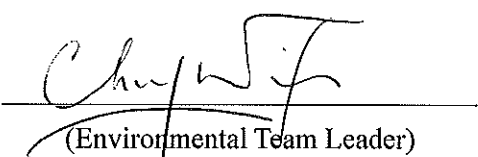


Leader and JEC Joint Venture

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
August 2015

(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

14 September 2015
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 August 2015 (no. 55) Version 1.0**

I refer to the revised Monthly EM&A Report for August 2015 (version 1.0) submitted by ETL on 14 September 2015 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. Vincent Chan
Dr. Priscilla Choy

Fax: (2370 4377)
By email
By email

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	1
Introduction	1
Environmental Monitoring Works	1
Environmental Licenses and Permits	2
Environmental Mitigation Implementation Schedule	2
Key Information in the Reporting Month	2
Summary of Complaints and Prosecutions	3
Future Key Issues	3
1. INTRODUCTION	4
Background	4
Project Organizations	4
Construction Programme	5
Summary of EM&A Requirements	5
2. AIR QUALITY	7
Monitoring Requirements	7
Monitoring Locations	7
Monitoring Equipment	7
Monitoring Parameters, Frequency and Duration	7
Monitoring Methodology and QA/QC Procedure	8
Results and Observations	8
3. NOISE.....	9
Monitoring Requirements	9
Monitoring Locations	9
Monitoring Equipment	9
Monitoring Parameters, Frequency and Duration	9
Monitoring Methodology and QA/QC Procedures	10
Results and Observations	10
4. ENVIRONMENTAL AUDIT	12
Site Audits	12
Review of Environmental Monitoring Procedures	12
Status of Environmental Licensing and Permitting	12
Implementation Status of Event Action Plans	15
Summary of Complaints and Prosecutions	16
5. FUTURE KEY ISSUES	17
Key Issues for the Coming Month	17
Monitoring Schedule for the Next Month	17
6. CONCLUSIONS AND RECOMMENDATIONS	18
Conclusions	18
Recommendations for the coming reporting month:	18

LIST OF TABLES

Table I	Summary Table for Non-compliance Recorded in the Reporting Month
Table II	Summary Table for Key Information in the Reporting Month
Table 1.1	Key Project Contacts
Table 2.1	Locations for Air Quality Monitoring
Table 2.2	Air Quality Monitoring Equipment
Table 2.3	Impact Dust Monitoring Parameters, Frequency and Duration
Table 2.4	Summary of 1-hour and 24-hour TSP Monitoring Result in Reporting Month
Table 3.1	Locations for Noise Monitoring Stations
Table 3.2	Noise Monitoring Equipment
Table 3.3	Noise Monitoring Parameters, Frequency and Duration
Table 3.4	Summary of Daytime Noise Monitoring Results in Reporting Month
Table 3.5	Summary of Restricted Hours Noise Monitoring Results in Reporting Month
Table 4.1	Summary of Environmental Licensing and Permit Status
Table 4.2	Observations and Recommendations of Site Audit

LIST OF FIGURES

Figure 1A to 1C	General Location Plan of the Project and Locations of Air Quality and Noise Monitoring Stations
Figure 2	ET Organization Chart

LIST OF APPENDICES

A	Action and Limit Levels for Air Quality and Noise
B	Environmental Monitoring Schedules
C	1-hour and 24-hour TSP Monitoring Results and Graphical Presentations
D	Noise Monitoring Results and Graphical Presentations
E	Summary of Exceedance
F	Site Audit Summary
G	Summary of Amount of Waste Generated
H	Event Action Plans
I	Environmental Mitigation Implementation Schedule (EMIS)
J	Complaint Log
K	Construction Programme

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 55th 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 August 2015.
2. The site activities undertaken for in the reporting month included:
 - Wan Chai East PTW:
 - Pump Replacement Work at the inlet pumping station (E&M);
 - Building service and E&M works for the administration and workshop building;
 - Finishing work for the new administration and workshop building;
 - Construction of curtain wall;
 - Construction of boundary wall.
 - North Point PTW
 - Operation and maintain of the new FSGT Building;
 - ELS work for the seawater pumping station;
 - Construction of Grit Handling Room;
 - Construction of DO Building.
 - Central PTW
 - Operation and maintain of the new FSGT Building;
 - Superstructure construction for FSGT Building;
 - Construction of the flume channel, Grit Trap and Deodorization Room;
 - Electrical work of sewage pump replacement at inlet pumping station (Sewage pump No.3) (E&M);
 - External wall finishing work;
 - Construction of boundary wall.

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	3	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 three non-project related Limit Level exceedance were recorded during the restricted hour noise monitoring on 11th, 25th & 30th August 2015 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 Construction Noise Permits for construction works at Wan Chai East PTW and Central PTW.

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

- 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	1	Monthly Environmental Monitoring and Audit Report for July 2015	Submitted to EPD on 14 August 2015	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:

- Pump Replacement Work at the inlet pumping station (E&M);
- Building service and E&M works for the administration and workshop building;
- Finishing work for the new administration and workshop building;
- Construction of curtain wall;
- Construction of boundary wall.

North Point PTW

- Operation and maintain of the new FSGT Building;
- ELS work for the seawater pumping station;
- Construction of Grit Handling Room;
- Construction of DO Building.

Central PTW

- Operation and maintain of the new FSGT Building;
- Superstructure construction for FSGT Building;
- Construction of the flume channel, Grit Trap and Deodorization Room;
- Electrical work of sewage pump replacement at inlet pumping station (Sewage pump No.3) (E&M);
- External wall finishing work;
- Construction of boundary wall.

- 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 55th monthly EM&A report summarizing the EM&A works conducted for the Project in August 2015.

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. Vincent Y.K. Wong	Senior Engineer 2	2159 3406
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. Kelvin Cheung	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:

- Pump Replacement Work at the inlet pumping station (E&M);
- Building service and E&M works for the administration and workshop building;
- Finishing work for the new administration and workshop building;
- Construction of curtain wall;
- Construction of boundary wall.

North Point PTW

- Operation and maintain of the new FSGT Building;
- ELS work for the seawater pumping station;
- Construction of Grit Handling Room;
- Construction of DO Building.

Central PTW

- Operation and maintain of the new FSGT Building;
- Superstructure construction for FSGT Building;
- Construction of the flume channel, Grit Trap and Deodorization Room;
- Electrical work of sewage pump replacement at inlet pumping station (Sewage pump No.3) (E&M);
- External wall finishing work;
- Construction of boundary wall.

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 August 2015. 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	GMW GS-2310 ACCU-VOL	CM-AIR-43
AM2	GMW GS-2310 ACCU-VOL	
AM3	GMW GS-2310 ACCU-VOL	
AM4_2	GMW GS-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	131	73 - 169	340	500
AM2	131	77 - 165	352	
AM3	116	81 - 164	355	
AM4_2	161	133 - 187	393	
24 hours TSP				
AM1	73	57 - 83	185	260
AM2	75	64 - 85	182	
AM3	75	62 - 82	181	
AM4_2	82	64 - 91	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	Casella CEL-633A	Casella CEL-120/1
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 NM2	$L_{eq}(30 \text{ min.})$ dB(A)	0700-1900 hrs. on weekdays	Once per week
	$L_{eq}(5 \text{ min.})$ dB(A)	Restricted hours (1900-2300 on all days and 0700-2300 on general holidays and Sundays)	
NM3	$L_{eq}(30 \text{ min.})$ 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	67 - 69	70.0 *
NM2	70 - 72	75.0
NM3	72 - 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.

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 - 70	70.0 *
NM2	69 - 72	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.

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

3.9 Excavation 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.

3.10 All Construction Noise monitoring was conducted as scheduled in the reporting month. No Action Level exceedance was recorded, while three non-project related Limit Level exceedance were recorded during the restricted hour noise monitoring on 11th, 25th & 30th August 2015 by the ET of DC/2007/23 at NM2. Details of the exceedance could be referred to **Appendix E**.

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

3.12 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 5th, 12th, 21st and 26th August 2015. 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	15/2/2011	N/A	Location: North Point PTW	Valid
5213-115- L2737-01	26/1/2011	N/A	Location: Wan Chai East PTW	
5213-134- L2745-01	16/2/2011	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	Expiry

Ref. No.	Valid Period		Details	Status
	From	To		
			Kong	
GW- RS0643-14	3/7/2014	30/9/2014	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	Expiry
GW- RS1078-14	10/10/2014	9/4/2015	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	Expiry
GW- RS0179-15	25/2/2015	23/5/2015	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 Central Preliminary Treatment Works, Western Fire Services Street, Hong Kong	Expiry
GW- RS0484-15	8/5/2015	3/8/2015	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	Valid until 3/8/2015
GW- RS0567-15	26/5/2015	23/11/2015	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 Central Preliminary Treatment Works, Western Fire Services Street, Hong Kong	Valid
Special Waste Admission Ticket				
12256	24/5/2015	23/8/2015	Location: Central PTW	Valid until 23/8/2015
12400	1/8/2015	31/10/2015	Location: North Point PTW	Valid
12448	24/8/2015	23/11/2015	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	--	--	--
Air Quality	150812-R01	The construction waste and dusty materials should be sorted out and cleared properly at North Point-PTW and Wan Chai-PTW.	The construction waste and dusty materials were sorted out and cleared properly at North Point-PTW and Wan Chai-PTW.
	150812-R02	The mixing activity should be done in the proper enclosed area to prevent the dust generation at Wan Chai-PTW.	Please refer to 150821-O01.
	150821-O01	The mixing activity should be done in the proper enclosed area to prevent the dust generation at Wan Chai-PTW.	Please refer to 150826-O01.
	150826-O02	The mixing activity should be done in the proper enclosed area at Wan Chai-PTW.	The follow up action will be reported during site inspections in September 2015.
Waste/ Chemical Management	150805-R01	The chemical containers should be provided with the drip trays at Central-PTW.	Please refer to 150812-R03.
	150812-R01	The construction waste and dusty materials should be sorted out and cleared properly at North Point-PTW and Wan Chai-PTW.	The construction waste and dusty materials were sorted out and cleared properly at North Point-PTW and Wan Chai-PTW.
	150812-R03	The chemical containers should be provided with the drip trays at Central-PTW.	The chemical containers were not observed at Central-PTW.
	150826-O01	The oil leakage was observed from the backhoe at Wan Chai-PTW. The Contractor was reminded to provide the maintenance and clear the oil stain properly.	The backhoe was removed and not observed at Wan Chai-PTW during the site inspection.
Noise	--	--	--
Landscape and Visual	--	--	--
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 three non-project related Limit Level exceedance were recorded during the restricted hour noise monitoring on 11th, 25th & 30th August 2015 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:

- Pump Replacement Work at the inlet pumping station (E&M);
- Building service and E&M works for the administration and workshop building;
- Finishing work for the new administration and workshop building;
- Construction of curtain wall;
- Construction of boundary wall.

North Point PTW

- Operation and maintain of the new FSGT Building;
- ELS work for the seawater pumping station;
- Construction of Grit Handling Room;
- Construction of DO Building.

Central PTW

- Operation and maintain of the new FSGT Building;
- Superstructure construction for FSGT Building;
- Construction of the flume channel, Grit Trap and Deodorization Room;
- Electrical work of sewage pump replacement at inlet pumping station (Sewage pump No.3) (E&M);
- External wall finishing work;
- Construction of boundary wall.

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 three non-project related Limit Level exceedance were recorded during the restricted hour noise monitoring on 11th, 25th & 30th August 2015 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 impervious covers for dusty materials to reduce dust generation;
- To provide water spraying more frequently on the site, especially in dry weather; and
- To provide the proper enclosed area for main dust-generating activity on the site.

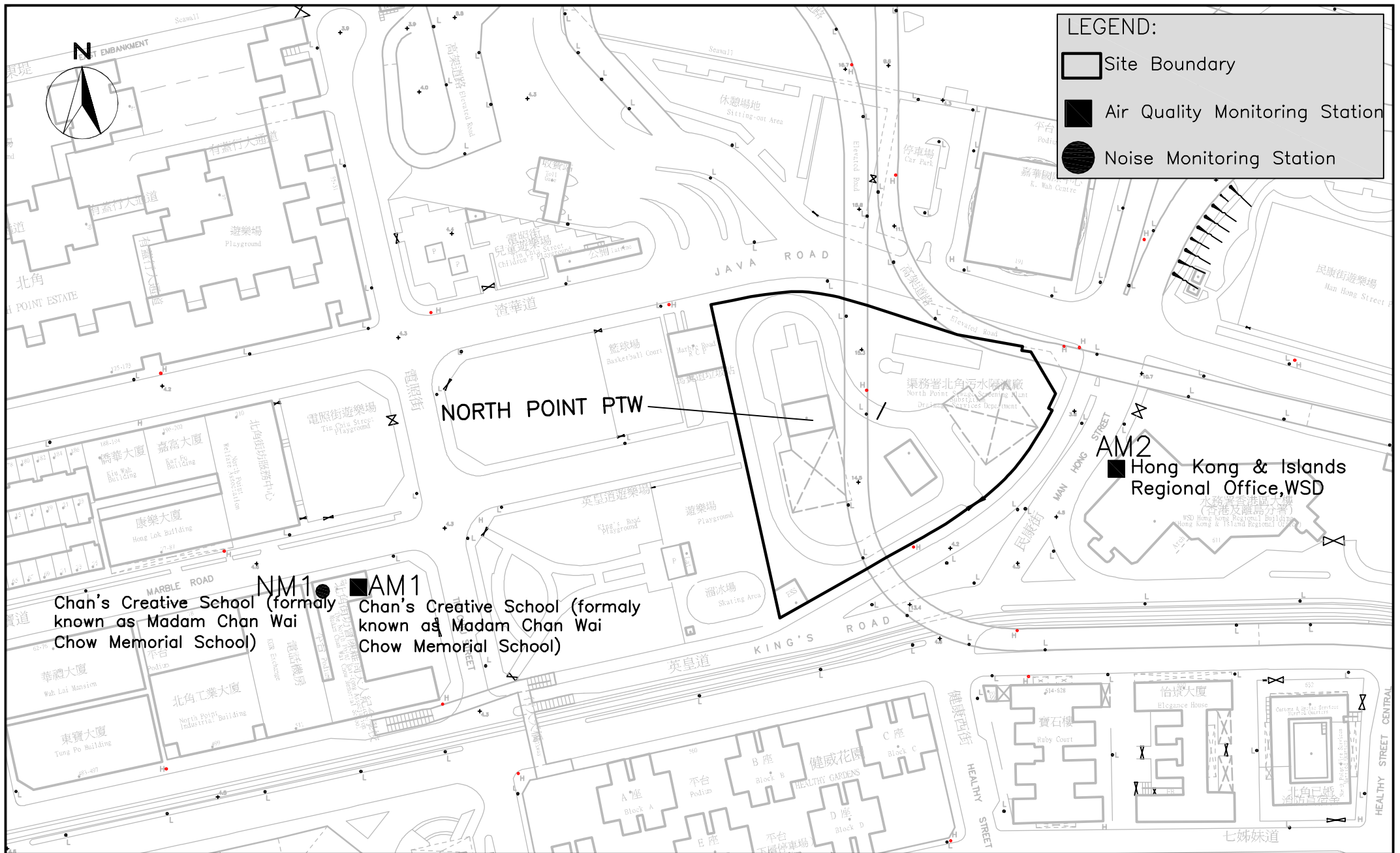
Noise Impact

- 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;
- To ensure the doors of the air compressors are closed; and
- To well maintain the mechanical equipments / machineries to avoid abnormal noise nuisance.

Waste/Chemical Management

- To proper sort out and dispose the construction waste and dusty material on the site;
- To provide the maintenance of PME to prevent the oil leakage;
- Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport; and
- To provide adequate drip trays to store the chemical containers on the site.

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)

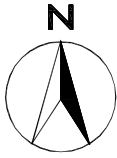
AM2
 Hong Kong & Islands Regional Office, WSD

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)

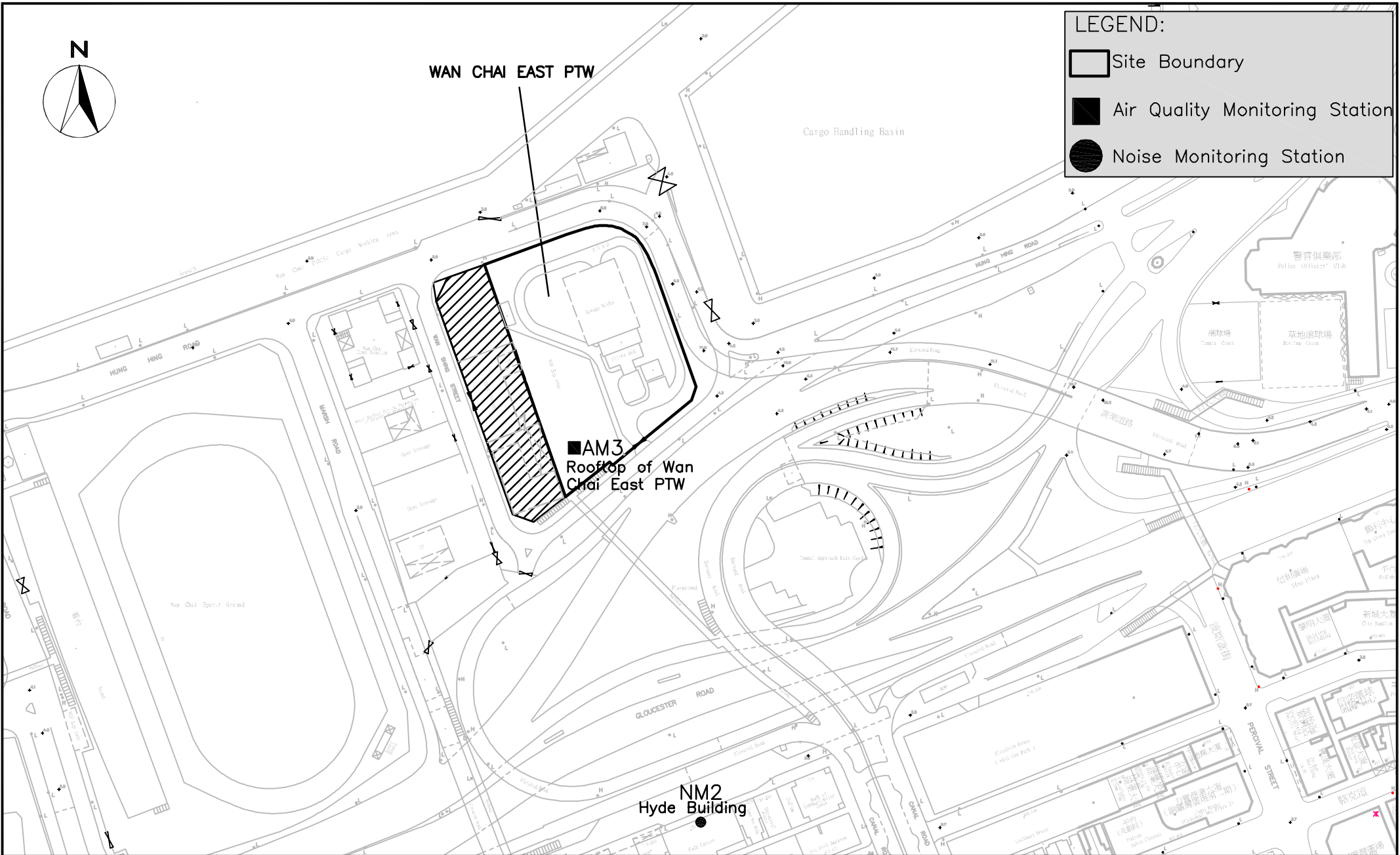
SCALE	N.T.S	DATE	11 MAR 2011	
CHECK	GL	DRAWN	TW	
PROJECT NO.	MA11003	FIGURE NO.	1A	REV —



WAN CHAI EAST PTW

LEGEND:

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



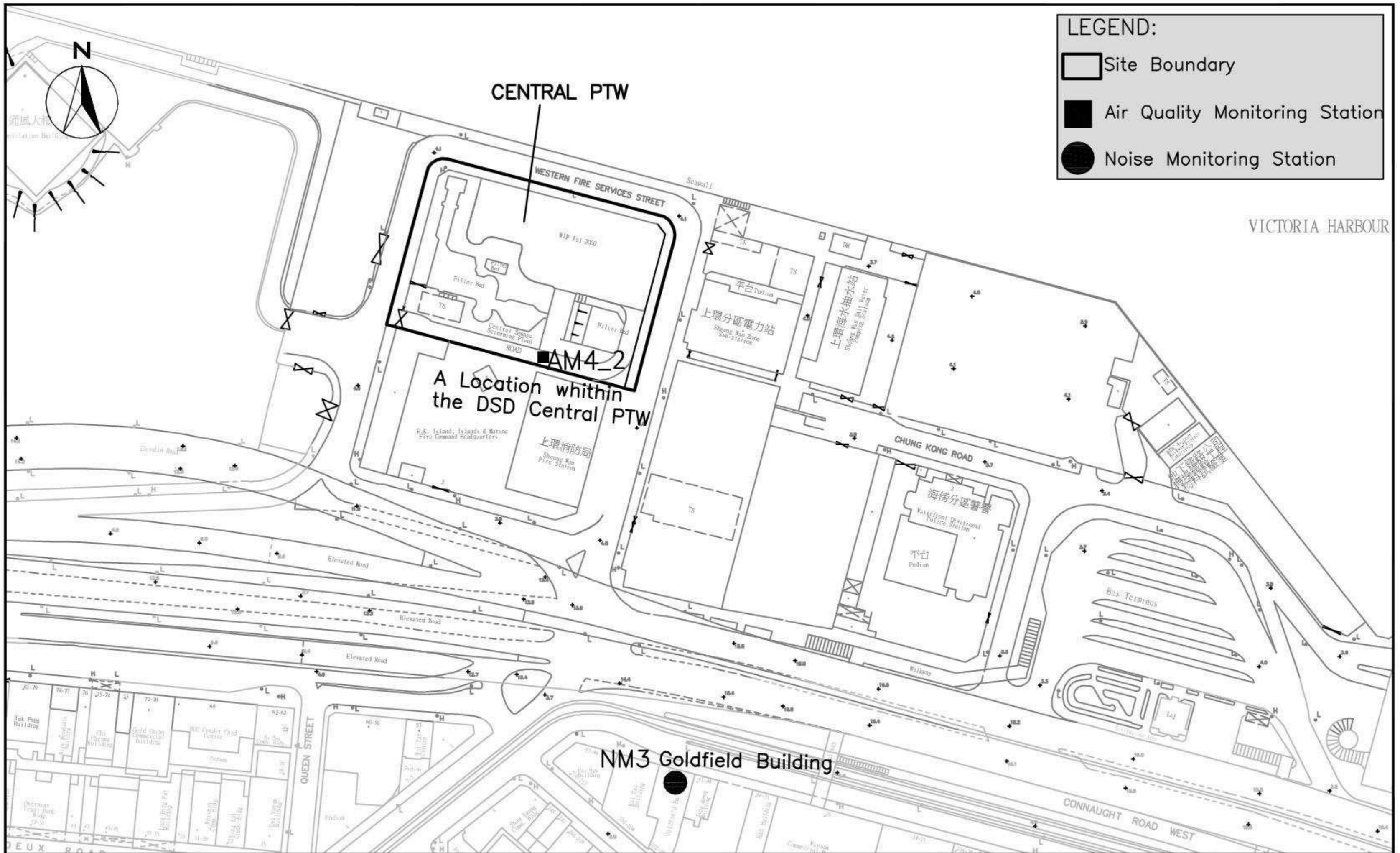
AM3
Rooftop of Wan Chai East PTW

NM2
Hyde Building



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	—

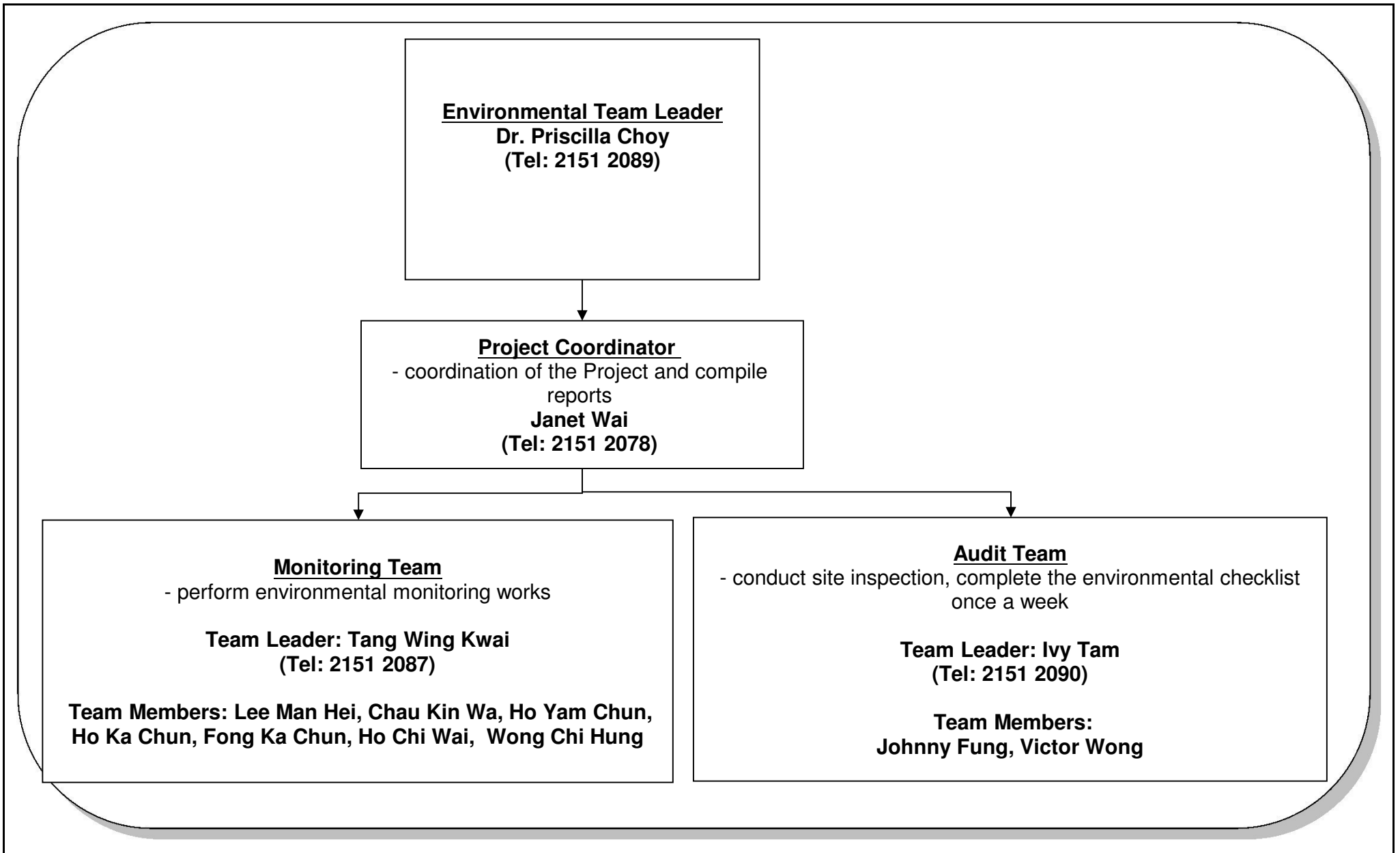


Contract No. DC/2009/23 – Harbour Area Treatment Stage 2A
 – Upgrading of Preliminary Treatment Works at North Point,
 Wan Chai East and Central

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-15	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 August 2015**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1-Aug
						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)
2-Aug	3-Aug	4-Aug	5-Aug	6-Aug	7-Aug	8-Aug
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)	
9-Aug	10-Aug	11-Aug	12-Aug	13-Aug	14-Aug	15-Aug
		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)		
16-Aug	17-Aug	18-Aug	19-Aug	20-Aug	21-Aug	22-Aug
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)			
23-Aug	24-Aug	25-Aug	26-Aug	27-Aug	28-Aug	29-Aug
		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)				
30-Aug	31-Aug					
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)					

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 September 2015**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1-Sep	2-Sep	3-Sep	4-Sep	5-Sep
						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-Sep	7-Sep	8-Sep	9-Sep	10-Sep	11-Sep	12-Sep
		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)	
13-Sep	14-Sep	15-Sep	16-Sep	17-Sep	18-Sep	19-Sep
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)		
20-Sep	21-Sep	22-Sep	23-Sep	24-Sep	25-Sep	26-Sep
		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)			
27-Sep	28-Sep	29-Sep	30-Sep			
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)				

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		(µg/m ³)	(µg/m ³)	(µg/m ³)	Observations / Remarks	(°C)	(m/s)	ID	ID
1-Aug-15	9:00	10:00	Sunny	73	340	500	Construction work in progress	33	<5	GMW GS 2310 (S/N 1808)	6625
	10:02	11:02	Sunny	91	340	500	Construction work in progress	33	<5	GMW GS 2310 (S/N 1808)	6642
	11:04	12:04	Sunny	78	340	500	Construction work in progress	33	<5	GMW GS 2310 (S/N 1808)	6639
7-Aug-15	9:02	10:02	Sunny	161	340	500	Construction work in progress	34	<5	GMW GS 2310 (S/N 1808)	6635
	10:04	11:04	Sunny	164	340	500	Construction work in progress	34	<5	GMW GS 2310 (S/N 1808)	6633
	11:06	12:06	Sunny	155	340	500	Construction work in progress	34	<5	GMW GS 2310 (S/N 1808)	6631
13-Aug-15	10:02	11:02	Cloudy	152	340	500	Construction work in progress	31	<5	GMW GS 2310 (S/N 1808)	6628
	11:04	12:04	Cloudy	142	340	500	Construction work in progress	31	<5	GMW GS 2310 (S/N 1808)	6626
	12:06	13:06	Cloudy	142	340	500	Construction work in progress	31	<5	GMW GS 2310 (S/N 1808)	6858
19-Aug-15	10:12	11:12	Sunny	129	340	500	Construction work in progress	32	<5	GMW GS 2310 (S/N 1808)	6853
	11:14	12:14	Sunny	125	340	500	Construction work in progress	32	<5	GMW GS 2310 (S/N 1808)	6855
	12:16	13:16	Sunny	114	340	500	Construction work in progress	32	<5	GMW GS 2310 (S/N 1808)	3857
25-Aug-15	11:54	12:54	Sunny	157	340	500	Construction work in progress	31	<5	GMW GS 2310 (S/N 1808)	6861
	12:56	13:56	Sunny	169	340	500	Construction work in progress	31	<5	GMW GS 2310 (S/N 1808)	6863
	13:58	14:58	Sunny	156	340	500	Construction work in progress	31	<5	GMW GS 2310 (S/N 1808)	7049
31-Aug-15	9:52	10:52	Sunny	102	340	500	Construction work in progress	30	<5	GMW GS 2310 (S/N 1808)	6865
	10:54	11:54	Sunny	126	340	500	Construction work in progress	30	<5	GMW GS 2310 (S/N 1808)	6866
	11:56	12:56	Sunny	120	340	500	Construction work in progress	30	<5	GMW GS 2310 (S/N 1808)	6869
			Min.	73							
			Max.	169							
			Average	131							

* 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
1-Aug-15	9:20	10:20	Sunny	92	352	500	Construction work in progress	33	<5	GMW GS-2310 (S/N 0145)	6643
	10:22	11:22	Sunny	85	352	500	Construction work in progress	33	<5	GMW GS-2310 (S/N 0145)	6641
	11:24	12:24	Sunny	77	352	500	Construction work in progress	33	<5	GMW GS-2310 (S/N 0145)	6640
7-Aug-15	9:20	10:20	Sunny	140	352	500	Construction work in progress	34	<5	GMW GS-2310 (S/N 0145)	6636
	10:22	11:22	Sunny	153	352	500	Construction work in progress	34	<5	GMW GS-2310 (S/N 0145)	6634
	11:24	12:24	Sunny	151	352	500	Construction work in progress	34	<5	GMW GS-2310 (S/N 0145)	6632
13-Aug-15	10:20	11:20	Cloudy	147	352	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 0145)	6627
	11:22	12:22	Cloudy	155	352	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 0145)	6872
	12:24	13:24	Cloudy	152	352	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 0145)	6849
19-Aug-15	10:30	11:30	Sunny	131	352	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0145)	6852
	11:32	12:32	Sunny	129	352	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0145)	6854
	12:34	13:34	Sunny	156	352	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0145)	6856
25-Aug-15	11:25	12:25	Sunny	165	352	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 0145)	6860
	12:27	13:27	Sunny	157	352	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 0145)	6862
	13:29	14:29	Sunny	163	352	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 0145)	7050
31-Aug-15	10:10	11:10	Sunny	100	352	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 0145)	6864
	11:12	12:12	Sunny	104	352	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 0145)	6867
	12:14	13:14	Sunny	105	352	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 0145)	6868
			Min.	77							
			Max.	165							
			Average	131							

* Wind Speed data is presented in the Meteorological Data table

1-hour TSP Monitoring Results

Station AM3

Date	Start Time	Finish Time	Weather	TSP Concentration (µg/m ³)	Action Level (µg/m ³)	Limit Level (µg/m ³)	Site Conditions / Observations / Remarks	Temperature (°C)	Wind Speed* (m/s)	Sampler ID	Filter ID
01-Aug-15	8:00	9:00	Sunny	88	355	500	Construction work in progress	33	<5	GMW GS-2310 (S/N 0481)	6805
	9:02	10:02	Sunny	111	355	500	Construction work in progress	33	<5	GMW GS-2310 (S/N 0481)	6806
	10:04	11:04	Sunny	87	355	500	Construction work in progress	33	<5	GMW GS-2310 (S/N 0481)	6807
07-Aug-15	8:00	9:00	Sunny	149	355	500	Construction work in progress	34	<5	GMW GS-2310 (S/N 0481)	6817
	9:02	10:02	Sunny	156	355	500	Construction work in progress	34	<5	GMW GS-2310 (S/N 0481)	6818
	10:04	11:04	Sunny	164	355	500	Construction work in progress	34	<5	GMW GS-2310 (S/N 0481)	6819
13-Aug-15	8:00	9:00	Cloudy	93	355	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 0481)	6905
	9:02	10:02	Cloudy	81	355	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 0481)	6906
	10:06	11:06	Cloudy	93	355	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 0481)	6907
19-Aug-15	8:00	9:00	Sunny	125	355	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0481)	6917
	9:02	10:02	Sunny	122	355	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0481)	6918
	10:04	11:04	Sunny	119	355	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 0481)	6919
25-Aug-15	11:50	12:50	Sunny	110	355	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 0481)	6929
	12:52	13:52	Sunny	113	355	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 0481)	6930
	14:00	15:00	Sunny	106	355	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 0481)	6931
31-Aug-15	8:00	9:00	Cloudy	131	352	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 0481)	6941
	9:02	10:02	Cloudy	119	352	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 0481)	6942
	10:06	11:06	Cloudy	122	352	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 0481)	6943
				Min.	81						
				Max.	164						
				Average	116						

* Wind Speed data is presented in the Meteorological Data table

1-hour TSP Monitoring Results

Station AM4_2

Date	Start Time	Finish Time	Weather	TSP Concentration ($\mu\text{g}/\text{m}^3$)	Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)	Site Conditions / Observations / Remarks	Temperature ($^{\circ}\text{C}$)	Wind Speed * (m/s)	Sampler ID	Filter ID
01-Aug-15	11:40	12:40	Sunny	141	393	500	Construction work in progress	33	<5	GMW GS-2310 (S/N 9315)	6809
	12:42	13:42	Sunny	157	393	500	Construction work in progress	33	<5	GMW GS-2310 (S/N 9315)	6810
	13:44	14:44	Sunny	156	393	500	Construction work in progress	33	<5	GMW GS-2310 (S/N 9315)	6811
07-Aug-15	11:45	12:45	Sunny	157	393	500	Construction work in progress	34	<5	GMW GS-2310 (S/N 9315)	6821
	12:47	13:47	Sunny	175	393	500	Construction work in progress	34	<5	GMW GS-2310 (S/N 9315)	6822
	13:49	14:49	Sunny	187	393	500	Construction work in progress	34	<5	GMW GS-2310 (S/N 9315)	6823
13-Aug-15	11:50	12:50	Sunny	152	393	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 9315)	6909
	12:52	13:52	Sunny	154	393	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 9315)	6910
	13:55	14:55	Sunny	168	393	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 9315)	6911
19-Aug-15	11:45	12:45	Sunny	172	393	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 9315)	6921
	12:47	13:47	Sunny	167	393	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 9315)	6922
	13:50	14:50	Sunny	171	393	500	Construction work in progress	32	<5	GMW GS-2310 (S/N 9315)	6923
25-Aug-15	8:00	9:00	Sunny	133	393	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 9315)	6933
	9:02	10:02	Sunny	167	393	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 9315)	6934
	10:10	11:10	Sunny	152	393	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 9315)	6935
31-Aug-15	11:50	12:50	Cloudy	140	393	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 9315)	6945
	12:52	13:52	Cloudy	168	393	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 9315)	6946
	13:55	14:55	Cloudy	182	393	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 9315)	6947
				Min.	133						
				Max.	187						
				Average	161						

* 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									
01-Aug-15	12:06	02-Aug-15	12:06	Sunny	2.8779	2.9802	19777.03	19801.03	24.00	1.24	1.24	1.24	57	185	260	Construction work in progress	GMW GS 2310 (S/N 1808)	6526			
07-Aug-15	12:08	08-Aug-15	12:08	Sunny	2.8753	2.9991	19804.03	19828.03	24.00	1.24	1.24	1.24	69	185	260	Construction work in progress	GMW GS 2310 (S/N 1808)	6629			
13-Aug-15	13:08	14-Aug-15	13:08	Cloudy	2.8756	3.0147	19831.03	19855.03	24.00	1.24	1.24	1.24	78	185	260	Construction work in progress	GMW GS 2310 (S/N 1808)	6850			
19-Aug-15	13:18	20-Aug-15	13:18	Sunny	2.8975	3.0341	19858.03	19882.03	24.00	1.24	1.24	1.24	77	185	260	Construction work in progress	GMW GS 2310 (S/N 1808)	6871			
25-Aug-15	15:35	26-Aug-15	15:35	Sunny	2.8311	2.9800	19885.03	19909.03	24.00	1.24	1.24	1.24	83	185	260	Construction work in progress	GMW GS 2310 (S/N 1808)	7051			
31-Aug-15	12:58	01-Sep-15	12:58	Cloudy	2.8822	3.0115	19912.03	19936.03	24.00	1.24	1.24	1.24	72	185	260	Construction work in progress	GMW GS 2310 (S/N 1808)	6645			
												Min.	57								
												Max.	83								
												Average	73								

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									
01-Aug-15	12:26	02-Aug-15	12:26	Sunny	2.8921	3.0079	15395.93	15419.93	24.00	1.25	1.25	1.25	64	182	260	Construction work in progress	GMW GS 2310 (S/N 0145)	6637			
07-Aug-15	12:26	08-Aug-15	12:26	Sunny	2.8866	3.0075	15422.93	15446.93	24.00	1.25	1.25	1.25	67	182	260	Construction work in progress	GMW GS 2310 (S/N 0145)	6630			
13-Aug-15	13:26	14-Aug-15	13:26	Cloudy	2.8866	3.0295	15449.93	15473.93	24.00	1.25	1.25	1.25	79	182	260	Construction work in progress	GMW GS 2310 (S/N 0145)	6851			
19-Aug-15	13:36	20-Aug-15	13:36	Sunny	2.8609	3.0114	15476.93	15500.93	24.00	1.25	1.25	1.25	84	182	260	Construction work in progress	GMW GS 2310 (S/N 0145)	6859			
25-Aug-15	14:31	26-Aug-15	14:31	Sunny	2.8138	2.9669	15503.93	15527.93	24.00	1.25	1.25	1.25	85	182	260	Construction work in progress	GMW GS 2310 (S/N 0145)	7052			
31-Aug-15	13:16	01-Sep-15	13:16	Sunny	2.8207	2.9449	15530.93	15554.93	24.00	1.25	1.25	1.25	69	185	260	Construction work in progress	GMW GS 2310 (S/N 0145)	7053			
												Min.	64								
												Max.	85								
												Average	75								

24-hour TSP Monitoring Results

Station AM3

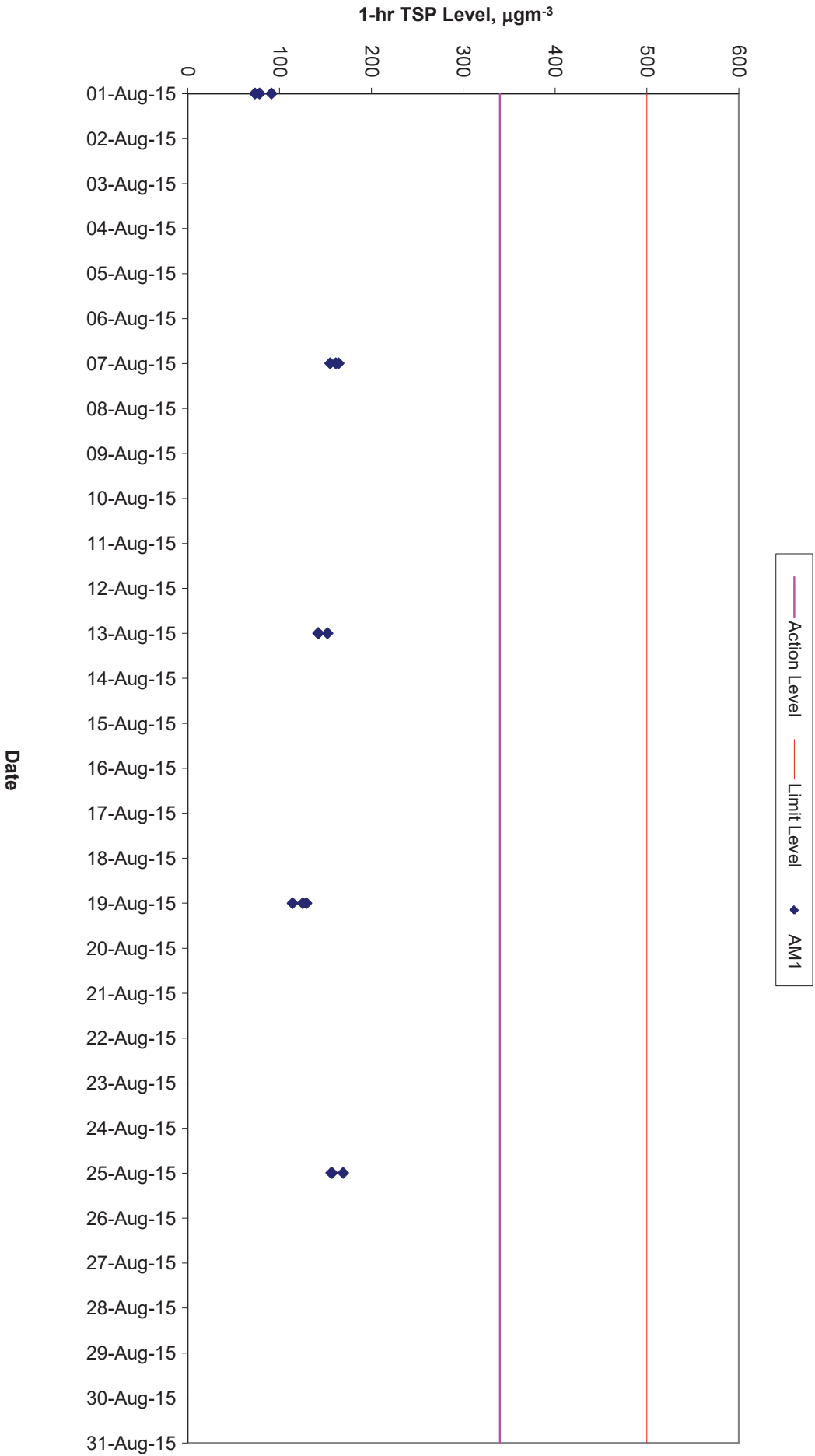
Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m ³ /min)			TSP Conc. (µg/m ³)	Action Level (µg/m ³)	Limit Level (µg/m ³)	Observations / Remarks	Sampler ID	Filter ID		
Date	Time	Date	Time		Initial	Final	Initial	Final		Initial	Final	Average								
01-Aug-15	11:06	02-Aug-15	11:06	Sunny	2.8809	2.9980	12067.32	12091.32	24.00	1.20	1.20	1.20	68	181	260	construction work in progress	GMW GS 2310 (S/N 0481)	6808		
07-Aug-15	11:06	08-Aug-15	11:06	Sunny	2.8626	2.9979	12094.32	12118.32	24.00	1.20	1.20	1.20	78	181	260	construction work in progress	GMW GS 2310 (S/N 0481)	6820		
13-Aug-15	11:08	14-Aug-15	11:08	Cloudy	2.8321	2.9400	12121.32	12145.32	24.00	1.20	1.20	1.20	62	181	260	construction work in progress	GMW GS 2310 (S/N 0481)	6908		
19-Aug-15	11:06	20-Aug-15	11:06	Sunny	2.8117	2.9505	12148.32	12172.32	24.00	1.20	1.20	1.20	80	181	260	construction work in progress	GMW GS 2310 (S/N 0481)	6920		
25-Aug-15	15:02	26-Aug-15	15:02	Sunny	2.8119	2.9525	12195.32	12219.32	24.00	1.20	1.20	1.20	81	181	260	construction work in progress	GMW GS 2310 (S/N 0481)	6932		
31-Aug-15	11:10	01-Sep-15	11:10	Cloudy	2.8291	2.9704	12222.32	12246.32	24.00	1.20	1.20	1.20	82	185	260	Construction work in progress	GMW GS 2310 (S/N 0481)	6844		
												Min.	62							
												Max.	82							
												Average	75							

24-hour TSP Monitoring Results

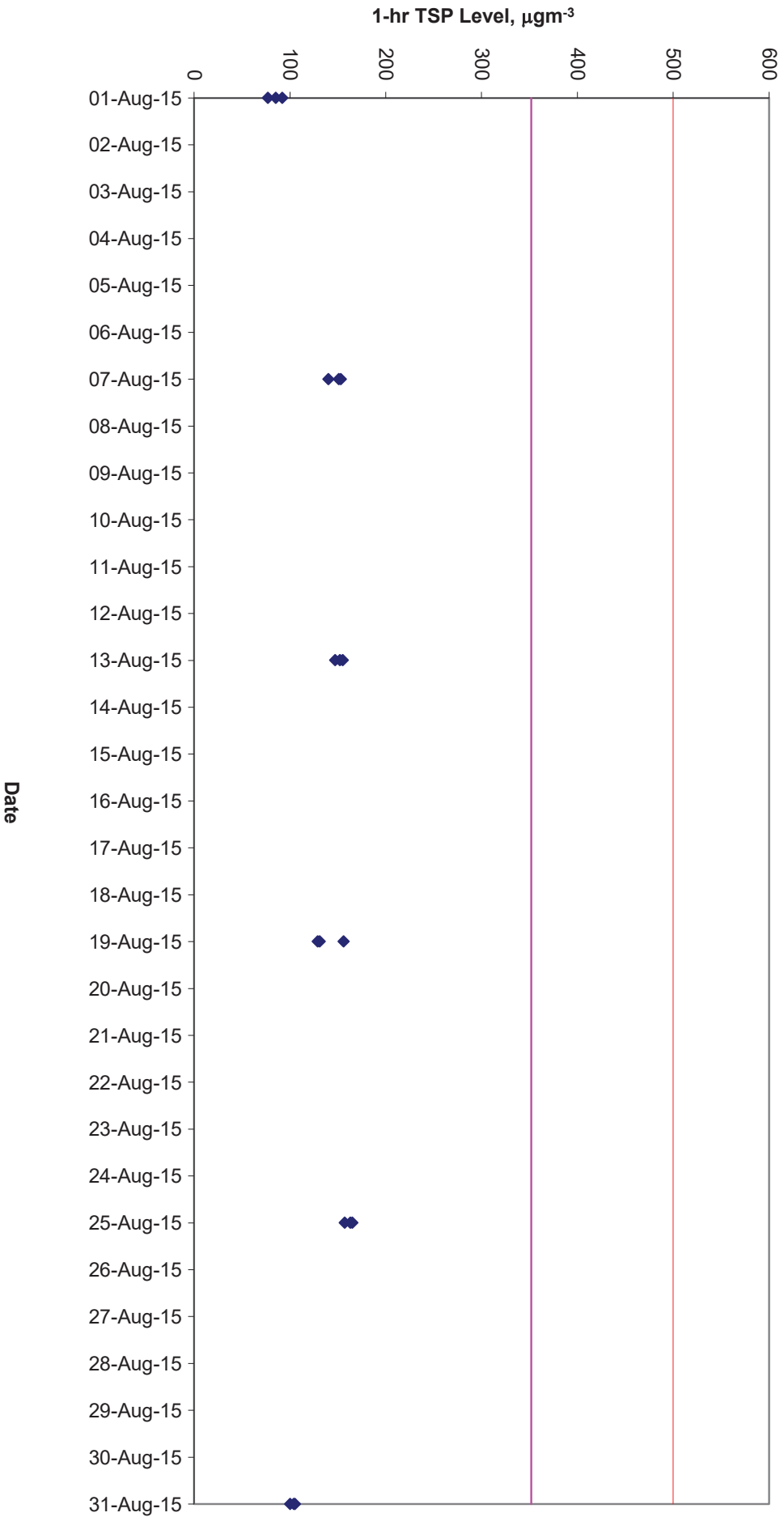
Station AM4_2

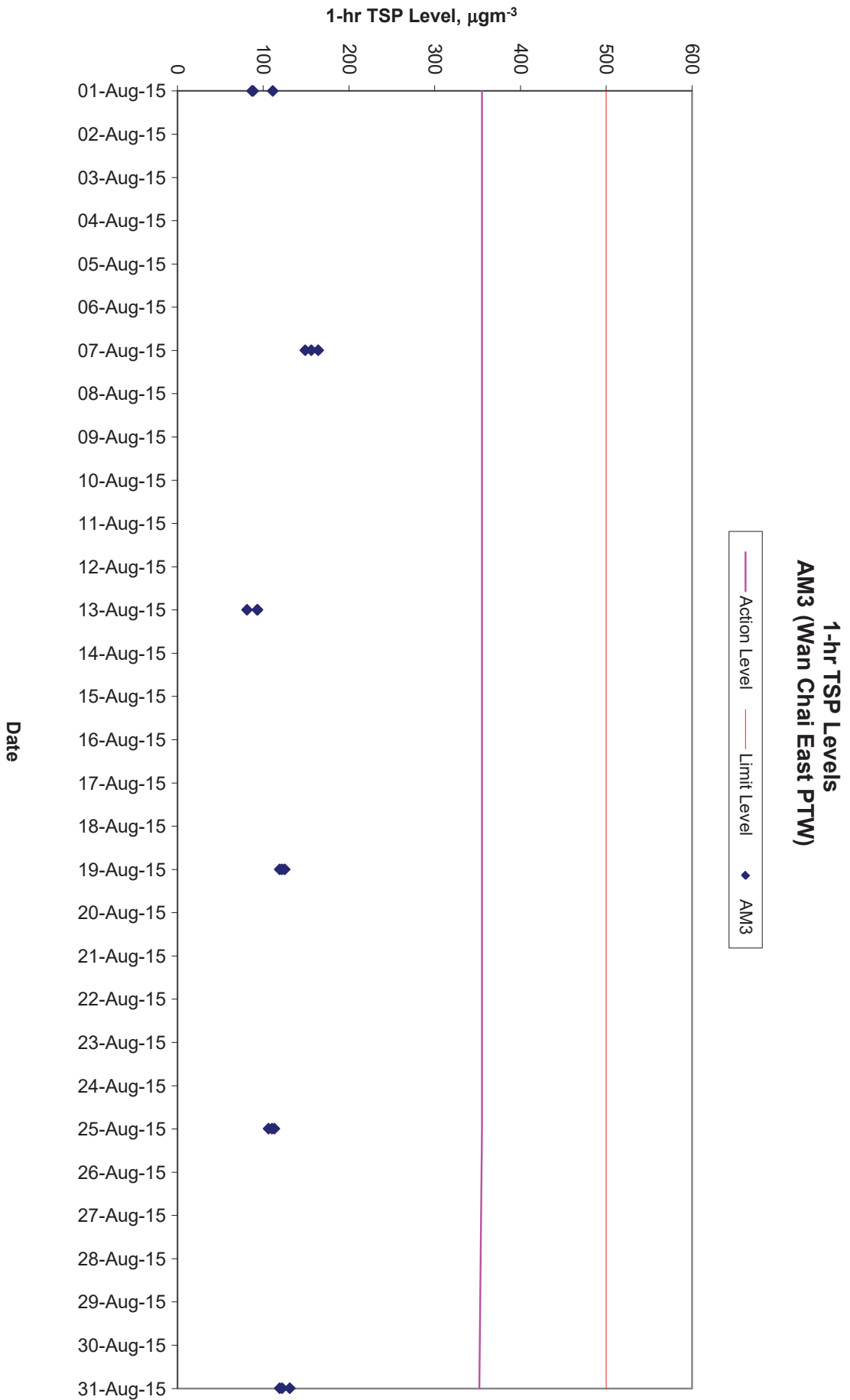
Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m ³ /min)			TSP Conc. (µg/m ³)	Action Level (µg/m ³)	Limit Level (µg/m ³)	Observations / Remarks	Sampler ID	Filter ID
Date	Time	Date	Time		Initial	Final	Initial	Final		Initial	Final	Average						
01-Aug-15	14:46	02-Aug-15	14:46	Sunny	2.8779	2.9909	18228.85	18252.85	24.00	1.23	1.23	1.23	64	211	260	construction work in progress	GMW GS 2310 (S/N 9315)	6812
07-Aug-15	15:00	08-Aug-15	15:00	Sunny	2.9001	3.0424	18255.85	18279.85	24.00	1.23	1.23	1.23	80	211	260	construction work in progress	GMW GS 2310 (S/N 9315)	6824
13-Aug-15	15:10	14-Aug-15	15:10	Cloudy	2.8462	2.9988	18282.85	18306.85	24.00	1.23	1.23	1.23	86	211	260	construction work in progress	GMW GS 2310 (S/N 9315)	6912
19-Aug-15	15:00	20-Aug-15	15:00	Sunny	2.8466	2.9969	18309.85	18333.85	24.00	1.23	1.23	1.23	85	211	260	construction work in progress	GMW GS 2310 (S/N 9315)	6924
25-Aug-15	11:12	26-Aug-15	11:12	Sunny	2.8291	2.9771	18336.85	18360.85	24.00	1.23	1.23	1.23	84	211	260	construction work in progress	GMW GS 2310 (S/N 9315)	6936
31-Aug-15	15:05	01-Sep-15	15:05	Cloudy	2.8200	2.9806	18363.85	18387.85	24.00	1.23	1.23	1.23	91	211	260	Construction work in progress	GMW GS 2310 (S/N 9315)	6948
													Min.	64				
													Max.	91				
													Average	82				

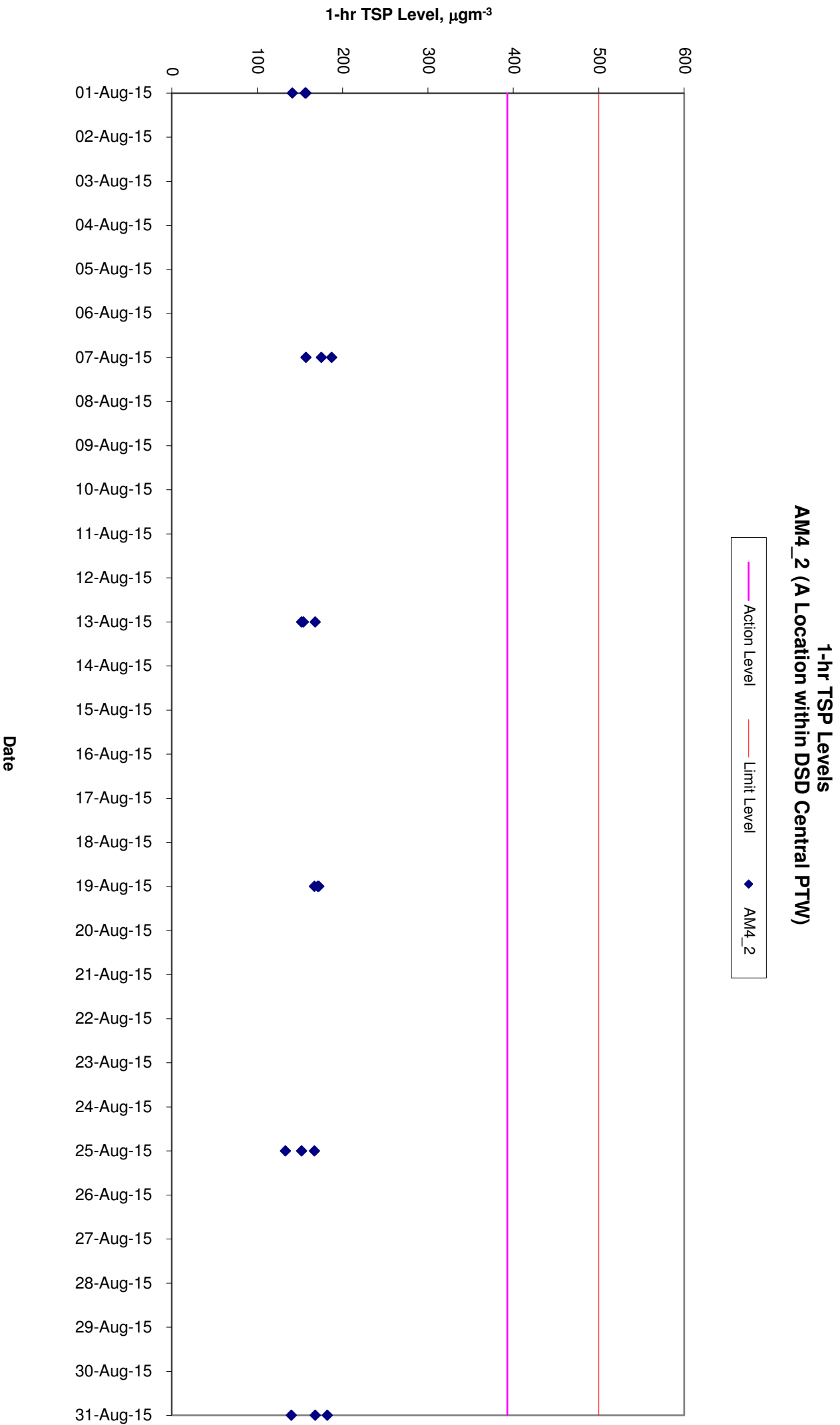
1-hr TSP Levels AM1 (Chan's Creative School)

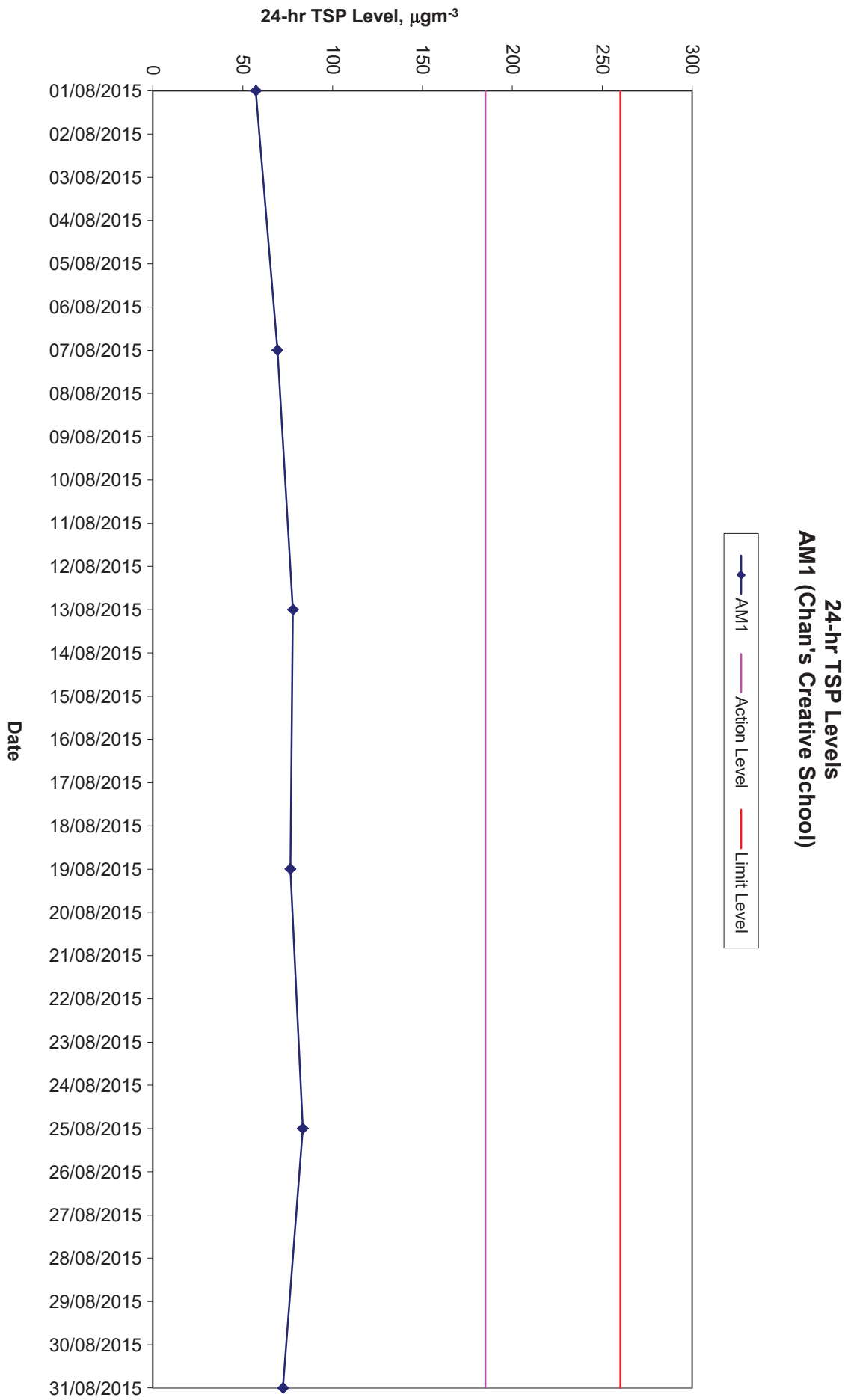


**1-hr TSP Levels
AM2 (Hong Kong & Island Regional Office, WSD)**

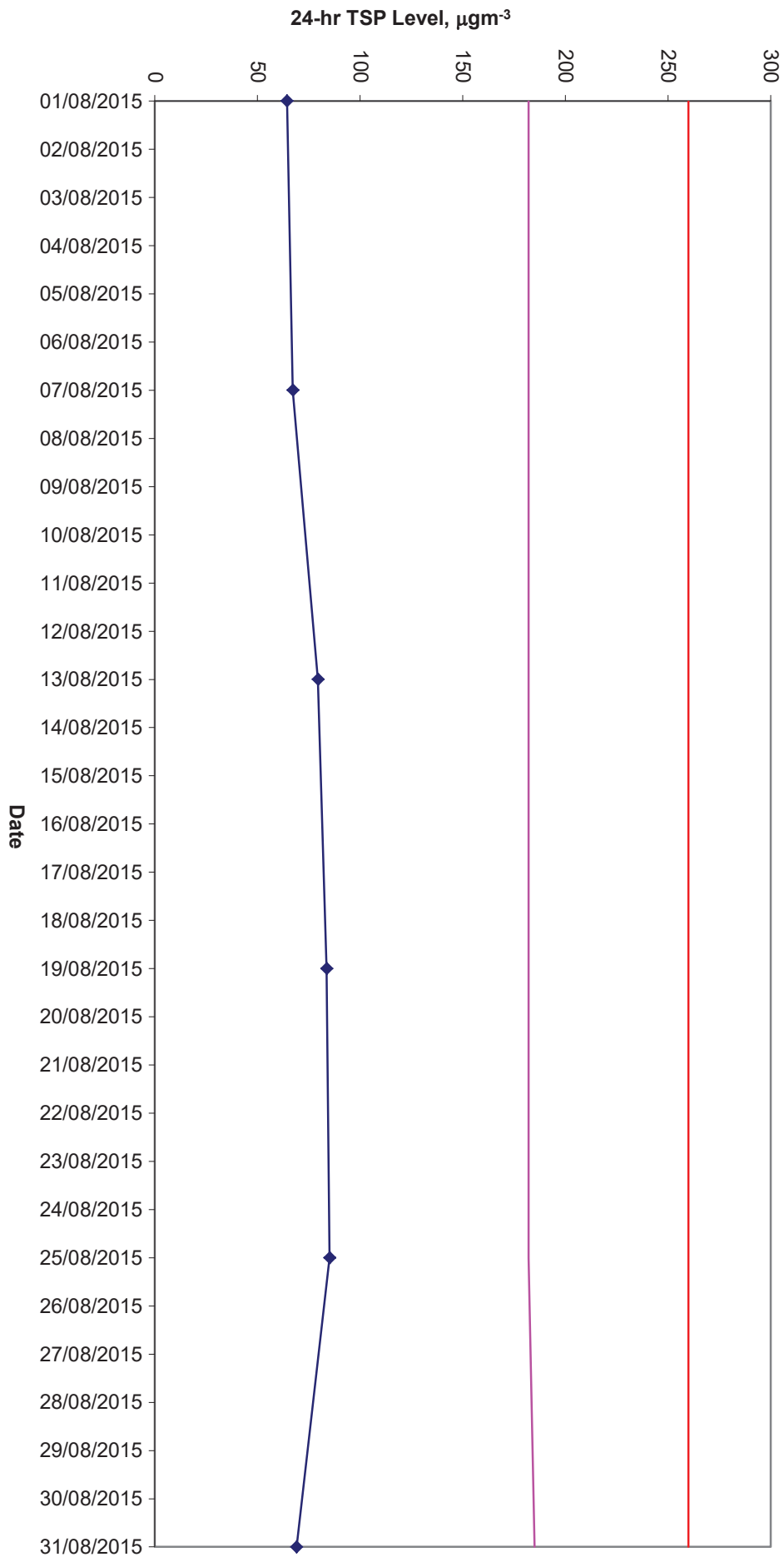


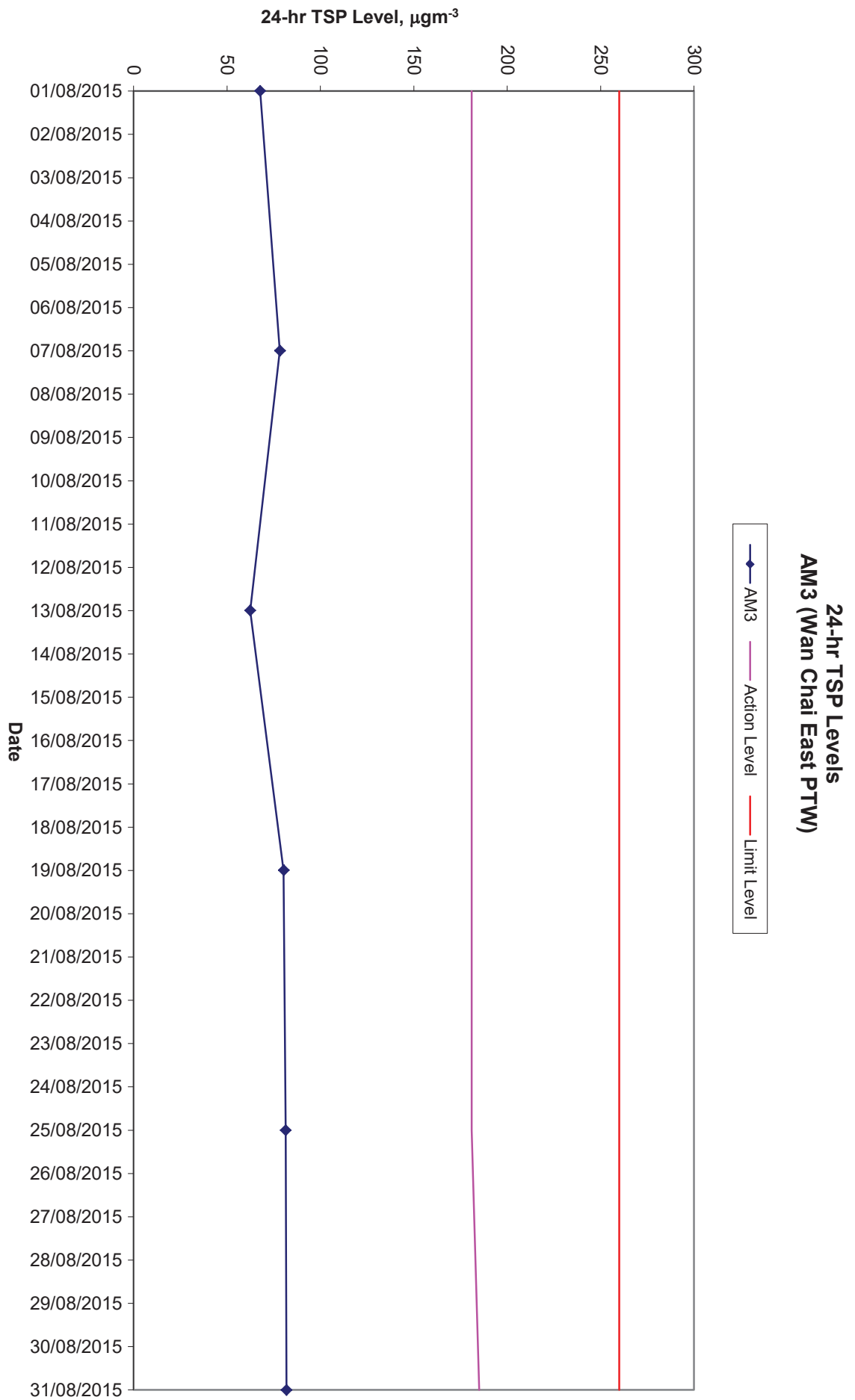


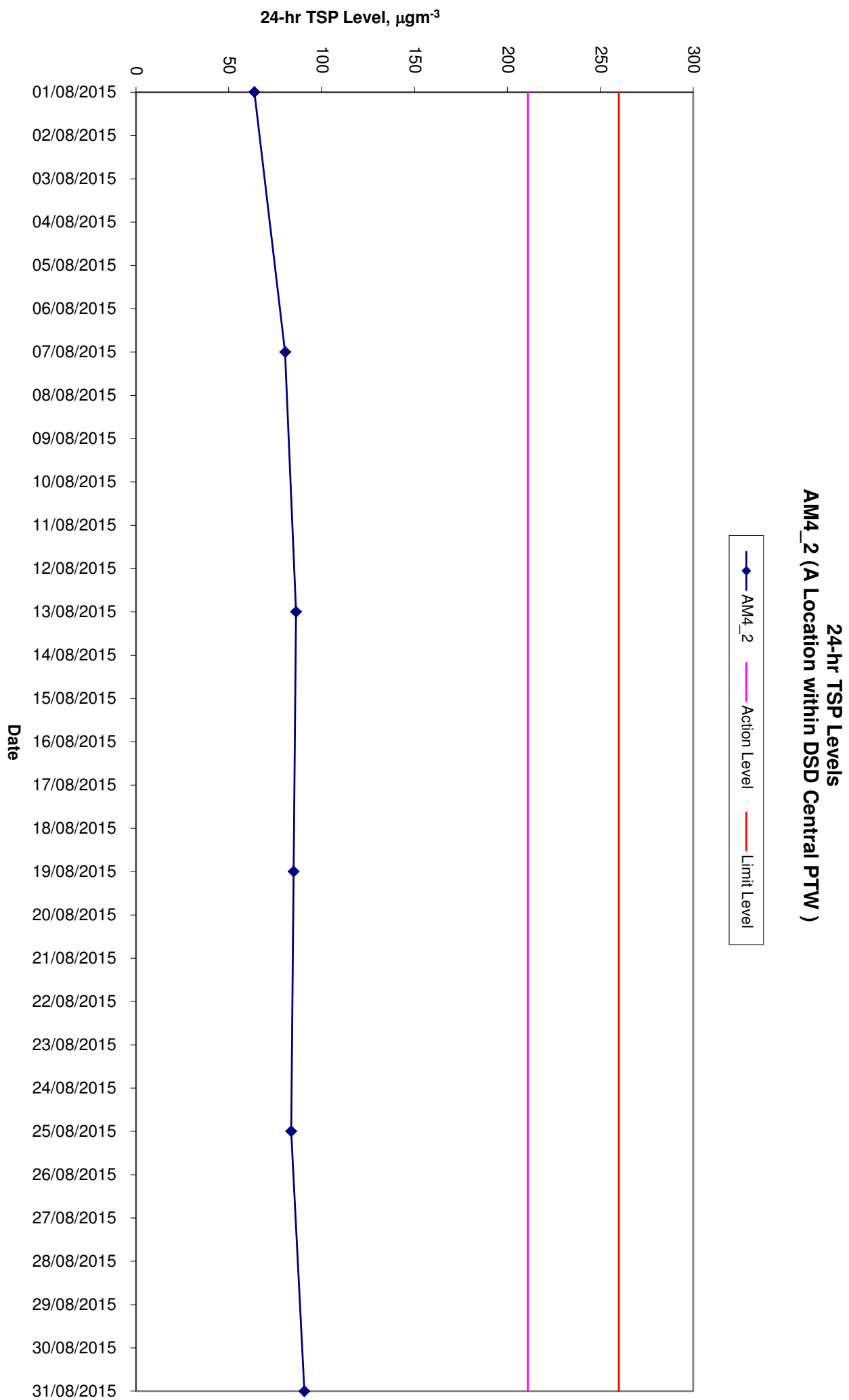




24-hr TSP Levels AM2 (Hong Kong & Island Regional Office, WSD)







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

Restricted Hours Noise Monitoring Results ^[1]

Station NM1

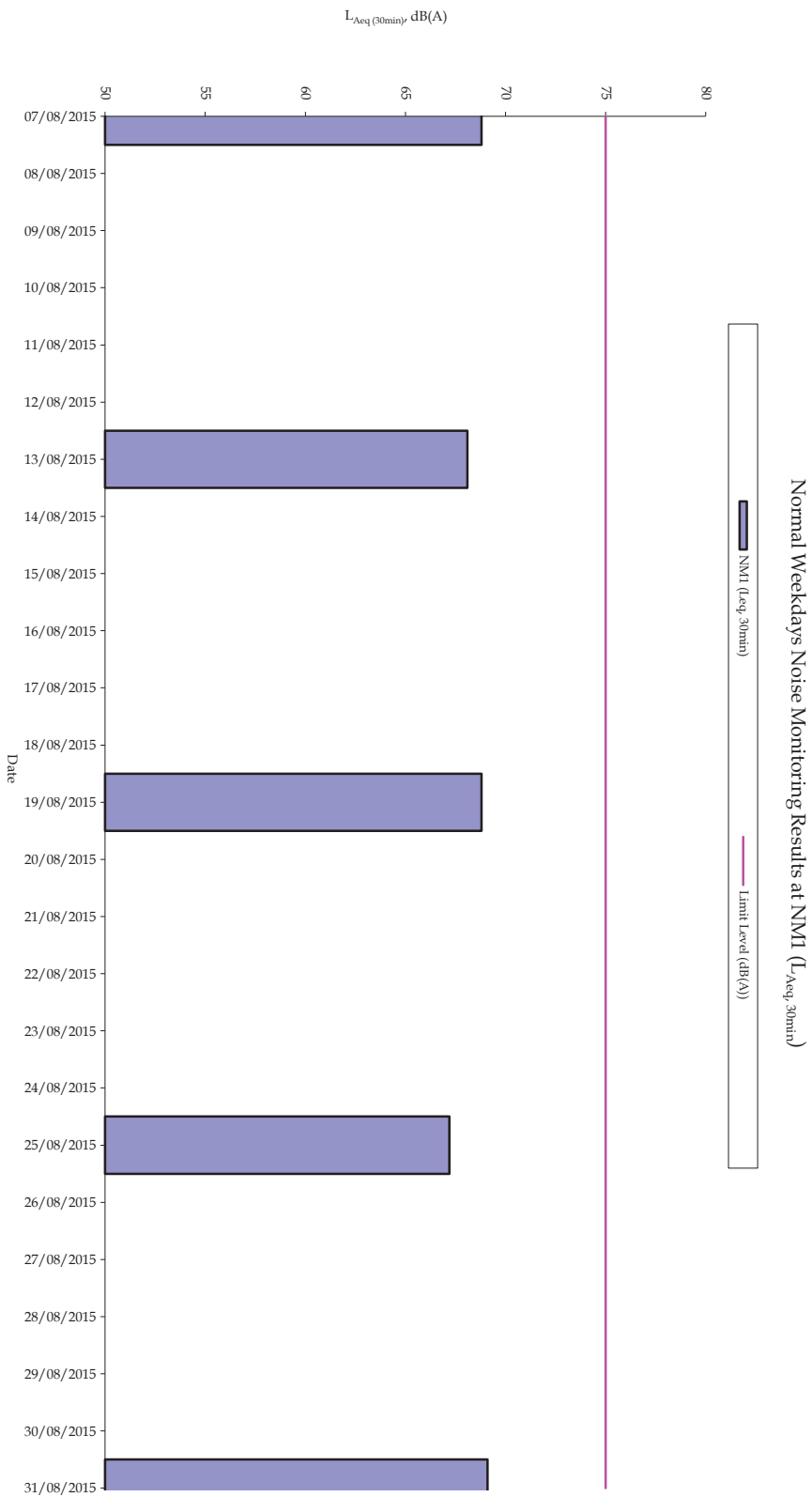
Date	Start Time	End Time	Weather	Noise level (dB(A)), 5 min			Major Construction Noise Source(s) Observed	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
2-Aug-15	14:10	14:15	Sunny	69	72	67	Noise from nearby playground	Traffic Noise	-	30	0.2	Casella CEL-633A (S/N 3521757)	Casella CEL-120/1 (S/N 3421612)
	14:15	14:20	Sunny	70	73	67			-				
	14:20	14:25	Sunny	70	72	67			-				
	14:10	14:25	Sunny	70	72	67			-				
11-Aug-15	21:30	21:35	Fine	69	72	66	Noise from nearby playground	Traffic Noise	-	28	0.2	Casella CEL-633A (S/N 3521757)	Casella CEL-120/1 (S/N 3421612)
	20:00	20:05	Fine	69	71	66			-				
	20:05	20:10	Fine	70	71	67			-				
	19:55	20:10	Fine	69	71	66			-				
16-Aug-15	14:00	14:05	Sunny	69	71	66	Noise from nearby playground	Traffic Noise	-	29	0.2	Casella CEL-633A (S/N 3521757)	Casella CEL-120/1 (S/N 3421612)
	14:05	14:10	Sunny	70	72	66			-				
	14:10	14:15	Sunny	69	72	66			-				
	14:00	14:15	Sunny	69	72	66			-				
25-Aug-15	22:00	22:05	Fine	69	71	67	Noise from nearby playground	Traffic Noise	-	28	0.2	Casella CEL-633A (S/N 3521757)	Casella CEL-120/1 (S/N 3421612)
	22:05	22:10	Fine	68	71	67			-				
	22:10	22:15	Fine	69	72	67			-				
	22:00	22:15	Fine	69	71	67			-				
30-Aug-15	10:28	10:33	Fine	67	69	66	Noise from nearby playground	Traffic Noise	-	28	0.2	Casella CEL-633A (S/N 3521757)	Casella CEL-120/1 (S/N 3421612)
	10:33	10:38	Fine	68	70	65			-				
	10:38	10:43	Fine	68	70	65			-				
	10:28	10:43	Fine	68	70	65			-				
			Min.	67									
			Max.	70									

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

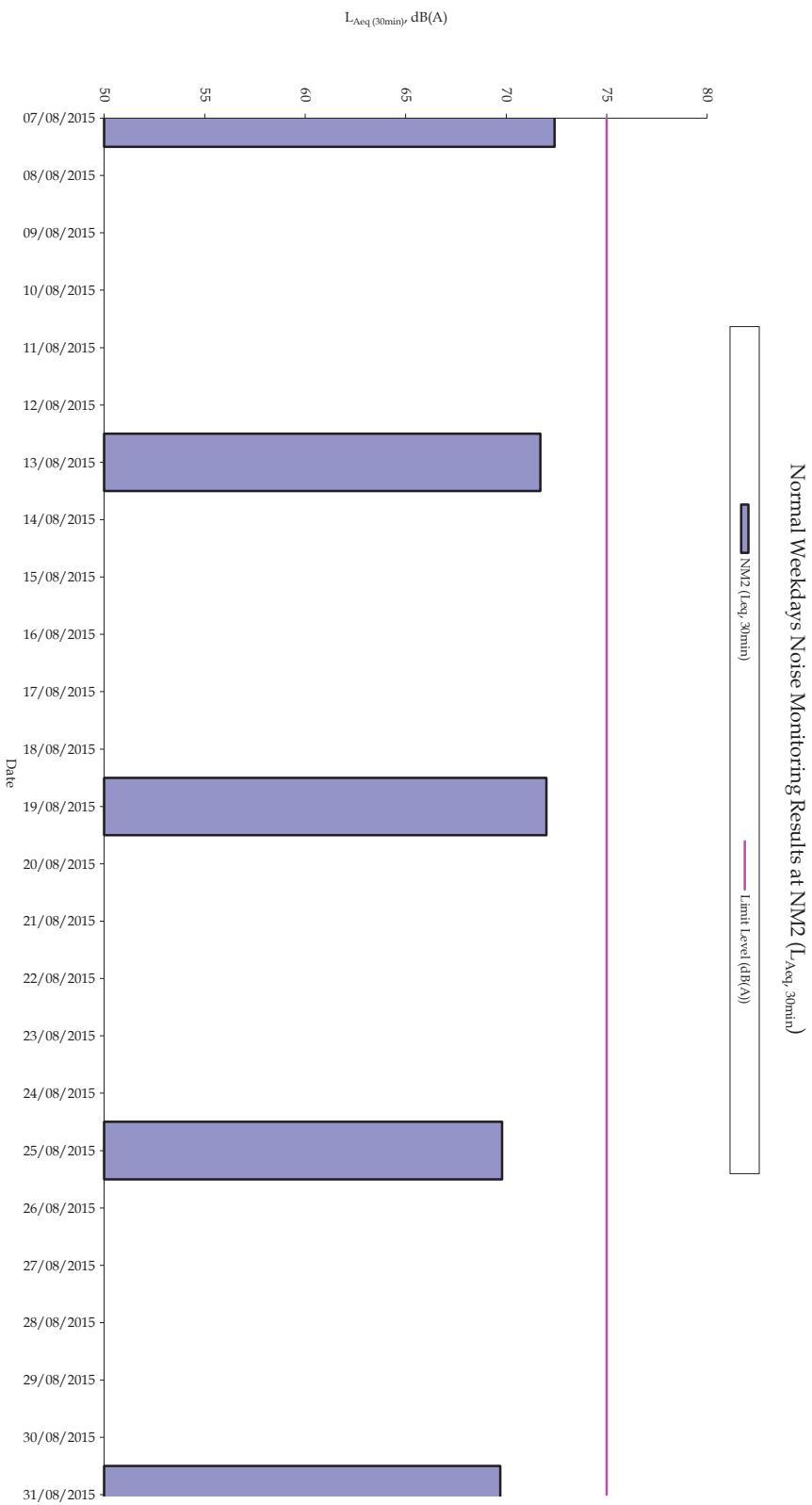
Restricted Hours Noise Monitoring Results

Station NM2

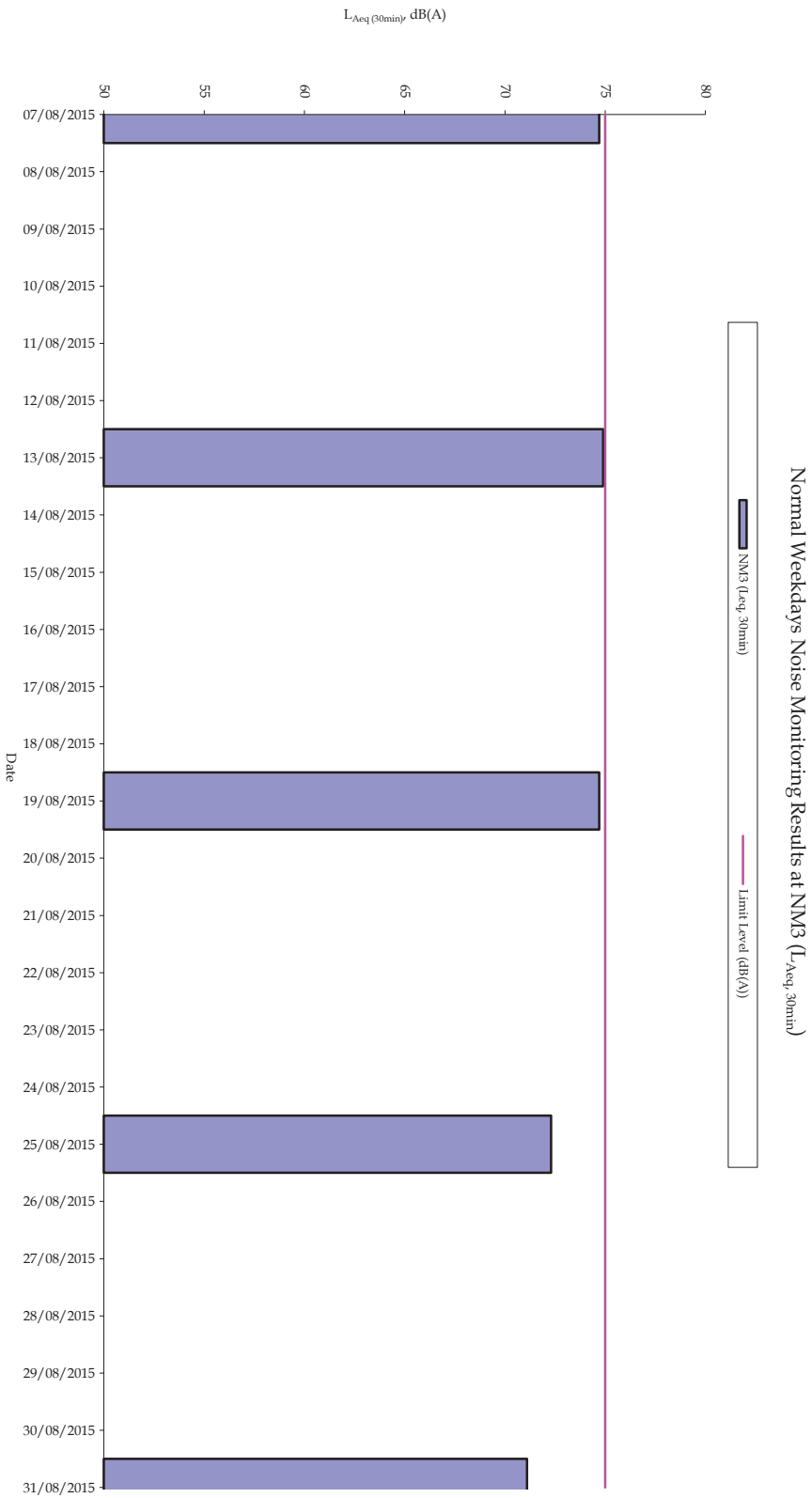
Date	Start Time	End Time	Weather	Noise level (dB(A)), 5 min			Major Construction Noise Source(s) Observed	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
2-Aug-15	15:50	15:55	Sunny	70	71	69	-	Traffic noise	-	30	0.2	Casella CEL-633A (S/N 3521757)	Casella CEL-120/1 (S/N 3421612)
	15:55	16:00	Sunny	70	71	69			-				
	16:00	16:05	Sunny	69	71	68			-				
15:50	16:05	Sunny	70	71	69	-							
11-Aug-15	19:05	19:10	Fine	71	72	69	-	Traffic noise	-	28	0.2	Casella CEL-633A (S/N 3521757)	Casella CEL-120/1 (S/N 3421612)
	19:10	19:15	Fine	70	71	69			-				
	19:15	19:20	Fine	70	72	69			-				
	19:05	19:20	Fine	71	72	69			-				
16-Aug-15	15:11	15:16	Sunny	70	71	69			-				
	15:16	15:21	Sunny	70	71	69	-						
	15:21	15:26	Sunny	70	71	69	-						
	15:11	15:26	Sunny	70	71	69	-						
25-Aug-15	19:22	19:27	Fine	71	72	70	-	Traffic noise		-	28	0.2	Casella CEL-633A (S/N 3521757)
	19:27	19:32	Fine	71	72	70			-				
	19:32	19:37	Fine	72	73	70			-				
	19:22	19:37	Fine	71	73	70			-				
30-Aug-15	14:04	14:09	Fine	72	73	71			-	Traffic noise			
	14:09	14:14	Fine	72	73	70	-						
	14:14	14:19	Fine	72	73	71	-						
	14:04	14:19	Fine	72	73	71	-						
				Min.	69								
				Max.	72								



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

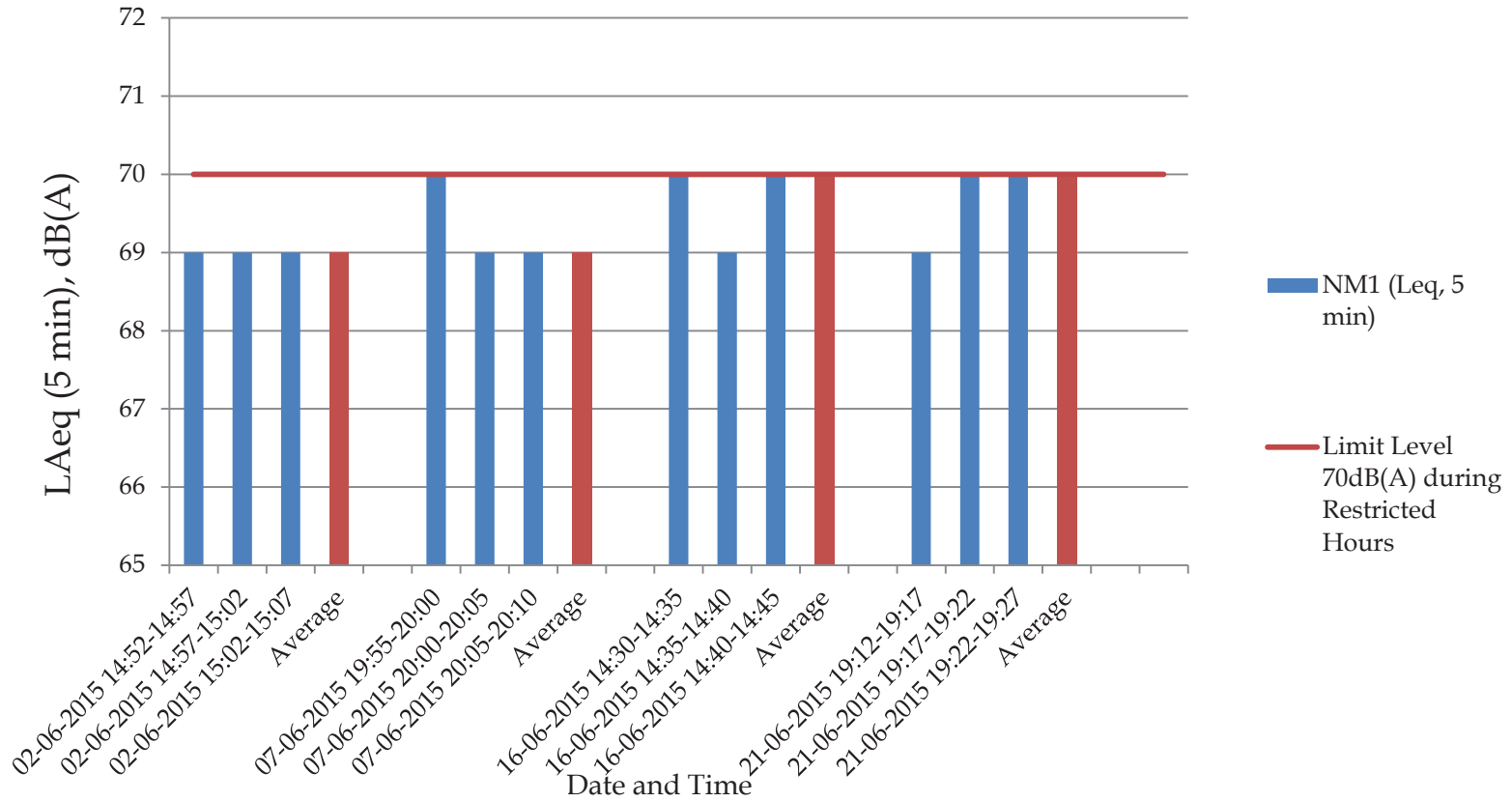


Remark:
 - 70dB(A) was adopted as the Limit Level during restricted hours in the reporting period.

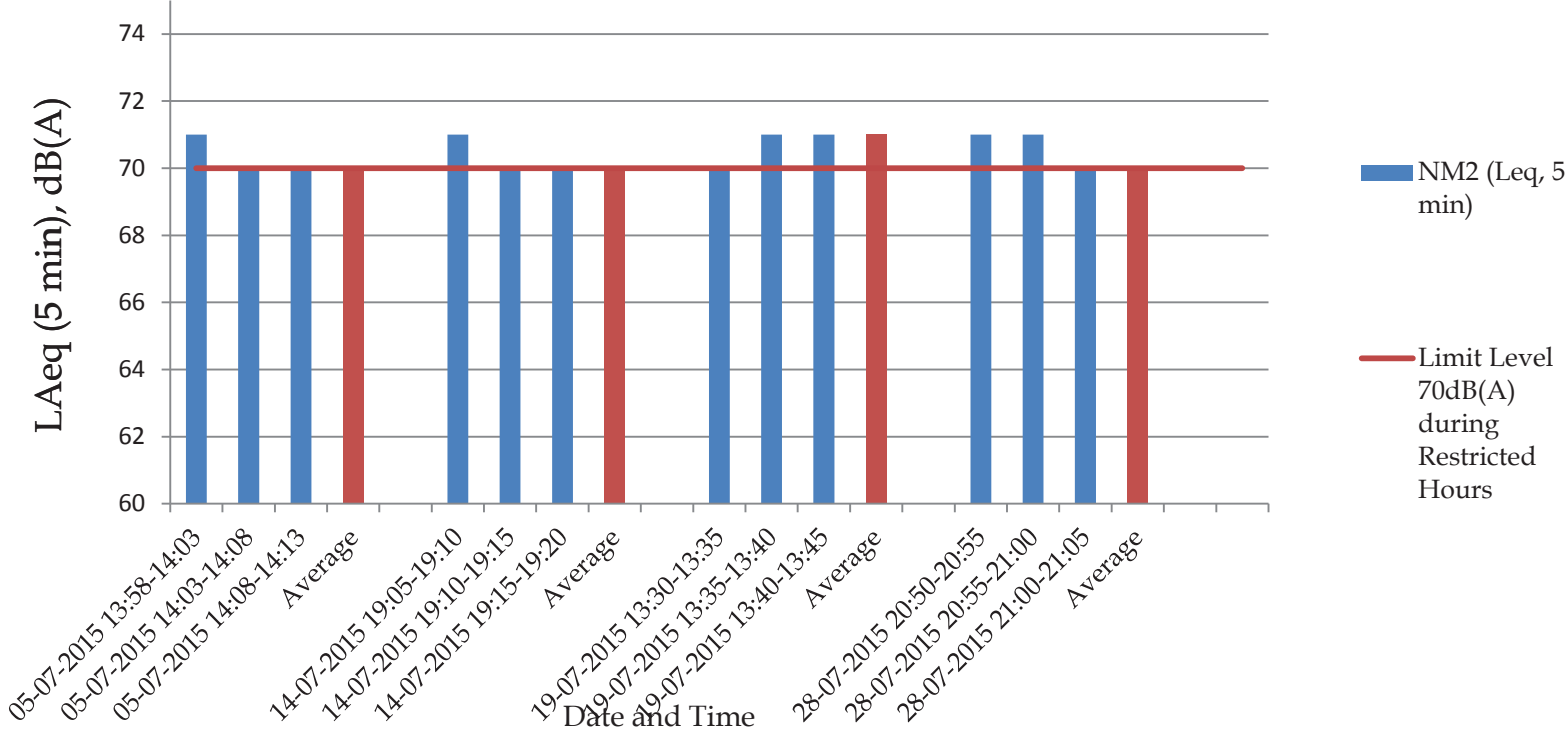


Remark:
 - 70dB(A) was adopted as the Limit Level during restricted hours in the reporting period.

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: August 2015

- a) Exceedance Report for 1-hr TSP (NIL)**
- b) Exceedance Report for 24-hr TSP (NIL)**
- c) Exceedance Report for Construction Noise (3)**

No Action Level exceedance was recorded, while three non-project related Limit Level exceedance were recorded during the restricted hour noise monitoring on 11th, 25th & 30th August 2015 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 11th, 25th & 30th August 2015 at Wan Chai East Preliminary Treatment Works under DC/2009/23.

APPENDIX F
SITE AUDIT SUMMARY

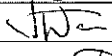

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	150805
Date	5 August 2015 (Wednesday)
Time	09:30 – 11:30

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

Ref. No.	Remarks/Observations	Related Item No.
150805-R01	<p>Part A - Water Quality</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part B – Landscape and Visual</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part C - Air Quality</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part D – Noise</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part E –Waste / Chemical Management</p> <ul style="list-style-type: none"> The chemical containers should be provided with the drip trays at Central-PTW. <p>Part F - Permit / Licenses</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Follow up:</p> <ul style="list-style-type: none"> For previous audit session (Ref. No. 150729), all environmental deficiencies were improved by the Contractor. <p>Remark:</p> <ul style="list-style-type: none"> -- 	E 7ii

	Name	Signature	Date
Recorded by	Janet Wai		5 August 2015
Checked by	Dr. Priscilla Choy		5 August 2015

Contract No: DC/2009/23

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

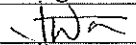

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	150812
Date	12 August 2015 (Wednesday)
Time	09:30 – 11:40

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

Ref. No.	Remarks/Observations	Related Item No.
150812-R01	Part A - Water Quality <ul style="list-style-type: none">No environmental deficiency was identified during the site inspection.	
150812-R02	Part B - Landscape and Visual <ul style="list-style-type: none">No environmental deficiency was identified during the site inspection. Part C - Air Quality <ul style="list-style-type: none">The construction waste and dusty materials should be sorted out and cleared properly at North Point-PTW and Wan Chai-PTW.	C 6 C 10
150812-R01	Part D - Noise <ul style="list-style-type: none">No environmental deficiency was identified during the site inspection. Part E - Waste / Chemical Management <ul style="list-style-type: none">The construction waste and dusty materials should be sorted out and cleared properly at North Point-PTW and Wan Chai-PTW.	E 4ii
150812-R03	<ul style="list-style-type: none">The chemical containers should be provided with the drip trays at Central-PTW. Part F - Permit / Licenses <ul style="list-style-type: none">No environmental deficiency was identified during the site inspection. Follow up: <ul style="list-style-type: none">For previous audit session (Ref. No. 150805), outstanding item 150805-R01 is required to be followed up and remarked as 150812-R03 which will be reviewed in the next weekly site inspection (Ref. No. 150821). Remark: <ul style="list-style-type: none">--	E 7ii

	Name	Signature	Date
Recorded by	Janet Wai		12 August 2015
Checked by	Dr. Priscilla Choy		12 August 2015

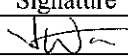

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	150821
Date	21 August 2015 (Friday)
Time	14:00 – 16:00

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

Ref. No.	Remarks/Observations	Related Item No.
150821-O01	<p>Part A - Water Quality</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part B – Landscape and Visual</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part C - Air Quality</p> <ul style="list-style-type: none"> The mixing activity should be done in the proper enclosed area to prevent the dust generation at Wan Chai-PTW. <p>Part D – Noise</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part E –Waste / Chemical Management</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part F - Permit / Licenses</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Follow up:</p> <ul style="list-style-type: none"> For previous audit session (Ref. No. 150812), outstanding item 150812-R02 is required to be followed up and remarked as 150821-O01 which will be reviewed in the next weekly site inspection (Ref. No. 150826). <p>Remark:</p> <ul style="list-style-type: none"> -- 	C 10

	Name	Signature	Date
Recorded by	Janet Wai		21 August 2015
Checked by	Dr. Priscilla Choy		21 August 2015

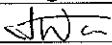

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	150826
Date	26 August 2015 (Wednesday)
Time	09:30 – 11:30

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

Ref. No.	Remarks/Observations	Related Item No.
150826-O02	<p>Part A - Water Quality</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part B – Landscape and Visual</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part C - Air Quality</p> <ul style="list-style-type: none"> The mixing activity should be done in the proper enclosed at Wan Chai-PTW. <p>Part D – Noise</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. 	C 10
150826-O01	<p>Part E –Waste / Chemical Management</p> <ul style="list-style-type: none"> The oil leakage was observed from the backhoe at Wan Chai-PTW. The Contractor was reminded to provide the maintenance and clear the oil stain properly. <p>Part F - Permit / Licenses</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Follow up:</p> <ul style="list-style-type: none"> For previous audit session (Ref. No. 150821), outstanding item 150821-O01 is required to be followed up and remarked as 150826-O02 which will be reviewed in the next weekly site inspection (Ref. No. 150902). <p>Remark:</p> <ul style="list-style-type: none"> -- 	E 7i

	Name	Signature	Date
Recorded by	Janet Wai		26 August 2015
Checked by	Dr. Priscilla Choy		26 August 2015

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

APPENDIX C MONTHLY SUMMARY WASTE FLOW TABLE FOR August (2015)

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]	
Year2014	18.193	0.000	0.000	0.000	18.193	0.000	72.810	2.956	0.304	0.830	1.082	1.503	1.258	0.439	0.223
JAN	1.399	0.000	0.000	0.000	1.399	0.000	0.000	0.190	0.090	0.000	0.022	0.097	0.034	0.060	0.036
FEB	0.932	0.000	0.000	0.000	0.932	0.000	0.000	0.193	0.170	0.000	0.021	0.089	0.040	0.050	0.028
MAR	0.361	0.000	0.000	0.000	0.361	0.000	0.000	0.170	0.050	0.000	0.053	0.103	0.045	0.054	0.034
APR	0.083	0.000	0.000	0.000	0.083	0.000	0.000	0.128	0.070	0.000	0.045	0.091	0.038	0.055	0.034
MAY	0.146	0.000	0.000	0.000	0.146	0.000	0.000	0.170	0.005	0.200	0.025	0.109	0.033	0.054	0.032
JUN	0.008	0.000	0.000	0.000	0.008	0.000	0.000	0.168	0.005	0.000	0.025	0.094	0.036	0.044	0.030
SUB-TOTAL	2.929	0.000	0.000	0.000	2.929	0.000	0.000	1.019	0.390	0.200	0.191	0.583	0.226	0.317	0.194
JUL	0.507	0.000	0.000	0.000	0.507	0.000	0.000	0.170	0.003	0.000	0.033	0.093	0.047	0.048	0.033
AUG	1.392	0.000	0.000	0.000	1.392	0.000	0.000	0.172	0.005	0.000	0.024	0.091	0.045	0.040	0.029
SEP															
OCT															
NOV															
DEC															
TOTAL	23.021	0.000	0.000	0.000	23.021	0.000	72.810	4.317	0.702	1.030	1.330	2.270	1.576	0.844	0.479

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]	
24	0.1	0.1	0.1	23.6	0.1	100	8	1	3	3.5	4.5	3	1.5	1

- Notes :
- The performance targets are given in PS Clause 6(14).
 - The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the site.
 - Plastics refer to plastic bottles / containers, plastic sheets / foam from packaging material.
 - 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].
 - The assumed density (kg/m³) for both C&D material and general refuse.
C&D material 2000kg/m³
General refuse 500kg/m³
 - Conversion factors for reporting purpose:

in-situ: rock = 2.5 tonnes/m ³ ; soil = 2.0 tonnes/m ³	excavated: rock = 2.0 tonnes/m ³ ; soil = 1.8 tonnes/m ³	Special Waste (Grit) = 1.2 tonnes/m ³
broken concrete and bitumen = 2.4 tonnes/m ³	C&D Waste = 0.9 tonnes/m ³ bentonite slurry = 2.8 tonnes/m ³	Special Waste (Screening) = 0.31 tonnes/m ³

**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	<p>Skip hoist for material transport should be totally enclosed by impervious sheeting.</p> <p>Vehicle washing facilities should be provided at every vehicle exit point.</p> <p>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.</p> <p>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.</p> <p>Use of regular watering, with complete coverage, to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather.</p> <p>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.</p> <p>Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs.</p> <p>Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.</p> <p>Imposition of speed controls for vehicles on unpaved site roads. Ten kilometers per hour is the recommended limit.</p> <p>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.</p> <p>Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.</p>	All construction sites	<p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>*</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p>
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: August 2015

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**

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																									
FGN0030	Date of Commencement of Contract	0	0	06-Jan-11		06-Jan-11																									
FGN0040	Time for Completion for Project	1393	0	06-Jan-11		29-Oct-14																									
FGN0050	Date of Completion of the Works	0	0			29-Oct-14																									
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																									
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																									
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 Chai East																															
Possession / Vacation of Portions																															
FWC00010	H/O Date_WCE-1 (135 days after start)	0	0	20-May-11		20-May-11																									
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																									
FWC00040	Vacation Date_WCE-2 (on Sec. 4ii completed)	0	0			14-Nov-11																									
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																									
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																									
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																									
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																									
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																									
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																									
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																									
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																								
FGN0210	Comment/Approval of Clause 16 Programme	30	41	07-Mar-11	05-Apr-11	17-Apr-11	16-May-11																								
FGN0220	Prepare/Submit Detailed Works Programme	60	11	07-Mar-11	05-May-11	18-Mar-11	16-May-11																								
FGN0230	Comments/Approval of Detailed Works Programme	30	11	06-May-11	04-Jun-11	17-May-11	15-Jun-11																								
FGN0250	Prepare/Submit Safety Plan	14	159	06-Jan-11	19-Jan-11	14-Jun-11	27-Jun-11																								
FGN0260	Comments/Approval of Safety Plan	60	159	20-Jan-11	28-Mar-11	28-Jun-11	26-Aug-11																								
FGN0300	Prepare/Submit Environmental Manag. Plan	21	152	06-Jan-11	26-Jan-11	07-Jun-11	27-Jun-11																								
FGN0310	Comments/Approval of Environmental Manag. Plan	60	152	27-Jan-11	27-Mar-11	28-Jun-11	26-Aug-11																								
FGN0330	Prepare / Submit Subcontractor Management Plan	30	143	06-Jan-11	04-Feb-11	29-May-11	27-Jun-11																								
FGN0340	Comments/Approval of Subcontractor Manag. Plan	60	143	05-Feb-11	05-Apr-11	28-Jun-11	26-Aug-11																								
FGN0400	Prepare / Submit Interface Management Plan	55	43	06-Jan-11	01-Mar-11	18-Feb-11	13-Apr-11																								
FGN0410	Comments / Approval of Interface Management Plan	45	43	02-Mar-11	15-Apr-11	14-Apr-11	28-May-11																								
FGN0420	Submit Detailed Interface Documents	60	43	16-Apr-11	14-Jun-11	29-May-11	27-Jul-11																								
FGN0430	Approval of Detailed Interface Documents	30	43	15-Jun-11	14-Jul-11	28-Jul-11	26-Aug-11																								
FGN0440	Prepare/Submit Env. Baseline Monitoring report	60	71	19-Feb-11	19-Apr-11	01-May-11	29-Jun-11																								
FGN0445	Comments/Approval Env. Baseline Report	28	71	20-Apr-11	17-May-11	30-Jun-11	27-Jul-11																								
FGN0448	Review/submit Construction Noise Permit	28	129	04-Apr-11	01-May-11	11-Aug-11	07-Sep-11																								
FGN0449	Comments/Approval of Construction Noise Permit	28	129	02-May-11	29-May-11	08-Sep-11	05-Oct-11																								
Technical Information & Drawings																															
FGN0450	Prepare/Submit initial record for CentralPTW	14	50	19-Feb-11	04-Mar-11	10-Apr-11	23-Apr-11																								
FGN0455	Prepare/Submit Tree Survey Report Pt. I	14	50	19-Feb-11	04-Mar-11	10-Apr-11	23-Apr-11																								
FGN0460	Prepare/Submit initial record for remaining area	14	50	20-May-11	02-Jun-11	09-Jul-11	22-Jul-11																								
FGN0465	Prepare/Submit Tree Survey Report Pt. II	14	13	20-May-11	02-Jun-11	02-Jun-11	15-Jun-11																								
Civil & Geo. Submission																															
Contractor's Design, Submission and Approval																															

Actual Work Remaining Work Critical 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			
Foundation Works																																				
FNP12450	26nos. socket H-pile	65	0	07-Jan-12	11-Mar-12	07-Jan-12	11-Mar-12																													
FNP12480	ELS for pile cap construction for F.S&G.T.Bldg.	15	5	12-Mar-12	26-Mar-12	17-Mar-12	31-Mar-12																													
FNP12490	Construction of pile cap for F.S&G.T. Bldg.	25	5	27-Mar-12	20-Apr-12	01-Apr-12	25-Apr-12																													
RC Structural Works																																				
FNP12550	R.C. Structure for Chamber FC-1	45	0	12-Mar-12	25-Apr-12	12-Mar-12	25-Apr-12																													
FNP12600	Construct floor slab for F.Screen,GritTrap Bldg.	47	0	26-Apr-12	11-Jun-12	26-Apr-12	11-Jun-12																													
FNP12610	Construct column&wall of F.Screen,GritTrap Bldg	14	0	12-Jun-12	25-Jun-12	12-Jun-12	25-Jun-12																													
FNP12620	Construct roof slab of FineScreen,Grit Trap Bldg	14	0	26-Jun-12	09-Jul-12	26-Jun-12	09-Jul-12																													
Drainage Works																																				
FNP12250	Install New DN1800 & DN1650 Sewer pipes	45	0	09-Oct-11	22-Nov-11	09-Oct-11	22-Nov-11																													
FNP12260	Construct new sewer manholes	30	0	23-Nov-11	23-Dec-11	23-Nov-11	22-Dec-11																													
FNP12265	Connect to Extg. DN1800 & DN1650 Overflow Sewer	15	0	23-Dec-11	06-Jan-12	23-Dec-11	06-Jan-12																													
FNP12750	Construct new FC-2a flow chamber	30	57	12-Mar-12	10-Apr-12	08-May-12	06-Jun-12																													
FNP12755	Laying of Pipes from Fine Screen Bldg. to FC-2	30	47	21-Apr-12	20-May-12	07-Jun-12	06-Jul-12																													
FNP12765	Laying of Pipes from FC-2 to FC-2a	30	57	11-Apr-12	10-May-12	07-Jun-12	06-Jul-12																													
FNP12770	Construct new FC-2 flow chamber	30	47	21-May-12	19-Jun-12	07-Jul-12	05-Aug-12																													
FNP12780	Laying of Pipes from FC-2 to FC-3	30	47	20-Jun-12	19-Jul-12	06-Aug-12	04-Sep-12																													
FNP12800	Construct new FC-3 flow chamber	75	82	20-Jul-12	02-Oct-12	10-Oct-12	23-Dec-12																													
FNP12850	Modification works for existing flow chamber	70	47	20-Jul-12	27-Sep-12	05-Sep-12	13-Nov-12																													
FNP12900	Construct Seawater Intake Chamber	40	47	28-Sep-12	06-Nov-12	14-Nov-12	23-Dec-12																													
FNP13150	Relocate Extg. Rising Mains in NP-3 & NP-4	70	0	24-Dec-12	03-Mar-13	24-Dec-12	03-Mar-13																													
Electrical and Mechanical Works																																				
FNP12290	Modification of existing Deodorization Plant	30	158	03-Jun-11	02-Jul-11	08-Nov-11	07-Dec-11																													
FNP12300	Demolish Extg. Deodorization Plant	30	60	09-Oct-11	07-Nov-11	08-Dec-11	06-Jan-12																													
Architectural Works																																				
FNP12700	Internal Finishes for F.Screen&Grit Trap Bldg.	30	0	10-Jul-12	08-Aug-12	10-Jul-12	08-Aug-12																													
Transplantation, landscape works																																				
FNP12100	2 nos.Trees Transplant	50	11	05-Jun-11	24-Jul-11	16-Jun-11	04-Aug-11																													
Mechanical Installation																																				
Electrical and Mechanical Works																																				
FNP13100	Install Fine Screen Equipment	60	0	09-Aug-12	07-Oct-12	09-Aug-12	07-Oct-12																													
FNP13110	Install Fine Screen conveyor system	40	0	08-Oct-12	16-Nov-12	08-Oct-12	16-Nov-12																													
FNP13120	Install compactors & equipment	20	27	17-Nov-12	06-Dec-12	14-Dec-12	02-Jan-13																													
FNP13130	Install Grit removal equipment	60	0	17-Nov-12	15-Jan-13	17-Nov-12	15-Jan-13																													
FNP13200	Install Temp. Air Duct to Extg. Deodorizer	21	66	07-Dec-12	27-Dec-12	11-Feb-13	03-Mar-13																													
FNP13250	New Treatment Facilities to Flow Meter Chamber	60	27	07-Dec-12	04-Feb-13	03-Jan-13	03-Mar-13																													
Electrical Installation																																				
Electrical and Mechanical Works																																				
FNP13500	Modify Extg. Switchboard	45	313	11-Jan-12	24-Feb-12	19-Nov-12	02-Jan-13																													
FNP13550	Install New Switchboard	45	102	09-Aug-12	22-Sep-12	19-Nov-12	02-Jan-13																													
FNP13600	Laying Power Supply Cables (including Termination)	60	47	17-Nov-12	15-Jan-13	03-Jan-13	03-Mar-13																													
FNP13650	Install UPS System	50	97	09-Aug-12	27-Sep-12	14-Nov-12	02-Jan-13																													
FNP13700	Install Electrical Equipments	45	177	28-Sep-12	11-Nov-12	24-Mar-13	07-May-13																													
FNP31800	Install Earthing & Lightning System	60	97	28-Sep-12	26-Nov-12	03-Jan-13	03-Mar-13																													
Control and Monitoring System																																				
FNP14100	Install Monitoring & Control System	90	117	09-Aug-12	06-Nov-12	04-Dec-12	03-Mar-13																													
Building Services Installation																																				
FNP12650	Construct U/G Drains, Cable Pits & Ducting	90	87	10-Jul-12	07-Oct-12	05-Oct-12	02-Jan-13																													
FNP14500	Install Building Services	75	197	09-Aug-12	22-Oct-12	22-Feb-13	07-May-13																													
Testing and Commissioning																																				
FNP15200	T&C of Building Services	25	112	16-Jan-13	09-Feb-13	08-May-13	01-Jun-13																													
FNP15300	T&C of PTW System	90	0	04-Mar-13	01-Jun-13	04-Mar-13	01-Jun-13																													
FNP15500	Complete the Works of Section 1	0	0		01-Jun-13		01-Jun-13																													
Works for Section 2																																				
North Point																																				
E&M Equipment / Material Delivery on Site																																				
FNP20010	Deodorisation System Delivery on Site	7	53	05-Oct-13	11-Oct-13	27-Nov-13	03-Dec-13																													
FNP20060	Control & Monitoring System Delivery on Site	7	108	05-Oct-13	11-Oct-13	21-Jan-14	27-Jan-14																													
Civil Works																																				
Site Clearance & Prep. Works																																				
FNP20100	Possession of NP-3 (after Sec. 1 completed)	0	0	02-Jun-13		02-Jun-13																														
Demolition Works																																				
FNP20200	Demolish the Extg. Fine Screen Chamber	30	0	23-Jun-13	22-Jul-13	23-Jun-13	22-Jul-13																													
Site Investigation																																				
FNP20210	6nos. Pre-drill holes	19	0	23-Jul-13	10-Aug-13	23-Jul-13	10-Aug-13																													
Foundation Works																																				
FNP20250	Piling Works for Deodorization Bldg.	55	0	11-Aug-13	04-Oct-13	11-Aug-13	04-Oct-13																													
Drainage Works																																				
FNP20150	Relocate DN300 Sewer	50	20	02-Jun-13	21-Jul-13	22-Jun-13	10-Aug-13																													
RC Structural Works																																				
FNP20400	Construct Deodorization Bldg. including finishes	60	0	05-Oct-13	03-Dec-13	05-Oct-13	03-Dec-13																													
FNP20450	Construct U/G Drains, Cable Pits & Ducting	24	91	05-Oct-13	28-Oct-13	04-Jan-14	27-Jan-14																													
Mechanical Installation																																				

■ 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
Electrical and Mechanical Works																												
FNP21100	Decommission the Existing Grit Traps, Fine Screens	21	0	02-Jun-13	22-Jun-13	02-Jun-13	22-Jun-13																					
FNP21150	Install New Deodorization System	55	0	04-Dec-13	27-Jan-14	04-Dec-13	27-Jan-14																					
Electrical Installation																												
Electrical and Mechanical Works																												
FNP21200	Install Switchgear	45	10	04-Dec-13	17-Jan-14	14-Dec-13	27-Jan-14																					
FNP21400	Power Cables Laying (including termination)	20	0	28-Jan-14	16-Feb-14	28-Jan-14	16-Feb-14																					
FNP21500	Install Earthing & Lightning System	45	10	04-Dec-13	17-Jan-14	14-Dec-13	27-Jan-14																					
Control and Monitoring System																												
FNP23500	Install Control & Monitoring System	20	0	28-Jan-14	16-Feb-14	28-Jan-14	16-Feb-14																					
Building Services Installation																												
FNP24500	Install Building Services System	20	0	28-Jan-14	16-Feb-14	28-Jan-14	16-Feb-14																					
Testing and Commissioning																												
FNP25000	T&C of Deodorization System	30	0	17-Feb-14	18-Mar-14	17-Feb-14	18-Mar-14																					
FNP25500	Completion of the Works of Section 2	0	0		18-Mar-14		18-Mar-14																					
Works for Section 3																												
North Point																												
E&M Equipment / Material Delivery on Site																												
FNP31100	Delivery of Seawater Pumps on Site	10	140	01-Aug-13	10-Aug-13	19-Dec-13	28-Dec-13																					
FNP31150	Delivery of Pipes, Valve, Penstock & Accessories	14	206	02-Jun-13	15-Jun-13	25-Dec-13	07-Jan-14																					
FNP31250	Delivery of Control & Instrumentation	10	55	25-Oct-13	03-Nov-13	19-Dec-13	28-Dec-13																					
Civil Works																												
Site Clearance & Prep. Works																												
FNP32050	Possession of NP-3 (after Sec. 1 completed)	0	0	02-Jun-13		02-Jun-13																						
FNP33100	Demolish Extg. Deodour. Plant & Screen Chamber	30	0	02-Jun-13	01-Jul-13	02-Jun-13	01-Jul-13																					
Foundation Works																												
FNP32150	Construct substructure of Seawater Pump. Station	30	60	02-Jul-13	31-Jul-13	31-Aug-13	29-Sep-13																					
RC Structural Works																												
FNP32160	Construct superstructural for Seawater Pump. St.	90	60	01-Aug-13	29-Oct-13	30-Sep-13	28-Dec-13																					
FNP32200	Construct Twin Seawater Pumping Main	90	0	02-Jul-13	29-Sep-13	02-Jul-13	29-Sep-13																					
FNP32350	Construct U/G Drains, Cable Pits & Ducting	90	0	30-Sep-13	28-Dec-13	30-Sep-13	28-Dec-13																					
Drainage Works																												
FNP32300	Laying pipes between FC-3,FC-3a,FC-3b &FC-4	40	105	02-Jul-13	10-Aug-13	15-Oct-13	23-Nov-13																					
FNP32310	Construct Chamber FC3a,FC-3,FC-4&Flume Channels	35	105	11-Aug-13	14-Sep-13	24-Nov-13	28-Dec-13																					
Road Works																												
FNP32320	Roadworks for PTW	60	65	24-Mar-14	22-May-14	28-May-14	26-Jul-14																					
Transplantation, landscape works																												
FNP32330	Planting and landscape works for PTW	80	65	23-May-14	10-Aug-14	27-Jul-14	14-Oct-14																					
Mechanical Installation																												
Electrical and Mechanical Works																												
FNP33150	Install Seawater Pump Sets	120	60	30-Oct-13	26-Feb-14	29-Dec-13	27-Apr-14																					
Electrical Installation																												
Electrical and Mechanical Works																												
FNP34150	Install Switchgear	30	0	29-Dec-13	27-Jan-14	29-Dec-13	27-Jan-14																					
FNP34250	Power Cables Laying	60	0	28-Jan-14	28-Mar-14	28-Jan-14	28-Mar-14																					
FNP34300	Install Earthing & Lightning System	55	35	28-Jan-14	23-Mar-14	04-Mar-14	27-Apr-14																					
Control and Monitoring System																												
FNP35100	Install DCS Outstation & Instrumentation	90	0	29-Dec-13	28-Mar-14	29-Dec-13	28-Mar-14																					
Building Services Installation																												
FNP36100	Install Building Services	60	0	27-Feb-14	27-Apr-14	27-Feb-14	27-Apr-14																					
Testing and Commissioning																												
FNP37100	T&C of Building Services and E&M Equipment	80	0	28-Apr-14	16-Jul-14	28-Apr-14	16-Jul-14																					
FNP37110	Final T&C of North Point PTW	30	0	17-Jul-14	15-Aug-14	17-Jul-14	15-Aug-14																					
FNP37115	Submission of Draft O&M Manuals for North Point	0	0	09-Jun-12*		08-Jun-12																						
FNP37116	Submission of Updated Draft O&M Manuals for North Point	0	0	16-Oct-12*		15-Oct-12																						
FNP37120	Modified O&M Manuals for North Point	60	30	17-Jul-14	14-Sep-14	16-Aug-14	14-Oct-14																					
FNP37125	Submission of Modified O&M Manuals for North Point	0	30		14-Sep-14		14-Oct-14																					
FNP37130	As-Built Drawings for North Point	60	30	17-Jul-14	14-Sep-14	16-Aug-14	14-Oct-14																					
FNP37140	FSD submission, application and inspection for North Point	60	0	16-Aug-14	14-Oct-14	16-Aug-14	14-Oct-14																					
FNP37150	Completion of the Works of Section 3	0	0		14-Oct-14		14-Oct-14																					
Water Supply from WSD for North Point PTW																												
Key Dates																												
FNP40000	Application for Water Connection	60	5	28-Apr-14	26-Jun-14	03-May-14	01-Jul-14																					
FNP40010	Inspection from representative of WSD	1	5	27-Jun-14	27-Jun-14	02-Jul-14	02-Jul-14																					
FNP40020	Release of Completion Certificate by WSD	7	5	28-Jun-14	04-Jul-14	03-Jul-14	09-Jul-14																					
FNP40030	Installation of Water Meter and Main line connection	7	5	05-Jul-14	11-Jul-14	10-Jul-14	16-Jul-14																					
Works for Section 4																												
Wan Chai East																												
Statutory Submission / Approval / Inspection																												
FWC00270	Application of temporary D.G. Store Licence	0	0	02-May-11		02-May-11																						
FWC00320	Approval of temp. D.G. Store Licence	30	0	02-May-11	31-May-11	02-May-11	31-May-11																					
FWC00370	Application of temp. D.G. Store Inspection	0	0	17-Aug-11		17-Aug-11																						
FWC00420	Temp. D.G. Store Inspection by FSD	35	0	17-Aug-11	20-Sep-11	17-Aug-11	20-Sep-11																					
FWC00470	Obtain Temp. D.G. Store Licence	0	0		20-Sep-11		20-Sep-11																					

Actual Work Remaining Work Critical 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. pantry, locker rm. to new WSoft	90	0	19-Jul-11	16-Oct-11	19-Jul-11	16-Oct-11	■ Modify Ex. of. 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	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1		
Building Service Installation																																			
FWC23250	Install Building Services	60	46	25-Apr-13	23-Jun-13	10-Jun-13	08-Aug-13	█ Install Building Services																											
FWC23300	Install F.S. System	60	46	24-Jun-13	22-Aug-13	09-Aug-13	07-Oct-13	█ Install F.S. System																											
Testing and Commissioning																																			
FWC23350	Testing & Commissioning	45	0	10-Oct-13	23-Nov-13	10-Oct-13	23-Nov-13	█ Testing & Commissioning																											
FWC23400	Completion of the Works of Section 5	0	0		23-Nov-13		23-Nov-13	◆ Completion of the Works of Section 5																											
Works for Section 6																																			
Wan Chai East																																			
Possession / Vacation of Portions																																			
FWC30110	ST2 approval for working in Area WCE-5	0	338	05-Aug-11		08-Jul-12		◆ ST2 approval for working in Area WCE-5																											
Civil Works Material Delivery on Site																																			
FWC32100	Ordering of Building Materials	14	209	02-May-11	15-May-11	27-Nov-11	10-Dec-11	█ Ordering of Building Materials																											
FWC32150	Manufacturing & Delivery of Building Materials	210	205	20-May-11	15-Dec-11	11-Dec-11	07-Jul-12	█ Manufacturing & Delivery of Building Materials																											
E&M Equipment / Material Delivery on Site																																			
FWC33100	Sewage Pumps Delivery on Site	10	371	07-Jul-12	16-Jul-12	13-Jul-13	22-Jul-13	█ Sewage Pumps Delivery on Site																											
FWC33150	Pipes & Valves Delivery on Site	14	127	04-Mar-12	17-Mar-12	09-Jul-12	22-Jul-12	█ Pipes & Valves Delivery on Site																											
FWC33200	Electrical Equipment Delivery on Site	7	59	01-Aug-12	07-Aug-12	29-Sep-12	05-Oct-12	█ Electrical Equipment Delivery on Site																											
FWC33250	Deodorization Equipment Delivery on Site	10	191	04-Jan-12	13-Jan-12	13-Jul-12	22-Jul-12	█ Deodorization Equipment Delivery on Site																											
FWC33300	Control & monitoring Equipment Delivery on Site	14	97	29-Nov-12	12-Dec-12	06-Mar-13	19-Mar-13	█ Control & monitoring Equipment Delivery on Site																											
Civil Works																																			
RC Structural Works																																			
FWC33310	Modify existing boundary wall	70	219	10-Mar-13	18-May-13	15-Oct-13	23-Dec-13	█ Modify existing boundary wall																											
Transplantation, landscape works																																			
FWC33320	Planting and landscape works	90	30	24-Nov-13	21-Feb-14	24-Dec-13	23-Mar-14	█ Planting and landscape works																											
Modification of Existing Fine Screen Grit Trap / Pumping Station Building																																			
FWC35100	Demolition works for existing Roof Landscape & Advertising Sign	90	205	16-Dec-11	14-Mar-12	08-Jul-12	05-Oct-12	█ Demolition works for existing Roof Landscape & Advertising Sign																											
FWC35110	Removal of Existing Pipes and Ladders	60	219	15-Mar-12	13-May-12	20-Oct-12	18-Dec-12	█ Removal of Existing Pipes and Ladders																											
FWC35120	External Finishing Works	300	219	14-May-12	09-Mar-13	19-Dec-12	14-Oct-13	█ External Finishing Works																											
Mechanical Installation																																			
FWC50100	Install Sewage Pumps(phase 1)	50	202	02-Jan-13*	20-Feb-13	23-Jul-13	10-Sep-13	█ Install Sewage Pumps(phase 1)																											
FWC50105	Install Pipes, Valves & Accessories (phase1)	50	202	02-Jan-13	20-Feb-13	23-Jul-13	10-Sep-13	█ Install Pipes, Valves & Accessories (phase1)																											
FWC50110	Install Sewage Pumps(phase2)	50	0	01-Oct-13*	19-Nov-13	01-Oct-13	19-Nov-13	█ Install Sewage Pumps(phase2)																											
FWC50115	Install Pipes, Valves & Accessories (phase2)	50	0	01-Oct-13	19-Nov-13	01-Oct-13	19-Nov-13	█ Install Pipes, Valves & Accessories (phase2)																											
FWC50120	Install Sewage Pumps(phase3)	50	0	10-Dec-13	28-Jan-14	10-Dec-13	28-Jan-14	█ Install Sewage Pumps(phase3)																											
FWC50125	Install Pipes, Valves & Accessories(phase3)	50	0	10-Dec-13	28-Jan-14	10-Dec-13	28-Jan-14	█ Install Pipes, Valves & Accessories(phase3)																											
FWC50200	Lay new Deodorization pipeline/ducting	120	127	18-Mar-12	15-Jul-12	23-Jul-12	19-Nov-12	█ Lay new Deodorization pipeline/ducting																											
FWC50210	Install new Deodorization equipments	60	127	16-Jul-12	13-Sep-12	20-Nov-12	18-Jan-13	█ Install new Deodorization equipments																											
FWC50220	Connect the new Deod. system to PTW	30	127	14-Sep-12	13-Oct-12	19-Jan-13	17-Feb-13	█ Connect the new Deod. system to PTW																											
FWC50230	Removal of existing Deod. system	30	127	14-Oct-12	12-Nov-12	18-Feb-13	19-Mar-13	█ Removal of existing Deod. system																											
Electrical Installation																																			
FWC50106	Electrical Modification on pumps (phase 1)	50	202	02-Jan-13	20-Feb-13	23-Jul-13	10-Sep-13	█ Electrical Modification on pumps (phase 1)																											
FWC50116	Electrical Modification on pumps (phase 2)	50	0	01-Oct-13	19-Nov-13	01-Oct-13	19-Nov-13	█ Electrical Modification on pumps (phase 2)																											
FWC50126	Electrical Modification on pumps (phase 3)	50	0	10-Dec-13	28-Jan-14	10-Dec-13	28-Jan-14	█ Electrical Modification on pumps (phase 3)																											
FWC51100	Install LV Switchboard	90	59	08-Aug-12	05-Nov-12	06-Oct-12	03-Jan-13	█ Install LV Switchboard																											
FWC51200	Install MCBs	75	59	06-Nov-12	19-Jan-13	04-Jan-13	19-Mar-13	█ Install MCBs																											
FWC51500	Laying Power Cables (Including Termination)	60	74	17-Sep-13	15-Nov-13	30-Nov-13	28-Jan-14	█ Laying Power Cables (Including Termination)																											
Control and Monitoring System																																			
FWC52100	Install Control & Monitoring System	120	59	20-Jan-13	19-May-13	20-Mar-13	17-Jul-13	█ Install Control & Monitoring System																											
Building Services Installation																																			
FWC53100	Install Building Services	120	59	20-May-13	16-Sep-13	18-Jul-13	14-Nov-13	█ Install Building Services																											
Testing and Commissioning																																			
FWC55000	T&C for Pump (Phase 1)	20	202	21-Feb-13	12-Mar-13	11-Sep-13	30-Sep-13	█ T&C for Pump (Phase 1)																											
FWC55010	T&C for Pump (Phase 2)	20	0	20-Nov-13	09-Dec-13	20-Nov-13	09-Dec-13	█ T&C for Pump (Phase 2)																											
FWC55020	T&C for Pump (Phase 3)	20	0	29-Jan-14	17-Feb-14	29-Jan-14	17-Feb-14	█ T&C for Pump (Phase 3)																											
FWC55100	T&C of Building Services and E&M Equipment	30	0	29-Jan-14	27-Feb-14	29-Jan-14	27-Feb-14	█ T&C of Building Services and E&M Equipment																											
FWC55110	Final T&C of Wan Chai East PTW	54	0	29-Jan-14	23-Mar-14	29-Jan-14	23-Mar-14	█ Final T&C of Wan Chai East PTW																											
FWC55115	Submission of Draft O&M Manuals for Wan Chai East	0	0	19-Apr-12*		18-Apr-12		◆ Submission of Draft O&M Manuals for Wan Chai East																											
FWC55116	Submission of Updated Draft O&M Manuals for Wan Chai East	0	0	21-Nov-12*		21-Nov-12		◆ Submission of Updated Draft O&M Manuals for Wan Chai East																											
FWC55120	Modified O&M Manuals for Wan Chai East	60	24	28-Feb-14	28-Apr-14	24-Mar-14	22-May-14	█ Modified O&M Manuals for Wan Chai East																											
FWC55125	Submission of Modified Draft O&M Manuals for Wan Chai East	0	24		28-Apr-14		22-May-14	◆ Submission of Modified Draft O&M Manuals for Wan Chai East																											
FWC55130	As-Built Drawings for Wan Chai East	60	24	28-Feb-14	28-Apr-14	24-Mar-14	22-May-14	█ As-Built Drawings for Wan Chai East																											
FWC55140	FSD submission, application and inspection for Wan Chai East	60	0	24-Mar-14	22-May-14	24-Mar-14	22-May-14	█ FSD submission, application and inspection for Wan Chai East																											
FWC55150	Completion of the Works of Section 6	0	0		22-May-14		22-May-14	◆ Completion of the Works of Section 6																											
Water Supply from WSD for Wan Chai East PTW																																			
Key Dates																																			
FWC60000	Application for Water Connection	60	59	17-Sep-13	15-Nov-13	15-Nov-13	13-Jan-14	█ Application for Water Connection																											
FWC60010	Inspection from representative of WSD	1	59	16-Nov-13	16-Nov-13	14-Jan-14	14-Jan-14	█ Inspection from representative of WSD																											
FWC60020	Release of Completion Certificate by WSD	7	59	17-Nov-13	23-Nov-13	15-Jan-14	21-Jan-14	█ Release of Completion Certificate by WSD																											
FWC60030	Installation of Water Meter and Main line connection	7	59	24-Nov-13	30-Nov-13	22-Jan-14	28-Jan-14	█ Installation of Water Meter and Main line connection																											
Works for Section 7																																			
Central																																			
Possession / Vacation of Portions																																			
FCT00250	ST2 approval for working in Area CTL-4	0	431	29-Jul-11		02-Oct-12		◆ ST2 approval for working in Area CTL-4																											

█ Actual Work █ Critical Remaining Work
 █ Remaining Work ◆ Milestone

