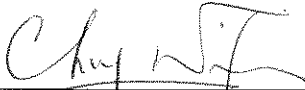


**Contract No. DC/2009/24
HATS Stage 2A – Upgrading of
Preliminary Treatment Works at
Sandy Bay, Cyberport, Wah Fu,
Aberdeen and Ap Lei Chau**

**Quarterly Environmental
Monitoring and Audit Report
July to September 2018**

(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

CINOTECH CONSULTANTS LTD

Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong
Tel: (852) 2151 2083 Fax: (852) 3107 1388
Email: info@cinotech.com.hk

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

Attn: Mr. K K Kam

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

Our Reference
EC/AFK/DC/bw/
T261332/22.01/L-1371

**Contract No. DC/2009/24 – Upgrading of Preliminary Treatment Works at
Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau**

3/F Mapletree Bay Point
348 Kwun Tong Road
Kowloon
Hong Kong

Submission of 27th Quarterly EM&A Report for July to September 2018 (v1.0)

T +852 2828 5757
F +852 2827 1823
mottmac.hk

15 January 2019

By Post

Dear Sir,

We refer to the captioned Quarterly EM&A Report for July to September 2018 (v1.0) received on 14 January 2019 and confirm that we have no comment.

Yours faithfully
for MOTT MACDONALD HONG KONG LIMITED



Dr. Anne F Kerr
Independent Environmental Checker
T +852 2828 5757
anne.kerr@mottmac.com

c.c.

Ove Arup & Partners HK Ltd.
Leader – JEC JV
Wellab Limited
(formerly Cinotech Consultants Ltd.)

Mr. Ted Y F Tang
Mr. Kelvin Cheung / Ms. S P Ngan
Dr. Priscilla Choy

Fax: 2370 4377
By email
By email

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	1
Introduction	1
Environmental Monitoring Works	2
Air Quality and Noise	2
Noise (Sandy Bay PTW).....	2
Environmental Complaint and Prosecution	4
Environmental Licenses and Permits	4
Future Key Issues:.....	4
1. INTRODUCTION	5
Background	5
2. PROJECT CHARACTERISTICS.....	6
Project Organization and Contacts of Key Management.....	6
Construction Programme and Synopsis of Work.....	6
3. ENVIRONMENTAL MONITORING & AUDIT REQUIREMENTS	8
Monitoring Parameters and Monitoring Locations	8
Monitoring Methodology and Calibration Details.....	8
Environmental Quality Performance Limits (Action and Limit Levels)	8
Environmental Mitigation Measures.....	8
4. MONITORING RESULTS	9
Weather Conditions.....	9
Air Quality	9
Noise	9
5. ENVIRONMENTAL AUDIT	11
Implementation Status of Environmental Mitigation Measures	11
Site Audit Summary.....	11
Status of Environmental Licensing and Permitting	11
Advice on Waste Management Status.....	11
6. NON-COMPLIANCE (EXCEEDANCES) OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMITS (ACTION AND LIMIT LEVELS).....	12
Summary of Exceedances	12
Review of the Reasons for and the Implications of Non-compliance.....	12
Summary of action taken in the event of and follow-up on non-compliance	12
7. ENVIRONMENTAL COMPLAINTS.....	12
8. NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS	12
9. COMMENTS, CONCLUSIONS AND RECOMMENDATIONS	13

LIST OF TABLES

Table I	Summary Table for Non-compliance Recorded in the Reporting Quarter
Table 4.1	Summary of 1-hour and 24-hour TSP Monitoring Result in Reporting Quarter
Table 4.2	Summary of Noise Monitoring Result in Reporting Quarter
Table 5.1	ET's Observation and Recommendations of Site Audits

LIST OF FIGURES

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

LIST OF APPENDICES

A	Contact Details of the Project Organisation
B	Construction Programme
C	Monitoring Requirements
D	Action and Limit Levels
E	Graphical Presentation of Air Quality Monitoring Results
F	Graphical Presentation of Noise Monitoring Results
G	Implementation Status of Environmental Mitigation Measures (EMIS)
H	Summary of Environmental Licenses and Permits
I	Summary of Amount of Waste Generated in the Reporting Period
J	Complaint Log
K	Summary of Exceedance

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 27th Quarterly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Limited for DSD Contract No. DC/2009/24 “HATS Stage 2A – Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau” (The Project) which documents the key information of EM&A of Contract No. DC/2009/24 and environmental monitoring results from Contract DC/2009/24 HATS Stage 2A with the Environmental Permit (Permit No. EP-322/2008/G) for July to September 2018.
2. The site activities undertaken for in the reporting quarter included:

July 2018:

- Wah Fu PTW – N/A;
- Ap Lei Chau PTW – Continuous interim operation and maintenance of the ALC PTW, Internal & external finishes works of Remaining Part of Screening and Degritting Facilities and Effluent Pumping Station, Installation the effluent pumping raising main for pump no.1 & 2, Installation of cable tray in switch room and dry well, Electrical works in FSGT area, Erection of boundary wall and sliding gate, Soft landscaping works and green roof installation, Road construction works, Erection of boundary wall and sliding gate;
- Aberdeen PTW – Continuous interim operation and maintenance of the ABN PTW, DCS cable tray and cabling work from existing inlet pumping station to control room in administration building, Green Roof installation, Erection of boundary wall and sliding gate, Landscaping works;
- Sandy Bay PTW – N/A;
- Cyberport PTW – N/A.

August 2018:

- Wah Fu PTW – N/A;
- Ap Lei Chau PTW – Continuous interim operation and maintenance of the ALC PTW, Internal & external finishes works of Remaining Part of Screening and Degritting Facilities and Effluent Pumping Station, Installation of cable tray in switch room and dry well, Electrical works in FSGT area, Erection of boundary wall and sliding gate, Soft landscaping works and green roof installation, Road construction works, Erection of boundary wall and sliding gate;
- Aberdeen PTW – Continuous interim operation and maintenance of the ABN PTW, DCS cable tray and cabling work from existing inlet pumping station to control room in administration building, Green Roof installation, Landscaping works;
- Sandy Bay PTW – N/A;
- Cyberport PTW – N/A.

September 2018:

- Wah Fu PTW – N/A;
- Ap Lei Chau PTW – Continuous interim operation and maintenance of the ALC PTW, Internal & external finishes works of Remaining Part of Screening and Degritting Facilities and Effluent Pumping Station, Installation of cable tray in switch room and dry well, Electrical works in FSGT area, Erection of fence wall along the seawall, Soft landscaping works and green roof installation, Road construction works, Erection of boundary wall and sliding gate;
- Aberdeen PTW – Continuous interim operation and maintenance of the ABN PTW, DCS

cable tray and cabling work from existing inlet pumping station to control room in administration building, Defect Rectification Works;

- Sandy Bay PTW – N/A;
- Cyberport PTW – N/A.

Environmental Monitoring Works

3. The environmental monitoring works of the Project was conducted by the ET for the Contract: DC/2009/24 under HATS 2A with the 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.

Air Quality and Noise

4. The monitoring of air quality monitoring station at Wah Ming House, Wah Fu Estate (CM_WF1a) and noise monitoring station at Aegean Terrace (M6a), Wah Ming House (M7a) and Wah Ling House (M8) was handed over to Contract No. DC/2009/24 from Contract No. DC/2007/24 in July 2014. The noise monitoring station at Mei Chun Court, South Horizons (M9) was handed over to Contract No. DC/2009/24 from Contract No. DC/2008/09 on 28 July 2014. The air quality and noise monitoring stations was set up by Cinotech Consultants Limited (ET for this project) to monitor the air quality and noise in the vicinity of the sensitive receivers starting from July 2014.
5. Furthermore, the monitoring of air quality monitoring station at The Arcade, Cyberport (CM_CB1a) and The Hong Kong Ice and Cold Storage (CM_AB1a) were handed over to Contract No. DC/2009/24 from Contract No. DC/2007/24 in August 2014. The air quality monitoring stations was set up by Cinotech Consultants Limited (ET for this project) to monitor the air quality in the vicinity of the sensitive receivers starting from August 2014.
6. However, the air quality monitoring at CM_AB1a had been rejected and could not be continued, the proposed location (CM_AB1b – Works Site Boundary of Aberdeen PTW) was approved by ER on 22 July 2014 and approved by EPD on 5 December 2014. The air quality monitoring stations was set up by Cinotech Consultants Limited (ET for this project) to monitor the air quality and noise in the vicinity of the sensitive receivers starting from August 2014. The location of CM_AB1b is shown in **Figure 1c-2**.

Noise (Sandy Bay PTW)

7. The Proposal for Termination of Construction Phase EM&A Works for Contract No. DC/2007/24 was submitted by its ET to EPD in July 2015. The proposal, including the termination of noise monitoring at Chuk Lam Ming Tong (M5), was approved by the EPD on 27 July 2015. The result of noise monitoring at M5 would not be reported from 27 July 2015, based on section 15.11 of the EM&A Manual of this Project as below:
 - i) Construction activities including the remaining outstanding construction works for Sandy Bay PTW have been completed by the Contractor of this Project, therefore, no major environmental impact from Sandy Bay PTW in anticipated due to the Project.

Air Quality and Noise (Cyberport PTW)

8. The Proposal for Termination of Construction Phase EM&A Works at Cyberport PTW for this Project was submitted by its ET to EPD in December 2017. The proposal, including the termination of air quality monitoring at The Arcade, Cyberport (CM_CB1a) and noise monitoring at Aegean Terrace (M6a), was approved by the EPD on 7 December 2017. The result of air quality monitoring at CM_CB1a and noise monitoring at M6a would not be reported from 7 December 2017, based on section 15.11 and 15.12 of the EM&A Manual of this Project as below:

- i) Referring to the certificates of substantial completion, the construction works at Cyberport PTW was substantially completed on 30th June 2016. Construction activities including the remaining outstanding construction works at Cyberport PTW will be completed by the Contractor by the end of November 2017. All construction activities with significant environmental impact at Cyberport PTW have been completed on 22nd November 2017. Therefore, no significant environmental impact at Cyberport PTW is anticipated due to the Project starting from 1st December 2017.
- ii) No Project-related environmental monitoring (air quality monitoring and noise monitoring) exceedance was recorded over the duration of the monitoring programme at Cyberport PTW.

No environmental-related prosecution or summons was recorded at Cyberport PTW. No case of complaint was logged since project commencement at Cyberport PTW.

9. Summary of the non-compliance of the reporting quarter is tabulated in **Table I**.

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

Monitoring Station	Parameter	No. of Exceedance		No. of Exceedance Due to the Project		Action Taken
		Action Level	Limit Level	Action Level	Limit Level	
CM_CB1a	1-hr TSP	--	--	--	--	--
	24-hr TSP	--	--	--	--	--
CM_WF1a	1-hr TSP	0	0	0	0	N/A
	24-hr TSP	0	0	0	0	N/A
CM_AB1b	1-hr TSP	0	0	0	0	N/A
	24-hr TSP	0	0	0	0	N/A
M5	Noise (Day Time)	--	--	--	--	--
M6a		--	--	--	--	--
M7a		0	0	0	0	N/A
M8		0	0	0	0	N/A
M9		0	0	0	0	N/A
		0	0	0	0	N/A

1-hour TSP Monitoring

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

24-hour TSP Monitoring

11. 24-hour TSP monitoring was conducted as scheduled in the reporting month excluding 24-hour TSP monitoring at CM_AB1b on 8 August 2018 and 17 September 2018. Due to the interruption of power supply of Air Quality Monitoring Station (CM_AB1b) at Aberdeen on 8 August 2018 and 17 September 2018, the 24hrs-TSP monitoring was rescheduled and conducted on 9 August 2018 and the result of 24hrs-TSP monitoring at CM_AB1b on 17 September 2018 was invalid. No Action/Limit Level exceedance was recorded.

Construction Noise

12. All construction noise monitoring was conducted as scheduled in the reporting quarter. No Action/Limit Level exceedance was recorded.

Environmental Complaint and Prosecution

13. There was no environmental prosecution or notification of summons received in the reporting quarter while eight complaints were already received since the Project commencement. The Complaint Log is presented in **Appendix J**.

Environmental Licenses and Permits

14. Licenses/Permits granted to the Project include the Environmental Permit (EP), Notification of Works under APCO, Water Discharge Licences and Registered as a Chemical Waste Producer for Sandy Bay, Cyberport, Ap Lei Chau, Aberdeen, Wah Fu PTWs sites.

Future Key Issues:

15. Major site activities for the coming two months include:
- Wah Fu PTW: N/A;
 - Aberdeen PTW: Operation of PTW, Soft Landscaping Works;
 - Ap Lei Chau PTW: Operation of PTW, Building Service installation of Screening and Degritting Facilities and Effluent Pumping Station, Demotion of the collapsed workshop;
 - Sandy Bay PTW: N/A; and
 - Cyberport PTW: N/A.
16. The environmental concerns in coming months are mainly on chemicals storage, surface run off, spillage of wastewater during rainstorm and dust generated from the construction works.

1. INTRODUCTION

Background

- 1.1 The Project ‘HATS Stage 2A – Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau’ with Contract No: DC/2009/24 mainly comprises the following major works:
 - The construction of screens, grit traps, deodourisation rooms, workshop and administration buildings, and modification of existing inlet pumping stations at the preliminary treatment works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau.
- 1.2 The general location plan of the Project is shown in **Figure 1**.
- 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 10th October 2012 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/2009/24 “Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau”.
- 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 The construction works at Wah Fu PTW and Ap Lei Chau PTW were commenced in the January 2012.
- 1.7 The construction phase of EM&A programme of the Project commenced in January 2012.
- 1.8 This is the 27th quarterly EM&A report summarizing the EM&A works conducted for the Project in July to September 2018.

2 PROJECT CHARACTERISTICS

Project Organization and Contacts of Key Management

- 2.1 Different parties with different levels of involvement in the project organization include:
- Project Proponent – The Drainage Services Department (DSD)
 - Engineer’s Representative (ER) – Ove Arup & Partners Hong Kong Ltd.
 - Contractor – Leader and JEC Joint Venture (LJJV)
 - Environmental Team (ET) – Cinotech Consultants Ltd.
 - Independent Environmental Checker (IEC) – Mott MacDonald Hong Kong Ltd.
- 2.2 The key contacts of the Project and the ET organization chart and are shown in **Appendix A** and **Figure 2**.

Construction Programme and Synopsis of Work

- 2.3 The construction programme is presented in **Appendix B**. The site activities undertaken during the reporting quarter included:

July 2018:

- Wah Fu PTW – N/A;
- Ap Lei Chau PTW – Continuous interim operation and maintenance of the ALC PTW, Internal & external finishes works of Remaining Part of Screening and Degritting Facilities and Effluent Pumping Station, Installation the effluent pumping raising main for pump no.1 & 2, Installation of cable tray in switch room and dry well, Electrical works in FSGT area, Erection of boundary wall and sliding gate, Soft landscaping works and green roof installation, Road construction works, Erection of boundary wall and sliding gate;
- Aberdeen PTW – Continuous interim operation and maintenance of the ABN PTW, DCS cable tray and cabling work from existing inlet pumping station to control room in administration building, Green Roof installation, Erection of boundary wall and sliding gate, Landscaping works;
- Sandy Bay PTW – N/A;
- Cyberport PTW – N/A.

August 2018:

- Wah Fu PTW – N/A;
- Ap Lei Chau PTW – Continuous interim operation and maintenance of the ALC PTW, Internal & external finishes works of Remaining Part of Screening and Degritting Facilities and Effluent Pumping Station, Installation of cable tray in switch room and dry well, Electrical works in FSGT area, Erection of boundary wall and sliding gate, Soft landscaping works and green roof installation, Road construction works, Erection of boundary wall and sliding gate;
- Aberdeen PTW – Continuous interim operation and maintenance of the ABN PTW, DCS cable tray and cabling work from existing inlet pumping station to control room in administration building, Green Roof installation, Landscaping works;
- Sandy Bay PTW – N/A;
- Cyberport PTW – N/A.

September 2018:

- Wah Fu PTW – N/A;
- Ap Lei Chau PTW – Continuous interim operation and maintenance of the ALC PTW, Internal & external finishes works of Remaining Part of Screening and Degritting Facilities

and Effluent Pumping Station, Installation of cable tray in switch room and dry well, Electrical works in FSGT area, Erection of fence wall along the seawall, Soft landscaping works and green roof installation, Road construction works, Erection of boundary wall and sliding gate;

- Aberdeen PTW – Continuous interim operation and maintenance of the ABN PTW, DCS cable tray and cabling work from existing inlet pumping station to control room in administration building, Defect Rectification Works;
- Sandy Bay PTW – N/A;
- Cyberport PTW – N/A.

3. ENVIRONMENTAL MONITORING & AUDIT REQUIREMENTS

Monitoring Parameters and Monitoring Locations

- 3.1 In accordance with the EM&A Manual, 1-hour and 24-hour Total Suspended Particulates (TSP) and Noise monitoring were conducted to monitor the air quality and the impact noise. The general layout plan of the Project and the monitoring locations are shown in **Figures 1, Appendix C** gives details of monitoring requirements.

Monitoring Methodology and Calibration Details

- 3.2 Monitoring works/equipments were conducted/calibrated regularly in accordance with the Project Specific EM&A Manual. Copies of calibration certificates are attached in the appendices of the Monthly Reports of this Project.

Environmental Quality Performance Limits (Action and Limit Levels)

- 3.3 The environmental quality performance limits, i.e. Action and Limit Levels were derived from the baseline monitoring results. Should the measured environmental quality parameters exceed the Action/Limit Levels, the respective action plans would be implemented. The Action/Limit Levels for each environmental parameter are given in **Appendix D**.

Environmental Mitigation Measures

- 3.4 Relevant mitigation measures as recommended in the project EIA report have been stipulated in the Project Specific EM&A Manual for the Contractor to implement. A summary of the Environmental Mitigation Implementation Schedule (EMIS) is given in **Appendix G**.

4. MONITORING RESULTS

Weather Conditions

4.1 The weather conditions during monitoring sessions were mainly sunny and sometimes cloudy. The weather conditions for each individual monitoring session were presented in the field record sheets and they could be found in the Appendices of the corresponding monthly EM&A reports.

Air Quality

1-hr TSP Monitoring and 24-hr TSP Monitoring

4.2 No Action/Limit Level exceedance was recorded in the reporting quarter. Summary of exceedance is presented in **Appendix K**.

4.3 **Table 4.1** summarizes the dust monitoring results which were extracted from the monthly reports for this Project.

4.4 The detailed monitoring data and graphical presentations of 1-hour and 24-hour TSP monitoring results could be referred to **Appendix E** of this report.

Table 4.1 Summary of 1-hour and 24-hour TSP Monitoring Result in Reporting Quarter

Reporting Months	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					
July 2018	CM_WF1a	51	39-82	285	500
	CM_AB1b	54	38-91	283	
August 2018	CM_WF1a	76	13-217	285	
	CM_AB1b	77	11-174	283	
September 2018	CM_WF1a	80	32-114	285	
	CM_AB1b	84	30-136	283	
24 hours TSP					
July 2018	CM_WF1a	26	13-42	185	260
	CM_AB1b	58	25-121	174	
August 2018	CM_WF1a	39	13-115	185	
	CM_AB1b	72	15-127	174	
September 2018	CM_WF1a	32	18-47	185	
	CM_AB1b	105	61-155	174	

Noise

4.5 All construction noise monitoring was conducted as scheduled in the reporting quarter.

4.6 No Action/Limit Level exceedance was recorded in the reporting quarter. Summary of exceedance is presented in **Appendix K**.

4.7 **Table 4.2** summarizes the noise monitoring results which were extracted from the monthly reports for this Project.

4.8 The construction noise monitoring at the designated locations was conducted by the ET of this

Project as scheduled in the reporting quarter. The monitoring results and graphical presentation are provided in **Appendix F** of this report.

Table 4.2 Summary of Noise Monitoring Result in Reporting Quarter

Reporting Months	Noise Quality Monitoring Station	Range, dB(A) Leq(30 min.)	Limit Level, dB(A) Leq(30 min.)
July 2018	M7a	51-66	75.0
	M8	59-63	
	M9	61-65	
August 2018	M7a	59-66	
	M8	57-64	
	M9	60-65	
September 2018	M7a	55-66	
	M8	60-66	
	M9	54-67	

5 ENVIRONMENTAL AUDIT

Implementation Status of Environmental Mitigation Measures

5.1 The implementation status of the Environmental Mitigation Implementation Schedule (EMIS) is given in **Appendix G**.

Site Audit Summary

5.2 During site inspections in the reporting period, no non-conformance was identified. The observations and recommendations made in each site audit session in the reporting period are summarized in **Table 5.1**.

Table 5.1 ET’s Observations and Recommendations of Site Audits

Parameters	Date/Ref. Number	Observations	Follow Up Action
Water Quality	180705-R01	The bund should be provided to prevent the muddy water/surface runoff flow out the site boundary of Abd-PTW.	The bund was provided at the site boundary of Abd-PTW.
Air Quality	NIL	--	--
Waste/ Chemical Management	NIL	--	--
Landscape and Visual	NIL	--	--
Noise	NIL	--	--
Permit/ Licenses	NIL	--	--

Status of Environmental Licensing and Permitting

5.3 Environmental licenses and permits including the Billing Account for Disposal of Construction Waste, Chemical Waste Producer and Wastewater Discharge were in place and valid during the reporting quarter. A summary status of licenses and permits is given in **Appendix H**.

Advice on Waste Management Status

5.4 The amount of wastes generated by the activities of the Project in the reporting period was attached in the appendices of the monthly reports for July to September 2018 and was shown in **Appendix I**.

6. NON-COMPLIANCE (EXCEEDANCES) OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMITS (ACTION AND LIMIT LEVELS)

Summary of Exceedances

- 6.1 Environmental monitoring works were performed in the reporting quarter and all monitoring results were checked and reviewed. A summary of exceedance is attached in **Appendix K**.
- 6.2 No Action/Limit Level exceedance of 1-hour TSP and 24-hour TSP was recorded in the reporting quarter.
- 6.3 No Action/Limit Level exceedance of Construction Noise was recorded in the reporting quarter.

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

- 6.4 There was no non-compliance from the site audits in the reporting quarter. The observations and recommendations made in each individual site audit session were presented in **Table 5.1**.

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

- 6.5 There was no particular action taken since no non-compliance was observed from the site audits in the reporting quarter.

7 ENVIRONMENTAL COMPLAINTS

- 7.1 No environmentally related summons or prosecutions were received for the Project in the reporting quarter.

7.2 Sandy Bay PTW:

There was no environmental prosecution or notification of summons since the Project commencement. The updated Complaint Log is attached in **Appendix J**.

Cyberport PTW:

There was no environmental prosecution or notification of summons since the Project commencement. The updated Complaint Log is attached in **Appendix J**.

Wah Fu PTW:

There was no environmental prosecution or notification of summons in the reporting quarter while six complaints were already received since the Project commencement. The updated Complaint Log is attached in **Appendix J**.

Aberdeen PTW:

There was no environmental prosecution or notification of summons since the Project commencement. The updated Complaint Log is attached in **Appendix J**.

Ap Lei Chau PTW:

There was no environmental prosecution or notification of summons in the reporting quarter while two complaints were already received since the Project commencement. The updated Complaint Log is attached in **Appendix J**.

8 NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

- 8.1 No environmental prosecution was recorded in the reporting quarter.

9. COMMENTS, CONCLUSIONS AND RECOMMENDATIONS

9.1 Key environmental issues for the coming months include:

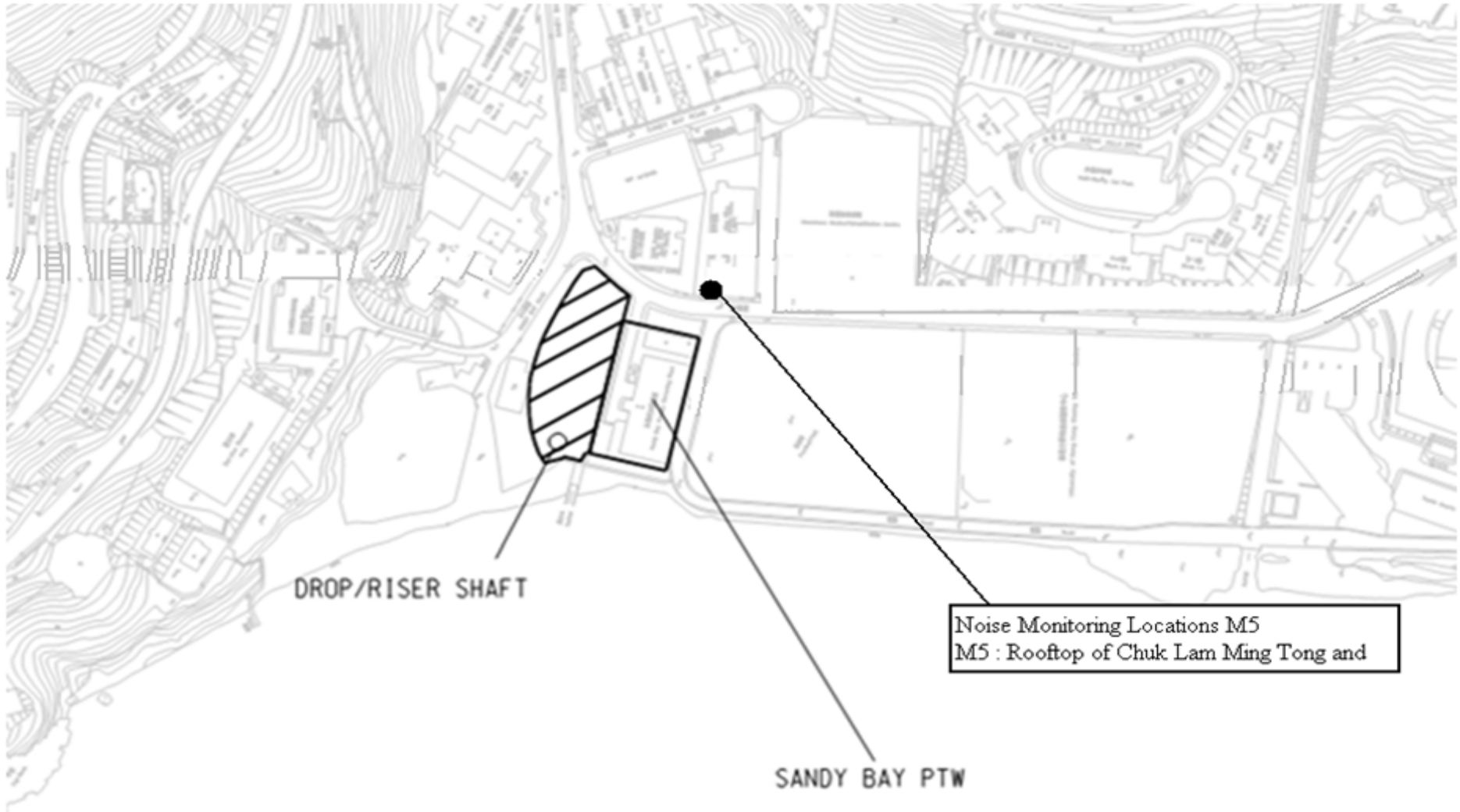
- Generation of dust from stockpiles of excavated and dusty materials, unpaved site area and vehicle movement, roadworks, excavation works and loading and unloading dusty materials on-site;
- Noise nuisance from operation of equipment and machinery on-site;
- Provision well maintenance on the storage facilities of chemicals/fuel and chemical waste/waste oil on-site;
- Mosquito breeding due to the ponding water and stagnant water around the site areas;
- Drainage system should be well designed and maintained to prevent flooding and silty water getting into the public area during and after raining;
- Maintenance of de-silting facilities and drainage system such as U-channels;
- Blockage of U-channel by accumulated silt;
- 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.

9.2 According to the environmental audit performed in the reporting quarter, the following recommendations were made:

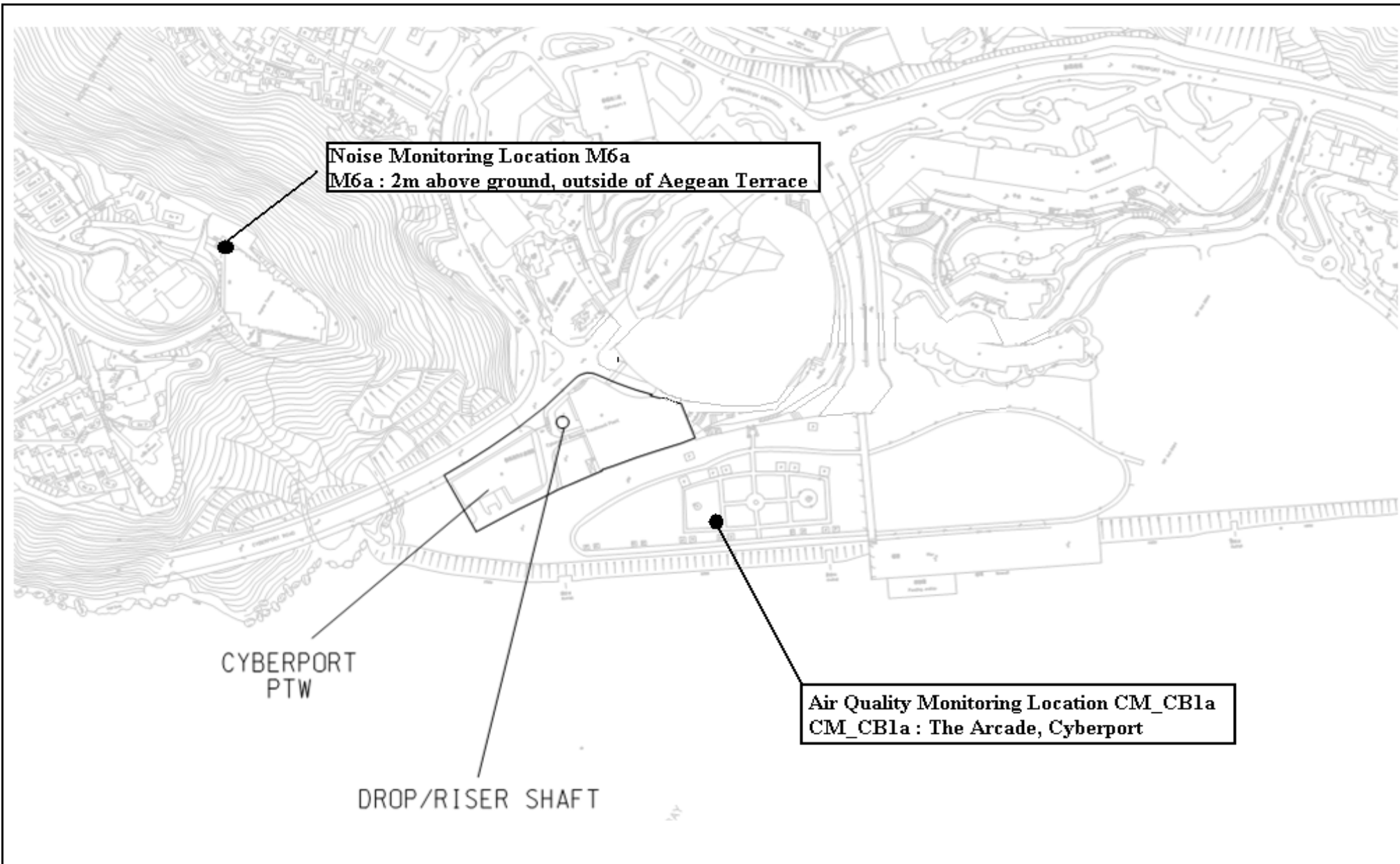
Water Quality

- The bund should be provided to prevent the muddy water / surface runoff flow from the site boundary.

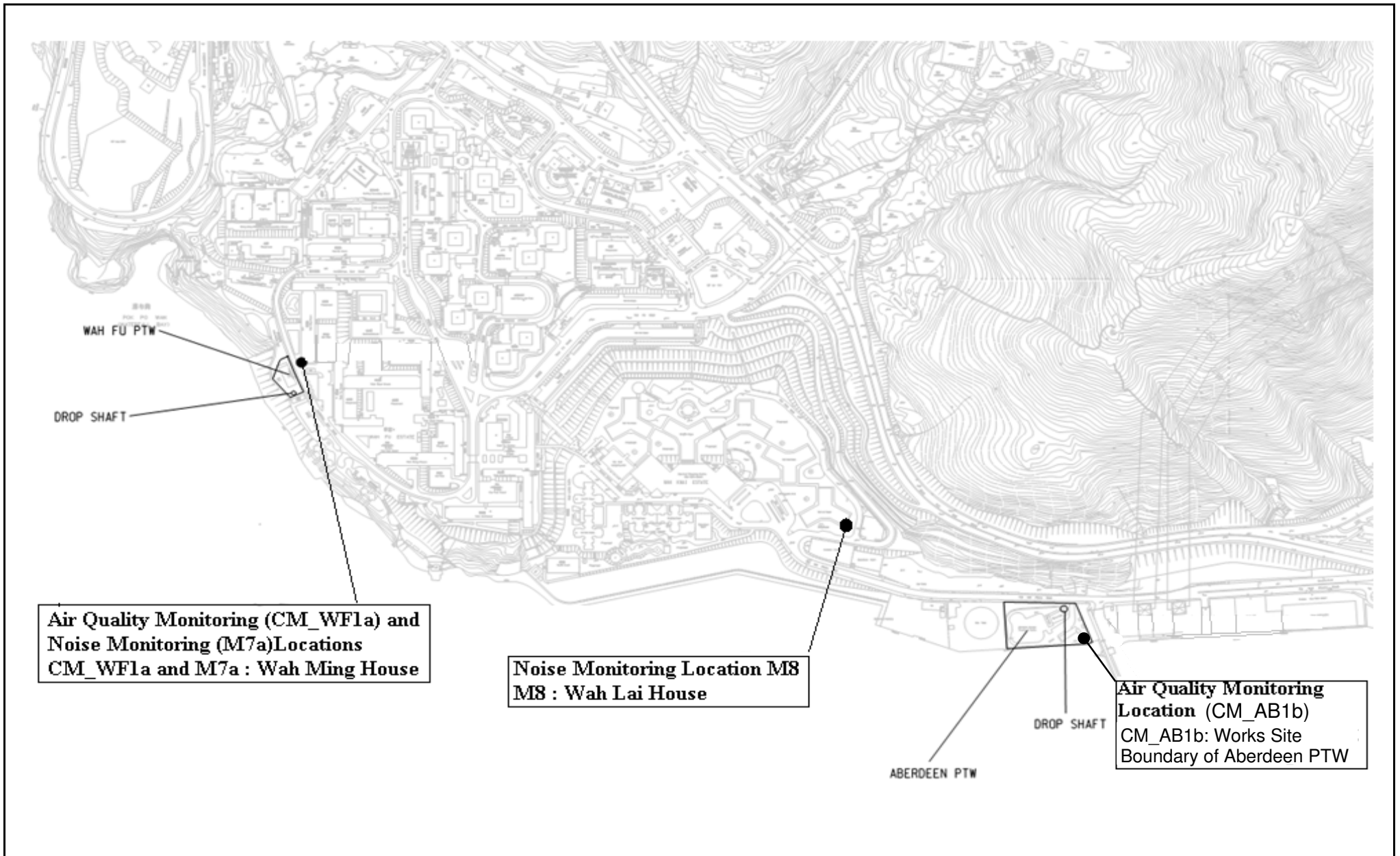
FIGURES



Title	Contract No: DC/2009/24	Scale	Project	CINOTECH
	HATS 2A - Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau	N.T.S	No. MA11060	
	General Location Plan of Sandy Bay PTW and Locations of Noise Monitoring Stations	Date	Figure	
		01/2012	1.A	



Title	Contract No: DC/2009/24	Scale	Project	CINOTECH
	HATS 2A - Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau	N.T.S	No. MA11060	
	General Location Plan of Cyberport PTW and Locations of Air Quality and Noise Monitoring Stations	Date	Figure	
		01/2012	1B	

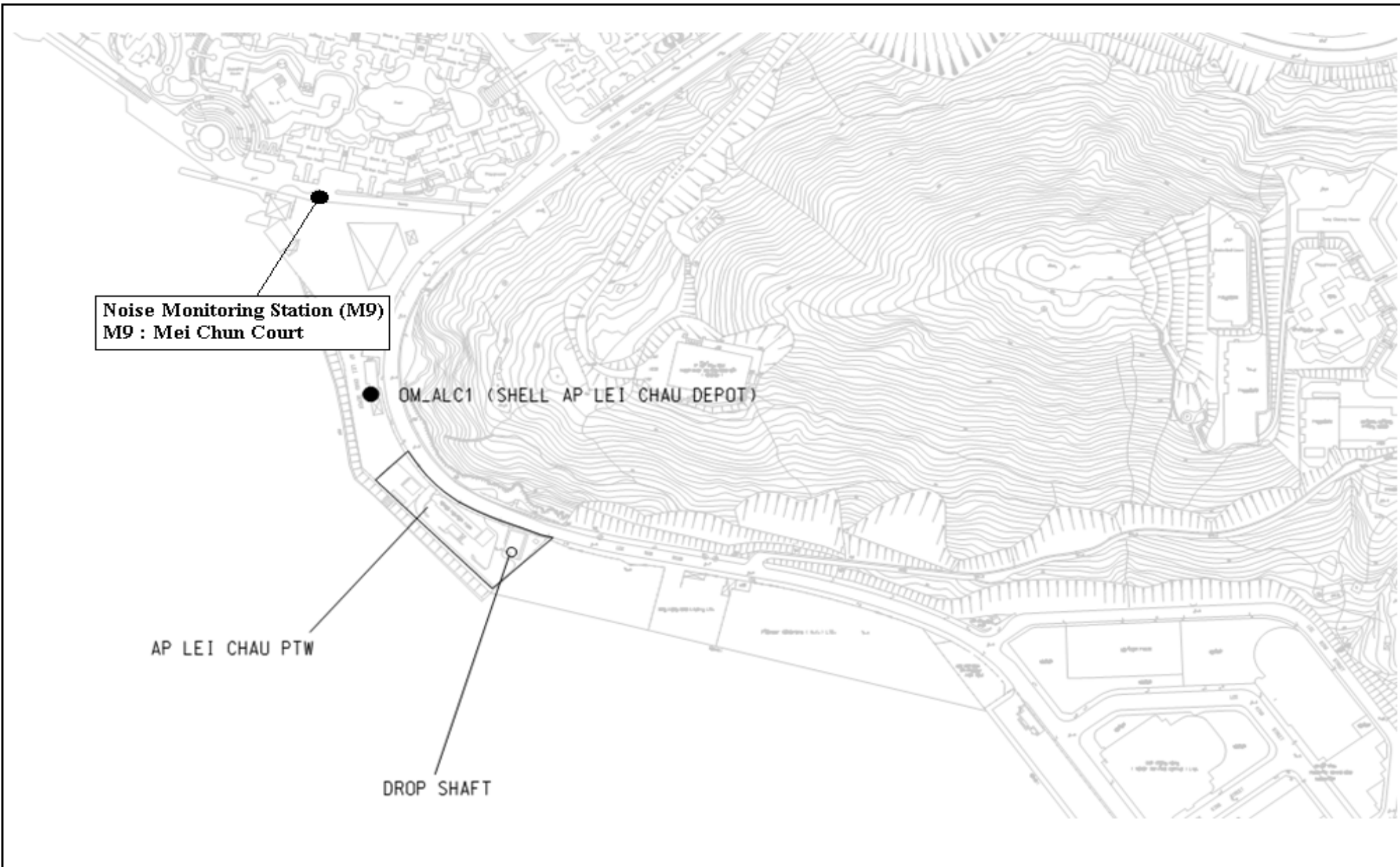


Air Quality Monitoring (CM_WF1a) and Noise Monitoring (M7a) Locations
 CM_WF1a and M7a : Wah Ming House

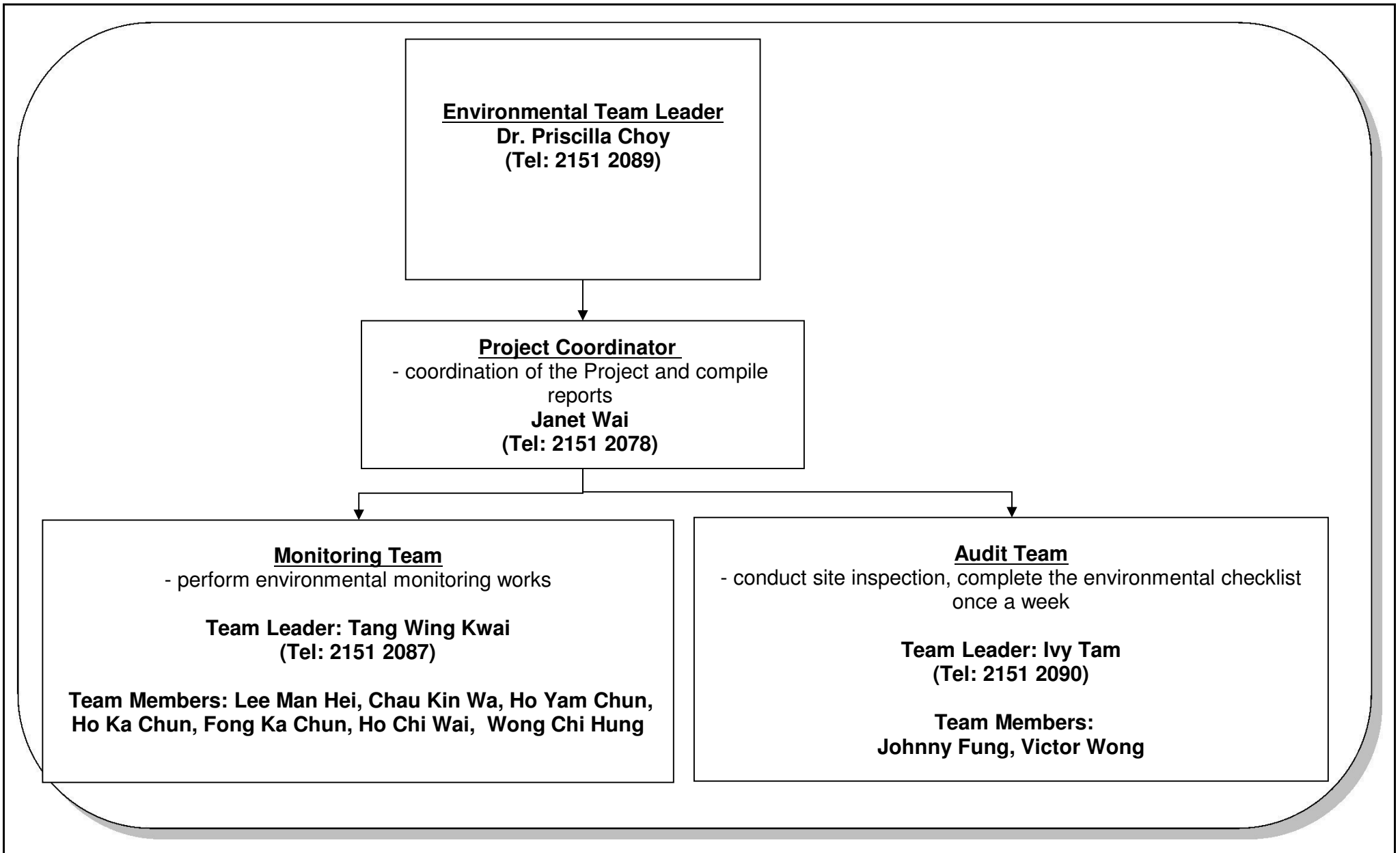
Noise Monitoring Location M8
 M8 : Wah Lai House

Air Quality Monitoring Location (CM_AB1b)
 CM_AB1b: Works Site Boundary of Aberdeen PTW

Title	Contract No: DC/2009/24	Scale	Project	CINOTECH
	HATS 2A - Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau	N.T.S	No. MA11060	
	Location of Wah Fu and Aberdeen PTW and Locations of Air Quality and Noise Monitoring Locations	Date	Figure	
		07/2014	1C-2	



Title	Contract No: DC/2009/24	Scale	Project	CINOTECH
	HATS 2A - Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau	N.T.S	No. MA11060	
	Locations of AP LEI CHAU PTW and the Noise Monitoring Location	Date	Figure	
		1/2012	1D	



Title	Contract No. DC/2009/24	Scale	N.T.S	Project No.	MA11060	CINOTECH
	HATS Stage 2A – Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau	Date	Mar-15	Figure	2	
ET's Organization Chart						

**APPENDIX A
CONTACT DETAILS OF THE PROJECT
ORGANISATION**

Appendix A - Contact Details of the Project Organization

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	2157 3879
Mott MacDonald	Independent Environmental Checker	Dr. Anne Kerr	Independent Environmental Checker	2828 5757
Leader and JEC Joint Venture	Contractor	Mr. Kelvin Cheung	Site Agent	9656 8865
		Ms. S.P. Ngan	Environmental Officer	9516 9431

APPENDIX B
CONSTRUCTION PROGRAMME

OUTSTANDING WORKS PROGRAMME FOR ABERDEEN PTW
SECTION 5 & 6 OF THE WORKS

WITHOUT PREJUDICE

Data Date 05-Sep-18

ACTIVITY DESCRIPTION	REVISED DWP_REV. 6			Actual / Target			2018																											
	START	FINISH	Planned % Prog	START	FINISH	Actual % Prog	FEBRUARY				MARCH				APRIL				MAY				JUNE				JULY				AUGUST			
							04-10	11-17	18-24	25-31	04-10	11-17	18-24	25-31	01-07	08-14	15-21	22-28	29-05	06-12	13-19	20-26	27-02	03-09	10-16	17-23	24-30	01-07	08-14	15-21	22-28	29-04	05-11	12-18
REMAINING WORKS																																		
ERECTION OF SKIP ENCLOSURE																																		
Erection of Steel Frame, incl welding test	23-Jan-18	15-Feb-18	100%	23-Jan-18	09-Apr-18	100%																												
Demolition of remaining Temp. Decking incl. backfilling of F18 Manhole and re-installation of Compactor No. 1	23-Jan-18	31-Jan-18	100%	23-Jan-18	31-Jan-18	100%																												
Roller Shutter Installation				01-Apr-18	09-Apr-18	100%																												
ROAD CONSTRUCTION WORKS																																		
7th Portion (paving block)	20-Jan-18	26-Jan-18	100%	20-Jan-18	26-Jan-18	100%																												
8th Portion (SPT for subbase, cast of roadbase & paving block)	17-Jan-18	02-Feb-18	100%	17-Jan-18	02-Feb-18	100%																												
9th Portion (remaining drainage works, SPT for subbase, cast of roadbase & paving block)	05-Feb-18	09-Mar-18	100%	05-Feb-18	31-Mar-18	100%																												
Remaining Portion to site entrance (paving block) (close to sliding gate)	10-Mar-18	31-Mar-18	100%	01-Apr-18	18-May-18	100%																												
BOUNDARY WALL FENCING AND FOOTING																																		
North Boundary Wall	29-Jan-18	30-Apr-18	100%	29-Jan-18	31-Jul-18	100%																												
Demolition of existing boundary wall	29-Jan-18	03-Feb-18	100%	29-Jan-18	03-Feb-18	100%																												
Footing construction (wall 4, 5, 6 & 7)	05-Feb-18	21-Mar-18	100%	05-Feb-18	31-Mar-18	100%																												
Erection of steel post and installation of fencing & synthetic timber wall	22-Mar-18	30-Apr-18	100%	07-May-18	31-Jul-18	100%																												
Remaining Boundary Walls (repair and repainting works) (DLD area was handed over on 3Jul18)	01-Mar-18	10-Mar-18	100%	11-Jun-18	31-Jul-18	100%																												
SLIDING GATE AND RUN-IN CONSTRUCTION																																		
Extension of Run-in Construction	26-Feb-18	24-Mar-18	100%	21-Mar-18	07-Apr-18	100%																												
Footing for Sliding Gate	26-Feb-18	24-Mar-18	100%	03-Apr-18	30-Apr-18	100%																												
Installation of Sliding Gate & Pedestrian access doors	03-Apr-18	30-Apr-18	100%	01-Jun-18	31-Jul-18	100%																												
IRRIGATION SYSTEM, GREEN ROOF AND AT-GRADE LANDSCAPING WORKS																																		
WSD (Submission and Approval for WWO 542 and WWO 046) - waiting endorsement from AP & DSD/ST2	29-Jan-18	19-Apr-18	100%	14-Feb-18	31-Aug-18	80%																												
Installation of irrigation system including at-grade planting works (shrubs & trees) and green roof	20-Apr-18	20-Jun-18	100%	19-May-18	31-Jul-18	80%																												
E&M OUTSTANDING WORKS																																		
E&M Works (Installation of Skip)	20-Feb-18	30-Apr-18	100%	02-May-18	08-Jun-18	100%																												
FINE SCREEN AREA (level sensor, migration of temp. to permanent power, DCS signal to control room and DOU air ductwork)	26-Jan-18	01-Feb-18	100%	26-Jan-18	01-Feb-18	100%																												
SEWAGE PUMP NO. 1 TO 4 (power meter signal to DCS in control room)	24-Jan-18	30-Jan-18	100%	24-Jan-18	30-Jan-18	100%																												
SEAWATER PUMPING STATION (installation of level electrode, migration of temp. to permanent power and DCS signal to control room)	05-Feb-18	10-Feb-18	100%	05-Mar-18	29-Mar-18	100%																												
COMMISSIONING - 30 DAYS (sewage pump + FSGT equipment)	02-Feb-18	03-Mar-18	100%	08-Feb-18	27-Apr-18	100%																												
COMMISSIONING - 30 DAYS (DOU system)	02-Feb-18	03-Mar-18	100%	08-Feb-18	27-Apr-18	100%																												
COMMISSIONING - 7 DAYS (seawater pumping station)	12-Feb-18	18-Feb-18	100%	09-Jul-18	16-Jul-18	0%																												
PCCW NETWORK (migration of drop shaft sensor from mini to permanent DCS and DCS signal received at Wan Chai East PTW)	10-Mar-18	19-Mar-18	100%	19-Jun-18	04-Jul-18	100%																												
REPLACEMENT OF OVERFLOW BYPASS PENSTOCK - PEN No. 19 (work by divers)	12-Mar-18	07-Apr-18	100%	12-Feb-18	07-Apr-18	100%																												
H2S MONITORING STATION - 7 SETS	12-Mar-18	21-Apr-18	100%	03-May-18	31-Jul-18	50%																												
3 sets in Eastern Fencing Wall	26-Mar-18	21-Apr-18	100%	28-May-18	31-Jul-18	30%																												
3 sets in Western Fencing Wall	12-Mar-18	07-Apr-18	100%	03-May-18	14-Jul-18	50%																												
1 set in Northern Fencing Wall	21-Mar-18	07-Apr-18	100%	03-May-18	14-Jul-18	50%																												
MISCELLANEOUS ITEMS (overflow alarm electrodes and flow measuring sensor at overflow chamber, lamp poles incl fitting (8 nos)-completed, CCTV system and Workshop equipment-completed)	26-Feb-18	30-Mar-18	100%	16-Apr-18	31-Jul-18	40%																												

**OUTSTANDING WORKS PROGRAMME FOR AP LEI CHAU PTW
SECTION 7 OF THE WORKS**

WITHOUT PREJUDICE

Data Date **05-Sep-18**

ACTIVITY DESCRIPTION	REVISED DWP_REV, 6 incl. AS-Built			Actual / Target			2014												2015												2016												2017												2018											
	START	FINISH	Planned % Prog	START	FINISH	Actual % Prog	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec					
SECTION 7 OF THE WORKS																																																																		
Stage 1 - Construction of Initial Treatment Plant																																																																		
ELS / Structural works for remaining half of initial treatment plant (Wet well and Dry Well) incl. Temporary wall enclosure	02-Jul-14	31-Aug-15	100%	02-Jul-14	31-Aug-15	100%																																																												
Flume Channel Construction & Connection to existing outfall chamber	20-Apr-15	06-Jun-15	100%	20-Apr-15	06-Jun-15	100%																																																												
E&M works for Initial Treatment Plant (incl. flow diversion to new plant)	15-Sep-14	31-Jul-15	100%	15-Sep-14	31-Jul-15	100%																																																												
Tie-in Connection, Rising Main and Flow Meter Chamber (Partial only)	15-Dec-14	17-Aug-15	100%	15-Dec-14	17-Aug-15	100%																																																												
Start of Flow diversion to tie-in pit		20-Nov-15	100%		20-Nov-15	100%																																																												
Flow diversion to tie-in pit	20-Nov-15	19-Dec-15	100%	20-Nov-15	19-Dec-15	100%																																																												
Stage 2 - Completion of New Treatment Plant																																																																		
Decommissioning and Demolition of existing treatment facilities	02-Nov-15	09-Jan-16	100%	02-Nov-15	09-Jan-16	100%																																																												
Construction of remaining treatment plant (FSGT Bldg)																																																																		
E&M Works incl. preliminary testing for remaining treatment plant (FSGT Bldg)																																																																		
Foundation works for new treatment plant, wet well area and effluent pumping station (incl. ELS & Excavation Works)	11-Jan-16	28-Nov-16	100%	11-Jan-16	28-Nov-16	100%																																																												
Structural Works for new treatment plant, wet well area and effluent pumping station (incl. Finishing)	29-Nov-16	16-Sep-17	100%	29-Nov-16	16-Sep-17	100%																																																												
Structural works up to +6.15mPD	29-Nov-16	24-Apr-17	100%	29-Nov-16	24-Apr-17	100%																																																												
Delivery and in-place of effluent pipe and accessories	25-Apr-17	10-May-17	100%	25-Apr-17	10-May-17	100%																																																												
Installation of temporary decking	11-May-17	31-May-17	100%	11-May-17	31-May-17	100%																																																												
Continuation of remaining structure (up to roof floor)	01-Jun-17	07-Sep-17	100%	01-Jun-17	07-Sep-17	100%																																																												
Remaining Finishing Works for new Treatment Plant (internal and external)	17-Sep-17	30-Jun-18	100%	17-Sep-17	31-Jul-18	85%																																																												
E&M Works for new treatment plant, wet well area and effluent pumping station incl. preliminary testing of pumping system	12-Oct-17	08-Jan-18	100%	12-Oct-17	08-Jan-18	100%																																																												
Foundation works for new switch room and HEC room (incl. Excavation Works)	18-Apr-16	18-Jul-16	100%	18-Apr-16	18-Jul-16	100%																																																												
Structural Works for new switch room and HEC room	19-Jul-16	13-Oct-16	100%	19-Jul-16	13-Oct-16	100%																																																												
Finishing and E&M Works for new switch room and HEC room	14-Oct-16	25-May-17	100%	14-Oct-16	25-May-17	100%																																																												
Workshop Building - Structural Works	18-Apr-16	25-Jun-16	100%	18-Apr-16	25-Jun-16	100%																																																												
Remaining Rising Main Installation (incl. Replacement of Temp. Portion)	14-Oct-17	31-Mar-18	100%	14-Oct-17	10-Mar-18	100%																																																												
Substantial Completion of Section 7 of the Works		08-Jan-18	100%		08-Jan-18	100%																																																												
Outstanding Works - E&M Works																																																																		
FSGT Area GL 1-4 (cable tray, cable laying, permanent sensor, migration to permanent power supply, removal of temp. works and installation of remaining building services)	29-Jan-18	31-Mar-18	100%	29-Jan-18	21-Jul-18	75%																																																												
Effluent Pumping System - Dry Well (Pump 1 and 2 - 2nd train)	18-Dec-17	28-Feb-18	100%	18-Dec-17	21-Jul-18	95%																																																												
Effluent Pumping System - Dry Well (Pump 3 and 4 - migration to permanent power incl. local panels, junction boxes, cabling work, instrument & sensors, cable tray & laying, DN600 rising main return water pipe and building services)	01-Mar-18	06-Apr-18	100%	01-Mar-18	21-Jul-18	80%																																																												
Control Room (cable tray & cabling works, control desk & operator terminal set-up, programming and building services work)	18-Dec-17	14-Apr-18	100%	18-Dec-17	21-Jul-18	80%																																																												
DO Room - Wet Well Area (uPVC pipework, dosing pump, sensors, FRP platform, control panel, cable tray & cabling and building services works)	20-Dec-17	14-Apr-18	100%	20-Dec-17	15-Jul-18	85%																																																												
Commissioning of Effluent Pumps + FSGT equipment (30 Days)	16-Apr-18	15-May-18	100%	23-Jul-18	22-Aug-18	0%																																																												
DOU Seeding & system stabilization	16-Apr-18	28-Apr-18	100%	20-Jul-18	28-Jul-18	0%																																																												
Commissioning of DOU System (30 Days)	01-May-18	30-May-18	100%	30-Jul-18	29-Aug-18	0%																																																												
FSD Submission	03-Apr-18	16-Apr-18	100%	03-Aug-18	14-Sep-18	0%																																																												
FSD Inspection	16-Apr-18	28-Apr-18	100%	17-Sep-18	28-Sep-18	0%																																																												
Miscellaneous Works (H2S monitoring station, CCTV, Lamp pole w/ lighting and Weighing Bridge system - 1 set)	19-Mar-18	30-Apr-18	100%	03-Jul-18	30-Sep-18	20%																																																												
Remaining Works (External)																																																																		
External Staircase	01-Apr-18	30-Jun-18	100%	01-Apr-18	28-Apr-18	100%																																																												
Landscaping Works	01-Jul-18	30-Sep-18	72%	01-Jul-18	30-Sep-18	0%																																																												
Design and Built of Sea Wall (damaged by Typhoon) - Additional Works	01-Oct-17	18-Nov-18	82%	01-Oct-17	13-Jun-18	100%																																																												
Drainage and Road works & Reinstatement of Existing Fencing at Seawall Area	01-Oct-18	30-Dec-18	0%	25-Jun-18	23-Sep-18	20%																																																												
Weighing Bridge System - 1 Set (After Sea Wall and Reinstatement Works)																																																																		

LEGEND :  Civil Works  E&M Works

**APPENDIX C
MONITORING REQUIREMENTS**

APPENDIX C – Monitoring Requirements

Type of Monitoring	Parameter	Frequency	Monitored by	Locations of Measurement
Air Quality	1-hour TSP	3 times / 6-day	DC/2009/24	CM_CB1a⁽¹⁾ : The Arcade, Cyberport CM_WF1a⁽¹⁾ : Wah Ming House, Wah Fu Estate CM_AB1b⁽²⁾ : Works Site Boundary of Aberdeen PTW
	24-hour TSP	Once / 6-day		
Noise	L_{eq} (30 min.) dB(A) (0700 to 1900 hrs. on weekdays) / L_{eq} (5 min.) dB(A) (During restricted hours)	Once / week	DC/2009/24	M6a ⁽¹⁾ (Cyberport PTW): Aegean Terrace M7a ⁽¹⁾ (Wah Fu PTW): Wah Ming House M8 (Aberdeen PTW): Wah Lai House M9 (Ap Lei Chau PTW): Mei Chun Court, South Horizons

Remarks:

- 1: Refer to the monthly report of DC/2007/24, revision to the original monitoring location in EM&A Manual was made and was verified by IEC on 19 November 2009 and subsequently approved by EPD on 27 November 2009.
- 2: Relocation of the air quality monitoring station was verified by IEC on 15 July 2014; and approved by ER on 22 July 2014 and approved by EPD on 5 December 2014.

**APPENDIX D
ACTION AND LIMIT LEVELS**

Appendix D Action and Limit Levels

Table D-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
CM_CB1a	280	178	500	260
CM_WF1a	285	185		
CM_AB1b	283	174		

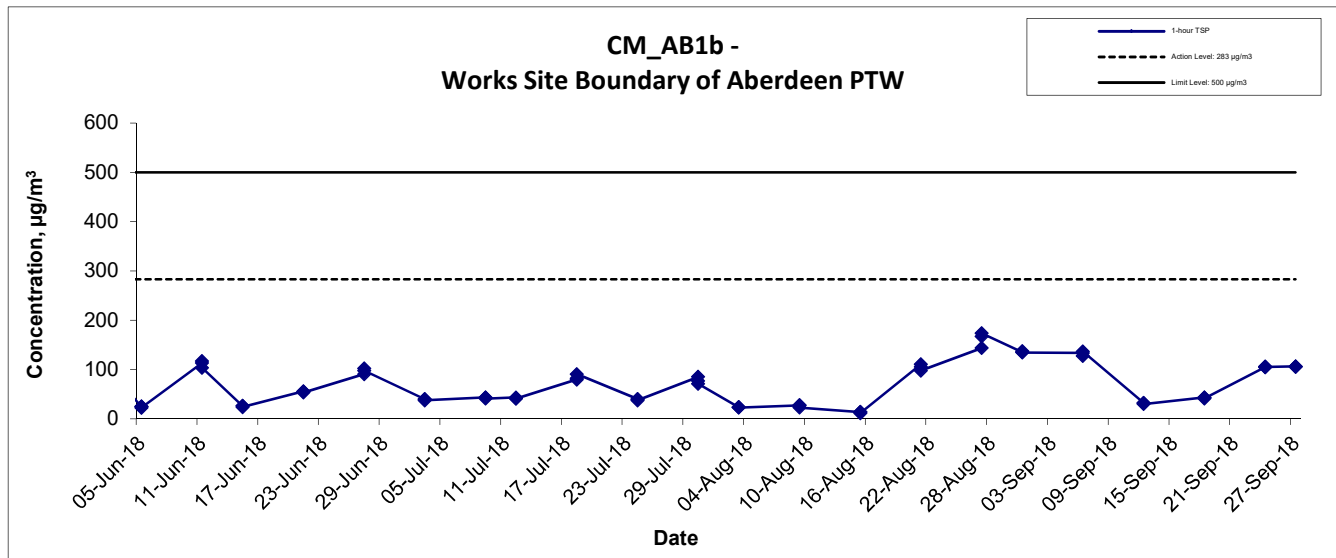
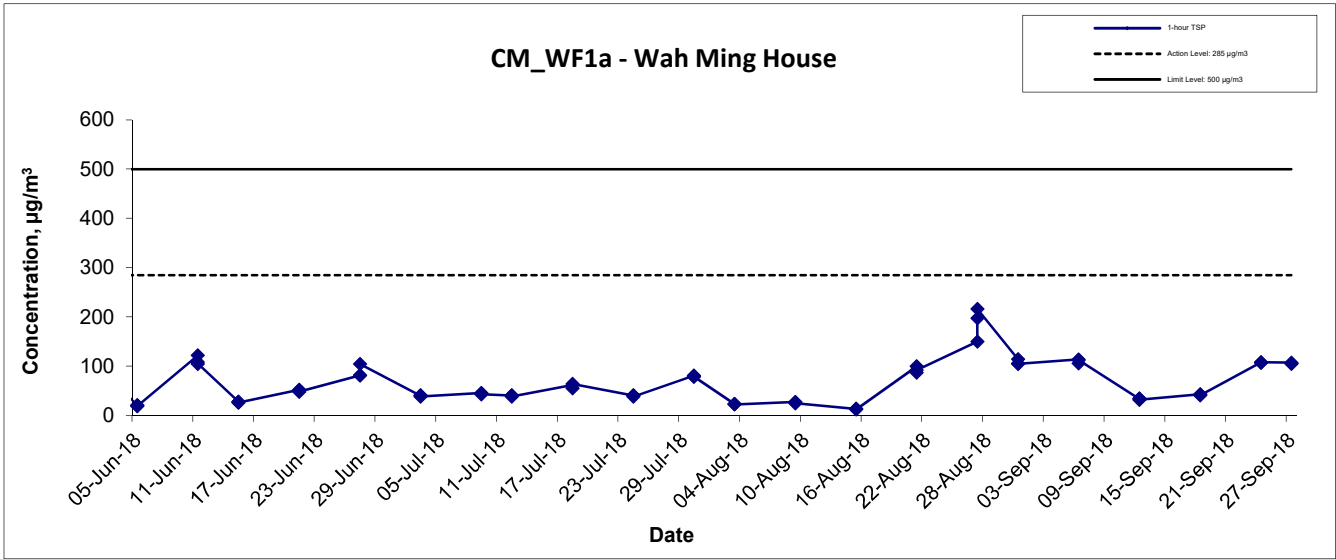
Table D-2 Action and Limit Level for Construction Noise

Monitoring Stations	Time Period	Action Level	Limit Level in dB(A)
M5 M6a M7a M8 M9	0700-1900 hours on normal weekdays	When one documented complaint is received	75 ⁽¹⁾

Remark: 1: 70dB(A) and 65 dB(A) for schools during normal teaching periods and school examination periods, respectively.

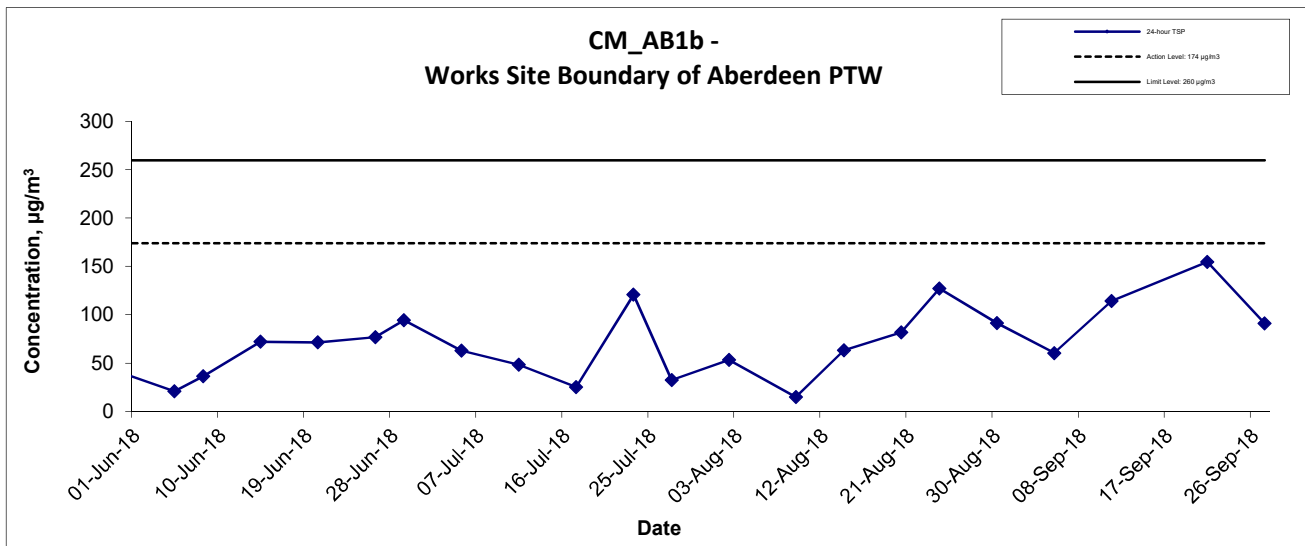
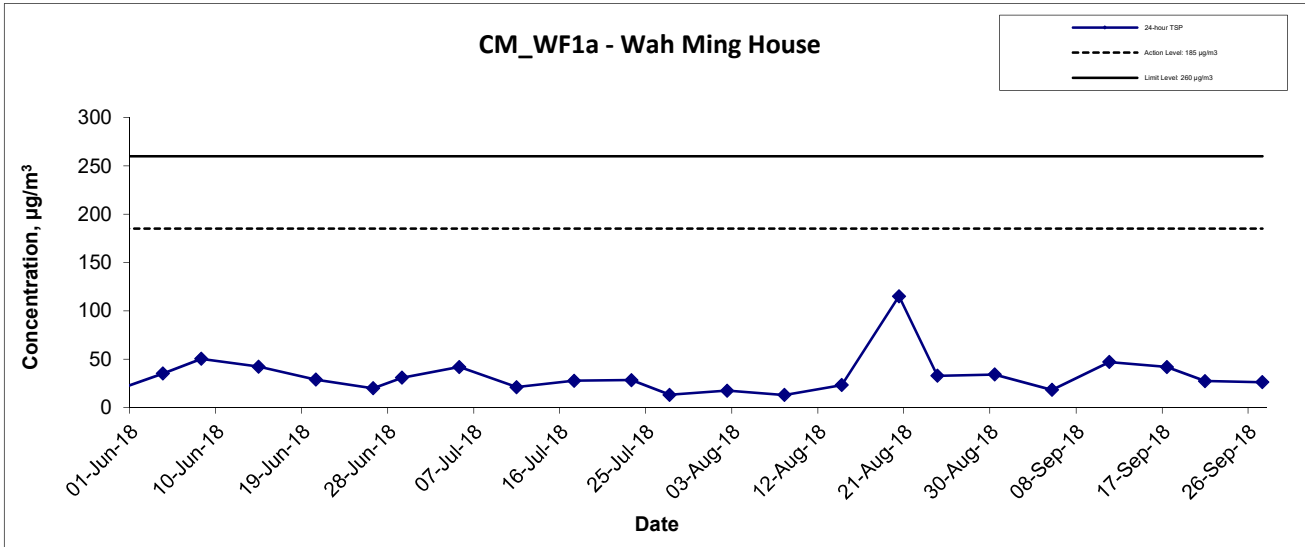
**APPENDIX E
GRAPHICAL PRESENTATION OF AIR
QUALITY MONITORING RESULTS**

1-hr TSP Concentration Levels



Title Contract No. DC/2009/24 HATS 2A – Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau Graphical Presentation of 1-hour TSP Monitoring Results	Scale N.T.S	Project No. MA11060	CINOTECH
	Date Sep 18	Appendix E	

24-hr TSP Concentration Levels

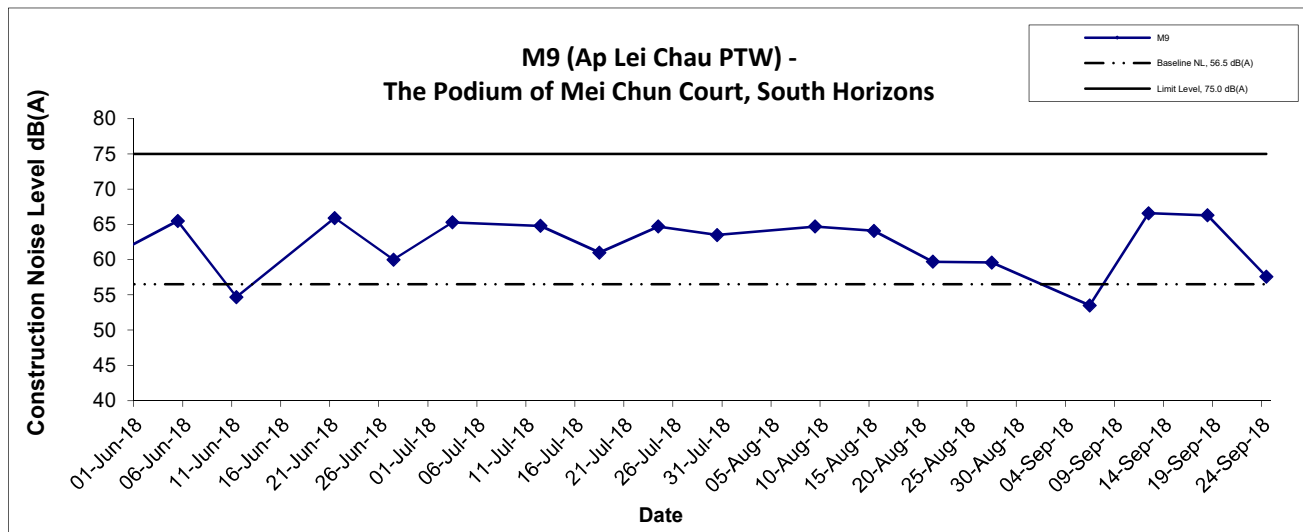
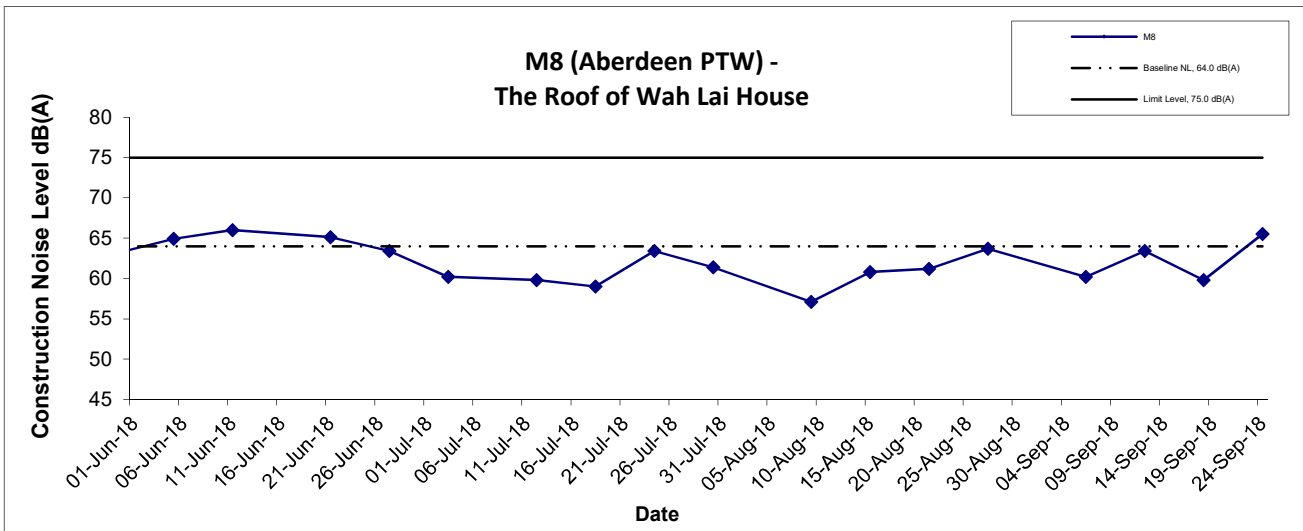
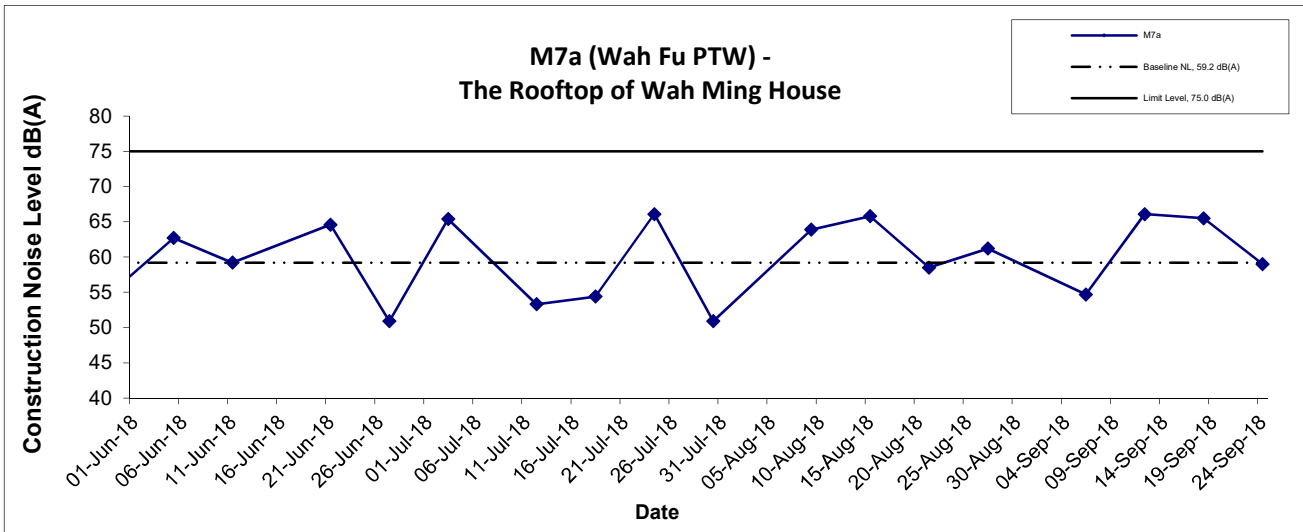


Title Contract No. DC/2009/24 HATS 2A – Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau Graphical Presentation of 24-hour TSP Monitoring Results	Scale	N.T.S	Project No.	MA11060	CINOTECH
	Date	Sep 18	Appendix	E	

**APPENDIX F
GRAPHICAL PRESENTATION OF
NOISE MONITORING RESULTS**

Noise Levels

(0700-1900 hrs on Normal Weekdays)



Title Contract No. DC/2009/24 HATS 2A – Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Abredeen and Ap Lei Chau Graphical Presentation of Noise Monitoring Result	Scale N.T.S	Project No. MA11060	CINOTECH
	Date Sep 18	Appendix F	

**APPENDIX G
IMPLEMENTATION STATUS OF
ENVIRONMENTAL MITIGATION
MEASURES (EMIS)**

APPENDIX G IMPLEMENTATION SCHEDULE OF ENVIRONMENTAL MITIGATION MEASURES (EMIS)

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

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
B	Airborne Noise		
4.56– 4.61	Use of quiet PME, movable barriers and acoustic mats.	All construction sites	^
4.67	Only well-maintained plant shall be operated on-site and plant shall be serviced regularly during the construction program.		^
	Silencers or mufflers on construction equipment shall be utilized and shall be properly maintained during the construction program.		^
	Mobile plant, if any, shall be sited as far away from NSRs as possible.		^
	Machines and plant (such as trucks) that may be in intermittent use shall be shut down between works periods or shall be throttled down to a minimum.		^
4.67	Plant known to emit noise strongly in one direction shall, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.		^
	Material stockpiles and other structures shall be effectively utilized, wherever practicable, in screening noise from on-site construction activities.		^
C	Water Quality		
6.349 to 6.375	Construction Site Runoff and General Construction Activities The mitigation measures as outlined in the ProPECC PN 1/94 Construction Site Drainage should be adopted where applicable.	All construction sites	*
6.376	Effluent Discharge There is a need to apply to EPD for a discharge licence for discharge of effluent from the construction site under the WPCO. The discharge quality must meet the requirements specified in the discharge licence. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the WPCO license which is under the ambit of regional office (RO) of EPD. Minimum distances of 100 m should be maintained between the discharge points of construction site effluent and the existing saltwater intakes.		^
6.377	Accidental Spillage of Chemicals Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General)		^

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

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
D	Waste Management		
9.107	Reusable steel or concrete panel shutters, fencing and hoarding and signboard should be used as a preferred alternative to items made of wood, to minimize wastage of wood. Attention should be paid to WBTC No. 19/2001 - Metallic Site Hoardings and Signboards to reduce the amount of timber used on construction sites. Metallic alternatives to timber are readily available and should be used rather than new timber. Precast concrete units should be adopted wherever feasible to minimize the use of timber formwork.	All construction sites	^
9.109	All waste materials should be segregated into categories covering: <ul style="list-style-type: none"> • excavated materials suitable for reuse on-site; • excavated materials suitable for public filling facilities; • remaining C&D waste for landfill; • chemical waste; and • general refuse for landfill. 	All construction sites	^
9.113	Sort C&D waste from demolition of existing facilities to recover recyclable portions such as metals.	All construction sites	^
	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 minimize 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.	All construction sites	^
	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.	All construction sites	^
	Provision of sufficient waste disposal points and regular collection of waste.		^
	Regular cleaning and maintenance programme for drainage systems, sumps and oil		^

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

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

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

**APPENDIX H
SUMMARY OF ENVIRONMENTAL
LICENSES AND PERMITS**

Appendix H - Summary of Environmental Licenses and Permits

Permit Number	Valid Period		Details	Status
	From	To		
Water Discharge License				
WT000116 29-2012	N/A	31/1/2017	Location: Sandy Bay PTW	Expiry
WT000116 33-2012	N/A	31/1/2017	Location: Cyber Port PTW	
WT000116 32-2012	N/A	31/1/2017	Location: Ap Lei Chau	
WT000279 53-2017	N/A	31/3/2022	Location: Aberdeen PTW	Valid
WT000168 37-2013	N/A	31/8/2018	Location: Wah Fu PTW	Valid until 31/8/2018
Notification of Works Under APCO				
334694	6/9/2011	N/A	All PTWs	N/A
Registered Chemical Waste Producer				
5218-171- L2783-01	14/12/2011	N/A	Location: Sandy Bay PTW	Valid
5218-171- L2783-02	30/12/2011	N/A	Location: Cyber Port PTW	
5218-174- L2783-03	30/12/2011	N/A	Location: Ap Lei Chau	
5218-173- L2783-04	30/12/2011	N/A	Location: Aberdeen PTW	
5218-172- L2783-05	30/12/2011	N/A	Location: Wah Fu PTW	
Special Waste Admission Ticket				
14077	24/11/2017	23/11/2018	Location: Ap Lei Chau	Valid
14078	24/11/2017	23/11/2018	Location: Aberdeen PTW	Valid
14076	24/11/2017	23/11/2018	Location: Wah Fu PTW	Valid

**APPENDIX I
SUMMARY OF AMOUNT OF WASTE
GENERATED IN THE REPORTING
PERIOD**

Name of Department: DSD

Name of Contract : Harbour Area Treatment Scheme Stage 2A – Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Ap Lei Chau and Aberdeen

Contract No. : DC/2009/24

APPENDIX I MONTHLY SUMMARY WASTE FLOW TABLE FOR 2018 (YEAR)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rock and 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	Special Waste
	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000m ³]	[in '000ton]
Year2012	1.002910	0.000000	0.000000	0.000000	1.002910	0.000000	6.680000	0.070000	0.070000	0.100000	0.014000	2.406456
Year2013	4.264035	0.000000	0.000000	0.000000	4.264035	0.000000	10.750000	0.000000	0.000000	0.350000	0.064890	2.232710
Year2014	4.639730	0.000000	0.000000	0.000000	4.639730	0.000000	0.000000	0.000000	0.000000	0.450000	0.145370	1.832460
Year2015	5.361825	0.000000	0.000000	0.000000	5.361825	0.000000	0.000000	0.000000	0.031000	0.050000	0.461870	1.082870
Year 2016	5.172790	0.000000	0.000000	0.060000	5.112790	0.000000	0.000000	0.000000	0.000000	0.000000	0.757580	0.980878
Year 2017	2.542090	0.000000	0.000000	0.000000	2.542090	0.000000	0.000000	0.000000	0.000000	0.000000	0.616240	1.742880
JAN	0.239	0	0	0	0.239	0	0	0	0	0	0.00617	0.17093
FEB	0.187	0	0	0	0.187	0	0	0	0	0	0.0047	0.20467
MAR	0.077	0	0	0	0.077	0	0	0	0	0	0.01591	0.20888
APR	0.041	0	0	0	0.041	0	0	0	0	0	0.02656	0.23709
MAY	0.123	0	0	0	0.123	0	0	0	0	0	0.014	0.25325
JUNE	0.21225	0	0	0	0.21225	0	0	0	0	0	0.01133	0.22547
SUB-TOTAL	23.862630	0.000000	0.000000	0.060000	23.802630	0.000000	17.430000	0.070000	0.101000	0.950000	2.138620	11.578544
JULY	0.0457	0	0	0	0.0457	0	0	0	0	0	0.0184	0.15774
AUG	0.126	0	0	0	0.126	0	0	0	0	0	0.02255	0.17511
SEPT	0.0427	0	0	0	0.0427	0	0	0	0	0	0.03447	0.15481
OCT	0	0	0	0	0	0	0	0	0	0	0	0
NOV	0	0	0	0	0	0	0	0	0	0	0	0
DEC	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	24.077030	0.000000	0.000000	0.060000	24.017030	0.000000	17.430000	0.070000	0.101000	0.950000	2.214040	12.066204

Forecast of Total Quantities of C&D materials to be Generated from the Contracts *

Total Quantity Generated	Hard Rock and 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	Special Waste
[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000m ³]	[in '000ton]
28.774	1.544	1.73	0.06	25.44	0	30	1	1	4	2.77	12.2

- Notes :
- The performance targets are given in PS Clause 6(14).
 - Plastics refer to plastic bottles / containers, plastic sheets / foam from packaging material.
 - The contractor shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the Works, together with a breakdown of the nature where to total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000m³. (PS Clause 5(4)(b) refers).
[Delete Note (4) and the table above on the forecast, where inapplicable].
 - The assumed density (kg/m³) for both C&D material and general refuse.
C&D material 2000kg/m³
General refuse 1.0 tonnes/m³
 - Conversion factors for reporting purpose:
in-situ: rock = 2.5 tonnes/m³ ; soil = 2.0 tonnes/m³
excavated: rock = 2.0 tonnes/m³ ; soil = 1.8 tonnes/m³
broken concrete and bitumen = 2.5 tonnes/m³
C&D Waste = 1.0 tonnes/m³
bentonite slurry = 2.8 tonnes/m³
Paper = 800kg/m³
Chemical = 800kg/m³
Special waste = 0.6m³ / container

**APPENDIX J
COMPLAINT LOG**

APPENDIX J – COMPLAINT LOG

Reporting Period: July to September 2018

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

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

APPENDIX K
SUMMARY OF EXCEEDANCE

APPENDIX K – SUMMARY OF EXCEEDANCE

Reporting Period: July to September 2018

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