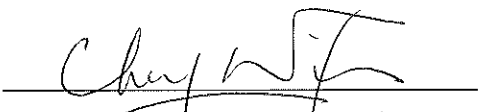


# Leader and JEC Joint Venture

**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**  
**February 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

11 March 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 February 2015 (no. 49) Version 1.0**

I refer to the revised Monthly EM&A Report for February 2015 (version 1.0) submitted by ETL on 11 March 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

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## ABBREVIATION AND ACRONYM

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

**EXECUTIVE SUMMARY**

**Introduction**

1. This is the 49<sup>th</sup> 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 February 2015.
2. The site activities undertaken for in the reporting month included:
  - Wan Chai East PTW:
    - Construction of concrete plinth at the inlet pumping station (Civil);
    - Pump Replacement Work at the inlet pumping station (E&M);
    - Installation of steel cage and wall opening for sewage pump replacement at flow distribution chamber (Stage 2);
    - Building service and E&M works for the administration and workshop building;
    - Construction of FRP weir at Flow Distribution chamber.
  - North Point PTW
    - Operation and maintain of the new FSGT Building;
    - ELS work for the new flume channel;
    - Construction of Grit Handling Room.
  - Central PTW
    - Operation and maintain of the new FSGT Building;
    - Substructure 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.

**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	4	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*

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

#### *Construction Noise*

7. All Construction Noise monitoring was conducted as scheduled in the reporting month. No Action Level exceedance was recorded, while four non-project related Limit Level exceedance were recorded during the restricted hour noise monitoring on 1<sup>st</sup>, 10<sup>th</sup>, 15<sup>th</sup> & 24<sup>th</sup> February 2015 by the ET of DC/2007/23 at NM2. Details of the exceedance could be referred to **Appendix E**.

### **Environmental Licenses and Permits**

8. 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. Moreover, one Construction Noise Permit (Permit no.: GW-RS0179-15) was granted for construction works at Central PTW during this reporting month.

### **Environmental Mitigation Implementation Schedule**

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

### **Key Information in the Reporting Month**

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

**Table II Summary Table for Key Information in the Reporting Month**

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Complaint received	0	---	N/A	N/A	---
Status of submissions under EP	1	Monthly Environmental Monitoring and Audit Report for January 2015	Submitted to EPD on 11 February 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:

- Construction of concrete plinth at the inlet pumping station (Civil);
- Pump Replacement Work at the inlet pumping station (E&M);
- Building service and E&M works for the administration and workshop building;
- Construction of FRP weir at Flow Distribution chamber.

North Point PTW

- Operation and maintain of the new FSGT Building;
- ELS work for the new flume channel;
- Construction of Grit Handling Room.

Central PTW

- Operation and maintain of the new FSGT Building;
- Substructure 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.

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 9<sup>th</sup> 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 14<sup>th</sup> 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 49<sup>th</sup> monthly EM&A report summarizing the EM&A works conducted for the Project in February 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. Vincent Chan	Site Agent	9650 9410
		Mr. Lawrence Lam	Environmental Officer	9650 9410

### Construction Programme

1.8 The site activities undertaken in the reporting month included:

#### Wan Chai East PTW:

- Construction of concrete plinth at the inlet pumping station (Civil);
- Pump Replacement Work at the inlet pumping station (E&M);
- Installation of steel cage and wall opening for sewage pump replacement at flow distribution chamber (Stage 2);
- Building service and E&M works for the administration and workshop building;
- Construction of FRP weir at Flow Distribution chamber.

#### North Point PTW

- Operation and maintain of the new FSGT Building;
- ELS work for the new flume channel;
- Construction of Grit Handling Room.

#### Central PTW

- Operation and maintain of the new FSGT Building;
- Substructure 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.

### 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 February 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	GMWS-2310 ACCU-VOL	CM-AIR-43
AM2	GMWS-2310 ACCU-VOL	
AM3	GMWS-2310 ACCU-VOL	
AM4_2	GMWS-2310 ACCU-VOL	

Note: Since the site area where air monitoring station AM4 was located had to be returned to DSD for another Works Contract, AM4 was relocated to AM4\_2 on 24 September 2012.

**Monitoring Parameters, Frequency and Duration**

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

**Table 2.3 Impact Dust Monitoring Parameters, Frequency and Duration**

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

**Monitoring Methodology and QA/QC Procedure**

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

**Results and Observations**

2.6 **Table 2.4** summarizes the monitoring results at AM1, AM2, AM3 and AM4\_2 in reporting month.

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

Air Quality Monitoring Station	Average $\mu\text{g}/\text{m}^3$	Range $\mu\text{g}/\text{m}^3$	Action Level $\mu\text{g}/\text{m}^3$	Limit Level $\mu\text{g}/\text{m}^3$
1 hour TSP				
AM1	152	99 - 277	340	500
AM2	145	107 - 186	352	
AM3	123	89 - 161	355	
AM4_2	147	108 - 180	393	
24 hours TSP				
AM1	81	73 - 94	185	260
AM2	84	64 - 100	182	
AM3	84	75 - 95	181	
AM4_2	89	82 - 101	211	

Note: Since the site area where air monitoring station AM4 was located had to be returned to DSD for another Works Contract, AM4 was relocated to AM4\_2 on 24 September 2012.

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

**3 NOISE**

**Monitoring Requirements**

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

**Monitoring Locations**

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

**Table 3.1 Location of Noise Monitoring Stations**

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

**Monitoring Equipment**

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

**Table 3.2 Noise Monitoring Equipment**

Monitoring Station	Model and Make	
	Sound Level Meter	Calibrator
NM1	Rion NL-52	Rion NC-73
NM2		
NM3		

**Monitoring Parameters, Frequency and Duration**

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

**Table 3.3 Noise Monitoring Parameters, Frequency and Duration**

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

**Monitoring Methodology and QA/QC Procedures**

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

**Results and Observations**

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

**Table 3.4 Summary of Daytime Noise Monitoring Results in Reporting Month**

For the time period 0700-1900 hrs. on weekdays		
Monitoring Station	Range, dB(A) L <sub>eq</sub> (30 min.)	Limit Level ,dB(A) L <sub>eq</sub> (30 min.)
NM1	67 - 68	70.0 *
NM2	72 - 73	75.0
NM3	75 - 75	

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

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

**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 <sub>eq</sub> (5 min.)	Limit Level ,dB(A) L <sub>eq</sub> (5 min.)
NM1	67 - 70	70.0 *
NM2	71 - 73	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 four non-project related Limit Level exceedance were recorded during the restricted hour noise monitoring on 1<sup>st</sup>, 10<sup>th</sup>, 15<sup>th</sup> & 24<sup>th</sup> February 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 6<sup>th</sup>, 11<sup>th</sup>, 17<sup>th</sup> and 27<sup>th</sup> February 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		
<b>Water Discharge License</b>				
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	
<b>Registered Chemical Waste Producer</b>				
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	
<b>Construction Noise Permit</b>				
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	Valid
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	Valid
Special Waste Admission Ticket				
11679	1/10/2014	31/3/2015	Location: North Point PTW	Valid
11816	24/11/2014	23/2/2015	Location: Central PTW	Valid until 23/2/2015
12013	24/2/2015	23/5/2015	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
------------	------------------	--------------	------------------

<b>Water Quality</b>	150206-O02	The pH meter of the WetSep was mal-functioned at North Point-PTW. The Contractor was reminded to provide the maintenance and ensure the water quality fulfil the requirement of the WPCO’s wastewater discharge license before discharging out.	The pH meter of the WetSep was well functioned at North Point-PTW.
	150217-R02	Properly clear the slurry water at North Point-PTW.	Please refer to 150227-R02.
	150227-O01	The chemical inlet system of the WetSep was mal-functioned at North Point-PTW. The Contractor was reminded to provide the maintenance and ensure the water quality of the WetSep fulfill the requirement of the WPCO’s wastewater discharge license before discharging out.	The chemical inlet system of the WetSep was functioned at North Point-PTW and the maintenance was provided by the Contractor.
	150227-R02	Properly clear the slurry water at North Point-PTW.	The slurry water was cleared at North Point-PTW.
<b>Air Quality</b>	150206-R03	Properly clear the dusty material at North Point-PTW.	The dusty material was cleared and not observed at North Point-PTW.
	150211-R03	Properly clear the dusty material at Central-PTW.	Please refer to 150217-R01.
	150217-R01	Properly clear the dusty materials at North Point-PTW and Central-PTW.	Please refer to 150227-R04.
	150227-R04	The dusty materials should be cleared properly or covered with the impervious materials at Wan Chai-PTW and Central-PTW.	The follow up action will be reported during site inspections in March 2015.
<b>Waste/ Chemical Management</b>	150130-O01	The oil leakage was observed from the excavator at Central-PTW. The Contractor was reminded to provide the maintenance and keep it in a good condition.	Please refer to 150206-O01.
	150206-O01	The oil leakage was observed from the excavators at North Point-PTW and Central-PTW. The Contractor was reminded to provide the maintenance of them and keep them in a good condition.	Please refer to 150211-O01.
	150206-R04	Properly clear the oil stain at North Point-PTW.	The oil stain was cleared at North Point-PTW.
	150206-R05	The chemical container should be provided with the drip tray at North Point-PTW.	The chemical container was removed and not observed at North Point-PTW.
	150211-O01	The oil leakage was observed from the excavator at Central-PTW. The Contractor was reminded to provide the maintenance and keep it in a good condition.	The oil leakage was not observed from the excavator at Central-PTW.
	150211-R02	Properly clear the oil stain at North Point-PTW.	The oil stain was not observed at North Point-PTW.
	150227-R05	Properly clear the oil stain at Wan Chai-PTW.	The oil stain was cleared at Wan Chai-PTW.
150227-R06	Properly clear the construction wastes and general refuses at Central-PTW.	The construction wastes and general refuses were cleared at Central-PTW.	

	150227-R07	The chemical container should be stored properly and provided with the drip tray at Central-PTW.	The chemical container was removed and not observed at Central-PTW.
<b>Noise</b>	--	--	--
<b>Landscape and Visual</b>	150227-R03	The construction materials should be placed far away the tree protection area at Wan Chai-PTW and the fence should be provided for the existing tree at Wan Chai-PTW.	The follow up action will be reported during site inspections in March 2015.
<b>Permit/ Licenses</b>	--	--	--

### 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 four non-project related Limit Level exceedance were recorded during the restricted hour noise monitoring on 1<sup>st</sup>, 10<sup>th</sup>, 15<sup>th</sup> & 24<sup>th</sup> February 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:

- Construction of concrete plinth at the inlet pumping station (Civil);
- Pump Replacement Work at the inlet pumping station (E&M);
- Building service and E&M works for the administration and workshop building;
- Construction of FRP weir at Flow Distribution chamber.

#### North Point PTW

- Operation and maintain of the new FSGT Building;
- ELS work for the new flume channel;
- Construction of Grit Handling Room.

#### Central PTW

- Operation and maintain of the new FSGT Building;
- Substructure 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.

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 four non-project related Limit Level exceedance were recorded during the restricted hour noise monitoring on 1<sup>st</sup>, 10<sup>th</sup>, 15<sup>th</sup> & 24<sup>th</sup> February 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.

*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.

*Water Impact*

- To avoid water from accumulation on site and carry out larviciding against mosquito breeding for stagnant water when mosquito larvae are observed; and
- To provide the maintenance of the WetSep including its equipments to ensure the water quality of the WetSep fulfil the requirement of the WPCO's wastewater discharge license before discharging out.

*Waste/Chemical Management*

- To avoid any discharge or accidental spillage of chemical waste or oil directly from the equipment;
- To well maintain the equipments to avoid oil leakage;
- To avoid improper handling or storage of oil drum on site;
- Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport;
- To check for any accumulation of wasted materials on site;
- To sort out and clear the construction wastes / general refuses properly before dispose; and
- To provide adequate drip trays to store the chemical containers on the site.

*Landscape and Visual*

- To place the construction materials far away the tree protection area.

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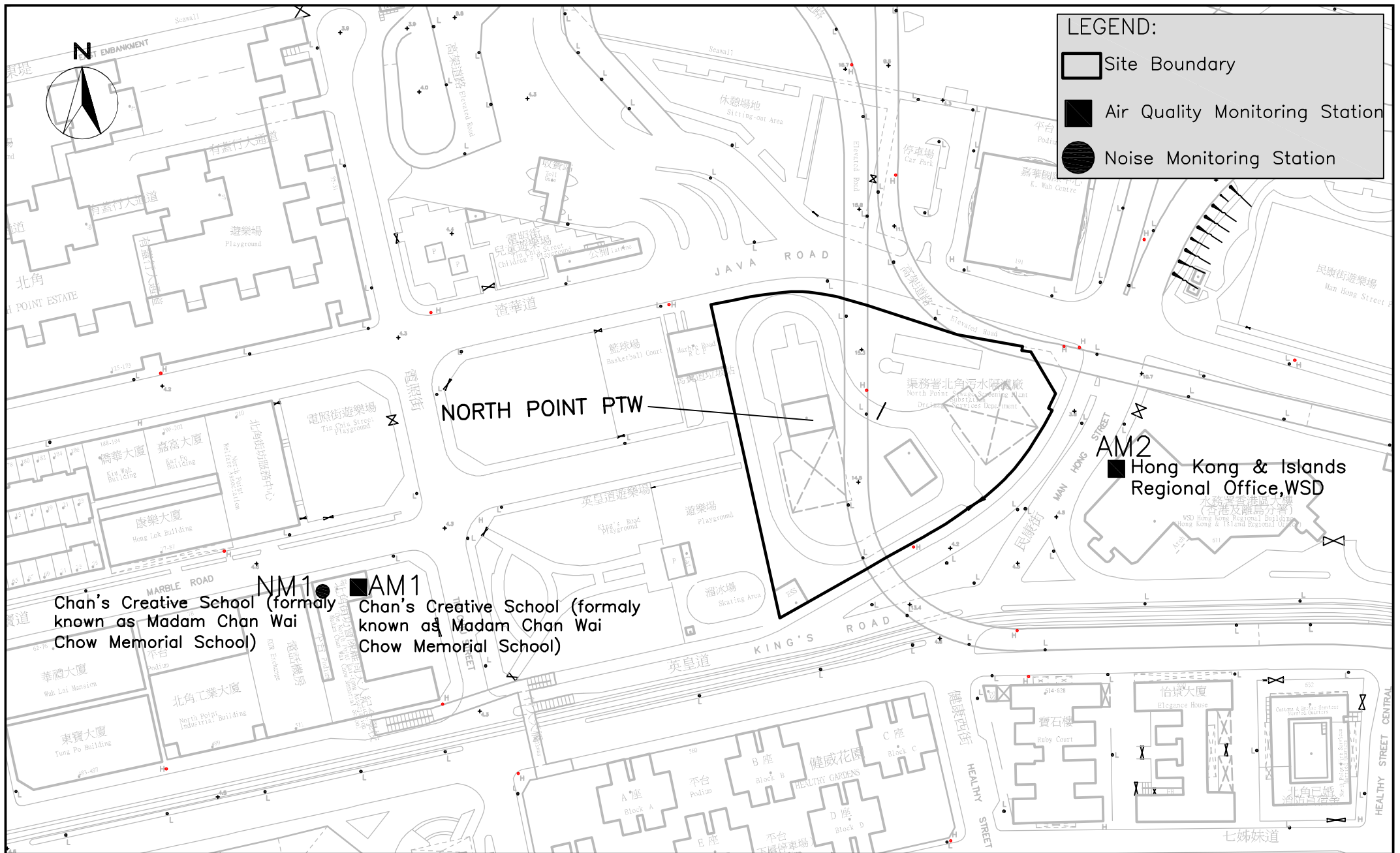
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## FIGURES

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NM1  
 Chan's Creative School (formally known as Madam Chan Wai Chow Memorial School)

AM1  
 Chan's Creative School (formally known as Madam Chan Wai Chow Memorial School)

AM2  
 Hong Kong & Islands Regional Office, WSD






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

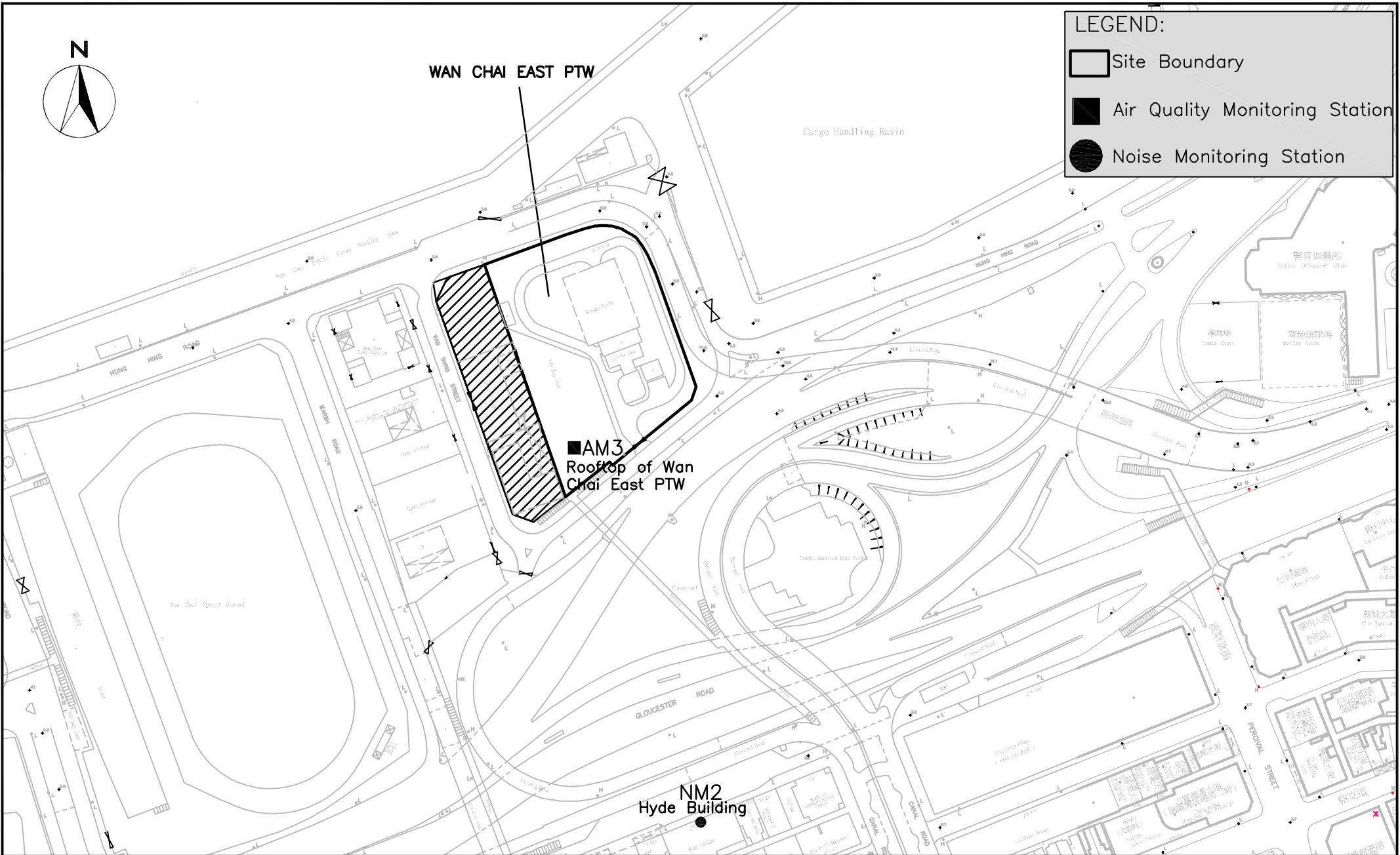
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CHECK	GL	DRAWN	TW	
PROJECT NO.	MA11003	FIGURE NO.	1A	REV —



WAN CHAI EAST PTW

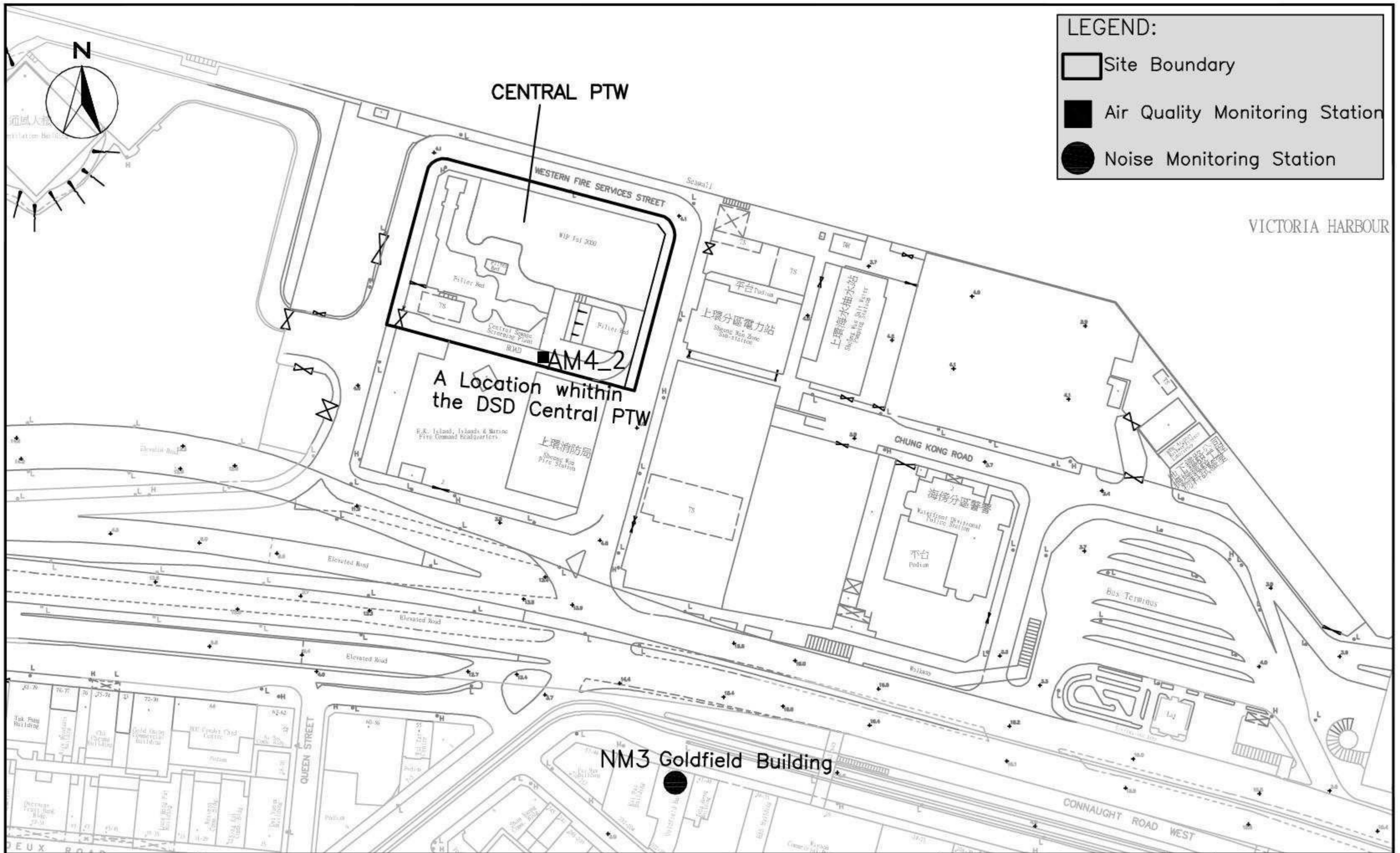
**LEGEND:**

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



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

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

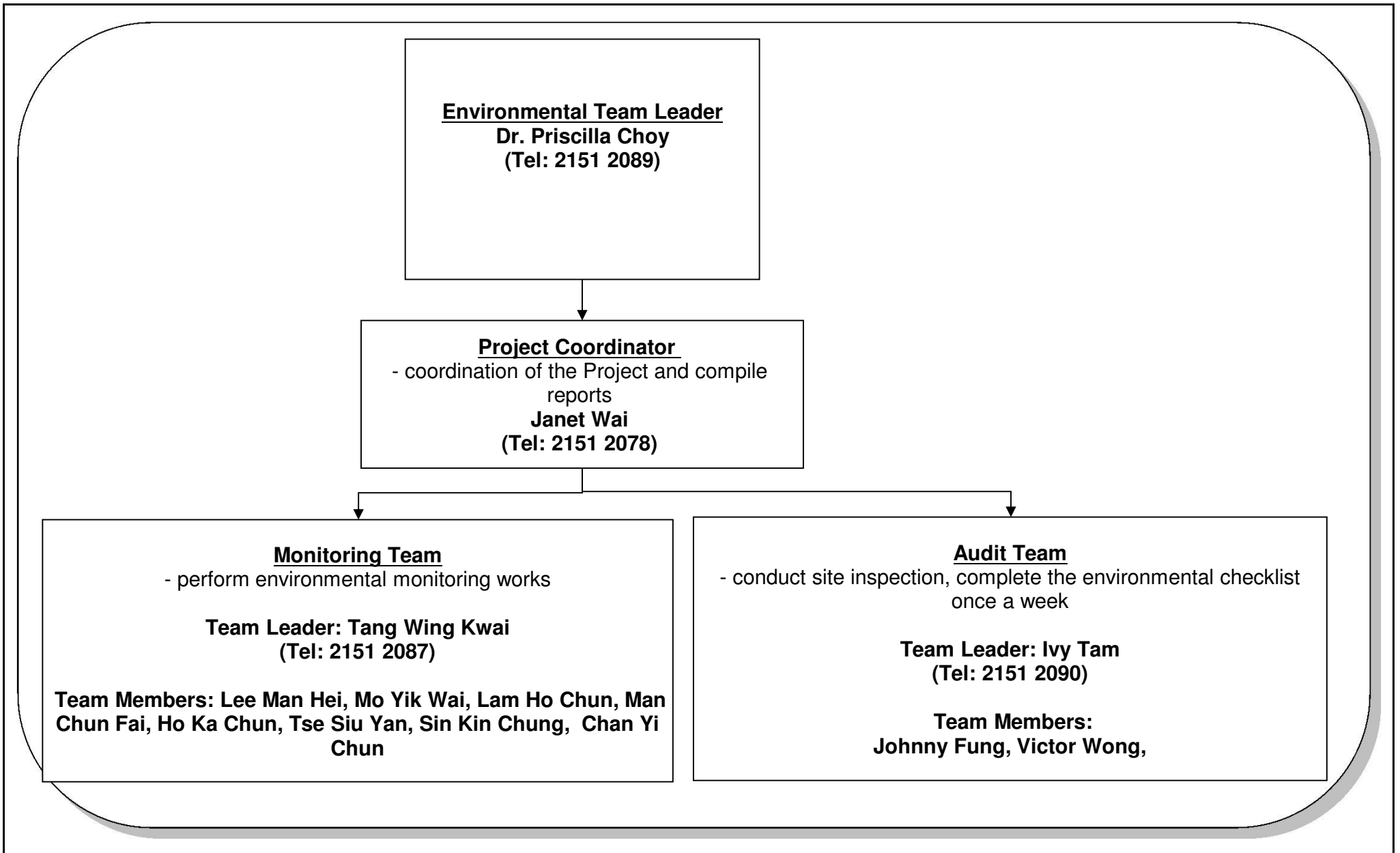


Contract No. DC/2009/23 – Harbour Area Treatment Stage 2A  
 – Upgrading of Preliminary Treatment Works at North Point,  
 Wan Chai East and Central

**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 ET's Organization Chart	Date	Nov-14	Figure	2	

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

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## 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

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**APPENDIX B  
ENVIRONMENTAL MONITORING  
SCHEDULES**

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**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 February 2015**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<b>1-Feb</b>	2-Feb	3-Feb	4-Feb	5-Feb	6-Feb	7-Feb
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)				
<b>8-Feb</b>	9-Feb	10-Feb	11-Feb	12-Feb	13-Feb	14-Feb
	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)	Noise Monitoring (NM1) Noise Monitoring (NM2)  (Evening time)				1-hr & 24-hr TSP (AM1) 1-hr & 24-hr TSP (AM2) 1-hr & 24-hr TSP (AM3) 1-hr & 24-hr TSP (AM4_2)
<b>15-Feb</b>	16-Feb	17-Feb	18-Feb	19-Feb	20-Feb	21-Feb
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)			
<b>22-Feb</b>	23-Feb	24-Feb	25-Feb	26-Feb	27-Feb	28-Feb
		1-hr & 24-hr TSP (AM1) 1-hr & 24-hr TSP (AM2) Noise Monitoring (NM1) (Daytime & Evening time) 1-hr & 24-hr TSP (AM3) Noise Monitoring (NM2) (Daytime & Evening time) 1-hr & 24-hr TSP (AM4_2) Noise Monitoring (NM3)				

**Air Quality Monitoring Station**

AM1 - Works site boundary of DC/2007/23  
AM2 - Hong Kong & Islands Regional Office, WSD  
AM3 - Wan Chai East PTW  
AM4\_2 - A Location within the DSD Central PTW

**Noise Monitoring Station**

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



**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 March 2015**

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

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

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1-hour TSP Monitoring Results

Station AM1

	Start	Finish	Weather	TSP Concentration	Action Level	Limit Level	Site Conditions /	Temperature	Wind Speed *	Sampler	Filter
Date	Time	Time		( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	Observations / Remarks	( $^{\circ}\text{C}$ )	(m/s)	ID	ID
03-Feb-15	10:46	11:46	Sunny	103	340	500	Construction work in progress	18	<5	GMW GS 2310 (S/N 1808)	5270
	11:48	12:48	Sunny	99	340	500	Construction work in progress	18	<5	GMW GS 2310 (S/N 1808)	5271
	12:50	13:50	Sunny	120	340	500	Construction work in progress	18	<5	GMW GS 2310 (S/N 1808)	5239
09-Feb-15	10:00	11:00	Sunny	153	340	500	Construction work in progress	18	<5	GMW GS 2310 (S/N 1808)	5235
	11:02	12:02	Sunny	163	340	500	Construction work in progress	18	<5	GMW GS 2310 (S/N 1808)	5234
	12:04	13:04	Sunny	147	340	500	Construction work in progress	18	<5	GMW GS 2310 (S/N 1808)	5226
14-Feb-15	9:40	10:40	Cloudy	149	340	500	Construction work in progress	19	<5	GMW GS 2310 (S/N 1808)	5229
	10:42	11:42	Cloudy	152	340	500	Construction work in progress	19	<5	GMW GS 2310 (S/N 1808)	5228
	11:44	12:44	Cloudy	165	340	500	Construction work in progress	19	<5	GMW GS 2310 (S/N 1808)	5350
18-Feb-15	9:45	10:45	Fine	277	340	500	Construction work in progress	18	<5	GMW GS 2310 (S/N 1808)	5371
	10:47	11:47	Fine	175	340	500	Construction work in progress	18	<5	GMW GS 2310 (S/N 1808)	5370
	11:49	12:49	Fine	159	340	500	Construction work in progress	18	<5	GMW GS 2310 (S/N 1808)	5367
24-Feb-15	11:02	12:02	Fine	151	340	500	Construction work in progress	20	<5	GMW GS 2310 (S/N 1808)	5365
	12:04	13:04	Fine	148	340	500	Construction work in progress	20	<5	GMW GS 2310 (S/N 1808)	5362
	13:06	14:06	Fine	126	340	500	Construction work in progress	20	<5	GMW GS 2310 (S/N 1808)	5359
				<b>Min.</b>	<b>99</b>						
				<b>Max.</b>	<b>277</b>						
				<b>Average</b>	<b>152</b>						

\* 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
03-Feb-15	10:20	11:20	Sunny	125	352	500	Construction work in progress	18	<5	GMW GS-2310 (S/N 0145)	5269
	11:22	12:22	Sunny	113	352	500	Construction work in progress	18	<5	GMW GS-2310 (S/N 0145)	5272
	12:24	13:24	Sunny	123	352	500	Construction work in progress	18	<5	GMW GS-2310 (S/N 0145)	5240
09-Feb-15	9:40	10:40	Sunny	150	352	500	Construction work in progress	18	<5	GMW GS-2310 (S/N 0145)	5236
	10:42	11:42	Sunny	168	352	500	Construction work in progress	18	<5	GMW GS-2310 (S/N 0145)	5233
	11:44	12:44	Sunny	169	352	500	Construction work in progress	18	<5	GMW GS-2310 (S/N 0145)	5225
14-Feb-15	10:00	11:00	Cloudy	125	352	500	Construction work in progress	19	<5	GMW GS-2310 (S/N 0145)	5230
	11:02	12:02	Cloudy	157	352	500	Construction work in progress	19	<5	GMW GS-2310 (S/N 0145)	5227
	12:04	13:04	Cloudy	147	352	500	Construction work in progress	19	<5	GMW GS-2310 (S/N 0145)	5349
18-Feb-15	10:02	11:02	Fine	180	352	500	Construction work in progress	18	<5	GMW GS-2310 (S/N 0145)	5372
	11:04	12:04	Fine	183	352	500	Construction work in progress	18	<5	GMW GS-2310 (S/N 0145)	5369
	12:06	13:06	Fine	186	352	500	Construction work in progress	18	<5	GMW GS-2310 (S/N 0145)	5368
24-Feb-15	11:20	12:20	Fine	123	352	500	Construction work in progress	20	<5	GMW GS-2310 (S/N 0145)	5364
	12:22	13:22	Fine	116	352	500	Construction work in progress	20	<5	GMW GS-2310 (S/N 0145)	5361
	13:24	14:24	Fine	107	352	500	Construction work in progress	20	<5	GMW GS-2310 (S/N 0145)	5360
				<b>Min.</b>	<b>107</b>						
				<b>Max.</b>	<b>186</b>						
				<b>Average</b>	<b>145</b>						

\* Wind Speed data is presented in the Meteorological Data table

## 1-hour TSP Monitoring Results

### Station AM3

	Start	Finish	Weather	TSP Concentration	Action Level	Limit Level	Site Conditions /	Temperature	Wind Speed *	Sampler	Filter
Date	Time	Time		( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	Observations / Remarks	( $^{\circ}\text{C}$ )	(m/s)	ID	ID
03-Feb-15	12:00	13:00	Sunny	107	355	500	Construction work in progress	18	<5	GMW GS-2310 (S/N 0481)	5401
	13:02	14:02	Sunny	107	355	500	Construction work in progress	18	<5	GMW GS-2310 (S/N 0481)	5474
	14:04	15:04	Sunny	102	355	500	Construction work in progress	18	<5	GMW GS-2310 (S/N 0481)	5475
09-Feb-15	12:30	13:30	Sunny	122	355	500	Construction work in progress	18	<5	GMW GS-2310 (S/N 0481)	5481
	13:02	14:02	Sunny	89	355	500	Construction work in progress	18	<5	GMW GS-2310 (S/N 0481)	5482
	14:04	15:04	Sunny	144	355	500	Construction work in progress	18	<5	GMW GS-2310 (S/N 0481)	5483
14-Feb-15	11:43	12:43	Cloudy	148	355	500	Construction work in progress	19	<5	GMW GS-2310 (S/N 0481)	5493
	12:45	13:45	Cloudy	160	355	500	Construction work in progress	19	<5	GMW GS-2310 (S/N 0481)	5494
	13:47	14:47	Cloudy	161	355	500	Construction work in progress	19	<5	GMW GS-2310 (S/N 0481)	5495
18-Feb-15	8:00	9:00	Fine	122	355	500	Construction work in progress	18	<5	GMW GS-2310 (S/N 0481)	5549
	9:02	10:02	Fine	89	355	500	Construction work in progress	18	<5	GMW GS-2310 (S/N 0481)	5550
	10:04	11:04	Fine	123	355	500	Construction work in progress	18	<5	GMW GS-2310 (S/N 0481)	5551
24-Feb-15	8:00	9:00	Fine	126	355	500	Construction work in progress	20	<5	GMW GS-2310 (S/N 0481)	5565
	9:02	10:02	Fine	116	355	500	Construction work in progress	20	<5	GMW GS-2310 (S/N 0481)	5566
	10:04	11:04	Fine	127	355	500	Construction work in progress	20	<5	GMW GS-2310 (S/N 0481)	5567
			<b>Min.</b>	<b>89</b>							
			<b>Max.</b>	<b>161</b>							
			<b>Average</b>	<b>123</b>							

\* Wind Speed data is presented in the Meteorological Data table

1-hour TSP Monitoring Results

Station AM4\_2

	Start	Finish	Weather	TSP Concentration	Action Level	Limit Level	Site Conditions /	Temperature	Wind Speed *	Sampler	Filter
Date	Time	Time		(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	Observations / Remarks	(°C)	(m/s)	ID	ID
03-Feb-15	8:00	9:00	Sunny	108	393	500	Construction work in progress	18	<5	GMW GS-2310 (S/N 9315)	5397
	9:02	10:02	Sunny	121	393	500	Construction work in progress	18	<5	GMW GS-2310 (S/N 9315)	5398
	10:04	11:04	Sunny	142	393	500	Construction work in progress	18	<5	GMW GS-2310 (S/N 9315)	5399
09-Feb-15	8:00	9:00	Sunny	157	393	500	Construction work in progress	18	<5	GMW GS-2310 (S/N 9315)	5477
	9:02	10:02	Sunny	136	393	500	Construction work in progress	18	<5	GMW GS-2310 (S/N 9315)	5478
	10:04	11:04	Sunny	145	393	500	Construction work in progress	18	<5	GMW GS-2310 (S/N 9315)	5479
14-Feb-15	8:00	9:00	Cloudy	120	393	500	Construction work in progress	19	<5	GMW GS-2310 (S/N 9315)	5489
	9:02	10:02	Cloudy	163	393	500	Construction work in progress	19	<5	GMW GS-2310 (S/N 9315)	5490
	10:04	11:04	Cloudy	160	393	500	Construction work in progress	19	<5	GMW GS-2310 (S/N 9315)	5491
18-Feb-15	11:50	12:50	Fine	153	393	500	Construction work in progress	18	<5	GMW GS-2310 (S/N 9315)	5553
	12:52	13:52	Fine	164	393	500	Construction work in progress	18	<5	GMW GS-2310 (S/N 9315)	5554
	13:54	14:54	Fine	180	393	500	Construction work in progress	18	<5	GMW GS-2310 (S/N 9315)	5555
24-Feb-15	11:50	12:50	Fine	141	393	500	Construction work in progress	20	<5	GMW GS-2310 (S/N 9315)	5561
	12:52	13:52	Fine	154	393	500	Construction work in progress	20	<5	GMW GS-2310 (S/N 9315)	5562
	14:35	15:35	Fine	160	393	500	Construction work in progress	20	<5	GMW GS-2310 (S/N 9315)	5563
			<b>Min.</b>	<b>108</b>							
			<b>Max.</b>	<b>180</b>							
			<b>Average</b>	<b>147</b>							

\* 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 <sup>3</sup> /min)			TSP Conc. (µg/m <sup>3</sup> )	Action Level (µg/m <sup>3</sup> )	Limit Level (µg/m <sup>3</sup> )	Observations / Remarks	Sampler ID	Filter ID			
Date	Time	Date	Time		Initial	Final	Initial	Final		Initial	Final	Average									
03-Feb-15	14:25	04-Feb-15	14:25	Sunny	2.8266	2.9569	18913.03	18937.03	24.00	1.24	1.24	1.24	73	185	260	Construction work in progress	GMW GS 2310 (S/N 1808 )	5238			
09-Feb-15	13:45	10-Feb-15	13:45	Sunny	2.8340	2.9811	18940.03	18964.03	24.00	1.24	1.24	1.24	82	185	260	Construction work in progress	GMW GS 2310 (S/N 1808 )	5232			
14-Feb-15	12:46	15-Feb-15	12:46	Cloudy	2.8780	3.0229	18967.03	18991.03	24.00	1.24	1.24	1.24	81	185	260	Construction work in progress	GMW GS 2310 (S/N 1808 )	5351			
18-Feb-15	12:51	19-Feb-15	12:51	Fine	2.8742	3.0425	18994.03	19018.03	24.00	1.24	1.24	1.24	94	185	260	Construction work in progress	GMW GS 2310 (S/N 1808 )	5366			
24-Feb-15	14:08	25-Feb-15	14:08	Fine	2.9030	3.0399	19021.03	19045.03	24.00	1.24	1.24	1.24	77	185	260	Construction work in progress	GMW GS 2310 (S/N 1808 )	5358			
												Min.	73								
												Max.	94								
												Average	81								

24-hour TSP Monitoring Results

Station AM2

Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m <sup>3</sup> /min)			TSP Conc. (µg/m <sup>3</sup> )	Action Level (µg/m <sup>3</sup> )	Limit Level (µg/m <sup>3</sup> )	Observations / Remarks	Sampler ID	Filter ID			
Date	Time	Date	Time		Initial	Final	Initial	Final		Initial	Final	Average									
03-Feb-15	13:26	04-Feb-15	13:26	Sunny	2.8311	2.9702	14531.93	14555.93	24.00	1.21	1.21	1.21	80	182	260	Construction work in progress	GMW GS 2310 (S/N 0145 )	5237			
09-Feb-15	12:46	10-Feb-15	12:46	Sunny	2.8396	2.9909	14558.93	14582.93	24.00	1.21	1.21	1.21	87	182	260	Construction work in progress	GMW GS 2310 (S/N 0145 )	5231			
14-Feb-15	13:06	15-Feb-15	13:06	Cloudy	2.8780	3.0339	14585.93	14609.93	24.00	1.21	1.21	1.21	89	182	260	Construction work in progress	GMW GS 2310 (S/N 0145 )	5352			
18-Feb-15	13:08	19-Feb-15	13:08	Fine	2.8973	3.0711	14612.93	14636.93	24.00	1.21	1.21	1.21	100	182	260	Construction work in progress	GMW GS 2310 (S/N 0145 )	5365			
24-Feb-15	14:26	25-Feb-15	14:26	Fine	2.8991	3.0099	14639.93	14663.93	24.00	1.21	1.21	1.21	64	182	260	Construction work in progress	GMW GS 2310 (S/N 0145 )	5357			
												Min.	64								
												Max.	100								
												Average	84								

24-hour TSP Monitoring Results

Station AM3

Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m <sup>3</sup> /min)			TSP Conc. (µg/m <sup>3</sup> )	Action Level (µg/m <sup>3</sup> )	Limit Level (µg/m <sup>3</sup> )	Observations / Remarks	Sampler ID	Filter ID				
Date	Time	Date	Time		Initial	Final	Initial	Final		Initial	Final	Average										
03-Feb-15	15:06	04-Feb-15	15:06	Sunny	2.8979	3.0311	11192.32	11216.32	24.00	1.23	1.23	1.23	75	181	260	construction work in progress	GMW GS 2310 (S/N 0481)	5476				
09-Feb-15	15:06	10-Feb-15	15:06	Sunny	2.8863	3.0211	11219.32	11243.32	24.00	1.23	1.23	1.23	76	181	260	construction work in progress	GMW GS 2310 (S/N 0481)	5484				
14-Feb-15	14:50	15-Feb-15	14:50	Cloudy	2.8823	3.0502	11246.32	11270.32	24.00	1.23	1.23	1.23	95	181	260	construction work in progress	GMW GS 2310 (S/N 0481)	5496				
18-Feb-15	11:06	19-Feb-15	11:06	Fine	2.7994	2.9595	11273.32	11297.32	24.00	1.23	1.23	1.23	90	181	260	construction work in progress	GMW GS 2310 (S/N 0481)	5552				
24-Feb-15	11:06	25-Feb-15	11:06	Fine	2.8001	2.9522	11300.32	11324.32	24.00	1.23	1.23	1.23	86	181	260	construction work in progress	GMW GS 2310 (S/N 0481)	5568				
													<b>Min.</b>	<b>75</b>								
													<b>Max.</b>	<b>95</b>								
													<b>Average</b>	<b>84</b>								



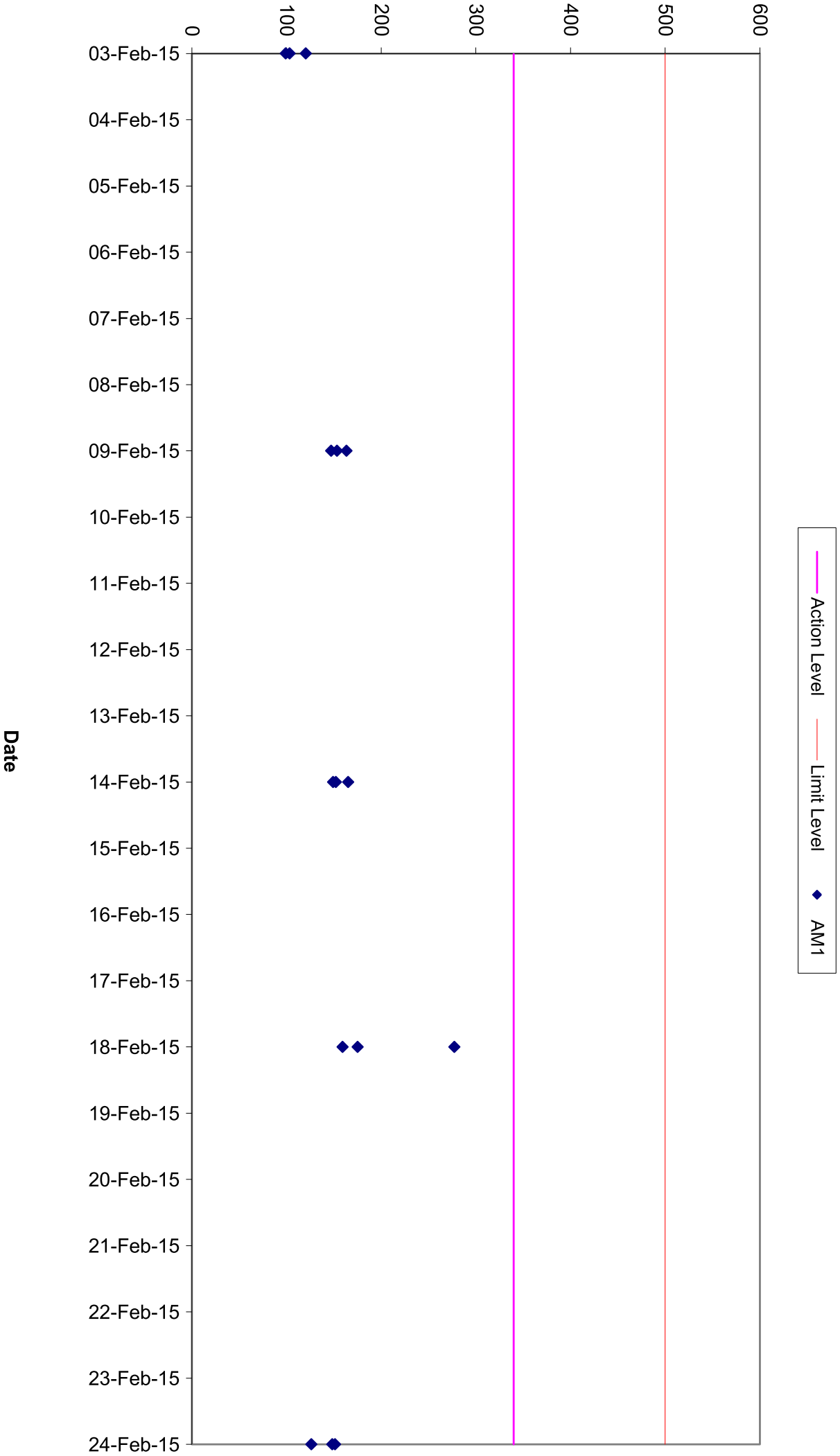
24-hour TSP Monitoring Results

Station AM4\_2

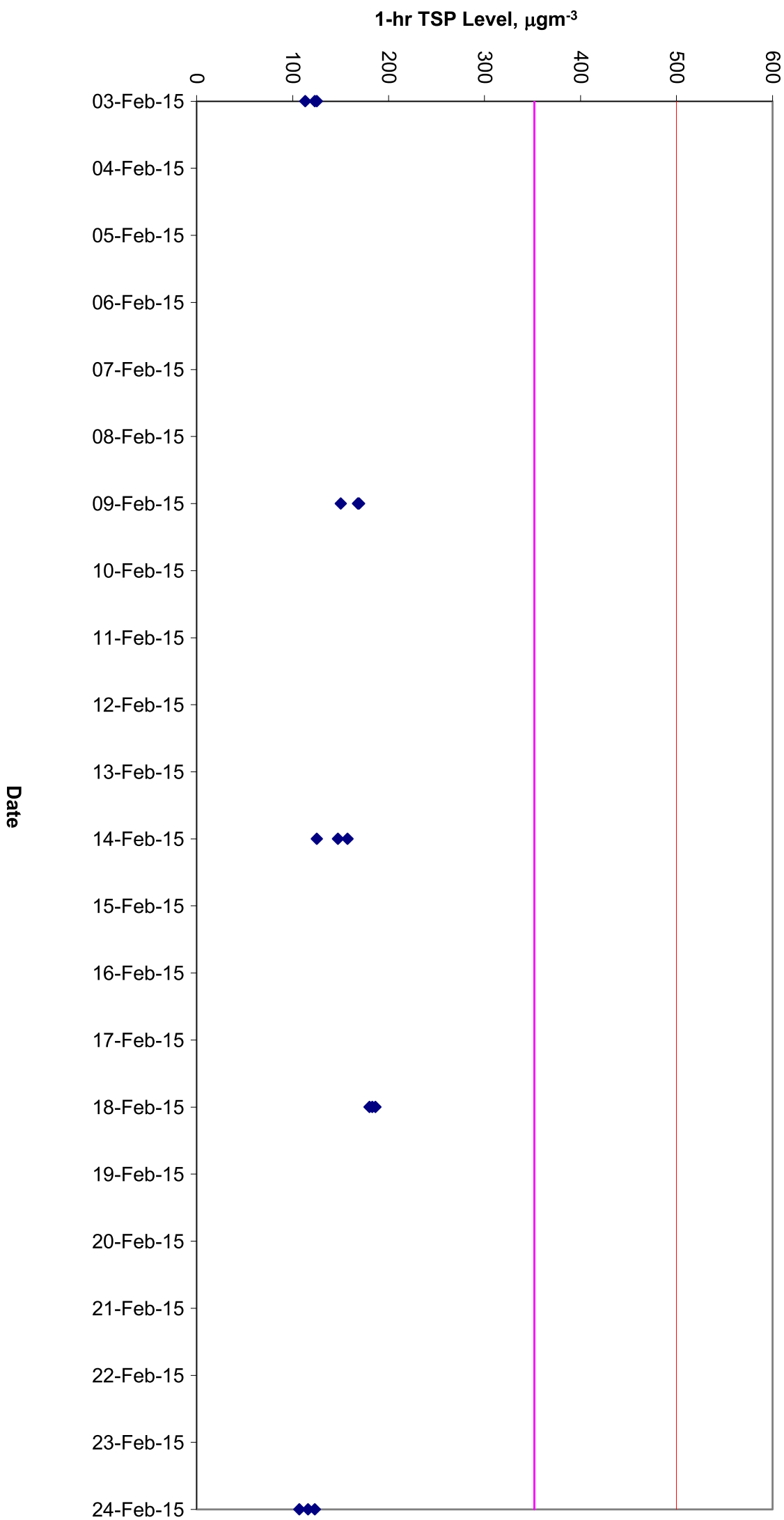
Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m <sup>3</sup> /min)			TSP Conc. (µg/m <sup>3</sup> )	Action Level (µg/m <sup>3</sup> )	Limit Level (µg/m <sup>3</sup> )	Observations / Remarks	Sampler ID	Filter ID			
Date	Time	Date	Time		Initial	Final	Initial	Final		Initial	Final	Average									
03-Feb-15	11:20	04-Feb-15	11:20	Sunny	2.9002	3.0563	17364.85	17388.85	24.00	1.24	1.24	1.24	87	211	260	construction work in progress	GMW GS 2310 (S/N 9315 )	5400			
09-Feb-15	11:20	10-Feb-15	11:20	Sunny	2.8769	3.0229	17391.85	17415.85	24.00	1.24	1.24	1.24	82	211	260	construction work in progress	GMW GS 2310 (S/N 9315 )	5480			
14-Feb-15	11:06	15-Feb-15	11:06	Cloudy	2.8911	3.0722	17418.85	17442.85	24.00	1.24	1.24	1.24	101	211	260	construction work in progress	GMW GS 2310 (S/N 9315 )	5492			
18-Feb-15	15:36	19-Feb-15	15:36	Fine	2.8063	2.9619	17445.85	17469.85	24.00	1.24	1.24	1.24	87	211	260	construction work in progress	GMW GS 2310 (S/N 9315 )	5556			
24-Feb-15	15:38	25-Feb-15	15:38	Fine	2.7897	2.9444	17472.85	17496.85	24.00	1.23	1.23	1.23	87	211	260	construction work in progress	GMW GS 2310 (S/N 9315 )	5564			
												<b>Min.</b>	<b>82</b>								
												<b>Max.</b>	<b>101</b>								
												<b>Average</b>	<b>89</b>								

# 1-hr TSP Level, $\mu\text{gm}^{-3}$

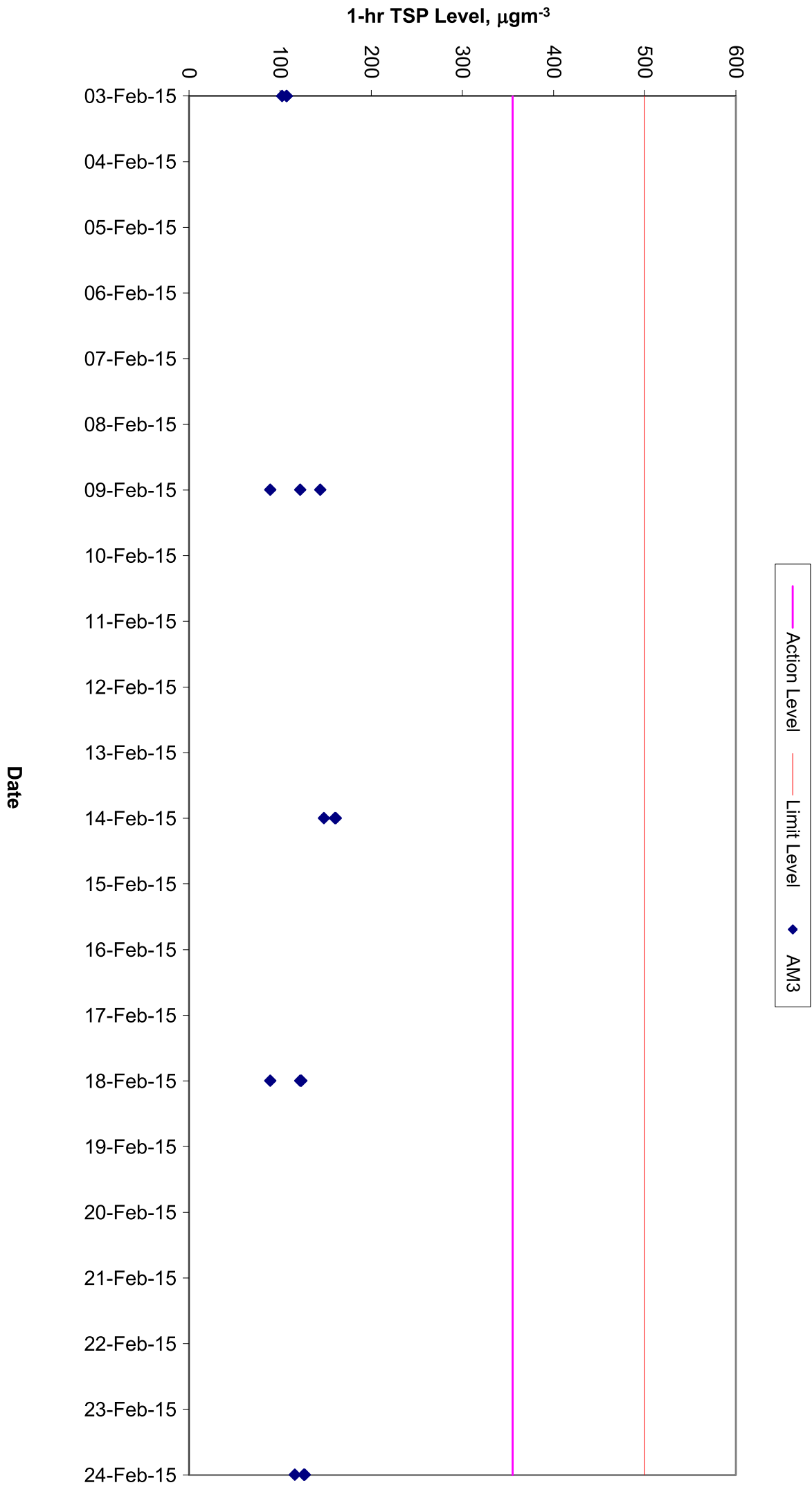
## 1-hr TSP Levels AM1 (Chan's Creative School)

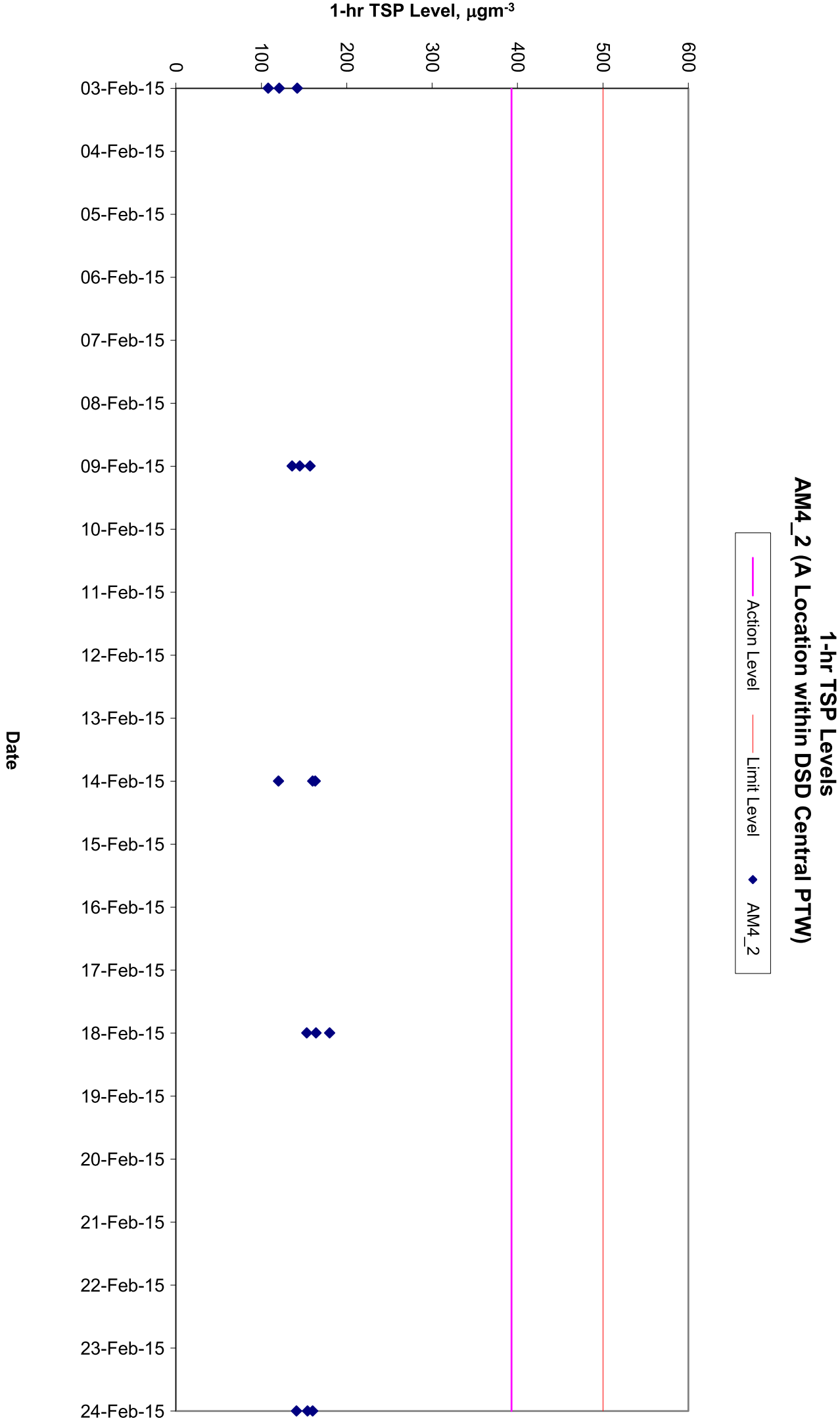


# 1-hr TSP Levels AM2 (Hong Kong & Island Regional Office, WSD)



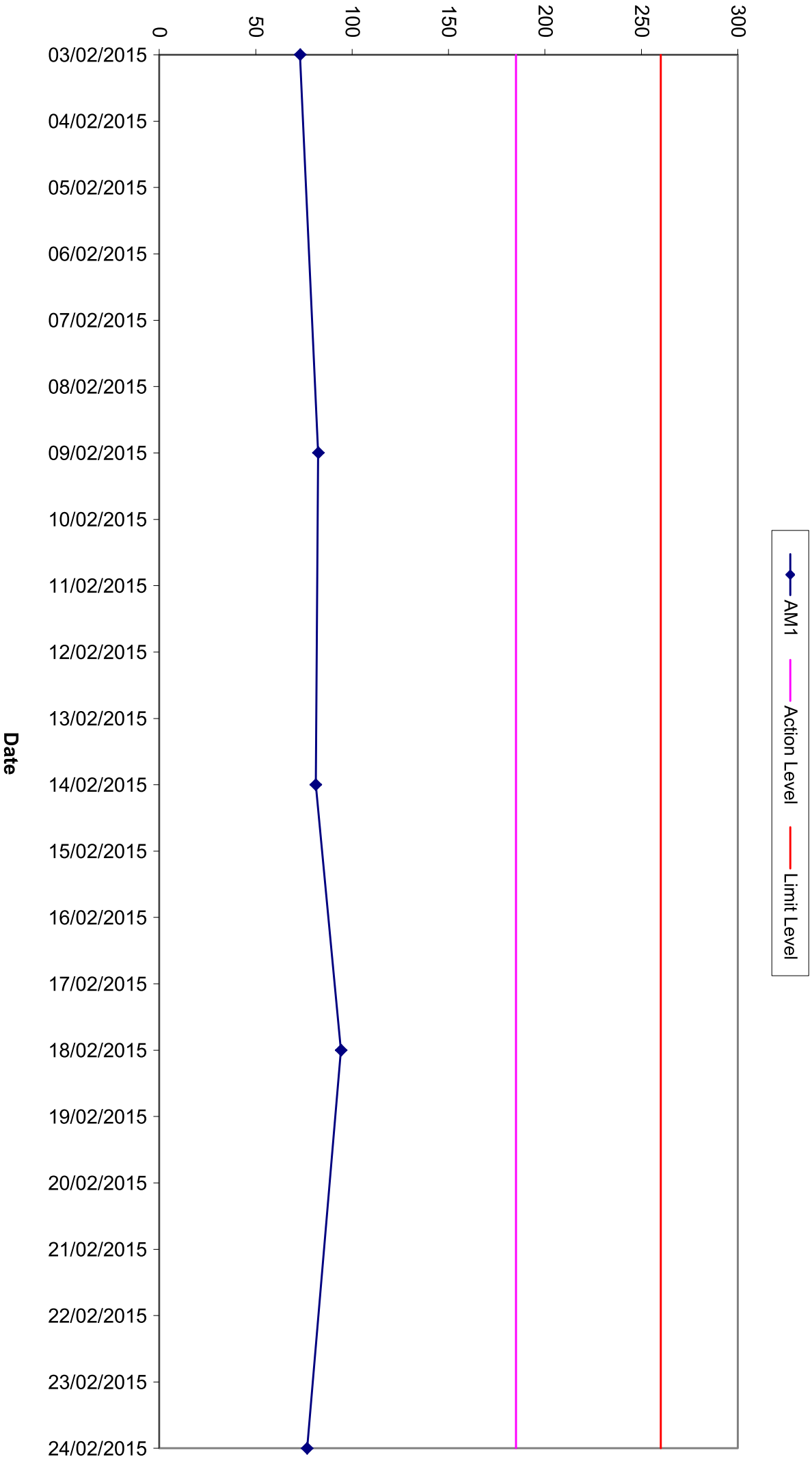
### 1-hr TSP Levels AM3 (Wan Chai East PTW)



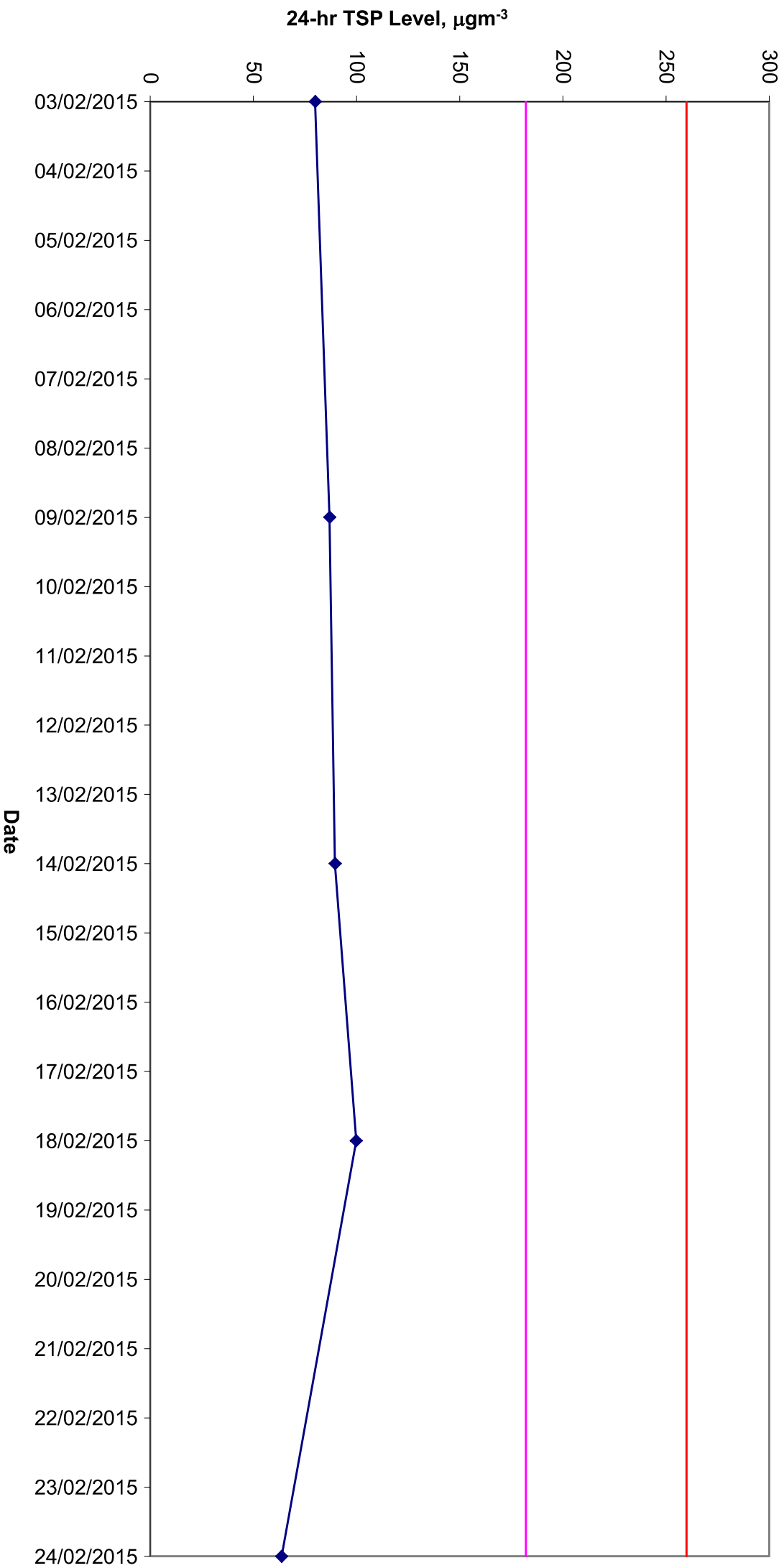


# 24-hr TSP Level, $\mu\text{gm}^{-3}$

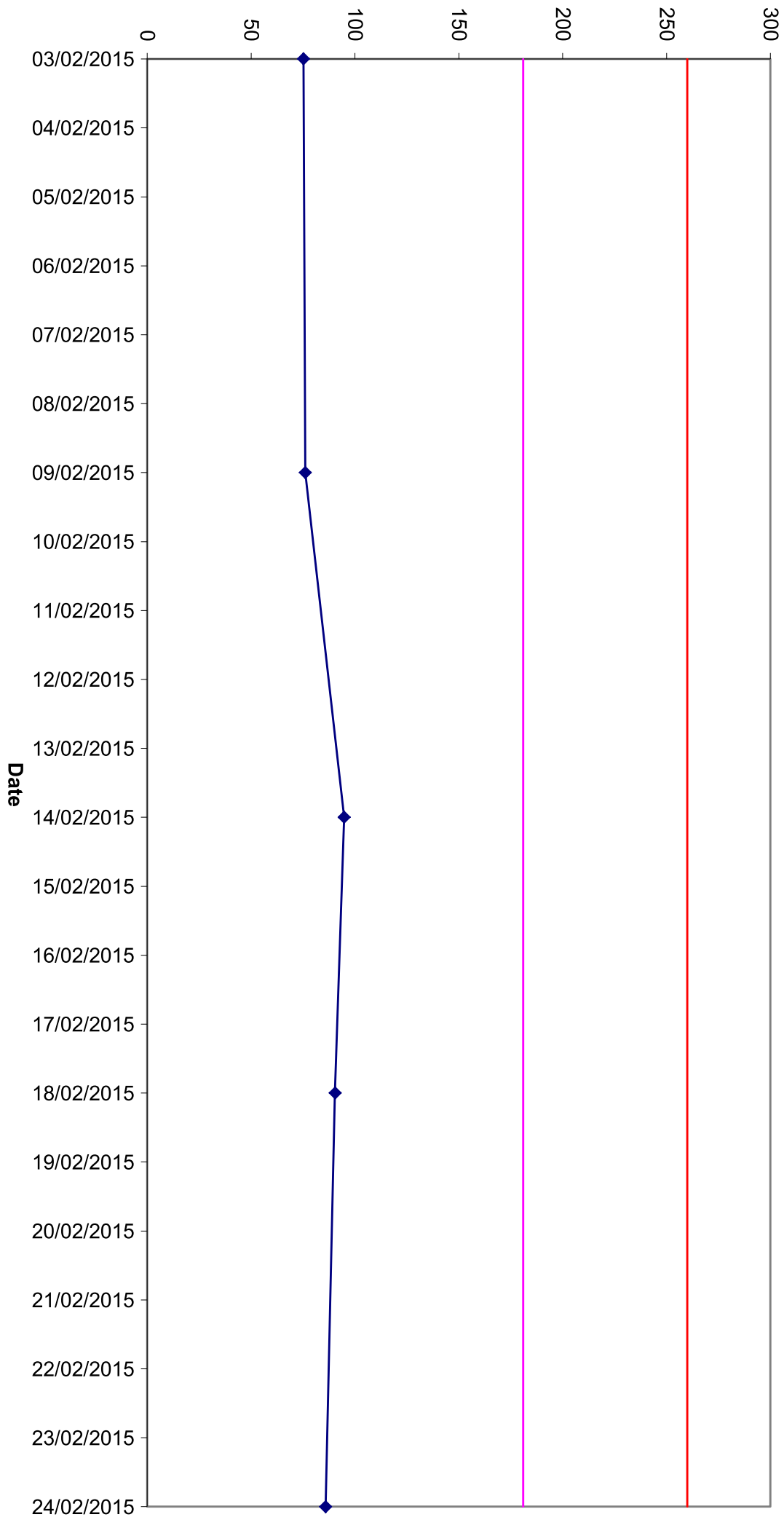
## 24-hr TSP Levels AM1 (Chan's Creative School)



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



24-hr TSP Level,  $\mu\text{gm}^{-3}$



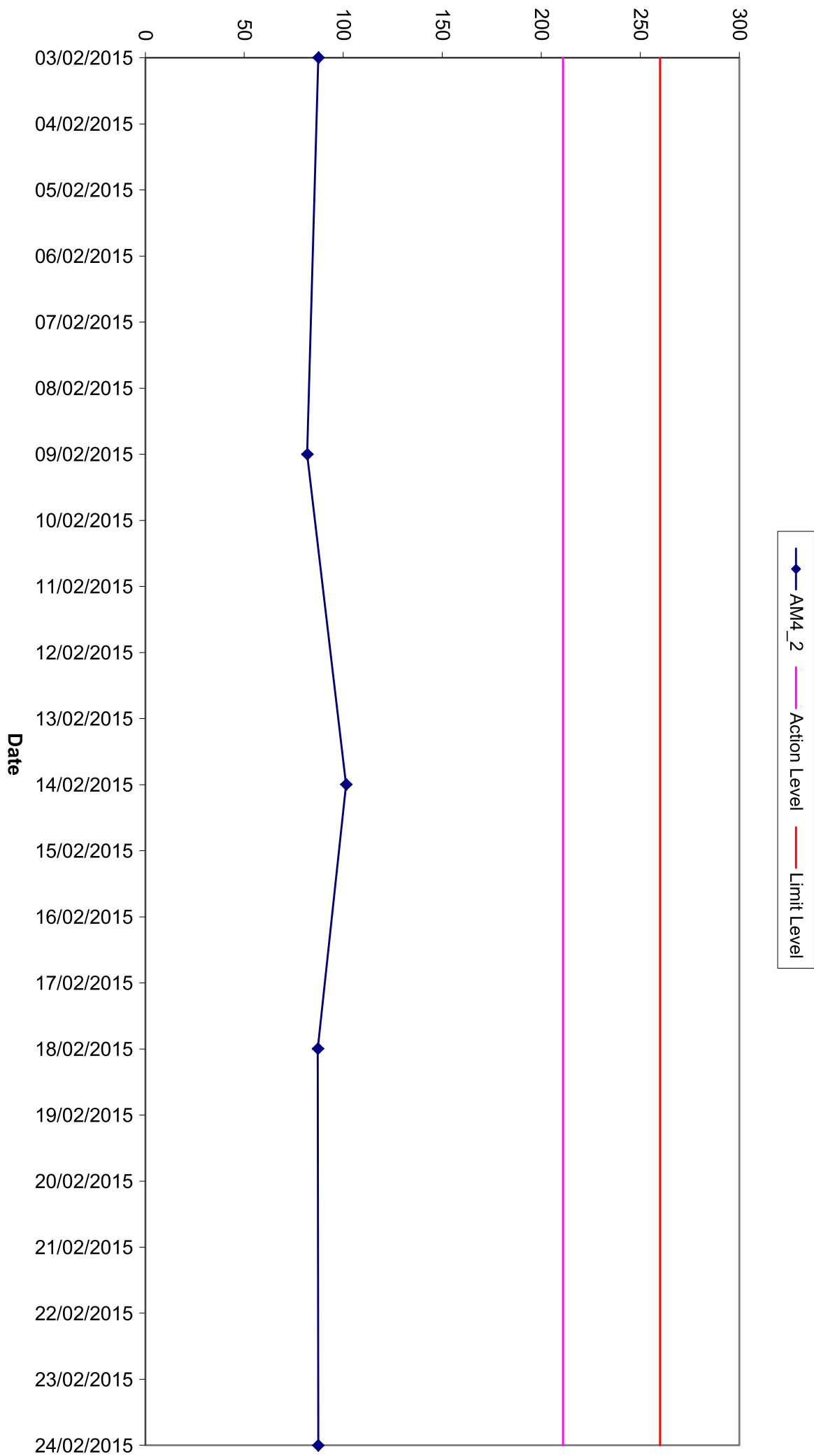
24-hr TSP Levels  
AM3 (Wan Chai East PTW)





# 24-hr TSP Level, $\mu\text{gm}^{-3}$

## 24-hr TSP Levels AM4\_2 (A Location within DSD Central PTW )



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

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**Restricted Hours Noise Monitoring Results** <sup>[1]</sup>

**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							
01-Feb-15	10:05	10:10	Cloudy	68	70	66	-	Traffic Noise	-	16	0.5	RION- NL52 (S/N 00131627)	RION - NC73 (S/N 10997142)
	10:10	10:15	Cloudy	68	71	66			-				
	10:15	10:20	Cloudy	68	70	66			-				
	10:05	10:20	Cloudy	68	70	66			-				
10-Feb-15	21:46	21:51	Fine	70	72	67	Noise from nearby playground	Traffic Noise	-	14	0.5	RION- NL52 (S/N 00131627)	RION - NC73 (S/N 10997142)
	21:51	21:56	Fine	69	71	67			-				
	21:56	22:01	Fine	69	72	67			-				
	21:46	22:01	Fine	69	71	67			-				
15-Feb-15	16:12	16:17	Cloudy	68	70	66	Noise from nearby playground	Traffic Noise	-	19	0.3	RION- NL52 (S/N 00131627)	RION - NC73 (S/N 10997142)
	16:17	16:22	Cloudy	70	70	67			-				
	16:22	16:27	Cloudy	68	71	66			-				
	16:12	16:27	Cloudy	68	70	66			-				
24-Feb-15	19:02	19:07	Cloudy	68	71	66	-	Traffic Noise	-	19	0.3	RION- NL52 (S/N 00131627)	RION - NC73 (S/N 10997142)
	19:07	19:12	Cloudy	67	70	65			-				
	19:12	19:17	Cloudy	69	72	65			-				
	19:02	19:17	Cloudy	68	71	65			-				
			<b>Min.</b>	<b>67</b>									
			<b>Max.</b>	<b>70</b>									

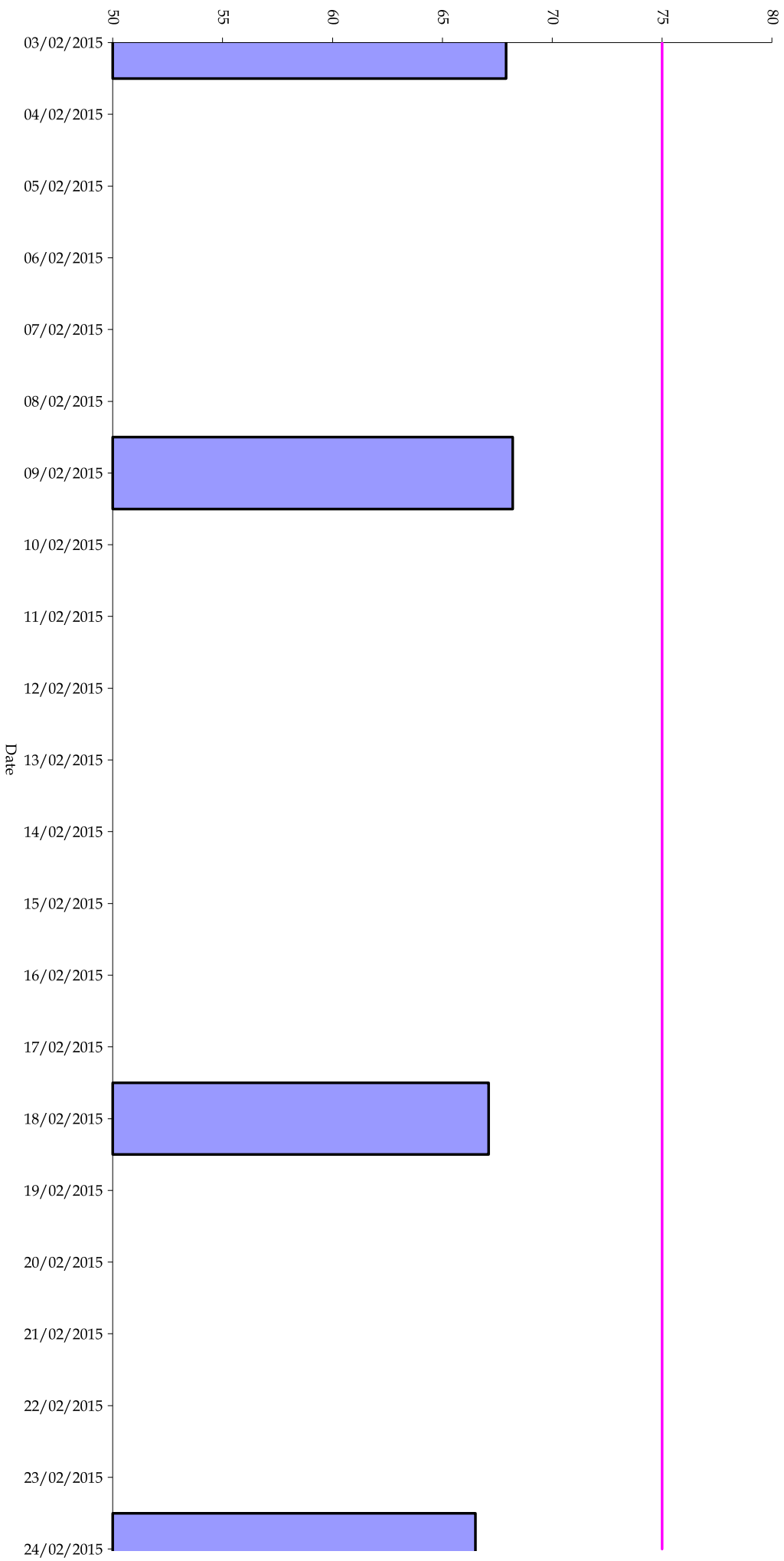
[1] No class was held at the school during all the measurement period.

**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							
01-Feb-15	13:52	13:57	Cloudy	72	73	71	-	Traffic noise	-	16	0.3	RION- NL52 (S/N 00131627)	RION - NC73 (S/N 10997142)
	13:57	14:02	Cloudy	72	73	71			-				
	14:02	14:07	Cloudy	73	74	72			-				
	13:52	14:07	Cloudy	72	73	71			-				
10-Feb-15	20:46	20:51	Fine	71	72	70	-	Traffic noise	-	14	0.5	RION- NL52 (S/N 00131627)	RION - NC73 (S/N 10997142)
	20:51	20:56	Fine	71	72	70			-				
	20:56	21:01	Fine	71	72	70			-				
	20:46	21:01	Fine	71	72	70			-				
15-Feb-15	13:56	14:01	Cloudy	72	73	71	-	Traffic noise	-	19	0.3	RION- NL52 (S/N 00131627)	RION - NC73 (S/N 10997142)
	14:01	14:06	Cloudy	72	72	71			-				
	14:06	14:11	Cloudy	72	73	71			-				
	13:56	14:11	Cloudy	72	73	71			-				
24-Feb-15	20:11	20:16	Cloudy	71	72	70	-	Traffic noise	-	19	0.3	RION- NL52 (S/N 00131627)	RION - NC73 (S/N 10997142)
	20:16	20:21	Cloudy	72	73	70			-				
	20:21	20:26	Cloudy	72	73	71			-				
	20:11	20:26	Cloudy	72	73	72			-				
			<b>Min.</b>	<b>71</b>									
			<b>Max.</b>	<b>73</b>									

$L_{Aeq(30min)}$  dB(A)



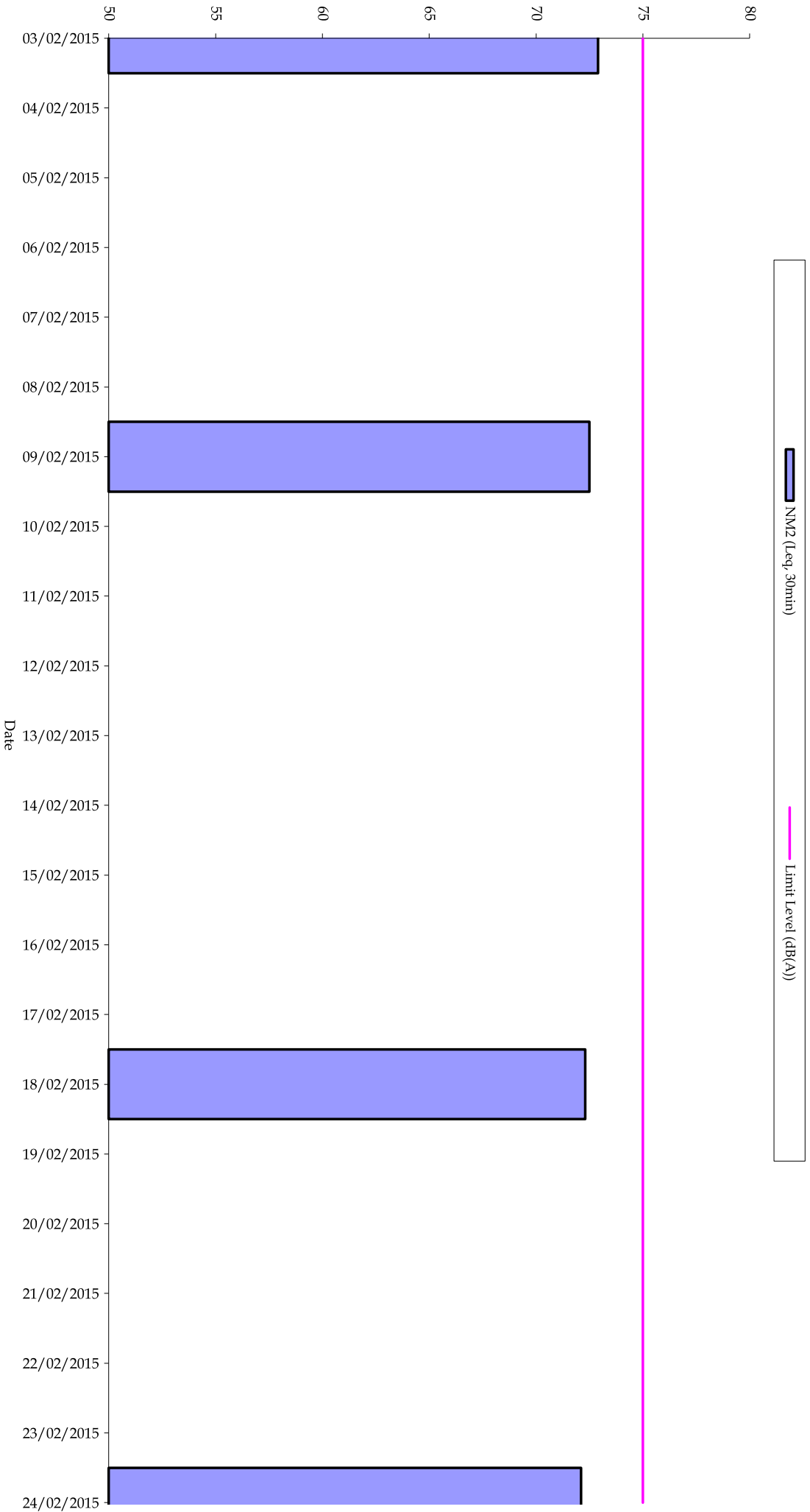
Normal Weekdays Noise Monitoring Results at NMI1 ( $L_{Aeq, 30min}$ )

■ NMI1 ( $L_{eq, 30min}$ )  
— Limit Level (dB(A))

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

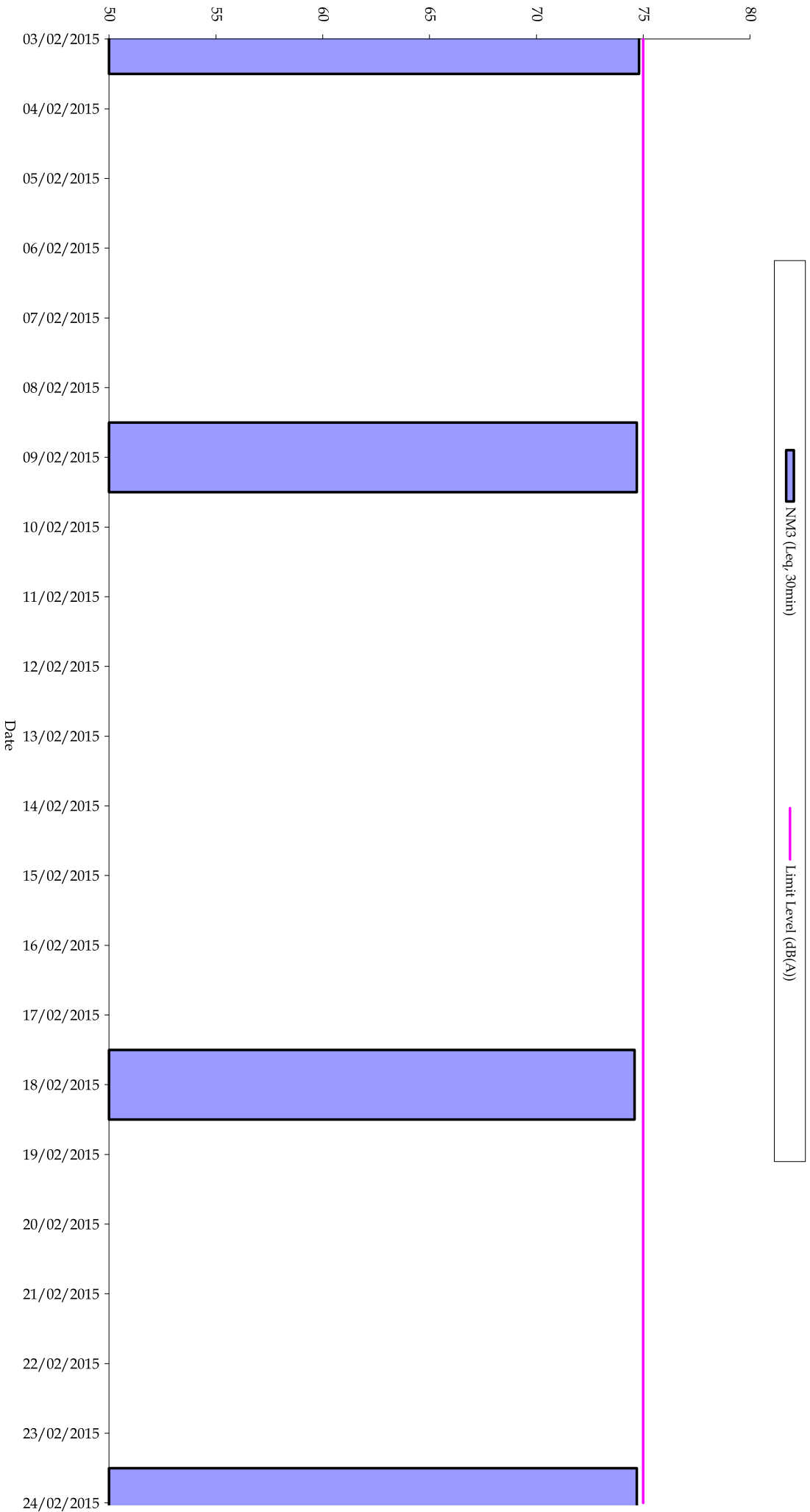


Normal Weekdays Noise Monitoring Results at NM2 ( $L_{Aeq, 30min}$ )



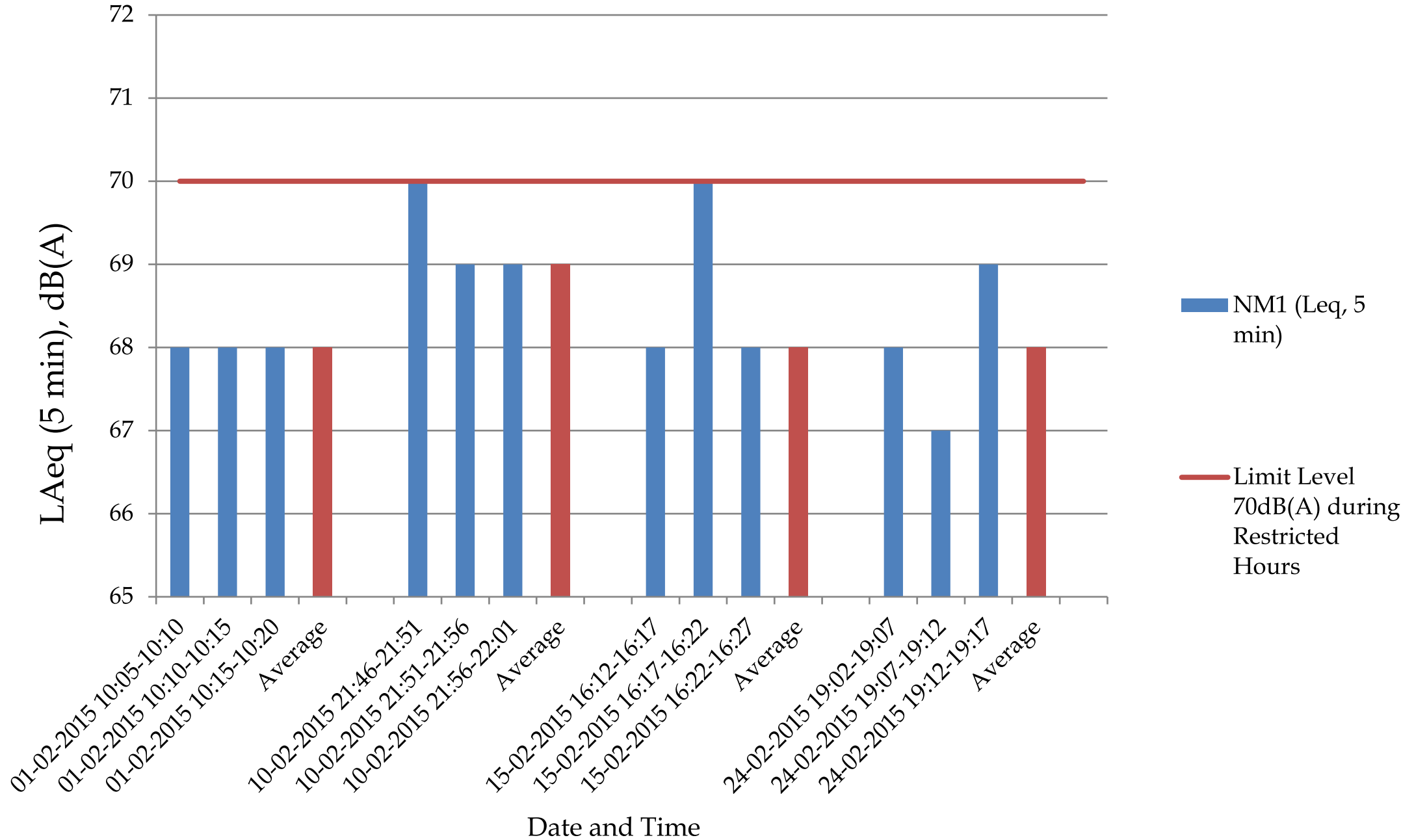
Remark:  
- 70dB(A) was adopted as the Limit Level during restricted hours in the reporting period.

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

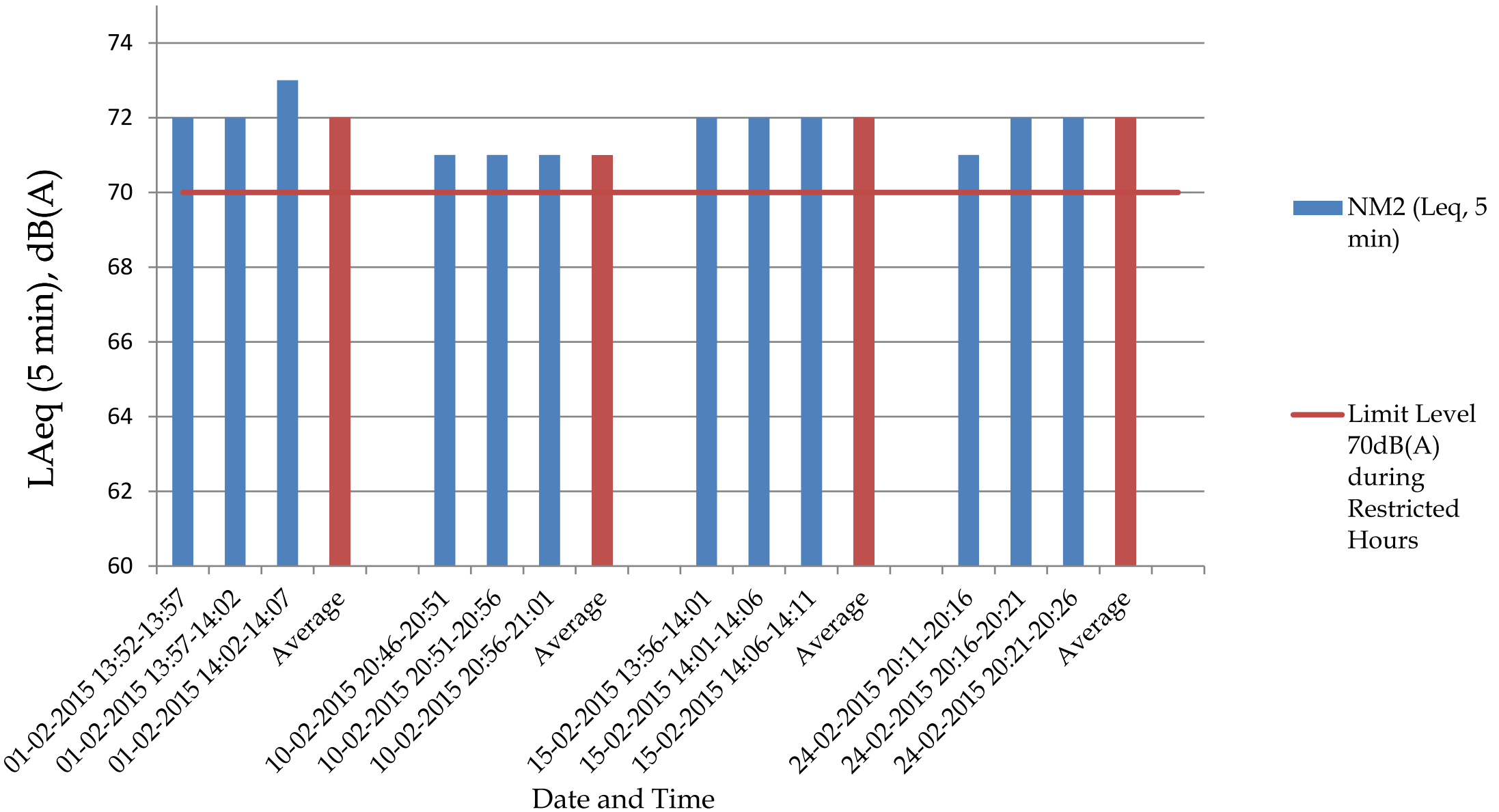


Remark:  
- 70dB(A) was adopted as the Limit Level during restricted hours in the reporting period.

# Restricted Noise Monitoring at NM1 (LAeq, 5 min)



# Restricted Noise Monitoring at NM2 (LAeq, 5 min)



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**APPENDIX E**  
**SUMMARY OF EXCEEDANCE**

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## **APPENDIX E – SUMMARY OF EXCEEDANCE**

**Reporting Month:** February 2015

- a) Exceedance Report for 1-hr TSP (NIL)**
- b) Exceedance Report for 24-hr TSP (NIL)**
- c) Exceedance Report for Construction Noise (4)**

No Action Level exceedance was recorded, while four non-project related Limit Level exceedance were recorded during the restricted hour noise monitoring on 1<sup>st</sup>, 10<sup>th</sup>, 15<sup>th</sup> & 24<sup>th</sup> February 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 1<sup>st</sup>, 10<sup>th</sup>, 15<sup>th</sup> & 24<sup>th</sup> February 2015 at Wan Chai East Preliminary Treatment Works under DC/2009/23.

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**APPENDIX F**  
**SITE AUDIT SUMMARY**

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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	150206
Date	6 February 2015 (Friday)
Time	14:00 – 16:30

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

Ref. No.	Remarks/Observations	Related Item No.
150206-O02	<b>Part A - Water Quality</b> <ul style="list-style-type: none"><li>The pH meter of the WetSep was mal-functioned at North Point-PTW. The Contractor was reminded to provide the maintenance and ensure the water quality fulfil the requirement of the WPCO's wastewater discharge license before discharging out.</li></ul>	A 5iv
150206-R03	<b>Part B – Landscape and Visual</b> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <b>Part C - Air Quality</b> <ul style="list-style-type: none"><li>Properly clear the dusty material at North Point-PTW.</li></ul> <b>Part D – Noise</b> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul>	C 6
150206-O01	<b>Part E –Waste / Chemical Management</b> <ul style="list-style-type: none"><li>The oil leakage was observed from the excavators at North Point-PTW and Central-PTW. The Contractor was reminded to provide the maintenance of them and keep them in a good condition.</li></ul>	E 7i
150206-R04	<ul style="list-style-type: none"><li>Properly clear the oil stain at North Point-PTW.</li></ul>	E 7i
150206-R05	<ul style="list-style-type: none"><li>The chemical container should be provided with the drip tray at North Point-PTW.</li></ul>	E 7ii
	<b>Part F - Permit / Licenses</b> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <b>Follow up:</b> <ul style="list-style-type: none"><li>For previous audit session (Ref. No. 150130), outstanding item 150130-O01 is required to be followed up and remarked as 150206-O01 which will be reviewed in the next weekly site inspection (Ref. No. 150211).</li></ul> <b>Remark:</b> <ul style="list-style-type: none"><li>--</li></ul>	

	Name	Signature	Date
Recorded by	Janet Wai		6 February 2015
Checked by	Dr. Priscilla Choy		6 February 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	150211
Date	11 February 2015 (Wednesday)
Time	14:00 – 16:00

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

Ref. No.	Remarks/Observations	Related Item No.
150210-R03	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part B - Landscape and Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"> <li>Properly clear the dusty material at Central-PTW.</li> </ul>	C 6
150211-O01	<p><b>Part D - Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part E - Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>The oil leakage was observed from the excavator at Central-PTW. The Contractor was reminded to provide the maintenance and keep it in a good condition.</li> </ul>	E 7i
150211-R02	<ul style="list-style-type: none"> <li>Properly clear the oil stain at North Point-PTW.</li> </ul>	E 7i
	<p><b>Part F - Permit / Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Follow up:</b></p> <ul style="list-style-type: none"> <li>For previous audit session (Ref. No. 150206), outstanding item 150206-O01 is required to be followed up and remarked as 150211-O01 which will be reviewed in the next weekly site inspection (Ref. No. 150217).</li> </ul> <p><b>Remark:</b></p> <ul style="list-style-type: none"> <li>--</li> </ul>	

	Name	Signature	Date
Recorded by	Janet Wai		11 February 2015
Checked by	Dr. Priscilla Choy		11 February 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	150217
Date	17 February 2015 (Tuesday)
Time	14:00 – 16:00

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

Ref. No.	Remarks/Observations	Related Item No.
150217-R02	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"> <li>Properly clear the slurry water at North Point-PTW.</li> </ul>	A 11
150217-R01	<p><b>Part B – Landscape and Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"> <li>Properly clear the dusty materials at North Point-PTW and Central-PTW.</li> </ul> <p><b>Part D – Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part E –Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part F - Permit / Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Follow up:</b></p> <ul style="list-style-type: none"> <li>For previous audit session (Ref. No. 150211), outstanding item 150211-R03 is required to be followed up and remarked as 150217-R01 which will be reviewed in the next weekly site inspection (Ref. No. 150227).</li> </ul> <p><b>Remark:</b></p> <ul style="list-style-type: none"> <li>--</li> </ul>	C 6

	Name	Signature	Date
Recorded by	Janet Wai		17 February 2015
Checked by	Dr. Priscilla Choy		17 February 2015



Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	150227
Date	27 February 2015 (Friday)
Time	14:00 – 16:15

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

Ref. No.	Remarks/Observations	Related Item No.
150227-O01	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"> <li>The chemical inlet system of the WetSep was mal-functioned at North Point-PTW. The Contractor was reminded to provide the maintenance and ensure the water quality of the WetSep fulfill the requirement of the WPCO's wastewater discharge license before discharging out.</li> </ul>	A 5iv
150227-R02	<ul style="list-style-type: none"> <li>Properly clear the slurry water at North Point-PTW.</li> </ul>	A 11
150227-R03	<p><b>Part B – Landscape and Visual</b></p> <ul style="list-style-type: none"> <li>The construction materials should be placed far away the tree protection area at Wan Chai-PTW and the fence should be provided for the existing tree at Wan Chai-PTW.</li> </ul>	B 1 & 2
150227-R04	<p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"> <li>The dusty materials should be cleared properly or covered with the impervious materials at Wan Chai-PTW and Central-PTW.</li> </ul>	C 6
	<p><b>Part D – Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul>	
150227-R05	<p><b>Part E –Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>Properly clear the oil stain at Wan Chai-PTW.</li> </ul>	E 7i
150227-R06	<ul style="list-style-type: none"> <li>Properly clear the construction wastes and general refuses at Central-PTW.</li> </ul>	E 1iii & 4ii
150227-R07	<ul style="list-style-type: none"> <li>The chemical container should be stored properly and provided with the drip tray at Central-PTW.</li> </ul>	E 7ii
	<p><b>Part F - Permit / Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul>	
	<p><b>Follow up:</b></p> <ul style="list-style-type: none"> <li>For previous audit session (Ref. No. 150217), outstanding items 150217-R01 &amp; 150217-R02 are required to be followed up and remarked as 150227-R04 &amp; 150227-R02 which will be reviewed in the next weekly site inspection (Ref. No. 150306).</li> </ul>	
	<p><b>Remark:</b></p> <ul style="list-style-type: none"> <li>--</li> </ul>	

	Name	Signature	Date
Recorded by	Janet Wai		27 February 2015
Checked by	Dr. Priscilla Choy		27 February 2015

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

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APPENDIX G MONTHLY SUMMARY WASTE FLOW TABLE FOR February (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 <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	
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															
APR															
MAY															
JUN															
SUB-TOTAL	20.524	0.000	0.000	0.000	20.524	0.000	72.810	3.339	0.564	0.830	1.125	1.689	1.332	0.549	0.287
JUL															
AUG															
SEP															
OCT															
NOV															
DEC															
TOTAL	20.524	0.000	0.000	0.000	20.524	0.000	72.810	3.339	0.564	0.830	1.125	1.689	1.332	0.549	0.287

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 <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]
22.5	0.5	0.2	0.5	20.6	0.7	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 50,000m<sup>3</sup>. (PS Clause 25.25S (6)(b) refers).  
[Delete Note (4) and the table above on the forecast, where inapplicable].
  - The assumed density (kg/m<sup>3</sup>) for both C&D material and general refuse.  
C&D material 2000kg/m<sup>3</sup>  
General refuse 500kg/m<sup>3</sup>
  - Conversion factors for reporting purpose:
 

in-situ: rock = 2.5 tonnes/m <sup>3</sup> ; soil = 2.0 tonnes/m <sup>3</sup>	excavated: rock = 2.0 tonnes/m <sup>3</sup> ; soil = 1.8 tonnes/m <sup>3</sup>	Special Waste (Grit) = 1.2 tonnes/m <sup>3</sup>	
broken concrete and bitumen = 2.4 tonnes/m <sup>3</sup>	C&D Waste = 0.9 tonnes/m <sup>3</sup>	ben tonite slurry = 2.8 tonnes/m <sup>3</sup>	Chemical waste 1 Litres = 1 kg
			Special Waste (Screening) = 0.31 tonnes/m <sup>3</sup>

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**APPENDIX H  
EVENT ACTION PLANS**

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**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			
<b>LIMIT LEVEL</b>				
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"> <li>1. Notify IEC, ER, Contractor and EPD;</li> <li>2. Identify source;</li> <li>3. Repeat measurement to confirm findings;</li> <li>4. Increase monitoring frequency to daily;</li> <li>5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;</li> <li>6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken;</li> <li>7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results;</li> <li>8. If exceedance stops, cease additional monitoring</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor's working method;</li> <li>3. Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>4. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly;</li> <li>5. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>4. Ensure remedial measures properly implemented;</li> <li>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.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IEC within 3 working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Resubmit proposals if problem still not under control;</li> <li>5. Stop the relevant portion of works as determined by the ER until the exceedance is abated</li> </ol>

**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"> <li>1. Notify ER, IEC and Contractor;</li> <li>2. Carry out investigation;</li> <li>3. Report the results of investigation to the IEC, ER and Contractor;</li> <li>4. Discuss with the IEC and Contractor on remedial measures required;</li> <li>5. Increase monitoring frequency to check mitigation effectiveness</li> </ol>	<ol style="list-style-type: none"> <li>1. Review the investigation results submitted by the ET;</li> <li>2. Review the proposed remedial measures by the Contractor and advise the ER accordingly;</li> <li>3. Advise the ER on the effectiveness of the proposed remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>4. Supervise the implementation of remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit noise mitigation proposals to IEC and ER;</li> <li>2. Implement noise mitigation proposals</li> </ol>
Limit Level being exceeded	<ol style="list-style-type: none"> <li>1. Inform IEC, ER, Contractor and EPD;</li> <li>2. Repeat measurements to confirm findings;</li> <li>3. Increase monitoring frequency;</li> <li>4. Identify source and investigate the cause of exceedance;</li> <li>5. Carry out analysis of Contractor's working procedures;</li> <li>6. Discuss with the IEC, Contractor and ER on remedial measures required;</li> <li>7. Assess effectiveness of</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>4. Supervise the implementation of remedial measures;</li> <li>5. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IEC and ER within 3 working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Submit further proposal if problem still not under control;</li> <li>5. Stop the relevant portion of works as instructed by</li> </ol>

<b>EVENT</b>	<b>ACTION</b>			
	<b>ET</b>	<b>IEC</b>	<b>ER</b>	<b>CONTRACTOR</b>
	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

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

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

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

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
<b>B</b>	<b>Airborne Noise</b>		
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.		^
<b>C</b>	<b>Water Quality</b>		
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"> <li>• Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport.</li> <li>• Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents.</li> <li>• Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.</li> </ul>		*
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"> <li>• The use of less or smaller construction plants may be specified to reduce the disturbance to the storm water courses or marine environment.</li> <li>• 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.</li> <li>• Stockpiling of construction materials and dusty materials should be covered and located away from any water courses.</li> <li>• 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.</li> <li>• Construction activities, which generate large amount of wastewater, should be carried out in a distance away from the waterfront, where practicable.</li> <li>• Proper shoring may need to be erected in order to prevent soil/mud from slipping into</li> </ul>	All construction sites	^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
	the storm culvert or sea.		
<b>D</b>	<b>Waste Management</b>		
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"> <li>• excavated materials suitable for reuse on-site;</li> <li>• excavated materials suitable for public filling facilities;</li> <li>• remaining C&amp;D waste for landfill;</li> <li>• chemical waste; and</li> <li>• general refuse for landfill.</li> </ul>	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

<b>EIA Ref.</b>	<b>Recommended Mitigation Measures</b>	<b>Location of the measure</b>	<b>Implementation Status</b>
<b>E Terrestrial Ecology</b>			
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.		^
<b>F Landscape and Visual</b>			
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
<b>G Marine Ecology</b>			
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	^
<b>H Hazard to Life</b>			
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;

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**APPENDIX J  
COMPLAINT LOG**

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**APPENDIX J – COMPLAINT LOG**

**Reporting Month:** February 2015

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

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

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**APPENDIX K  
CONSTRUCTION PROGRAMME**

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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	
<b>DSD - HATSS2 Upgrading of PTW (DC/2009/23)</b>																														
<b>Particulars</b>																														
<b>Key Dates</b>																														
<b>Commencement / Completion</b>																														
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																								
<b>Portion of the Site</b>																														
<b>North Point</b>																														
<b>Possession / Vacation of Portions</b>																														
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																								
<b>Wan Chai East</b>																														
<b>Possession / Vacation of Portions</b>																														
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																								
<b>Central</b>																														
<b>Possession / Vacation of Portions</b>																														
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																								
<b>Management Plans and Programmes</b>																														
<b>Contractor's Design, Submission / Approval</b>																														
<b>Particulars</b>																														
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																							
<b>Technical Information &amp; Drawings</b>																														
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																							
<b>Civil &amp; Geo. Submission</b>																														
<b>Contractor's Design, Submission and Approval</b>																														

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			
<b>Foundation Works</b>																																				
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																													
<b>RC Structural Works</b>																																				
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																													
<b>Drainage Works</b>																																				
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																													
<b>Electrical and Mechanical Works</b>																																				
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																													
<b>Architectural Works</b>																																				
FNP12700	Internal Finishes for F.Screen&Grit Trap Bldg.	30	0	10-Jul-12	08-Aug-12	10-Jul-12	08-Aug-12																													
<b>Transplantation, landscape works</b>																																				
FNP12100	2 nos.Trees Transplant	50	11	05-Jun-11	24-Jul-11	16-Jun-11	04-Aug-11																													
<b>Mechanical Installation</b>																																				
<b>Electrical and Mechanical Works</b>																																				
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																													
<b>Electrical Installation</b>																																				
<b>Electrical and Mechanical Works</b>																																				
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																													
<b>Control and Monitoring System</b>																																				
FNP14100	Install Monitoring & Control System	90	117	09-Aug-12	06-Nov-12	04-Dec-12	03-Mar-13																													
<b>Building Services Installation</b>																																				
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																													
<b>Testing and Commissioning</b>																																				
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																													
<b>Works for Section 2</b>																																				
<b>North Point</b>																																				
<b>E&amp;M Equipment / Material Delivery on Site</b>																																				
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																													
<b>Civil Works</b>																																				
<b>Site Clearance &amp; Prep. Works</b>																																				
FNP20100	Possession of NP-3 (after Sec. 1 completed)	0	0	02-Jun-13		02-Jun-13																														
<b>Demolition Works</b>																																				
FNP20200	Demolish the Extg. Fine Screen Chamber	30	0	23-Jun-13	22-Jul-13	23-Jun-13	22-Jul-13																													
<b>Site Investigation</b>																																				
FNP20210	6nos. Pre-drill holes	19	0	23-Jul-13	10-Aug-13	23-Jul-13	10-Aug-13																													
<b>Foundation Works</b>																																				
FNP20250	Piling Works for Deodorization Bldg.	55	0	11-Aug-13	04-Oct-13	11-Aug-13	04-Oct-13																													
<b>Drainage Works</b>																																				
FNP20150	Relocate DN300 Sewer	50	20	02-Jun-13	21-Jul-13	22-Jun-13	10-Aug-13																													
<b>RC Structural Works</b>																																				
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																													
<b>Mechanical Installation</b>																																				

■ 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		
<b>Civil Works Material Delivery on Site</b>																																			
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																											
<b>Civil Works</b>																																			
<b>Site Clearance &amp; Prep. Works</b>																																			
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																											
<b>Demolition Works</b>																																			
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																											
<b>Building Service Works</b>																																			
FWC01200	Modify Extg. Office to new control room	180	0	20-May-11	15-Nov-11	20-May-11	15-Nov-11	■ Modify Extg. Office to new control room																											
FWC01205	Lay new cable trench for new control room	30	0	17-Sep-11	16-Oct-11	17-Sep-11	16-Oct-11	■ Lay new cable trench for new control room																											
FWC01210	Modify Ex. of f.pantry, locker rm. to new WSoft	90	0	19-Jul-11	16-Oct-11	19-Jul-11	16-Oct-11	■ Modify Ex. of f.pantry, locker rm. to new WSoft																											
FWC01220	Modify & install new staircase to G/F	90	0	19-Jul-11	16-Oct-11	19-Jul-11	16-Oct-11	■ Modify & install new staircase to G/F																											
<b>Transplantation, landscape works</b>																																			
FWC01050	2nos. Tree Transplant	28	31	20-May-11	16-Jun-11	20-Jun-11	17-Jul-11	■ 2nos. Tree Transplant																											
<b>E&amp;M Installation</b>																																			
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																											
<b>Testing and Commissioning</b>																																			
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																											
<b>Works for Section 5</b>																																			
<b>Wan Chai East</b>																																			
<b>Possession / Vacation of Portions</b>																																			
FWC01860	Second Possession WCE-2	0	0	27-Jul-13		27-Jul-13		◆ Second Possession WCE-2																											
<b>Statutory Submission / Approval / Inspection</b>																																			
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																											
<b>Civil Works</b>																																			
<b>Site Clearance &amp; Prep. Works</b>																																			
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																											
<b>Demolition Works</b>																																			
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.																											
<b>Site Investigation</b>																																			
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																											
<b>Foundation Works</b>																																			
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.																											
<b>RC / Structural Works</b>																																			
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.																											
<b>Building Service Works</b>																																			
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																											
<b>Architectural Works</b>																																			
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																											
<b>E&amp;M Installation</b>																																			
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)																											
<b>Electrical Installation</b>																																			
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









