# China Harbour Engineering Company Limited

### Contract No. DC/2007/20

Harbour Area Treatment Scheme Stage 2A – Construction of Advance Disinfection Facilities at Stonecutters Island Sewage Treatment Works

Environmental Monitoring and Audit

Quarterly Report (Version 1) for

July to September 2009

(Environmental Team Leader)
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REMARKS:

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

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## **EXECUTIVE SUMMARY**

# Introduction

- This is the 5<sup>th</sup> Quarterly Environmental Monitoring and Audit (EM&A) Summary Report prepared by Cinotech Consultants Limited (the Environmental Team, ET) for Contract No. DC/2007/20 "Harbour Area Treatment Scheme Stage 2A – Construction of Advance Disinfection Facilities at Stonecutters Island Sewage Treatment Works" (the Project). This report documents the findings of EM&A Works conducted in the period between July and September 2009.
- 2. The construction works for Portions 1 & 2 and Portions 3 & 4 of the Project were commenced on 18<sup>th</sup> July 2008 and 18<sup>th</sup> September 2008 respectively.
- 3. The major site activities undertaken in the reporting quarter included:
  - Installation works for Switch Room no.1, 2 and 3;
  - Fiber Reinforced Plastic (FRP) works of open mesh flooring, handrail, toe-board and cat-ladder at Day Tank Storage Area and Dechlorination Plant;
  - Fire Service (FS) and Electrical and Mechanical (E&M) works at Switch Room no.3, Uninterruptible Power Supply (UPS) Battery Room;
  - Installation works for dosing pumps at Dechlorination Plant;
  - Installation works for chemical pipes at Day tank Storage Area and Dechlorination Plant;
  - Painting works for protective coating inside sump pit, wash-out chamber and bund wall;
  - Water test for steel tanks and FRP tanks;
  - Sand blasting inside steel tanks for internal lining.
  - Pipework of E&M works will be continuous to install at Day Tank Storage Area, Dechlorination Plant and pipe trench;
  - Internal lining for steeling tanks will be applied continuously
  - Diversion of existing DN250 watermain near Washout Chamber no.2 will be continuous
  - Pumps and pipework of E&M works at Sodium Hypochlorite Storage Compound will be continued to install
  - Canopy over unloading bay at Sodium Hypochlorite Storage Compound will be installed; and
  - Laying cable and installing Building Service (BS) and FS services will be continuous.

# **Environmental Monitoring and Audit Works**

- 4. Environmental monitoring and audit works for the Project was performed regularly in accordance with the Final EM&A Manual and the results were checked and reviewed. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.
- 5. Summary of the events and action taken in the reporting quarter is tabulated in Table I.

Parameter	No. of Ex	ceedance	No. of Event	Action Taken	
I al alletel	Action Level	Limit Level	Due to this Project		
1-hr TSP	0	0	0	N/A	
24-hr TSP	0	0	0	N/A	

## Table I Summary Table for Event Recorded in the Reporting Quarter

## 1-hr TSP Monitoring

6. All 1-hour TSP monitoring was conducted at AM1 as scheduled in the reporting quarter. No Action / Limit Level exceedance was recorded.

# 24-hr TSP Monitoring

7. All 24-hour TSP monitoring was conducted at AM1 as scheduled in the reporting quarter. No Action / Limit Level exceedance was recorded.

# **Environmental Complaint and Prosecution**

8. No environmental complaint, prosecution or notification of summons was received in this reporting quarter.

# **Environmental Licensing and Permitting**

9. Environmental related licenses/permits granted to the Project include the Environmental Permit (EP), Chemical Waste Producer License, a billing account for Disposal of construction waste, Waste Water Discharge License and Construction Noise Permit (CNP).

# Key Information in the Reporting Quarter

10. Summary of key information in this reporting quarter is tabulated in Table II.

Table II	Summary Table for Key Information in the Reporting Quarter
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Evert	F	Event Details		<b>S</b> 4-4	Domonia
Event	Number	Nature	Action Taken	Status	Remark
Complaint received	0		N/A	N/A	
Changes to the assumptions and key construction / operation activities recorded	0		N/A	N/A	
	4	Monthly EM&A Report for July 09 (Version 1.1)	Submitted to EPD on 14 <sup>th</sup> August 2009 (EP condition 4.4).	No comment	
Status of submissions		Quarterly EM&A Report for Jan to Feb 09 (Version 1.0)	Submitted to EPD on 2 <sup>nd</sup> June 2009 (Final EM&A Manual Section 10.2 & 10.10).	No comment	
under EP		Monthly EM&A Report for August 09 (Version 1.0)	Submitted to EPD on 10 <sup>th</sup> September 2009 (EP condition 4.4).	No comment	
		Monthly EM&A Report for September 09 (Version 2.0)	Submitted to EPD on 14 <sup>th</sup> October 2009 (EP condition 4.4).	No comment	
Notifications of any summons & prosecutions	0		N/A	N/A	

### **Future Key Issues**

- 11. Major site activities for the coming quarter include:
  - Surface runoff from the Site area due to construction works and rain;
  - Formation of ponding/ stagnant water on site;
  - Dust emission from concrete breaking, excavation and loading and unloading dusty materials;
  - Noise nuisance from operation of equipment and machinery on site;
  - Maintenance of de-silting facilities and drainage system, such as U-channels;
  - Storage of chemicals/fuel and chemical waste/waste oil on site;
  - Larviciding against mosquito breeding in stagnant water should be carried out at least on a weekly basis; and
  - Accumulation of C&D waste and general waste on site.

12. The future environmental concerns will be mainly on dust emission from concrete breaking, excavation works and wind erosion due to dry and windy weather; ponding water and surface runoff due to rain; and management on waste generated from the works above.

# 1 INTRODUCTION

# Background

- 1.1 "Harbour Area Treatment Scheme Stage 2A - Construction of Advance Disinfection Facilities at Stonecutters Island Sewage Treatment Works" (hereinafter called the "the Project") under Contract No. DC/2007/20 is a Designated Project under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO). A Final Environmental Impact Assessment (EIA) Report has been prepared in July 2007 to consider the key issues of noise, air quality, water quality, ecological, construction waste and human health risk, and identify possible mitigation measures. The Final EIA Report was endorsed by Environmental Protection Department (EPD) on 8 November 2007 and was included in the EIA register under the EIAO as report no. AEIAR-113/2007. Environmental Monitoring and Audit (EM&A) Manual for the Final EIA Report was also included as part of the Final EIA report in the register. An Environmental Permit (EP) No. EP-295/2007 was issued on 3<sup>rd</sup> December 2007 for the Project "Harbour Area Treatment Scheme – Provision of Disinfection Facilities at Stonecutters Island Sewage Treatment Works" to the Drainage Services Department (DSD) as Permit Holder. A Variation Environmental Permit (VEP) No. EP-295/2007/A was issued on 20<sup>th</sup> May 2009 for the variation of condition 1.7 and 3.6 of Pact C. This Project comprises the Construction Phase of the Project "Harbour Area Treatment Scheme - Provision of Disinfection Facilities at Stonecutters Island Sewage Treatment Works".
- 1.2 The Project comprises mainly the construction of the advance disinfection facilities (ADF) include:

(a) Chlorination system - provision of a sodium hypochlorite solution storage farm and associated dosing system; and

(b) Dechlorination system - provision of a sodium bisulphite storage and associated dosing system.

- 1.3 The Project site layout plan is shown in **Figure 1.1.**
- 1.4 The Project will be constructed within the existing sewage treatment works on Stonecutters Island (SCISTW), which is providing Chemically Enhanced Primary Treatment (CEPT) for 1.4 million cubic metres of sewage collected each day through deep tunnels from the HATS Stage 1 catchments (i.e. the whole of Kowloon peninsula, Tseung Kwan O, Kwai Chung, Tsing Yi, Chai Wan and Shau Kei Wan). The design treatment capacity of the SCISTW is 1.7 million cubic metres per day. At present, the plant has no disinfection facility and the CEPT treated effluent is now discharged to the waters southwest of Stonecutters Island through a 1.7 km long outfall.
- 1.5 The chlorination system of the disinfection facilities would be located within the site boundary of the existing SCISTW (Figure 1.1 refers). The dechlorination plant would be located adjacent to the existing chamber no. 15 (Figure 1.1 refers) at the western end of Container Port Road South.

- 1.6 China Harbour Engineering Company Limited (CHEC) was awarded as the main contractor (hereinafter called "the Contractor") of the Project. Cinotech Consultants Limited (Cinotech) was commissioned by CHEC as the Environmental Team (ET). Dr. Priscilla CHOY of Cinotech was appointed as the ET Leader of the Project in accordance with EP Condition 2.1. Hyder Consulting Limited (Hyder) was employed by DSD to undertaken Independent Environmental Checker (IEC) services of the Project and Mr. Antony Wong of Hyder was appointed as the IEC under EP Condition 2.2.
- 1.7 The construction works for Portions 1 & 2 and Portions 3 & 4 of the Project were commenced on 18<sup>th</sup> July 2008 and 18<sup>th</sup> September 2008 respectively.
- 1.8 This is the 5<sup>th</sup> quarterly EM&A summary report summarizing the EM&A works conducted for the Project between July and September 2009.

# 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/ Permit Holder Drainage Services Department (DSD)
  - Engineer's Representative (ER) Ove Arup & Partners Hong Kong Ltd. (ARUP)
  - Contractor China Harbour Engineering Company Limited (CHEC)
  - Environmental Team (ET) Cinotech Consultants Ltd. (Cinotech)
  - Independent Environmental Checker (IEC) Hyder Consulting Limited (Hyder)
- 2.2 The organization chart and key contacts of the Project are shown in **Appendix A and Figure 1.3**.

# **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:
  - Installation works for Switch Room no.1, 2 and 3;
  - Fiber Reinforced Plastic (FRP) works of open mesh flooring, handrail, toe-board and cat-ladder at Day Tank Storage Area and Dechlorination Plant;
  - Fire Service (FS) and Electrical and Mechanical (E&M) works at Switch Room no.3, Uninterruptible Power Supply (UPS) Battery Room;
  - Installation works for dosing pumps at Dechlorination Plant;
  - Installation works for chemical pipes at Day tank Storage Area and Dechlorination Plant;
  - Painting works for protective coating inside sump pit, wash-out chamber and bund wall;
  - Water test for steel tanks and FRP tanks;
  - Sand blasting inside steel tanks for internal lining.
  - Pipework of E&M works will be continuous to install at Day Tank Storage Area, Dechlorination Plant and pipe trench;
  - Internal lining for steeling tanks will be applied continuously
  - Diversion of existing DN250 watermain near Washout Chamber no.2 will be continuous
  - Pumps and pipework of E&M works at Sodium Hypochlorite Storage Compound will be continued to install
  - Canopy over unloading bay at Sodium Hypochlorite Storage Compound will be installed; and
  - Laying cable and installing Building Service (BS) and FS services will be continuous.

## 3 ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENTS

### Monitoring Parameters and Monitoring Locations

- 3.1 The Final EM&A Manual designated locations for the ET to monitor environmental impacts in terms of air quality and noise due to the Project. The Project area and monitoring location are depicted in **Figure 1.2**. Appendix C gives details of monitoring requirements.
- 3.2 Due to the sensitivity of the military installations within Barracks building, the People's Liberation Army (PLA) had declined ET's request for setting up the air quality monitoring station AM2 (Ngong Shuen Chau Barracks Group 2) and construction noise monitoring station NM1 (Barracks Buildings). Considering there is no other sensitive receiver within the EIA study area (500m from the Project site boundary of Portions 3 & 4 for Air Quality and 300m from the Project site boundary of Portions 3 & 4 for Air Quality and 300m from the Project site boundary of Portions 3 & 4 for Noise) and no significant environmental impact form the project is anticipated, the ET Leader proposed to cancel all environmental monitoring works at the designated monitoring stations AM2 and NM1. The proposal has been verified by IEC on 19<sup>th</sup> August 2008 and approved by EPD on 2<sup>nd</sup> September 2008.
- 3.3 Only air quality monitoring (1-hour & 24-hour TSP) at AM1 (Rooftop, Block A of Government Dockyard) will be conducted for the project.

### Monitoring Methodology and Calibration Details

3.4 Monitoring works/equipments were conducted/calibrated regularly in accordance with the Final EM&A Manual. Copies of calibration certificates are attached in the appendices of the Monthly Reports.

#### **Environmental Quality Performance Limits (Action and Limit Levels)**

3.5 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**

- 3.6 Relevant mitigation measures as recommended in the project EIA report have been stipulated in the Final EM&A Manual for the Contractor to implement. A summary of the Environmental Mitigation Implementation Schedule (EMIS) is given in **Appendix F**.
- 3.7 In accordance with the Final EM&A Manual, site audit shall be carried out by ET on weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site.

# 4 MONITORING RESULTS

# Weather Conditions

4.1 The weather conditions during monitoring sessions were cloudy and sunny. The weather conditions for each individual monitoring session were presented in the field record sheets.

# Air Quality

1-hr TSP Monitoring

- 4.2 All 1-hour TSP monitoring at AM1 (Rooftop, Block A of Government Dockyard) were conducted as scheduled in the reporting quarter.
- 4.3 The results of 1-hour TSP ranged between  $15\mu g/m^3$  and  $246\mu g/m^3$  in the reporting quarter. No Action/Limit Level exceedance was recorded.

24-hr TSP Monitoring

- 4.4 All 24-hr TSP monitoring at AM1 (Rooftop, Block A of Government Dockyard) were conducted as scheduled in the reporting quarter.
- 4.5 The results of 24-hour TSP ranged between  $20\mu g/m^3$  and  $79\mu g/m^3$  in the reporting quarter. No Action/Limit Level exceedance was recorded.
- 4.6 The monitoring data of 1-hr and 24-hr TSP Levels were attached in the appendices of the Monthly Reports for July to September 2009. The graphical presentations of the monitoring results for the reporting quarter are shown in **Appendix E**.
- 4.7 The summary of the 1-hr and 24-hr TSP exceedance is shown in Appendix I.

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## 5 ENVIRONMENTAL AUDIT

### **Implementation Status of Environmental Mitigation Measures**

5.1 The implementation status of environmental mitigation measures (EMIS) is given in Appendix F.

## 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.

Parameters	Date	Observations and Recommendations	Follow-up
Water Quality	08 Jul 09	<u>Observation</u> Stagnant water was observed at day tank storage area. Contractor was reminded to clear it as soon as possible against mosquito breeding.	The situation was observed improved/ rectified in audit session 90715
	ObservationSand was accumulated in U-channel at day tankstorage area. Contractor was reminded to clear itfor the protection of drainage system		The situation was observed improved/ rectified in audit session 90720
		<u>Observation</u> Ponding water was observed at NaOCl Storage Compound, day tank storage area, water barrier and chamber 15. The contractor was reminded to remove it.	This situation was followed up in the site audit on 20-7-09
	15 Jul 09	Observation Sand and general refuse were accumulated in U- Channel at chamber15. Contractor was reminded to clear it for protection of drainage system.	This situation was followed up in the site audit on 20-7-09.
		<u>Reminder</u> Sand was accumulated in U-channel at day tank storage area. Contractor was reminded to clear it for the protection of drainage system.	The situation was observed improved/ rectified in audit session 90720
	20 Jul 09	Observation Ponding water was observed at NaOCl Storage Compound, Day Tank Storage Area, and Chamber 15. The contractor was reminded to clear it as soon as possible after rain	This situation was followed up in the site audit on 12-8-09
		<u>Observation</u> Sand and general refuse were still accumulated in U-Channel at chamber15. Contractor was reminded to tidy up for protection of drainage system.	The situation was observed improved/ rectified in audit session 90805.

 Table 5.1
 ET's Observations and Recommendations of Site Audits

Parameters	Date	Observations and Recommendations	Follow-up
		<u>Observation</u> Treated effluent was flowed on the public road near site office. Contractor was reminded to connect the pipe to the gullies.	The situation was observed improved/ rectified in audit session 90730.
	30 July 09	<u>Observation</u> Stagnant water was accumulated on the uneven road surface at NaOCl Storage Area. Contractor was reminded to clear it.	This situation was followed up in the site audit on 05-8-09.
		<u>Observation</u> Formation of stagnant water was still observed on the uneven road surface at NaOCl Storage Area. Contractor was reminded to clear it as soon as possible.	The situation was observed improved/ rectified in audit session 90812
	05 Aug 09	<u>Observation</u> Stagnant water was still accumulated at Chamber 15. Contractor was reminded to clear it for the preventive of mosquito breeding.	The situation was observed improved/ rectified in audit session 90819
		<i><u>Observation</u></i> Ponding water should be cleared after the rain.	The situation was observed improved/ rectified in audit session 90812
	12 Aug 09	<u>Observation</u> Silt was closed to the drainage at Day Tank Storage Area. Contractor was reminded to clear it for the protection of drainage system.	The situation was observed improved/ rectified in audit session 90819.
	19 Aug 09	<u>Observation</u> Muddy water was observed inside the sedimentation tank locating near NaOCl Storage Compound. Contractor was reminded to clear the silt and sediment regularly.	The situation was observed improved/ rectified in audit session 90826
	26 Aug 09	<u>Observation</u> C&D waste was accumulated inside the catch pit at Day Tank Storage Area. Contractor was reminded to clear it for the drainage protection.	The situation was observed improved/ rectified in audit session 90902
	02 Sep 09	<u>Observation</u> Sand was observed near the gully at the yard behind the NaOCl Storage Compound. Contractor was reminded to clear it.	The situation was observed improved/ rectified in audit session 90909
	09 Sep 09	<u>Observation</u> Stagnant water was accumulated in the trench near NaOCl Storage Compound. Contractor was reminded to pump the water out or other measures.	The situation was observed improved/ rectified in audit session 90917

Parameters	Date	Observations and Recommendations	Follow-up
	09 Sep 09	<u>Observation</u> Sand and concrete debris were accumulated in the U-channel at Chamber 15. Contractor was reminded to clear it for the protection of storm drain system.	The situation was observed improved/ rectified in audit session 90924.
	29 Sep 09	<u>Reminder</u> All runoff should be treated with sediment tank prior to discharge to public drain.	The situation will need to be follow-up in the coming audit.
	08 Jul 09	<u>Observation</u> Uncovered C&D stockpiles were observed at NaOCl storage compound. Contractor was reminded to cover it with tarpaulin sheet	The situation was observed improved/ rectified in audit session 90720
	15 Jul 09	<u>Reminder</u> Uncovered C&D stockpiles were observed at NaOCl Storage Compound. Contractor was reminded to cover it with tarpaulin sheet.	The situation was observed improved/ rectified in audit session 90720
	12 Aug 09	<u>Observation</u> It was observed that gravel stockpiles were accumulated at NaOCl Storage Compound. Contractor was reminded to cover it with tarpaulin.	The situation was observed improved/ rectified in audit session 90819
Air Quality	02 Sep 09	<u>Observation</u> Dusty paved road was observed at the yard behind the NaOCl Storage Compound and Day Tank Storage Area. Contractor was reminded to clear it up.	The situation was observed improved/ rectified in audit session 90909
	09 Sep 09	<u>Observation</u> Dusty paved road was observed at the NaOCl Storage Compound. Contractor was reminded to clear it up as soon as possible.	The situation was observed improved/ rectified in audit session 90917
	17 Sep 09	<u>Observation</u> Dusty road was observed adjacent to the NaOCI Storage Compound. Contractor was reminded to clear it up after daily work.	This situation was followed up in the site audit on 24-9-09
	24 Sep 09	<u>Reminder</u> Soil was observed on the road adjacent to NaOCl Storage Compound and near the U- channel of Day Tank Storage Area. The Contractor was reminded to clear it as soon as possible	The situation was observed improved/ rectified in audit session 90929
Noise	08 Jul 09	<u>Reminder</u> Noise emission label should be placed on the air compressor at NaOCl storage compound.	The situation was observed improved/ rectified in audit session 90715
	08 Jul 09	<u>Observation</u> Lubricant oil container was standing in the bare ground at NaOCl storage compound. Contractor was reminded to provide drip tray under the container.	The situation was observed improved/ rectified in audit session 90715

Parameters	Date	Observations and Recommendations	Follow-up
		<u>Observation</u> C & D waste was observed at NaOCI Storage Compound and day tank storage area. Contractor was reminded to clear it.	This situation was followed up in the site audit on 20-7-09
	15 July 09	<u>Observation</u> General refuse was observed at chamber 15. Contractor was reminded to remove it.	The situation was observed improved/ rectified in audit session 90720
		<u>Observation</u> Oil container without drip tray was observed at day tank storage area. Contractor was reminded to provide drip tray under the container.	This situation was followed up in the site audit on 20-7-09
		<u>Observation</u> C & D waste was still observed at day tank storage area. Contractor was reminded to clear it as soon as possible.	The situation was observed improved/rectified in audit session 90805.
Waste/Chemical Management	20 Jul 09	Observation Oil containers without drip tray were still observed at Day Tank Storage Area. Contractor was reminded to provide drip tray or relocated it as soon as possible.	The situation was observed improved/ rectified in audit session 90730
	30 Jul 09	Observation C & D waste were accumulated at NaOCl Storage Compound and Day Tank Storage Area. Contractor was reminded to cover it with tarpaulin sheet.	This situation was followed up in the site audit on 05-8-09
	05 Aug 09	<u>Observation</u> C & D waste were still accumulated at NaOCl Storage Compound and Day Tank Storage Area. Contractor was reminded to cover it with tarpaulin or clear it as soon as possible.	The situation was observed improved/ rectified in audit session 90812
		<u>Observation</u> Oil stain was observed at Chamber 15. Contractor was reminded to clear and handle it with appropriate procedures.	The situation was observed improved/ rectified in audit session 90819
	12 Aug 09	<u>Reminder</u> General refuse and C&D waste should be cleaned and tidied up regularly at NaOCl Storage Compound, existing pipe trench near sedimentation tank and day tank storage area.	This situation was followed up in the site audit on 26-8-09
	19 Aug 09	<u>Observation</u> Uncovered and unsorted C&D waste was accumulated at Chamber 15. Contractor was reminded to dispose it frequently.	The situation was observed improved/ rectified in audit session 90826
		<u>Reminder</u> Worn sand bags should be tidied up at NaOCl Storage Compound as soon as possible.	The situation was observed improved/ rectified in audit session 90826

Parameters	Date	Observations and Recommendations	Follow-up
	09 Sep 09	<u>Observation</u> Chemical containers were accumulated at Day Tank Storage Area. Contractor was reminded to provide drip tray and proper label for the containers	The situation was observed improved/ rectified in audit session 90917
	17 Sep 09	<u>Observation</u> The packing material should be cleared up regularly at NaOCl Storage Compound for the maintenance of site tidiness.	The situation was observed improved/ rectified in audit session 90924
	24 Sep 09	Observation Chemical containers were placed at the staircase of Sedimentation Tank. The Contractor was reminded to relocate them to adequate storage area and provide drip tray under them.	The situation was observed improved/ rectified in audit session 90929
	15 Jul 09	<u>Observation</u> Construction materials were closed to trees at NaOCl Storage Compound. Contractor was reminded to fence-off the trees and place the material away from the tree.	This situation was followed up in the site audit on 20-7-09
	20 Jul 09	<u>Observation</u> Construction materials were still closed to vegetation at NaOCl Storage Compound. Contractor was reminded to fence-off the vegetation and relocate the material away from the vegetation.	This situation was followed up in the site audit on 30-7-09
	30 Jul 09	<u>Observation</u> Construction materials were located closed to the vegetation at Day Tank Storage Area. Contractor was reminded to relocate it away from the vegetation.	The situation was observed improved/ rectified in audit session 90805
Others		<u>Reminder</u> Protective fencing should be provided for the vegetation at NaOCl Storage Compound.	The situation was observed improved/ rectified in audit session 90805
	12 Aug 09	<u>Observation</u> Construction materials were closed to the vegetation at NaOCl Storage Compound. Contractor was reminded to relocate the materials away from the vegetation and provide protective fencing.	This situation was followed up in the site audit on 19-8-09
	19 Aug 09	<u>Observation</u> Construction materials were still closed to the vegetation locating near NaOCl Storage Compound. Contractor was reminded to relocated the materials away from the vegetation and provide protective fencing as soon as possible.	The situation was observed improved/ rectified in audit session 90826

### Status of Environmental Licenses and Permits

5.3 Environmental licenses and permits including the Environmental Permit (EP), Chemical Waste Producer License, a billing account for Disposal of construction waste, Waste Water Discharge License and Construction Noise Permit (CNP) were in place and valid

during the reporting quarter. A summary of status of licenses and permits is given in **Appendix G**.

### Advice on Waste Management Status

5.4 In this reporting period, excavated materials regard as inert Construction and Demolition (C&D) waste were the main C&D wastes disposed as Public Fill and no chemical waste was generated. 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 2009.

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

#### **Summary of Exceedance**

- 6.1 Environmental monitoring works were performed in the reporting period and all monitoring results were checked and reviewed. A summary of exceedance is attached in **Appendix I**.
- 6.2 No Action/Limit Level exceedance was recorded for both 1-hour TSP and 24-hour TSP of air quality monitoring in the reporting period.

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

6.3 There was no non-compliance from the site audits in the reporting period. 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

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

#### 7 ENVIRONMENTAL COMPLAINT

7.1 No environmental complaint was received in the reporting period. The updated Complaint Log is attached in **Appendix H**.

#### 8 NOTIFICATION OF SUMMON AND SUCCESSFUL PROSECUTION

8.1 No environmental prosecution was recorded in the reporting period.

# 9 COMMENTS, CONCLUSIONS AND RECOMMENDATIONS

- 9.1 Major site activities for the coming months include:
  - Surface runoff from the Site area due to construction works and rain;;
  - Formation of ponding/ stagnant water on site;
  - Dust emission from concrete breaking, excavation and loading and unloading dusty materials;
  - Noise nuisance from operation of equipment and machinery on site;
  - Maintenance of de-silting facilities and drainage system, such as U-channels;
  - Storage of chemicals/fuel and chemical waste/waste oil on site;
  - Larviciding against mosquito breeding in stagnant water should be carried out at least on a weekly basis; and
  - Accumulation of C&D waste and general waste on site.
- 9.2 Key issues to be considered in the coming months include:
  - Dust emission from concrete breaking, excavation and loading and unloading dusty materials;
  - Surface runoff from the Site area due to construction works and rain;
  - Noise nuisance from operation of equipment and machinery on site;
  - Maintenance of de-silting facilities and drainage system, such as U-channels;
  - Formation of ponding/ stagnant water on site;
  - Storage of chemicals/fuel and chemical waste/waste oil on site;
  - Larviciding against mosquito breeding in stagnant water should be carried out at least on a weekly basis; and
  - Accumulation of C&D waste and general waste on site.
- 9.3 According to the environmental audit sessions performed in the reporting period, the following recommendations were made:

### Water Impact

- To ensure proper use and maintenance of the de-silting facilities and drainage system;
- To avoid formation of ponding/ stagnant water on site;
- To carry out larviciding regularly against mosquito breeding;
- To well maintain the drainage system inside and around the Site area; and
- To prevent surface runoff into public area or drainage channel.

#### Dust Impact

- To provide water spraying regularly on stockpiles of dusty materials, loading/ unloading of dusty materials and dried site areas;
- To remain good site practice on handling excavated or dusty material for dust suppression, e.g. covering by impervious materials;
- To check and maintain the mechanical equipments regularly to avoid black smoke emission; and
- To provide adequate enclosure, i.e. three sides and top covers, for the cement mixing works for dust suppression.

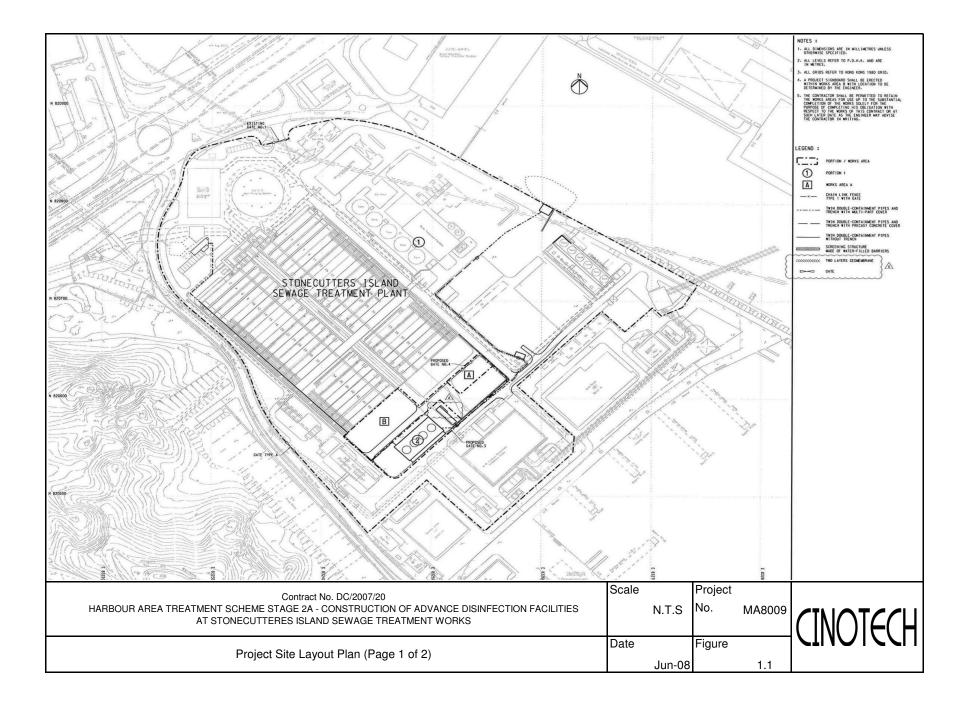
Noise Impact

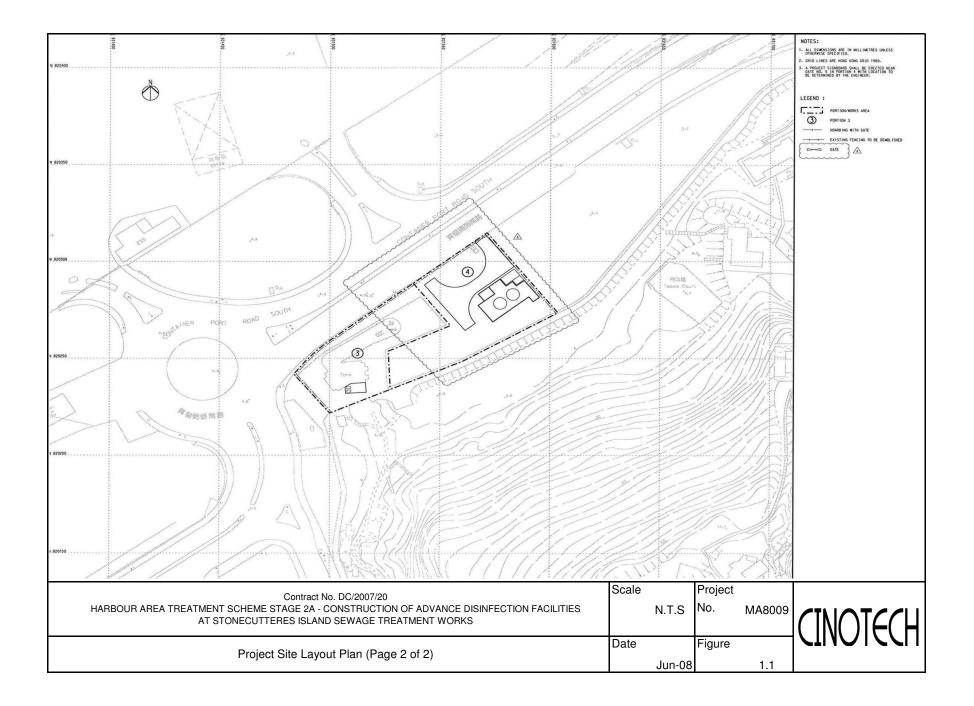
- To space out noisy equipments and position as far away as possible from sensitive receivers;
- To provide adequate lubricant on mechanical equipments to reduce frictional noise; and
- To well maintain the mechanical equipments / machineries to avoid abnormal noise nuisance.

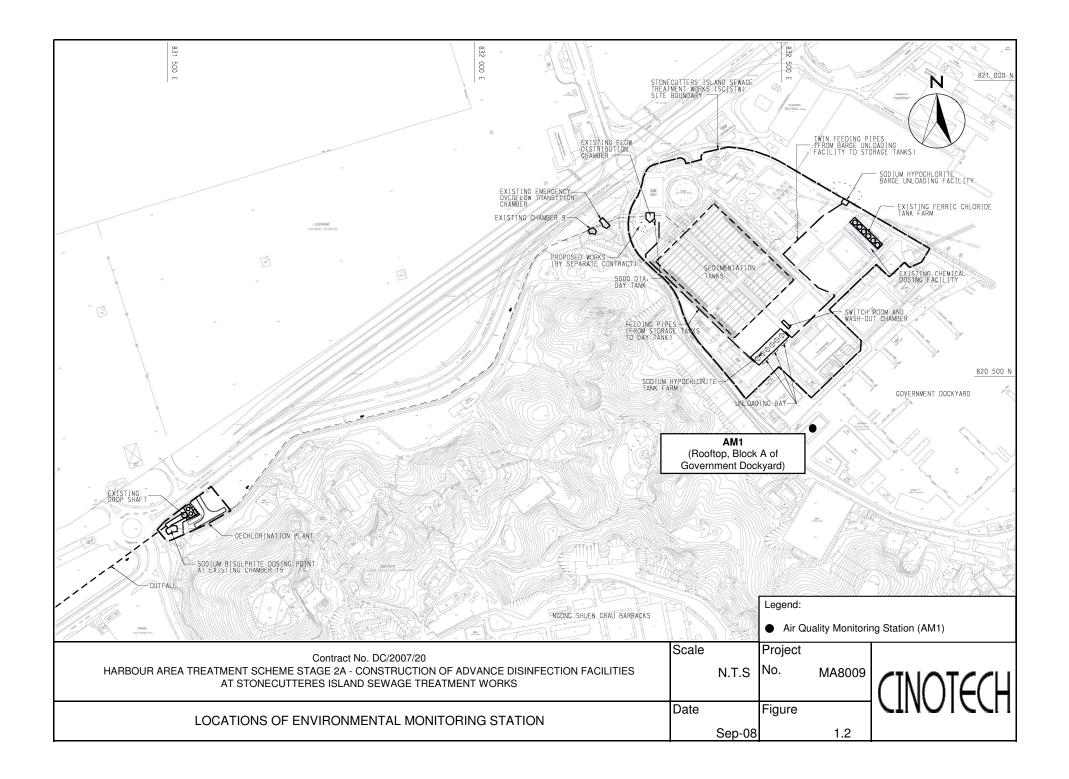
### Waste / Chemical Management

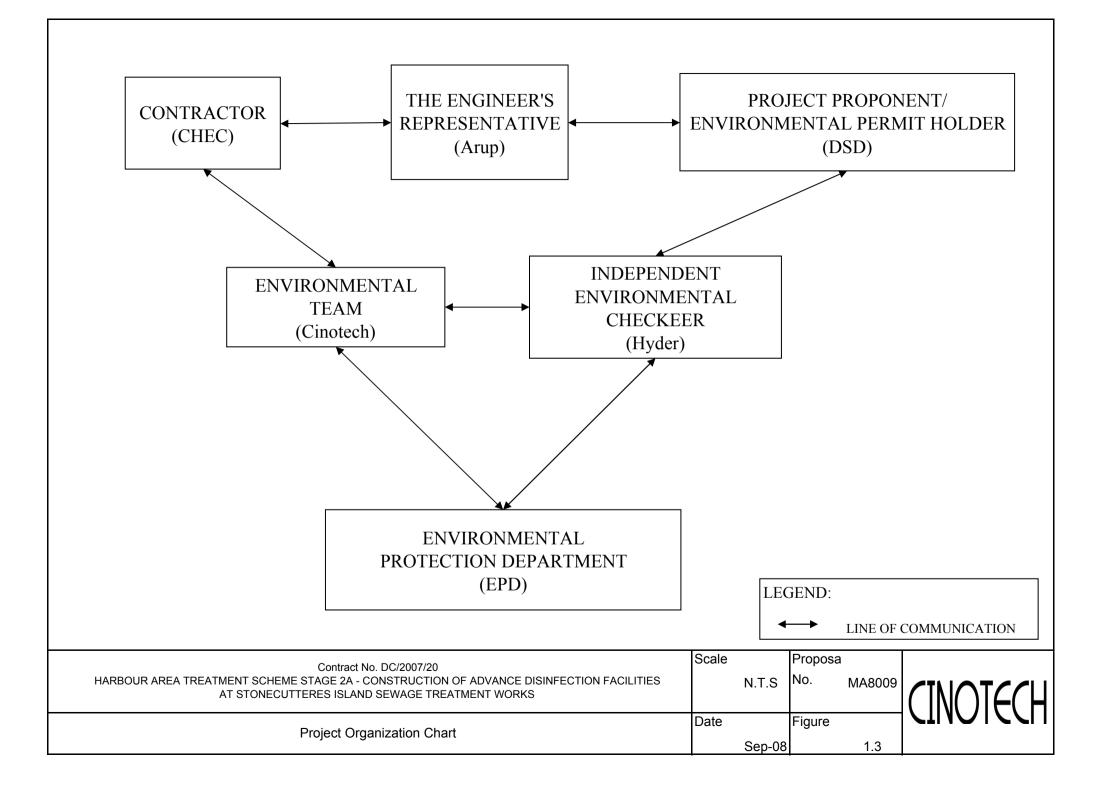
- To provide proper rubbish bins / skips for waste collection;
- To provide proper storage area or drip trays for oil containers on site;
- To avoid and check for any accumulation of waste materials or rubbish on site;
- To avoid any discharge or accidental spillage of chemical waste or oil directly from the equipment; and
- To well maintain the equipments and drip trays to avoid oil leakage.

FIGURES









APPENDIX A CONTACT DETAILS OF THE PROJECT ORGANISATION

# Appendix A - Contact Details of the Project Organisation

Party	Role	Name	Position	Phone No.	Fax No.
DSD	Project Proponent/ Permit Holder	Ms. Ada LAI	Engineer	2159 3411	2833 9162
ARUP	Engineer's	Mr. Gary CHEUNG	Resident Engineer	6201 3158	2407 8772
ARUP	Representative	Mr. Sunny LO	Inspector of Works	6345 0548	2407 8772
		Mr. T. K. CHEUNG	Project Manager	2741 0191	
CHEC	Contractor	Mr. Aaron AU	Site Agent	6345 0754	2741 2772
		Mr. M. C. LAM	Environmental Officer	9483 0566	
		Dr. Priscilla CHOY	Environmental Team Leader	2151 2089	
Cinotech	Environmental Team	Ms. Cherry Mak	Project Coordinator and Audit Team Leader	2151 2097	3107 1388
		Mr. Henry LEUNG	Monitoring Team Leader	2151 2087	
	Independent	Mr. Antony WONG	Independent Environmental Checker	2911 2744	
Hyder	Environmental Checker	Ms. Selina LEUNG	Independent Environmental Checker Representative	2911 2745	2805 5028

APPENDIX B CONSTRUCTION PROGRAMME

General						
Project Key	Date					
1000	Possession of Site	0 29/04/08*		0	Possession of Site	<b>T</b>
1040	Completion Section I of Works	0	25/09/08*	0		Completion Section I of Works
1090	Completion Section II of Works	0	27/07/09*	0		
1570	Completion Section III of Works	0	26/08/09*	0		
1600	Submission for Section II E&M Works	0	07/07/08*	0	•	Submission for Section II E&M Works
1610	Submission for Section III E&M Works	0	04/08/08*	0		Submission for Section III E&M Works
Preliminarie	8					
1010	Contractor Site Office Set Up	45 29/04/08	23/06/08	349	Contra	ractor Site Office Set Up
1020	Engineer's Accommodation	80 29/04/08	04/08/08	314		Engineer's Accommodation
1030	Work Area Set Up	28 29/04/08	02/06/08	0	Work Area Set	
1035	Tree Transplanting	50 03/06/08	01/08/08	316		Tree Transplanting
Meterial Fat	rication & Delivery					
1045	Fabricate & Delivery FRP Tank	80 17/09/08	05/12/08	9		Fabricate & Delive
1095	Fabricate & delivery Steel Structure & Shelter	90 08/10/08	05/01/09	10		Fabric
1145	Fabricate & delivery Pump	90 27/09/08	25/12/08	90		Fabricate 8
1155	Fabricate & Delivery Switch Board	90 27/09/08	25/12/08	112		Fabricate 8
Section I						
Design Sub	nission					
1002	Design for Section II E&M Equipments/System	70 29/04/08	07/07/08	0		Design for Section II E&M Equipments/System
1004	Approval of Sec II E&M Equipments/System Design	21 08/07/08	28/07/08	59		Approval of Sec II E&M Equipments/System Design
1006	Design for Section III E&M Equipments/System	98 29/04/08	04/08/08	0		Design for Section III E&M Equipments/System
1008	Approval of Sec III E&M Equipments/System Design	21 05/08/08	25/08/08	31		Approval of Sec III E&M Equipments/System Design
1050	Design for Sodium Hypro. Storage Structure	60 29/04/08	27/06/08	69	Desi	ign for Sodium Hypro. Storage Structure
1055	Approval of Sodium Hypro. Storage Stru. Design	21 28/06/08	18/07/08	69		Approval of Sodium Hypro, Storage Stru, Design
1060 6	Design for Space Frame, Sodium Hypro. Storage	60 29/04/08	27/06/08	69	Desi	ign for Space Frame, Sodium Hypro. Storage
1065	Approval of Space Frame deisgn	21 28/06/08	18/07/08	69		Approval of Space Frame deisgn
1070	Design for Sodium Hypro. Tanks, 4 nos.	50 29/04/08	17/06/08	18		for Sodium Hypro. Tanks, 4 nos.
1075	Approval of Sodium Hypro. Tanks design	21 18/06/08	08/07/08	18		Approval of Sodium Hypro, Tanks design
1080	Design for Day Tank Storage & Switch Rm. 2 Stru.	60 29/04/08	27/06/08	9		ign for Day Tank Storage & Switch Rm. 2 Stru.
1085	Approval of Day Tank Storage & Switch Rm.	21 28/06/08	18/07/08	9		Approval of Day Tank Storage & Switch Rm.
š	Design for Steel Shelter of Day Tank Area	21 28/06/08	18/07/08	10		Design for Steel Shelter of Day Tank Area
1105	Approval of Steel Shelter for Day Tank Area	21 19/07/08	08/08/08	10		Approval of Steel Sheiter for Day Tank Area
1110	Design for Dechlorination Plant Stru.	40 28/06/08	06/08/08	29		Design for Dechlorination Plant Stru.
1115	Approval of Dechlorination Plant Stru.	21 07/08/08	27/08/08	29		Approval of Dechlorination Plant Stru.
1110	Design for Steel Shelter of Dechlorin. Plant	21 28/06/08	18/07/08	48		Design for Steel Shelter of Dechlorin, Plant
1125	Approval of Steel Shelter of Dechlorin, Plant			+ +		Approval of Steel Shelter of Dechlorin. Plant
		21 19/07/08	08/08/08	+		Design for Steel Structure of UPS & Switch Rm
3 <b></b>	Design for Steel Structure of UPS & Switch Rm	40 09/07/08	17/08/08	18		Approval of Steel Stru. for UPS & Switch Rm.
3	Approval of Steel Stru. for UPS & Switch Rm.	21 18/08/08	07/09/08	18		
*	Design for FRP Storage Tanks	/ 60 29/04/08	27/06/08	69		sign for FRP Storage Tanks
	Approval of FRP Storage Tanks	21 28/06/08	18/07/08	69		Approval of FRP Storage Tanks
Section II						
4	prage Area & Switch Rm No.2					
§	Pre-drilling	14 03/06/08	19/06/08	2	Pre-dril	
1153	Diversion of 250 Water Main	45 20/06/08	12/08/08	23		Diversion of 250 Water Main
1160	Mini-pile (18nos.)	54 20/06/08	22/08/08	2		Mini-pile (18nos.)
1170	Load Test	14 23/08/08	05/09/08	3		Load Test
1175	Excavation Work for Pile Cap	35 06/09/08	20/10/08	2		Excavation Work for Pile Cap
1180	Pile Cap Cons.	35 21/10/08	29/11/08	2		Pile Cap Cons.
1190	Switch Room No.2	60 01/12/08	14/02/09	2	-	
3	Steel Strucure	45 16/02/09	14/04/09	2		
1215	FRP Storage Tanks, 2nos.	20 15/04/09	09/05/09	2		
1220	FRP Shelter	20 05/05/09	27/05/09	2		
				·	4 2 3	4 5 6 7 8 9 10
						JUL AUG SEP OCT NOV DEC JAN
	29/04/08	··· ·	·	ST02		2008 Sheet 1 of 3

?Primavera Systems, Inc.

Contract No. DC/2007/20 Harbour Area Treatment Scheme Stage 2A Works Programme

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	MAR	APR	2009 MAY	JUN 15	<u>JUL</u>	AUG	SEP 18
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				Completion	n Section III	of Works	
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wit	ch Room No	Steel	FRP St	orage Tanks	, 2nos.		
	12 MAR	<u> </u>		FRP Shelter 15 JUN	at at	AUG	-18 
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Activity															
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ID I	Description	Dur Start	Finish	Float ID		2	3	4	5	6	7	8	9		
1280	Internal & External Finishing for Switch Rm No.2	60 16/02/09	04/05/09	2 2	4										
1282	Installation Switch Board	21 15/04/09	11/05/09	2 2	_	outputero									
1292	Mod. to LV Switchboards at Switchgear bldg.	21 04/05/09	27/05/09	22											
1302	Install Dosing Pump units & pipes	30 29/05/09	03/07/09	2 2											
1312	Install FRP Railing & Mesh Flooring	30 29/05/09	03/07/09	2 2									· · · · · · · · ·		
1322	FS & Elec. Works	30 29/05/09	03/07/09	2 2					-						
1332	Test & Commissioning	18 04/07/09	24/07/09	2 2											
and a state of the	Install Drainage Pipes	45 15/04/09	09/06/09	40 2											
achlorinati	ion Plant, Switch Rm No.3, UPS Battery				8 5										
1225	Portion 4 Available	0 30/09/08*		0 2							Portio	n 4 Available			
1230	Excavation for Pile Cap	35 30/09/08	11/11/08	0 2								· · ·	avation for		
1235	Footing	35 12/11/08	22/12/08	0 2	7									Footing	
1238	Bund Wall	40 23/12/08	13/02/09	0 2					-						B
1239	Cons. of Concrete Pinth	40 23/12/08	13/02/09	0 2	1									Reference	C.
1240	Steel Structure for Dechlorination Plant	30 14/02/09	21/03/09	0 2	1										
1250	FRP Storage Tanks, 2nos.	25 23/03/09	24/04/09	0 2	1										
1260	FRP Shelter	25 08/04/09	12/05/09	0 2	1						-				
1270	Erect Switch Rm No.3 & UPS Battery Rm	30 13/05/09	17/06/09	0 2	1				:		ĺ				Erect Sw
1290	Install LV Switchboard & Battery units	25 06/06/09	06/07/09	0 2	1										
	Install Dosing & Unloading Pump Units & Pipe	45 13/05/09	06/07/09	0 2	-{	1	+		÷					In	stall Dosing
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1630	Test & Commissioning	18 07/07/09	27/07/09	0 2	-										
	Install Rising Main & Stormwater Drain	· · · · · · · · · · · · · · · · · · ·			-										
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		75 14/08/08	12/11/08	7 2	-										Pipe Tren
	Pipe Trenches, Wash out Pit 1 to Hypo. Compound	60 13/11/08	24/01/09	7 2	4				-						
	Pipe Trenches, Hypo. Compund to Day Tank Area	45 29/01/09	23/03/09	7 2	-	1									
1010	Assoc. pipeworks, Feeding Pipes	75 08/01/09	14/04/09	7 2	-				-					V	
1215											:			1000	CONTRACTOR OF THE OWNER OF
	Assoc. Pipeworks, Dosing Pipes	75 08/01/09	14/04/09	7 2					: 						
1580	Assoc. Pipeworks, Dosing Pipes Associated E&M system	75 08/01/09 60 15/04/09	14/04/09 26/06/09	7 2 7 2											
1580 tion III	Associated E&M system	60 15/04/09	26/06/09	7 2	2										
1580 ction III slum Byor	Associated E&M system	60 15/04/09	26/06/09	7 2											
1580 :tion III Num Hyp: 1335	Associated E&M system Schlorite Storage Compand Core test for Existing PPC Piles	60 15/04/09 14 03/06/08	26/06/09 19/06/08	7 2 0 2			Core		. –	1					
1580 tion III flum Hype 1335 1337	Associated E&M system Chlorite Storage Compund Core test for Existing PPC Piles Submit & Approval by the Engineer	60         15/04/09           14         03/06/08           21         20/06/08	26/06/09 19/06/08 10/07/08	7 2 0 2 0 3			7	e test for Ex	& Approva	l by the E					
1580 Stion III Num Hype 1335 1337 1340	Associated E&M system ochiorite Storage Compand Core test for Existing PPC Piles Submit & Approval by the Engineer Excavation & Lateral Support Work	60 15/04/09 14 03/06/08	26/06/09 19/06/08 10/07/08 20/08/08	7 2 0 2			7		& Approva	l by the E cavation	& Lateral S	support Work			
1580 Ction III dium Hype 1335 1337 1340 1343	Associated E&M system ochiorite Storage Compund Core test for Existing PPC Piles Submit & Approval by the Engineer Excavation & Lateral Support Work Extension/Trimming of Existing Piles	60         15/04/09           14         03/06/08           21         20/06/08	26/06/09 19/06/08 10/07/08	7 2 0 2 0 3			7		& Approva	I by the E cavation	& Lateral S tension/Tri	imming of Exi	sting Piles		
1580 etion III dum Hype 1335 1337 1340 1343	Associated E&M system ochiorite Storage Compand Core test for Existing PPC Piles Submit & Approval by the Engineer Excavation & Lateral Support Work	60         15/04/09           14         03/06/08           21         20/06/08           35         11/07/08	26/06/09 19/06/08 10/07/08 20/08/08	7 2 0 2 0 3 0 2			7		& Approva	I by the E cavation	& Lateral S tension/Tri		sting Piles Cap & Bund		
1580 ction III dum Hype 1335 1337 1340 1343 1345	Associated E&M system ochiorite Storage Compund Core test for Existing PPC Piles Submit & Approval by the Engineer Excavation & Lateral Support Work Extension/Trimming of Existing Piles	60         15/04/09           14         03/06/08           21         20/06/08           35         11/07/08           21         21/08/08	26/06/09 19/06/08 10/07/08 20/08/08 13/09/08	7 2 0 2 0 3 0 2 0 2 0 2			7		& Approva	I by the E cavation	& Lateral S tension/Tri	imming of Exi	sting Piles Cap & Bund		th & Column
1580 ction III dum Hype 1335 1337 1340 1343 1345 1348	Associated E&M system Schlorite Storage Compand Core test for Existing PPC Piles Submit & Approval by the Engineer Excavation & Lateral Support Work Extension/Trimming of Existing Piles Pile Cap & Bund Wall	60         15/04/09           14         03/06/08           21         20/06/08           35         11/07/08           21         21/08/08           45         16/09/08	26/06/09 19/06/08 10/07/08 20/08/08 13/09/08 08/11/08	7 2 0 2 0 3 0 2 0 2 0 2 0 2			7		& Approva	I by the E cavation	& Lateral S tension/Tri	imming of Exi	sting Piles Cap & Bund		th & Column
1580 <b>fion III</b> fium Bype 1335 1337 1340 1343 1343 1345 1348 1350	Associated E&M system Schlorite Storage Compand Core test for Existing PPC Piles Submit & Approval by the Engineer Excavation & Lateral Support Work Extension/Trimming of Existing Piles Pile Cap & Bund Wall Concrete Plinth & Columns	60         15/04/09           14         03/06/08           21         20/06/08           35         11/07/08           21         21/08/08           45         16/09/08           30         10/11/08	26/06/09 19/06/08 10/07/08 20/08/08 13/09/08 08/11/08 13/12/08	7 2 0 2 0 3 0 2 0 2 0 2 0 2 0 2 0 2			7		& Approva	I by the E cavation	& Lateral S tension/Tri	imming of Exi	sting Piles Cap & Bund	ncrete Plin	Instant Ins
1580 <b>Stion III</b> <b>Hum Hypo</b> 1335 1337 1340 1343 1343 1345 1348 1350 1360	Associated E&M system  Core test for Existing PPC Piles  Submit & Approval by the Engineer Excavation & Lateral Support Work Extension/Trimming of Existing Piles  Pile Cap & Bund Wall  Concrete Plinth & Columns Installation of Steel Storage Tanks, 4 nos.	60         15/04/09           14         03/06/08           21         20/06/08           35         11/07/08           21         21/08/08           45         16/09/08           30         10/11/08           45         15/12/08	26/06/09 19/06/08 10/07/08 20/08/08 13/09/08 08/11/08 13/12/08 11/02/09	7 2 0 2 0 3 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2			7		& Approva	I by the E cavation	& Lateral S tension/Tri	imming of Exi	sting Piles Cap & Bund	ncrete Plin	
1580         ction III         flum Loos         1335         1337         1340         1343         1345         1348         1350         1360         1370	Associated E&M system Core test for Existing PPC Piles Submit & Approval by the Engineer Excavation & Lateral Support Work Extension/Trimming of Existing Piles Pile Cap & Bund Wall Concrete Plinth & Columns Installation of Steel Storage Tanks, 4 nos. Space Frame & Shelter	60         15/04/09           14         03/06/08           21         20/06/08           35         11/07/08           21         21/08/08           45         16/09/08           30         10/11/08           45         15/12/08           55         16/01/09	26/06/09 19/06/08 10/07/08 20/08/08 13/09/08 08/11/08 13/12/08 11/02/09 25/03/09 06/05/09	7 2 0 2 0 3 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2			7		& Approva	I by the E cavation	& Lateral S tension/Tri	imming of Exi	sting Piles Cap & Bund	ncrete Plin	Instant Ins
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1580         Stion III         Ium Expo         1335         1337         1340         1343         1345         1345         1350         1360         1370         1380         1480	Associated E&M system Schlorite Storage Compand Core test for Existing PPC Piles Submit & Approval by the Engineer Excavation & Lateral Support Work Extension/Trimming of Existing Piles Pile Cap & Bund Wall Concrete Plinth & Columns Installation of Steel Storage Tanks, 4 nos. Space Frame & Shelter FRP Wall Panel Cons. Sump Pit, U-channel & Stairs	60         15/04/09           14         03/06/08           21         20/06/08           35         11/07/08           21         21/08/08           45         16/09/08           30         10/11/08           45         15/12/08           55         16/01/09           50         02/03/09           24         07/05/09           30         07/05/09	26/06/09 19/06/08 10/07/08 20/08/08 13/09/08 08/11/08 13/12/08 11/02/09 25/03/09 06/05/09 04/06/09 11/06/09	7     2       0     2       0     3       0     2       0     2       0     2       0     2       0     2       0     2       0     2       0     2       0     2       0     2       0     2       0     2       0     2       0     2       0     2       0     2       0     2       0     2			7		& Approva	I by the E cavation	& Lateral S tension/Tri	imming of Exi	sting Piles Cap & Bund	ncrete Plin	Instant Ins
1580 <b>Etion III</b> <b>Ium Hypo</b> 1335 1337 1340 1343 1345 1345 1348 1350 1360 1360 1380 1480 1485 1	Associated E&M system Schlorite Storage Compand Core test for Existing PPC Piles Submit & Approval by the Engineer Excavation & Lateral Support Work Extension/Trimming of Existing Piles Pile Cap & Bund Wall Concrete Plinth & Columns Installation of Steel Storage Tanks, 4 nos. Space Frame & Shelter FRP Wall Panel Cons. Sump Pit, U-channel & Stairs Cons. Cable Trench Install the Rolling Shutter	60         15/04/09           14         03/06/08           21         20/06/08           35         11/07/08           21         21/08/08           45         16/09/08           30         10/11/08           45         15/12/08           55         16/01/09           50         02/03/09           24         07/05/09           30         07/05/09           15         12/06/09	26/06/09 19/06/08 10/07/08 20/08/08 13/09/08 08/11/08 13/12/08 11/02/09 25/03/09 06/05/09 06/05/09 04/06/09 11/06/09 29/06/09	7       2         0       2         0       3         0       2         0       2         0       2         0       2         0       2         0       2         0       2         0       2         0       2         0       2         0       2         0       2         0       2         0       2         0       2         0       2         0       2         0       2			7		& Approva	I by the E cavation	& Lateral S tension/Tri	imming of Exi	sting Piles Cap & Bund	ncrete Plin	Instant Ins
1580         ction III         Hum Lippo         1335         1337         1340         1343         1345         1345         1350         1360         1380         1485         1590	Associated E&M system Ochlorite Storage Compand Core test for Existing PPC Piles Submit & Approval by the Engineer Excavation & Lateral Support Work Extension/Trimming of Existing Piles Pile Cap & Bund Wall Concrete Plinth & Columns Installation of Steel Storage Tanks, 4 nos. Space Frame & Shelter FRP Wall Panel Cons. Sump Pit, U-channel & Stairs Cons. Cable Trench Install the Rolling Shutter Install Transfer Pump, Pipe & Filter	60         15/04/09           14         03/06/08           21         20/06/08           35         11/07/08           21         21/08/08           45         16/09/08           30         10/11/08           45         15/12/08           55         16/01/09           50         02/03/09           24         07/05/09           30         07/05/09           30         07/05/09           45         12/06/09           60         26/03/09	26/06/09 19/06/08 10/07/08 20/08/08 13/09/08 08/11/08 13/12/08 13/12/08 11/02/09 25/03/09 06/05/09 04/06/09 11/06/09 29/06/09 11/06/09	7       2         0       2         0       3         0       2			7		& Approva	I by the E cavation	& Lateral S tension/Tri	imming of Exi	sting Piles Cap & Bund	ncrete Plin	Instant Ins
1580         2tion III         Ium Lippe         1335         1337         1340         1343         1343         1345         1348         1350         1360         1380         1480         1590         1660	Associated E&M system Schlorite Storage Compand Core test for Existing PPC Piles Submit & Approval by the Engineer Excavation & Lateral Support Work Extension/Trimming of Existing Piles Pile Cap & Bund Wall Concrete Plinth & Columns Installation of Steel Storage Tanks, 4 nos. Space Frame & Shelter FRP Wall Panel Cons. Sump Pit, U-channel & Stairs Cons. Cable Trench Install the Rolling Shutter Install Transfer Pump, Pipe & Filter Install Overhead Travelling Crane	60         15/04/09           14         03/06/08           21         20/06/08           35         11/07/08           21         21/08/08           45         16/09/08           30         10/11/08           45         15/12/08           55         16/01/09           50         02/03/09           24         07/05/09           30         07/05/09           30         07/05/09           30         26/03/09           30         25/05/09	26/06/09 19/06/08 10/07/08 20/08/08 13/09/08 08/11/08 13/12/08 11/02/09 25/03/09 06/05/09 04/06/09 11/06/09 29/06/09 11/06/09	7       2         0       2         0       3         0       2			7		& Approva	I by the E cavation	& Lateral S tension/Tri	imming of Exi	sting Piles Cap & Bund	ncrete Plin	
1580         2tion III         1000 IJ20         1335         1337         1340         1343         1343         1343         1343         1343         1345         1360         1370         1380         1480         1485         1590         1660         1670	Associated E&M system Schlorite Storage Compand Core test for Existing PPC Piles Submit & Approval by the Engineer Excavation & Lateral Support Work Extension/Trimming of Existing Piles Pile Cap & Bund Wall Concrete Plinth & Columns Installation of Steel Storage Tanks, 4 nos. Space Frame & Shelter FRP Wall Panel Cons. Sump Pit, U-channel & Stairs Cons. Cable Trench Install the Rolling Shutter Install Transfer Pump, Pipe & Filter Install Overhead Travelling Crane Mod. to LV Switchboards in Sedimentation Tank	60         15/04/09           14         03/06/08           21         20/06/08           35         11/07/08           21         21/08/08           45         16/09/08           30         10/11/08           45         15/12/08           55         16/01/09           50         02/03/09           24         07/05/09           30         07/05/09           30         25/05/09           45         12/06/09           60         26/03/09           30         25/05/09           14         26/05/09	26/06/09 19/06/08 10/07/08 20/08/08 13/09/08 08/11/08 13/12/08 13/12/09 25/03/09 06/05/09 04/06/09 11/06/09 29/06/09 11/06/09 29/06/09 11/06/09	7       2         0       2         0       3         0       2         2       2			7		& Approva	I by the E cavation	& Lateral S tension/Tri	imming of Exi	sting Piles Cap & Bund	ncrete Plin	
1580         2tion III         Jum Lype         1335         1337         1340         1343         1343         1345         1345         1346         1350         1360         1370         1380         1485         1590         1660         1675	Associated E&M system Schlorite Storage Compand Core test for Existing PPC Piles Submit & Approval by the Engineer Excavation & Lateral Support Work Extension/Trimming of Existing Piles Pile Cap & Bund Wall Concrete Plinth & Columns Installation of Steel Storage Tanks, 4 nos. Space Frame & Shelter FRP Wall Panel Cons. Sump Pit, U-channel & Stairs Cons. Cable Trench Install the Rolling Shutter Install Transfer Pump, Pipe & Filter Install Overhead Travelling Crane Mod. to LV Switchboards in Sedimentation Tank Install FRP Railing & Mesh Flooring	60         15/04/09           14         03/06/08           21         20/06/08           35         11/07/08           21         21/08/08           45         16/09/08           30         10/11/08           45         15/12/08           55         16/01/09           50         02/03/09           24         07/05/09           30         07/05/09           30         07/05/09           30         25/05/09           30         25/05/09           30         25/05/09           30         25/05/09           30         25/05/09           30         25/05/09           30         25/05/09           30         25/05/09           30         25/05/09           30         25/05/09           30         26/05/09	26/06/09 19/06/08 10/07/08 20/08/08 13/09/08 08/11/08 13/12/08 13/12/09 25/03/09 06/05/09 04/06/09 11/06/09 29/06/09 11/06/09 29/06/09 11/06/09 29/06/09 01/08/09	7       2         0       2         0       3         0       2			7		& Approva	I by the E cavation	& Lateral S tension/Tri	imming of Exi	sting Piles Cap & Bund	ncrete Plin	
1580         2tion III         Jum Lype         1335         1337         1340         1343         1345         1345         1346         1350         1360         1370         1380         1485         1590         1660         1675         1680	Associated E&M system Schlorite Storage Compand Core test for Existing PPC Piles Submit & Approval by the Engineer Excavation & Lateral Support Work Extension/Trimming of Existing Piles Pile Cap & Bund Wall Concrete Plinth & Columns Installation of Steel Storage Tanks, 4 nos. Space Frame & Shelter FRP Wall Panel Cons. Sump Pit, U-channel & Stairs Cons. Cable Trench Install the Rolling Shutter Install Transfer Pump, Pipe & Filter Install Overhead Travelling Crane Mod. to LV Switchboards in Sedimentation Tank Install FRP Railing & Mesh Flooring Install Gas & Vibration System	60         15/04/09           14         03/06/08           21         20/06/08           35         11/07/08           21         21/08/08           45         16/09/08           30         10/11/08           45         15/12/08           55         16/01/09           50         02/03/09           24         07/05/09           30         07/05/09           15         12/06/09           60         26/03/09           30         25/05/09           14         26/05/09           28         30/06/09           21         30/06/09	26/06/09 19/06/08 10/07/08 20/08/08 13/09/08 08/11/08 13/12/08 13/12/08 13/12/08 11/02/09 25/03/09 04/06/09 04/06/09 11/06/09 29/06/09 11/06/09 29/06/09 11/06/09 29/06/09	7     2       0     2       0     3       0     2       2 </td <td></td> <td></td> <td>7</td> <td></td> <td>&amp; Approva</td> <td>I by the E cavation</td> <td>&amp; Lateral S tension/Tri</td> <td>imming of Exi</td> <td>sting Piles Cap &amp; Bund</td> <td>ncrete Plin</td> <td></td>			7		& Approva	I by the E cavation	& Lateral S tension/Tri	imming of Exi	sting Piles Cap & Bund	ncrete Plin	
1580         Lion III         Ium Hype         1335         1337         1340         1343         1343         1345         1345         1345         1345         1345         1360         1370         1380         1480         1485         1590         1660         1675         1680         1690	Associated E&M system Schlorits Storage Compand Core test for Existing PPC Piles Submit & Approval by the Engineer Excavation & Lateral Support Work Extension/Trimming of Existing Piles Pile Cap & Bund Wall Concrete Plinth & Columns Installation of Steel Storage Tanks, 4 nos. Space Frame & Shelter FRP Wall Panel Cons. Sump Pit, U-channel & Stairs Cons. Cable Trench Install the Rolling Shutter Install Transfer Pump, Pipe & Filter Install Overhead Travelling Crane Mod. to LV Switchboards in Sedimentation Tank Install FRP Railing & Mesh Flooring Install Gas & Vibration System CCTV, Fire Services & E&M Works	60         15/04/09           14         03/06/08           21         20/06/08           35         11/07/08           21         21/08/08           35         11/07/08           21         21/08/08           35         11/07/08           21         21/08/08           30         10/11/08           45         15/12/08           55         16/01/09           50         02/03/09           24         07/05/09           30         07/05/09           30         07/05/09           30         25/05/09           30         25/05/09           30         25/05/09           24         30/06/09           21         30/06/09           28         30/06/09           28         30/06/09	26/06/09 19/06/08 10/07/08 20/08/08 13/09/08 08/11/08 13/12/08 13/12/09 25/03/09 06/05/09 04/06/09 11/06/09 29/06/09 11/06/09 29/06/09 11/06/09 29/06/09 01/08/09 01/08/09	7       2         0       2         0       3         0       2			7		& Approva	I by the E cavation	& Lateral S tension/Tri	imming of Exi	sting Piles Cap & Bund	ncrete Plin	
1580         tion III         tim Lype         1335         1337         1340         1343         1343         1343         1343         1343         1343         1345         1343         1343         1343         1350         1360         1380         1480         1480         1480         1590         1660         1670         1675         1680         1690         690         7700	Associated E&M system Ochlorite Storage Compand Core test for Existing PPC Piles Submit & Approval by the Engineer Excavation & Lateral Support Work Extension/Trimming of Existing Piles Pile Cap & Bund Wall Concrete Plinth & Columns Installation of Steel Storage Tanks, 4 nos. Space Frame & Shelter FRP Wall Panel Cons. Sump Pit, U-channel & Stairs Cons. Cable Trench Install the Rolling Shutter Install Transfer Pump, Pipe & Filter Install Overhead Travelling Crane Mod. to LV Switchboards in Sedimentation Tank Install FRP Railing & Mesh Flooring Install Gas & Vibration System CCTV, Fire Services & E&M Works Test & Commissioning	60         15/04/09           14         03/06/08           21         20/06/08           35         11/07/08           21         21/08/08           45         16/09/08           30         10/11/08           45         15/12/08           55         16/01/09           50         02/03/09           24         07/05/09           30         07/05/09           30         07/05/09           30         25/05/09           14         26/03/09           30         25/05/09           14         26/05/09           21         30/06/09           221         30/06/09           23         30/06/09           24         30/06/09	26/06/09 19/06/08 10/07/08 20/08/08 13/09/08 08/11/08 13/12/08 13/12/09 25/03/09 06/05/09 06/05/09 04/06/09 29/06/09 11/06/09 29/06/09 11/06/09 29/06/09 11/06/09 29/06/09 11/08/09 24/07/09 01/08/09 26/08/09	7       2         0       2         0       3         0       2           0       2 </td <td></td> <td></td> <td>7</td> <td></td> <td>&amp; Approva</td> <td>I by the E cavation</td> <td>&amp; Lateral S tension/Tri</td> <td>imming of Exi</td> <td>sting Piles Cap &amp; Bund</td> <td>ncrete Plin</td> <td></td>			7		& Approva	I by the E cavation	& Lateral S tension/Tri	imming of Exi	sting Piles Cap & Bund	ncrete Plin	
1580         filon III         filon IIII         filon IIII         filon IIII         filon IIII         filon IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Associated E&M system Schlorite Storage Compand Core test for Existing PPC Piles Submit & Approval by the Engineer Excavation & Lateral Support Work Extension/Trimming of Existing Piles Pile Cap & Bund Wall Concrete Plinth & Columns Installation of Steel Storage Tanks, 4 nos. Space Frame & Shelter FRP Wall Panel Cons. Sump Pit, U-channel & Stairs Cons. Cable Trench Install the Rolling Shutter Install Transfer Pump, Pipe & Filter Install Overhead Travelling Crane Mod. to LV Switchboards in Sedimentation Tank Install FRP Railing & Mesh Flooring Install Gas & Vibration System CCTV, Fire Services & E&M Works Test & Commissioning Cons. Underground Drainage	60         15/04/09           14         03/06/08           21         20/06/08           35         11/07/08           21         21/08/08           35         11/07/08           21         21/08/08           35         11/07/08           21         21/08/08           30         10/11/08           45         15/12/08           55         16/01/09           50         02/03/09           24         07/05/09           30         07/05/09           30         07/05/09           30         25/05/09           30         25/05/09           30         25/05/09           24         30/06/09           21         30/06/09           28         30/06/09           28         30/06/09	26/06/09 19/06/08 10/07/08 20/08/08 13/09/08 08/11/08 13/12/08 13/12/09 25/03/09 06/05/09 04/06/09 11/06/09 29/06/09 11/06/09 29/06/09 11/06/09 29/06/09 01/08/09 01/08/09	7       2         0       2         0       3         0       2			7		& Approva	I by the E cavation	& Lateral S tension/Tri	imming of Exi	sting Piles Cap & Bund	ncrete Plin	
1580         2tion III         Ium Lype         1335         1337         1340         1343         1343         1345         1348         1350         1360         1360         1380         1485         1660         1660         1660         1660         1660         1675         1680         1690         1710         1720	Associated E&M system Schlorite Storage Compand Core test for Existing PPC Piles Submit & Approval by the Engineer Excavation & Lateral Support Work Extension/Trimming of Existing Piles Pile Cap & Bund Wall Concrete Plinth & Columns Installation of Steel Storage Tanks, 4 nos. Space Frame & Shelter FRP Wall Panel Cons. Sump Pit, U-channel & Stairs Cons. Cable Trench Install the Rolling Shutter Install Transfer Pump, Pipe & Filter Install Overhead Travelling Crane Mod. to LV Switchboards in Sedimentation Tank Install FRP Railing & Mesh Flooring Install Gas & Vibration System CCTV, Fire Services & E&M Works Test & Commissioning Cons. Underground Drainage Cons. the New Road	60         15/04/09           14         03/06/08           21         20/06/08           35         11/07/08           21         21/08/08           45         16/09/08           30         10/11/08           45         15/12/08           55         16/01/09           50         02/03/09           24         07/05/09           30         07/05/09           30         07/05/09           30         25/05/09           14         26/03/09           30         25/05/09           14         26/05/09           21         30/06/09           221         30/06/09           23         30/06/09           24         30/06/09	26/06/09 19/06/08 10/07/08 20/08/08 13/09/08 08/11/08 13/12/08 13/12/09 25/03/09 06/05/09 06/05/09 04/06/09 29/06/09 11/06/09 29/06/09 11/06/09 29/06/09 11/06/09 29/06/09 11/08/09 24/07/09 01/08/09 26/08/09	7       2         0       2         0       3         0       2           0       2 </td <td></td> <td></td> <td>7</td> <td></td> <td>&amp; Approva</td> <td>I by the E cavation</td> <td>&amp; Lateral S tension/Tri</td> <td>imming of Exi</td> <td>sting Piles Cap &amp; Bund</td> <td>ncrete Plin</td> <td></td>			7		& Approva	I by the E cavation	& Lateral S tension/Tri	imming of Exi	sting Piles Cap & Bund	ncrete Plin	
1580         11000         11000         111100         11100	Associated E&M system Schlorite Storage Compand Core test for Existing PPC Piles Submit & Approval by the Engineer Excavation & Lateral Support Work Extension/Trimming of Existing Piles Pile Cap & Bund Wall Concrete Plinth & Columns Installation of Steel Storage Tanks, 4 nos. Space Frame & Shelter FRP Wall Panel Cons. Sump Pit, U-channel & Stairs Cons. Cable Trench Install the Rolling Shutter Install Overhead Travelling Crane Mod. to LV Switchboards in Sedimentation Tank Install Gas & Vibration System CCTV, Fire Services & E&M Works Test & Commissioning Cons. Underground Drainage Cons. the New Road Mod. <b>10 Werk Columnes</b>	60         15/04/09           14         03/06/08           21         20/06/08           35         11/07/08           21         21/08/08           45         16/09/08           30         10/11/08           45         15/12/08           55         16/01/09           50         02/03/09           24         07/05/09           30         07/05/09           30         07/05/09           45         12/06/09           60         26/03/09           30         25/05/09           14         26/05/09           21         30/06/09           21         30/06/09           21         03/08/09           45         07/05/09	26/06/09 19/06/08 10/07/08 20/08/08 13/09/08 08/11/08 13/12/08 13/12/09 25/03/09 06/05/09 04/06/09 29/06/09 11/06/09 29/06/09 11/06/09 29/06/09 11/08/09 24/07/09 01/08/09 26/08/09 29/06/09	7       2         0       2         19       2			7		& Approva	I by the E ccavation	& Lateral S	imming of Exi	sting Piles Cap & Bund	ncrète Plin	
1580         ction III         dum Lype         1335         1337         1340         1343         1343         1345         1345         1345         1346         1350         1360         1370         1380         1485         1590         1660         1675         1680         1690         1700         1710         0         tch Roore	Associated E&M system Schlorite Storage Compand Core test for Existing PPC Piles Submit & Approval by the Engineer Excavation & Lateral Support Work Extension/Trimming of Existing Piles Pile Cap & Bund Wall Concrete Plinth & Columns Installation of Steel Storage Tanks, 4 nos. Space Frame & Shelter FRP Wall Panel Cons. Sump Pit, U-channel & Stairs Cons. Cable Trench Install the Rolling Shutter Install Transfer Pump, Pipe & Filter Install Overhead Travelling Crane Mod. to LV Switchboards in Sedimentation Tank Install FRP Railing & Mesh Flooring Install Gas & Vibration System CCTV, Fire Services & E&M Works Test & Commissioning Cons. Underground Drainage Cons. the New Road	60         15/04/09           14         03/06/08           21         20/06/08           35         11/07/08           21         21/08/08           45         16/09/08           30         10/11/08           45         15/12/08           55         16/01/09           50         02/03/09           24         07/05/09           30         07/05/09           30         07/05/09           45         12/06/09           60         26/03/09           30         25/05/09           14         26/05/09           21         30/06/09           21         30/06/09           21         03/08/09           45         07/05/09	26/06/09 19/06/08 10/07/08 20/08/08 13/09/08 08/11/08 13/12/08 13/12/09 25/03/09 06/05/09 04/06/09 29/06/09 11/06/09 29/06/09 11/06/09 29/06/09 11/08/09 24/07/09 01/08/09 26/08/09 29/06/09	7       2         0       2         19       2			7		& Approva	I by the E ccavation	& Lateral S	imming of Exi	sting Piles Cap & Bund	ncrète Plin	
1580         ction III         dum Hype         1335         1337         1340         1343         1343         1345         1345         1345         1346         1350         1360         1370         1380         1485         1590         1660         1675         1680         1690         1700         1710         0         tch Recort         1390	Associated E&M system Schlorite Storage Compand Core test for Existing PPC Piles Submit & Approval by the Engineer Excavation & Lateral Support Work Extension/Trimming of Existing Piles Pile Cap & Bund Wall Concrete Plinth & Columns Installation of Steel Storage Tanks, 4 nos. Space Frame & Shelter FRP Wall Panel Cons. Sump Pit, U-channel & Stairs Cons. Cable Trench Install the Rolling Shutter Install Overhead Travelling Crane Mod. to LV Switchboards in Sedimentation Tank Install Gas & Vibration System CCTV, Fire Services & E&M Works Test & Commissioning Cons. Underground Drainage Cons. the New Road Mod. <b>10 Werk Columnes</b>	60         15/04/09           14         03/06/08           21         20/06/08           35         11/07/08           21         21/08/08           45         16/09/08           30         10/11/08           45         15/12/08           55         16/01/09           50         02/03/09           24         07/05/09           30         07/05/09           30         07/05/09           30         25/05/09           14         26/05/09           21         30/06/09           221         30/06/09           230         30/06/09           24         07/05/09           30         25/05/09           31         26/05/09           21         30/06/09           21         30/06/09           21         03/08/09           45         07/05/09           30         30/06/09	26/06/09 19/06/08 19/06/08 10/07/08 20/08/08 13/09/08 08/11/08 13/12/08 13/12/08 11/02/09 25/03/09 04/06/09 11/06/09 29/06/09 11/06/09 29/06/09 11/06/09 29/06/09 29/06/09 29/06/09 29/06/09 24/07/09 01/08/09 26/08/09 29/06/09 04/08/09	7       2         0       2         19       2         19       2			7		& Approva	I by the E ccavation	& Lateral S	imming of Exi Pile	sting Piles Cap & Bund	ncrète Plin	Mod. to LV
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1580         ction JII         dium Hype         1335         1337         1340         1343         1343         1345         1345         1346         1345         1360         1370         1380         1480         1485         1590         1660         1677         1680         1690         1700         1710         1390         E         1395         1395	Associated E&M system Core test for Existing PPC Piles Submit & Approval by the Engineer Excavation & Lateral Support Work Extension/Trimming of Existing Piles Pile Cap & Bund Wall Concrete Plinth & Columns Installation of Steel Storage Tanks, 4 nos. Space Frame & Shelter FRP Wall Panel Cons. Sump Pit, U-channel & Stairs Cons. Cable Trench Install Transfer Pump, Pipe & Filter Install Overhead Travelling Crane Mod. to LV Switchboards in Sedimentation Tank Install FRP Railing & Mesh Flooring Install Gas & Vibration System CCTV, Fire Services & E&M Works Test & Commissioning Cons. Underground Drainage Cons. the New Road No.1 & Wash Out Chamber NO.2. Excavation & Lateral Support Works Extension/Trimming of Existing Piles	60         15/04/09           14         03/06/08           21         20/06/08           35         11/07/08           21         21/08/08           45         16/09/08           30         10/11/08           45         15/12/08           55         16/01/09           50         02/03/09           24         07/05/09           30         07/05/09           30         07/05/09           30         25/05/09           14         26/05/09           21         30/06/09           28         30/06/09           21         03/08/09           45         07/05/09           30         30/06/09           21         30/06/09           21         30/06/09           21         03/08/09           45         07/05/09           30         30/06/09           45         07/05/09           30         30/06/09           45         07/05/09           30         30/06/09           45         07/05/08           35         20/09/08	26/06/09 19/06/08 10/07/08 20/08/08 13/09/08 08/11/08 13/12/08 13/12/09 25/03/09 06/05/09 04/06/09 29/06/09 11/06/09 29/06/09 11/06/09 29/06/09 11/08/09 24/07/09 01/08/09 26/08/09 29/06/09 19/09/08 01/11/08	7       2         0       2         0       3         0       2         19       2         20       2         20       2         20       2				Submit	8 Approva	I by the E ccavation	& Lateral S tension/Tri	imming of Exi Pile	sting Piles Cap & Bund	ncrète Plin	Mod. to LV ng Piles e Cap to G/L

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2009 MAY JUN JUL AUG SEP 1412 3 **5** 6 6 Internal & External Finishing for Switch Rm No.2 Installation Switch Board Mod. to LV Switchboards at Switchgear bldg. Install Dosing Pump units & pipes Install FRP Railing & Mesh Flooring FS & Elec. Works Test & Commissioning Install Drainage Pipes Ind Wall ns. of Concrete Pinth Steel Structure for Dechlorination Plant FRP Storage Tanks, 2nos FRP Shelter itch Rm No.3 & UPS Battery Rm 🕮 Install LV Switchboard & Battery units Unloading Pump Units & Pipe all FRP Railing & Mesh Flooring FS & Elec. Works Test & Commissioning Install Rising Main & Stormwater Drain Intall External Fencing & Gate ю.1 hes, Wash out Pit 1 to Hypo. Compound Pipe Trenches, Hypo. Compund to Day Tank Area Assoc. pipeworks, Feeding Pipes Assoc. Pipeworks, Dosing Pipes Associated E&M system tallation of Steel Storage Tanks, 4 nos. Space Frame & Shelter FRP Wall Panel Cons. Sump Pit, U-channel & Stairs Cons. Cable Trench Install the Rolling Shutter install Transfer Pump, Pipe & Filter Install Overhead Travelling Crane Switchboards in Sedimentation Tank Install FRP Railing & Mesh Flooring Install Gas & Vibration System CCTV, Fire Services & E&M Works Test & Commissioning Cons. Underground Drainage Cons. the New Road G/L to Roof 12 43 MAR APR 14 15 16 17 MAY JUN JUL AUG 18 SEP

1420       Internal & External Finishing       45       25/03/09       22/05/09       20       2         1430       Install Elec. Travelling Hoist       14       12/05/09       27/05/09       20       2         1530       Install the Switch Board       28       12/05/09       13/06/09       20       2         1730       Install Washout Pump and Pipes       35       29/05/09       09/07/09       20       2         1740       Fire Services & E&M Works       21       15/06/09       09/07/09       20       2         1750       Test & Commissioning       21       10/07/09       03/08/09       20       2	<b>99</b> 10
1530       Install the Switch Board       28       12/05/09       13/06/09       20       2         1730       Install Washout Pump and Pipes       35       29/05/09       09/07/09       20       2         1740       Fire Services & E&M Works       21       15/06/09       09/07/09       20       2         1750       Test & Commissioning       21       10/07/09       03/08/09       20       2         1435       Excavelion & Lateral Support Works       45       20/09/08       13/11/08       20       2         1435       Excavelion & Lateral Support Works       45       20/09/08       13/11/08       20       2         1440       Construction of Wash Out Pit No.1       60       14/11/108       2/0       2         1770       Fire Service & E&M Works       28       04/03/09       07/05/09       93       2         17770       Fire Service & E & E&M Works       28       04/03/09       07/05/09       93       2         18702       Unsating Amaa       20       14/11/08       18/12/08       20       2       2         1770       Fire Service & E&M Works       30       14/11/08       18/12/08       20       2       2	
1730       Install Washout Pump and Pipes       25       22/05/09       09/07/09       20       2         1740       Fire Services & E&M Works       21       15/06/09       09/07/09       20       2         1750       Test & Commissioning       21       10/07/09       03/08/09       20       2         1750       Test & Commissioning       21       10/07/09       03/08/09       20       2         1435       Excavation & Lateral Support Works       45       20/09/08       13/11/08       20       2         1440       Construction of Wash Out Pit No.1       60       14/11/108       20/07/09       93       2         1770       Install Washout Pump & Pipe       28       3/00/109       03/03/09       93       2         1775       Test & Commissioning       21       08/04/09       07/05/09       93       2         1450       Excavation & Lateral Support Works       30       14/11/08       18/12/08       20       2         1450       Excavation & Lateral Support Works       30       14/11/08       18/12/08       20       2         1450       Excavation & Lateral Support Works       30       14/11/08       16/02/09       2       2 <tr< th=""><th></th></tr<>	
1740         Fire Services & E&M Works         21         1500:00         00/07/09         20         2           1750         Test & Commissioning         21         10/07/09         03/08/09         20         2           1435         Excavation & Lateral Support Works         45         20/09/08         13/11/08         20         2           1435         Excavation & Lateral Support Works         45         20/09/08         13/11/08         20         2           1440         Construction of Wash Out Pit No.1         60         14/11/08         29/01/09         93         2           1770         Install Washout Pump & Pipe         28         28/00/09         07/04/09         93         2           1770         Fire Service & E&M Works         28         04/03/09         07/04/09         93         2           1775         Test & Commissioning         21         08/04/09         07/05/09         93         2           1450         Execution & Lateral Support Works         30         14/11/08         18/12/08         20         2           1450         E&M Works         28         17/02/09         21/03/09         107         2           1520         E&M Works         28	
1750       Test & Commissioning       21       10/07/09       20       2         1435       Excavation & Lateral Support Works       45       20/09/08       13/11/08       20       2         1436       Excavation & Lateral Support Works       45       20/09/08       13/11/08       20       2         1440       Construction of Wash Out Pit No.1       60       14/11/108       29/01/09       93       2         1760       Install Washout Pump & Pipe       28       30/01/09       03/03/09       93       2         1770       Fire Service & E&M Works       28       04/03/09       07/04/09       93       2         1775       Test & Commissioning       21       08/04/09       07/05/09       93       2         1450       Excavation & Lateral Support Works       30       14/11/08       18/12/08       20       2         1450       Excavation & Lateral Support Works       30       14/11/08       18/12/08       20       2         1450       Excavation & Lateral Support Works       28       19/12/09       21/03/09       2         1520       E&M Works       28       19/12/09       21/03/09       107       2         1780       Mod. LV Switchbo	
Weakboard         Construction         Construction <td></td>	
1435       Excavation & Lateral Support Works       45       20/09/08       13/11/08       20       2         1440       Construction of Wash Out Pit No.1       60       14/11/108       29/01/09       93       2         1760       Install Washout Pump & Pipe       28       30/01/09       03/03/09       93       2         1770       Fire Service & E&M Works       28       04/03/09       07/04/09       93       2         1775       Test & Commissioning       21       08/04/09       07/05/09       93       2         1450       Excavation & Lateral Support Works       30       14/11/08       18/12/08       20       2         1450       Excavation & Lateral Support Works       30       14/11/08       18/12/08       20       2         1450       Excavation of Structure       45       19/12/08       16/02/09       20       2         1520       E&M Works       28       17/02/09       21/03/09       107       2         1780       Mod. LV Switchboards at Ferric Chloride Storage       14       12/03/09       18/04/09       107       2         1800       Cons. Extension Bundwall & 200 UC       28       17/02/09       21/03/09       127       2 </th <td></td>	
1440       Construction of Wash Out Pit No.1       60       14/1 1/08       29/01/09       93       2         1760       Install Washout Pump & Pipe       28       30/01/09       03/03/09       93       2         1770       Fire Service & E&M Works       28       04/03/09       07/04/09       93       2         1775       Test & Commissioning       21       08/04/09       07/05/09       93       2         1450       Excavation & Lateral Support Works       30       14/11/08       18/12/08       20       2         1450       Excavation of Structure       45       19/12/08       16/02/09       20       2         1520       E&M Works       28       17/02/09       21/03/09       107       2         1520       E&M Works       28       17/02/09       21/03/09       107       2         1780       Mod. LV Switchboards at Ferric Chloride Storage       14       12/03/09       107       2         1790       Test & Commissioning       14       30/03/09       18/04/09       107       2         1800       Cons. Extension Bundwall & 200 UC       28       17/02/09       21/03/09       127       2	
1760       Install Washout Pump & Pipe       28       30/01/09       03/03/09       93       2         1770       Fire Service & E&M Works       28       04/03/09       07/04/09       93       2         1775       Test & Commissioning       21       08/04/09       07/05/09       93       2         1775       Test & Commissioning       21       08/04/09       07/05/09       93       2         1450       Excavation & Lateral Support Works       30       14/11/08       18/12/08       20       2         1460       Construction of Structure       45       19/12/08       16/02/09       20       2         1520       E&M Works       28       17/02/09       21/03/09       107       2         1780       Mod. LV Switchboards at Ferric Chloride Storage       14       12/03/09       18/04/09       107       2         1790       Test & Commissioning       14       30/03/09       18/04/09       107       2         1800       Cons. Extension Bundwall & 200 UC       28       17/02/09       21/03/09       127       2         Othera       Extension Extension Bundwall & 200 UC       28       17/02/09       12/03/09       127       2 <td>Excavation &amp; Lateral Support Works</td>	Excavation & Lateral Support Works
1770       Fire Service & E&M Works       28       04/03/09       07/04/09       93       2         1775       Test & Commissioning       21       08/04/09       07/05/09       93       2         Barge Unicading Area       1450       Excavation & Lateral Support Works       30       14/11/08       18/12/08       20       2         1460       Construction of Structure       45       19/12/08       16/02/09       20       2         1520       E&M Works       28       17/02/09       21/03/09       107       2         1780       Mod. LV Switchboards at Ferric Chloride Storage       14       12/03/09       28/03/09       107       2         1790       Test & Commissioning       14       30/03/09       18/04/09       107       2         1800       Cons. Extension Bundwall & 200 UC       28       17/02/09       21/03/09       127       2         Othere       Excension Bundwall & 200 UC       28       17/02/09       12/03/09       127       2	Constructi
1775       Test & Commissioning       21       08/04/09       07/05/09       93       2         Barge Unloading Area       1450       Excavation & Lateral Support Works       30       14/11/08       18/12/08       20       2         1450       Excavation & Lateral Support Works       30       14/11/08       18/12/08       20       2         1460       Construction of Structure       45       19/12/08       16/02/09       20       2         1520       E&M Works       28       17/02/09       21/03/09       107       2         1780       Mod. LV Switchboards at Ferric Chloride Storage       14       12/03/09       28/03/09       107       2         1790       Test & Commissioning       14       30/03/09       18/04/09       107       2         1800       Cons. Extension Bundwall & 200 UC       28       17/02/09       21/03/09       127       2	
Barge Unloading Area       141 00/00 0       010/00 0       030 2         1450       Excavation & Lateral Support Works       30       14/11/08       18/12/08       20       2         1460       Construction of Structure       45       19/12/08       16/02/09       20       2         1520       E&M Works       28       17/02/09       21/03/09       107       2         1780       Mod. LV Switchboards at Ferric Chloride Storage       14       12/03/09       28/03/09       107       2         1790       Test & Commissioning       14       30/03/09       18/04/09       107       2         1800       Cons. Extension Bundwall & 200 UC       28       17/02/09       21/03/09       127       2	
1450       Excavation & Lateral Support Works       30       14/11/08       18/12/08       20       2         1460       Construction of Structure       45       19/12/08       16/02/09       20       2         1520       E&M Works       28       17/02/09       21/03/09       107       2         1780       Mod. LV Switchboards at Ferric Chloride Storage       14       12/03/09       28/03/09       107       2         1790       Test & Commissioning       14       30/03/09       18/04/09       107       2         1800       Cons. Extension Bundwall & 200 UC       28       17/02/09       21/03/09       127       2	
1460         Construction of Structure         45         19/12/08         16/02/09         20         2           1520         E&M Works         28         17/02/09         21/03/09         107         2           1780         Mod. LV Switchboards at Ferric Chloride Storage         14         12/03/09         28/03/09         107         2           1790         Test & Commissioning         14         30/03/09         18/04/09         107         2           1800         Cons. Extension Bundwall & 200 UC         28         17/02/09         21/03/09         127         2	<b>V</b>
1520     E&M Works     28     17/02/09     21/03/09     107     2       1780     Mod. LV Switchboards at Ferric Chloride Storage     14     12/03/09     28/03/09     107     2       1790     Test & Commissioning     14     30/03/09     18/04/09     107     2       1800     Cons. Extension Bundwall & 200 UC     28     17/02/09     21/03/09     127     2	Excavation & Lateral Supp
1780         Mod. LV Switchboards at Ferric Chloride Storage         14         12/03/09         28/03/09         107         2           1790         Test & Commissioning         14         30/03/09         18/04/09         107         2           1800         Cons. Extension Bundwall & 200 UC         28         17/02/09         21/03/09         127         2	Cor
1790         Test & Commissioning         14         30/03/09         18/04/09         107         2           1800         Cons. Extension Bundwall & 200 UC         28         17/02/09         21/03/09         127         2           Othera         Construction Bundwall & 200 UC         28         17/02/09         127         2	
1800         Cons. Extension Bundwall & 200 UC         28         17/02/09         21/03/09         127         2           Others         Others         Image: Construction of the state of the st	
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1484 CCTV System for Ferric Chloride Storage 14 12/03/09 28/03/09 121 2	
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1490 Demolition of storage struc. 45 17/02/09 15/04/09 20 2	
1500 Provision of storage struc. 90 16/04/09 03/08/09 20 2	Provisio
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1810 Cons. Gate Type A 30 29/06/09 03/08/09 20 2	

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APPENDIX C MONITORING REQUIREMENTS

# **APPENDIX C – Monitoring Requirements**

Type of Monitoring	Parameter	Frequency	Location of Measurement
	1-hour TSP	3 times / 6-day	
Air Quality	24-hour TSP	Once / 6-day	AM1 (Rooftop, Block A of Government Dockyard)

Remarks: Due to the sensitivity of the military installations within Barracks building, the People's Liberation Army (PLA) had declined ET's request for setting up the air quality monitoring station AM2 (Ngong Shuen Chau Barracks – Group 2) and construction noise monitoring station NM1 (Barracks Buildings). Considering there is no other sensitive receiver within the EIA study area (500m from the Project site boundary of Portions 3 & 4 for Air Quality and 300m from the Project site boundary of Portions 3 & 4 for Noise) and no significant environmental impact form the project is anticipated, the ET Leader proposed to cancel all environmental monitoring works at the designated monitoring stations AM2 and NM1. The proposal has been verified by IEC on 19<sup>th</sup> August 2008 and approved by EPD on 2<sup>nd</sup> September 2008.

APPENDIX D ACTION AND LIMIT LEVELS

# **APPENDIX D - Action and Limit Levels**

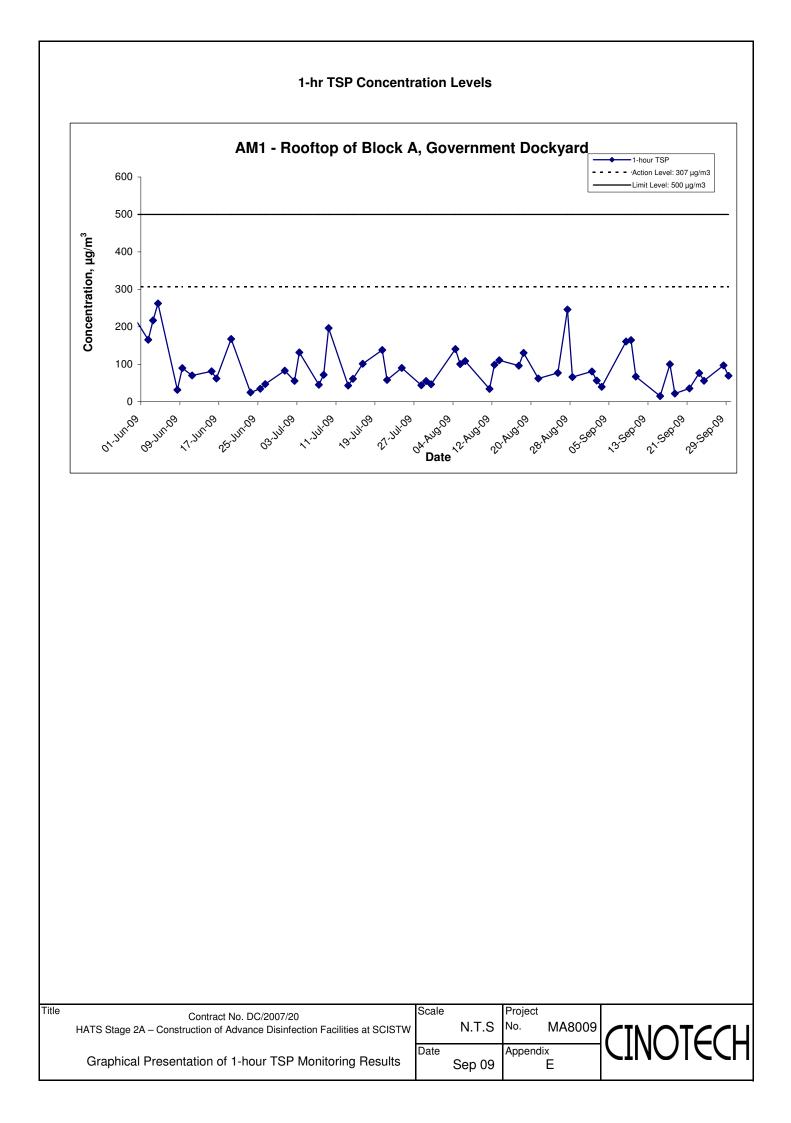
#### Table D-1Action and Limit Levels for 1-Hour TSP

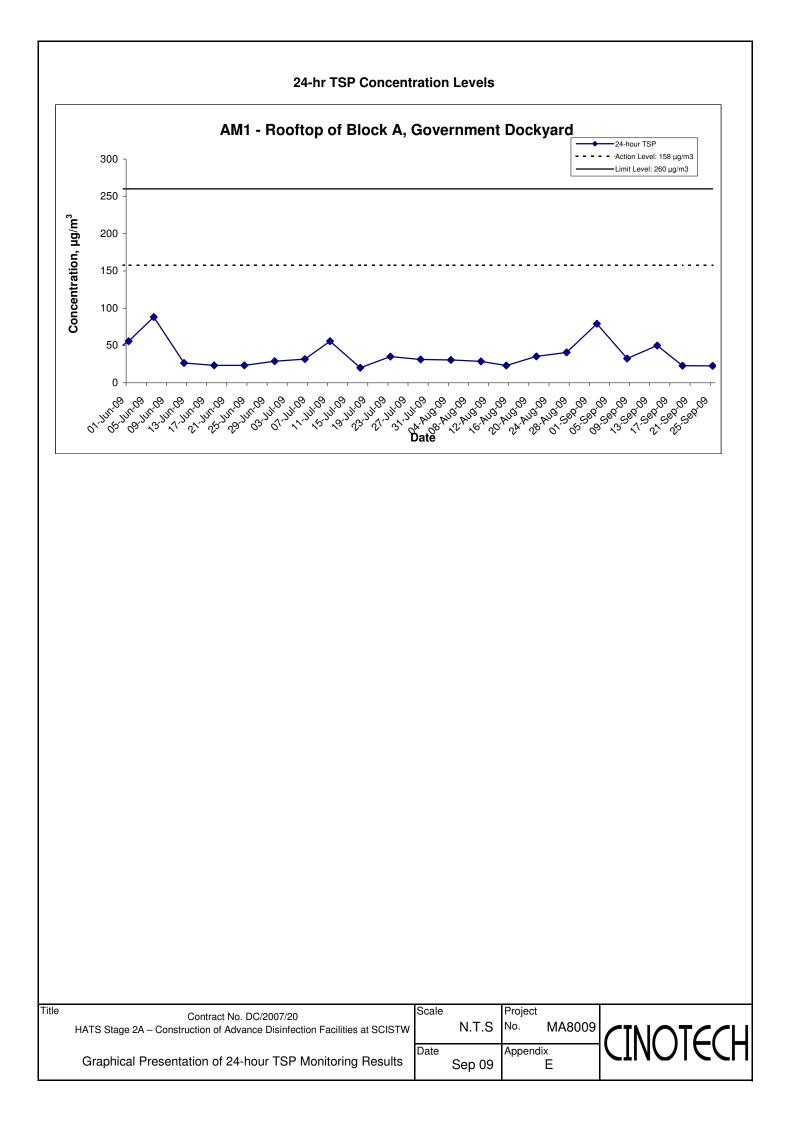
Location	Action Level, μg/m <sup>3</sup>	Limit Level, µg/m <sup>3</sup>
AM1	307	500

#### Table D-2 Action and Limit Levels for 24-Hour TSP

Location	Action Level, μg/m <sup>3</sup>	Limit Level, µg/m <sup>3</sup>
AM1	158	260

APPENDIX E GRAPHICAL PRESENTATION OF AIR QUALITY MONITORING RESULTS





APPENDIX F SUMMARY OF ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE (EMIS)

EIA Ref	Environmental Protection Measures/Mitigation Measures	Location/Timing	Implementation	Im	plementa	ation Sta	Relevant Legislation and Guidelines		
			Agent	Des	С	0	Dec		
\$3.29	Dust mitigation measures stipulated in the Air Pollution Control (Construction Dust)	Work sites / During	Contractor		$\checkmark$			EIAO-TM and Air	
	Regulation should be incorporated to control dust emission from the site. Control measures	the construction						Pollution Control	
	relevant to this Project are listed below:	period						(Construction Dust)	
	• Skip hoist for material transport should be totally enclosed by impervious sheeting;							Regulation	
	• 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								

## **APPENDIX F – Summary of Environmental Mitigation Implementation Schedule (EMIS)**

EIA Ref	Environmental Protection Measures/Mitigation Measures	Location/Timing	Implementation	Im	plementa	tion Sta	ges*	Relevant Legislation and Guidelines
			Agent	Des	С	0	Dec	
	<ul> <li>hour is the recommended limit;</li> <li>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;</li> <li>Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites; and</li> <li>Instigation of an environmental monitoring and auditing program to monitor the construction process in order to enforce controls and modify method of work if</li> </ul>							
S4.48 – S4.50	dusty conditions arise. Use of quiet PME	Work sites / During the construction period	Contractor		1			EIAO-TM and Noise Control Ordinance
S4.51	<ul> <li>Good Site Practice</li> <li>Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program;</li> <li>Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program;</li> <li>Mobile plant, if any, should be sited as far from NSRs as possible;</li> <li>Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum;</li> <li>Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs; and</li> <li>Material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities.</li> </ul>	Work sites / During the construction period	Contractor		J			EIAO-TM and Noise Control Ordinance

EIA Ref	Environmental Protection Measures/Mitigation Measures	Location/Timing	Implementation	Imp	olementa	tion Sta	ges*	Relevant Legislation and Guidelines
			Agent	Des	С	0	Dec	
\$4.56 & \$13	Noise monitoring should be carried out to ensure that noise mitigation measures would be properly implemented. Details of the monitoring requirements are specified in the EM&A Manual.	Barrack / During the construction period	Contractor		V			EIAO-TM and Noise Control Ordinance
\$5.212	The practices outlined in ProPECC PN 1/94 Construction Site Drainage should be adopted. It is recommended to install perimeter channels in the works areas to intercept runoff at site boundary prior to the commencement of any earthwork. To prevent storm runoff from washing across exposed soil surfaces, intercepting channels should be provided. Drainage channels are also required to convey site runoff to sand/silt traps and oil interceptors. Provision of regular cleaning and maintenance can ensure the normal operation of these facilities throughout the construction period. Any practical options for the diversion and realignment of drainage should comply with both engineering and environmental requirements in order to ensure adequate hydraulic capacity of all drains.	Work sites / During the construction period	Contractor		V			EIAO-TM and Water Pollution Control Ordinance
\$5.213	There is a need to apply to EPD for a discharge licence under the WPCO for discharging effluent from the construction site. The discharge quality is required to meet the requirements specified in the discharge licence. All the runoff and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the TM-DSS. Reuse and recycling of the treated effluent can minimise water consumption and reduce the effluent discharge volume. The beneficial uses of the treated effluent may include dust suppression, wheel washing and general cleaning. 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.	Work sites / During the construction period	Contractor		V			EIAO-TM and Water Pollution Control Ordinance

EIA Ref	Environmental Protection Measures/Mitigation Measures	Location/Timing	Implementation	Im	plementa	tion Sta <sub>i</sub>	Relevant Legislation and Guidelines	
			Agent	Des	С	0	Dec	
	The construction programme should be properly planned to minimise soil excavation, if	Work sites / During	Contractor		$\checkmark$			EIAO-TM and Water
	any, in rainy seasons. This prevents soil erosion from exposed soil surfaces. Any exposed	the construction						Pollution Control
	soil surfaces should also be properly protected to minimise dust emission. In areas where a	period						Ordinance
	large amount of exposed soils exist, earth bunds or sand bags should be provided. Exposed							
	stockpiles should be covered with tarpaulin or impervious sheets at all times. The stockpiles							
S5.214	of materials should be placed at locations away from any stream courses so as to avoid							
	releasing materials into the water bodies. Final surfaces of earthworks should be compacted							
	and protected by permanent work. It is suggested that haul roads should be paved with							
	concrete and the temporary access roads protected using crushed stone or gravel, wherever							
	practicable. Wheel washing facilities should be provided at all site exits to ensure that earth,							
	mud and debris would not be carried out of the works areas by vehicles.							
	Good site practices should be adopted to clean the rubbish and litter on the construction	Work sites / During	Contractor		$\checkmark$			EIAO-TM and Water
\$5.215	sites so as to prevent the rubbish and litter from spreading from the site area. It is	the construction						Pollution Control
	recommended to clean the construction sites on a regular basis.	period						Ordinance
	The presence of construction workers generates sewage. It is recommended to provide	Work sites / During	Contractor		$\checkmark$			EIAO-TM and Water
	sufficient chemical toilets in the works areas. The toilet facilities should be more than 30 m	the construction						Pollution Control
\$5.216	from any watercourse. A licensed waste collector should be deployed to clean the chemical	period						Ordinance
	toilets on a regular basis. The construction workers can also make use of the existing toilet							
	facilities within the SCISTW as necessary.							

EIA Ref	Environmental Protection Measures/Mitigation Measures	Location/Timing	Implementation	Im	plementa	tion Sta	ges*	Relevant Legislation and Guidelines
			Agent	Des	С	0	Dec	
\$5.217	Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction phase of the project. Regular environmental audit on the construction site can provide an effective control of any malpractices and can achieve continual improvement of environmental performance on site. It is anticipated that sewage generation during the construction phase	Work sites / During the construction period	Contractor		V			EIAO-TM and Water Pollution Control Ordinance
	of the project would not cause water pollution problem after undertaking all required measures.							
\$5.218	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.	Work sites / During the construction period	Contractor		V			EIAO-TM and Waste Disposal Ordinance
\$5.219	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.	Work sites / During the construction period	Contractor		V			EIAO-TM, Waste Disposal Ordinance and Water Pollution Control Ordinance
\$5.220	<ul> <li>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: <ul> <li>Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport.</li> <li>Chemical waste containers should be suitably labeled, to notify and warn the personnel who are handling the wastes, to avoid accidents.</li> </ul> </li> </ul>	Work sites / During the construction period	Contractor		V			EIAO-TM and Waste Disposal Ordinance

EIA Ref	Environmental Protection Measures/Mitigation Measures	Location/Timing	Implementation	Im	plementa	tion Sta	Relevant Legislation and Guidelines	
			Agent	Des	С	0	Dec	
	• Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.							
	Good Site Practices Work		Contractor		$\checkmark$			Waste Disposal
	Recommendations for good site practices during the	the construction						Ordinance (Cap.54)
	construction activities include:	period						ETWB TCW No.
	• Nomination of an approved person, such as a site manager, to be responsible for							19/2005
	good site practices, arrangements for collection and effective disposal to an							
	appropriate facility, of all wastes generated at the site							
	• Training of site personnel in proper waste management and chemical handling							
S10.21	procedures							
	Provision of sufficient waste disposal points and regular collection of waste							
	Appropriate measures to minimise windblown litter and dust during transportation							
	of waste by either covering trucks or by transporting wastes in enclosed containers							
	• Regular cleaning and maintenance programme for drainage systems, sumps and oil							
	interceptors.							
	Separation of chemical wastes for special handling and appropriate treatment at the							
	Chemical Waste Treatment Facility.							

EIA Ref	Environmental Protection Measures/Mitigation Measures	Location/Timing	Implementation	Im	plementa	tion Sta	ges* Relevant Legislation and Guidelines
			Agent	Des	С	0	Dec
	Waste Reduction Measures	Work sites / During	Contractor	$\checkmark$	$\checkmark$		
	Waste reduction is best achieved at the planning and design stage, as well as by ensuring	planning & design					
	the implementation of good site practices. Recommendations to achieve waste reduction	stage, and					
	include:	construction stage					
	• Segregation and storage of different types of waste indifferent containers, skips or						
	stockpiles to enhance reuse or recycling of materials and their proper disposal						
	• Encourage collection of aluminium cans by providing separate labelled bins to						
	enable this waste to be segregated from other general refuse generated by the						
S10.22	workforce						
510.22	• Proper storage and site practices to minimise the potential for damage or						
	contamination of construction materials						
	• Plan and stock construction materials carefully to minimise amount of waste						
	generated and avoid unnecessary generation of waste.						
	• A recording system for the amount of wastes generated, recycled and disposed						
	(including disposal sites) should be proposed.						
	• Training should be provided to workers about the concepts of site cleanliness and						
	appropriate waste management procedures, including waste reduction, reuse and						
	recycle.						
	General Refuse	Work sites / During	Contractor		$\checkmark$		Public Health and
	General refuse should be stored in enclosed bins or compaction units separate from C&D	the construction					Municipal Services
S10.24	material. A reputable waste collector should be employed by the contractor to remove	period					Ordinance (Cap. 132)
	general refuse from the site, separately from C&D material. Preferably an enclosed and						
	covered area should be provided to reduce the occurrence of 'wind blown' light material.						

EIA Ref	Environmental Protection Measures/Mitigation Measures	Location/Timing	Implementation	Im	plementa	tion Sta	ges*	Relevant Legislation and Guidelines
			Agent	Des	С	0	Dec	
	Construction and Demolition Material	Work sites / During	Contractor	$\checkmark$				ETWB TCW No.
	In order to minimise impacts resulting from collection and transportation of C&D material	design stage and						33/2002
	for off-site disposal, the excavated material generated from excavation works for the	construction period						ETWB TCW No.
	proposed chlorination plant, dechlorination plant, day tank and pipe trenches should be							19/2005
	reused on-site as backfilling material as far as practicable. The surplus excavated material							
\$10.25	should be disposed of at the designated public fill reception facility, as agreed with the							
	Secretary of the Public Fill Committee, for other beneficial uses. C&D waste generated							
	from site clearance and dismantling of formwork would require disposal to the designated							
	landfill site. In order to monitor the disposal of C&D material at the public fill reception							
	facility and landfill and to control fly-tipping, a trip-ticket system should be included. One							
	may make reference to ETWB TCW No. 31/2004 for details.							
	Chemical Waste	Work sites / During	Contractor		$\checkmark$			Waste Disposal
	If chemical wastes are produced at the construction site, the Contractor would be required	the construction						(Chemical Waste)
	to register with the EPD as a chemical waste producer and to follow the guidelines stated in	period						(General) Regulation
	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							
S10.26	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.							

# All recommendations and requirements resulted during the course of EIA/EA Process, including ACE and / or accepted public comment to the proposed project.

\* Des - Design, C - Construction, O - Operation, and Dec - Decommissioning

APPENDIX G SUMMARY OF ENVIRONMENTAL LICENCES AND PERMITS

## Appendix G - Summary of Environmental Licensing and Permit Status

Permit /	Valid	Period	Details	Status
License No.	From	То	Details	Status
		Envi	ronmental Permit (EP)	
EP-295/2007	03/12/07	N/A	The Project involves construction and operation of disinfection facilities (chlorination/dechlorination) within the existing Stonecutters Island Sewage	Superseded
EP-295/2007/A	20/5/09	N/A	Treatment Works. The disinfection facilities include storage, dosing and associated pipeline systems for sodium hypochlorite sodium bisulphite.	Valid
	Billin	ng Account j	for Disposal of Construction Waste	
7007138	13/05/08	N/A	Disposal of Construction waste.	Valid
		Chemica	ıl Waste Producer Number	
WPN: 5213-269- C2397-22	04/09/08	N/A	Disposal of Chemical Waste including lubricating oil, spent batteries and etc.	Valid
	1	Waste	Water Discharge License	I
EP760/269/0133011	14/07/08	31/07/13	Discharge of industrial trade effluent and all other wastewater arising from Construction site at Stonecutters Island Sewage Treatment Works, Kowloon (Contract No. DC/2007/20 HATS 2A- Construction of Advance Disinfection Facilities at SCISTW) to communal storm drain after solid removal.	Valid
EP760/269/0133011a	27/10/08	Discharge of industrial trade effluent and all other wastewater arising from Construction site of Harbour Area Treatment Scheme 2 A (Portions 3 & 4), at Container Port Road South, Stonecutters Island, Kowloon to communal storm drain after solid removal.	Valid	
		Constru	ction Noise Permit (CNP)	
GW-RW0057-09	1/3/09	31/8/09	Location: Construction site in Stonecutters Island Sewage Treatment Works at Stonecutters Island, Kowloon. Day and hours for the use of PMEs: 19:00-23:00 on any day not being a general holiday and 07:00-19:00 on general holidays including Sundays	Valid
GW-RW0234-09	1/7/09	30/11/09	<u>Location:</u> Construction site in Stonecutters Island Sewage Treatment Works at Stonecutters Island, Kowloon. <u>Day and hours for the use of PMEs:</u> 19:00-23:00 on any day not being a general holiday and 07:00-19:00 on general holidays including Sundays	Valid

Permit /	Valid	Period	- Details	Status	
License No.	From	То	Details	Status	
GW-RW0316-09	1/8/09	31/12/09	<u>Location:</u> Construction site in Stonecutters Island Sewage Treatment Works at Stonecutters Island, Kowloon. <u>Day and hours for the use of PMEs:</u> 00:00-24:00 on any day not being a general holiday and 19:00-2400 & 00:00-07:00 on general holidays including Sundays	Valid	
GW-RW0375-09	31/8/09	12/9/09	<u>Location:</u> Construction site in Stonecutters Island Sewage Treatment Works at Stonecutters Island, Kowloon. <u>Day and hours for the use of PMEs:</u> 19:00-2400 and 00:00-07:00 on any day	Valid	

APPENDIX H COMPLAINT LOG

## **APPENDIX H – Complaint Log**

**Reporting Period: July to September 2009** 

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

**Remarks**: No environmental complaint was received from July 2008 to September 2009.

APPENDIX I SUMMARY OF EXCEEDANCE

## **APPENDIX I – Summary of Exceedance**

- (A) Exceedance Report for 1-hr TSP (NIL in the reporting quarter)
- (B) Exceedance Report for 24-hr TSP (NIL in the reporting quarter)
- (C) Exceedance Report for Construction Noise (NIL in the reporting quarter)