
E&M Installation																																			
FWC01500	Temporary Relocation of Workshop	60	0	16-Sep-11	14-Nov-11	16-Sep-11	14-Nov-11	■ Temporary Relocation of Workshop																											
FWC01550	Temporary Relocation of D.G. Store	60	0	21-Sep-11	19-Nov-11	21-Sep-11	19-Nov-11	■ Temporary Relocation of D.G. Store																											
FWC01600	Relocate Existing Control Rm. to Modified Ctrl Rm	70	0	17-Oct-11	25-Dec-11	17-Oct-11	25-Dec-11	■ Relocate Existing Control Rm. to Modified Ctrl Rm																											
Testing and Commissioning																																			
FWC01650	T&C of Relocated Control System	34	0	26-Dec-11	28-Jan-12	26-Dec-11	28-Jan-12	■ T&C of Relocated Control System																											
FWC01700	Completion of the Works of Sec. 4(ii)	0	0		14-Nov-11		14-Nov-11	◆ Completion of the Works of Sec. 4(ii)																											
FWC01800	Completion of the Works of Sec. 4	0	0		28-Jan-12		28-Jan-12	◆ Completion of the Works of Sec. 4																											
Works for Section 5																																			
Wan Chai East																																			
Possession / Vacation of Portions																																			
FWC01860	Second Possession WCE-2	0	0	27-Jul-13		27-Jul-13		◆ Second Possession WCE-2																											
Statutory Submission / Approval / Inspection																																			
FWC02300	Application of D.G. Store License	0	0	29-Jan-12		29-Jan-12		◆ Application of D.G. Store License																											
FWC02350	Approval of D.G. Store License	30	0	29-Jan-12	27-Feb-12	29-Jan-12	27-Feb-12	■ Approval of D.G. Store License																											
FWC02400	Application of D.G. Store Inspection	0	101	29-Jun-13		08-Oct-13		◆ Application of D.G. Store Inspection																											
FWC02450	D.G. Store Inspection by FSD	35	101	01-Jul-13	04-Aug-13	10-Oct-13	13-Nov-13	■ D.G. Store Inspection by FSD																											
FWC02500	Obtain D.G. Store Licence	0	101		14-Aug-13		23-Nov-13	◆ Obtain D.G. Store Licence																											
FWC02600	Submit F314 (as-built) & F501	0	46	23-Aug-13		08-Oct-13		◆ Submit F314 (as-built) & F501																											
FWC02650	FSD Inspection	35	46	25-Aug-13	28-Sep-13	10-Oct-13	13-Nov-13	■ FSD Inspection																											
FWC02700	Issuance of F.S. Certificate	0	46		08-Oct-13		23-Nov-13	◆ Issuance of F.S. Certificate																											
Civil Works																																			
Site Clearance & Prep. Works																																			
FWC10100	Complete Demolish of Extg. Workshop, D.G. Store	0	0		18-Jan-12		18-Jan-12	◆ Complete Demolish of Extg. Workshop, D.G. Store																											
FWC10120	Site Utilities Supply	60	124	20-May-11	18-Jul-11	21-Sep-11	19-Nov-11	■ Site Utilities Supply																											
Demolition Works																																			
FWC10400	Demolition of Temp. Workshop & D.G. Store	21	0	06-Jul-13	26-Jul-13	06-Jul-13	26-Jul-13	■ Demolition of Temp. Workshop & D.G. Store																											
FWC10410	Install Instrumentation Monitoring Pts.	28	167	08-Jul-11	04-Aug-11	22-Dec-11	18-Jan-12	■ Install Instrumentation Monitoring Pts.																											
Site Investigation																																			
FWC10110	12 nos. Pre-drill holes	60	0	20-Nov-11	18-Jan-12	20-Nov-11	18-Jan-12	■ 12 nos. Pre-drill holes																											
Foundation Works																																			
FWC10150	24nos. socket H-piles	96	0	19-Jan-12	23-Apr-12	19-Jan-12	23-Apr-12	■ 24nos. socket H-piles																											
FWC10160	ELS for pile cap for New Admin. Bldg	28	0	24-Apr-12	21-May-12	24-Apr-12	21-May-12	■ ELS for pile cap for New Admin. Bldg																											
FWC10170	Construct pile cap for New Admin. Bldg.	48	0	22-May-12	08-Jul-12	22-May-12	08-Jul-12	■ Construct pile cap for New Admin. Bldg.																											
RC / Structural Works																																			
FWC10200	Construct New Admin. Bldg. Workshop & DG Store	48	0	09-Jul-12	25-Aug-12	09-Jul-12	25-Aug-12	■ Construct New Admin. Bldg. Workshop & DG Store																											
FWC10210	Construct columns & walls for new Admin. Bldg.,	48	0	19-Aug-12	05-Oct-12	19-Aug-12	05-Oct-12	■ Construct columns & walls for new Admin. Bldg.,																											
FWC10220	Construct roof slab for new Admin. Bldg.	48	0	06-Oct-12	22-Nov-12	06-Oct-12	22-Nov-12	■ Construct roof slab for new Admin. Bldg.																											
Building Service Works																																			
FWC10300	Fitting Out Electrical Works for New Ad.Bldg.	30	0	23-Nov-12	22-Dec-12	23-Nov-12	22-Dec-12	■ Fitting Out Electrical Works for New Ad.Bldg.																											
FWC10320	Fitting Out Mech. Works for New Ad.Bldg.	30	0	14-Dec-12	12-Jan-13	14-Dec-12	12-Jan-13	■ Fitting Out Mech. Works for New Ad.Bldg.																											
FWC10330	Fitting Out Works for New Workshop	30	0	13-Jan-13	11-Feb-13	13-Jan-13	11-Feb-13	■ Fitting Out Works for New Workshop																											
FWC10350	Construct Cable Pits & Ducting inside Bldg.	21	0	12-Feb-13	04-Mar-13	12-Feb-13	04-Mar-13	■ Construct Cable Pits & Ducting inside Bldg.																											
FWC10360	Construct Drains, cable& Ducting at roof slab	21	0	05-Mar-13	25-Mar-13	05-Mar-13	25-Mar-13	■ Construct Drains, cable& Ducting at roof slab																											
Architectural Works																																			
FWC10250	Int'l Finishes for new Bldg.	30	0	26-Mar-13	24-Apr-13	26-Mar-13	24-Apr-13	■ Int'l Finishes for new Bldg.																											
FWC10260	Installation windows, louvre, windows & doors	28	7	25-Apr-13	22-May-13	02-May-13	29-May-13	■ Installation windows, louvre, windows & doors																											
E&M Installation																																			
FWC21150	Relocate Control System, T&C	85	0	12-Apr-13	05-Jul-13	12-Apr-13	05-Jul-13	■ Relocate Control System, T&C																											
FWC21200	Relocate D.G. Store	30	7	30-May-13	28-Jun-13	06-Jun-13	05-Jul-13	■ Relocate D.G. Store																											
FWC21300	Relocate Workshop Facilities	75	4	18-Apr-13	01-Jul-13	22-Apr-13	05-Jul-13	■ Relocate Workshop Facilities																											
FWC21350	Completion of the Works for Section 5 (iv)	0	0		26-Jul-13		26-Jul-13	◆ Completion of the Works for Section 5 (iv)																											
Electrical Installation																																			
FWC10450	Modify Extg. Flow Distribution Chamber	30	0	27-Jul-13	25-Aug-13	27-Jul-13	25-Aug-13	■ Modify Extg. Flow Distribution Chamber																											
FWC10460	Modify Ex. Connection chamber incl. E&M works	30	0	27-Jul-13	25-Aug-13	27-Jul-13	25-Aug-13	■ Modify Ex. Connection chamber incl. E&M works																											
FWC10500	Install E&M Equipment in Flume Channels	45	0	26-Aug-13	09-Oct-13	26-Aug-13	09-Oct-13	■ Install E&M Equipment in Flume Channels																											

■ Actual Work ■ Critical Remaining Work
 ■ Remaining Work ◆ Milestone

Activity ID	Activity Name	Original Duration	Total Float	Early Start	Early Finish	Late Start	Late Finish	2011 2012 2013 2014 2015 2016																			
								Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1		
Electrical and Mechanical Works																											
FCT10050	Provision of Deod. facility to temp. Sr.&Grit	30	0	15-Oct-11	13-Nov-11	15-Oct-11	13-Nov-11																				
Other Works																											
FCT07850	Provision of Deod. Facilities to F.S. Bldg.	160	0	13-Sep-12	19-Feb-13	13-Sep-12	19-Feb-13																				
FCT10100	Install Fine Screen in F.S.Bldg.	160	0	13-Sep-12	19-Feb-13	13-Sep-12	19-Feb-13																				
FCT10110	Install compactor equip. in F.S. Bldg.	160	0	13-Sep-12	19-Feb-13	13-Sep-12	19-Feb-13																				
FCT10120	Install grit removal & conveyor in F.S. Bldg.	160	0	13-Sep-12	19-Feb-13	13-Sep-12	19-Feb-13																				
Electrical Installation																											
FCT11110	Electrical Installation	120	0	23-Oct-12	19-Feb-13	23-Oct-12	19-Feb-13																				
Control and Monitoring System																											
FCT12100	Install Monitoring & Control System	120	0	23-Oct-12	19-Feb-13	23-Oct-12	19-Feb-13																				
Building Service Installation																											
FCT13100	Building Services Installation	60	617	22-Dec-12	19-Feb-13	31-Aug-14	29-Oct-14																				
Testing and Commissioning																											
FCT14100	T&C of Fine Screen & Grit Trap System	30	0	20-Feb-13	21-Mar-13	20-Feb-13	21-Mar-13																				
FCT14150	Completion of the Works of Section 8	0	0		21-Mar-13		21-Mar-13																				
Works for Section 9																											
Central																											
Possession / Vacation of Portions																											
FCT16150	Possession of Works Area CTL-3	0	0	22-Mar-13		22-Mar-13																					
E&M Equipment / Material Delivery on Site																											
FCT19100	PTW Equipment Delivery on Site	14	64	25-Sep-13	08-Oct-13	28-Nov-13	11-Dec-13																				
FCT19150	Pipes & Valves Delivery on Site	10	83	26-Aug-13	04-Sep-13	17-Nov-13	26-Nov-13																				
FCT19200	Electrical Equipment Delivery on Site	10	98	25-Sep-13	04-Oct-13	01-Jan-14	10-Jan-14																				
FCT19250	Control & monitoring Equipment Delivery on Site	14	49	25-Oct-13	07-Nov-13	13-Dec-13	26-Dec-13																				
CTL-3 Demolition / Modification Works																											
Site Investigation																											
FCT20460	5 nos. of Pre-drill holes	20	0	10-May-13	29-May-13	10-May-13	29-May-13																				
Other Works																											
FCT20400	Dismantle Extg. PTW Sys. in Portion CTL-3	35	0	22-Mar-13	25-Apr-13	22-Mar-13	25-Apr-13																				
FCT20450	Excavate & removal Extg. Structure in CTL-3	14	0	26-Apr-13	09-May-13	26-Apr-13	09-May-13																				
Temp. Works for Screening & Grit Handling																											
FCT21300	Demolish Temp. Screening Facilities in CTL-1	45	24	22-Mar-13	05-May-13	15-Apr-13	29-May-13																				
Civil Works																											
Foundation Works																											
FCT21500	Remaining 8 Nos. Piling works in CTL-3	30	0	30-May-13	28-Jun-13	30-May-13	28-Jun-13																				
FCT21700	ELS for pile cap for remaining S&G.Bldg.	14	0	29-Jun-13	12-Jul-13	29-Jun-13	12-Jul-13																				
FCT21710	Construct pile cap for remaining S&G.Bldg.	28	0	13-Jul-13	09-Aug-13	13-Jul-13	09-Aug-13																				
Other Works																											
FCT21800	Construct remaining base slab - S & G Bldg.	30	0	10-Aug-13	08-Sep-13	10-Aug-13	08-Sep-13																				
FCT21810	Construct remaining columns/walls - S&G Bldg.	30	0	09-Sep-13	08-Oct-13	09-Sep-13	08-Oct-13																				
FCT21820	Construct remaining roof - F & G Bldg.	35	0	09-Oct-13	12-Nov-13	09-Oct-13	12-Nov-13																				
FCT30100	Int'l Finishes for E&M Rooms, Works Area	25	0	13-Nov-13	07-Dec-13	13-Nov-13	07-Dec-13																				
FCT30500	Ext'l Finishes for Fine Screen Bldg.	110	84	13-Nov-13	02-Mar-14	05-Feb-14	25-May-14																				
Mechanical Installation																											
FCT32100	Install PTW Equip't for Fine Screen Bldg.	105	4	08-Dec-13	22-Mar-14	12-Dec-13	26-Mar-14																				
FCT32200	Pipework for PTW System	120	0	27-Nov-13	26-Mar-14	27-Nov-13	26-Mar-14																				
Electrical Installation																											
FCT33100	Installation of Electrical System	75	34	08-Dec-13	20-Feb-14	11-Jan-14	26-Mar-14																				
Control and Monitoring System																											
FCT34100	Modify Monitoring & Control Sys. for Sec. 8 & 9	60	49	08-Dec-13	05-Feb-14	26-Jan-14	26-Mar-14																				
FCT34200	Install Monitoring & Control System	60	19	08-Dec-13	05-Feb-14	27-Dec-13	24-Feb-14																				
FCT34300	T&C of Monitoring and Control System	30	19	06-Feb-14	07-Mar-14	25-Feb-14	26-Mar-14																				
Building Services Installation																											
FCT35100	Building Services Installation	60	19	08-Dec-13	05-Feb-14	27-Dec-13	24-Feb-14																				
Testing and Commissioning																											
FCT36100	T&C for PTW System	60	0	27-Mar-14	25-May-14	27-Mar-14	25-May-14																				
FCT36110	FSD Submission, application and inspection for Fine Screen Bldg.	60	0	27-Mar-14	25-May-14	27-Mar-14	25-May-14																				
FCT36200	Completion of the Works of Section 9	0	0		25-May-14		25-May-14																				
Works for Section 10																											
Central																											
Possession / Vacation of Portions																											
FCT40200	Possession of Works Area CTL-3	0	0	22-Mar-13		22-Mar-13																					
Statutory Submission / Approval / Inspections																											
FCT40550	Submit F314(as-built) & F501 for FS Inspection	0	127		18-May-14		22-Sep-14																				
FCT40600	F.S. Inspection	35	127	21-May-14	24-Jun-14	25-Sep-14	29-Oct-14																				
FCT40650	Issuance of F.S. Certificate	0	127		24-Jun-14		29-Oct-14																				
FCT40700	Application of D.G. Store License	0	109	10-May-13			27-Aug-13																				
FCT40710	Approval of D.G. Store License	30	109	10-May-13	08-Jun-13	27-Aug-13	25-Sep-13																				
FCT40800	Application of D.G. Store Inspection	0	32	29-May-14			30-Jun-14																				
FCT40850	D.G. Store Inspection by FSD	35	32	31-May-14	04-Jul-14	02-Jul-14	05-Aug-14																				
FCT40900	Obtain D.G. Store Licence	0	32		04-Jul-14		05-Aug-14																				
E&M Equipment / Material Delivery on Site																											

Actual Work Critical Remaining Work
 Remaining Work Milestone

Activity ID	Activity Name	Original Duration	Total Float	Early Start	Early Finish	Late Start	Late Finish	2011					2012				2013				2014				2015	2016	
								Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1		Q2
FCT41100	Deodorization Equipment Delivery on Site	14	36	30-Nov-13	13-Dec-13	05-Jan-14	18-Jan-14																				
FCT41200	Electrical Equipment Delivery on Site	10	140	25-Oct-13	03-Nov-13	14-Mar-14	23-Mar-14																				
FCT41300	Control & monitoring Equipment Delivery on Site	14	82	25-Oct-13	07-Nov-13	15-Jan-14	28-Jan-14																				
Civil Works																											
Demolition Works																											
FCT42100	Extg. Screening & Grit Removal Sys. Demolished	0	0		09-May-13		09-May-13																				
FCT43550	Demolish Extg. Deodou. Sys. in CTL-4	25	9	28-Jul-14	21-Aug-14	06-Aug-14	30-Aug-14																				
Site Investigation																											
FCT42110	18nos. Pre-drill holes	27	0	10-May-13	05-Jun-13	10-May-13	05-Jun-13																				
Foundation Works																											
FCT42200	22nos socket H-piles for Deo. Rm. Gen./D.G.Store	70	0	06-Jun-13	14-Aug-13	06-Jun-13	14-Aug-13																				
FCT42300	ELS for pile cap for new Bldg.	14	0	15-Aug-13	28-Aug-13	15-Aug-13	28-Aug-13																				
FCT42310	Construct pile cap for new Bldg.	28	0	29-Aug-13	25-Sep-13	29-Aug-13	25-Sep-13																				
RC Structural Works																											
FCT42400	Structure - Deodour. Rm., Gen. & D.G. Store	65	0	26-Sep-13	29-Nov-13	26-Sep-13	29-Nov-13																				
FCT42710	Modify the boundary walls	60	19	13-Jun-14	11-Aug-14	02-Jul-14	30-Aug-14																				
Drainage Works																											
FCT42500	Construct Flume Channels	75	19	30-Nov-13	12-Feb-14	19-Dec-13	03-Mar-14																				
Building Service Works																											
FCT42600	Int'l Finishes for E&M Rooms, Works Area	50	0	30-Nov-13	18-Jan-14	30-Nov-13	18-Jan-14																				
Architectural Works																											
FCT42700	Ext'l Finishes for Deodou. & D.G. Bldg.	120	19	13-Feb-14	12-Jun-14	04-Mar-14	01-Jul-14																				
FCT42720	Planting & landscape works	60	9	22-Aug-14	20-Oct-14	31-Aug-14	29-Oct-14																				
Mechanical Installation																											
FCT43100	Install Deodorization System in Portion CTL-3	130	0	19-Jan-14	28-May-14	19-Jan-14	28-May-14																				
FCT43200	Install Lifting Appliance	45	145	19-Jan-14	04-Mar-14	13-Jun-14	27-Jul-14																				
FCT43500	T&C - Deodour. Sys. in Portion CTL-4	45	24	29-May-14	12-Jul-14	22-Jun-14	05-Aug-14																				
Electrical Installation																											
FCT44100	Install Electrical System	90	64	19-Jan-14	18-Apr-14	24-Mar-14	21-Jun-14																				
Control and Monitoring System																											
FCT45100	Install New Control System	120	10	19-Jan-14	18-May-14	29-Jan-14	28-May-14																				
FCT45150	T&C of New Control System	60	0	29-May-14	27-Jul-14	29-May-14	27-Jul-14																				
Building Services Installation																											
FCT46100	Install Building Services	120	59	19-Jan-14	18-May-14	19-Mar-14	16-Jul-14																				
Testing and Commissioning																											
FCT47100	T&C of Building Services and E&M Equipment	34	0	28-Jul-14	30-Aug-14	28-Jul-14	30-Aug-14																				
FCT47110	Final T&C for Central	30	30	31-Aug-14	29-Sep-14	30-Sep-14	29-Oct-14																				
FCT47115	Submission of Draft O&M Manuals for Central	0	0	15-Jul-12*		14-Jul-12																					
FCT47116	Submission of Updated Draft O&M Manuals for Central	0	0	21-Aug-12*		21-Aug-12																					
FCT47120	Modified O&M for Central	60	0	31-Aug-14	29-Oct-14	31-Aug-14	29-Oct-14																				
FCT47125	Submission of Modified O&M for Central	0	0		29-Oct-14		29-Oct-14																				
FCT47130	As-Built Drawing for Central	60	0	31-Aug-14	29-Oct-14	31-Aug-14	29-Oct-14																				
FCT47140	FSD Submission, application and inspection for Central	60	0	31-Aug-14	29-Oct-14	31-Aug-14	29-Oct-14																				
FCT47150	Completion of the Works of Section 10	0	0		29-Oct-14		29-Oct-14																				
Water supply from WSD for Central PTW																											
Key Dates																											
FCT50000	Application for Water Connection	60	59	19-May-14	17-Jul-14	17-Jul-14	14-Sep-14																				
FCT50010	Inspection from representative of WSD	1	59	18-Jul-14	18-Jul-14	15-Sep-14	15-Sep-14																				
FCT50020	Release of Completion Certificate by WSD	7	59	19-Jul-14	25-Jul-14	16-Sep-14	22-Sep-14																				
FCT50030	Installation of Water Meter and Main line connection	7	59	26-Jul-14	01-Aug-14	23-Sep-14	29-Sep-14																				
Works for Section 11																											
SCISTW																											
Time for Completion																											
FCT50100	Time for Completion of Section 11	1393	0	06-Jan-11	29-Oct-14	06-Jan-11	29-Oct-14																				
DCS Design Development																											
FCT51000	Interface Management Plan Approved	0	43		14-Jul-11		26-Aug-11																				
FCT51100	Co-ordination with Interface Contractor	180	43	15-Jul-11	10-Jan-12	27-Aug-11	22-Feb-12																				
FCT52000	Prepare DCS Hardware & Software Design	120	43	11-Jan-12	09-May-12	23-Feb-12	21-Jun-12																				
FCT52050	Submit DCS Design for Approval	90	43	10-May-12	07-Aug-12	22-Jun-12	19-Sep-12																				
FCT52150	DCS Design Approved	0	43		07-Aug-12		19-Sep-12																				
FCT52200	DCS System Development	180	43	08-Aug-12	03-Feb-13	20-Sep-12	18-Mar-13																				
FCT52250	DCS Factory Test / Submit Test Report	60	43	04-Feb-13	04-Apr-13	19-Mar-13	17-May-13																				
DCS Installation																											
FCT53300	DCS System Installation	60	43	05-Apr-13	03-Jun-13	18-May-13	16-Jul-13																				
FCT53350	Connection to Control Sys. under this Contract	290	43	04-Jun-13	20-Mar-14	17-Jul-13	02-May-14																				
FCT53400	T&C of the Whole of DCS	90	43	21-Mar-14	18-Jun-14	03-May-14	31-Jul-14																				
FCT53405	Draft O&M Manuals for DCS System	60	223	08-Aug-12	06-Oct-12	19-Mar-13	17-May-13																				
FCT53410	O&M for DCS Systems	90	43	19-Jun-14	16-Sep-14	01-Aug-14	29-Oct-14																				
FCT53420	As-Built Drawings for DCS System (Section 11)	60	73	19-Jun-14	17-Aug-14	31-Aug-14	29-Oct-14																				
FCT53450	Completion of the Works of Section 11	0	0		29-Oct-14*		29-Oct-14																				

Actual Work Remaining Work Critical Remaining Work Milestone

