


Build King (Zens) Engineering Ltd.

**Contract No. DC/2009/20
HATS Stage 2A – Demolition of
Chemically Enhanced Primary
Treatment Tanks and Associated
Facilities at Cyberport Sewage
Treatment Works**

**Quarterly Environmental
Monitoring and Audit Report
March to May 2017**

(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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Sewage Services Branch
Harbour Area Treatment Scheme Division
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Attn: Mr. Danny Tang

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

Our Reference
GCB/AFK/DC/bw/
T261332/22.01/L-1213

**Contract No. DC/2009/20 – Demolition of Chemically Enhanced Primary
Treatment Tanks and Associated Facilities at Cyberport Sewage Treatment
Works**

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Submission of 3rd Quarterly EM&A Report for March to May 2017 (v1.0)

14 June 2017

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Dear Sir,

We refer to the captioned Quarterly EM&A Report for March to May 2017 (v1.0)
received on 13 June 2017 and confirm that we have no comment.

Yours faithfully
for MOTT MACDONALD HONG KONG LIMITED



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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 3rd Quarterly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Limited for DSD Contract No. DC/2009/20 “HATS Stage 2A – Demolition of Chemically Enhanced Primary Treatment Tanks and Associated Facilities at Cyberport Sewage Treatment Works” (The Project) which documents the key information of EM&A of Contract No. DC/2009/20 and environmental monitoring results from Contract DC/2009/24 HATS Stage 2A with same Environmental Permit (Permit No. EP-322/2008/G) for March to May 2017.
2. The site activities undertaken for in the reporting quarter included:

March 2017:

- Backfilling works of CEPT Tank, Backfilling of Sludge Holding Tank, Backfilling works of Sludge Dewatering Building, Coring of wall opening for installation of DN700 DI Pipe.

April 2017:

- Backfilling works of CEPT Tank, Backfilling of Sludge Holding Tank, Backfilling works of Sludge Dewatering Building, Construction of MH-4 and installation of DN700 DI pipes..

May 2017:

- Backfilling works of CEPT Tank, Backfilling of Sludge Holding Tank, Backfilling works of Sludge Dewatering Building, Construction of MH-4 and installation of DN700 DI pipes.

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.
4. 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	0	0	0	0	N/A
	24-hr TSP	0	0	0	0	N/A
M6a	Noise (Day Time)	0	0	0	0	N/A

1-hour TSP Monitoring

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

24-hour TSP Monitoring

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

Construction Noise

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

Environmental Complaint and Prosecution

8. There was no environmentally related summons, prosecutions or complaints received for the Project in the reporting quarter. The Complaint Log is presented in **Appendix G**.

Environmental Licenses and Permits

9. Licenses/Permits granted to the Project include the Environmental Permit (EP), Water Discharge License and Registered as a Chemical Waste Producer for Cyberport PTW site.

Future Key Issues:

10. Major site activities for the coming two months include:
- Construction works of road and drainage works..
11. The environmental concerns in coming months are mainly on chemicals storage, surface run off, spillage of wastewater and dust generated from the construction works.

1. INTRODUCTION

Background

- 1.1 The Project ‘HATS Stage 2A – Demolition of Chemically Enhanced Primary Treatment Tanks and Associated Facilities at Cyberport Sewage Treatment Works’ with Contract No: DC/2009/20 mainly comprises the following major works:
 - The construction of intercept chamber and flume channel and decommissioning of existing CEPT tanks at Cyberport Sewage Treatment Works.
- 1.2 The site area of the Project is located within the Cyberport Preliminary Treatment Works (PTW) site. 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 updated environmental permit (Permit No. EP-322/2008/G) was issued on 9th May 2014 to the Drainage Services Department (hereinafter called DSD) as the Permit Holder.
- 1.4 Build King (Zens) Engineering Ltd (hereafter called Build King) was commissioned by the DSD to undertake the construction of the Contract No. DC/2009/20 “Demolition of Chemically Enhanced Primary Treatment Tanks and Associated Facilities at Cyberport Sewage Treatment Works”.
- 1.5 Cinotech Consultants Limited was commissioned by Build King 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 were commenced on 12th September 2016.
- 1.7 The construction phase of EM&A programme of the Project commenced in September 2016.
- 1.8 This is the 3rd quarterly EM&A report summarizing the EM&A works conducted for the Project in March to May 2017.

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 – Build King (Zens) Engineering Ltd.
 - 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:

March 2017:

- Backfilling works of CEPT Tank, Backfilling of Sludge Holding Tank, Backfilling works of Sludge Dewatering Building, Coring of wall opening for installation of DN700 DI Pipe.

April 2017:

- Backfilling works of CEPT Tank, Backfilling of Sludge Holding Tank, Backfilling works of Sludge Dewatering Building, Construction of MH-4 and installation of DN700 DI pipes..

May 2017:

- Backfilling works of CEPT Tank, Backfilling of Sludge Holding Tank, Backfilling works of Sludge Dewatering Building, Construction of MH-4 and installation of DN700 DI pipes.

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 Contract No. DC/2009/24.

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 E**.

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 I**.
- 4.3 **Table 4.1** summarizes the dust monitoring results which were extracted from the monthly reports for the Contract No. DC/2009/24.

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					
March 2017	CM_CB1a	137	82-218	280	500
April 2017	CM_CB1a	115	30-261		
May 2017	CM_CB1a	107	17-273		
24 hours TSP					
March 2017	CM_CB1a	101	69-130	178	260
April 2017	CM_CB1a	78	52-119		
May 2017	CM_CB1a	65	53-75		

Noise

- 4.4 All construction noise monitoring was conducted as scheduled in the reporting quarter.
- 4.5 No Action/Limit Level exceedance was recorded in the reporting quarter. Summary of exceedance is presented in **Appendix I**.
- 4.6 **Table 4.2** summarizes the noise monitoring results which were extracted from the monthly reports for Contract No. DC/2009/24.

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.)
March 2017	M6a	53-55 ⁽¹⁾	75.0
April 2017	M6a	49-56 ⁽¹⁾	
May 2017	M6a	51-56 ⁽¹⁾	

Remark: (1) Free-field measurement, +3dB correction.

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 E**.

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	170331-R01	Properly and regularly clear the sediment in the U-channel.	The sediment was cleared in the U-channel.
Air Quality	--	--	--
Waste/ Chemical Management	--	--	--
Landscape and Visual	--	--	--
Noise	--	--	--
Permit/ Licenses	--	--	--

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 F**.

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 March to May 2017 and is shown in **Appendix G**.

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 I**.
- 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 There was no environmental prosecution or notification of summons received in the reporting quarter. The updated Complaint Log is attached in **Appendix H**.

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:

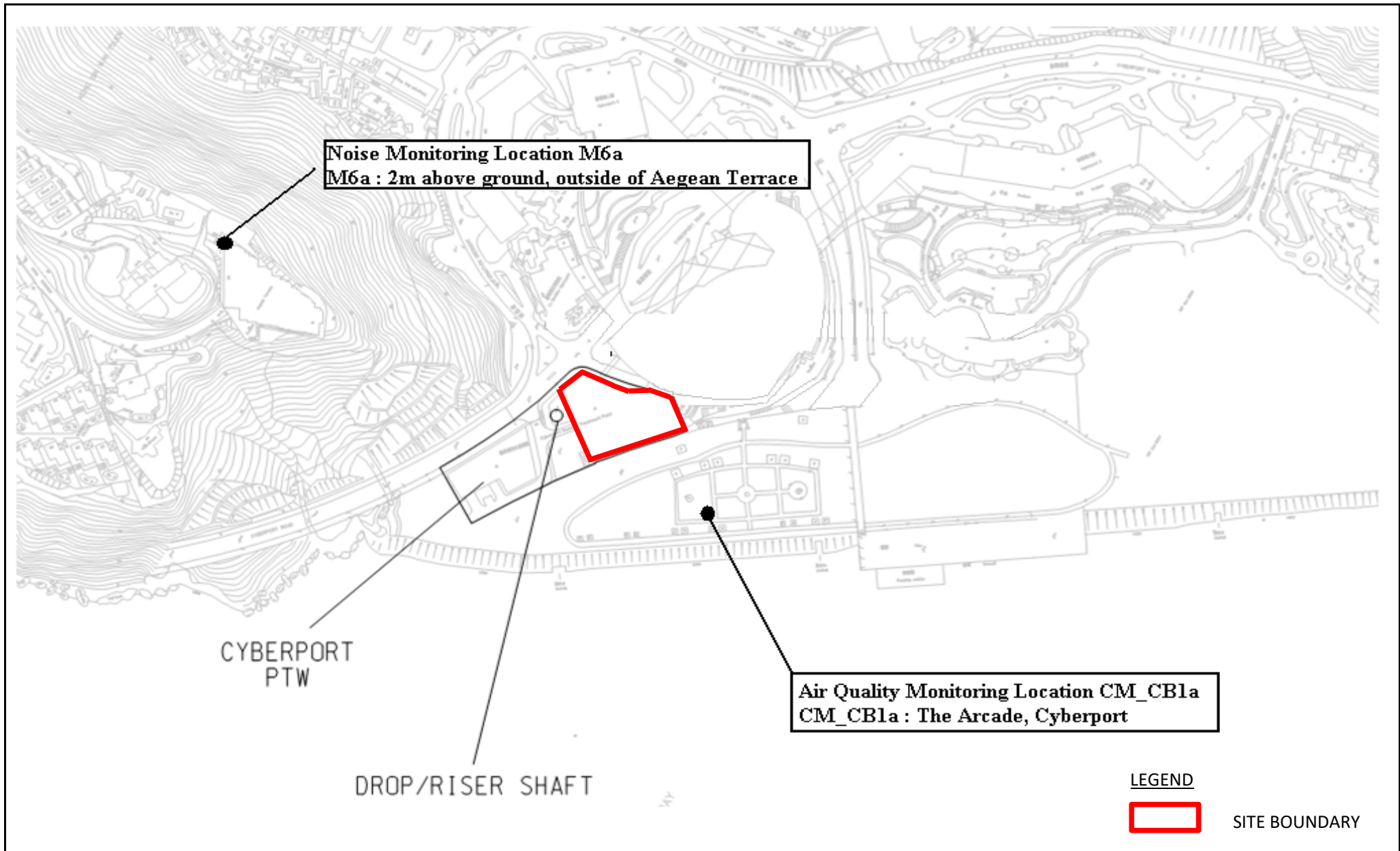
- Generation of dust from stockpiles of excavated and dusty materials, unpaved site area and vehicle movement, roadworks, excavation works and loading and unloading dusty materials on-site;
- Noise nuisance from operation of equipment and machinery on-site;
- Provision well maintenance on the storage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

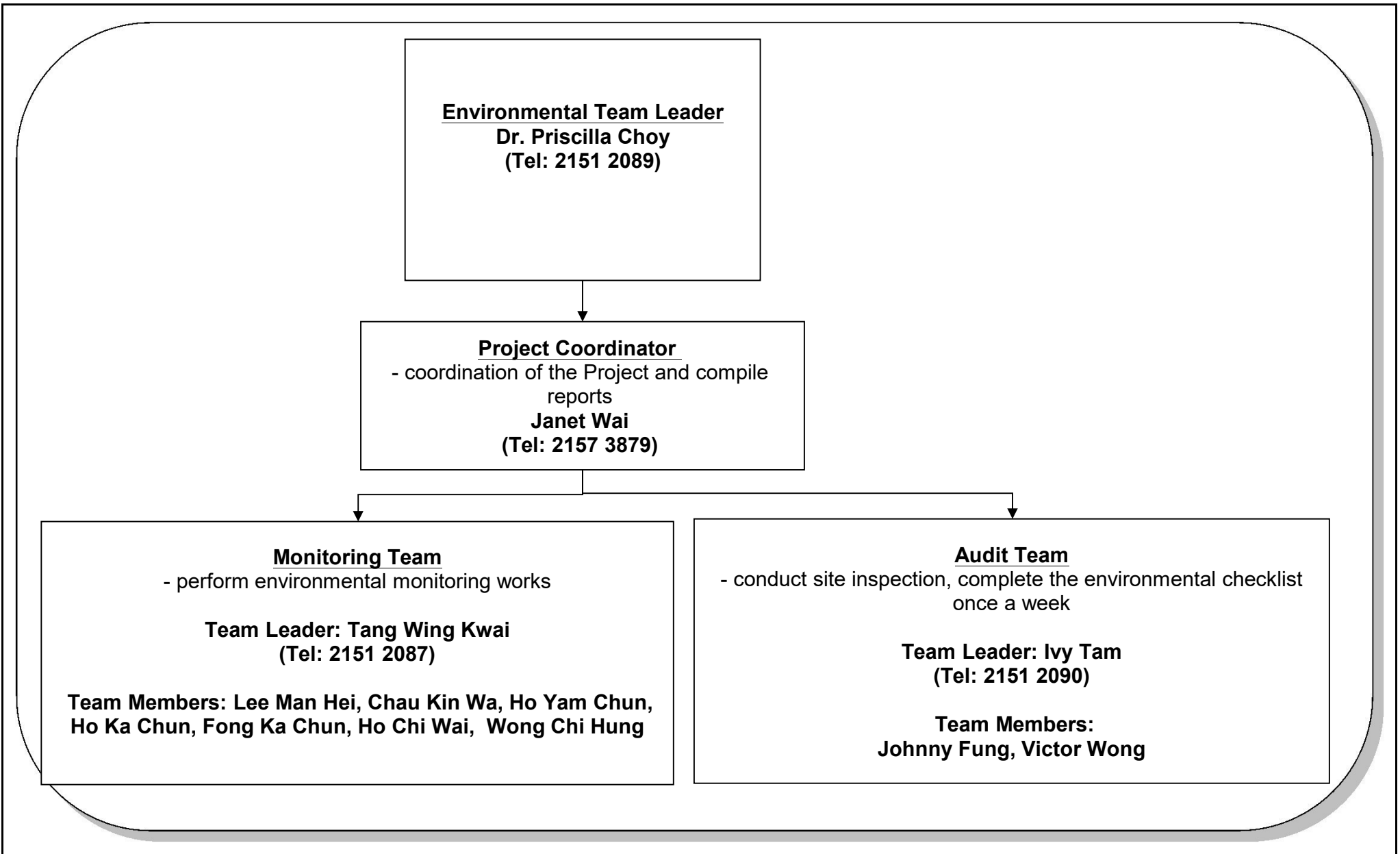
Water Quality

- To proper and regular clear the sediment in the U-channel in the site.

FIGURES



Title	Contract No: DC/2009/20	Scale	Project	CINOTECH
	HATS 2A - Demolition of Chemically Enhanced Primary Treatment Tanks and Associated Facilities at Cyberport Sewage Treatment Works	N.T.S	No. MA16041	
	General Location Plan of Cyberport PTW and Locations of Air Quality and Noise Monitoring Stations	Date	Figure	
		09/2016	1	



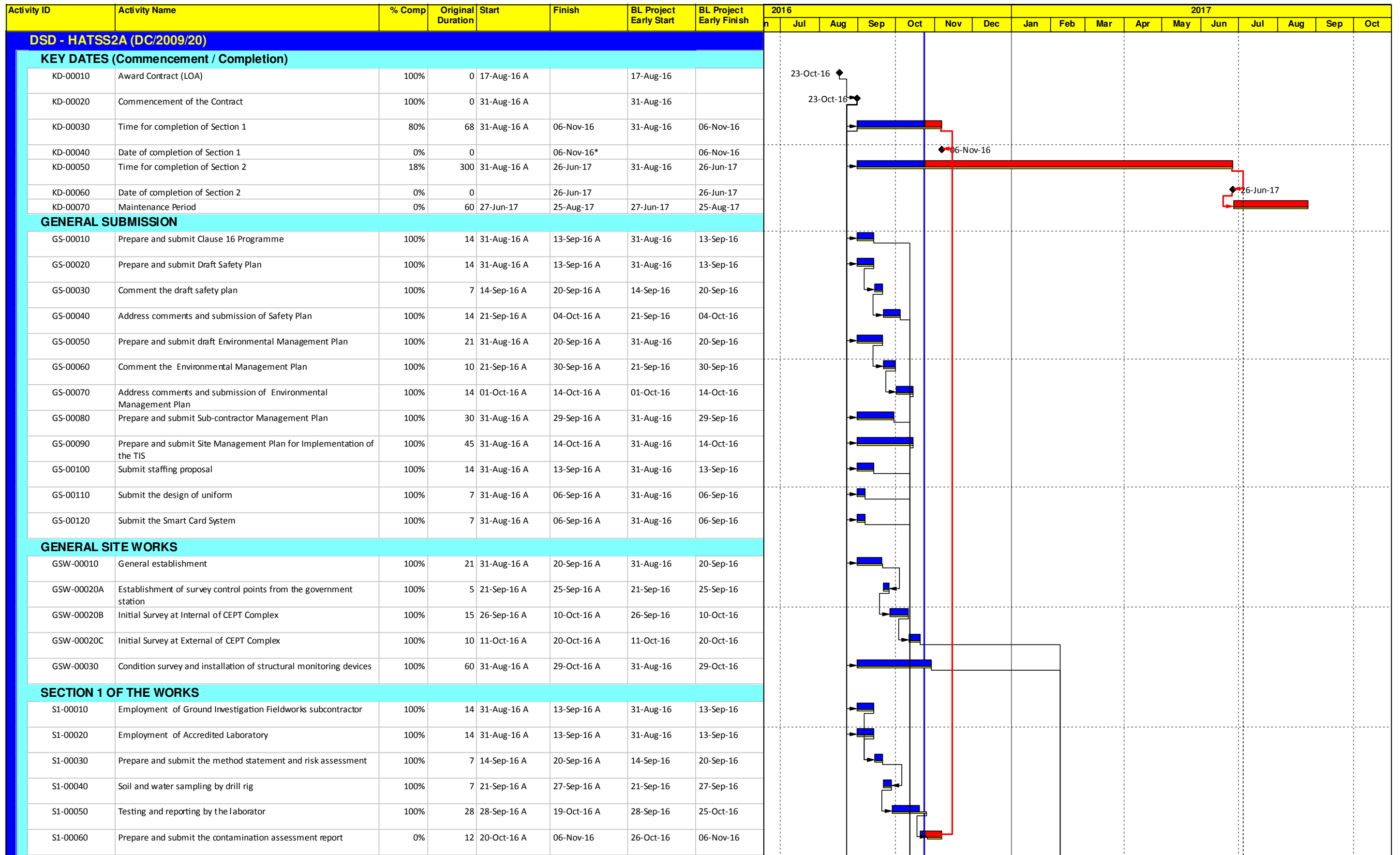
Title	Contract No. DC/2009/20 HATS Stage 2A – Demolition of Chemically Enhanced Primary Treatment Tanks and Associated Facilities at Cyberport Sewage Treatment Works ET's Organization Chart	Scale	N.T.S	Project No.	MA16041	CINOTECH
		Date	Sep-16	Figure	2	

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

Appendix A - Contact Details of the Project Organisation

Party	Role	Name	Position	Phone No.
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
Build King (Zens) Engineering Ltd.	Contractor	Mr. Alex Ng	Site Agent	9811 9079
		Mr. K.M. Cheung	Environmental Officer	9200 3015

APPENDIX B
CONSTRUCTION PROGRAMME



Start Date: 17-Aug-16
 Finish Date: 25-Aug-17
 Data Date: 23-Oct-16
 Run Date: 03-Nov-16

- Primary Baseline
- Actual Work
- Remaining Work
- Critical Remaining Work
- ◆ Milestone

DC/2009/20 - Harbour Area Treatment Scheme Stage 2A
 Demolition of Chemically Enhanced Primary Treatment Tanks and Associated Facilities at Cyberport Sewage Treatment Works
Update for the month of October 2016



Build King (ZENS) Civil Engineering Ltd.

**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
	24-hour TSP	Once / 6-day		
Noise	L _{eq} (30 min.) dB(A) (0700 to 1900 hrs. on weekdays)	Once / week	DC/2009/24	M6a ⁽¹⁾ (Cyberport PTW): Aegean Terrace

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.

**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

Table D-2 Action and Limit Level for Construction Noise

Monitoring Stations	Time Period	Action Level	Limit Level in dB(A)
M6a	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
IMPLEMENTATION STATUS OF
ENVIRONMENTAL MITIGATION
MEASURES (EMIS)**

APPENDIX E IMPLEMENTATION SCHEDULE OF ENVIRONMENTAL MITIGATION MEASURES (EMIS)

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

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
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	^
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.	All construction sites	^
			^
			^
			^
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.	All construction sites	^
			^
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.		^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
6.377	<p>Accidental Spillage of Chemicals</p> <p>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) Regulation should be observed and complied with for control of chemical wastes.</p>		^
6.378	<p>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.</p>		^
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. 	All construction sites	^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
	<ul style="list-style-type: none"> 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. 		
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	<p>All waste materials should be segregated into categories covering:</p> <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	<p>Sort C&D waste from demolition of existing facilities to recover recyclable portions such as metals.</p> <p>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.</p> <p>Encourage collection of aluminum 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.</p> <p>Any unused chemicals or those with remaining functional capacity shall be recycled.</p> <p>Proper storage and site practices to minimize the potential for damage or contamination of construction materials.</p>	All construction sites	^
9.115	<p>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.</p> <p>Training of site personnel in proper waste management and chemical waste handling procedures.</p>	All construction sites	^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
9.115	<p>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.</p> <p>Provision of sufficient waste disposal points and regular collection of waste.</p> <p>Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.</p>		^
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.		^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
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
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.		N/A
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.		N/A
	Trees unavoidably affected by the works should be transplanted where practical.		N/A
	Compensatory tree planting should be provided to compensate for felled trees.		N/A
	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	^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
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 F
SUMMARY OF ENVIRONMENTAL
LICENSES AND PERMITS**

Appendix F - Summary of Environmental Licenses and Permits

Permit Number	Valid Period		Details	Status
	From	To		
Water Discharge License				
WT000261 44-2016	N/A	30/11/2021	Location: Cyberport PTW	Valid
Notification of Works Under APCO				
N/A	N/A	N/A	N/A	N/A
Registered Chemical Waste Producer				
5292-171- B2497-01	11/10/2016	N/A	Location: Cyberport PTW	Valid

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

Name of Department: ~~ArchSD/CEDD/DSD/EMSD/HyD/WSD~~

Contract No.: DC/2009/20

Monthly Summary Waste Flow Table for 2016 (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 Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)
Jan											
Feb											
Mar											
Apr											
May											
June											
Sub-total											
July											
Aug											
Sept	0	0	0	0	0	0	25	0	0	0	0
Oct	0	0	0	0	0	0	40.1	0.2	0	0	0
Nov	0	0	0	0	0	0	163.69	0	0.2	0	0
Dec	0	0	1.0	0	0.052	0.06	129.27	0	0	0	0
Total	0	0	1.0	0	0.052	0.06	358.06	0.2	0.2	0	0

Name of Department: ~~ArchSD/CEDD/DSD/EMSD/HyD/WSD~~

Contract No.: DC/2009/20

Monthly Summary Waste Flow Table for 2017 (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 Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)
Jan	0	0	0.4	0	0	0	0	0	0	0	10.31
Feb	0	0	0.55	0	0.068	0	47.55	0	0	0	15.03
Mar	0	0	0.05	0	0.487	0	0	0	0	0	19.12
Apr	0	0	0	0	0.016	0	0	0	0	0	5.53
May	0	0	0	0	0.069	0	0	0	0	0	1.81
June											
Sub-total											
July											
Aug											
Sept											
Oct											
Nov											
Dec											
Total	0	0	1.0	0	0.64	0	47.55	0	0	0	51.80

Forecast of Total Quantities of C&D Materials to be Generated from the Contract*										
Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)
0	0	2.0	0	0.8	0.06	466.11	0.2	0.2	0	52.62

- Notes:
- (1) The performance targets are given in PS Clause 25.41 (14).
 - (2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
 - (3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material
 - (4) The conversion factor of densities of rock and soil is 2.5 tonnes/m³ and 2.0 tonnes/m³ respectively.
 - (5) The conversion factor of densities of imported rock and soil is 2.0 tonnes/m³ and 1.8 tonnes/m³ respectively.

**APPENDIX H
COMPLAINT LOG**

APPENDIX H – COMPLAINT LOG

Reporting Quarter: March to May 2017

Cumulative complaints received:

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

Remarks: No environmental complaint was received in reporting quarter.

APPENDIX I
SUMMARY OF EXCEEDANCE

APPENDIX I – SUMMARY OF EXCEEDANCE

Reporting Quarter: March to May 2017

- a) Exceedance Report for 1-hr TSP (0)**
- b) Exceedance Report for 24-hr TSP (0)**
- c) Exceedance Report for Construction Noise on normal week days (0)**