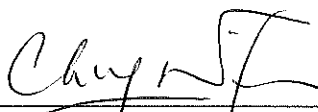


## Harbour Area Treatment Scheme Stage 2A

**Contract No. DC/2007/23, DC/2009/05,  
DE/2009/02, DC/2009/17, DC/2009/10  
and DC/2009/18**

**Consolidated Quarterly Environmental  
Monitoring and Audit Report  
March 2012 to May 2012**

**(Version 1.3)**

Certified By	 _____ (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.

CINOTECH accepts no responsibility for changes made to this report by third parties

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## ABBREVIATION AND ACRONYM

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

## EXECUTIVE SUMMARY

### Introduction

1. This is the 10<sup>th</sup> Consolidated Quarterly Environmental Monitoring and Audit (EM&A) Report summaries the key information of EM&A quarterly reports for the following construction contracts at the Stonecutters Island Sewage Treatment Works (SCISTW) under the Project of Harbour Area Treatment Scheme Stage 2A (the Project) and prepared by Cinotech Consultants Limited, the Environmental Team (ET) for Contract no. DC/2009/10, DC/2009/17 and DC/2009/18.
  - Contract no. DC/2007/23 – Construction of Sewage Conveyance System from North Point to Stonecutters Island;
  - Contract no. DC/2009/05 – Construction of Interconnection Tunnel and Diaphragm Wall for Main Pumping Station at SCISTW;
  - Contract no. DE/2009/02 – Provision of Covers and Deodourisation Facilities to the Existing Sedimentation Tanks at SCISTW;
  - Contract no. DC/2009/17 - Upgrading Works at Stonecutters Island Sewage Treatment Works – Sludge Dewatering Facilities; and
  - Contract no. DC/2009/10- Upgrading Works at Stonecutters Island Sewage Treatment Works – Main Pumping Station, Sedimentation Tanks and Ancillary Facilities;
  - Contract no. DC/2009/18- Upgrading Works at Stonecutters Island Sewage Treatment Works – Effluent Tunnel and Disinfection Facilities.
2. The above-mentioned Contracts are under the same Environmental Permit (EP) No. EP-322/2008/E and separate ETs were appointed under each contract pursuant to Condition 2.1 of the EP.
3. This report is a contractual requirement under Contract No. DC/2009/10 to provide a consolidated quarterly summary of the EM&A works at SCISTW for the purpose of ease of references. Each Contract is administered under their respective contract by different project teams including the Engineer, the Engineer’s Representatives, the Contractor, and the ET.
4. No amendment of the information in the EM&A reports for each individual contract was made in this consolidated quarterly report.
5. This Report documents the findings of EM&A Works for the Project covering the period from March 2012 to May 2012.
6. The details of the EM&A for individual contracts can be found in the separate EM&A quarter reports. In case of ambiguity and discrepancy, the individual EM&A report shall prevail. The Executive Summaries and Web Sites for the individual contracts are shown below:

**Table I Summary Table for Executive Summaries and Web Sites:**

Contract no.	ES/Web Site	Details:
DC/2007/23	Executive Summary	At SCISTW, air quality monitoring station AM6 and noise monitoring station NM5 were monitored by ET for Contract no. DC/2007/23.
	Web Site	<a href="http://www.hats2a-ema.com/RP_EMA/DC200723/EM&amp;A%20Report.html">http://www.hats2a-ema.com/RP_EMA/DC200723/EM&amp;A%20Report.html</a>
DC/2009/05	Executive Summary	At SCISTW, air quality monitoring station AM7 and noise monitoring station NM6 were monitored by ET for Contract no. DC/2009/05.

	Web Site	<a href="http://www.hats2a-ema.com/RP_EMA/DC200905/EM&amp;A%20Report.html">http://www.hats2a-ema.com/RP_EMA/DC200905/EM&amp;A%20Report.html</a>
DE/2009/02	Executive Summary	At SCISTW, air quality monitoring station AM8 was monitored by ET for Contract no. DE/2009/02.
	Web Site	<a href="http://www.hats2a-ema.com/RP_EMA/DE200902/EM&amp;A%20Report.html">http://www.hats2a-ema.com/RP_EMA/DE200902/EM&amp;A%20Report.html</a>
DC/2009/17	Executive Summary	The air quality and noise monitoring stations under this contract were covered by other contracts at SCISTW. The monitoring data would be summarized in this monthly EM&A report.
	Web Site	<a href="http://www.hats2a-ema.com/RP_EMA/DC200917/EM&amp;A%20Report.html">http://www.hats2a-ema.com/RP_EMA/DC200917/EM&amp;A%20Report.html</a>
DC/2009/10	Executive Summary	The air quality and noise monitoring stations under this contract were covered by other contracts at SCISTW. The monitoring data would be summarized in this monthly EM&A report.
	Web Site	<a href="http://www.hats2a-ema.com/RP_EMA/DC200910/EM&amp;A%20Report.html">http://www.hats2a-ema.com/RP_EMA/DC200910/EM&amp;A%20Report.html</a>
DC/2009/18	Executive Summary	At SCISTW, air quality monitoring station AM9 and noise monitoring station NM7 were monitored by ET for Contract no. DC/2009/18.
	Web Site	<a href="http://www.hats2a-ema.com/RP_EMA/DC200918/EM&amp;A%20Report.html">http://www.hats2a-ema.com/RP_EMA/DC200918/EM&amp;A%20Report.html</a>

### Environmental Monitoring Works

- The environmental monitoring works were conducted by the ETs for the Contracts: DC/2007/23, DC/2009/05, DE/2009/02 and DC/2009/18 while no monitoring work is requested for DC/2009/17 and DC/2009/10 since the monitoring stations were duplicated. Site audits were conducted once per week for each contract by their ETs.
- Summary of the non-compliance of the reporting quarter is tabulated in **Table II**.

**Table II Summary Table for Non-compliance Recorded in the Reporting Quarter**

Monitored By	Monitoring Station	Parameter	No. of Exceedance		No. of Exceedance Due to the Project		Action Taken
			Action Level	Limit Level	Action Level	Limit Level	
DC/2007/23	AM6	1-hr TSP	0	0	0	0	N/A
		24-hr TSP	0	0	0	0	N/A
DC/2009/05	AM7	1-hr TSP	0	0	0	0	N/A
		24-hr TSP	0	0	0	0	N/A
DE/2009/02	AM8	1-hr TSP	0	0	0	0	N/A
		24-hr TSP	0	0	0	0	N/A
DC/2009/18	AM8	1-hr TSP	0	0	0	0	N/A
		24-hr TSP	0	0	0	0	N/A
DC/2007/23	NM5	Noise	0	0	0	0	N/A
DC/2009/05	NM6		0	0	0	0	N/A
DC/2009/18	NM7		0	0	0	0	N/A

*1-hour TSP Monitorin*

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

*24-hour TSP Monitoring*

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

*Construction Noise*

11. All construction noise monitoring was conducted as scheduled in the reporting quarter. No Action/Limit Level exceedance for normal working hours and restricted hours was recorded.

**Key Information in the Reporting Quarter**

12. Summary of key information in the reporting quarter is tabulated in **Table III**.

**Table III Summary Table for Key Information in the Reporting Quarter**

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Complaint received	0	---	N/A	N/A	---
Status of submissions under EP	3	Monthly Consolidation EM&A Report for SISTW for March, April and May 2012,	Submitted to EPD	No comment	---
Notifications of any summons & prosecutions received	0	--	N/A	N/A	---

**Key Information in the EIA Report**

13. According to the EIA Report, air quality, noise, water quality, ecology and landscape and visual would be the key environmental issues during the construction of the project. Details of the implementation of mitigation measures for six contracts are provided in the **Appendix H**.

## 1. INTRODUCTION

### Background

- 1.1 Harbour Area Treatment Scheme (HATS) Stage 2A is a designated project (Register No. : AEIAR-121/2008). The Environmental Permit (Permit No. EP-322/2008/E) for the Project was issued on 24<sup>th</sup> November 2010 to the Drainage Services Department (hereinafter called the DSD) as the Permit Holder.
- 1.2 The general location plan for the Contracts: DC/2007/23, DC/2009/05, DE/2009/02, DC/2009/17, DC/2009/10 and DC/2009/18 are shown in **Figure 1** and **2**.
- 1.3 The environmental permit (EP) was issued for the whole HATS Stage 2A construction works. The ET for the Contract DC/2009/10 is responsible to coordinate all submissions from the ETs of other contractors at SCISTW as required in the EP, EIA Report and EM&A Manual for the Project.
- 1.4 The 1<sup>st</sup> to 3<sup>rd</sup> consolidated quarterly EM&A reports were prepared by Ove Arup & Partners Hong Kong Ltd (Arup) and submitted to EPD. From November 2010 and onwards, the 4<sup>th</sup> and subsequent consolidated quarterly EM&A report will be prepared and submitted by Cinotech Consultant Limited, the ET for the Contract DC/2009/17, DC/2009/10 and DC/2009/18.
- 1.5 This is the 10<sup>th</sup> consolidated quarterly EM&A report summarizing the EM&A works conducted for the Project at SCISTW during March to May 2012.
- 1.6 The quarterly EM&A reports for each contract were prepared and certified by separate ETs and subsequently verified by the Independent Environmental Checker (IEC) for the Project. All individual quarterly EM&A Reports are provided in the Project Website.

### Current Contracts at SCISTW

- 1.7 The major Contracts at SCISTW and their scope of works are provided below:

#### Contract no. DC/2007/23

- Construction of sewage conveyance system between Sai Ying Pun junction shaft and Stonecutters Island Sewage treatment Works;
- Construction of riser shaft at Stonecutters Island Sewage Treatment Works;
- Construction of Stage 2 Connecting Adit between the riser shaft and Stage 2 Main Pumping Station side chamber (by others) at Stonecutters Island Sewage Treatment works.

#### Contract no. DC/2009/05

- Construction of diaphragm wall, base slab and pile cap for the Main Pumping Station and its Inlet Chamber;
- Excavation within the diaphragm walls for the Main Pumping Station and its Inlet Chamber to founding levels;
- Piling works for the Main Pumping Station;
- Construction of Temporary launching shaft;
- Construction of Interconnection Tunnel with concrete lining between the Inlet Chamber of the Main Pumping Station and the existing Riser Shaft.



Contract no. DE/2009/02

- Construction of covers for flocculation tanks, prototype tanks, main distribution channels, sedimentation tanks, scum chambers and effluent drop structures
- Two deodourisation facilities;
- Piling Works of Foundation;
- Construction of Foundation for Deodourisation facilities;
- Erection of Structure of Control Room at DOU Foundation;
- Construction of public access road with footpath;
- Water main laying works;
- Associated ancillary works; and
- Tree transplanting, landscaping works; and all other works as required under the Contract.

Contract no. DC/2009/17

- Demolition of the existing structures including vehicle washing facilities, Sludge Silo Building, Sludge Dewatering Building, process water storage tanks, polyelectrolyte storage tanks, ADF barging facilities and all associated plant and equipment;
- Construction of Sludge Dewatering Building, Sludge Cake Silos, Sludge Conveyor Bridges, Sludge Storage Tank, Deodourisation Units, Workshop Building, Process Water Storage Tanks and Pumping System;
- Construction of roof landscaping including irrigation system for the Sludge Dewatering Building and Workshop Building;
- Construction of chemical unloading facilities and the chemical pipe trench for the Disinfection Facilities; and
- Construction of associated Electrical, Mechanical, Building Services, Fire Services and Process Installation, Odour Control System and Temporary Vehicle Wash Facilities.

Contract no. DC/2009/10

- Construction of a main pumping station;
- The extension of chemically enhanced primary treatment tanks; and
- The construction of other ancillary facilities at Stonecutters Island Sewage Treatment Works.

Contract no. DC/2009/10

- The Construction of an 880m long effluent tunnel at Stonecutters Island; and
- The Construction of disinfection facilities at Stonecutters Island Sewage Treatment Works (SCISTW).

**Project Organizations**

1.8 The key contacts of current contracts are provided in **Table 1.1**.

**Table 1.1 Key Project Contacts**

<b>Contract No./ Position</b>	<b>DC/2007/23</b>	<b>DE/2009/02</b>	<b>DC/2009/05</b>
Contract Title:	Construction of Sewage Conveyance System from North Point to Stonecutters Island;	Provision of Covers and Deodourisation Facilities to the Existing Sedimentation Tanks at SCISTW.	Construction of Interconnection Tunnel and Diaphragm Wall for Main Pumping Station at SCISTW
Consultant	Metcalf & Eddy – AECOM JV	Ove Arup & Partners HK Ltd	Ove Arup & Partners HK Ltd
The Engineer	Keith Tsang (Tel:2605 6262)	S.Y.Chan (Tel: 2528 3031)	S.Y.Chan (Tel: 2528 3031)

<b>Contract No./ Position</b>	<b>DC/2007/23</b>	<b>DE/2009/02</b>	<b>DC/2009/05</b>
The Engineer Representative	Y.H. Fung (Tel: 3713 3110)	Ted Tang (Tel: 2990 6982)	Ted Tang (Tel: 2990 6982)
ER's Coordinator	Y.H. Fung (Tel: 3713 3110)	William Yu (Tel: 9705 9566)	William Yu (Tel: 9705 9566)
Independent Environmental Checker	Dr. Anne Kerr (Tel:28285757)	Dr. Anne Kerr (Tel:28285757)	Dr. Anne Kerr (Tel:28285757)
Contractor	Gammon Construction Ltd	ATAL Engineering Ltd.	China State- Shanghai Tunnel Joint Venture
Site Agent	Max Ko (Tel: 9033 1292)	Barry Lee (Tel:2565 7638)	Chris Leung (Tel: 23703166)
Environmental Officer	Leo Chow (Tel:9300 2013)	Gary Chow (Tel: 2743 1205)	Gary Hong (Tel: 2370 2086)
Environmental Team	Environmental Resources Management Ms.Winnie Ko (Tel: 2271 3000)	Action- United Environmental services and Consulting Mr. T.W.Tam (Tel: 2959 6059)	AECOM Asia Co Ltd Ms. Edith Ng (Tel: 2317 7609)
General Enquiry Hotline of the Project	Tel: 7901 8111	Tel: 2743 1205	Tel: 2370 3166

**Table 1.1(cont'd) Key Project Contacts**

<b>Contract No.</b>	<b>DC/2009/10</b>	<b>DC/2009/17</b>	<b>DC/2009/18</b>
Contract Title:	Upgrading Works at SCISTW - Main Pumping Station, Sedimentation Tanks and Ancillary Facilities	Upgrading Works at Stonecutters Island Sewage Treatment Works – Sludge Dewatering Facilities	Upgrading Works at Stonecutters Island Sewage Treatment Works – Effluent Tunnel and Disinfection Facilities
Consultant	Ove Arup & Partners HK Ltd	Ove Arup & Partners HK Ltd	Ove Arup & Partners HK Ltd
The Engineer	S.Y.Chan (Tel: 2528 3031)	S.Y.Chan (Tel: 2528 3031)	S.Y.Chan (Tel: 2528 3031)
The Engineer Representative	Ted Tang (Tel: 2990 6982)	Ted Tang (Tel: 2990 6982)	Ted Tang (Tel: 2990 6982)
ER's Coordinator	Natalie Kwok (Tel: 6794 8844)	Natalie Kwok (Tel: 6794 8844)	Natalie Kwok (Tel: 6794 8844)
Independent Environmental Checker	Dr. Anne Kerr (Tel:28285757)	Dr. Anne Kerr (Tel:28285757)	Dr. Anne Kerr (Tel:28285757)
Contractor	Sun Fook Kong – Biwater Joint Venture	China State- ATAL Joint Venture	Chun Wo – CEC Joint Venture
Site Agent	Mr. Ivan Tse (Tel: 6200 2149)	Mr. Tony Wong (Tel: 23703166)	Mr. Daniel Tai (Tel: 6688 5680)
Environmental Officer	Mr. Leo Lau (Tel:9209 2703)	Mr. H.S.Lui (Tel: 9050 2212)	Mr. Shelton Chan (Tel: 5395 5470)
Environmental Team	Cinotech Consultant Limited Dr. Priscilla Choy (Tel: 2151 2089)	Cinotech Consultant Limited Dr. Priscilla Choy (Tel: 2151 2089)	Cinotech Consultant Limited Dr. Priscilla Choy (Tel: 2151 2089)
General Enquiry Hotline of the Project	Tel: 5116 7498	Tel: 2370 3166	Tel: 7901 2882

## Construction Programme

1.9 The construction program for the six Contracts at SCISTW are provided in **Appendix L**. Major construction works undertaken during the reporting quarter include:

**Table 1.2 Construction Works in the Reporting Quarter**

Contract No.	Construction Works in the Reporting Quarter
DC/2007/23	Riser Shaft <ul style="list-style-type: none"> <li>• Connecting adit formwork erection;</li> <li>• Connecting adit formwork dismantling;</li> <li>• Connecting adit and interface coring.</li> </ul> Production Shaft <ul style="list-style-type: none"> <li>• Shaft excavation by drilling and blasting method; and</li> <li>• Bunton, services and FSD ladder way installation.</li> </ul>
DC/2009/05	March 2012 <ul style="list-style-type: none"> <li>• Construction of RC structures at existing riser shaft (strengthening wall);</li> <li>• Ground freezing at launching shaft, inlet chamber and existing riser shaft;</li> <li>• Driving of tunnel boring machine; and</li> <li>• Lowering of Gantry.</li> </ul> April 2012 <ul style="list-style-type: none"> <li>• Excavation at Inlet Chamber;</li> <li>• Ground freezing at Launching Shaft, Inlet Chamber and Existing Riser Shaft; and</li> <li>• Driving of tunnel boring machine.</li> </ul> May 2012 <ul style="list-style-type: none"> <li>• Excavation at Inlet Chamber;</li> <li>• Backfilling at Inlet Chamber;</li> <li>• Construction of Inlet Chamber base slab blinding layer;</li> <li>• Ground freezing at Launching Shaft, Inlet Chamber and Existing Riser Shaft;</li> <li>• Driving of tunnel boring machine and break-through;</li> <li>• Demolition of Inlet Chamber D-wall for tunnel boring machine and break-through; and</li> <li>• Preparation works for Mined Tunnel.</li> </ul>
DE/2009/02	March 2012 <ul style="list-style-type: none"> <li>• Erection of biofilter platform at No. 2</li> <li>• Installation of sedimentation tank handrail at Tank No. 41 to Tank No. 45</li> <li>• Erection of odour duct bridge at DOU No. 2</li> <li>• Excavation for construction of drainage at DOU No.2</li> <li>• Concreting of cable draw-pit at DOU No. 2</li> <li>• Installation of FRP covers at Tank No. 14 and No. 16</li> </ul> April 2012 <ul style="list-style-type: none"> <li>• Erection of working platform and scaffolding at Tank No. 34</li> <li>• Installation of brackets at Tank No. 34</li> <li>• Tank cleaning of Tank No. 44 and 46</li> <li>• Installation of FRP air duct at DOU No.2 duct bridge</li> <li>• Excavation for u-channel construction at DOU No. 2</li> <li>• Reinstatement of footpath for drainage works at DOU No. 2</li> </ul> May 2012 <ul style="list-style-type: none"> <li>• Installation of FRP covers at tank No. 34, No. 44 and No. 46</li> <li>• Installation of handrails at sedimentation tank</li> <li>• Erection of air ducts at duct bridge DOU No. 2</li> <li>• Construction of u-channel at DOU No. 2</li> </ul>
DC/2009/17	March 2012: <ul style="list-style-type: none"> <li>• 1st floor and 2nd floor slabs and columns of the Northern Sludge Cake Silo were achieved at Portion 3;</li> <li>• Column and slab of gridlines 4 to 13 of ground floor, slab of gridlines 4 to 12 of M floor and formwork &amp; steel bar fixing of gridlines 4 to 13 of 1st floor were achieved at Portion 4;</li> <li>• Erection of formwork and steel bar fixing for the base of the sludge storage tank No. 7 were achieved at Portion 5;</li> <li>• Planning of the external utilities, such as centrate pipes, sludge feed pipes, water pipes, cable ducts etc, have been in progress;</li> <li>• Touch- up and grouting of base plates for the 1st set of steel supporting frame at</li> </ul>

	<p>Northern Sludge Cake Silo was completed;</p> <ul style="list-style-type: none"> <li>• 8 nos. of silo bodies and the 2nd set of steel supporting frame were installed at the Northern Sludge Cake Silos;</li> <li>• The final modification work on 2 nos. of sludge containers was finished. The containers were then returned to DSD / ST2 for operation.</li> </ul> <p><i>April 2012:</i></p> <ul style="list-style-type: none"> <li>• Columns in Zone 3 from ground level to B2 floor, beams and slab of B2 floor were achieved at Portion 3;</li> <li>• Columns, slabs and external walls of gridlines 5A1 to 9D at M floor to 1st floor were achieved at Portion 4. Columns, corbels, slabs, stairs and external walls of gridlines 12A1 to 13D at 1st floor to 2nd floor were achieved at Portion 4;</li> <li>• Steel bar fixing for the roof of sludge storage tank No. 6 and the lower wall portion of the sludge storage tank No. 7 were in progress at Portion 5; and</li> <li>• 8 nos. of silo bodies and the 2nd set of steel supporting frame were installed at the Northern Sludge Cake Silos.</li> </ul> <p><i>May 2012</i></p> <p>Portion 3:</p> <ul style="list-style-type: none"> <li>• Concreting of slabs and beams at Level B2A and B3 between GL. 1-4/A-B, 1-2/C &amp; 1/D-E were completed;</li> <li>• Concreting of columns from (i) Level B2 to B3 between GL. 1-4/A-B, 1-2/C &amp; 1/D-E and (ii) Level B3A to B3C between GL. 4-8/B-D &amp; 3/D were completed; and</li> <li>• Concreting of beams at Level B3C between GL. 1-4/B-D was completed.</li> </ul> <p>Portion 4:</p> <ul style="list-style-type: none"> <li>• Concreting of columns and external walls from G/F to 1/F between GL. 1-5/A1-D were completed.</li> <li>• Concreting of columns, stairs, external walls and FS water tank from 1/F to R/F between GL. 9-13/A1-D from 1/F to R/F were completed.</li> <li>• Concreting of slabs and beams at R/F between GL. 9-13/A1-D were completed.</li> </ul> <p>Portion 5</p> <ul style="list-style-type: none"> <li>• Concreting of roof for Sludge Storage Tank No.6 was completed;</li> <li>• Erection of false work &amp; formwork and steel bar fixing for Pour 2 of Sludge Storage Tank No. 7 were completed.</li> </ul>
<p>DC/2009/10</p>	<p><i>March 2012:</i></p> <p>Section 1A</p> <ul style="list-style-type: none"> <li>• DN250 watermain construction;</li> <li>• Sheetpile works and excavation for overflow pipe construction;</li> <li>• RC works for storage building;</li> <li>• RC works for chemical pipe trench.</li> </ul> <p>Section 2 (Switchgear building)</p> <ul style="list-style-type: none"> <li>• Ground Investigation works.</li> </ul> <p>Section 3 (MPS)</p> <ul style="list-style-type: none"> <li>• Preparation of construction joint at -32.mPD;</li> <li>• Erection formworks and steel fixing for travelling crane column;</li> <li>• Erection metal scaffolding platform for wet well wall.</li> </ul> <p>Section 3 (CEPT)</p> <ul style="list-style-type: none"> <li>• Driven H-pile and pre-bored H-pile foundation works;</li> <li>• Pre-drilling works;</li> <li>• Flow calibration for prototype PST #34;</li> <li>• Replacement of scraper chain at PST #13 &amp; #15;</li> <li>• Validation test at PST #40 &amp; # 42.</li> </ul> <p><i>April 2012:</i></p> <p><u>Section 1A</u></p> <ul style="list-style-type: none"> <li>• DN250 watermain construction;</li> <li>• Sheetpile works and excavation for overflow pipe construction;</li> <li>• RC works for storage building;</li> <li>• RC works for chemical pipe trench.</li> </ul> <p><u>Section 2 (Switchgear building)</u></p> <ul style="list-style-type: none"> <li>• Ground Investigation works.</li> </ul> <p><u>Section 3 (MPS)</u></p> <ul style="list-style-type: none"> <li>• Preparation of construction joint at -32.mPD;</li> <li>• Erection formworks and steel fixing for travelling crane column;</li> <li>• Erection metal scaffolding platform for wet well wall.</li> </ul> <p><u>Section 3 (CEPT)</u></p>

	<ul style="list-style-type: none"> <li>• Driven H-pile and pre-bored H-pile foundation works;</li> <li>• Pre-drilling works;</li> <li>• Flow calibration for prototype PST #34;</li> <li>• Replacement of scraper chain at PST #13 &amp; #15;</li> <li>• Validation test at PST #40 &amp; # 42.</li> </ul> <p><i>May 2012:</i></p> <p>Storage Building:</p> <ul style="list-style-type: none"> <li>• Reinforced concrete construction at Ground floor slab;</li> <li>• Internal finishes at 1/F.</li> </ul> <p>Switchgear building:</p> <ul style="list-style-type: none"> <li>• Driven H-piles.</li> </ul> <p>Main Pumping station:</p> <ul style="list-style-type: none"> <li>• Reinforced concrete construction for wet well wall, staircase and columns.</li> </ul> <p>CEPT Tanks:</p> <ul style="list-style-type: none"> <li>• Excavation and lateral support for cofferdam construction;</li> <li>• Prebored H-pile foundation;</li> <li>• Driven H-pile foundation.</li> </ul>
DC/2009/18	<p><i>March 2012:</i></p> <ul style="list-style-type: none"> <li>• D wall construction including the testing;</li> <li>• Dismantle and mobilize for the plants and the working area of Riser and Drop Shaft area;</li> <li>• H-pile installation on Dechlorination Plant area, Chamber 15A &amp; Chamber no. 2 including dismantle and mobilize the plants;</li> <li>• Disposal the excavation materials;</li> <li>• Utilities diversion for the Drop Shaft area;</li> <li>• Access road construction including the channel and kerb laying; and</li> <li>• Maintain works for the temporary drainage at Portion A.</li> </ul> <p><i>April 2012:</i></p> <ul style="list-style-type: none"> <li>• D wall construction including the testing (interface core, full core and sonic test);</li> <li>• Dismantle and mobilize for the plants and the working area of Riser and Drop Shaft area;</li> <li>• H-pile installation on Dechlorination Plant area, Chamber 15A; and</li> <li>• Disposal the excavation materials.</li> </ul> <p><i>May 2012</i></p> <ul style="list-style-type: none"> <li>• H pile installation at portion 3;</li> <li>• Pre-drilling at portion 3;</li> <li>• Utility Diversion at portion 3;</li> <li>• Shaft excavation at Portion 3;</li> <li>• Sand Trap Construction at portion</li> <li>• D-wall Coring work at portion 7; and</li> <li>• Noise enclosure at Portion 3.</li> </ul>

### Summary of EM&A Requirements

1.10 The EM&A programme requires construction phase monitoring for air quality and construction noise, landscape and visual and environmental site audit. The EM&A requirements for each parameter are described in the following sections, including:

- All monitoring parameters;
- Action and Limit levels for all environmental parameters;
- Event Action Plans;
- Environmental mitigation measures, as recommended in the project EIA study final report; and
- Environmental requirements in contract documents.

1.11 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in Section 4 of this report.

1.12 This report summarized the monitoring results, observations, locations, equipment, period, for required monitoring parameter namely dust, noise levels, and audit works conducted for

the Project from March to May 2012, and the methodology and QA/QC procedures of the monitoring parameters.

## 2. AIR QUALITY

### Monitoring Requirements

- 2.1 1-hour and 24-hour TSP monitoring were conducted to monitor the air quality. **Appendix A** shows the established Action/Limit Levels for the environmental monitoring works.

### Monitoring Locations

- 2.2 Three designated monitoring stations, AM6, AM7, AM8 and AM9 were selected for impact dust monitoring. **Table 2.1** describes the air quality monitoring locations, which are also depicted in **Figure 1**.

**Table 2.1 Locations for Air Quality Monitoring**

Monitoring Station	Monitored under Contract No.	Location of Measurement
AM6	DC/2007/23	Works site boundary of DC/2007/23
AM7	DC/2009/05	North West Kowloon Sewage Pumping Station
AM8	DE/2009/02	Block A of Government Dockyard
AM9	DC/2009/18	Work Site Boundary (Near Ngong Shuen Chau Barracks Group 2)

### Monitoring Equipment

- 2.3 The equipments used in the impact air monitoring programme and the copies of calibration certificates could be referred to the monthly report for respective contracts.

### Monitoring Parameters, Frequency and Duration

- 2.4 Table 2.2 summarizes the monitoring parameters and frequencies of impact dust monitoring for the whole construction period.

**Table 2.2 Impact Dust Monitoring Parameters, Frequency and Duration**

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

### Monitoring Methodology and QA/QC Procedure

- 2.5 The monitoring methodology, QA/QC procedure and copies of calibration certificates for monitoring equipments could be refer to the monthly reports for respective Contract.

### Results and Observations

- 2.6 **Table 2.3** summaries the air quality monitoring results at AM6, AM7, AM8 and AM9 in reporting quarter.

**Table 2.3 Summary of 1-hour and 24-hour TSP Monitoring Results**

Air Quality Monitoring Station	Reporting Month	Average* $\mu\text{gm}^{-3}$	Range $\mu\text{gm}^{-3}$	Action Level $\mu\text{gm}^{-3}$	Limit Level $\mu\text{gm}^{-3}$
<b>1 hour TSP</b>					
AM6	Mar 2012	186	146-226	346	500
	Apr 2012	187	160-225		
	May 2012	183	165-201		
AM7	Mar 2012	81	72-89	322	
	Apr 2012	80	74-83		
	May 2012	80	75-86		
AM8	Mar 2012	76	30-136	307	
	Apr 2012	82	30-156		
	May 2012	56	37-98		
AM9	Mar 2012	96	88-104	318	
	Apr 2012	85	73-93		
	May 2012	70	63-86		
<b>24 hour TSP</b>					
AM6	Mar 2012	97	89-112	196	260
	Apr 2012	99	92-109		
	May 2012	97	89-109		
AM7	Mar 2012	77	40-178	207	
	Apr 2012	51	29-88		
	May 2012	47	33-60		
AM8	Mar 2012	54	45-79	158	
	Apr 2012	55	27-82		
	May 2012	37	31-44		
AM9	Mar 2012	80	61-99	169	
	Apr 2012	69	51-85.5		
	May 2012	59	42-69		

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



### 3. NOISE

#### Monitoring Requirements

- 3.1 Two noise monitoring stations, namely NM5, NM6 and AM7 were designated in the EM&A Manual for impact monitoring. **Appendix A** shows the established Action and Limit Levels for the environmental monitoring works.

#### Monitoring Locations

- 3.2 Noise monitoring was conducted at two designated monitoring stations as listed in **Table 3.1**. **Figure 1** shows the locations of these stations.

**Table 3.1 Noise Monitoring Stations**

Monitoring Station	Monitored under Contract No.	Location of Measurement
NM5	DC/2007/23	Near DSF Diving Rescue and Training Centre
NM6	DC/2009/05	Customs Marine Base
NM7	DC/2009/18	Open Area near Naval Base Barracks

#### Monitoring Equipment

- 3.3 The equipments used in the impact noise monitoring programme and the copies of calibration certificates could be referred to the monthly report for respective contracts.

#### Monitoring Parameters, Frequency and Duration

- 3.4 **Table 3.2** summarizes the monitoring parameters, frequency and total duration of monitoring.

**Table 3.2 Noise Monitoring Parameters, Frequency and Duration**

Monitoring Stations	Parameter	Period	Frequency
NM5	$L_{eq}(30 \text{ min.})$ dB(A)	0700-1900 hrs on weekdays	Once per week
NM6 NM7	$L_{eq}(5 \text{ min.})$ dB(A)	During restricted hours	Weekly monitoring to be conducted during the construction works

#### Monitoring Methodology and QA/QC Procedures

- 3.5 The monitoring methodology, copies of calibration certificates for monitoring equipments and QA/QC procedure could be refer to the monthly reports for Contract DC/2007/23, DC/2009/05 and DC/2009/18.

#### Results and Observations

- 3.6 **Table 3.3** summaries the noise monitoring results at NM5, NM6 and NM7 in reporting quarter.

**Table 3.3 Summary of Noise Monitoring Results**

For the time period 0700-1900 hrs. on weekdays			
Monitoring Station	Reporting Month	Range, dB(A) L <sub>eq</sub> (30 min.)	Limit Level ,dB(A) L <sub>eq</sub> (30 min.)
NM5	Mar 2012	60.5-62.7	75.0
	Apr 2012	58.9-63.2	
	May 2012	60.7-63.7	
NM6	Mar 2012	67.3-73.4	
	Apr 2012	66.4-69.8	
	May 2012	66.1-72.2	
NM7	Mar 2012	63.7-66.5	
	Apr 2012	62.8-66.5	
	May 2012	63.9-68.5	
For the time period 1900-2300 hrs on weekdays/ For the time period 0700-2300 hrs on Public Holiday			
NM5	Mar 2012	59.5-62.9	70.0
	Apr 2012	59.2-62.7	
	May 2012	59.4-62.2	
NM6	Mar 2012	65.1-65.9	
	Apr 2012	62.2-63.6	
	May 2012	62.5-63.9	
NM7	May 2012	64.6-66.7	

- 3.7 All construction noise monitoring at two designated locations were conducted by their ETs as scheduled in the reporting quarter.
- 3.8 No Action/Limit Level exceedance of Noise in normal working hours and restricted hours was recorded in the reporting month. Summary of exceedance is presented in **Appendix G**.
- 3.9 The graphical presentations of Noise monitoring results are shown in **Appendix C**.
- 3.10 The major noise sources identified at the designated noise monitoring stations were the noise from vehicles movement and construction activities.

## **4 ENVIRONMENTAL AUDIT**

### **Site Audits**

- 4.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the each Project site.
- 4.2 No non-compliance was observed during the site audits.
- 4.3 Site inspections were undertaken to ensure and check that the implementation and maintenance of landscape and visual mitigation measures are being properly carried out in the reporting quarter in accordance to section 11.10 of the EM&A Manual. No non-compliance was observed during the site inspections.
- 4.4 The summaries of site audits for six contracts were extracted from their reports and presented in **Appendix F**.

### **Review of Environmental Monitoring Procedures**

- 4.5 The monitoring works conducted by the monitoring team of respective Contracts and were inspected regularly by their ETs.

### **Status of Environmental Licensing and Permitting**

- 4.6 All permits/licenses obtained for the each Contract are summarized in **Appendix D**.

## 5 STATUS OF WASTE MANAGEMENT

5.1 The amount of wastes generated by the activities of six contracts in the reporting quarter is the following:

**Table 5.1 Summary of Amount of Waste Generated in Reporting Quarter**

Contract	Reporting Month	Inert C&D <sup>1</sup> Materials	Other C&D <sup>2</sup> Waste	Chemical Waste (L)	Marine Deposit (m <sup>3</sup> )		
					Type 1	Type 2	Type 3
DC/2007/23	Mar 2012	13,252.31* (Tonnes)	44.06* (Tonnes)	0	0*	0*	0*
	Apr 2012	9,217.54* (Tonnes)	26.3* (Tonnes)	0	0*	0*	0*
	May 2012	11,945.82* (Tonnes)	37.67* (Tonnes)	0.4	0*	0*	0*
DC/2009/05	Mar 2012	1634.65 (Tonnes)	7.38 (Tonnes)	0	0	0	0
	Apr 2012	4489.55 (Tonnes)	10.72 (Tonnes)	0	0	0	0
	May 2012	2264.29 (Tonnes)	27.5 (Tonnes)	0	0	0	0
DE/2009/02	Mar 2012	30(m <sup>3</sup> )	160(m <sup>3</sup> )	0	0	0	0
	Apr 2012	0(m <sup>3</sup> )	260(m <sup>3</sup> )	0	0	0	0
	May 2012	0(m <sup>3</sup> )	380(m <sup>3</sup> )	0	0	0	0
DC/2009/17	Mar 2012	0(m <sup>3</sup> )	20.57(Tonnes)	0	0	0	0
	Apr 2012	0(m <sup>3</sup> )	18.85 (Tonnes)	0	0	0	0
	May 2012	0(m <sup>3</sup> )	128.5(kg) and 41.57 (Tonnes)	0	0	0	0
DC/2009/10	Mar 2012	395(m <sup>3</sup> )	6(m <sup>3</sup> )	0	0	0	0
	Apr 2012	871(m <sup>3</sup> )	128 (kg) and 9 (m <sup>3</sup> )	0	0	0	0
	May 2012	2902(m <sup>3</sup> )	655(kg) and 9 (m <sup>3</sup> )	30	0	0	0
DC/2009/18	Mar 2012	801.5 (m <sup>3</sup> )	0(m <sup>3</sup> )	0	0	0	0
	Apr 2012	785.1 (m <sup>3</sup> )	8.92(m <sup>3</sup> )	0	0	0	0
	May 2012	1410 (m <sup>3</sup> )	19.96(m <sup>3</sup> )	0	0	0	0

\*: The amount of waste generated is from all sites in this Contract.

1: Inert C&D Materials includes Broken Concrete/Rock, Inert C&D waste reused in the Contract/other Project and those disposed to Public Fill.

2: Other C&D Waste includes Metals, Paper Cardboard packaging, plastic and other General Refuse.

5.2 The disposal location of wastes generated by the activities of six contracts is the following:

**Table 5.2 Summary of Disposal Location of Waste Generated in Reporting Quarter**

Contract No.	Disposal Location of Wastes in Report Quarter
DC/2007/23	Tuen Mun Area 38 Fill Bank, Tseung Kwan O Area 137 Fill Bank, Chai Wan Barging Point and SENT Landfill. Broken rock has been transferred to Lam Tei Quarry for use. Plastics, paper/cardboard packaging was sent to recyclers for recycling

	during the reporting period.
<b>DC/2009/05</b>	Tuen Mun Area 38 Fill Bank, Tseung Kwan O Area 137 Fill Bank, NENT Landfill
<b>DE/2009/02</b>	Tuen Mun Area 38 Fill Bank and NENT Landfill
<b>DC/2009/17</b>	Tuen Mun Area 38 Fill Bank and NENT Landfill
<b>DC/2009/10</b>	Tuen Mun Area 38 Fill Bank and NENT Landfill Chemical waste was collected by the licensed collector
<b>DC/2009/18</b>	Tuen Mun Area 38 Fill Bank and NENT Landfill

### **Landscape and Visual Monitoring**

5.3 Landscape and visual monitoring as described in the EM&A Manual has been implemented in the individual Contracts.

#### **The major findings and recommendations are summarized as below:**

##### **Contract No. DC/2007/23**

5.4 Refer to Section 7.3.4 of the quarterly report of Contract No. DC/2007/23. Implementation and maintenance of landscape and visual mitigation measures are fully achieved and no major findings were observed during the reporting period.

##### **Contract No. DC/2009/05**

5.5 Three (3) landscape and visual audits were conducted in the reporting quarter. Observations recorded during the audits in the reporting quarter are described below.

5.6 Protection of Existing Trees and Tree Works:

It was observed that the Contractor had completely removed the high level netting and partial removal of the barriers for protection of the retained trees at the tree protection zone area. The Contractor was requested to reinstate the barriers and high level netting for the prevention of possible trespassing and protection of existing trees within the tree protection zone.

##### **Contract No. DE/2009/02**

5.7 The landscape and visual impacts monitoring was undertaken by the landscape sub-contractor. The monitoring results will be submitted separately as a stand-alone document.

##### **Contract No. DC/2009/17**

5.8 Three landscape and visual audits were conducted within the environmental site inspection conducted in reporting period.

5.9 Implementation and maintenance of landscape and visual mitigation measures are fully achieved and no major findings were observed during the reporting period.

##### **Contract No. DC/2009/10**

5.10 Three landscape and visual audits were conducted within the environmental site inspection conducted in reporting period.

- 5.11 On 13<sup>th</sup> and 18<sup>th</sup> April 2012, Contractor was reminded to erect tree protection fence and remove the materials in tree protection zone

**Contract No. DC/2009/18**

- 5.12 Three landscape and visual audits were conducted within the environmental site inspection conducted in reporting period.
- 5.13 Implementation and maintenance of landscape and visual mitigation measures are fully achieved and no major findings were observed during the reporting period.

**Implementation Status of Environmental Mitigation Measures**

- 5.14 Details of the implementation of mitigation measures for six contracts are provided in the **Appendix H**.
- 5.15 During the weekly environmental site inspections in the reporting period, no non-conformance was identified. The observations and recommendations for the Projects are summarized in **Appendix F**.

**Implementation Status of Event Action Plans**

- 5.14 The Event Action Plans for air quality and noise are presented in **Appendix G**.

1-hr TSP

- 5.15 No Action/Limit Level exceedance was recorded.

24-hr TSP

- 5.16 No Action/Limit Level exceedance was recorded.

Construction Noise

- 5.17 No Action/Limit Level exceedance for normal working hours and restricted hours was recorded.

Landscape and Visual

- 5.18 No non-compliance was recorded.

**Summary of Complaints and Prosecutions**

- 5.19 No environmental complaint and prosecution was received at SCISTW for six contracts in the reporting period.
- 5.20 There were no environmental complaint and prosecution received since the commencement of six contracts. The Complaint Log is presented in **Appendix I**.

## **6. FUTURE KEY ISSUES**

### **Key Issues for the Coming Quarters**

6.1 Key environmental issues in the coming quarters include:

- Generation of dust from stockpiles of excavated and dusty materials, unpaved site area and vehicle movement, roadworks, excavation works and loading and unloading dusty materials on-site;
- Noise from operation of equipment and machinery on-site;
- Storage of chemicals/fuel and chemical waste/waste oil on-site;
- Ponding water generated in pre-drillings;
- Drainage system should be well designed and maintained to prevent flooding and silty water getting into the public area during and after rainstorm;
- Silty surface runoff generated from the site area;
- Silt and dust getting into the public area by the leaving site vehicles at the site exits without adequate wheel washing facilities; and
- Proper tree and shrub protection works should be provided when carrying out works near existing trees and shrubs.

### **Construction Program for the Coming Quarters**

6.2 The tentative construction programs for respective Contracts are provided in **Appendix J**.

## 7 CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

- 7.1 Environmental monitoring and audit works were performed in the reporting quarter and all monitoring results were checked and reviewed.

#### 1-hour TSP Monitoring

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

#### 24-hour TSP Monitoring

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

#### Construction Noise Monitoring

- 7.4 All construction noise monitoring was conducted as scheduled in the reporting quarter. No Action/Limit Level exceedance for normal working hours and restricted hours was recorded.

#### Environmental Audit

- 7.5 Environmental site audits were conducted as weekly basis in the reporting quarter. No non-compliance was recorded.

#### Complaint and Prosecution

- 7.6 No environmental complaint and prosecution was received in the reporting quarter.

### Recommendations

- 7.7 The following recommendations were made for the coming reporting quarter:

#### *Dust Impact*

- To prohibit any open burning on site;
- To regularly maintain the machinery and vehicles on site;
- To follow up any exceedance caused by the construction works;
- To implement dust suppression measures on all haul roads, stockpiles, dried/unpaved surfaces and excavation/road breaking works; and

#### *Noise Impact*

- To inspect the noise sources inside the site;
- To follow up any exceedance caused by the construction works;
- To space out noisy equipment and position the equipment as far away as possible from sensitive receivers; and
- To provide temporary noise barriers for operations of noisy equipment near the noise sensitive receivers in an appropriate location.
- To provide adequate lubricant on mechanical equipments to reduce frictional noise; and



- To well maintain the mechanical equipments / machineries to avoid abnormal noise nuisance.

#### *Water Impact*

- To identify any discharge of wastewater from the construction site;
- To avoid any discharge of wastewater by-pass/ without the desilting facilities from the construction site;
- To regularly maintain the sediment control measures after rainstorms; and
- To avoid water from accumulation on site and carry out larviciding against mosquito breeding for stagnant water when mosquito larvae are observed.

#### *Waste/Chemical Management*

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

#### *Landscape and Visual*

- To erect and maintain the protection fence around the retaining tree; and
- To avoid any heavy materials placed into tree protection zone.

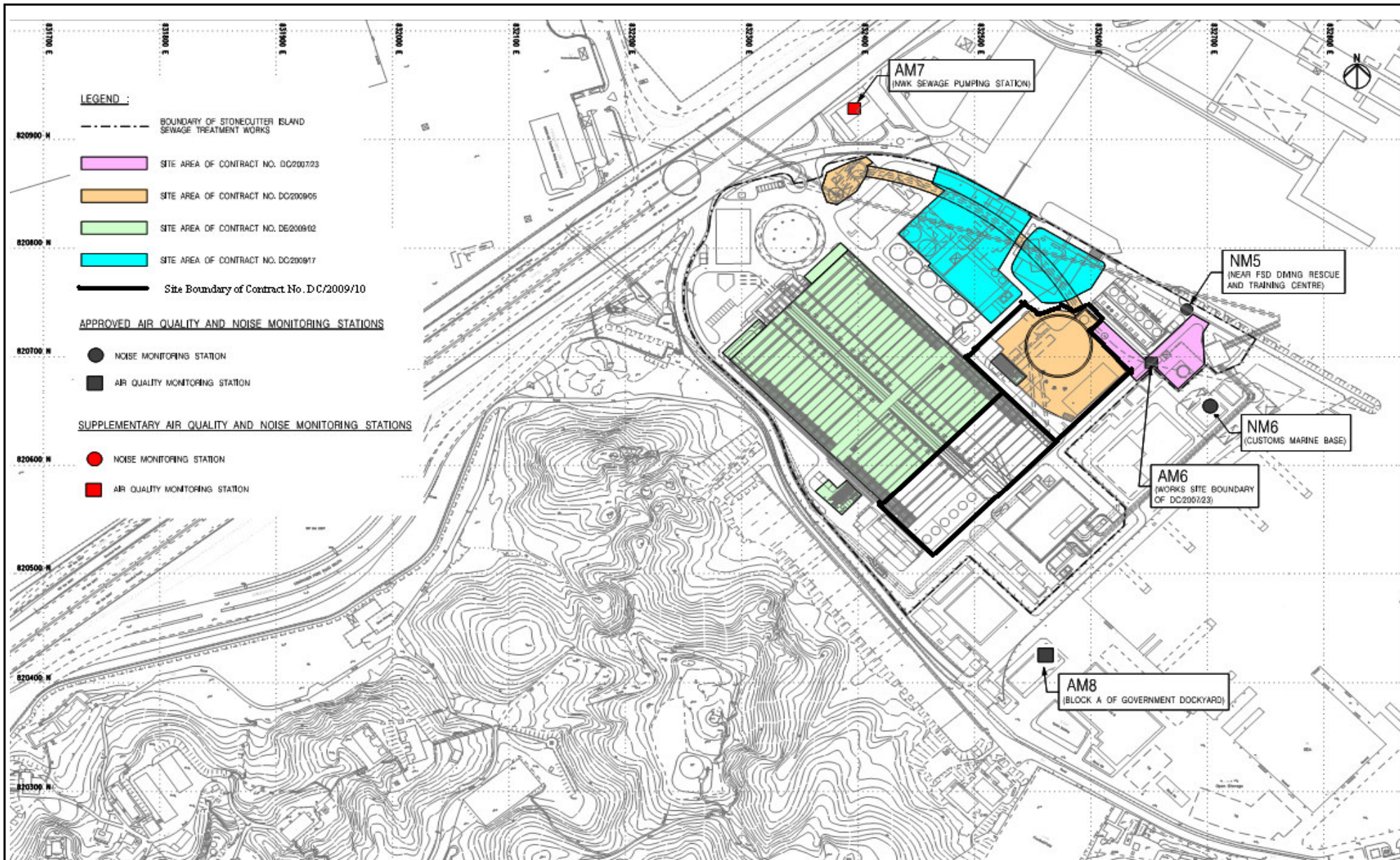
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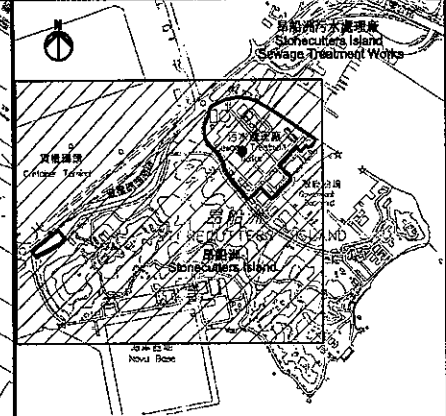
## FIGURES

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Title	Contract No: DC/2009/10 HATS 2A - Upgrading Main Pumping Station, Sedimentation Tanks and Ancillary Facilities at SISTW	Scale N.T.S	Project No. MA11007	CINOTECH
	General Location Plan of the Project and Locations of Air Quality and Noise Monitoring Stations	Date 2/2012	Figure 1A	



**KEY PLAN**

**LEGEND:**

- BOUNDARY OF SCISTW
- ALIGNMENT OF EFFLUENT TUNNEL

0	ISSUE FOR CONSTRUCTION	PW	06/11
Rev	Description	By	Date

Consultant  
**ARUP** 奧雅納工程顧問  
 Ove Arup & Partners Hong Kong Limited

Project title  
 Contract No. DC/2009/18  
 Harbour Area Treatment Scheme Stage 2A-  
 Upgrading Works at  
 Stonecutters Island Sewage Treatment Works-  
 Effluent Tunnel and Disinfection Facilities

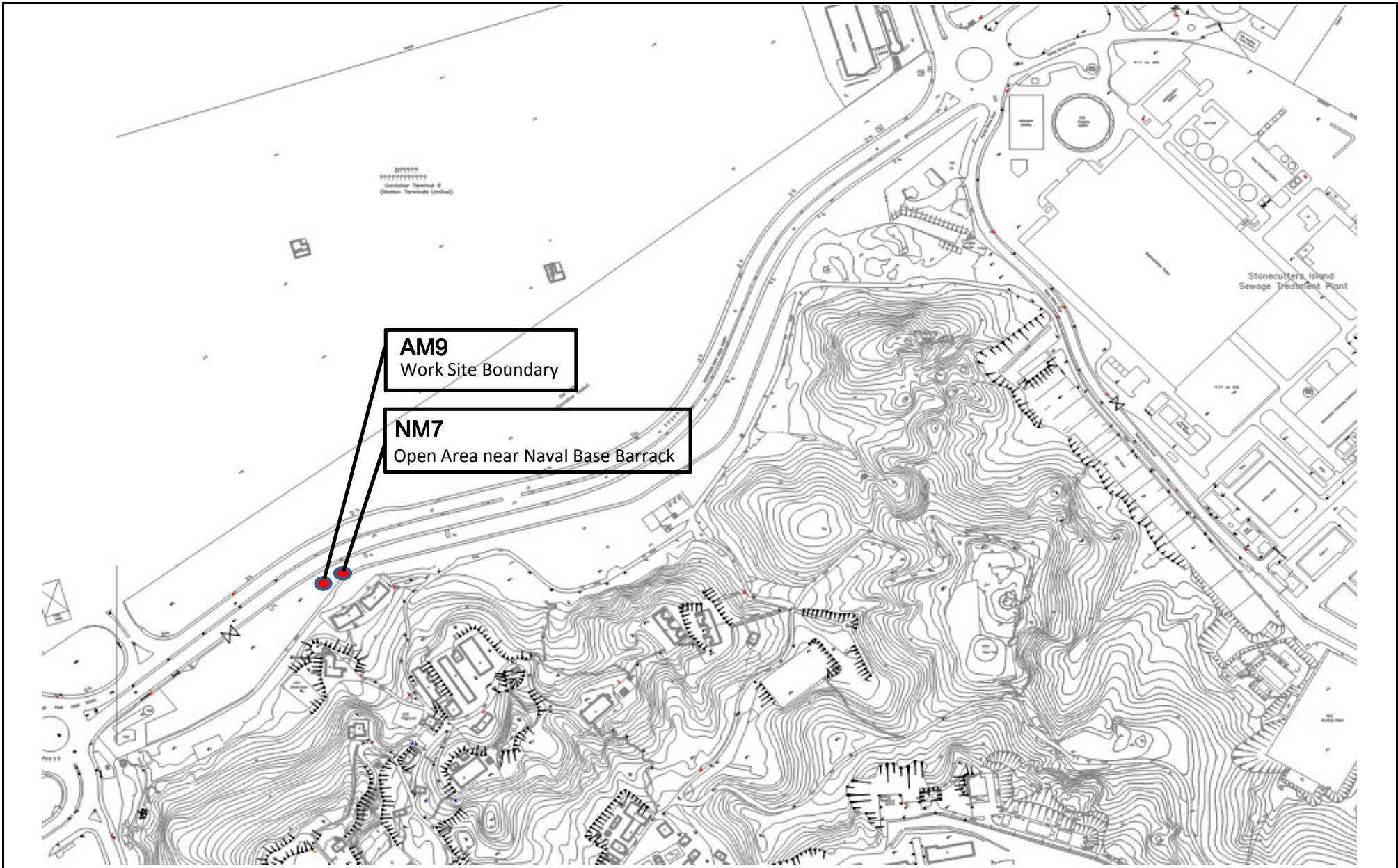
Drawing title  
**GENERAL LAYOUT  
 (SHEET 1)**  
 Fig. 1B

Drawing no. <b>24888/ETF/0021</b>		Rev. <b>0</b>	
Drawn WM	Date 08/10	Checked PW	Approved DP
Scale 1:2000 @A1		Status <b>WORKING</b>	

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 GOVERNMENT OF THE  
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Title	Contract No. DC/2009/18	Scale	Project No.	CINOTECH
	HATS 2A -Upgrading Works at Stonecutters Island Sewage Treatment Works - Effluent Tunnel and Disinfection Facilities	N.T.S	MA11043	
	Locations of Impact Air Quality and Noise Monitoring Stations	Date	Figure	
		2/2012	1C	

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

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## Appendix A Action and Limit Levels

**Table A-1 Action and Limit Levels for 1-Hour TSP and 24-Hour TSP**

Monitoring Stations	Action Level ( $\mu\text{g}/\text{m}^3$ )		Limit Level ( $\mu\text{g}/\text{m}^3$ )	
	1-hour	24-hour	1-hour	24-hour
AM6	346	196	500	260
AM7	322	207	500	260
AM8	307	158	500	260
AM9	318	169	500	260

**Table A-2 Action and Limit Level for Construction Noise**

Monitoring Stations	Time Period	Action Level	Limit Level in dB(A)
NM5 NM6 NM7	0700-1900 hours on normal weekdays	When one documented complaint is received	75
	Restricted Hours 0700-1900 of normal weekdays, public holiday and Sunday	--	70

Notes: If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed.

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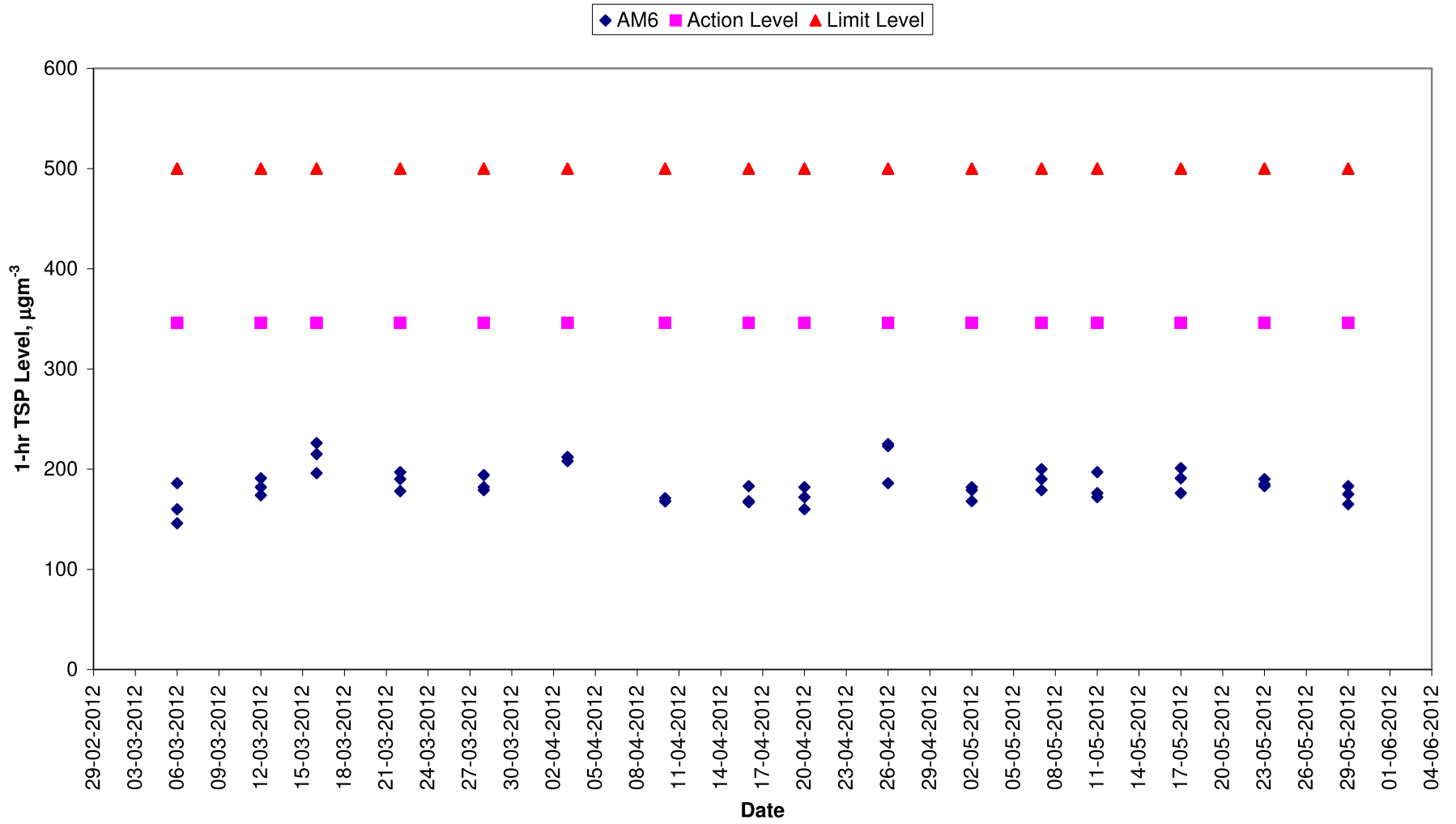
**APPENDIX B  
GRAPHICAL PRESENTATIONS OF 1-  
HOUR AND 24-HOUR TSP MONITORING  
RESULTS**

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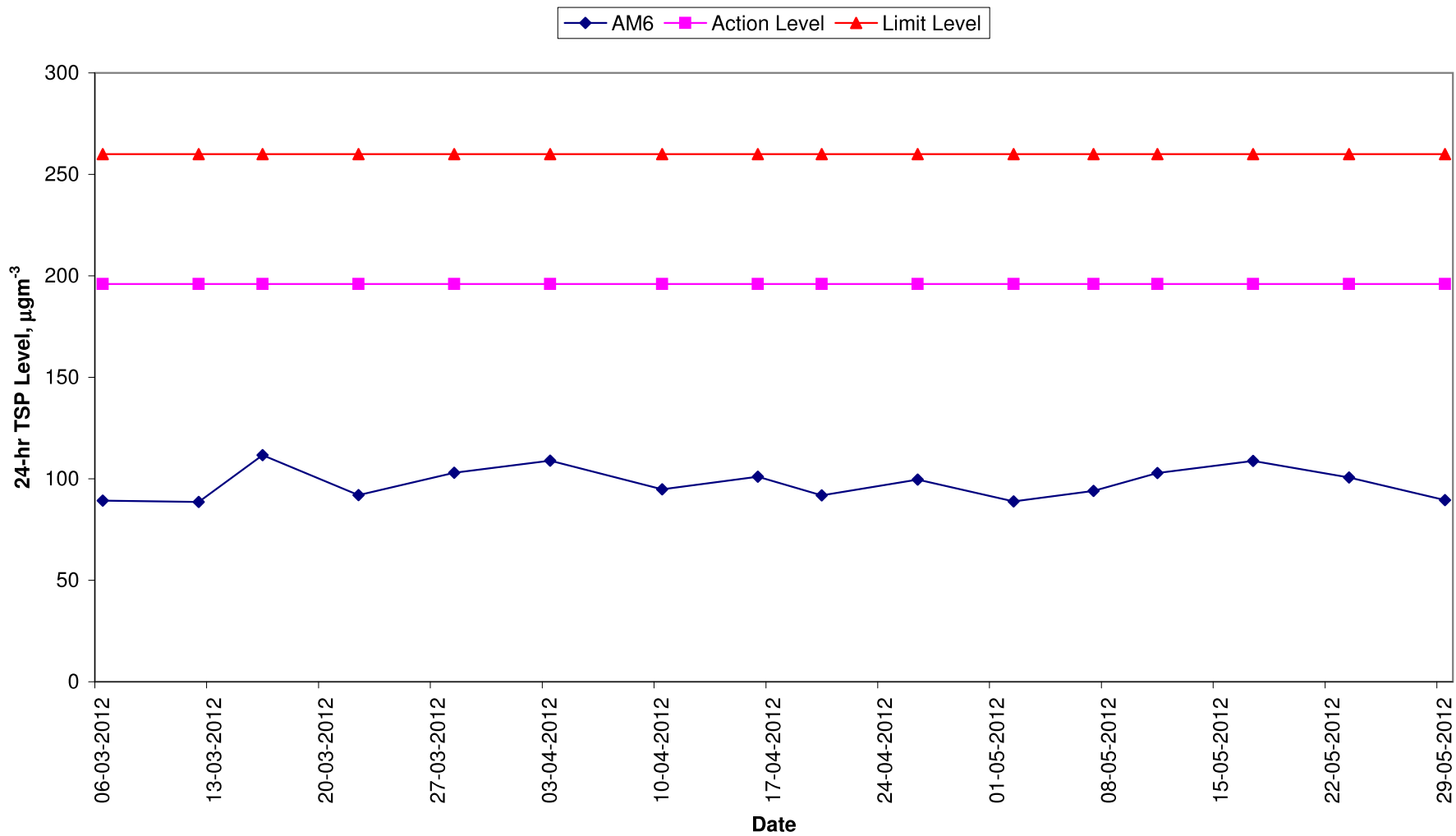
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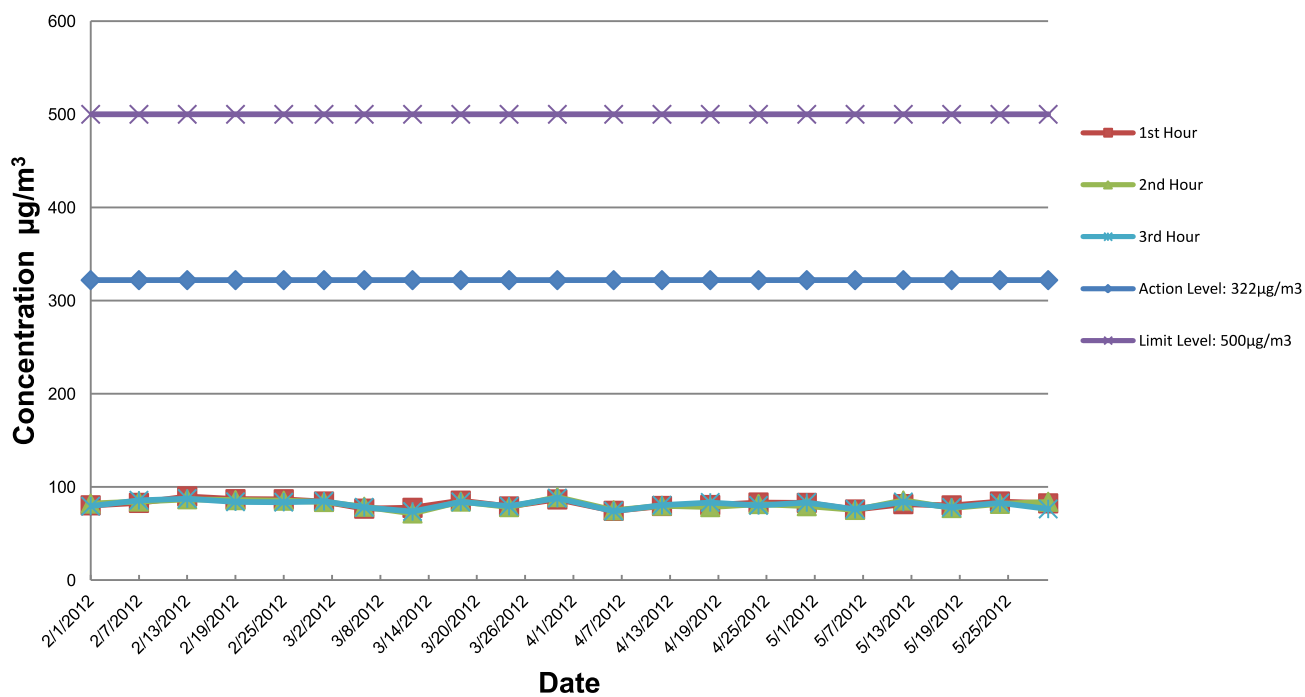
### 1-hr TSP Level AM6 (Stonecutters Island Sewage Treatment Works)



### 24-hr TSP Level AM6 (Stonecutters Island Sewage Treatment Works)



## AM7



**HATS Stage 2A - Construction of Interconnection Tunnel  
and Diaphragm Wall for Main Pumping Station at  
SCISTW**

**Graphical Presentation of 1-hour TSP Monitoring  
Results**

SCALE

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N.T.S.

ENFL

60143571

DATE

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APPENDIX No.

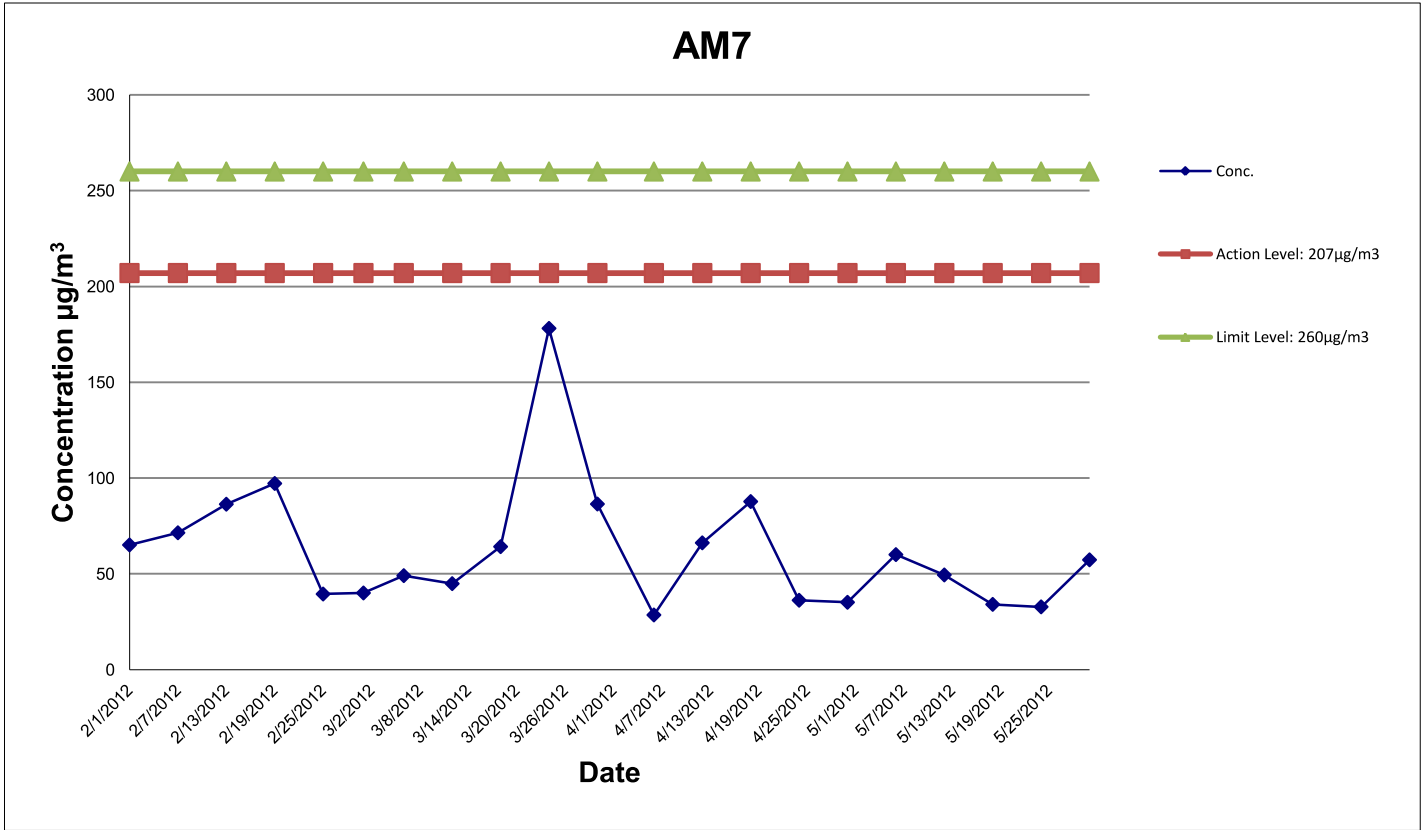
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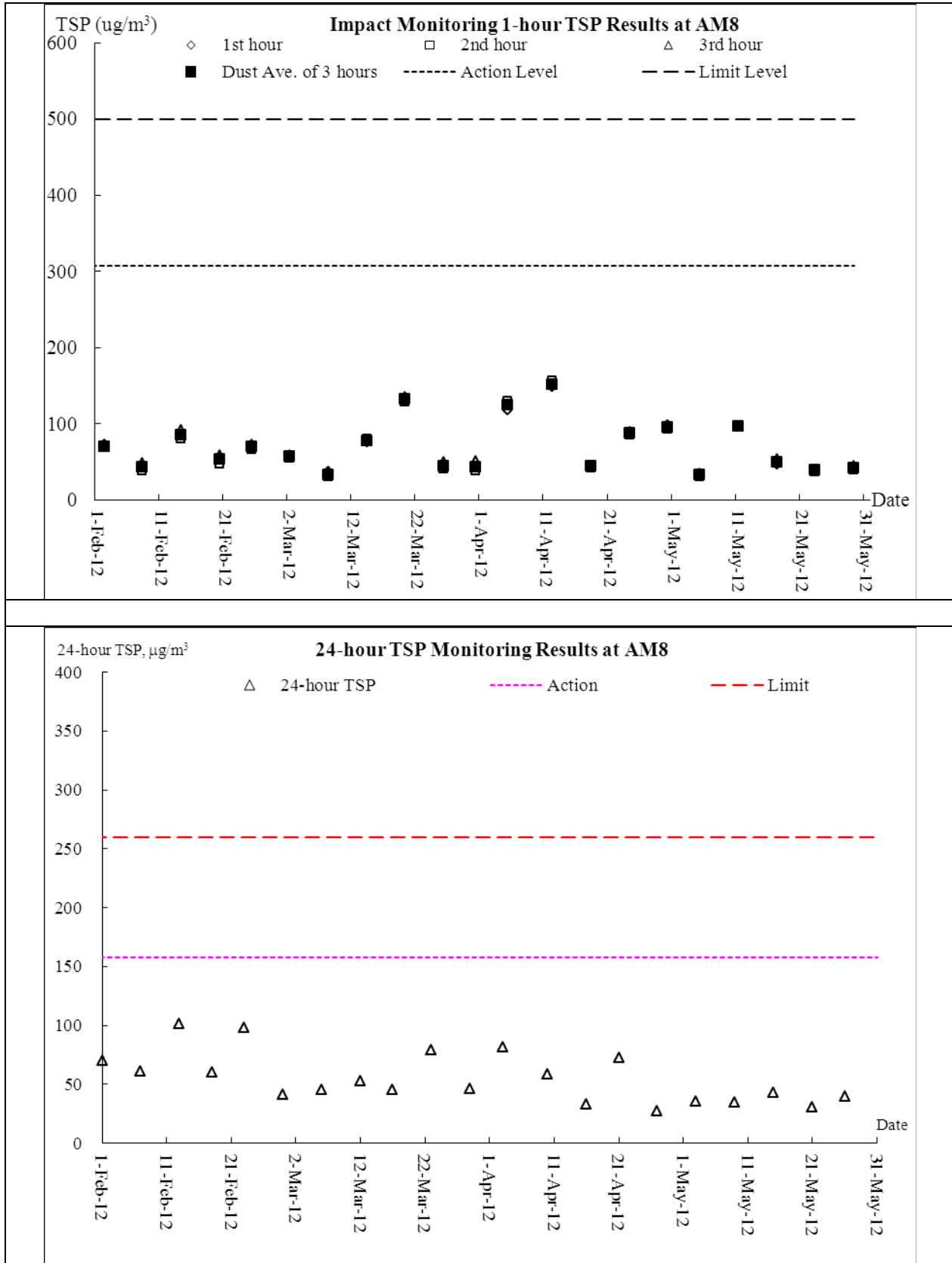
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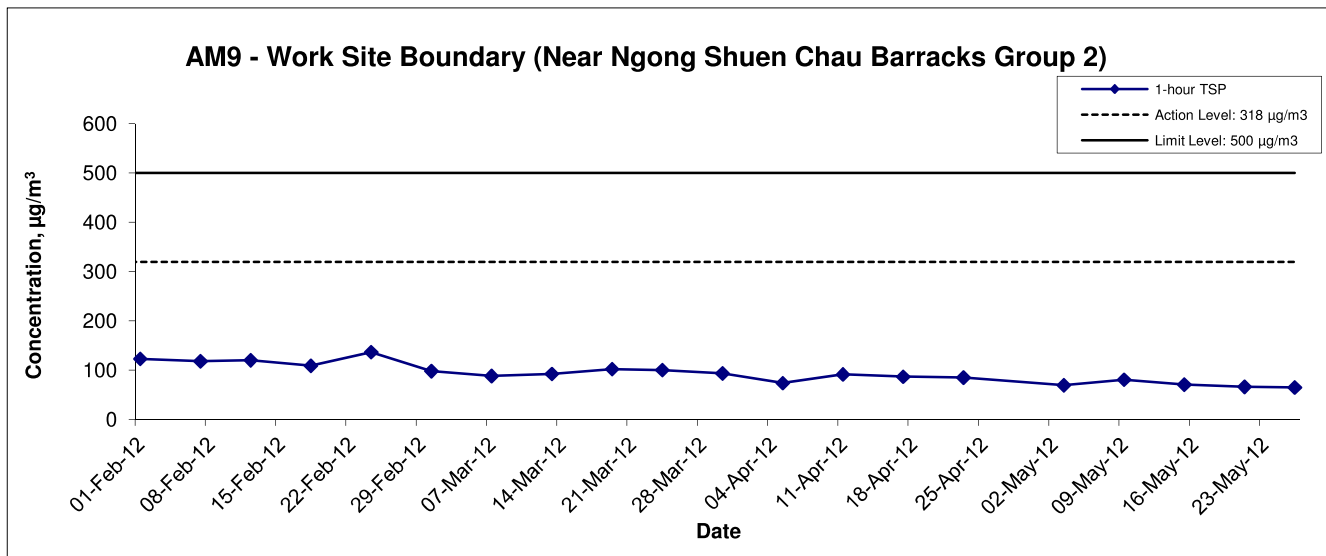


<b>AZCOM</b>	<b>HATS Stage 2A - Construction of Interconnection Tunnel and Diaphragm Wall for Main Pumping Station at SCISTW</b>		SCALE	N.T.S.	DATE	Jun-12
	<b>Graphical Presentation of 24-hour TSP Monitoring Results</b>		CHECK	ENFL	DRAWN	PWYN
			JOB NO.	60143571	APPENDIX No.	Rev.
				E		-

# 1. Air Quality

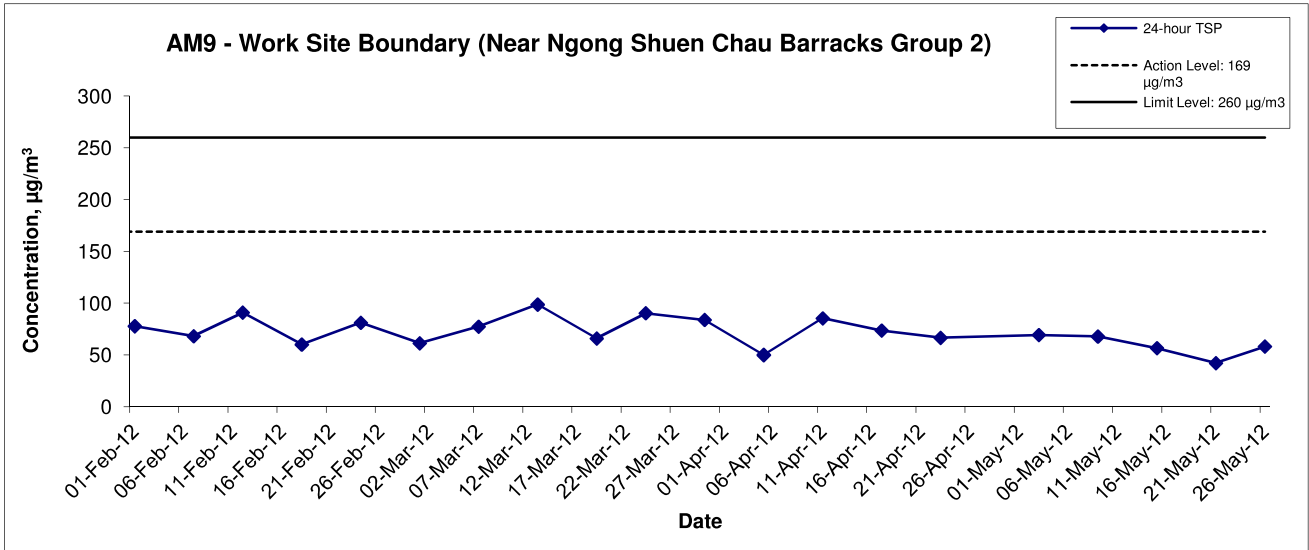


### 1-hr TSP Concentration Levels



Title	Contract No. DC/2009/18 HATS 2A – Upgrading Works at SCISTW– Effluent Tunnel and Disinfection Facilities	Scale N.T.S	Project No. MA11043	CINOTECH
	Graphical Presentation of 1-hour TSP Monitoring Results	Date May 12	Appendix D	

### 24-hr TSP Concentration Levels



Title	Contract No. DC/2009/18 HATS 2A – Upgrading Works at SCISTW– Effluent Tunnel and Disinfection Facilities	Scale N.T.S	Project No. MA11043	CINOTECH
	Graphical Presentation of 24-hour TSP Monitoring Results	Date May 12	Appendix D	

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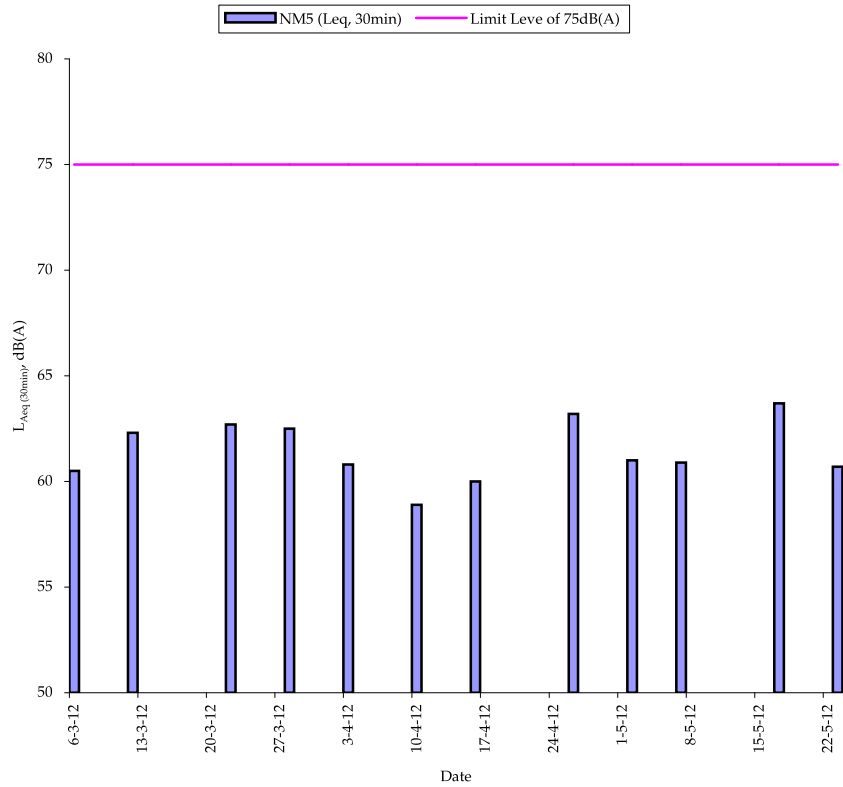
**APPENDIX C  
GRAPHICAL PRESENTATIONS OF  
NOISE MONITORING RESULTS**

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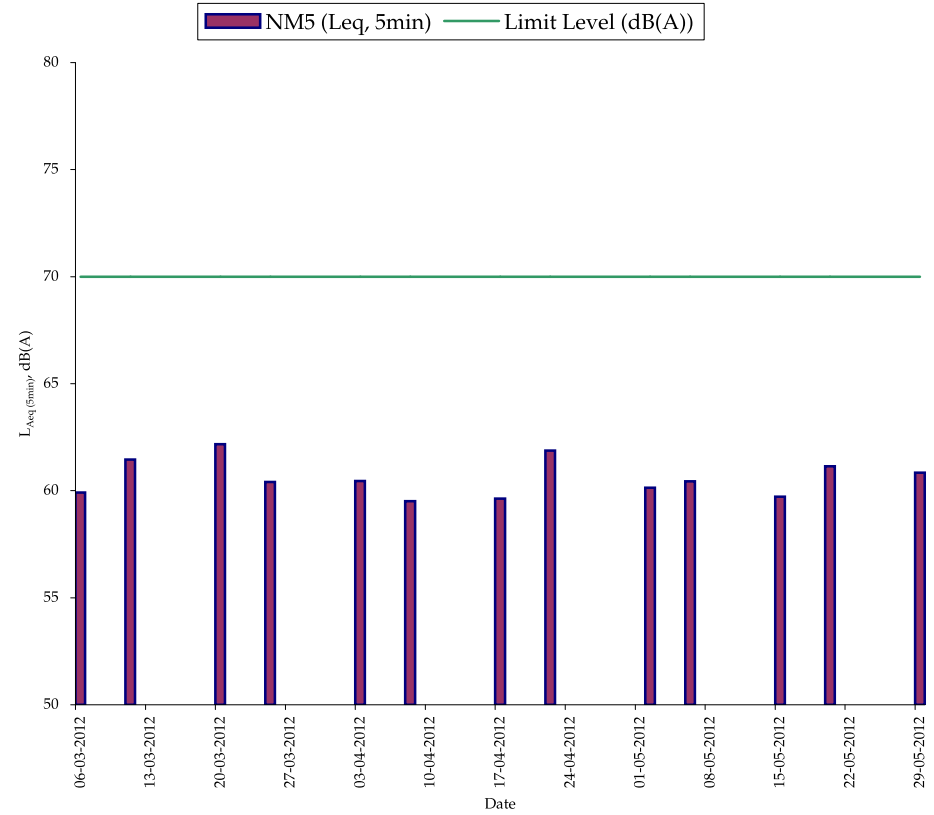


Nromal Weekdays Noise Monitoring Results at NM5 ( $L_{eq, 30min}$ )



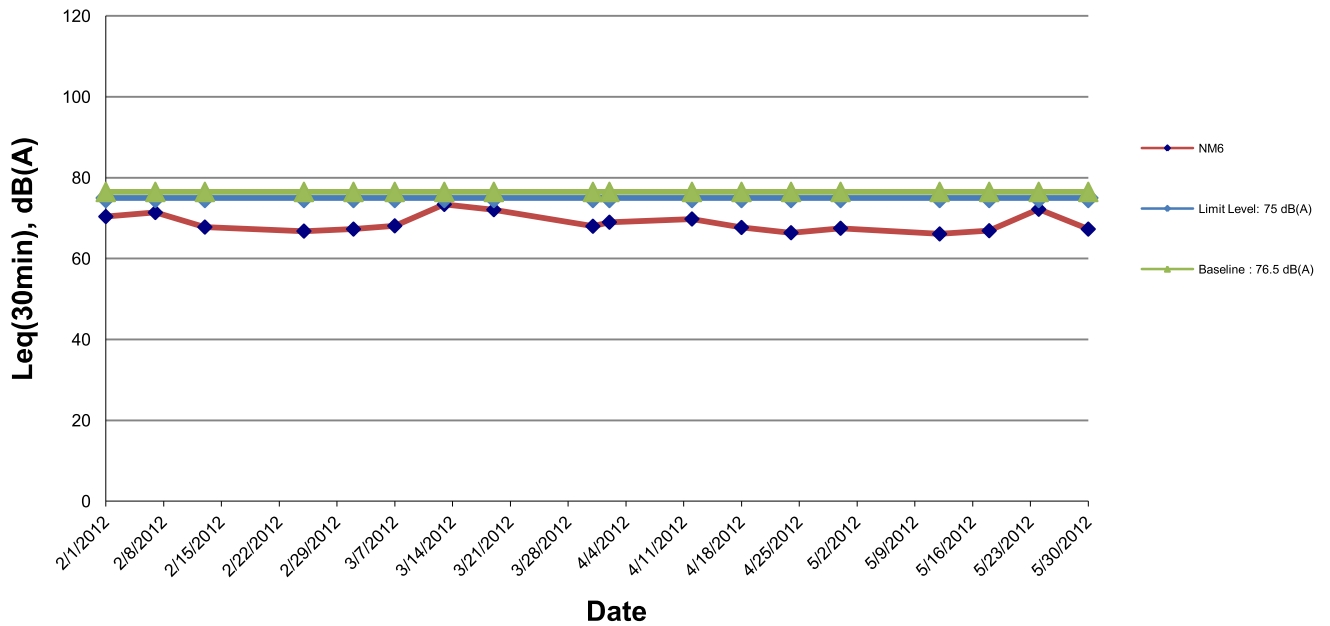
Remark:  
 - 75dB(A) was adopted as the Limit Level during normal weekdays in the reporting period

Restricted Hours Noise Monitoring Results at NM5 ( $L_{eq, 5min}$ )



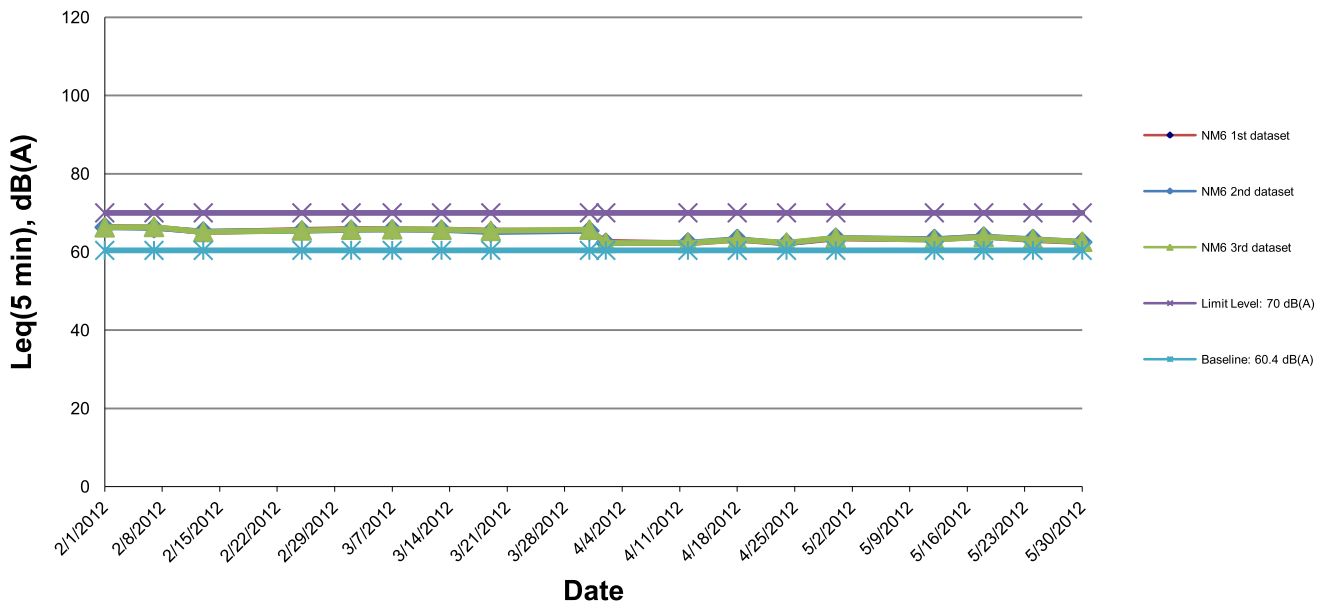
Remark:  
 - 70dB(A) was adopted as the Limit Level during restricted hours in the reporting period  
 - 55dB(A) was adopted as the Limit Level during night time in the reporting period

### NM6



<b>AECOM</b>	<b>HATS Stage 2A - Construction of Interconnection Tunnel and Diaphragm Wall for Main Pumping Station at SCISTW</b>	SCALE	N.T.S.	DATE	Jun-12
	<b>Graphical Presentation of Daytime Noise Monitoring Results on Normal Weekdays</b>	CHECK	ENFL	DRAWN	PWYN
		JOB NO.	60143571	APPENDIX No.	F
					-

### NM6



**HATS Stage 2A - Construction of Interconnection Tunnel and Diaphragm Wall for Main Pumping Station at SCISTW**

**Graphical Presentation of Evening Noise Monitoring Results on Normal Weekdays**

SCALE

N.T.S.

DATE

Jun-12

CHECK

ENFL

DRAWN

PWYN

JOB NO.

60143571

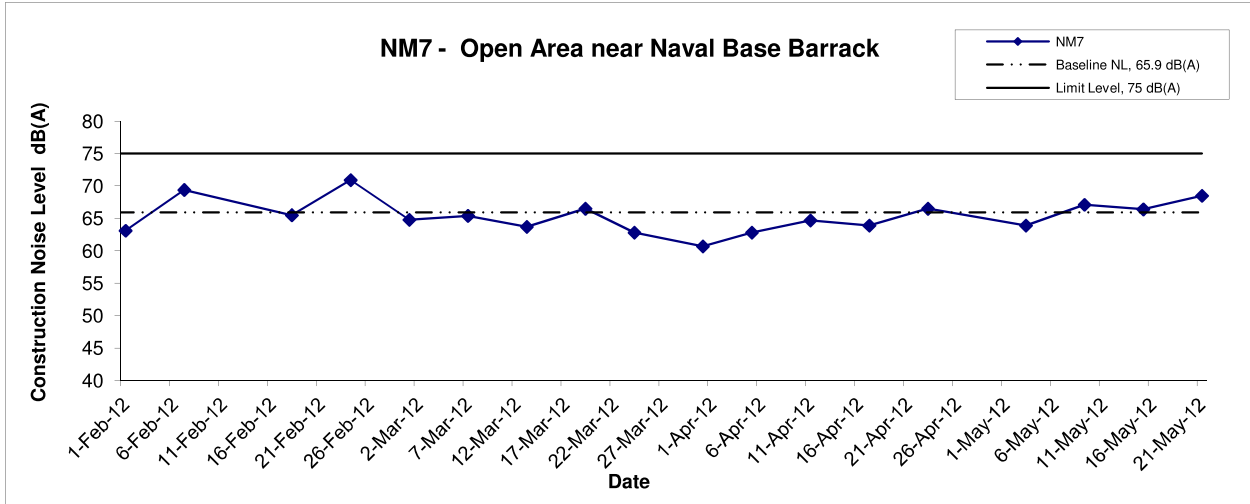
APPENDIX No.

F

Rev.

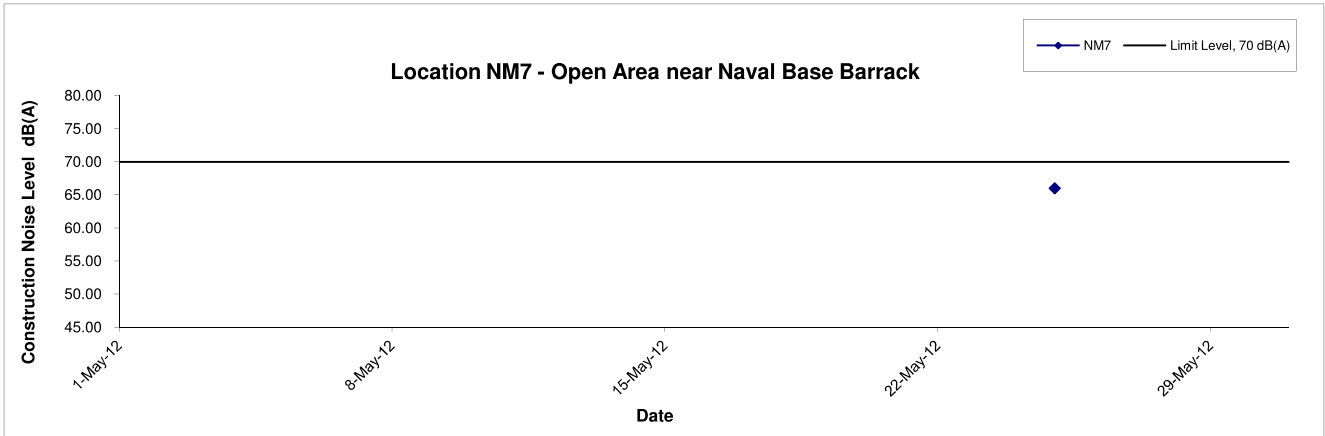
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## Noise Levels



Title	Contract No. DC/2009/18 HATS 2A – Upgrading Works at SCISTW– Effluent Tunnel and Disinfection Facilities	Scale N.T.S	Project No. MA11043	CINOTECH
	Graphical Presentation of Noise Monitoring Result (NM7)	Date May 12	Appendix E	

### Noise Levels (Normal Day, Evening Time)



Title	Contract No. DC/2009/18 HATS 2A – Upgrading Works at SCISTW– Effluent Tunnel and Disinfection Facilities	Scale	N.T.S	Project No.	MA11043	CINOTECH
	Graphical Presentation of Construction Noise Monitoring Results (NM7)	Date	May 12	Appendix	E	

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**APPENDIX D  
ENVIRONMENTAL PERMITS AND  
LICENSES**

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**APPENIDX D –Environmental Permits and Licenses**

**Table D.1 Summary of Environmental Licensing and Permit Status for Contract DC/2007/23**

Permit No.	Valid Period		Details	Status
	From	To		
<b>Wastewater Discharge License</b>				
WT00005069-2009	11/8/2010	31/10/2014	Location: Stonecutters Island Production Shaft and Riser Shaft	Valid
<b>Chemical Waste Producer Registration</b>				
5213-269-G2449-07	--	--	Location: Stonecutters Island Production Shaft and Riser Shaft	Valid
<b>Construction Noise Permit</b>				
GW-RW0755-11	2/11/2011	30/04/2012	Location: Stonecutters Island Production Shaft and Riser Shaft	Superseded by CNP No. GW-RW-0925-11
GW-RW0925-11	4/1/2012	29/6/2012	Location: Stonecutters Island Production Shaft and Riser Shaft	Valid

**Table D.2 Summary of Environmental Licensing and Permit Status for Contract DC/2009/05**

Permit No.	Valid Period		Details	Status
	From	To		
<b>Wastewater Discharge License</b>				
WT00005755-2010	21/4/2011	31/1/2015	Discharge of Construction Runoff from Contract DC/2009/05	Valid
<b>Registered Chemical Waste Producer</b>				
WPN5213-269-C3572-01	23/10/2009	N/A	Whole Construction Site for Contract DC/2009/05	Valid
<b>Air Pollution Control Ordinance</b>				
NA notification	09/11/09	--	Whole Construction Site for Contract DC/2009/05	Valid
<b>Construction Noise Permit</b>				
GW-RW0903-12	08/02/11	05/08/12	Construction Site at Portion 2,3, 4 and 6 for Contract DC/2009/05	Valid
GW-RW0900-11	29/12/11	21/06/12	Construction Site at Portion 2,3, 4 and 6 for Contract DC/2009/05	Valid
GW-RW0163-12	09/03/12	08/09/12	Construction Site at Portion K for Contract DC/2009/05	Valid
<b>Marine Dumping Permit (Excavated Sediment Requiring Type 1 – Open Sea Disposal)</b>				
EP/MD/12-090	16/11/11	15/05/12	Excavated material from Construction Site at Portion 2, 3 and 4 for Contract DC/2009/05	Expired
<b>Billing Account for Disposal of Construction Waste</b>				
7009440	N/A	N/A	Whole Construction Site for Contract DC/2009/05	Valid

**Table D.3 Summary of Environmental Licensing and Permit Status for Contract DE/2009/02**

Permit No.	Valid Period		Details	Status
	From	To		
Wastewater Discharge License				
WT0000643-2-2010	--	30/4/2015	--	Valid
Registered Chemical Waste Producer				
5213-269-A2605-01	--	--	--	Valid
Construction Noise Permit				
GW-RW0841-11	3/12/2011	1/06/2012	--	Valid
Air Pollution Control Ordinance				
NA Notification	N/A	N/A	Notified EPD on 9 March 2010	N/A
Billing Account for Disposal of Construction Waste				
A/C No:7009673	N/A	N/A	Approved by EPD on 9 November 2009	N/A

**Table D.4 Summary of Environmental Licensing and Permit Status for Contract DC/2009/17**

Permit No.	Valid Period		Details	Status
	From	To		
Water Discharge License				
WT00007763-2010	22/10/2010	31/10/2015	Location: Portion 5	Valid
WT00007921-2010	23/11/2010	30/11/2015	Location: Portion C	Valid
WT00007982-2010	3/12/2010	31/12/2015	Location: Portion 3&4	Valid
Registered Chemical Waste Producer				
5213-239-C3388-02	19/10/2010	N/A	Major chemical waste types are: Spent battery, waste mechanical oil and spent lubricant.	Valid
Billing Account for Disposal of Construction Waste				
A/C No.7011408	16/09/2010	N/A	N/A	Valid
Notification of Works Under APCO				
Ref:321235	7/09/2010	N/A	--	Valid
Construction Noise Permit				
GW-RW0667-11	21/10/2011	20/4/2012	Location: Portion 4	Expired
GW-RW0242-12	21/4/2012	20/10/2012	Location: Portion 4	Valid



**Table D.5 Summary of Environmental Licensing and Permit Status for Contract DC/2009/10**

Reference Number	Valid Period		Details	Status
	From	To		
<b>Water Discharge License</b>				
WT00009245-2011	1/6/2011	30/6/2016	The application was approved on 1-6-2011.	Valid
WT00012151-2012	28/2/2012	28/2/2017	The application was approved on 28-2-2012.	Valid
<b>Registered Chemical Waste Producer</b>				
WPN5213-269-S3584-01	N/A	N/A	The application was approved on 4-5-2011.	Valid
<b>Billing Account for Disposal of Construction Waste</b>				
CSW01444	16/3/2011	N/A	The application was approved on 16-3-2011.	Valid
<b>Notification of Works Under APCO</b>				
327427	N/A	N/A	Notice form received by EPD on 2-3-2011.	N/A
<b>Construction Noise Permit for Percussive Piling(driving steel pile)</b>				
PP-RW0018-11	2/11/2011	1/8/2012	The application was approved on 1-11-2011.	Valid
PP-RW0004-12	10/4/2012	9/1/2013	The application was approved on 21-3-2012.	Valid
GW-RW0204-12	4/4/2012	3/10/2012	Renewal of CNP GW-RW0651-11.	Valid
GW-RW0080-12	3/2/2012	31/7/2012	The application was approved on 2-2-2012	Valid
GW-RW0285-12	23/5/2012	13/11/2012	The application was approved on 22-5-2012	Valid
<b>Application of Admission Ticket for Disposal of Special Waste (Grit) at Landfills</b>				
No.9756	1/2/2012	31/7/2012	Valid from 1-2-2012 to 31-7-2012	Valid

**Table D.6 Summary of Environmental Licensing and Permit Status for Contract DC/2009/18**

Permit/ A/C Number	Valid Period		Details	Status
	From	To		
<b>Water Discharge License</b>				
WT00010571-2011	13/10/2011	31/10/2016	Location: Portion 7A and 15A	Valid
<b>Registered Chemical Waste Producer</b>				
5213-269-C3689-01	8/9/2011	N/A	Site Area under the Project	Valid
<b>Billing Account for Disposal of Construction Waste</b>				
7013233	18/7/2011	N/A	N/A	Valid
<b>Notification of Works Under APCO</b>				
Ref: 332427	15/7/2011	N/A	N/A	N/A
<b>Construction Noise Permit</b>				
GW-RW0761-11	1/12/2011	31/5/2012	Location: Construction site at Stonecutters Island Sewage treatment works.	Valid
GW-RW0142-12	1/3/2012	31/8/2012	Location: Construction site at Stonecutters Island Sewage treatment works.	Valid
GW-RW0344-12	4/5/2012	3/11/2012	Location: Construction site at Stonecutters Island Sewage treatment works.	Valid

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

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

**Reporting Quarter:** March to May 2012

- a) Exceedance Report for 1-hr TSP (NIL)**
- b) Exceedance Report for 24-hr TSP (NIL)**
- c) I: Exceedance Report for Construction Noise during normal working hours(NIL)**  
**II:Exceedance Report for Construction Noise during restricted hours (NIL)**

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**APPENDIX F  
SITE AUDIT SUMMARY IN REPORTING  
QUARTER**

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#### 7.5.4 Cultural Heritage

No vibration monitoring was conducted for this reporting period as the blasting of tunnel / shaft works have not started.

#### 7.5.5 Waste Management

Waste generated from this Project includes inert construction and demolition (C&D) materials, non-inert C&D materials and marine deposit. Non-inert C&D materials are made up of general refuse, steel and paper/ cardboard packaging materials. Steel materials generated from the project are also grouped into non-inert C&D materials as the materials were not disposed of with other inert C&D materials. No marine deposit requiring type 1, type 2, or type 3 disposal methods was generated. Reference has been made on the Monthly Summary Waste Flow Table prepared by the Contractor (*Annex J*).

The waste statistics provided in this section represent the cumulative quantity of wastes generated from all sites in this Project. With reference to relevant handling records and trip tickets of this Project, the quantities of different types of waste generated in the reporting period are summarised in *Table 7.10*. The inert C&D materials and general refuse generated from the Project were disposed of at Tuen Mun Area 38/Tseung Kwan O Area 137 Fill Bank/Chai Wan Barging Point and SENT Landfill respectively. 252 kg of paper/ cardboard packaging but no plastics nor steel were generated during the reporting period.

**Table 7.10 Quantities of Waste Generated from the Project for all Sites**

Month/ Year	Quantity					
	C&D Materials (inert) <sup>(a)</sup>	C&D Materials (non-inert) <sup>(b)</sup>	Chemical Waste	Marine Deposit		
				Type 1 disposal	Type 2 disposal	Type 3 disposal
March - May 2012	34,415.67 tonnes	108.03 tonnes	0.4 L	0 m <sup>3</sup>	0 m <sup>3</sup>	0 tonnes

**Notes:**

- (a) Inert C&D materials include bricks, concrete, building debris, rubble and excavated soil. No inert C&D material was reused in this Project during the reporting period. Non-reused inert C&D materials were disposed of at the Tuen Mun Area 38/Tseung Kwan O Area 137 Fill Bank/ Chai Wan Barging Point. In addition, 4,539.88 tonnes and 2,016.36 tonnes of broken rock have been transferred to Lam Tei Quarry and SENT Landfill respectively for use..
- (b) Non-inert C&D materials include steel, paper / cardboard packaging waste, plastics and other wastes such as general refuse. Steel materials generated from the project are grouped into non-inert C&D materials as the materials were not disposed of with other inert C&D materials. The non-inert C&D materials other than steel and paper/ cardboard packaging were disposed of at SENT Landfill. No steel material, 252 kg of paper/ cardboard packaging but no plastics nor steel were sent to recyclers for recycling during the reporting period.

#### 7.6 ENVIRONMENTAL SITE INSPECTION

Weekly site inspections were carried out by the representatives of the Contractor, Engineer and the ET. 14 site inspections were conducted on 1, 8, 15, 22 and 29 March; 5, 12, 19 and 25 April; 3, 10, 17, 24 and 31 May 2012. The

representative of the IEC joined the site inspection on 29 March, 25 April and 31 May 2012. There was no non-compliance recorded during the site inspections.

Major findings and recommendations are summarized as follows:

#### *Riser Shaft*

- On 22 March, construction materials were observed storing inside the tree protection zone. The Contractor was reminded to remove the construction materials in order to avoid damaging the retained trees.
- On 22 March, chemical bottles without drip tray were observed storing next to the emulsifier store. The Contractor was reminded to provide drip tray for the chemical bottles.
- On 29 March, oily water was observed on ground near the raiser shaft. The Contractor was reminded to remove the oily water and to dispose of it as chemical waste..

#### *Production Shaft*

- On 1 March, chemical drums were observed storing next to the tree protection zone. The Contractor was reminded to relocated the chemical drums away from the tree protection zone and provide an earth bund to avoid the spread of chemical in case of leakage.
- On 1 March, stagnant water was observed on the tarpaulin sheet and drainage channel near the Gate 2. The Contractor was reminded to remove the stagnant water.
- On 8 March, general refuse was observed under the waste skid. The Contractor was reminded to remove the general refuse.
- On 8 March, chemical bottles without drip trap were observed storing next to the emulsifier store. The Contractor was reminded to provide drip tray for the chemical bottles.
- On 5 April, muddy water was observed inside the noise enclosure near the winder. The Contractor was reminded to remove the muddy water.
- On 5 April, oil stain was observed on floor inside the noise enclosure near the winder. The Contractor was reminded to remove the oil stain and dispose of it as chemical waste.
- On 12 April, stagnant water was observed on the tarpaulin sheets near the emulsifier store and inside the drainage channel behind the noise enclosure. The Contractor was reminded to remove the stagnant water.
- On 12 April, chemical bottles without drip tray were observed being stored next to the sedimentation tank. The Contractor was reminded to provide drip tray for the chemical bottles.
- On 19 April, general refuses were observed inside the noise enclosure near the winder and behind the noise enclosure near the tree protection zone. The Contractor was reminded to remove the general refuses.
- On 3 May 2012, diesel oil was observed leaking from plastic bottle at storage area next to the noise enclosure. The Contractor was reminded to remove the diesel oil and dispose of as chemical waste. Also the Contractor was reminded to provide proper drip tray to prevent leakage of diesel oil.

- On 17 May 2012, stagnant water was observed in the U-channel behind the noise enclosure. The Contractor was reminded to remove the stagnant water and clean the channel.
- On 24 May 2012, stagnant water was observed on H pile outside the noise enclosure. The Contractor was reminded to remove the stagnant water to prevent breeding of mosquito.
- On 31 May 2012, chemical drum with waste oil was observed placing outside the chemical waste store without drip tray and septic water was observed leaking from the waste skip. The Contractor was reminded to store the chemical drum inside the chemical waste store with drip tray and to plug the hole to avoid the leakage of septic water.

Follow-up actions were undertaken as reported by the Contractor and observed in the site inspection conducted in the reporting period.

~~7.7 ENVIRONMENTAL NON-COMFORMANCE~~

~~7.7.1 *Summary of Monitoring Exceedance*~~

~~No exceedance of the Action and Limit Levels of 1-hour TSP and 24-hour TSP were recorded at monitoring stations during the reporting period.~~

~~7.7.2 *Summary of Environmental Non-Compliance*~~

~~No non-compliance event was recorded during the reporting period.~~

~~7.7.3 *Summary of Environmental Complaint*~~

~~No complaint was received during the reporting period. The cumulative complaint log is shown in Annex G7.~~

~~7.7.4 *Summary of Environmental Summon and Successful Prosecution*~~

~~No summon or prosecution was received during the reporting period. The cumulative summon and prosecution log is shown in Annex G7.~~

### 3.4 Environmental Site Inspection

3.4.1 There were thirteen (13) site inspections conducted in the reporting quarter to monitor the implementation of proper environmental pollution control and mitigation measures for the Project. The major concerns for the Project are air quality, noise, water quality and chemical and waste management. Observations recorded are described below.

3.4.2 The Contractor has rectified all observations as identified during environmental site inspection in the reporting quarter within agreed time frame.

#### 3.4.3 Air Quality Impact

- Over 20 bags of cement were observed placed on ground without impervious sheet covering in Launching Shaft Works Area. The Contractor was reminded that every stock of more than 20 bags of cement should be covered by impervious sheeting properly or placed in an area sheltered on the top and the 3 sides.
- Impervious sheeting for cement storage and mixing area in Launching Shaft Works Area was observed broken. The Contractor was reminded to maintain the area properly and ensure the area should be properly sheltered by impervious sheeting on the top and the 3 sides.
- The Contractor was reminded to properly maintain the temporary cement storage area at Launching Shaft Works Area. All de-bagging, batching and mixing process should be carried out in sheltered areas during the use of bagged cement. Every stock of more than 20 bags of cement should be covered by impervious sheeting properly or placed in an area sheltered on the top and the 3 sides.

#### 3.4.4 Construction Noise Impact

- Nil.

#### 3.4.5 Water Quality Impact

- Broken sandbag were observed inside the u-channel at Inlet Chamber Works Area. The Contractor was reminded to remove the broken sandbag from u-channel as soon as possible to prevent any untreated sandy water discharge to public drain during rainfall. All discharging effluent/water should be properly treated by wastewater treatment facility and discharged in designated discharge point in site area. Proper drainage system should be maintained to avoid any untreated wastewater discharging to public drain. The Contractor should ensure the effectiveness and proper operation of wastewater treatment facility on site.
- Debris was accumulated inside the u-channel at Inlet Chamber Works Area. The Contractor was reminded to remove the debris from the u-channel regularly and maintain the drainage system properly.
- Mitigation measures for mud storage area at Inlet Chamber Works Area and at Launching Shaft Works Area were observed insufficient. The Contractor was reminded to enhance the height of bunds/sand bags at the mud storage area. Mud accumulated outside the bunds at Inlet Chamber Works Area should be removed as soon as possible. Proper mitigation measure should be also provided for all storage area to prevent any muddy water runoff from the area to the public drain due to rainfall. Moreover, the Contractor was recommended to review the effectiveness of bunds/sand bags/channels at the mud storage area, site boundaries, soil stockpile area and works areas regularly.
- Slurry/surface run-off near the excavator in Inlet Chamber Works Area was observed. Mitigation measures provided in the works area in Inlet Chamber Works Area were



insufficient. Proper bunds/sand bags/channels at the site boundaries, soil stockpile areas and works area, cover the gullies or other means should be provided to intercept storm runoff and construction runoff from construction works flowing outside the works area and discharging to public drain. The Contractor was reminded to clear the slurry/surface run-off accumulated in works area regularly and treated properly. The Contractor was also reminded to remove the silt as soon as possible to prevent any silty water surface runoff from construction area to public drain due to rain. The Contractor was recommended to maintain the drainage system properly and regularly.

- Silt was accumulated on ground near the u-channel at Inlet Chamber Works Area and near the site entrance of Launching Shaft Works Area respectively. The Contractor was reminded to remove the silt to prevent any silty water running off to the u-channel. The Contractor was reminded to provide sufficient mitigation measure (such as covering the gullies, providing bunds/sand bags and other relevant measures) to prevent any silty water runoff from nearby drilling works. Proper mitigation measure should be also provided for nearby soil storage area to prevent any silty water runoff from the area to the public drain due to rainfall
- Silty water was accumulated at Inlet Chamber Works Area. Mitigation measures provided in the works area were insufficient. Proper bunds/sand bags/channels at the site boundaries, soil stockpile areas and works area, cover the gullies or other means should be provided to intercept storm runoff and construction runoff from construction works flowing outside the works area and discharging to public drain. The Contractor was reminded to clear the slurry/surface run-off accumulated in works area regularly and treated properly. The Contractor was also recommended to maintain the drainage system properly.
- Stagnant water was accumulated inside the tray at Inlet Chamber Works Area. The Contractor was reminded to remove the stagnant water regularly to prevent mosquito breeding.
- Stockpile of sand was accumulated near the Contractor's site office at Inlet Chamber Works Area. The Contractor was reminded to cover the stockpile by tarpaulin sheet properly and provide proper bunds/sand bags/channels at the soil stockpile area, cover the gullies or other means to intercept surface runoff from stockpile area flowing outside the works area and discharging to public drain.
- The outlets of the effluent (ground water) from TBM and wash water from wash basin in Launching Shaft Works Area were observed connected to a public storm drain which is not designated discharge point by the Effluent Discharge License. The Contractor was reminded that all wastewater from site work areas should be properly treated before discharging. The Contractor was also urged to connect all treated water outlets to the designated water discharge point in accordance with the Effluent Discharge License.

#### 3.4.6 Chemical and Waste Management

- C&D materials were accumulated inside and near the tree protection zone at Launching Shaft Works Area. The Contractor was reminded to remove the C&D material as soon as possible and maintain the tree protection zone properly.
- General refuse was accumulated at Launching Shaft Works Area. The Contractor was reminded to remove the general refuse regularly and maintain the site cleanness and tidiness.
- Oil drums placed on ground in Inlet Chamber Works Area and Launching Shaft Works Area were stored without drip trays. Drip trays or equivalent measures should be provided to oil drums stored within works areas to retain any oil leakage effectively.
- Oil leakages were observed from an engine, oil drums & excavator parked at Inlet Chamber Works Area and from tunnel boring machine during the repairing works in Launching Shaft Works Area respectively. Oil stains were also observed on ground at Inlet Chamber Works

Area. Although the ground was paved, it is recommended to provide drip trays or equivalent measures to intercept any oil leakage. Oil stains on ground should be cleared and disposed of as chemical waste. Any kinds of maintenance works should be carried out in paved and roofed works area with proper mitigation measures to handle any oil leakage.

- Oily water was accumulated inside the drip trays at Inlet Chamber Works Area. The Contractor was reminded to remove the oily water and dispose it as chemical wastes. The Contractor was also reminded to remove the oil water inside the drip trays regularly to prevent any overflow occurred. The Contractor was also recommended to provide skirt curtains for drip trays to prevent rainy water accumulated inside the drip tray during rainfall.
- Unclearly warning labels and broken lids for chemical containers were observed at Inlet Chamber Works Area. Although, drip tray had been provided for the containers, the Contractor was reminded to provide proper labels for all chemical containers and securely close / seal all chemical containers to avoid any leakage.

#### 3.4.7 Landscape and Visual Impact

- Large amount of weedy vines were found on retained tree (T1) at Launching Shaft Works Area. The Contractor was reminded to urgently remove the vines from the tree (T1) as soon as possible to prevent affecting the health of the tree. Moreover, a retained tree (T7) was observed in bleeding (near the wire holding area of the tree) and large amount of yellow leaves were observed in the tree. The Contractor was reminded to seek advices from tree specialist as soon as possible to implement proper measure for preventing wilt of the tree. The Contractor was also reminded to provide more regular watering of the trees and maintain the tree protection zone properly.

#### 3.4.8 Others

- Nil.

## 6 SITE INSPECTION

According to the Project Environmental Monitoring and Audit Manual, the environmental site inspection should be formulated by the ET Leader. Regular environmental site inspections had been carried out by the ET to confirm the environmental performance. In this Reporting Quarter, a total of 12 site inspections were carried out with the Representatives of the Engineer and the Contractor to evaluate the site environmental performance. No non-compliance was noted in this Reporting Quarter.

Observations for the site inspections and monthly audits within this Reporting Quarter are summarized in *Table 6-1*.

**Table 6-1 Observations for weekly site inspection in the Reporting Quarter**

Date	Findings / Deficiencies	Follow-Up Status
9 March 2012	<ul style="list-style-type: none"> <li>No environmental issue was observed during the site inspection.</li> </ul>	<ul style="list-style-type: none"> <li>N.A.</li> </ul>
13 March 2012	<ul style="list-style-type: none"> <li>Oil leakage at the storage area was observed, the contractor was reminded to clean to prevent land contamination.</li> <li>C&amp;D waste cumulated on site was observed, the contractor was reminded to clean more frequency.</li> </ul>	<ul style="list-style-type: none"> <li>Oil leakage at the storage area was found to be cleared on 28 March 2012.</li> <li>C&amp;D waste was found to be cleared on 19 March 2012.</li> </ul>
19 March 2012	<ul style="list-style-type: none"> <li>No new environmental issue was observed during the site inspection.</li> </ul>	<ul style="list-style-type: none"> <li>N.A.</li> </ul>
28 March 2012	<ul style="list-style-type: none"> <li>No environmental issue was observed during the site inspection.</li> </ul>	<ul style="list-style-type: none"> <li>N.A.</li> </ul>
4 April 2012	<ul style="list-style-type: none"> <li>No environmental issue was observed during the site inspection.</li> </ul>	<ul style="list-style-type: none"> <li>N.A.</li> </ul>
11 April 2012	<ul style="list-style-type: none"> <li>Stagnant water cumulated inside the drip tray was observed, the contractor was remind to clean to prevent leakage.</li> </ul>	<ul style="list-style-type: none"> <li>Stagnant water inside the drip tray was removed on 17 April 2012.</li> </ul>
17 April 2012	<ul style="list-style-type: none"> <li>No environmental issue was observed during the site inspection.</li> </ul>	<ul style="list-style-type: none"> <li>N.A.</li> </ul>
25 April 2012	<ul style="list-style-type: none"> <li>Construction waste cumulated on site was observed, the contractor was reminded to clean and sorting the waste before dispose.</li> </ul>	<ul style="list-style-type: none"> <li>The construction waste was found to be removed on 3 May 2012.</li> </ul>
3 May 2012	<ul style="list-style-type: none"> <li>No environmental issue was observed during the site inspection.</li> </ul>	<ul style="list-style-type: none"> <li>N.A.</li> </ul>
11 May 2012	<ul style="list-style-type: none"> <li>Construction waste cumulated on site was observed, the contractor was reminded to clean.</li> </ul>	<ul style="list-style-type: none"> <li>The construction waste was found to be removed on 15 May 2012.</li> </ul>
15 May 2012	<ul style="list-style-type: none"> <li>C&amp;D material scattered on site was observed, housekeeping should be improved to maintain the site clean and tidy.</li> </ul>	<ul style="list-style-type: none"> <li>The construction waste was found to be removed on 25 May 2012.</li> </ul>
25 May 2012	<ul style="list-style-type: none"> <li>Oil leakage from the generator was observed, the contractor was reminded to clean and prevent further contamination.</li> </ul>	<ul style="list-style-type: none"> <li>The oil leakage from the generator was found to be rectified on 7 June 2012</li> </ul>

**4. ENVIRONMENTAL AUDIT****Site Audits**

- 4.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site.
- 4.2 Environmental site audits were conducted on 1, 8, 14, 22 and 29 March 2012 for the Project. No non-compliance was observed during the site audits.
- 4.3 Site inspections were undertaken to ensure and check that the implementation and maintenance of landscape and visual mitigation measures are being properly carried out in the reporting month in accordance to section 14.1 of the EM&A Manual. No non-compliance was observed during the site inspections.
- 4.4 The summaries of site audits are attached in **Appendix C**.

**Implementation Status of Environmental Mitigation Measures**

- 4.5 Details of the implementation of mitigation measures are provided in the **Appendix F**.
- 4.6 During the weekly environmental site inspections in the reporting period, no non-conformance was identified. The observations of the site audit for the Projects are summarized in **Table 4.1**.

**Table 4.1 Observations of Site Audit**

<b>Parameters</b>	<b>Date/Ref. Number</b>	<b>Observations</b>	<b>Follow Up Action</b>
<b>Water Quality</b>	<b>1/3/2012 O-01</b>	To regularly clear the stagnant water in portion 3 and 4.	Stagnant water was cleared by the Contractor.
<b>Air Quality</b>	N/A	There was no observation in the reporting period.	N/A
<b>Waste/ Chemical Management</b>	<b>22/3/2012 O-01</b>	Storage area should be well maintained. Recycled materials should be stored properly at Portion 3.	The recycle materials were removed by the Contractor.
<b>Landscape and Visual</b>	N/A	There was no observation in the reporting period.	N/A
<b>Noise</b>	N/A	There was no observation in the reporting period.	N/A
<b>Permit/ Licenses</b>	N/A	There was no observation in the reporting period.	N/A

**4. ENVIRONMENTAL AUDIT****Site Audits**

- 4.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site.
- 4.2 Environmental site audits were conducted on 3, 12, 19 and 26 April 2012 for the Project. No non-compliance was observed during the site audits.
- 4.3 Site inspections were undertaken to ensure and check that the implementation and maintenance of landscape and visual mitigation measures are being properly carried out in the reporting month in accordance to section 14.1 of the EM&A Manual. No non-compliance was observed during the site inspections.
- 4.4 The summaries of site audits are attached in **Appendix C**.

**Implementation Status of Environmental Mitigation Measures**

- 4.5 Details of the implementation of mitigation measures are provided in the **Appendix F**.
- 4.6 During the weekly environmental site inspections in the reporting period, no non-conformance was identified. The observations of the site audit for the Projects are summarized in **Table 4.1**.

**Table 4.1 Observations of Site Audit**

Parameters	Date/Ref. Number	Observations	Follow Up Action
Water Quality	12/4/2012 O-01	Ponding water should be cleared at Portion 4 and Portion 5.	Ponding water was cleared at Portion 4 and Portion 5.
	19/4/2012 O-01	Ponding water should be avoided at Portion 4 after raining.	Ponding water in Portion 4 was cleared by the Contractor.
	26/4/2012 O-01	Bund should be set up at the boundary of Portion 4 (near to the sea area), to prevent the wastewater /ponding water from spillage.	The bottom of bund was sealed by concrete to prevent wastewater spillage from site.
Air Quality	3/4/2012 O-01	Adequate water spraying should be provided in Portion 5 to reduce dust generation	Water was sprayed in Portion 5 to reduce dust generation.
Waste/ Chemical Management	12/4/2012 O-02	House-keeping practice should be done regularly at Portion 5.	House-keeping practice was done at portion 5, no general waste was observed.
Landscape and Visual	N/A	There was no observation in the reporting period.	N/A
Noise	N/A	There was no observation in the reporting period.	N/A
Permit/ Licenses	N/A	There was no observation in the reporting period.	N/A

**4. ENVIRONMENTAL AUDIT****Site Audits**

- 4.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site.
- 4.2 Environmental site audits were conducted on 3, 10, 17, 24 and 31 May 2012 for the Project. No non-compliance was observed during the site audits.
- 4.3 Site inspections were undertaken to ensure and check that the implementation and maintenance of landscape and visual mitigation measures are being properly carried out in the reporting month in accordance to section 14.1 of the EM&A Manual. No non-compliance was observed during the site inspections.
- 4.4 The summaries of site audits are attached in **Appendix C**.

**Implementation Status of Environmental Mitigation Measures**

- 4.5 Details of the implementation of mitigation measures are provided in the **Appendix F**.
- 4.6 During the weekly environmental site inspections in the reporting period, no non-conformance was identified. The observations of the site audit for the Projects are summarized in **Table 4.1**.

**Table 4.1 Observations of Site Audit**

<b>Parameters</b>	<b>Date/Ref. Number</b>	<b>Observations</b>	<b>Follow Up Action</b>
<b>Water Quality</b>	<b>3/5/2012 R-01</b>	To provide mitigation measures to avoid the spillage of wastewater from Portion 3.	Bund was set up next to the pier next to Portion 3 to prevent spillage of wastewater.
	<b>24/5/2012 O-01</b>	A stack of soil and debris was observed near the pier area of Portion 3. The Contractor was reminded to remove it to avoid generation of runoff to sea area.	Soil and debris were cleared by the Contractor and the remaining concrete was covered by tarpaulin.
<b>Air Quality</b>	N/A	There was no observation in the reporting period.	N/A
<b>Waste/ Chemical Management</b>	<b>17/5/2012 R-01</b>	General refuse should be collected and properly disposed of in Portion 5.	General refuse in Portion 5 was cleared by the Contractor.
<b>Landscape and Visual</b>	N/A	There was no observation in the reporting period.	N/A
<b>Noise</b>	N/A	There was no observation in the reporting period.	N/A
<b>Permit/ Licenses</b>	N/A	There was no observation in the reporting period.	N/A

**4. ENVIRONMENTAL AUDIT****Site Audits**

- 4.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site.
- 4.2 Environmental site audits were conducted on 2, 9, 14, 23 and 30 March 2012 for the Project. No non-compliance was observed during the site audits.
- 4.3 Site inspections were undertaken to ensure and check that the implementation and maintenance of landscape and visual mitigation measures are being properly carried out in the reporting month in accordance to section 14.1 of the EM&A Manual. No non-compliance was observed during the site inspections.
- 4.4 The summaries of site audits are attached in **Appendix C**.

**Implementation Status of Environmental Mitigation Measures**

- 4.5 Details of the implementation of mitigation measures are provided in the **Appendix F**.
- 4.6 During the weekly environmental site inspections in the reporting period, no non-conformance was identified. The observations of the site audit for the Projects are summarized in **Table 4.1**.

**Table 4.1 Observations of Site Audit**

Parameters	Date/Ref. Number	Observations	Follow Up Action
Water Quality	2/3/2012 O-02	To repair the broken bund at the surrounding of Portion 4 to prevent wastewater spillage.	The bund at the Portion 4 was repaired by the Contractor.
	2/3/2012 O-04	To set up wastewater facilities in Portion 4.	Wastewater facility in Portion 4 was set up properly in Portion 4.
	14/3/2012 O-02	To provide mitigation measures to suppress the wastewater generation in Portion 3.	This item was found outstanding and will be followed up the next site inspection.
	23/3/2012 O-01	Concrete bund should be provided at the surrounding for Portion 4 to prevent wastewater spillage.	Additional sand bags were provided to bund the Portion 4.
	23/3/2012 O-03	Drainage system should be ensured to work properly and free from blockage.(Portion 3)	The drainage system at Portion 3 was smoothly functioning during the site inspection.
	23/3/2012 O-04	Ditch should be provided in Portion 4 to collect wastewater for treatment.	Water pumps were used to collect wastewater to sump pit then to water treatment facilities.
	30/3/2012 O-02	To clear the accumulated sludge in sump pit in Portion 3 to prevent wastewater spillage.	The volume of sludge in sump pit in Portion 3 was reduced.
Air Quality	2/3/2012 O-07	To clear the mud trail at the entrance of Portion 3 and wheels of vehicles should be properly washed before leaving the site.	Mud trail at the entrance of Portion 3 was cleared by the Contractor.

	<b>9/3/2012 O-05</b>	Water spraying should be provided for concrete breaking works	Concrete works has been completed during the site inspection.
	<b>14/3/2012 O-01</b>	To properly cover the cement bags (>20s) in Portion 3 to reduce dust emission.	Cement bags were well covered by the Contractor.
	<b>23/3/2012 O-02</b>	Stockpile should be properly covered in Portion 4.	The volume of stockpile was reduced and covered with tarpaulin by the Contractor.
	<b>30/3/2012 O-01</b>	Stockpile in Portion 4 should be covered to reduce dust emission.	Stockpile in Portion 4 was covered to by the Contractor.
	<b>30/3/2012 O-03</b>	To clear the mud-trail near the wheel washing bay in Portion3.	This item was found outstanding and will be followed up the next site inspection.
<b>Waste/ Chemical Management</b>	<b>2/3/2012 O-01</b>	Oil stains in Portion 3 should be cleared and proper mitigation measures should be provided to prevent oil leakage during oil filing.	This item was found outstanding and will be followed up the next site inspection.
	<b>2/3/2012 O-03</b>	Empty/chemical containers should be properly stored in Portion 3.	The chemical containers were removed by the Contractor.
	<b>2/3/2012 O-06</b>	To clear the material other than chemicals drip tray in Portion 3.	This item was found outstanding and will be followed up the next site inspection.
	<b>9/3/2012 O-01</b>	To seal the drip tray in Portion 9 to prevent oil leakage.	To drip tray was repaired by the Contractor.
	<b>9/3/2012 O-02</b>	To clear the oil stain properly in Portion 9.	Oil stain was cleared by the Contractor.
	<b>9/3/2012 O-03</b>	To remove the materials other than chemicals in drip tray in Portion 3.	This item was found outstanding and will be followed up the next site inspection.
	<b>9/3/2012 O-04</b>	Accumulated of waste was observed in Portion 4. The Contractor was reminded to dispose of it regularly.	The accumulated waste was cleared by the Contractor.
	<b>14/3/2012 O-03</b>	To remove the materials other than chemicals in drip tray in Portion 3.	Materials other than chemicals were removed from the drip tray in Portion 3.
<b>Landscape and Visual</b>	N/A	There was no observation in the reporting month.	N/A
<b>Noise</b>	N/A	There was no observation in the reporting month.	N/A
<b>Permit/ Licenses</b>	<b>2/3/2012 O-05</b>	To display E.P at the entrance of Portion 4.	E.P was displayed at the entrance of Portion 4.

### Review of Environmental Monitoring Procedures

4.7 The monitoring works conducted by the monitoring teams of Contracts DC/2007/23, DC/2009/05 and DE/2009/02. The monitoring procedures were reviewed by their respective ETs.

### Status of Environmental Licensing and Permitting

4.8 All permits/licenses obtained for the Contract DC/2009/10 are summarized in **Table 4.2**.



**4. ENVIRONMENTAL AUDIT****Site Audits**

- 4.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site.
- 4.2 Environmental site audits were conducted on 3, 13, 18 and 25 April 2012 for the Project. No non-compliance was observed during the site audits.
- 4.3 Site inspections were undertaken to ensure and check that the implementation and maintenance of landscape and visual mitigation measures are being properly carried out in the reporting month in accordance to section 14.1 of the EM&A Manual. No non-compliance was observed during the site inspections.
- 4.4 The summaries of site audits are attached in **Appendix C**.

**Implementation Status of Environmental Mitigation Measures**

- 4.5 Details of the implementation of mitigation measures are provided in the **Appendix F**.
- 4.6 During the weekly environmental site inspections in the reporting period, no non-conformance was identified. The observations of the site audit for the Projects are summarized in **Table 4.1**.

**Table 4.1 Observations of Site Audit**

Parameters	Date/Ref. Number	Observations	Follow Up Action
Water Quality	3/4/2012 O-02	Proper bund should be provided to Portion 3 to prevent wastewater spillage in wet season.	Concrete bund was constructed at the site boundary of Portion 3.
	13/4/2012 O-01	Drip tray should be provided to contain oil drums in Portion 3,4, and oil stain should be cleared.	Now labels were provided to chemical containers by the Contractor.
	18/4/2012 O-04	Proper temporarily drainage system should be provided in Portion 3.	The blockage in the drainage in Portion 3 was removed by the Contractor.
	25/4/2012 O-01	Mud trail was observed at the exit of Portion 3 next to the wheel washing bay. The Contractor was reminded to clear it regularly.	Mud trail at the exit of Portion 3 was cleared by the Contractor.
	25/4/2012 O-02	Sediment was accumulated in the temporarily drainage channel in Portion 3. The Contractor was reminded to provide regularly maintenance and clearing of sediment regularly.	Refer to the photo provided by the Contractor, the sediment in the temporarily drainage channel in Portion 3 was clearing by the worker.
	25/4/2012 O-03	Oil stain and oily water were observed in Portion 4. The Contractor was reminded to clear it to prevent it from entering the drainage channel.	The oil stains were cleared by the Contractor.
Air Quality	3/4/2012 O-01	To enhance dust suppression measures in Portion 3 and 4.	Water sprayed was observed during the site inspection.

	3/4/2012 O-03	To clear the mud-trail near the wheel washing bay in Portion 3.	The mud-trail was cleared by the Contractor.
	3/4/2012 O-04	Proper covering should be provided before the disposal of empty bags in Portion 3.	Cement bags was disposed of by the Contractor.
<b>Waste/ Chemical Management</b>	13/4/2012 O-01	Drip tray should be provided to contain oil drums in Portion 3,4 and oil stain should be cleared.	Drip tray was provided to contain oil drums.
	13/4/2012 O-02	Proper label should be provided to identify the chemicals in Portion 4.	Now labels were provided to chemical containers by the Contractor.
	13/4/2012 O-04	Plastic bottles were found in yellow recycling bin. The Contractor was reminded to enhance the recycling practices.	This item was found outstanding and will be followed up in the next site inspection.
	13/4/2012 O-05	Oil leakage from the equipment should be prevented. (Portion 3)	This item was found outstanding and will be followed up in the next site inspection.
	13/4/2012 O-06	Chemical containers should be treated as chemicals waste and dispose of properly.	The empty chemical containers were removed by the Contractor from the sorting area.
	18/4/2012 O-02	Plastic bottles were found in yellow-recycling bin. The Contractor was reminded to enhance the recycling practices.	No plastic bottles were found in yellow-recycling bin during the site inspection.
	18/4/2012 O-03	Oil leakage from the equipment should be prevented. (Portion 3)	The machine was stopped for usage and waiting for repairing.
	18/4/2012 O-05	Drip tray in Portion 4 should be properly sealed to prevent leakage.	Drip tray was sealed and no oil leakage was observed.
	18/4/2012 O-06	Oil stains in Portion 4 should be cleared.	The oil stains were cleared by the Contractor.
	<b>Landscape and Visual</b>	13/4/2012 O-03	Tree Protection fence should be erected and materials in tree protection zone should be removed. (Next to Portion 3)
18/4/2012 O-01		Tree protection fence should be erected. (Next to Portion 3)	Tree protection fence was erected by the Contractor.
<b>Noise</b>	N/A	There was no observation in the reporting month.	N/A
<b>Permit/ Licenses</b>	N/A	There was no observation in the reporting month.	N/A

### Review of Environmental Monitoring Procedures

- 4.7 The monitoring works conducted by the monitoring teams of Contracts DC/2007/23, DC/2009/05 and DE/2009/02. The monitoring procedures were reviewed by their respective ETs.

### Status of Environmental Licensing and Permitting

- 4.8 All permits/licenses obtained for the Contract DC/2009/10 are summarized in **Table 4.2**.

**4. ENVIRONMENTAL AUDIT****Site Audits**

- 4.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site.
- 4.2 Environmental site audits were conducted on 4, 11, 18 and 25 May 2012 for the Project. No non-compliance was observed during the site audits.
- 4.3 Site inspections were undertaken to ensure and check that the implementation and maintenance of landscape and visual mitigation measures are being properly carried out in the reporting month in accordance to section 14.1 of the EM&A Manual. No non-compliance was observed during the site inspections.
- 4.4 The summaries of site audits are attached in **Appendix C**.

**Implementation Status of Environmental Mitigation Measures**

- 4.5 Details of the implementation of mitigation measures are provided in the **Appendix F**.
- 4.6 During the weekly environmental site inspections in the reporting period, no non-conformance was identified. The observations of the site audit for the Projects are summarized in **Table 4.1**.

**Table 4.1 Observations of Site Audit**

Parameters	Date/Ref. Number	Observations	Follow Up Action
Water Quality	4/5/2012 O-01	Ponding water in Portion 4 should be regularly cleared to prevent Mosquito breeding.	This item was found outstanding and will be followed up in the next site inspection.
	4/5/2012 O-02	The broken bund at the entrance of Portion 4 should be repaired to prevent wastewater spillage.	This item was found outstanding and will be followed up in the next site inspection.
	11/5/2012 O-01	Ponding water in Portion 4 should be regularly cleared to prevent Mosquito breeding.	Ponding water in Portion 4 was cleared by the Contractor.
	11/5/2012 O-02	The broken bund at the entrance of Portion 4 should be repaired to prevent wastewater spillage.	Bund was set up at the entrance of Portion 4.
	18/5/2012 O-02	To confine the surface runoff nearby Portion 3 and 4 to prevent wastewater spillage.	Sand bags were provided to surround works area near Portion 3 and 4 to prevent the wastewater spillage.
	25/5/2012 O-01	Oil stain should be cleared in Portion 4.	Oil stain in Portion 4 was cleared by the Contractor.
	25/5/2012 O-02	Slurry and sediment should be cleared in Portion 3 regularly to avoid spillage.	The amount of slurry and sediment in the mad pit was much reduced in Portion 3.
Air Quality	4/5/2012 O-03	To cover the exposed cement bags properly in Portion 3.	Cement bags were removed by the Contractor.

	<b>11/5/2012 O-04</b>	Stockpile at the surrounding of Portion 3 should be confined in site area and covered with impervious material to prevent runoff generation.	Stockpile was well covered by the Contractor.
	<b>25/5/2012 O-03</b>	Adequate water spraying should be provided in excavating area to reduce dust generation in Portion 4.	This item was found outstanding and will be followed up in the next site inspection.
<b>Waste/ Chemical Management</b>	<b>11/5/2012 O-03</b>	Chemical should be properly stored in Portion 4.	The oil drum in Portion 4 was removed by the Contractor.
	<b>18/5/2012 O-01</b>	Drip tray should be provided to contain the chemicals to avoid leakage.	Oil drums were contained with drip tray in Portion 3.
<b>Landscape and Visual</b>	N/A	There was no observation in the reporting month.	N/A
<b>Noise</b>	N/A	There was no observation in the reporting month.	N/A
<b>Permit/ Licenses</b>	N/A	There was no observation in the reporting month.	N/A

### Review of Environmental Monitoring Procedures

- 4.7 The monitoring works conducted by the monitoring teams of Contracts DC/2007/23, DC/2009/05 and DE/2009/02. The monitoring procedures were reviewed by their respective ETs.

### Status of Environmental Licensing and Permitting

- 4.8 All permits/licenses obtained for the Contract DC/2009/10 are summarized in **Table 4.2**.

**Table 4.2 Summary of Environmental Licensing and Permit Status for Contract DC/2009/10**

Reference Number	Valid Period		Details	Status
	From	To		
<b>Water Discharge License</b>				
WT00009245-2011	1/6/2011	30/6/2016	The application was approved on 1-6-2011.	Valid
WT00012151-2012	28/2/2012	28/2/2017	The application was approved on 28-2-2012.	Valid
<b>Registered Chemical Waste Producer</b>				
WPN5213-269-S3584-01	N/A	N/A	The application was approved on 4-5-2011.	Valid
<b>Billing Account for Disposal of Construction Waste</b>				
CSW01444	16/3/2011	N/A	The application was approved on 16-3-2011.	Valid
<b>Notification of Works Under APCO</b>				
327427	N/A	N/A	Notice form received by EPD on 2-3-2011.	N/A
<b>Construction Noise Permit for Percussive Piling(driving steel pile)</b>				
PP-RW0018-11	2/11/2011	1/8/2012	The application was approved on 1-11-2011.	Valid
PP-RW0004-12	10/4/2012	9/1/2013	The application was approved on 21-3-2012.	Valid

## 4 ENVIRONMENTAL AUDIT

### Site Audits

- 4.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site.
- 4.2 Environmental site audits were conducted on 7, 14, 21 and 28 March 2012 for the Project. No non-compliance was observed during the site audits.
- 4.3 Site inspections were undertaken to ensure and check that the implementation and maintenance of landscape and visual mitigation measures are being properly carried out in the reporting month in accordance to section 14.1 of the EM&A Manual. No non-compliance was observed during the site inspections.
- 4.4 The summaries of site audits are attached in **Appendix G**.

### ~~Review of Environmental Monitoring Procedures~~

- 4.5 The monitoring works conducted by the monitoring team were inspected regularly. The following observations have been recorded for the monitoring works:

#### *Air Quality Monitoring*

- The monitoring team recorded all observations around the monitoring stations within and outside the construction site.
- The monitoring team recorded the temperature and weather conditions on the monitoring days.

#### *Noise Monitoring*

- The monitoring team recorded all observations around the monitoring stations, which might affect the monitoring result.
- Major noise sources were identified and recorded. Other intrusive noise attributing to the result was trimmed off by pausing the monitoring temporarily.

#### *Water Quality Monitoring*

- The monitoring team recorded all observations around the monitoring stations, which might affect the monitoring result.
- The monitoring team recorded the weather condition on the monitoring day.

### Status of Environmental Licensing and Permitting

- 4.6 All permits/licenses obtained for the Contract DC/2009/18 are summarized in **Table 4.1**.

**Table 4.1 Summary of Environmental Licensing and Permit Status for Contract DC/2009/18**

Permit/ A/C Number	Valid Period		Details	Status
	From	To		
<i>Water Discharge License</i>				
WT00010571-2011	13/10/2011	31/10/2016	Location: Portion 7A and 15A	Valid
<i>Registered Chemical Waste Producer</i>				
5213-269-C3689-01	8/9/2011	N/A	Site Area under the Project	Valid
<i>Billing Account for Disposal of Construction Waste</i>				
7013233	18/7/2011	N/A	N/A	Valid
<i>Notification of Works Under APCO</i>				
Ref: 332427	15/7/2011	N/A	N/A	N/A
<i>Construction Noise Permit</i>				
GW-RW0761-11	1/12/2011	31/5/2012	Location: Construction site at Stonecutters Island Sewage treatment works.	Valid
GW-RW0142-12	1/3/2011	31/8/2012	Location: Construction site at Stonecutters Island Sewage treatment works.	Valid

**Status of Waste Management**

- 4.7 The amount of wastes generated by the activities of the Project in the reporting month is shown in **Appendix H**.

**Implementation Status of Environmental Mitigation Measures**

- 4.8 Details of the implementation of mitigation measures are provided in the **Appendix J**.
- 4.9 During the weekly environmental site inspections in the reporting period, no non-conformance was identified. The observations of the site audit for the Projects are summarized in **Table 4.2**.

**Table 4.2 Observations of Site Audit**

Parameters	Date/Ref. Number	Observations	Follow Up Action
Water Quality	120307-O01	To set up wastewater treatment facilities in Portion 3.	A wastewater treatment facility was operating in Portion 3 during the site inspection.
	120307-O02	To provide proper blockage at both ends of the U-channel in Portion 3 and 7 for collecting wastewater to wastewater treatment facilities.	This item was found outstanding and will be followed up in the next site inspection.
	120307-O04	To clear the sediment in the U-channel to prevent wastewater spillage.	This item was found outstanding and will be followed up in the next site inspection.
	120314-O01	To provide proper blockage at both ends of the U-channel in Portion 3 and 7 for collecting wastewater to wastewater treatment facilities.	One of the U-channel was blocked for collecting wastewater. The Contractor was reminded to block the others channels before wet season. (Portion 3).

	120314-O03	To clear the sediment in the U-channel in Portion 3 and 7.	This item was found outstanding and will be followed up in the next site inspection.
	120314-O04	Proper drainage system should be provided in Portion 7 before pilling works operation.	This item was found outstanding and will be followed up in the next site inspection.
	120314-O05	To avoid wastewater spillage in Portion 3.	Portion 3 was properly banded and no spillage of wastewater was observed during the site inspection.
	120321-O01	One of the U-channel was blocked for collecting wastewater. The Contractor was reminded to block the others channels before wet season. (Portion 3)	U-channels were blocked with sand bags to prevent wastewater spillage.
	120321-O02	To clear the sludge and wastewater accumulated in Portion 3 (near silo area)	The accumulated sludge and wastewater was cleared by the Contractor.
	120321-O04	To clear the sediment in the U-channel in Portion 3 and 7.	Sediment in U-channel was cleared by the Contractor.
	120321-O05	Wheel washing facilities should be provided in Portion 7.	This item was found outstanding and will be followed up in the next site inspection.
	120321-O06	Proper drainage system should be provided in Portion 7 before pilling works operation.	This item was found outstanding and will be followed up in the next site inspection.
	120328-O01	Wheel washing facilities should be provided in Portion 7.	This item was found outstanding and will be followed up in the next site inspection.
	120328-O02	Proper drainage system should be provided in Portion 7 before pilling works operation.	This item was found outstanding and will be followed up in the next site inspection.
<b>Air Quality</b>	N/A	There was no observation in the reporting period.	N/A
<b>Waste/ Chemical Management</b>	120307-O03	To provide better maintenance to air-compressor to prevent oil leakage in Portion 3.	No further oil leaking was observed during the site inspection.
	120314-O02	To avoid chemical waste accumulation in Portion 3.	Chemical waste was removed by the Contractor.
	120321-O03	To clear the stagnant wastewater in drip tray as chemical waste (Portion 3)	Stagnant wastewater was cleared by the Contractor.
	120328-O03	Drip Tray should be provided to contain the chemical in Portion 3 to prevent leakage.	The chemical container was removed by the Contractor.
<b>Landscape and Visual</b>	N/A	There was no observation in the reporting period.	N/A
<b>Noise</b>	N/A	There was no observation in the reporting period.	N/A
<b>Permit/ Licenses</b>	N/A	There was no observation in the reporting period.	N/A

### Implementation Status of Event Action Plans

4.10 The Event Action Plans for air quality and noise are presented in **Appendix I**.

**4 ENVIRONMENTAL AUDIT**

**Site Audits**

- 4.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site.
- 4.2 Environmental site audits were conducted on 5, 11, 18 and 27 April 2012 for the Project. No non-compliance was observed during the site audits.
- 4.3 Site inspections were undertaken to ensure and check that the implementation and maintenance of landscape and visual mitigation measures are being properly carried out in the reporting month in accordance to section 14.1 of the EM&A Manual. No non-compliance was observed during the site inspections.

4.4 The summaries of site audits are attached in **Appendix G**.

**Review of Environmental Monitoring Procedures**

4.5 The monitoring works conducted by the monitoring team were inspected regularly. The following observations have been recorded for the monitoring works:

*Air Quality Monitoring*

- The monitoring team recorded all observations around the monitoring stations within and outside the construction site.
- The monitoring team recorded the temperature and weather conditions on the monitoring days.

*Noise Monitoring*

- The monitoring team recorded all observations around the monitoring stations, which might affect the monitoring result.
- Major noise sources were identified and recorded. Other intrusive noise attributing to the result was trimmed off by pausing the monitoring temporarily.

**Status of Environmental Licensing and Permitting**

4.6 All permits/licenses obtained for the Contract DC/2009/18 are summarized in **Table 4.1**.

**Table 4.1 Summary of Environmental Licensing and Permit Status for Contract DC/2009/18**

Permit/ A/C Number	Valid Period		Details	Status
	From	To		
<i>Water Discharge License</i>				
WT00010571-2011	13/10/2011	31/10/2016	Location: Portion 7A and 15A	Valid



Permit/ A/C Number	Valid Period		Details	Status
	From	To		
<b>Registered Chemical Waste Producer</b>				
5213-269- C3689-01	8/9/2011	N/A	Site Area under the Project	Valid
<b>Billing Account for Disposal of Construction Waste</b>				
7013233	18/7/2011	N/A	N/A	Valid
<b>Notification of Works Under APCO</b>				
Ref: 332427	15/7/2011	N/A	N/A	N/A
<b>Construction Noise Permit</b>				
GW- RW0761-11	1/12/2011	31/5/2012	Location: Construction site at Stonecutters Island Sewage treatment works.	Valid
GW- RW0142-12	1/3/2012	31/8/2012	Location: Construction site at Stonecutters Island Sewage treatment works.	Valid
GW- RW0344-12	4/5/2012	3/11/2012	Location: Construction site at Stonecutters Island Sewage treatment works.	Valid

### Status of Waste Management

- 4.7 The amount of wastes generated by the activities of the Project in the reporting month is shown in **Appendix H**.

### Implementation Status of Environmental Mitigation Measures

- 4.8 Details of the implementation of mitigation measures are provided in the **Appendix J**.
- 4.9 During the weekly environmental site inspections in the reporting period, no non-conformance was identified. The observations of the site audit for the Projects are summarized in **Table 4.2**.

**Table 4.2 Observations of Site Audit**

Parameters	Date/Ref. Number	Observations	Follow Up Action
Water Quality	120405-O02	Sediment in the blocked channel in Portion 3 should be cleared regularly to prevent overflowing in wet season.	Sediment in blocked channel in Portion 3 was cleared by the Contractor.
	120405-O04	Wheel washing facilities should be provided in Portion 7.	This item was found outstanding and will be followed up in the next site inspection.
	120405-O05	Proper drainage system should be provided and the sediment in drainage channel should be cleared in Portion 7.	This item was found outstanding and will be followed up in the next site inspection.
	120411-O01	Oil stain should be cleaned and oil leakage from the equipment should be prevented in Portion 3.	Oil stain were cleared by the Contractor in Portion 3.
	120411-O04	Wheel washing facilities should be provided at Portion 7.	This item was found outstanding and will be followed up in the next site inspection.
	120411-O05	Proper bund should be surrounded Portion 7 to prevent waste water spillage.	A section of addition bund was constructed for next to the drilling area in Portion 7.

	120411-O06	Proper drainage system should be provided and sediment in channel should be cleared in Portion 7.	This item was found outstanding and will be followed up in the next site inspection.
	120418-O01	Oil stain should be cleared in Portion 3.(next to the site exit)	Oil stains were cleared by the Contractor in Portion 3.
	120418-O03	Stockpile in Portion 3 should be regularly cleared to reduce surface run-off generation in wet season.	Stockpile was cleared and the pilling area was surrounded by sand bags.
	120418-O04	Wheels washing facilities should be provided in Portion 7.	This item was found outstanding and will be followed up in the next site inspection.
	120418-O05	Proper bund should be provided to confine the wastewater in Portion 7.	This item was found outstanding and will be followed up in the next site inspection.
	120418-O06	Proper drainage system and wastewater treatment facilities should be provided in Portion 7.	Drainage system and wastewater treatment facilities were provided at Portion 7 and will be installed in the coming week.
	120427-O02	Bund should be repaired and extended next the storage tank No.1 to prevent wastewater spillage. (Portion 3)	Bund was extended next to the storage tank and the wastewater was cleared.
	120427-O03	Sediment should be cleared regularly in the drainage channel next the site entrance of Portion3.	Sediment in the drainage channel in Portion 3 was cleared.
	120427-O04	Wheel washing facilities should be provided in Portion 7.	This item was found outstanding and will be followed up in the next site inspection.
	120427-O05	The bund should be continued to set up to surround Portion 7 to prevent wastewater spillage.	This item was found outstanding and will be followed up in the next site inspection.
<b>Air Quality</b>	120405-O01	Empty cement bags were observed in Portion 3 without covering. The Contractor should dispose them of regularly to reduce dust emission.	Disposing of empty cement bags was observed during the site inspection.
	120427-O01	The opened and used cements bags at the demolishing concrete mixer should be cleared to reduce dust emission. (near the site entrance of Portion 3.)	This item was found outstanding and will be followed up in the next site inspection.
<b>Waste/ Chemical Management</b>	120405-O03	Oil stains should be cleared and leakage of oil from equipment should be prevented in Portion 3 and 7.	This item was found outstanding and will be followed up in the next site inspection.
	120411-O01	Oil stain should be cleaned and oil leakage from the equipment should be prevented in Portion 3.	Oil stain were cleared by the Contractor in Portion 3.
	120411-O02	Empty/Wasted chemical containers should be properly stored in Portion 3.	Empty/Wasted chemical containers were cleared by the Contractor in Portion 3.
	120411-O03	Drip tray should be provided to contain oil drum to prevent leakage and stagnant oily water in drip tray should be cleared regularly as chemical waste.(Portion 3)	Materials and the oily water was cleared by the Contractor in Portion 3.
	120418-O01	Oil stain should be cleared in Portion 3.(next to the site exit)	Oil stains were cleared by the Contractor in Portion 3.

	120418-O02	The sediment mixed with oily water in blocked channel should be cleared and treated as chemical waste.	The Contractor was clearing the sediment during the site inspection.
<b>Landscape and Visual</b>	N/A	There was no observation in the reporting period.	N/A
<b>Noise</b>	N/A	There was no observation in the reporting period.	N/A
<b>Permit/ Licenses</b>	N/A	There was no observation in the reporting period.	N/A

### Implementation Status of Event Action Plans

4.10 The Event Action Plans for air quality and noise are presented in **Appendix I**.

#### 1-hr TSP

4.11 No Action/Limit Level exceedance was recorded.

#### 24-hr TSP

4.12 No Action/Limit Level exceedance was recorded.

#### Construction Noise

4.13 No Action/Limit Level exceedance was recorded.

#### Landscape and Visual

4.14 No non-compliance was recorded.

### Summary of Complaints and Prosecutions

4.15 No environmentally related summons, prosecutions and complaints were received for the Project in the reporting month.

4.16 There were no environmentally related summons, prosecutions and complaints received since the commencement of the Project. The Complaint Log is presented in **Appendix K**.

## 4 ENVIRONMENTAL AUDIT

### Site Audits

- 4.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site.
- 4.2 Environmental site audits were conducted on 2, 9, 16, 23 and 30 May 2012 for the Project. No non-compliance was observed during the site audits.
- 4.3 Site inspections were undertaken to ensure and check that the implementation and maintenance of landscape and visual mitigation measures are being properly carried out in the reporting month in accordance to section 14.1 of the EM&A Manual. No non-compliance was observed during the site inspections.
- 4.4 The summaries of site audits are attached in **Appendix G**.

### Review of Environmental Monitoring Procedures

- 4.5 The monitoring works conducted by the monitoring team were inspected regularly. The following observations have been recorded for the monitoring works:

#### *Air Quality Monitoring*

- The monitoring team recorded all observations around the monitoring stations within and outside the construction site.
- The monitoring team recorded the temperature and weather conditions on the monitoring days.

#### *Noise Monitoring*

- The monitoring team recorded all observations around the monitoring stations, which might affect the monitoring result.
- Major noise sources were identified and recorded. Other intrusive noise attributing to the result was trimmed off by pausing the monitoring temporarily.

### Status of Environmental Licensing and Permitting

- 4.6 All permits/licenses obtained for the Contract DC/2009/18 are summarized in **Table 4.1**.

**Table 4.1 Summary of Environmental Licensing and Permit Status for Contract DC/2009/18**

Permit/ A/C Number	Valid Period		Details	Status
	From	To		
<i>Water Discharge License</i>				
WT00010571-2011	13/10/2011	31/10/2016	Location: Portion 7A and 15A	Valid

Permit/ A/C Number	Valid Period		Details	Status
	From	To		
<b>Registered Chemical Waste Producer</b>				
5213-269- C3689-01	8/9/2011	N/A	Site Area under the Project	Valid
<b>Billing Account for Disposal of Construction Waste</b>				
7013233	18/7/2011	N/A	N/A	Valid
<b>Notification of Works Under APCO</b>				
Ref: 332427	15/7/2011	N/A	N/A	N/A
<b>Construction Noise Permit</b>				
GW- RW0761-11	1/12/2011	31/5/2012	Location: Construction site at Stonecutters Island Sewage treatment works.	Valid
GW- RW0142-12	1/3/2012	31/8/2012	Location: Construction site at Stonecutters Island Sewage treatment works.	Valid
GW- RW0344-12	4/5/2012	3/11/2012	Location: Construction site at Stonecutters Island Sewage treatment works.	Valid

### Status of Waste Management

- 4.7 The amount of wastes generated by the activities of the Project in the reporting month is shown in **Appendix H**.

### Implementation Status of Environmental Mitigation Measures

- 4.8 Details of the implementation of mitigation measures are provided in the **Appendix J**.
- 4.9 During the weekly environmental site inspections in the reporting period, no non-conformance was identified. The observations of the site audit for the Projects are summarized in **Table 4.2**.

**Table 4.2 Observations of Site Audit**

Parameters	Date/Ref. Number	Observations	Follow Up Action
Water Quality	120509-O01	Wastewater spillage was observed at pre-drilling area in Portion 3. The Contactor was reminded to set up the bund around the work area to confine the wastewater.	The pilling area was well bund by sand bags.
	120509-O03	Slurry and sediment in Portion 3 should be cleared regularly to reduce the surface runoff generation.	The accumulated sediment in Portion 3 was cleared by the Contractor.
	120509-O04	Wheel washing facilities should be provided in Portion 7.	This item was found outstanding and will be followed up in the next site inspection.
	120516-O01	To ensure the wastewater treatment facilities are fully function in Portion 7.	Wastewater treatment facility was operating during the site inspection
	120516-O03	To provide wheel washing facilities in Portion 7 to avoid mud/mud trail bring to public road.	The equipment for wheels washing was installing during the site inspection.
	120523-O01	To clear the debris in Portion 3 regularly and provide adequate water spraying to reduce dust and runoff generation.	Clearing of debris by the Contractor was observed during the site inspection in Portion 3.

	120523-O02	Drainage next to storage tank should be prevented the debris from entering.(Portion 3)	This item was found outstanding and will be followed up in the next site inspection.
	120523-O03	Sediment in blocked drainage in Portion 7 should be cleared regularly.	Sediment in blocked drainage in Portion 7 was found cleared.
	120523-O04	The bund surrounding Portion 7 should be maintained regularly to confine the wastewater in site area.	Bund at the exit of Portion 7 was provided to prevent wastewater spillage.
	120530-O02	Drainage next to storage tank should be prevented the debris from entering.(Portion 3)	Covering was provided by the Contractor to the gully.
	120530-O03	Over-flowing was observed next to the site exist in Portion 3. The Contractor was reminded to clear the wastewater in the blocked channel more frequently.	Overflowing was not observed during the site inspection, while the Contractor was reminded to maintain the drainage channel regularly.
<b>Air Quality</b>	120502-O01	The opened and used cements bags at the demolishing concrete mixer should be cleared to reduce dust emission. (near the site entrance of Portion 3.)	Opened and used cements bags at the demolishing concrete mixer were removed by the Contractor.
	120523-O01	To clear the debris in Portion 3 regularly and provide adequate water spraying to reduce dust and runoff generation.	Clearing of debris by the Contractor was observed during the site inspection in Portion 3.
	120530-O01	Cement bags and used cement bags should be covered and removed respectively, to reduce dust emission in Portion 3.	Cements bags in Portion 3 were disposed of by the Contractor.
<b>Waste/ Chemical Management</b>	120502-O02	To provide drip tray to contain oil drums at the entrance of Portion 3 to prevent oil leakage.	Oil drums were removed from at the entrance of Portion 3.
	120502-O03	Oil stain next to the concrete mixer should be cleared. (Portion 3)	Oil stain was cleared by the Contractor.
	120502-O04	Oil leakage from the air-compressor in Portion 3 should be stopped and cleared.	No further oil leakage was observed during the site inspection.
	120509-O02	To properly contain the chemical in Portion 3 with drip trays to prevent leakage.	Chemicals were removed by the Contractor.
	120516-O02	To provide a separate drip tray to contain tools and chemical container to avoid contamination in Portion 3.	Materials in the drip tray were cleared by the Contractor.
<b>Landscape and Visual</b>	N/A	There was no observation in the reporting period.	N/A
<b>Noise</b>	N/A	There was no observation in the reporting period.	N/A
<b>Permit/ Licenses</b>	N/A	There was no observation in the reporting period.	N/A

### Implementation Status of Event Action Plans

4.10 The Event Action Plans for air quality and noise are presented in **Appendix I**.

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**APPENDIX G**  
**EVENT ACTION PLANS**

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**APPENDIX G – Event / Action Plans**

**Table G-1 Event / Action Plan For Air Quality**

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
<b>ACTION LEVEL</b>				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC and ER; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; 2. Check Contractor’s working method.	1. Notify Contractor.	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.
2. Exceedance for two or more consecutive samples	1. Identify source; 2. Inform IEC and ER; 3. Advise the ER on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and ER; 8. If exceedance stops, cease additional monitoring	1. Check monitoring data submitted by ET; 2. Check Contractor’s working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ET on the effectiveness of the proposed remedial measures; 5. Supervise Implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented	1. Submit proposals for remedial to ER within 3 working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate



EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
LIMIT LEVEL				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform ER, Contractor and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
2. Exceedance for two or more consecutive samples	1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 4. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 5. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated

**Table G-2 Event / Action Plan For Construction Noise**

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action Level being exceeded	<ol style="list-style-type: none"> <li>1. Notify ER, IEC and Contractor;</li> <li>2. Carry out investigation;</li> <li>3. Report the results of investigation to the IEC, ER and Contractor;</li> <li>4. Discuss with the IEC and Contractor on remedial measures required;</li> <li>5. Increase monitoring frequency to check mitigation effectiveness</li> </ol>	<ol style="list-style-type: none"> <li>1. Review the investigation results submitted by the ET;</li> <li>2. Review the proposed remedial measures by the Contractor and advise the ER accordingly;</li> <li>3. Advise the ER on the effectiveness of the proposed remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>4. Supervise the implementation of remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit noise mitigation proposals to IEC and ER;</li> <li>2. Implement noise mitigation proposals</li> </ol>
Limit Level being exceeded	<ol style="list-style-type: none"> <li>1. Inform IEC, ER, Contractor and EPD;</li> <li>2. Repeat measurements to confirm findings;</li> <li>3. Increase monitoring frequency;</li> <li>4. Identify source and investigate the cause of exceedance;</li> <li>5. Carry out analysis of Contractor's working procedures;</li> <li>6. Discuss with the IEC, Contractor and ER on remedial measures required;</li> <li>7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results;</li> <li>8. If exceedance stops, cease additional monitoring</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>4. Supervise the implementation of remedial measures;</li> <li>5. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IEC and ER within 3 working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Submit further proposal if problem still not under control;</li> <li>5. Stop the relevant portion of works as instructed by the ER until the exceedance is abated</li> </ol>

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

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

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract					
			DC/2007/23	DC/2009/05	DE/2009/02	DC/2009/17	DC/2009/10	DC/2009/18
<b>A</b>	<b>Air Quality</b>							
3.74	Skip hoist for material transport should be totally enclosed by impervious sheeting.	All construction sites	^	^	@	^	*	^
	Vehicle washing facilities should be provided at every vehicle exit point.		^	^	^	^	*	*
	The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcore.		^	^	^	^	^	^
	Where a site boundary adjoins a road, streets or other areas accessible to the public, hoarding of not less than 2.4 m high from ground level should be provided along the entire length except for a site entrance or exit.		N/A	^	N/A	^	^	^
	Use of regular watering, with complete coverage, to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather.		^	^	^	^	*	*
	Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines.		^	^	^	^	*	*
	Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs		^	^	^	^	*	^
	Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.		^	^	^	^	^	^
	Imposition of speed controls for vehicles on unpaved site roads. Ten kilometers per hour is the recommended limit.		^	^	^	^	^	^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract					
			DC/2007/23	DC/2009/05	DE/2009/02	DC/2009/17	DC/2009/10	DC/2009/18
	Every stock of more than 20 bags of cement should be covered entirely by impervious sheeting placed in an area sheltered on the top and the 3 sides.			@	@	^	*	*
	Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.			^	^	^	*	^
3.74	Instigation of an environmental monitoring and auditing program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise.	All construction sites		^	^	^	^	^
<b>B</b>	<b>Airborne Noise</b>							
4.56–4.61	Use of quiet PME, movable barriers and acoustic mats.	All construction sites	^	^	^	^	^	^
4.67	Only well-maintained plant shall be operated on-site and plant shall be serviced regularly during the construction program.		^	^	^	^	^	^
	Silencers or mufflers on construction equipment shall be utilized and shall be properly maintained during the construction program.		^	^	^	^	^	^
	Mobile plant, if any, shall be sited as far away from NSRs as possible.		^	^	^	^	^	^
	Machines and plant (such as trucks) that may be in intermittent use shall be shut down between works periods or shall be throttled down to a minimum.		^	^	^	^	^	^
4.67	Plant known to emit noise strongly in one direction shall, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.		^	^	^	^	^	^
	Material stockpiles and other structures shall be effectively utilized, wherever practicable, in screening noise from on-site construction activities.		^	^	^	^	^	^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract						
			DC/2007/23	DC/2009/05	DE/2009/02	DC/2009/17	DC/2009/10	DC/2009/18	
<b>C</b>	<b>Water Quality</b>								
6.349 to 6.375	Construction Site Runoff and General Construction Activities The mitigation measures as outlined in the ProPECC PN 1/94 Construction Site Drainage should be adopted where applicable.		^	@	*	*	*	*	*
6.376	Effluent Discharge There is a need to apply to EPD for a discharge licence for discharge of effluent from the construction site under the WPCO. The discharge quality must meet the requirements specified in the discharge licence. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the WPCO license which is under the ambit of regional office (RO) of EPD. Minimum distances of 100 m should be maintained between the discharge points of construction site effluent and the existing saltwater intakes.		^	@	^	^	*	*	*
6.377	Accidental Spillage of Chemicals Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.		<>	^	*	^	*	*	^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract					
			DC/2007/23	DC/2009/05	DE/2009/02	DC/2009/17	DC/2009/10	DC/2009/18
6.378	Any service shop and maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.		<>	^	*	^	*	*
6.379	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 style="list-style-type: none"> <li>Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport.</li> <li>Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents.</li> <li>Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.</li> </ul>		^	@	*	^	*	*
6.380	Construction Works in Close Proximity of Storm Drains or Seafront  To minimize the potential water quality impacts from the construction works located at or near any watercourse, the practices outlined below should be adopted where applicable. <ul style="list-style-type: none"> <li>The use of less or smaller construction plants may be specified to reduce the disturbance to</li> </ul>	All construction sites	^	@	^	^	*	*



EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract					
			DC/2007/23	DC/2009/05	DE/2009/02	DC/2009/17	DC/2009/10	DC/2009/18
	<p>the storm water courses or marine environment.</p> <ul style="list-style-type: none"> <li>• Temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction materials should be located well away from any water courses during carrying out of the construction works.</li> <li>• Stockpiling of construction materials and dusty materials should be covered and located away from any water courses.</li> <li>• Construction debris and spoil should be covered up and/or disposed of as soon as possible to avoid being washed into the nearby water receivers.</li> <li>• Construction activities, which generate large amount of wastewater, should be carried out in a distance away from the waterfront, where practicable.</li> <li>• Proper shoring may need to be erected in order to prevent soil/mud from slipping into the storm culvert or sea.</li> </ul>							
<b>D</b>	<b>Waste Management</b>							
9.107	Reusable steel or concrete panel shutters, fencing and hoarding and signboard should be used as a preferred alternative to items made of wood, to minimise wastage of wood. Attention should be paid to WBTC No. 19/2001 - Metallic Site Hoardings and Signboards to reduce the amount of timber used on construction sites. Metallic alternatives to timber are readily available and should be used rather than new timber. Precast concrete units should be adopted wherever feasible	All construction sites	^	^	^	^	^	^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract						
			DC/2007/23	DC/2009/05	DE/2009/02	DC/2009/17	DC/2009/10	DC/2009/18	
	to minimize the use of timber formwork.								
9.109	All waste materials should be segregated into categories covering: <ul style="list-style-type: none"> <li>excavated materials suitable for reuse on-site;</li> <li>excavated materials suitable for public filling facilities;</li> <li>remaining C&amp;D waste for landfill;</li> <li>chemical waste; and</li> <li>general refuse for landfill.</li> </ul>	All construction sites	<>	^	^	^	*	^	
9.113	Sort C&D waste from demolition of existing facilities to recover recyclable portions such as metals;		^	N/A	^	^	^	^	
	Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal.		^	^	*	^	^	^	
	Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force.		^	^	^	^	*	^	
	Any unused chemicals or those with remaining functional capacity shall be recycled.		^	^	^	^	^	^	
	Proper storage and site practices to minimise the potential for damage or contamination of construction materials.		^	@	^	^	^	^	
9.115	Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.		<>	^	^	*	*	^	
	Training of site personnel in proper waste			^	^	^	^	^	

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract					
			DC/2007/23	DC/2009/05	DE/2009/02	DC/2009/17	DC/2009/10	DC/2009/18
	management and chemical waste handling procedures.							
9.115	Develop and provide toolbox talk for on-site sorting of C&D materials to enhance worker's awareness in handling, sorting, reuse and recycling of C&D materials.			^	^	*	*	^
	Provision of sufficient waste disposal points and regular collection of waste.			@	^	^	*	^
	Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.			@	^	^	^	*
9.125	Bentonite slurries used in diaphragm wall construction should be reconditioned and reused wherever practicable. The disposal of residual used bentonite slurry should follow the good practice guidelines stated in ProPECC PN 1/94 "Construction Site Drainage"	All construction sites	^	^	^	^	^	^
9.131	Adequate number of portable toilets at temporary works areas or the PTWs to ensure that sewage from site staff would be properly collected.		^	^	^	^	^	^
9.133	General refuse should be stored in enclosed bins, skips or compaction units separating from C&D material and disposed of at designated landfill.		^	^	*	^	^	^
9.135	The recyclable component of the municipal waste generated by the workforce, such as aluminium cans, paper and cleansed plastic containers should be separated from other waste. Provision and collection of recycling bins for different types of recyclable waste should be set up by the Contractor. The Contractor should also be responsible for arranging recycling companies to collect these materials.		^	^	^	*	*	^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract					
			DC/2007/23	DC/2009/05	DE/2009/02	DC/2009/17	DC/2009/10	DC/2009/18
9.137	If chemical wastes are produced at the construction site, the Contractor would be required to register with the EPD as a chemical waste producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the approved Chemical Waste Treatment Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.		^	@	^	^	^	*
9.142	Prior to excavation of the marine deposit layer, the deposit should be tested in accordance with the ETWB TC(W) No. 34/2002 and the results should be presented in a Preliminary Sediment Quality Report. The marine deposit should be disposed of at the disposal site designated by the Marine Fill Committee (MFC) or Director of Environmental Protection (DEP) depending on the test results.		^	^	^	N/A	N/A	N/A
<b>E</b>	<b>Terrestrial Ecology</b>							
10.94	To implement effective noise mitigation measures as recommended in Section 4 of EIA.	All construction	^	^	^	N/A	N/A	N/A

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract					
			DC/2007/23	DC/2009/05	DE/2009/02	DC/2009/17	DC/2009/10	DC/2009/18
10.95	Dust control practices such as regular watering, complete coverage of any aggregate or dusty material storage piles, and re-schedule of dusty activities during high-wind conditions as well as other measures recommended in Section 3 of EIA, should be implemented.	sites	^	^	^	^	^	^
10.96	Fences/hoardings should be erected and installed along the boundary of the works areas.		^	^	^	^	^	^
10.97	Standard good site practices as suggested in Section 10 of EIA should be implemented.		^	^	^	N/A	N/A	N/A
10.98	Provision of proper drainage system and runoff control measures such as use of sand/silt traps, oil/grease separators, sedimentation tanks, etc.		^	@	^	^	^	^
<b>F</b>	<b>Landscape and Visual</b>							
Table 13.7	Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical.	All construction sites	<>	N/A	^	^	^	^
	Existing trees to be retained on site should be carefully protected during construction.		@	^	^	*	^	
	Trees unavoidably affected by the works should be transplanted where practical.		^	^	^	^	^	
	Compensatory tree planting should be provided to compensate for felled trees.		N/A	^	^	^	^	N/A
	Control of night-time lighting.		^	^	^	^	^	^
Table 13.7	Erection of decorative screen hoarding compatible with the surrounding setting.	All construction sites		N/A	^	N/A	N/A	N/A
<b>G</b>	<b>Marine Ecology</b>							
11.135	To minimize the potential indirect impacts on water quality from construction site runoff and various construction activities, the practices	All construction sites	^	^	^	^	^	^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract						
			DC/2007/23	DC/2009/05	DE/2009/02	DC/2009/17	DC/2009/10	DC/2009/18	
	outlined in ProPECC PN 1/94 Construction Site Drainage should be adopted.								
<b>H</b>	<b>Hazard to Life</b>								
14A.201	Limiting use of cranes in terms of locations, lifting height, swing angle and setting up safety zone.	Exact location will be determined on construction site by the engineer	^	^	^	^	^	^	^

Remarks:	^ Compliance of mitigation measure;
	<> Compliance of mitigation measure but need improvement';
	N/A Not Applicable;
	* Recommendation was made during site audit but improved/rectified by the contractor.
	# partially implemented
	X Non-compliance of mitigation measure;
	• Non-compliance but rectified by the contractor;
	@ Deficiency of Mitigation Measures but rectified by the Contractor

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**APPENDIX I  
COMPLAINT LOG**

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**APPENDIX I – COMPLAINT LOG**

**Reporting Quarter:** March to May 2012

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

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



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**APPENDIX J**  
**CONSTRUCTION PROGRAMME**

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Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	% Comp	2010	2011	2012	2013	2014
<b>HATS Stage 2A - Contract DC/2007/23</b>										
<b>Stonecutters Island STW Production Shaft</b>										
<b>Preliminaries Works</b>										
SCPS10070	SCPS: Construct/Install Blast Protection	2	22SEP10	24SEP10	0					
SCPS10075	SCPS: Site Inspection from Mines	1	25SEP10	25SEP10	0					
SCPS10080	SCPS: Issue Blasting Permit	1	27SEP10	27SEP10	0					
<b>EBS, Env. &amp; Geotechnical Instrumentations</b>										
<b>Markers/UMP's/Others(Same note as Piez.)</b>										
SCPS0391	SCPS: Install GS Markers (17 Nos.)	74	01SEP09A	01FEB10	85					
SCPS0393	SCPS: JointSurvey&EstablishBaseline Readings GSM	14	02FEB10	20FEB10	0					
<b>Piezometers(NearbyPTWorPScovered inthisInstalln)</b>										
SCPS0375	SCPS: BH907 Piezometer Baseline Establishment	26	10NOV09A	23JAN10	85					
SCPS0381	SCPS: BH908 Piezometer Baseline Establishment	26	10NOV09A	27JAN10	73					
SCPS0387	SCPS: BH906 Piezometer Baseline Establishment	26	15JAN10A	06FEB10	40					
<b>Electrical &amp; Mechanical Installations</b>										
SCPS0620	SCPS: Installation Works for 11KV Application	60	08APR10	18JUN10	0					
SCPS0625	SCPS: 11 KV Connection & Power On	4	19JUN10	23JUN10	0					
<b>Marine Dumping Permit</b>										
SCPS0370	SCPS: Request for Disposal Site&Get Permit	24	02JAN10A	05FEB10	38					
<b>Diaphragm Wall</b>										
SCPS0279	SCPS: Excavate 3rd Panel to Formation Level	12	16JAN10A	20JAN10	92					
SCPS0281	SCPS: 3rd Panel Desanding & Preparation Works	4	21JAN10	25JAN10	0					
SCPS0282	SCPS: Grouting Works Phase 1	45	21JAN10	17MAR10	0					
SCPS0283	SCPS: 3rd Panel Rebar Cage Installation	3	26JAN10	28JAN10	0					
SCPS0285	SCPS: 3rd Panel Concreting Works	1	29JAN10	29JAN10	0					
SCPS0287	SCPS: Excavate 4th Panel to Formation Level	23	30JAN10	01MAR10	0					
SCPS0289	SCPS: 4th Panel Desanding & Preparation Works	9	02MAR10	11MAR10	0					
SCPS0291	SCPS: 4th Panel Rebar Cage Installation	6	12MAR10	18MAR10	0					
SCPS0292	SCPS: Grouting Works Phase 2	45	18MAR10	11MAY10	0					
SCPS0293	SCPS: 4th Panel Concreting Works	1	19MAR10	19MAR10	0					
SCPS0297	SCPS: Excavate 5th Panel to Formation Level	8	20MAR10	29MAR10	0					
SCPS0299	SCPS: 5th Panel Desanding & Preparation Works	3	30MAR10	01APR10	0					
SCPS0301	SCPS: 5th Panel Rebar Cage Installation	2	02APR10	03APR10	0					
SCPS0303	SCPS: 5th Panel Concreting Works	1	06APR10	06APR10	0					
SCPS0307	SCPS: Excavate 6th Panel to Formation Level	23	07APR10	04MAY10	0					
SCPS0309	SCPS: 6th Panel Desanding & Preparation Works	9	05MAY10	14MAY10	0					
SCPS0310	SCPS: Grouting Works Phase 3	50	12MAY10	10JUL10	0					
SCPS0311	SCPS: 6th Panel Rebar Cage Installation	6	15MAY10	21MAY10	0					
SCPS0313	SCPS: 6th Panel Concreting Works	1	22MAY10	22MAY10	0					
SCPS0317	SCPS: Excavate 7th Panel to Formation Level	8	24MAY10	01JUN10	0					
SCPS0319	SCPS: 7th Panel Desanding & Preparation Works	3	02JUN10	04JUN10	0					
SCPS0321	SCPS: 7th Panel Rebar Cage Installation	2	05JUN10	07JUN10	0					
SCPS0323	SCPS: 7th Panel Concreting Works	1	08JUN10	08JUN10	0					
SCPS0327	SCPS: Excavate 8th Panel to Formation Level	8	09JUN10	18JUN10	0					
SCPS0329	SCPS: 8th Panel Desanding & Preparation Works	3	19JUN10	22JUN10	0					
SCPS0331	SCPS: 8th Panel Rebar Cage Installation	2	23JUN10	24JUN10	0					
SCPS0333	SCPS: 8th Panel Concreting Works	1	25JUN10	25JUN10	0					
SCPS0335	SCPS: Install Dewatering Wells for Pump-test	12	05JUL10	17JUL10	0					
SCPS0337	SCPS: Pumping Test	6	19JUL10	24JUL10	0					
SCPS0338	SCPS: Submission of Pumping Test Report	6	26JUL10	31JUL10	0					
SCPS0341	SCPS: Demobilization	6	26JUL10	31JUL10	0					
<b>Shaft Excavation</b>										
SCPS0500	SCPS: Construct Capping Beam & Shaft Collar	12	26JUL10	07AUG10	0					
SCPS0510	SCPS: Initial Excavation of Shaft (7m)	4	09AUG10	12AUG10	0					
SCPS0520	SCPS: Set-Up Equipment for Shaft Sink	12	13AUG10	26AUG10	0					
SCPS0525	SCPS: Erect Noise Enclosure at Shaft Top	12	13AUG10	26AUG10	0					
SCPS0530	SCPS: Excavate Soil & Ring Beams (50m)	22	27AUG10	21SEP10	0					
SCPS0575	SCPS: Probe, Grout, D&B Rock, Muck Out (87m)	100	28SEP10	26JAN11	0					
SCPS0640	SCPS: Construct Sump at Shaft Bottom	2	27JAN11	28JAN11	0					
SCPS0665	SCPS: Erect Tunnel Hoist & Muck Out System	10	29JAN11	12FEB11	0					
<b>Backfill, Reinstatement &amp; Landscaping</b>										
SCPS0910	SCPS: Backfill Shaft (20%)	8	12SEP13	21SEP13	0					
SCPS0920	SCPS: Backfill Shaft (40%)	8	23SEP13	02OCT13	0					
SCPS0930	SCPS: Backfill Shaft (60%)	8	03OCT13	11OCT13	0					
SCPS0940	SCPS: Backfill Shaft (80%)	8	12OCT13	22OCT13	0					
SCPS0950	SCPS: Backfill Shaft (100%)	8	23OCT13	31OCT13	0					
SCPS0960	SCPS: Reinstatement Around PS Area	12	01NOV13	14NOV13	0					
SCPS0970	SCPS: Demobilise Clear Area	6	15NOV13	21NOV13	0					
SCPS0975	SCPS: Complete All Works at SCI PS (KD-11)	0	21NOV13	21NOV13	0					
SCPS0980	SCPS: Landscaping & Planting Works	60	22NOV13*	20JAN14	0					
SCPS0990	SCPS: Period of Establishment Works	360	21JAN14	15JAN15	0					
SCPS1000	SCPS: End of Establishment Period	0	15JAN15	15JAN15	0					

Start Date 31JUL09  
 Finish Date 15JAN15  
 Data Date 20JAN10  
 Run Date 01FEB10 10:42

Early Bar  
 Progress Bar  
 Critical Activity

WPU7 Sheet 1 of 1  
 Harbour Area Treatment Scheme Stage 2A  
 Contract No. DC/2007/23 - Construction of Sewage  
 Conveyance from North Point to Stonecutters Island  
 Programme  
 Annex G8 Construction Programme for the Project



Date	Revision	Checked/Approved

Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	% Comp	2010	2011	2012	2013	2014
<b>HATS Stage 2A - Contract DC/2007/23</b>										
<b>Stonecutters Island STW Riser Shaft</b>										
<b>Marine Dumping Permit</b>										
SCRS0370	SCRS: Request for Disposal Site&Get Permit	24	05JAN10A	06FEB10	33	SCRS: Request for Disposal Site&Get Permit				
<b>Diaphragm Wall</b>										
SCRS0287	SCRS: Excavate 4th Panel to Formation Level	7	09JAN10A	23JAN10	50	SCRS: Excavate 4th Panel to Formation Level				
SCRS0289	SCRS: 4th Panel Desanding & Preparation Works	3	25JAN10	27JAN10	0	SCRS: 4th Panel Desanding & Preparation Works				
SCRS0291	SCRS: 4th Panel Rebar Cage Installation	2	28JAN10	29JAN10	0	SCRS: 4th Panel Rebar Cage Installation				
SCRS0293	SCRS: 4th Panel Concreting Works	1	30JAN10	30JAN10	0	SCRS: 4th Panel Concreting Works				
SCRS0295	SCRS: Excavate 5th Panel to Formation Level	7	01FEB10	08FEB10	0	SCRS: Excavate 5th Panel to Formation Level				
SCRS0297	SCRS: 5th Panel Desanding & Preparation Works	3	09FEB10	11FEB10	0	SCRS: 5th Panel Desanding & Preparation Works				
SCRS0299	SCRS: 5th Panel Rebar Cage Installation	2	12FEB10	13FEB10	0	SCRS: 5th Panel Rebar Cage Installation				
SCRS0301	SCRS: 5th Panel Concreting Works	1	18FEB10	18FEB10	0	SCRS: 5th Panel Concreting Works				
SCRS0303	SCRS: Excavate 6th Panel to Formation Level	7	19FEB10	26FEB10	0	SCRS: Excavate 6th Panel to Formation Level				
SCRS0305	SCRS: 6th Panel Desanding & Preparation Works	3	27FEB10	02MAR10	0	SCRS: 6th Panel Desanding & Preparation Works				
SCRS0306	SCRS: Grouting Works Phase 1	40	03MAR10	19APR10	0	SCRS: Grouting Works Phase 1				
SCRS0307	SCRS: 6th Panel Rebar Cage Installation	2	03MAR10	04MAR10	0	SCRS: 6th Panel Rebar Cage Installation				
SCRS0309	SCRS: 6th Panel Concreting Works	1	05MAR10	05MAR10	0	SCRS: 6th Panel Concreting Works				
SCRS0311	SCRS: Excavate 7th Panel to Formation Level	7	06MAR10	13MAR10	0	SCRS: Excavate 7th Panel to Formation Level				
SCRS0313	SCRS: 7th Panel Desanding & Preparation Works	3	15MAR10	17MAR10	0	SCRS: 7th Panel Desanding & Preparation Works				
SCRS0315	SCRS: 7th Panel Rebar Cage Installation	2	18MAR10	19MAR10	0	SCRS: 7th Panel Rebar Cage Installation				
SCRS0317	SCRS: 7th Panel Concreting Works	1	20MAR10	20MAR10	0	SCRS: 7th Panel Concreting Works				
SCRS0319	SCRS: Excavate 8th Panel to Formation Level	7	22MAR10	29MAR10	0	SCRS: Excavate 8th Panel to Formation Level				
SCRS0321	SCRS: 8th Panel Desanding & Preparation Works	3	30MAR10	01APR10	0	SCRS: 8th Panel Desanding & Preparation Works				
SCRS0323	SCRS: 8th Panel Rebar Cage Installation	2	02APR10	03APR10	0	SCRS: 8th Panel Rebar Cage Installation				
SCRS0325	SCRS: 8th Panel Concreting Works	1	06APR10	06APR10	0	SCRS: 8th Panel Concreting Works				
SCRS0327	SCRS: Excavate 9th Panel to Formation Level	7	07APR10	14APR10	0	SCRS: Excavate 9th Panel to Formation Level				
SCRS0329	SCRS: 9th Panel Desanding & Preparation Works	3	15APR10	17APR10	0	SCRS: 9th Panel Desanding & Preparation Works				
SCRS0331	SCRS: 9th Panel Rebar Cage Installation	2	19APR10	20APR10	0	SCRS: 9th Panel Rebar Cage Installation				
SCRS0332	SCRS: Grouting Works Phase 2	40	21APR10	07JUN10	0	SCRS: Grouting Works Phase 2				
SCRS0333	SCRS: 9th Panel Concreting Works	1	21APR10	21APR10	0	SCRS: 9th Panel Concreting Works				
SCRS0335	SCRS: Excavate 10th Panel to Formation Level	7	22APR10	29APR10	0	SCRS: Excavate 10th Panel to Formation Level				
SCRS0337	SCRS: 10th Panel Desanding & Preparation Works	3	30APR10	04MAY10	0	SCRS: 10th Panel Desanding & Preparation Works				
SCRS0339	SCRS: 10th Panel Rebar Cage Installation	2	05MAY10	06MAY10	0	SCRS: 10th Panel Rebar Cage Installation				
SCRS0341	SCRS: 10th Panel Concreting Works	1	07MAY10	07MAY10	0	SCRS: 10th Panel Concreting Works				
SCRS0343	SCRS: Excavate 11th Panel to Formation Level	7	08MAY10	15MAY10	0	SCRS: Excavate 11th Panel to Formation Level				
SCRS0345	SCRS: 11th Panel Desanding & Preparation Works	3	17MAY10	19MAY10	0	SCRS: 11th Panel Desanding & Preparation Works				
SCRS0347	SCRS: 11th Panel Rebar Cage Installation	2	20MAY10	21MAY10	0	SCRS: 11th Panel Rebar Cage Installation				
SCRS0349	SCRS: 11th Panel Concreting Works	1	22MAY10	22MAY10	0	SCRS: 11th Panel Concreting Works				
SCRS0351	SCRS: Excavate 12th Panel to Formation Level	7	24MAY10	31MAY10	0	SCRS: Excavate 12th Panel to Formation Level				
SCRS0353	SCRS: 12th Panel Desanding & Preparation Works	3	01JUN10	03JUN10	0	SCRS: 12th Panel Desanding & Preparation Works				
SCRS0355	SCRS: 12th Panel Rebar Cage Installation	2	04JUN10	05JUN10	0	SCRS: 12th Panel Rebar Cage Installation				
SCRS0356	SCRS: Grouting Works Phase 3	40	08JUN10	26JUL10	0	SCRS: Grouting Works Phase 3				
SCRS0357	SCRS: 12th Panel Concreting Works	1	07JUN10	07JUN10	0	SCRS: 12th Panel Concreting Works				
SCRS0359	SCRS: Excavate 13th Panel to Formation Level	7	08JUN10	15JUN10	0	SCRS: Excavate 13th Panel to Formation Level				
SCRS0361	SCRS: 13th Panel Desanding & Preparation Works	3	17JUN10	19JUN10	0	SCRS: 13th Panel Desanding & Preparation Works				
SCRS0365	SCRS: 13th Panel Concreting Works	1	23JUN10	23JUN10	0	SCRS: 13th Panel Concreting Works				
SCRS0366	SCRS: 13th Panel Rebar Cage Installation	2	21JUN10	22JUN10	0	SCRS: 13th Panel Rebar Cage Installation				
SCRS0367	SCRS: Excavate 14th Panel to Formation Level	7	24JUN10	02JUL10	0	SCRS: Excavate 14th Panel to Formation Level				
SCRS0369	SCRS: 14th Panel Desanding & Preparation Works	3	03JUL10	06JUL10	0	SCRS: 14th Panel Desanding & Preparation Works				
SCRS0371	SCRS: 14th Panel Rebar Cage Installation	2	07JUL10	08JUL10	0	SCRS: 14th Panel Rebar Cage Installation				
SCRS0373	SCRS: 14th Panel Concreting Works	1	09JUL10	09JUL10	0	SCRS: 14th Panel Concreting Works				
SCRS0380	SCRS: Install Dewatering Wells for Pump-test	12	20JUL10	02AUG10	0	SCRS: Install Dewatering Wells for Pump-test				
SCRS0390	SCRS: Pumping Test	6	03AUG10	09AUG10	0	SCRS: Pumping Test				
SCRS0392	SCRS: Submission of Pumping Test Report	6	10AUG10	16AUG10	0	SCRS: Submission of Pumping Test Report				
SCRS0394	SCRS: Demobilization for D'wall	6	10AUG10	16AUG10	0	SCRS: Demobilization for D'wall				
<b>Shaft Excavation</b>										
SCRS0400	SCRS: Construct Capping Beam & Shaft Collar	6	17AUG10	23AUG10	0	SCRS: Construct Capping Beam & Shaft Collar				
SCRS0410	SCRS: Excavate Soil & Ring Beams (58.4m)	42	24AUG10	13OCT10	0	SCRS: Excavate Soil & Ring Beams (58.4m)				
SCRS0420	SCRS: Construct Levelling Pad	3	14OCT10	18OCT10	0	SCRS: Construct Levelling Pad				
SCRS0430	SCRS: Pre-excavation Grout for Raise Bore	90	19OCT10	02FEB11	0	SCRS: Pre-excavation Grout for Raise Bore				
SCRS0440	SCRS: In-fill Concrete for Pilot Hole	12	07FEB11	19FEB11	0	SCRS: In-fill Concrete for Pilot Hole				
<b>Raised Boring</b>										
SCRS0700	SCRS: Rig Up Hole 1	5	07AUG12	11AUG12	0	SCRS: Rig Up Hole 1				
SCRS0710	SCRS: Pilot Drill 140 mtrs	16	13AUG12	30AUG12	0	SCRS: Pilot Drill 140 mtrs				
SCRS0720	SCRS: Attach reamer and Collar	3	31AUG12	03SEP12	0	SCRS: Attach reamer and Collar				
SCRS0730	SCRS: Ream 90 metres @ 3.5 mtr dia	35	04SEP12	16OCT12	0	SCRS: Ream 90 metres @ 3.5 mtr dia				
SCRS0740	SCRS: Lower Reamer and Remove	3	17OCT12	19OCT12	0	SCRS: Lower Reamer and Remove				
SCRS0750	SCRS: De Rig Raise borer	5	20OCT12	26OCT12	0	SCRS: De Rig Raise borer				
<b>Lower Shaft Construction</b>										
SCRS0835	SCRS: Blinding Layer & Base Slab for LS	6	27OCT12	02NOV12	0	SCRS: Blinding Layer & Base Slab for LS				
SCRS0840	SCRS: Bank shunt concreting	18	03NOV12	23NOV12	0	SCRS: Bank shunt concreting				
SCRS0875	SCRS: Constr Verti-Shift to Tun Invert -136.5mPD	9	24NOV12	04DEC12	0	SCRS: Constr Verti-Shift to Tun Invert -136.5mPD				
SCRS0885	SCRS: Install System Form for LS -136.5mPD	9	05DEC12	14DEC12	0	SCRS: Install System Form for LS -136.5mPD				
SCRS0935	SCRS: Construct Transition & Vert Shaft -136mPD	15	15DEC12	03JAN13	0	SCRS: Construct Transition & Vert Shaft -136mPD				
SCRS0940	SCRS: Construct Shaft -136 to -30.5mPD	55	04JAN13	12MAR13	0	SCRS: Construct Shaft -136 to -30.5mPD				
<b>Upper Shaft Construction</b>										
SCRS0975	SCRS: Construct Vert Shift to Tun Invert -30.5mPD	9	13MAR13	22MAR13	0	SCRS: Construct Vert Shift to Tun Invert -30.5mPD				
SCRS0995	SCRS: Install System Form for LS -30.5mPD	9	23MAR13	02APR13	0	SCRS: Install System Form for LS -30.5mPD				
SCRS1045	SCRS: Construct Upper Shaft	36	03APR13	16MAY13	0	SCRS: Construct Upper Shaft				
SCRS1065	SCRS: Clear Area & Install Multi-Part Cover	3	17MAY13	20MAY13	0	SCRS: Clear Area & Install Multi-Part Cover				
<b>Miscellaneous Works</b>										
SCRS2010	SCRS: Install E&M Services	18	21MAY13	10JUN13	0	SCRS: Install E&M Services				
SCRS2020	SCRS: Reinstatement & Clear RS Area	12	11JUN13	25JUN13	0	SCRS: Reinstatement & Clear RS Area				
SCRS2025	SCRS: Complete All Works at SCI RS (KD-11)	0	0	25JUN13	0	SCRS: Complete All Works at SCI RS (KD-11)				
SCRS2030	SCRS: Landscaping & Planting Works	60	08SEP13*	06NOV13	0	SCRS: Landscaping & Planting Works				




Start Date: 31JUL09  
 Finish Date: 15JAN15  
 Data Date: 20JAN10  
 Run Date: 01FEB10 10:50

WPU7 Sheet 1 of 2  
**Labour Area Treatment Scheme Stage 2A**  
 Contract No. DC/2007/23 - Construction of Sewage Conveyance from North Point to Stonecutters Island Programme  
 Annex G8 Construction Programme for the Project

Date	Revision	Checked/Approved

Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	% Comp	2010					2011					2012					2013					2014																																							
						Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SCRS2060	SCRS: Period of Establishment Works	360	07NOV13	01NOV14	0	SCRS: Period of Establishment Works																																																											
SCRS2070	SCRS: End of Establishment Period	0		01NOV14	0	SCRS: End of Establishment Period																																																											
<b>Connecting Adit</b>																																																																	
SCRS2040	SCRS: Construct RS Connecting Adit	192	14OCT10	03JUN11	0	SCRS: Construct RS Connecting Adit																																																											
SCRS2050	SCRS: Complete Excav & Lining at SCI RS Adit	0		03JUN11	0	SCRS: Complete Excav & Lining at SCI RS Adit																																																											

Start Date 31JUL09  
 Finish Date 15JAN15  
 Data Date 20JAN10  
 Run Date 01FEB10 10:50

 Early Bar  
 Progress Bar  
 Critical Activity

WPU7 Sheet 2 of 2  
**Harbour Area Treatment Scheme Stage 2A**  
 Contract No. DC/2007/23 - Construction of Sewage Conveyance from North Point to Stonecutters Island Programme  
 Annex G8 Construction Programme for the Project

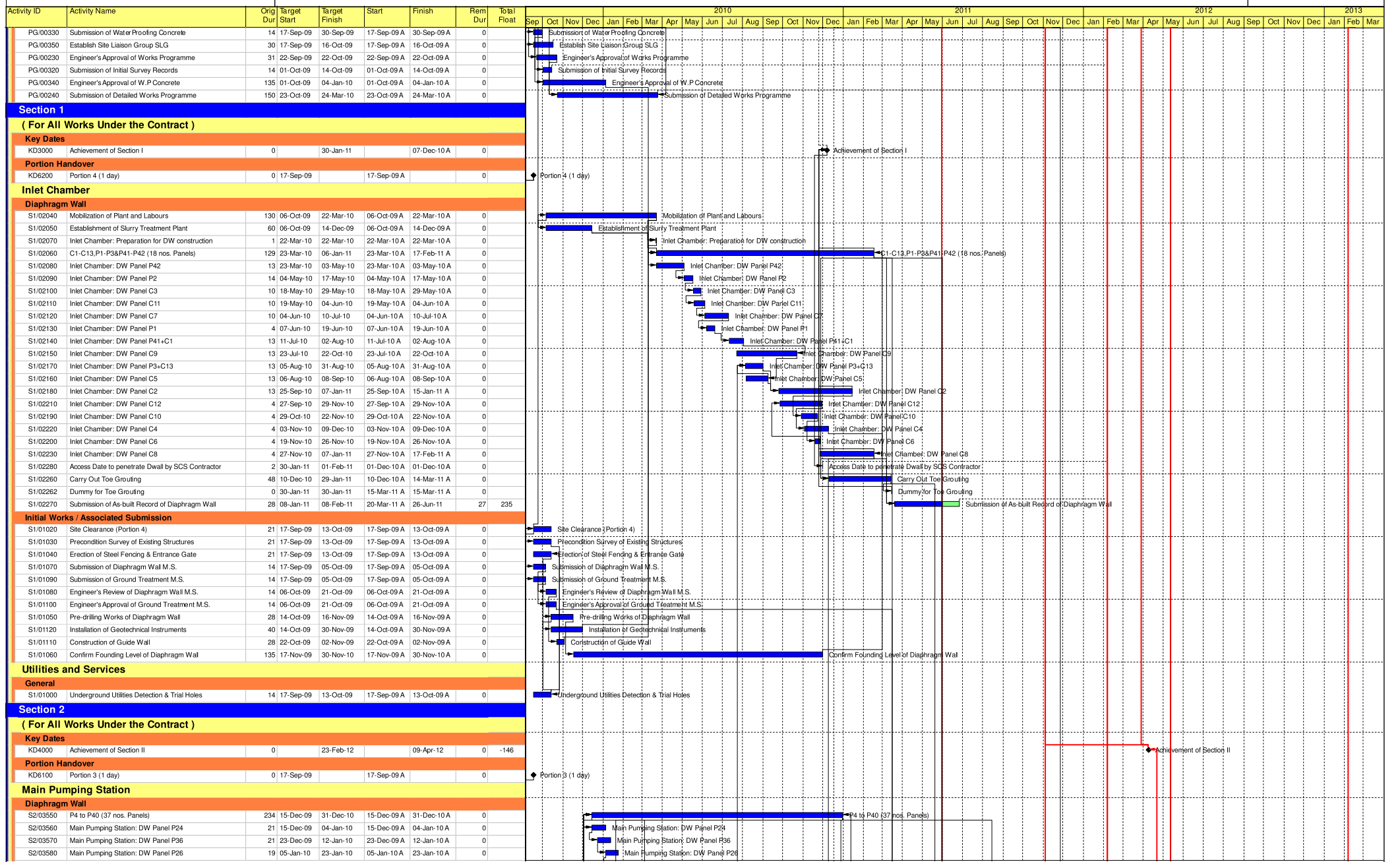


Date	Revision	Checked	Approved

Activity ID	Activity Name	Orig Dur	Target Start	Target Finish	Start	Finish	Rem Dur	Total Float	2010												2011												2012												2013		
									Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar								
<b>Key Dates</b>																																															
<b>( For All Works Under the Contract )</b>																																															
<b>General</b>																																															
KD-1000	Letter of Acceptance	0	03-Sep-09		03-Sep-09 A			0	Letter of Acceptance																																						
KD-2000	Contract Commencement	0	17-Sep-09		17-Sep-09 A			0	Contract Commencement																																						
KD-2500	Revised Contract Completion	0		18-Feb-12		18-Feb-12*		0	Revised Contract Completion																																						
KD-2600	Revised End of Maintenance Period	0		18-Feb-13		18-Feb-13		0	Revised																																						
<b>Portion Handover</b>																																															
KD-6000	Portion 2 (1 day)	0	17-Sep-09		17-Sep-09 A			0	Portion 2 (1 day)																																						
KD-6100	Portion 3 (1 day)	0	17-Sep-09		17-Sep-09 A			0	Portion 3 (1 day)																																						
KD-6200	Portion 4 (1 day)	0	17-Sep-09		17-Sep-09 A			0	Portion 4 (1 day)																																						
KD-6400	Portion 6 (1 day)	0	17-Sep-09		17-Sep-09 A			0	Portion 6 (1 day)																																						
KD-6500	Portion A (1 day)	0	17-Sep-09		17-Sep-09 A			0	Portion A (1 day)																																						
KD-6600	Portion B (1 day)	0	17-Sep-09		17-Sep-09 A			0	Portion B (1 day)																																						
KD-6700	Portion C (1 day)	0	17-Sep-09		17-Sep-09 A			0	Portion C (1 day)																																						
KD-6300	Portion 5 (Latest Possession 549 days)	0	19-Mar-11		09-Apr-11 A			0	Portion 5 (Latest Possession 549 days)																																						
<b>Section I of the Works (387 days)</b>																																															
KD-3010	Extension of Time (EOT1) granted for Claims 1,3,4,6, 8 & 9	11	08-Oct-10	20-Oct-10	08-Oct-10 A	20-Oct-10 A		0	Extension of Time (EOT1) granted for Claims 1,3,4,6, 8 & 9																																						
KD-3020	Extension of Time (EOT2) granted for Claim 12,14, 17&18	47	21-Oct-10	06-Dec-10	21-Oct-10 A	06-Dec-10 A		0	Extension of Time (EOT2) granted for Claim 12,14, 17&18																																						
KD-3000	Section I of the Works (Extended)	0		31-Dec-10		07-Dec-10 A		0	Section I of the Works (Extended)																																						
KD-3030	Extension of Time (EOT3) granted for Claim 19,20,21 & 24	1		07-Dec-10 A		07-Dec-10 A		0	Extension of Time (EOT3) granted for Claim 19,20,21 & 24																																						
<b>Section II of the Works (730 days)</b>																																															
KD-4010	Extension of Time (EOT1) granted for Claims 1,3,4,6, 8&9	10	16-Sep-11	27-Sep-11	16-Sep-11*	27-Sep-11		0	Extension of Time (EOT1) granted for Claims 1,3,4,6, 8&9																																						
KD-4020	Extension of Time (EOT2) granted for Claim 12, 14, 17 & 18	49	28-Sep-11	15-Nov-11	28-Sep-11	15-Nov-11		49	Extension of Time (EOT2) granted for Claim 12, 14, 17 & 18																																						
KD-4030	Extension of Time (EOT3) granted for Claim 19,20,21 & 24	1		16-Nov-11		16-Nov-11		1	Extension of Time (EOT3) granted for Claim 19,20,21 & 24																																						
KD-4000	Section II of the Works (Extended)	0		15-Nov-11		16-Nov-11*		0	Section II of the Works (Extended)																																						
<b>Section III of the Works (823 days)</b>																																															
KD-5010	Extension of Time (EOT1) granted for Claims 1,3,4,6, 8&9	11	19-Dec-11	30-Dec-11	19-Dec-11*	30-Dec-11		0	Extension of Time (EOT1) granted for Claims 1,3,4,6, 8&9																																						
KD-5020	Extension of Time (EOT2) granted for Claim 12,14, 17&18	50	31-Dec-11	18-Feb-12	31-Dec-11	18-Feb-12		50	Extension of Time (EOT2) granted for Claim 12,14, 17&18																																						
KD-5000	Section III of the Works (Extended)	0		18-Feb-12		18-Feb-12*		0	Section III of the Works (Extended)																																						
<b>Section IV (1) of the Additional Works (131 days)</b>																																															
KD-5030	Section IV (1) - Part of Section Hand Over to ST	0		25-Aug-10		25-Aug-10 A		0	Section IV (1) - Part of Section Hand Over to ST																																						
<b>Section IV (2) of the Additional Works (199 days)</b>																																															
KD-5040	Section IV (2) - Part of Section Hand Over to ST	0		15-Oct-10		15-Oct-10 A		0	Section IV (2) - Part of Section Hand Over to ST																																						
<b>Section IV (3) of the Additional Works (199 days)</b>																																															
KD-5050	Section IV (3) Completion of Additional Works	0		30-Dec-10		30-Dec-10 A		0	Section IV (3) Completion of Additional Works																																						
<b>Preliminaries and General Requirement</b>																																															
<b>General Requirement</b>																																															
<b>General</b>																																															
PG/00020	General Site Clearance	14	17-Sep-09	30-Sep-09	17-Sep-09 A	30-Sep-09 A		0	General Site Clearance																																						
PG/00030	Establish Cont & Eng's Temp Site Office	14	17-Sep-09	30-Sep-09	17-Sep-09 A	30-Sep-09 A		0	Establish Cont & Eng's Temp Site Office																																						
PG/00040	Initial Survey of Site	21	17-Sep-09	07-Oct-09	17-Sep-09 A	07-Oct-09 A		0	Initial Survey of Site																																						
PG/00050	Construction of Steel Fencing & Gates	28	17-Sep-09	14-Oct-09	17-Sep-09 A	14-Oct-09 A		0	Construction of Steel Fencing & Gates																																						
PG/00060	Construction of Contractor Accommodation	71	17-Sep-09	26-Nov-09	17-Sep-09 A	26-Nov-09 A		0	Construction of Contractor Accommodation																																						
PG/00070	Provision of Interim Engineer Office	14	17-Sep-09	30-Sep-09	17-Sep-09 A	30-Sep-09 A		0	Provision of Interim Engineer Office																																						
PG/00080	Submit Engineer Accommodation Proposal	32	17-Sep-09	18-Oct-09	17-Sep-09 A	18-Oct-09 A		0	Submit Engineer Accommodation Proposal																																						
PG/00110	Take Over Control Gate No.2 from ADF Contractor	1	15-Oct-09	15-Oct-09	15-Oct-09 A	15-Oct-09 A		0	Take Over Control Gate No.2 from ADF Contractor																																						
PG/00090	Approval for Engineer's Accommodation Proposal	80	19-Oct-09	31-Dec-09	19-Oct-09 A	31-Dec-09 A		0	Approval for Engineer's Accommodation Proposal																																						
PG/00100	Construction of Engineer Accommodation	125	22-Oct-09	11-Feb-10	22-Oct-09 A	11-Feb-10 A		0	Construction of Engineer Accommodation																																						
PG/00120	Handover Portion 3 to MPS Contractor	1	24-Feb-12	24-Feb-12	10-Apr-12	10-Apr-12	1	-144	Handover Portion 3 to MPS Contractor																																						
PG/00130	Handover Control Gate No2 to 4 to MPS Contractor	1	11-Apr-12	11-Apr-12	25-May-12	25-May-12	1	269	Handover Control Gate No2 to 4 to MPS Contractor																																						
PG/00140	Handover Portions 2 & 4 to MPS Contractor	1	11-Apr-12	11-Apr-12	25-May-12	25-May-12	1	-97	Handover Portions 2 & 4 to MPS Contractor																																						
PG/00150	Handover Portions A & D to MPS Contractor	1	11-Apr-12	11-Apr-12	25-May-12	25-May-12	1	269	Handover Portions A & D to MPS Contractor																																						
PG/00160	Handover Eng Accommodation to MPS Contractor	1	11-Apr-12	11-Apr-12	25-May-12	25-May-12	1	269	Handover Eng Accommodation to MPS Contractor																																						
PG/00170	Handover Switchboard to MPS Contractor (deleted)	0	11-Apr-12	11-Apr-12	25-May-12	25-May-12	0	270	Handover Switchboard to MPS Contractor (deleted)																																						
<b>Submission, Approvals and Permits</b>																																															
<b>General</b>																																															
PG/00220	Submission of Initial Works Programme	19	03-Sep-09	21-Sep-09	03-Sep-09 A	21-Sep-09 A		0	Submission of Initial Works Programme																																						
PG/00260	Submission of Draft Safety Plan	14	03-Sep-09	16-Sep-09	03-Sep-09 A	16-Sep-09 A		0	Submission of Draft Safety Plan																																						
PG/00270	Submission of Final Safety Plan	35	03-Sep-09	07-Oct-09	03-Sep-09 A	07-Oct-09 A		0	Submission of Final Safety Plan																																						
PG/00290	Submission of Subcontractor Management Plan	30	03-Sep-09	02-Oct-09	03-Sep-09 A	02-Oct-09 A		0	Submission of Subcontractor Management Plan																																						
PG/00300	Submit Draft Environmental Management Plan	21	03-Sep-09	23-Sep-09	03-Sep-09 A	23-Sep-09 A		0	Submit Draft Environmental Management Plan																																						
PG/00310	Submit Final Environmental Management Plan	45	03-Sep-09	17-Oct-09	03-Sep-09 A	17-Oct-09 A		0	Submit Final Environmental Management Plan																																						
PG/00250	Submission of 1st 3Mths Rolling Programme	14	17-Sep-09	17-Sep-09	17-Sep-09 A	17-Sep-09 A		0	Submission of 1st 3Mths Rolling Programme																																						
PG/00280	Submission of Staff Organisation Chart	14	17-Sep-09	30-Sep-09	17-Sep-09 A	30-Sep-09 A		0	Submission of Staff Organisation Chart																																						

<p>Actual Work</p> <p>Remaining Work</p> <p>Critical Remaining Work</p>	<p>◆ Milestone</p>	<p>1 of 8</p>	<p>Prepared by: Rey Roque</p> <table border="1"> <tr> <th>Date</th> <th>Revision</th> <th>Checked</th> <th>Approved</th> </tr> <tr> <td>31-May-11</td> <td>Monthly Progress Report</td> <td>HW</td> <td>CL</td> </tr> </table>	Date	Revision	Checked	Approved	31-May-11	Monthly Progress Report	HW	CL
Date	Revision	Checked	Approved								
31-May-11	Monthly Progress Report	HW	CL								

Monthly Progress Update - 31 May 2011



█ Actual Work  
█ Remaining Work  
█ Critical Remaining Work

Prepared by: Rey Roque			
Date	Revision	Checked	Approved
31-May-11	Monthly Progress Report	HW	CL

Monthly Progress Update - 31 May 2011












































## GCC Clause 16 Programme for Contract No. DE/2009/02

### Provision of Covers and Deodourisation Facilities to the Existing Sedimentation Tanks at Stonecutters Island Sewage Treatment Works

(Revision 3)

ID	WBS	Task Name	Duration	Early Start	Start	Finish	Late Finish	Free Slack	Total Slack	Predecessors	Successors	2010												2011												2012																																																						
												O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A																																												
319	15	Project Substantial Completion Date	0 d	27/6/12	27/6/12	27/6/12	27/6/12	0 d	0 d	9,316,298,1FS+9 1,8,12,53,317,318																																																																																 27/6

Contract No. DE/2009/02  
Revision: 3  
Date: 26 Nov 2010

Task		Progress		Summary		External Tasks		Group By Summary	
Critical Task		Milestone		Split		Project Summary		Deadline	

Activity ID	Activity Name	Original Duration	Start	Finish	Rem Dur	2012				
						May	Jun	Jul	Aug	Sep
<b>DC/2009/17 - Interfacing Works Programme</b>										
<b>KEY DATE</b>										
<b>Contract Dates</b>										
<b>Commencement and Completion</b>										
AD000100	Possession of Portion F of the Site (565 days)	0	05-Jul-12		0					
AD000110	Possession of Portion G of the Site (565 days)	0	05-Jul-12		0					
<b>Preliminaries and General Requirement</b>										
<b>General</b>										
<b>Initial Works</b>										
PG000172	Maintenance and Security for Portion F	1429	05-Jul-12	02-Jun-16	1429					
PG000190	Environmental Impact Monitoring	1600	04-Dec-10A	01-Jun-16	1179					
PG000260	Maintenance and Upkeeping of Portion D	2095	25-Aug-10A	02-Jun-16	1464					
PG000300	Maintenance and Security in Portion E	2095	25-Aug-10A	02-Jun-16	1464					
PG000310	Maintenance and Security in Portion G	1429	05-Jul-12	02-Jun-16	1429					
<b>Design of Permanent Works</b>										
<b>Design Submission and Approval</b>										
<b>Detailed Design Approval (DDA) for Civil / Builder Work</b>										
<b>Package</b>										
<b>DDA1 (SDB, DOU6, DGS and Transformer Bay)</b>										
<b>Sub-Package - F</b>										
DP024190	DDA: SDB - Landscape Design and Approval	175	25-May-12A	15-Nov-12	169					
DP024200	DDA: SDB - Submit Landscape Design	49	25-May-12A	12-Jul-12	43					
DP024210	DDA: SDB - ICE Approve Landscape Design	21	13-Jul-12	02-Aug-12	21					
DP024220	DDA: SDB - Eng Comment on Landscape Design	42	03-Aug-12	13-Sep-12	42					
<b>DDA6 (Sludge Feed Pipework Chambers)</b>										
<b>Sub-Package - A</b>										
DP031105	DDA: SFP Chamber - Fdn/ Struct Design & Approval	70	30-Jun-12	07-Sep-12	70					
DP031110	DDA: SFP Chamber - Submit Fdn / Struct Design	14	30-Jun-12	13-Jul-12	14					
DP031120	DDA: SFP Chamber - ICE Comment Fdn/Struct Design	14	14-Jul-12	27-Jul-12	14					
DP031130	DDA: SFP Chamber - Eng Comment Fdn/Struct Design	14	28-Jul-12	10-Aug-12	14					
DP031140	DDA: SFP Chamber - Finalize Fdn/Struct Design	14	11-Aug-12	24-Aug-12	14					
DP031150	DDA: SFP Chamber - Eng Approve Fdn/Struct Design	14	25-Aug-12	07-Sep-12	14					
<b>Detailed Design Approval (DDA) Submission</b>										
<b>Submission and Approval of DDA30 (Sludge Cakes Sites System)</b>										
DP007890	DDA: Re-submission for Sliding Frame, Conveyor & PVWM	7	31-May-12	06-Jun-12	7					
DP007900	DDA: Engineer Approval for Sliding Frame, Conveyor & PVWM	18	07-Jun-12	24-Jun-12	18					
<b>Submission and Approval of DDA36 (Building Services System)</b>										
DP009015	DDA: BS (E&M) - Comment, Review and Approval	63	23-Jan-12A	01-Jun-12	2					
DP009060	DDA: BS (E&M) - Engineer Approval	14	26-Mar-12A	01-Jun-12	2					
<b>SECTION 3 OF THE WORKS</b>										
<b>NORTHERN SLUDGE CAKE SILO</b>										
<b>Structure</b>										
S3000236	NSCS: Remaining Piling and Structure	518	28-Jan-11 A	21-Aug-12	70					
<b>Superstructure Construction</b>										
S3000391	NSCS: Zone 1 (GL5-7/A-B & GL7-8/A-E)	120	02-Jan-12A	11-Jul-12	35					
S3000400	NSCS: Level B3C to B4 (+23.768 to +24.8mPD)	16	01-Jun-12	19-Jun-12	16					
S3000402	NSCS: Level B4 to B4A (+24.8 to 28.364mPD)	18	20-Jun-12	11-Jul-12	18					
S3000404	NSCS: Zone 2 (GL5-7/D-E, GL4-5/A-E & GL2-4/A-B)	118	06-Feb-12A	11-Jul-12	35					
S3000412	NSCS: Level B3A to B3C (+19.00 to +23.768mPD)	17	27-Apr-12A	31-May-12	1					
S3000414	NSCS: Level B3C to B4 (+23.768 to +24.8mPD)	16	01-Jun-12	19-Jun-12	16					
S3000416	NSCS: Level B3C to B4 (+24.8 to +28.364mPD)	18	20-Jun-12	11-Jul-12	18					
S3000418	NSCS: Zone 3 (GL2-4/D-E, GL1-2/A-E & Vehicle Washing Faciliti	110	04-Apr-12A	21-Aug-12	70					
S3000426	NSCS: Level B3 to B3A (+14.782 to +19.00mPD)	18	31-May-12	20-Jun-12	18					
S3000428	NSCS: Level B3A to B3C (+19.00 to +23.768mPD)	18	21-Jun-12	12-Jul-12	18					
S3000430	NSCS: Level B3C to B4 (+23.768 to +24.8mPD)	16	13-Jul-12	31-Jul-12	16					
S3000432	NSCS: Level B4 to B4A (+24.8 to +28.364mPD)	18	01-Aug-12	21-Aug-12	18					
<b>Building Finishes including Landscaping</b>										
S3000450	NSCS: Building Finishes and Landscape	217	12-Jun-12	05-Mar-13	217					
S3000460	NSCS: Floor Finishes at Ground Floor	40	12-Jun-12	28-Jul-12	40					
S3000480	NSCS: Construct/Install Floor Finishes at Level B1 - B4	60	12-Jun-12	21-Aug-12	60					
S3000490	NSCS: Install Stair at Level B1 - B4	60	12-Jul-12	19-Sep-12	60					
S3000520	NSCS: Epoxy Paint	60	26-Jun-12	04-Sep-12	60					
<b>E&amp;M Procurement, Installation, Testing &amp; Commissioning</b>										
<b>Manufacture and Delivery</b>										
S3000600	NSCS: Procurement and Delivery of E&M Equipment/ Material	396	02-Dec-11 A	31-Dec-12	215					
S3000620	NSCS: Manufacturing of Conveyors, Valves, Air Ducts & Lifting Apt	150	03-Apr-12A	16-Aug-12	78					
S3000645	NSCS: Delivery of Conveyors, Valves, Air Ducts & Lifting Appliance	44	17-Aug-12	29-Sep-12	44					
S3000665	NSCS: Manufacturing of Vehicle Washing Machine	144	05-Mar-12A	26-Jul-12	57					
S3000685	NSCS: Delivery of Vehicle Washing Machine	35	27-Jul-12	30-Aug-12	35					

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

Date	Revision	Checked	Approved

Activity ID	Activity Name	Original Duration	Start	Finish	Rem Dur	2012					
						May	Jun	Jul	Aug	Sep	
<b>E&amp;M Installation and Testing &amp; Commissioning</b>											
S300680	NSCS: Vehicle Washing Machine (2 nos)	120	31-Aug-12	28-Dec-12	120						
<b>SLUDGE DEWATERING BUILDING and DOU6</b>											
<b>Superstructure Construction</b>											
S3001200	SDB: Remaining Piling and Structure	484	31-Oct-11 A	20-Aug-12	69						
S3001290	SDB: DG Store	60	01-Mar-12A	17-Jul-12	40						
<b>Structure Ground Floor at +5.4</b>											
S3001241	SDB: Ground Level to First Floor (+12.90)	88	31-Dec-11 A	13-Aug-12	63						
S3001243	SDB: GF Slab Grid 1 to 3	6	07-Aug-12	13-Aug-12	6						
<b>Structure First Floor at +12.90</b>											
S3001252	SDB: Upper Structure	124	03-Jan-12A	20-Aug-12	69						
S3001273	SDB: Bay 1 4th Lift (GL9-13 / A1-D, from +16.8 to 19.1mPD) - Re	4	13-Jun-12	16-Jun-12	4						
S3001286	SDB: Bay 2, 4th Lift (GL5-9 / A1-D, from +16.8 to +19.1mPD)	18	22-May-12A	20-Jun-12	18						
S3001287	SDB: Bay 2, 4th Lift (GL5-9 / A1-D, from +16.8 to +19.1mPD) - Rer	4	09-Jul-12	12-Jul-12	4						
S3001298	SDB: Bay 3, 2nd Lift (GL1-5 / A1-D, from +9.15 to 12.9mPD)	18	23-Apr-12A	13-Jun-12	12						
S3001302	SDB: Bay 3, 3rd Lift (GL1-5 / A1-D, from +12.9 to 16.8mPD)	18	18-Jun-12	10-Jul-12	18						
S3001304	SDB: Bay 3, 4th Lift (GL1-5 / A1-D, from +16.8 to 19.1mPD)	18	10-Jul-12	30-Jul-12	18						
S3001306	SDB: Bay 3, 4th Lift (GL5-9 / A1-D, from +16.8 to +19.1mPD) - Rer	4	16-Aug-12	20-Aug-12	4						
S3001314	SDB: Bay 3, Ground Floor Slab at Grid 1-2 / B-C	12	07-Aug-12	20-Aug-12	12						
<b>Roof Level Structure</b>											
S3001280	SDB: Staircase Roof	21	07-Jun-12	30-Jun-12	21						
<b>Building Finishes including Landscaping</b>											
S3001380	SDB: Building Finishes and Landscape	203	07-Jun-12	06-Feb-13	203						
S3001400	SDB: Window, Door and Louver	45	13-Jun-12	04-Aug-12	45						
S3001410	SDB: Plaster and Tiles	45	07-Jun-12	30-Jul-12	45						
S3001420	SDB: Chequer Plate Floor	30	21-Jun-12	26-Jul-12	30						
S3001430	SDB: External Working Platform	18	06-Aug-12	25-Aug-12	18						
S3001440	SDB: Epoxy Coating	45	07-Jul-12	28-Aug-12	45						
S3001450	SDB: Skylight	60	07-Jul-12	14-Sep-12	60						
S3001460	SDB: DG Store Finishes	30	25-Jul-12	28-Aug-12	30						
S3001470	SDB: Shanghai Pender	80	27-Aug-12	30-Nov-12	80						
<b>E&amp;M Procurement, Installation, Testing &amp; Commissioning</b>											
<b>Manufacture &amp; Delivery</b>											
S3001550	SDB&DOU6: Procure/ Delivery of E&M Eq't / Matl	390	26-Nov-11 A	23-Dec-12	207						
S3001570	SDB&DOU6: Manufacturing of Centrifuge and Local Control Pane	260	06-Dec-11 A	23-Jun-12	24						
S3001581	SDB&DOU6: Witness FAT Test for Centrifuge second lot	7	24-Jun-12	30-Jun-12	7						
S3001582	SDB&DOU6: Delivery of 1st lot Centrifuge and Control Panel	36	09-Jun-12	14-Jul-12	36						
S3001594	SDB&DOU6: Delivery of 2nd lot Centrifuge and Control Panel	36	10-Jul-12	14-Aug-12	36						
S3001596	SDB&DOU6: Delivery of 3rd lot Centrifuge and Control Panel	36	10-Aug-12	14-Sep-12	36						
S3001594	SDB&DOU6: Manufacturing of DOU6	140	06-Feb-12A	24-Jun-12	25						
S3001598	SDB&DOU6: Delivery of Deodorization Odour Units (DOU6)	21	25-Jun-12	15-Jul-12	21						
S3001610	SDB&DOU6: Manufacturing of Distributed Control System	110	02-Apr-12A	28-Jul-12	59						
S3001630	SDB&DOU6: Delivery of Distributed Control System	32	29-Jul-12	29-Aug-12	32						
S3001650	SDB&DOU6: Manufacturing of Sludge Conveyor	125	21-Mar-12A	18-Jul-12	49						
S3001660	SDB&DOU6: Factory Acceptance Test for Sludge Conveyor	30	19-Jul-12	17-Aug-12	30						
S3001670	SDB&DOU6: Delivery of Sludge Conveyor	28	18-Aug-12	14-Sep-12	28						
S3001852	SDB&DOU6: Manufacturing of Polyelectrolyte Preparation Units	147	05-Mar-12A	02-Aug-12	64						
S3001854	SDB&DOU6: Delivery of Polyelectrolyte Preparation Units	33	03-Aug-12	04-Sep-12	33						
S3001862	SDB&DOU6: Manufacturing of Prototype Polyelectrolyte Preparati	147	05-Mar-12A	02-Aug-12	64						
S3001864	SDB&DOU6: Delivery of Prototype Polyelectrolyte Preparation Un	33	03-Aug-12	04-Sep-12	33						
S3001872	SDB&DOU6: Manufacturing of Polyelectrolyte Transfer Pumps	112	19-Mar-12A	08-Jul-12	39						
S3001874	SDB&DOU6: Delivery of Polyelectrolyte Transfer Pumps	37	09-Jul-12	14-Aug-12	37						
S3001882	SDB&DOU6: Manufacturing of Polyelectrolyte Dosing Pumps	112	19-Mar-12A	08-Jul-12	39						
S3001884	SDB&DOU6: Delivery of Polyelectrolyte Dosing Pumps	37	09-Jul-12	14-Aug-12	37						
S3001900	SDB&DOU6: Manufacturing of Sludge Feed Pumps	110	19-Mar-12A	08-Jul-12	39						
S3001915	SDB&DOU6: Delivery of Sludge Feed Pumps	37	09-Jul-12	14-Aug-12	37						
S3001935	SDB&DOU6: Manufacturing of Main Switchboard & Control Panel	110	02-Apr-12A	06-Jul-12	37						
S3001995	SDB&DOU6: FAT Test for Main Switchboard	31	26-Jun-12	26-Jul-12	31						
S3002000	SDB&DOU6: Delivery of Main Switchboard & Control Panel LV Sy	24	27-Jul-12	19-Aug-12	24						
S3002010	SDB&DOU6: Procurement of E&M BS Eqpt/ Materials	24	22-May-12A	13-Jun-12	14						
S3002015	SDB&DOU6: Manufacture of E&M BS Eqpt/ Materials	90	14-Jun-12	11-Sep-12	90						
S3002030	SDB&DOU6: Manufacturing of Lifting Appliances	90	15-Mar-12A	17-Jun-12	18						
S3002040	SDB&DOU6: Delivery of Lifting Appliances	44	18-Jun-12	31-Jul-12	44						
S3002046	SDB&DOU6: Manufacture of Process Water Pumping System	210	13-Feb-12A	09-Sep-12	102						
S3002052	SDB&DOU6: Manufacture of DOU 6	140	06-Feb-12A	24-Jun-12	25						
S3002054	SDB&DOU6: Delivery of DOU 6	31	25-Jun-12	25-Jul-12	31						
S3002058	SDB&DOU6: Manufacture of Solid Pumps	200	19-Mar-12A	23-Nov-12	177						
<b>E&amp;M Installation and Other Equipment</b>											
S3001822	SDB: Arrival of Mono Rail LA (5 nos)	0	25-Jul-12		0						
S3001824	SDB: Material Inspection for Mono Rail LA (5 nos)	5	25-Jul-12	29-Jul-12	5						

█ Actual Work      ◆ Milestone  
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█ Critical Remaining Work

Date	Revision	Checked	Approved

Activity ID	Activity Name	Original Duration	Start	Finish	Rem Dur	2012				
						May	Jun	Jul	Aug	Sep
S3001826	SDB: Arrival of 10 tons Lifting Appliances (2 nos)	0	25-Jul-12		0				◆ SDB: Arrival of 10 tons Lifting Appliances (2 nos)	
S3001828	SDB: Material Inspection of 10 tons Lifting Appliances (2 nos)	5	25-Jul-12	29-Jul-12	5				◆ SDB: Material Inspection of 10 tons Lifting Appliances (2 nos)	
S3001830	SDB: Arrival of 5 tons Lifting Appliances (2 nos)	0	25-Jul-12		0				◆ SDB: Arrival of 5 tons Lifting Appliances (2 nos)	
S3001832	SDB: Material Inspection of 5 tons Lifting Appliances (2 nos)	5	25-Jul-12	29-Jul-12	5				◆ SDB: Material Inspection of 5 tons Lifting Appliances (2 nos)	
S3002120	SDB: Arrival of Polyelectrolyte Mixing Tank (4 nos)	0	20-Jul-12		0				◆ SDB: Arrival of Polyelectrolyte Mixing Tank (4 nos)	
S3002130	SDB: Material Inspection at Storage Area for Polyelectrolyte Mixing	3	20-Jul-12	22-Jul-12	3				◆ SDB: Material Inspection at Storage Area for Polyelectrolyte Mixing Tank (4 nos.)	
S3002210	SDB: Arrival of Polyelectrolyte Transfer Pumps (2 nos.)	0	15-Aug-12		0				◆ SDB: Arrival of Polyelectrolyte Transfer Pumps (2 nos.)	
S3002220	SDB: Material Inspection at Storage Area for Polyelectrolyte Trans	7	15-Aug-12	21-Aug-12	7				◆ SDB: Material Inspection at Storage Area for Polyelectrolyte	
S3002225	SDB: Arrival of Polyelectrolyte Storage Tank (4 nos.)	0	20-Jul-12		0				◆ SDB: Arrival of Polyelectrolyte Storage Tank (4 nos.)	
S3002230	SDB: Material Inspection of Polyelectrolyte Storage Tank (4 nos.)	3	20-Jul-12	22-Jul-12	3				◆ SDB: Material Inspection of Polyelectrolyte Storage Tank (4 nos.)	
S3002240	SDB: Arrival of Polyelectrolyte Dosing Pumps (14 nos.)	0	15-Aug-12		0				◆ SDB: Arrival of Polyelectrolyte Dosing Pumps (14 nos.)	
S3002245	SDB: Material Inspection of Polyelectrolyte Dosing Pumps (14 nos)	7	15-Aug-12	21-Aug-12	7				◆ SDB: Material Inspection of Polyelectrolyte Dosing Pumps	
S3002250	SDB: Arrival of Sludge Feed Pipe	0	20-Jul-12		0				◆ SDB: Arrival of Sludge Feed Pipe	
S3002255	SDB: Material Inspection at Storage Area for Sludge Feed Pipe	7	20-Jul-12	26-Jul-12	7				◆ SDB: Material Inspection at Storage Area for Sludge Feed Pipe	
S3002260	SDB: Arrival of Sludge Feed Pumps (14 nos)	0	15-Aug-12		0				◆ SDB: Arrival of Sludge Feed Pumps (14 nos)	
S3002265	SDB: Material Inspection at Storage Area for Sludge Feed Pumps	18	15-Aug-12	01-Sep-12	18				◆ SDB: Material Inspection at St	
S3002310	SDB: Arrival of Process Water Pipe	0	20-Jul-12		0				◆ SDB: Arrival of Process Water Pipe	
S3002315	SDB: Material Inspection at Storage Area for Process Water Pipe	7	20-Jul-12	26-Jul-12	7				◆ SDB: Material Inspection at Storage Area for Process Water Pipe	
S3002320	SDB: Arrival of Cable Tray	0	31-Jul-12		0				◆ SDB: Arrival of Cable Tray	
S3002325	SDB: Material Inspection of Cable Tray	3	31-Jul-12	02-Aug-12	3				◆ SDB: Material Inspection of Cable Tray	
S3002340	SDB: Install Mono Rail LA (5 nos)	14	28-Aug-12	11-Sep-12	14					◆ SDB: Install Mono Rail LA (5 nos)
S3002380	SDB: Polyelectrolyte Dosing System	66	30-Jul-12	04-Oct-12	66					◆ SDB: Polyelectrolyte Dosing System
S3002390	SDB: Install Polyelectrolyte Storage Tank (4 nos)	20	30-Jul-12	19-Aug-12	20					◆ SDB: Install Polyelectrolyte Storage Tank (4 nos)
S3003100	SDB: Sludge Feed Pipe	99	30-Jul-12	06-Nov-12	99					◆ SDB: Sludge Feed Pipe
S3003110	SDB: Install Sludge Feed Pipe - South (High Level) [Grid 1 to 6]	14	30-Jul-12	13-Aug-12	14					◆ SDB: Install Sludge Feed Pipe - South (High Level) [Grid 1 to 6]
S3003120	SDB: Install Sludge Feed Pipe - South (High Level) [Grid 6 to 12]	16	13-Aug-12	29-Aug-12	16					◆ SDB: Install Sludge Feed Pipe - South (High Level) [Grid 6 to 12]
S3003130	SDB: Install Sludge Feed Pipe - North (High Level) [Grid 1 to 6]	14	06-Aug-12	19-Aug-12	14					◆ SDB: Install Sludge Feed Pipe - North (High Level) [Grid 1 to 6]
S3003140	SDB: Install Sludge Feed Pipe - North (High Level) [Grid 6 to 12]	16	20-Aug-12	04-Sep-12	16					◆ SDB: Install Sludge Feed Pipe - North (High Level) [Grid 6 to 12]
S3003220	SDB: Process Water Pipe	35	30-Jul-12	03-Sep-12	35					◆ SDB: Process Water Pipe
S3003230	SDB: Install Process Water Pipe - South (High Level) [Grid 1 to 6]	14	30-Jul-12	13-Aug-12	14					◆ SDB: Install Process Water Pipe - South (High Level) [Grid 1 to 6]
S3003240	SDB: Install Process Water Pipe - South (High Level) [Grid 6 to 12]	16	13-Aug-12	29-Aug-12	16					◆ SDB: Install Process Water Pipe - South (High Level) [Grid 6 to 12]
S3003250	SDB: Install Process Water Pipe - North (High Level) [Grid 1 to 6]	14	04-Aug-12	18-Aug-12	14					◆ SDB: Install Process Water Pipe - North (High Level) [Grid 1 to 6]
S3003260	SDB: Install Process Water Pipe - North (High Level) [Grid 6 to 12]	16	18-Aug-12	03-Sep-12	16					◆ SDB: Install Process Water Pipe - North (High Level) [Grid 6 to 12]
S3003340	SDB: Cables	191	03-Aug-12	10-Feb-13	191					◆ SDB: Cables
S3003350	SDB: Install Cable Tray	170	03-Aug-12	20-Jan-13	170					◆ SDB: Install Cable Tray
S3003360	SDB: Install Cable	166	28-Aug-12	10-Feb-13	166					◆ SDB: Install Cable
S3003400	SDB: Arrival of Distribute Control System	0	30-Aug-12		0					◆ SDB: Arrival of Distribute Control System
S3003410	SDB: Material Inspection at Storage Area for Distribute Control Sy	14	30-Aug-12	12-Sep-12	14					◆ SDB: Material Inspection at Storage Area for Distribute Control System
S3003450	SDB: Arrival of Centrifuges (1st lot of 5 nos)	0	15-Jul-12		0					◆ SDB: Arrival of Centrifuges (1st lot of 5 nos)
S3003460	SDB: Arrival of Centrifuges (2nd lot of 5 nos)	0	15-Aug-12		0					◆ SDB: Arrival of Centrifuges (2nd lot of 5 nos)
S3003480	SDB: Material Inspection for Centrifuge (1st lot of 5 nos)	14	15-Jul-12	28-Jul-12	14					◆ SDB: Material Inspection for Centrifuge (1st lot of 5 nos)
S3003490	SDB: Material Inspection for Centrifuge (2nd lot of 5 nos)	14	15-Aug-12	28-Aug-12	14					◆ SDB: Material Inspection for Centrifuge (2nd lot of 5 nos)
S3003600	SDB: E&M Installation at 1/F	188	01-Aug-12	05-Feb-13	188					◆ SDB: E&M Installation at 1/F
S3003610	SDB: Install 10 tons Lifting Appliances (2 nos)	25	01-Aug-12	26-Aug-12	25					◆ SDB: Install 10 tons Lifting Appliances (2 nos)
S3003620	SDB: Install 5 tons Lifting Appliances (2 nos)	20	26-Aug-12	15-Sep-12	20					◆ SDB: Install 5 tons Lifting Appliances (2 nos)
S3003650	SDB: Install Centrifuges (1st lot of 5 nos)	43	26-Aug-12	08-Oct-12	43					◆ SDB: Install Centrifuges (1st lot of 5 nos)
S3003660	SDB: Install Centrifuges (2nd lot of 5 nos)	42	29-Aug-12	09-Oct-12	42					◆ SDB: Install Centrifuges (2nd lot of 5 nos)
S3003750	SDB: Arrival of Main Switchboard & Contron Panel LV System	0	20-Aug-12		0					◆ SDB: Arrival of Main Switchboard & Contron Panel LV System
S3003760	SDB: Material Inspection of Main Switchboard & Contron Panel LV	9	20-Aug-12	28-Aug-12	9					◆ SDB: Material Inspection of Main Switchboard & Contron Panel LV System
S3003770	SDB: Install Main Switchboard & Contron Panel LV System	60	29-Aug-12	27-Oct-12	60					◆ SDB: Install Main Switchboard & Contron Panel LV System
S3003800	SDB: Arrival of DOU 6 at Ground Floor and Roof	0	26-Jul-12		0					◆ SDB: Arrival of DOU 6 at Ground Floor and Roof
S3003810	SDB: Material Inspection at Storage Area for DOU 6	14	26-Jul-12	08-Aug-12	14					◆ SDB: Material Inspection at Storage Area for DOU 6
S3003900	SDB: Building Services	356	10-Mar-12A	10-Mar-13	284					◆ SDB: Building Services
S3003905	SDB: Cast-in Floor Drain	88	10-Mar-12A	05-Jul-12	36					◆ SDB: Cast-in Floor Drain
S3003910	SDB: Drainage Pipe Line / RWO	90	18-Aug-12	16-Nov-12	90					◆ SDB: Drainage Pipe Line / RWO
S3003915	SDB: Plumbing	139	18-Aug-12	04-Jan-13	139					◆ SDB: Plumbing
S3003920	SDB: Pipe Line for Plumbing	90	18-Aug-12	16-Nov-12	90					◆ SDB: Pipe Line for Plumbing
S3004000	SDB: Fire Services	199	28-Aug-12	15-Mar-13	199					◆ SDB: Fire Services
S3004010	SDB: Fire Services Pipe Line	91	28-Aug-12	27-Nov-12	91					◆ SDB: Fire Services Pipe Line
S3004200	SDB: BS Small Power and Lighting System	209	28-Aug-12	25-Mar-13	209					◆ SDB: BS Small Power and Lighting System
S3004210	SDB: Conduit & Trunking for BS	131	28-Aug-12	06-Jan-13	131					◆ SDB: Conduit & Trunking for BS
<b>SLUDGE STORAGE TANK 6 &amp; 7</b>										
<b>Structure</b>										
S3005505	Piling and Structure for Sludge Storage Tanks	349	28-Feb-11 A	20-Sep-12	96					◆ Piling and Structure for Sludge Storage Tanks
S3005830	SST: Water Tightness Test to Tank 6	18	08-Jun-12	28-Jun-12	18					◆ SST: Water Tightness Test to Tank 6
S3005840	SST: Install Railing for Tank 6	18	29-Jun-12	20-Jul-12	18					◆ SST: Install Railing for Tank 6
S3005850	SST: External Painting for Tank 6	21	21-Jul-12	14-Aug-12	21					◆ SST: External Painting for Tank 6
S3005870	SST: Clearance for Tank 6	6	15-Aug-12	21-Aug-12	6					◆ SST: Clearance for Tank 6
S3006110	SST: Wall Stem for Tank 7	84	30-Mar-12A	30-Aug-12	78					◆ SST: Wall Stem for Tank 7
S3006120	SST: Wall Stem for Tank 7 (+5.2 to 9.2)	18	30-Mar-12A	13-Jun-12	12					◆ SST: Wall Stem for Tank 7 (+5.2 to 9.2)

█ Actual Work      ◆ Milestone  
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█ Critical Remaining Work

Date	Revision	Checked	Approved

Activity ID	Activity Name	Original Duration	Start	Finish	Rem Dur	2012				
						May	Jun	Jul	Aug	Sep
S3006130	SST: Wall Stem for Tank 7 (+9.2 to 13.2)	21	14-Jun-12	09-Jul-12	21					
S3006140	SST: Wall Stem for Tank 7 (+13.2 to 17.2)	21	10-Jul-12	02-Aug-12	21					
S3006150	SST: Wall Stem for Tank 7 (+13.2 to 17.2)	21	03-Aug-12	27-Aug-12	21					
S3006160	SST: Touch-up Concrete Surface for Tank 7 (+9.2 to 13.2)	12	28-Aug-12	10-Sep-12	12					
S3006310	SST: Finishes for Tank 6 and 7	116	29-Jun-12	15-Nov-12	116					
<b>E&amp;M Procurement Installation/ Testing &amp; Commissioning</b>										
<b>Manufacture &amp; Delivery</b>										
S3006450	SST: Procurement & Delivery of E&M Equipment/ Materials	290	25-Nov-11 A	11-Nov-12	165					
S3006470	SST: Manufacturing of Submersible Mixers	135	01-Feb-12 A	28-Jul-12	59					
S3006480	SST: Delivery of Submersible Mixers	40	29-Jul-12	06-Sep-12	40					
S3006590	SST: Manufacturing of Pipe & Valves and other E&M Equipment	90	30-Apr-12 A	28-Jul-12	59					
S3006610	SST: Delivery of Pipe & Valves and other Equipment	30	29-Jul-12	27-Aug-12	30					
<b>E&amp;M Testing &amp; Commissioning</b>										
S3006750	SST: Install Temporary Pipe from Tank nos 3 - 5 to Existing Recirc	60	25-Jul-12	23-Sep-12	60					
<b>Transformer Bay</b>										
<b>Structure</b>										
S3007010	TB: Structure and Finishes	168	21-Nov-11 A	26-Jul-12	48					
S3007310	TB: Finishes	42	07-Jun-12	26-Jul-12	42					
S3007320	TB: Install GMS Gate	12	07-Jun-12	20-Jun-12	12					
S3007330	TB: Painting Coat	12	21-Jun-12	05-Jul-12	12					
S3007340	TB: Shanghai Rendering	18	06-Jul-12	26-Jul-12	18					
<b>E&amp;M Procurement, Installation &amp; T&amp;C</b>										
<b>Manufacture &amp; Delivery</b>										
S3007410	TB: Procurement & Delivery of E&M Eq/ Matl	195	06-Mar-12 A	31-Aug-12	93					
S3007430	TB: Manufacturing of HV Power Transformer	125	01-Apr-12 A	02-Jul-12	33					
S3007435	TB: Factory Acceptance Test for HV Power Transformer	30	03-Jul-12	01-Aug-12	30					
S3007440	TB: Delivery of HV Power Transformer	30	02-Aug-12	31-Aug-12	30					
S3007460	TB: Manufacturing of HV Ring Main Units	130	03-Apr-12 A	02-Jul-12	33					
S3007470	TB: Factory Acceptance Test for HV Ring Main Units	30	03-Jul-12	01-Aug-12	30					
S3007480	TB: Delivery of HV Ring Main Units	30	02-Aug-12	31-Aug-12	30					
S3007550	TB: Manufacturing of Cables	90	30-Apr-12 A	30-Jul-12	59					
S3007560	TB: Delivery of Cables	30	31-Jul-12	29-Aug-12	30					
<b>E&amp;M Installation &amp; Testing &amp; Commissioning</b>										
S3007555	TB: Arrival of Cable	0	30-Aug-12		0					
S3007565	TB: Material Inspection of Cable	3	30-Aug-12	01-Sep-12	3					
<b>System</b>										
<b>Pump, Piping and Ducting</b>										
<b>Manufacture &amp; Delivery</b>										
S3008215	Manufacture of Process Water Pump, Pipe & Valves	173	13-Feb-12 A	10-Sep-12	87					
<b>Pump, Pipe and Duct Installation</b>										
S3008350	Zone A: External System	120	31-May-12	22-Oct-12	120					
S3008360	Zone A1: Cable Duct and Watermain	40	31-May-12	17-Jul-12	40					
S3008365	Zone A1: Implement Temp Traffic Arrangement (TTA)	1	31-May-12	31-May-12	1					
S3008370	Zone A1: Break up Existing Pavement	3	01-Jun-12	04-Jun-12	3					
S3008375	Zone A1: Excavate Trench	10	05-Jun-12	15-Jun-12	10					
S3008380	Zone A1: Lay Cable Duct and Concrete Surround	4	16-Jun-12	20-Jun-12	4					
S3008385	Zone A1: Construct Drawpit	6	16-Jun-12	22-Jun-12	6					
S3008390	Zone A1: Laying DN200 Watermain	10	23-Jun-12	05-Jul-12	10					
S3008395	Zone A1: Backfill to Trench	6	06-Jul-12	12-Jul-12	6					
S3008400	Zone A1: Reinstatement of Road Pavement	4	13-Jul-12	17-Jul-12	4					
S3008410	Zone A2: Cable Duct and Watermain	40	18-Jul-12	01-Sep-12	40					
S3008430	Zone A4: Cable Trough	75	18-Jul-12	16-Oct-12	75					
S3008530	Zone B2a: Cable Duct and Chemical Pipe Trench	51	18-Jul-12	14-Sep-12	51					
S3008535	Zone B2a: Implement TTA	1	18-Jul-12	18-Jul-12	1					
S3008540	Zone B2a: Break up Existing Pavement	4	19-Jul-12	23-Jul-12	4					
S3008545	Zone B2a: Excavate Trench	12	24-Jul-12	06-Aug-12	12					
S3008550	Zone B2a: Lay Cable Duct and Construct Drawpits	10	07-Aug-12	17-Aug-12	10					
S3008555	Zone B2a: Construct Chemical Pipe Trench	14	18-Aug-12	03-Sep-12	14					
S3008610	Zone B3a: Centrate Pipe and Ducting	75	16-Jun-12	12-Sep-12	75					
S3008620	Zone B3a: Implement TTA	1	16-Jun-12	16-Jun-12	1					
S3008630	Zone B3a: Break up Existing Pavement	4	18-Jun-12	21-Jun-12	4					
S3008640	Zone B3a: Sheet Piling for Centrate Pipe between Valve Chamber	9	22-Jun-12	03-Jul-12	9					
S3008645	Zone B3a: Excavation for Centrate Pipe & Valve Chamber C1	12	04-Jul-12	17-Jul-12	12					
S3008655	Zone B3a: Valve Chamber C1	15	18-Jul-12	03-Aug-12	15					
S3008660	Zone B3a: Laying Centrate Pipe between Valve Chamber C1 and	6	04-Aug-12	10-Aug-12	6					
S3008665	Zone B3a: Backfill between Valve Chamber C1 and Manhole C3A	8	11-Aug-12	20-Aug-12	8					
S3008940	Zone B6: Centrate Pipe & Sludge Feed Pipe Connection at SDB	24	10-Jul-12	06-Aug-12	24					
S3008942	Zone B6: Excavation and Shoring for centrate Pipe & Sludge Feed	10	10-Jul-12	20-Jul-12	10					
S3008944	Zone B6: Connection of DN350 and DN600 Centrate Pipe at SDB	4	21-Jul-12	25-Jul-12	4					
S3008946	Zone B6: Connection of Sludge Feed Pipe SF1/SFT/SF2 at SDB	4	26-Jul-12	30-Jul-12	4					

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

Date	Revision	Checked	Approved

Activity ID	Activity Name	Original Duration	Start	Finish	Rem Dur	2012				
						May	Jun	Jul	Aug	Sep
S3008956	Zone B6: Backfill to Pipe Trench at SDB	6	31-Jul-12	06-Aug-12	6					
S3009210	Zone C2: DN600 Sludge Feed Pipe SF1 and SFT	124	26-Jun-12	21-Nov-12	124					
S3009220	Zone C2: Implement TTA (Decking on Fresh Concrete at Zone C1)	1	26-Jun-12	26-Jun-12	1					
S3009230	Zone C2: Break up Existing Pavement	4	27-Jun-12	30-Jun-12	4					
S3009240	Zone C2: Sheet Piling	6	03-Jul-12	09-Jul-12	6					
S3009250	Zone C2: Excavate Trench	6	10-Jul-12	16-Jul-12	6					
S3009260	Zone C2: Cast Base of Access Chamber 1	4	17-Jul-12	20-Jul-12	4					
S3009270	Zone C2: Laying SF1 and SFT	4	21-Jul-12	25-Jul-12	4					
S3009280	Zone C2: Construct Access Chamber 1	6	26-Jul-12	01-Aug-12	6					
S3009290	Zone C2: Backfill & Remove Sheet Pile to SF1 and SFT	7	02-Aug-12	09-Aug-12	7					
S3009300	Zone C2: Reinstatement of Existing Pavement	4	10-Aug-12	14-Aug-12	4					
S3009310	Zone C2: Concrete Curing	7	15-Aug-12	22-Aug-12	7					
S3009320	Zone C2: Centrate Pipe and Manhole CT5	38	03-Jul-12	15-Aug-12	38					
S3009330	Zone C2: Break up Existing Pavement	1	03-Jul-12	03-Jul-12	1					
S3009340	Zone C2: Sheet Piling to Centrate Pipe	2	10-Jul-12	11-Jul-12	2					
S3009350	Zone C2: Excavation for Centrate Pipe	4	12-Jul-12	16-Jul-12	4					
S3009360	Zone C2: Cast Base of Manhole CT5	4	17-Jul-12	20-Jul-12	4					
S3009370	Zone C2: Laying Centrate Pipe and Connection to Sludge Feed P	3	26-Jul-12	28-Jul-12	3					
S3009380	Zone C2: Construct Manhole CT5	6	30-Jul-12	04-Aug-12	6					
S3009390	Zone C2: Backfill and Remove Sheet Pile	6	06-Aug-12	11-Aug-12	6					
S3009400	Zone C2: Reinstatement of Existing Pavement	4	13-Aug-12	16-Aug-12	4					
S3009560	Zone C5: Excavation to expose Extg Sludge Feed Pipe Tank 3 to 5	24	27-Jun-12	25-Jul-12	24					
S3009570	Zone C5: Install Temporary Pipe from Tank 3 - 5 to existing Recirc	30	25-Jul-12	24-Aug-12	30					
S3009580	Zone C5: Install Flanage Adaptor for Existing Sludge Feed Pipe Tc	10	24-Aug-12	03-Sep-12	10					
<b>External Works</b>										
<b>Road and Drainage</b>										
S3011400	Zone B3a: Foul Drain between F6 to F6A to F6C and Manholes F	12	21-Aug-12	03-Sep-12	12					

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

Date	Revision	Checked	Approved

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Activity % Complete	Qtr 2, 2012			Qtr 3, 2012			
							May	Jun	Jul	Aug	Sep		
<b>3 Month Rolling Programme (24 May 2012 to 24 Aug 2012)</b>													
<b>Contract Particulars</b>													
<b>Key Dates</b>													
KD1050	Section 1A (365 days)	0		24-May-12	-90	0%							
<b>Portion of Site</b>													
<b>Possession/ Vacation of Portion</b>													
PS1040	Portion 5 Handover	0	24-May-12		-29	0%							
PS1100	Portion 8 Handover	0	24-May-12		-90	0%							
PS1130	Portion 9 Vacation	0	24-May-12		-90	0%							
<b>Management Plans and Programme</b>													
<b>Contractor Submission (General)</b>													
GN0040	Approval/ Comment of Detail master Programme	90	06-Sep-11 A	16-Apr-12 A		100%							
<b>Civil and Geotechnical Submission</b>													
<b>Contractor Design, Submission and Approval</b>													
<b>General</b>													
CCD00127	Installation of web cameras	60	01-Feb-12 A	26-May-12	-48	95%							
CCD00137	Operation and maintenance of web cameras	1932	22-Jul-12 A	09-Sep-17	-48	0%							
<b>Detailed Design Approval (DDA) Submission for Structural/ Builder Works</b>													
<b>DDA2 (Container Maintenance Bldg)</b>													
P100030	Approval for Design for Container Maintenance Building	60	29-Feb-12 A	21-May-12 A		100%							
<b>DDA4 (SCIMPS2 and Inlet Chamber)</b>													
CCD00124	Final Approval of Structural Design of RC for SCIMPS2 and Inlet chamber - Below G/F	30	25-Feb-12 A	15-Jun-12	34	25%							
CCD00135	Comment of Structural Design of RC for SCIMPS2 and Inlet chamber - Above G/F	28	01-Apr-12 A	28-Apr-12 A		100%							
CCD00145	Resubmission of Structural Design of RC for SCIMPS2 and Inlet chamber - Above G/F	21	29-Apr-12 A	08-Jun-12	222	25%							
CCD00155	Final Approval of Structural Design of RC for SCIMPS2 and Inlet chamber - Above G/F	12	08-Jun-12	20-Jun-12	222	0%							
<b>DDA6 (Switchgear Bldg)</b>													
CCD00143	Resubmission of Structural Design of RC for Switchgear Bldg	75	04-Apr-12 A	19-Jul-12	53	25%							
CCD00144	Final Approval of Structural Design of RC for Switchgear Bldg	45	19-Jul-12	02-Sep-12	53	0%							
CCD00220	Comment of Cost saving design and Geotechnical Design review of Structures	14	01-Apr-12 A	14-Apr-12 A		100%							
CCD00230	Resubmission of Cost saving design and Geotechnical Design review of Structures	7	15-Apr-12 A	21-Apr-12 A		100%							
CCD00240	Final Approval of Cost saving design and Geotechnical Design review of Structures	7	22-Apr-12 A	29-May-12	-14	25%							
<b>DDA7 (Main Flow Culvert)</b>													
CCD00300	Comment of Cost saving design and Geotechnical Design review of Structures	14	08-Apr-12 A	21-Apr-12 A		100%							
CCD00310	Resubmission of Cost saving design and Geotechnical Design review of Structures	14	22-Apr-12 A	03-Jun-12	61	25%							
CCD00320	Final Approval of Cost saving design and Geotechnical Design review of Structures	14	03-Jun-12	17-Jun-12	61	0%							
CCD00530	Prepare/ Submission of temporary works design for excavation	140	31-Dec-11 A	12-Apr-12 A		100%							
CCD00540	Comment of temporary works design for excavation	60	30-Apr-12 A	24-May-12 A		100%							
CCD00550	Resubmission of temporary works design for excavation for GEO approval	45	24-May-12	01-Jul-12	162	15%							
CCD00560	GEO Approval of temporary works design for excavation	30	01-Jul-12	31-Jul-12	162	0%							
<b>DDA8 (Extension of CEPT tanks)</b>													
CCD00192	Comment of Structural Design of RC for for CEPT tank - Below G.L.	35	20-Mar-12 A	23-Apr-12 A		100%							
CCD00193	Resubmission of Structural Design of RC for CEPT tank - Below G.L.	28	24-Apr-12 A	16-Jun-12	53	15%							
CCD00194	Final Approval of Structural Design of RC for CEPT tank - Below G.L.	21	16-Jun-12	07-Jul-12	53	0%							
CCD00196	Comment of Structural Design of RC for for Flocculation tank and main disturbance channel - Below G.L.	35	30-Mar-12 A	01-Jun-12	32	76%							
CCD00197	Resubmission of Structural Design of RC for Flocculation tank and main disturbance channel - Below G.L.	45	01-Jun-12	16-Jul-12	32	0%							
CCD00198	Final Approval of Structural Design of RC for Flocculation tank and main disturbance channel - Below G.L.	28	16-Jul-12	13-Aug-12	32	0%							
CCD00570	Prepare/ Submission of Structural Design of RC for CEPT tank - Above G.L. (DDA 8)	180	19-Dec-11 A	10-Jun-12	94	90%							
CCD00580	Comment of Structural Design of RC for CEPT tank - Above G.L.	45	11-Jun-12	25-Jul-12	94	0%							
CCD00590	Resubmission of Structural Design of RC for CEPT tank - Above G.L.	75	26-Jul-12	08-Oct-12	94	0%							
CCD00650	Prepare/ Submission of Structural Design of RC for Flocculation tank and main disturbance channel - Above G.L. (DDA 8)	180	19-Jan-12 A	28-Jun-12	206	80%							
CCD00660	Comment of Structural Design of RC for for Flocculation tank and main disturbance channel - Above G.L.	45	29-Jun-12	12-Aug-12	206	0%							
CCD00670	Resubmission of Structural Design of RC for Flocculation tank and main disturbance channel - Above G.L.	75	13-Aug-12	26-Oct-12	206	0%							
CCD00720	Final Approval of Geotechnical Design review of Structures	7	15-Jan-12 A	24-May-12	-15	95%							
CCD00740	Comment of Cost Saving Design of Inlet Section of Flocculation tanks	14	01-Apr-12 A	14-Apr-12 A		100%							
CCD00750	Resubmission of Cost Saving Design of Inlet Section of Flocculation tanks	10	15-Apr-12 A	24-Apr-12 A		100%							
CCD00760	Final Approval of Cost Saving Design of Inlet Section of Flocculation tanks	7	25-Apr-12 A	27-May-12	60	50%							
<b>DDA9 (Extension of NaHClO Bldg)</b>													
CCD00161	Prepare/ Submission of Structural Design of RC for Extension of NaHClO Bldg (DDA 9)	120	19-Apr-12 A	06-Sep-12	195	12%							
CCD00162	Comment of Structural Design of RC for Extension of NaHClO Bldg	45	06-Sep-12	21-Oct-12	195	0%							
CCD00206	Prepare/ Submission of Structural Design for Steel Structures	120	04-May-12	06-Sep-12	222	12%							
CCD00207	Comment of Structural Design of Steel Structures	45	06-Sep-12	21-Oct-12	222	0%							
<b>DDA11 (DOU No. 3 and DOU No. 1b)</b>													
CCD00201	Prepare/ Submission of Structural Design of RC for DOU No. 3 and 1b (DDA 11)	100	08-Jun-12	15-Sep-12	380	0%							
CCD00202	Comment of Structural Design of RC for DOU No. 3 and No. 1b	45	16-Sep-12	30-Oct-12	380	0%							
CCD00460	Comment of Cost saving design and Geotechnical Design review of Structures	14	01-Apr-12 A	14-Apr-12 A		100%							
CCD00470	Resubmission of Cost saving design and Geotechnical Design review of Structures	14	15-Apr-12 A	28-Apr-12 A		100%							
CCD00480	Final Approval of Cost saving design and Geotechnical Design review of Structures	14	29-Apr-12 A	29-May-12	79	60%							
<b>DDA12 (Odour Duct Bridge)</b>													
CCD00181	Prepare/ Submission of Structural Design of RC for Odour Duct bridge (DDA 12)	100	08-Jun-12	15-Sep-12	419	0%							
CCD00182	Comment of Structural Design of RC for Odour Duct bridge	45	16-Sep-12	30-Oct-12	419	0%							
CCD00500	Comment of Cost saving design and Geotechnical Design review of Structures	14	01-Apr-12 A	14-Apr-12 A		100%							
CCD00510	Resubmission of Cost saving design and Geotechnical Design review of Structures	14	15-Apr-12 A	28-Apr-12 A		100%							

■ Actual Work      ◆ Milestone  
■ Remaining Work  
■ Critical Remaining Work

Contract No. DC/2009/10

Sheet 1 of 7

Date	Revision	Checked	Approved

HATS Stage 2A - Upgrading works at Stonecutters Island Sewage Treatment Works

Three Months Rolling Programme (24 May 2012 to 24 Aug 2012)

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Activity % Complete	Qtr 2, 2012			Qtr 3, 2012		
							May	Jun	Jul	Aug	Sep	
CCD00520	Final Approval of Cost saving design and Geotechnical Design review of Structures	14	29-Apr-12 A	29-May-12	202	60%						
<b>Electrical &amp; Mechanical Equipment Submission</b>												
<b>Contractor Design, Submission and Approval</b>												
<b>Approved In-principle (AIP) Submission</b>												
<b>AIP No. 2 (Cooling water system of MPS)</b>												
ECD00040	Comment/ Approval of AIP for Cooling water system of Main Sewage Pumping system (AIP No. 2)	180	08-Nov-11 A	19-Jun-12	-34	85%						
Comment/ Approval of AIP for Cooling water system of Main Sewage Pumping system (AIP No. 2)												
<b>AIP No. 3 (Drainage and Sparging System at Wet Well)</b>												
ECD00045	Preparation of AIP Submission for Drainage and Sparging System at MPS2 and Valve Chamber (AIP No. 3)	432	24-Feb-11 A	30-Apr-12 A		100%						
Preparation of AIP Submission for Drainage and Sparging System at MPS2 and Valve Chamber (AIP No. 3)												
<b>AIP No. 4 (Piping system for centrate flow/ NWK overflow pipe)</b>												
ECD00051	Preparation of AIP Submission for piping system for centrate flow/ NWK overflow pipe (AIP No. 4)	415	24-Feb-11 A	13-Apr-12 A		100%						
Preparation of AIP Submission for piping system for centrate flow/ NWK overflow pipe (AIP No. 4)												
<b>AIP No. 5 (Air mixing System for Wet Well)</b>												
ECD00053	Preparation of AIP Submission for air mixing system for wet well (AIP No. 5)	415	24-Feb-11 A	13-Apr-12 A		100%						
Preparation of AIP Submission for air mixing system for wet well (AIP No. 5)												
ECD00055	Comment/ Approval of AIP for air mixing system for wet well (AIP No. 5)	28	16-Apr-12 A	13-Jun-12		25%						
Comment/ Approval of AIP for air mixing system for wet well (AIP No. 5)												
<b>AIP No. 6 (Flushing water System for interconnection tunnel and valve chamber)</b>												
ECD00056	Preparation of AIP Submission for flushing water system for interconnection tunnels, valve chamber (AIP No. 6)	429	24-Feb-11 A	27-Apr-12 A		100%						
Preparation of AIP Submission for flushing water system for interconnection tunnels, valve chamber (AIP No. 6)												
ECD00070	Comment/ Approval of AIP for flushing water system for interconnection tunnels, valve chamber (AIP No. 6)	60	12-Mar-12 A	04-Jul-12	-36	30%						
Comment/ Approval of AIP for flushing water system for interconnection tunnels, valve chamber (AIP No. 6)												
<b>AIP No. 7 (Process Air Supply System for Flocculation tanks and ED culvert)</b>												
ECD00075	Preparation of AIP Submission for Process Air Supply System for Extended CEPT Tanks (AIP No. 7)	425	24-Feb-11 A	23-Apr-12 A		100%						
Preparation of AIP Submission for Process Air Supply System for Extended CEPT Tanks (AIP No. 7)												
ECD00080	Comment/ Approval of AIP for Process Air Supply System for Extended CEPT Tanks (AIP No. 7)	75	10-Mar-12 A	11-Jul-12	13	35%						
Comment/ Approval of AIP for Process Air Supply System for Extended CEPT Tanks (AIP No. 7)												
<b>AIP No. 8 (Sludge and Scum Pumping System)</b>												
ECD00085	Preparation of AIP Submission for Sludge and Scum Pumping System (AIP No. 8)	415	24-Feb-11 A	13-Apr-12 A		100%						
Preparation of AIP Submission for Sludge and Scum Pumping System (AIP No. 8)												
ECD00150	Comment/ Approval of AIP for Sludge and Scum Pumping System (AIP No. 8)	95	09-Feb-12 A	24-Jul-12	-11	35%						
Comment/ Approval of AIP for Sludge and Scum Pumping System (AIP No. 8)												
<b>AIP No. 9 (Process Air Supply System &amp; Protected Water Supply System)</b>												
ECD00155	Preparation of AIP Submission for Process & Protected Water and Process Drainage System for CEPT Tanks (AIP No. 9)	436	24-Feb-11 A	04-May-12 A		100%						
Preparation of AIP Submission for Process & Protected Water and Process Drainage System for CEPT Tanks (AIP No. 9)												
ECD00160	Comment/ Approval of AIP for Process & Protected Water and Process Drainage System for CEPT Tanks (AIP No. 9)	80	16-Mar-12 A	30-Jul-12	-12	15%						
Comment/ Approval of AIP for Process & Protected Water and Process Drainage System for CEPT Tanks (AIP No. 9)												
<b>AIP No. 10 (Penstocks and Stoplogs for Extension of CEPT tanks)</b>												
ECD00165	Preparation of AIP Submission for Penstocks and Stoplogs (AIP No. 10)	415	24-Feb-11 A	13-Apr-12 A		100%						
Preparation of AIP Submission for Penstocks and Stoplogs (AIP No. 10)												
ECD00170	Comment/ Approval of AIP for Penstocks and Stoplogs (AIP No. 10)	60	15-Mar-12 A	10-Jun-12	45	70%						
Comment/ Approval of AIP for Penstocks and Stoplogs (AIP No. 10)												
<b>AIP No. 11 (Chemical Dosing System)</b>												
ECD00175	Preparation of AIP Submission for Chemical Storage and Dosing System (AIP No. 11)	415	24-Feb-11 A	13-Apr-12 A		100%						
Preparation of AIP Submission for Chemical Storage and Dosing System (AIP No. 11)												
ECD00180	Comment/ Approval of AIP for Chemical Storage and Dosing System (AIP No. 11)	60	15-Mar-12 A	25-Jun-12	20	45%						
Comment/ Approval of AIP for Chemical Storage and Dosing System (AIP No. 11)												
<b>AIP No. 12 (Sodium Hypochlorite Storage, transfer and dosing system)</b>												
ECD00200	Comment/ Approval of AIP for Sodium Hypochlorite storage, transfer and dosing system (AIP No. 12)	60	07-Mar-12 A	01-Jul-12	48	35%						
Comment/ Approval of AIP for Sodium Hypochlorite storage, transfer and dosing system (AIP No. 12)												
<b>AIP No. 13 (Deodorization System for MPS, CEPT tanks, NWK PS)</b>												
ECD00210	Comment/ Approva AIP for Deodorization on System DOU3 and DOU 1b (AIP No. 13)	75	14-Feb-12 A	07-Jul-12	-43	40%						
Comment/ Approva AIP for Deodorization on System DOU3 and DOU 1b (AIP No. 13)												
<b>AIP No. 18 (Ventilation System of MPS, valve chamber and Switchgear bldg)</b>												
ECD00255	Preparation of AIP Submission for Ventilation System for MPS (AIP No. 18)	439	24-Feb-11 A	07-May-12 A		100%						
Preparation of AIP Submission for Ventilation System for MPS (AIP No. 18)												
ECD00260	Comment/ Approval of AIP for Ventilation System for MPS (AIP No. 18)	90	09-Mar-12 A	30-Jul-12	79	25%						
Comment/ Approval of AIP for Ventilation System for MPS (AIP No. 18)												
<b>AIP No. 19 (Fire Service Installation)</b>												
ECD00265	Preparation of AIP Submission for Fire Hydrant, Hose Reel and Automatic Sprinkler System (AIP No. 19)	446	24-Feb-11 A	14-May-12 A		100%						
Preparation of AIP Submission for Fire Hydrant, Hose Reel and Automatic Sprinkler System (AIP No. 19)												
ECD00270	Comment/ Approval of AIP for Fire Hydrant, Hose Reel and Automatic Sprinkler System (AIP No. 19)	90	24-May-12	21-Aug-12	27	0%						
Comment/ Approval of AIP for Fire Hydrant, Hose Reel and Automatic Sprinkler System (AIP No. 19)												
<b>AIP No. 20 (Plumbing System)</b>												
ECD00275	Preparation of AIP Submission for plumbing system for potable, flushing, irrigation system (AIP No. 20)	434	24-Feb-11 A	02-May-12 A		100%						
Preparation of AIP Submission for plumbing system for potable, flushing, irrigation system (AIP No. 20)												
ECD00280	Comment/ Approval of AIP for plumbing system for potable, flushing, irrigation system (AIP No. 20)	70	24-Mar-12 A	27-Jun-12	240	50%						
Comment/ Approval of AIP for plumbing system for potable, flushing, irrigation system (AIP No. 20)												
<b>AIP No. 21 (Drainage System)</b>												
ECD00285	Preparation of AIP Submission for Drainage system for wastes water drainage system (AIP No. 21)	437	24-Feb-11 A	05-May-12 A		100%						
Preparation of AIP Submission for Drainage system for wastes water drainage system (AIP No. 21)												
ECD00290	Comment/ Approval of AIP for Drainage system for wastes water drainage system (AIP No. 21)	90	07-Mar-12 A	21-Aug-12	24	0%						
Comment/ Approval of AIP for Drainage system for wastes water drainage system (AIP No. 21)												
<b>AIP No. 22 (Knife Gate Valves - size DN3000 &amp; DN3600)</b>												
ECD00310	Comment/ Approval of AIP for Knife Gate Valves - size DN 3000 & DN 3600 (AIP No. 22)	90	04-Feb-12 A	21-Aug-12 A		100%						
Comment/ Approval of AIP for Knife Gate Valves - size DN 3000 & DN 3600 (AIP No. 22)												
<b>AIP No. 23 (Lifting appliance)</b>												
ECD00410	Comment/ Approval of AIP for Lifting appliance (AIP No. 23)	75	07-Jan-12 A	15-Jul-12	-106	30%						
Comment/ Approval of AIP for Lifting appliance (AIP No. 23)												
<b>Infrastructure Construction Works</b>												
<b>Works for Section 1A</b>												
<b>Time for Sectional Completion</b>												
TC0040	Sectional Completion Date	0		24-May-12*	-90	0%						
Sectional Completion Date												
<b>Portion 3 (Extension of CEPT Tanks)</b>												
<b>Civil Works</b>												
P300080	Construction of NWK DN1200 Overflow pipe (CH140-215)	100	14-Oct-11 A	24-May-12	-45	100%						
Construction of NWK DN1200 Overflow pipe (CH140-215)												
P300090	Construction of Chemical pipe trench (CH0-119)	230	14-Oct-11 A	30-Jul-12	-100	76%						
Construction of Chemical pipe trench (CH0-119)												
P300250	Construction of Dia 250 watermain	245	14-Oct-11 A	28-Aug-12	-126	67%						
Construction of Dia 250 watermain												
P300256	Construction of NWK DN1200 Overflow pipe (CH235-286)	120	28-Feb-12 A	09-Jun-12	-85	88%						
Construction of NWK DN1200 Overflow pipe (CH235-286)												
P904200	TTM Stage 4	1	12-Apr-12 A	12-Apr-12 A		100%						
TTM Stage 4												
P904210	Construction of CLP cable Trench (CHB0-80, CHC0-60)	55	13-Apr-12 A	19-Jul-12	-118	15%						
Construction of CLP cable Trench (CHB0-80, CHC0-60)												
P904220	Construction of NWK DN1200 Overflow pipe (CH215-235)	55	13-Apr-12 A	24-May-12	-71	100%						
Construction of NWK DN1200 Overflow pipe (CH215-235)												
<b>Portion 9 (Permanent Storage Building)</b>												
<b>Contractor Design for Structural and E&amp;M</b>												
P900420	Submission of GBP to FSD	180	22-Sep-11 A	10-Apr-12 A		100%						
GBP to FSD												
P900430	Approval/ Comment of GBP from FSD	28	11-Apr-12 A	04-Jun-12	-164	60%						
Approval/ Comment of GBP from FSD												
P900450	Approval/ Comment of WSD submission of Portable water	90	05-Mar-12 A	15-Jun-12	-137	75%						
Approval/ Comment of WSD submission of Portable water												
P900460	Submission of WSD submission of Fire services water	45	20-Jan-12 A	02-May-12 A		100%						
Submission of WSD submission of Fire services water												
P900470	Approval/ comment of WSD submission of Fire services water	90	03-May-12	15-Jun-12	-137	75%						
Approval/ comment of WSD submission of Fire services water												
P900500	Submission of FSD Form 314	14	17-Apr-12 A	18-Jun-12	-164	0%						
Submission of FSD Form 314												
P900520	Submission of FSD Form 501	21	24-Jul-12	14-Aug-12	-179	0%						
Submission of FSD Form 501												
<b>Procurement/ Order/ Manufacturing/ Delivery</b>												
P900330	Delivery of Travelling Cranes	20	31-Mar-12 A	19-Apr-12 A		100%						
Delivery of Travelling Cranes												

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HATS Stage 2A - Upgrading works at Stonecutters Island Sewage Treatment Works

Three Months Rolling Programme (24 May 2012 to 24 Aug 2012)



Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Activity % Complete	Qtr 2, 2012			Qtr 3, 2012		
							May	Jun	Jul	Aug	Sep	
P900360	Delivery of Building Services Equipment		18 07-Apr-12 A	24-Apr-12 A		100%						
<b>RC Works</b>												
P900230	Construction of upper roof slab	25	14-Apr-12 A	15-May-12 A		100%						
P900365	Dismantle falsework for roof floor slab	12	19-Apr-12 A	04-May-12 A		100%						
P900370	Construction of Ground floor on-grade slab	12	05-May-12	25-May-12 A		100%						
P900380	Construction of Water tank base	6	16-May-12	28-May-12	-156	45%						
P900390	Construction of Water tank wall and soffit	10	28-May-12	08-Jun-12	-156	0%						
P900490	Water test	14	16-Jun-12	05-Jul-12	-144	0%						
<b>Electrical and Mechanical Installation</b>												
P900130	Travelling cranes installation	35	09-Jun-12	23-Jul-12	-133	0%						
P900180	F.S., MVAC, A/C and electrical works installation (G/F)	18	16-Jun-12	10-Jul-12	-122	0%						
P900400	FS and electrical works installation (1/F)	12	18-Jun-12	04-Jul-12	-128	0%						
P900410	A/C installation (R/F)	12	06-Jul-12	20-Jul-12	-130	0%						
P900480	F.S. Pump installation (R/F)	15	06-Jul-12	24-Jul-12	-145	0%						
P900485	Modification of MCCB board at switchroom	12	24-May-12	06-Jun-12	-107	0%						
P900510	Electrical cable laying (External)	12	21-Jun-12	06-Jul-12	-119	0%						
<b>Builder and finishes Works</b>												
P900135	Internal Brick works (G/F)	9	19-May-12	02-Jun-12	-122	5%						
P900140	Internal Finishes Works (G/F)	12	02-Jun-12	16-Jun-12	-122	0%						
P900145	Internal Finishes Works (1/F)	14	19-May-12	01-Jun-12	-133	45%						
P900155	External Finishes Works (G/F to R/F)	45	24-May-12	17-Jul-12	-161	0%						
P900165	Dismantle external scaffolding	9	18-Jul-12	27-Jul-12	-161	0%						
P900300	Door, window and Roller shutter installation	24	28-May-12	06-Jul-12	-118	10%						
P900305	Roof waterproofing	15	16-Jun-12	06-Jul-12	-145	0%						
P900310	Green Roof	12	06-Jul-12	20-Jul-12	-130	0%						
<b>External underground works</b>												
P901000	Electrical cable ducts laying from NWK PS (E.Power)	30	16-May-12	06-Jun-12	-107	60%						
P901010	Electrical cable ducts laying from NWK PTW	30	16-May-12	20-Jun-12	-119	20%						
P901020	Portable watermain laying	18	01-Jun-12	22-Jun-12	-109	0%						
P901030	F.S. watermain laying	18	01-Jun-12	22-Jun-12	-109	0%						
P901120	Sewage pipe laying	12	28-Jul-12	10-Aug-12	-161	0%						
P901170	Construction of Surface channel	12	11-Aug-12	24-Aug-12	-161	0%						
<b>Testing and Commissioning</b>												
P900150	Testing and Commissioning	6	24-Jul-12	31-Jul-12	-133	0%						
P900250	FSD inspection	6	14-Aug-12	21-Aug-12	-145	0%						
P900530	Final Testing and commissioning	10	24-Aug-12	03-Sep-12	-197	0%						
P900540	Handover to ST2	4	03-Sep-12	07-Sep-12	-197	0%						
<b>Portion 1 (Container Maintenance Building)</b>												
<b>Procurement/ Order/ Manufacturing/ Delivery</b>												
P901060	Delivery of Overhead Crane System	22	04-Feb-12 A	30-May-12	-141	70%						
P901090	Delivery of Internal Wash System	18	28-Jan-12 A	29-May-12	-139	70%						
P901130	Delivery of Wastewater Pumping System	25	01-Feb-12 A	31-May-12	-142	70%						
<b>Civil Works</b>												
P902040	Construction of underground sewer	35	14-Apr-12 A	31-May-12	-238	80%						
P902050	ELS for footing construction of CMB	14	01-Jun-12	16-Jun-12	-238	0%						
<b>RC works</b>												
P100040	Construction of Mass in-fill below RC footings	6	18-Jun-12	25-Jun-12	-238	0%						
P100045	Backfilling to bottom level of RC footings	6	26-Jun-12	03-Jul-12	-238	0%						
P100046	Construction of RC footing, column kicker and tie beams	8	04-Jul-12	12-Jul-12	-238	0%						
P100047	Backfilling to bottom level of ground beams	6	13-Jul-12	19-Jul-12	-238	0%						
P100050	Construction of RC ground beams	6	20-Jul-12	26-Jul-12	-238	0%						
P100055	Backfilling to bottom level of on grade slab	3	27-Jul-12	30-Jul-12	-238	0%						
P100060	Construction of RC on-grade slabs	6	31-Jul-12	06-Aug-12	-238	0%						
P100100	Construction of columns and roof slabs for plant rooms	12	07-Aug-12	20-Aug-12	-238	0%						
P100110	Construction of columns and roof slabs for main structures	12	14-Aug-12	27-Aug-12	-238	0%						
P100400	Dismantle scaffoldings for plant rooms	4	06-Sep-12	10-Sep-12	-217	0%						
P100405	Dismantle scaffoldings for main structures	5	13-Sep-12	18-Sep-12	-238	0%						
<b>Electrical and Mechanical Installation</b>												
P100310	Electrical and FS Installation for plant rooms	12	20-Sep-12	05-Oct-12	-217	0%						
<b>Builder and finishes Works</b>												
P100080	Internal Finishes for plant rooms	8	11-Sep-12	19-Sep-12	-217	0%						
P100390	Internal finishes for main structures	10	19-Sep-12	29-Sep-12	-238	0%						
P100410	External finishes	21	05-Sep-12	28-Sep-12	-190	0%						
<b>Portion 1 (Real weather Station and H2S Sensors)</b>												
<b>Civil Works</b>												
P100910	Cable Ducts Laying	60	20-Sep-11 A	03-Jul-12	-136	45%						
<b>Electrical and Mechanical Installation</b>												
P100920	Installation of H2S sensor and weather station	45	19-Dec-11 A	01-Aug-12	-136	45%						
<b>Testing and Commissioning</b>												
P100960	T&C	7	01-Aug-12	09-Aug-12	-136	0%						
<b>Works for Section 2</b>												
<b>Portion 4 (Switchgear Building)</b>												
<b>Submission of Design for Structural and E&amp;M</b>												
P401000	DDA of HV switchboards	60	04-Mar-12 A	22-Jul-12	41	0%						

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**HATS Stage 2A - Upgrading works at Stonecutters Island Sewage Treatment Works**  
 Three Months Rolling Programme (24 May 2012 to 24 Aug 2012)

Date	Revision	Checked	Approved

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Activity % Complete	Qtr 2, 2012			Qtr 3, 2012		
							May	Jun	Jul	Aug	Sep	
P401010	Approval/ Comment of DDA of HV switchboards		60 18-Apr-12 A	01-Jul-12		41	35%					
P401020	DDA of LV switchboards		60 04-Mar-12 A	22-Jul-12		66	0%					
P401030	Approval/ Comment of DDA of LV switchboards		60 18-Apr-12 A	01-Jul-12		66	35%					
P401040	DDA of Transformer		85 04-Mar-12 A	16-Aug-12		-1	0%					
P401050	Approval/ Comment of DDA of Transformer		85 19-Mar-12 A	16-Aug-12		-1	0%					
P401060	DDA of Gensets		90 18-Apr-12 A	21-Jul-12		87	35%					
P401065	EPD submission for Gensets		90 18-Apr-12 A	21-Jul-12		87	35%					
P401070	Approval/ Comment of DDA of Gensets		90 18-May-12	21-Jul-12		87	35%					
P401090	Approval/ Comment of DDA of Lifting Appliance		90 21-Apr-12 A	02-Sep-12		29	45%					
P401101	DDA of Control system architecture for upgrading existing DCDAS at MPS1 and HATS 1 PTW (AIP No. 16)		45 16-May-12	24-Jun-12		72	30%					
P401102	Approval/ comment for the DDA of Control system architecture for upgrading existing DCDAS at MPS1 and HATS 1 F		46 15-Jun-12	30-Jul-12		72	0%					
P401103	DDA of Control system architecture for upgrading existing control system (AIP No. 17)		45 16-May-12	22-Jun-12		128	35%					
P401104	Approval/ comment for the DDA of Control system architecture for upgrading existing control system		46 15-Jun-12	30-Jul-12		128	0%					
<b>Procurement/ Order/ Manufacturing/ Delivery</b>												
P302550	Procurement / Purchase Order of Control System for upgrading existing DCDAS at MPS1 and HATS 1 PTWs		28 31-Jul-12	27-Aug-12		72	0%					
P302560	Manufacturing of Control System for upgrading existing DCDAS at MPS1 and HATS 1 PTWs		125 28-Aug-12	30-Dec-12		72	0%					
P302580	Procurement / Purchase Order of Control System for upgrading existing control system		28 31-Jul-12	27-Aug-12		128	0%					
P302590	Manufacturing of Control System for upgrading existing control system		125 28-Aug-12	30-Dec-12		128	0%					
P402040	Procurement / Purchase Order of HV switchboards		25 02-Jul-12	26-Jul-12		41	0%					
P402050	Manufacturing of HV switchboards		250 27-Jul-12	02-Apr-13		41	0%					
P402070	Procurement / Purchase Order of LV switchboards		28 02-Jul-12	29-Jul-12		66	0%					
P402080	Manufacturing of LV switchboards		250 30-Jul-12	05-Apr-13		66	0%					
P402100	Procurement / Purchase Order of Transformers		35 17-Aug-12	20-Sep-12		-1	0%					
P402130	Procurement / Purchase Order of Emergency Generator		20 21-Jul-12	10-Aug-12		87	0%					
P402140	Manufacturing of Emergency Generator		210 10-Aug-12	08-Mar-13		87	0%					
P402160	Procurement / Purchase Order of Lifting Appliances		21 03-Sep-12	23-Sep-12		29	0%					
P402220	Procurement / Purchase order of Cables		30 17-Aug-12	15-Sep-12		16	0%					
P402230	Manufacturing of Cables		210 16-Sep-12	13-Apr-13		16	0%					
<b>Foundation Works</b>												
<b>Ground investigation</b>												
P400900	Submission of Preliminary borehole log		35 16-Mar-12 A	20-Apr-12 A			100%					
<b>Driven H-Pile</b>												
P400015	Mobilization of Percussive Piling Plant		12 14-Apr-12 A	30-Apr-12 A			100%					
P400020	Driven H-Piles (155 Nos)		60 30-Apr-12 A	26-Jul-12		-12	20%					
P400025	Pile Load Test		12 26-Jul-12	09-Aug-12		-12	0%					
P400030	Submit/ Approval of pile load test		5 26-Jul-12	01-Aug-12		13	0%					
<b>Excavation and Lateral Support for Substructure</b>												
P400060	Sheetpiling Works		18 09-Aug-12	30-Aug-12		-12	0%					
P400930	Excavation down to +4.5mPD		10 23-Aug-12	04-Sep-12		-12	0%					
P400940	Install walling and strut @ +4.3mPD		15 28-Aug-12	14-Sep-12		-12	0%					
P400941	Excavation down to +2.3mPD		10 14-Sep-12	26-Sep-12		-12	0%					
<b>Works for Section 3</b>												
<b>Portion 1 (Existing CEPT tanks)</b>												
<b>Submission of design of E&amp;M works</b>												
P106000	Submission of Design for the MEICA works for modification works of CEPT tanks		90 13-Apr-12 A	21-Aug-12		100	0%					
P106010	Approval/ comment of Design for the MEICA works for modification works of CEPT tanks		90 24-May-12	21-Aug-12		100	0%					
<b>Procurement/ Order/ Manufacturing/ Delivery</b>												
P106110	Procurement / Purchase Order of Scum Collection System		34 22-Aug-12	24-Sep-12		100	0%					
P106140	Procurement / Purchase Order of FRP mid tank baffles		34 22-Aug-12	24-Sep-12		100	0%					
<b>Portion 3 (Extension of CEPT Tank)</b>												
<b>Submission of design of E&amp;M works</b>												
P301000	DDA of Process air supply system for flocculation tanks (AIP No. 7)		120 11-Jul-12	08-Nov-12		13	0%					
P301010	Approval/ comment for the DDA of Process air supply system for flocculation tanks		120 10-Aug-12	08-Dec-12		13	0%					
P301020	DDA of the sludge pumping and scum collection system (AIP No. 8)		120 14-Jul-12	11-Nov-12		-11	0%					
P301030	Approval/ comment for DDA of the sludge pumping and scum collection system		120 13-Aug-12	11-Dec-12		-10	0%					
P301480	DDA of the Process water flushing and protected water system (AIP No. 9)		120 31-Jul-12	27-Nov-12		-12	0%					
P301490	Approval/ comment for DDA of the Process water flushing and protected water system		120 30-Aug-12	27-Dec-12		-12	0%					
P301500	DDA of the Penstock and stoplogs for CEPT tanks (AIP No. 10)		90 11-Jun-12	08-Sep-12		45	0%					
P301510	Approval/ comment for DDA of the Penstock and stoplogs for CEPT tanks		90 11-Jul-12	08-Oct-12		45	0%					
P301520	DDA of the Chemical (FECL3 and polymer) dosing system (AIP No. 11)		120 26-Jun-12	23-Oct-12		20	0%					
P301530	Approval/ comment for DDA of the Chemical (FECL3 and polymer) dosing system		120 26-Jul-12	22-Nov-12		20	0%					
P301550	DDA of the Lifting appliance (AIP No. 12)		120 15-Jul-12	12-Nov-12		-106	0%					
<b>Foundation Works</b>												
<b>Extension/ Trimming of Existing Daido Piles</b>												
<b>Row C, F, I &amp; L</b>												
P321000	Open excavation to +4.1mPD for substructure of Southern CEPT tanks		15 24-Aug-12	11-Sep-12		-12	0%					
P321010	Extension L1 to L36 (36 Nos)		21 11-Sep-12	02-Oct-12		-14	0%					
P902540	Extension for C65 to C70, F37 to F40, I37 to I40, L37 to L40 (18Nos)		04 09-Jul-12	24-Aug-12		-12	0%					
<b>Row A, D, G &amp; J</b>												
P902550	Open excavation to +4.1mPD for substructure of Northern CEPT tanks		15 13-Aug-12	29-Aug-12		2	0%					
P902555	Extension for J5 to J44 (40Nos)		15 30-Aug-12	15-Sep-12		2	0%					
P902560	Extension for G5 to G44 (40Nos)		21 17-Sep-12	12-Oct-12		2	0%					
P902620	Extension for A1 to A6, D1 to D4, G1 to G4, J1 to J4 (18Nos)		04 26-Jun-12	11-Aug-12		2	0%					
<b>Row B, E, H &amp; K</b>												

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**HATS Stage 2A - Upgrading works at Stonecutters Island Sewage Treatment Works**  
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Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Activity % Complete	Qtr 2, 2012			Qtr 3, 2012		
							May	Jun	Jul	Aug	Sep	
P902635	Open excavation to +4.1mPD for substructure of disturbance channel at GL 29-31, E-J		15 24-May-12	09-Jun-12		9	0%					
P902660	Extension for H1 to H7 (7Nos)		18 25-Jul-12	14-Aug-12		9	0%					
P902670	Extension for K1 to K7 (7Nos)		18 14-Aug-12	03-Sep-12		9	0%					
<b>Prebored Rock Socketted H-Pile</b>												
P300115	Predrilling (17 Nos)		28 26-Mar-12 A	03-May-12 A			100%					
P300121	Confirm founding level of piles (Zone 2)		3 04-May-12	07-May-12 A			100%					
<b>Zone 1 - Disturbance Channel, Rig No. 1</b>												
P310420	Grouting for prebored H-pile (MC25-36, 12Nos)		7 31-Mar-12 A	12-Apr-12 A			100%					
P310430	Prebored and install casing (MC22a, 22b, 23a, 23b, 24a, 24b & 37, 7Nos)		10 13-Apr-12 A	24-Apr-12 A			100%					
P310440	Install H-pile		11 25-Apr-12 A	09-May-12 A			100%					
P310450	Grouting for prebored H-pile (MC22a, 22b, 23a, 23b, 24a, 24b & 37, 7Nos)		5 10-May-12	15-May-12			100%					
P310460	Prebored and install casing (MC38-40, 3Nos)		5 16-May-12	21-May-12 A			100%					
P310470	Install H-pile		6 19-May-12	22-May-12 A			100%					
P310480	Grouting for prebored H-pile (MC38-40, 3Nos)		2 21-Jun-12	25-Jun-12		-13	0%					
P310490	Prebored and install casing (MC16, 17, 18, 19a, 19b, 20 & 21, 7Nos)		10 25-Jun-12	07-Jul-12		-13	0%					
P310500	Install H-pile		11 07-Jul-12	20-Jul-12		-13	0%					
P310510	Grouting for prebored H-pile (MC16, 17, 18, 19a, 19b, 20 & 21, 7Nos)		4 20-Jul-12	25-Jul-12		-13	0%					
P310520	Prebored and install casing (MC7-MC15, 9Nos)		11 25-Jul-12	07-Aug-12		-13	0%					
P310530	Install H-pile		13 02-Aug-12	17-Aug-12		-13	0%					
P310540	Grouting for prebored H-pile (MC7-MC15, 9Nos)		7 14-Aug-12	22-Aug-12		-13	0%					
P310550	Prebored and install casing (MC1-MC6, 6Nos)		4 22-Aug-12	27-Aug-12		-13	0%					
P310560	Install H-pile		8 23-Aug-12	01-Sep-12		-13	0%					
P310570	Grouting for prebored H-pile (MC1-MC6, 6Nos)		5 31-Aug-12	06-Sep-12		-13	0%					
<b>Zone 2 - Rapid Mix tank, Rig No. 2 &amp; 3</b>												
P310000	Mobilization of Piling Plant		10 08-May-12	18-May-12 A			100%					
P310001	Prebored and install casing (FT 74-79, FT85-90, 12Nos)		15 19-May-12	11-Jun-12		-4	0%					
P310002	Install H-pile		16 04-Jun-12	22-Jun-12		-4	0%					
P310003	Grouting for prebored H-pile (FT 74-79, FT85-90, 12Nos)		8 19-Jun-12	29-Jun-12		-4	0%					
P310004	Prebored and install casing (FT 80-84, FT91-95, 10Nos)		14 29-Jun-12	17-Jul-12		-4	0%					
P310005	Install H-pile		14 10-Jul-12	26-Jul-12		-4	0%					
P310007	Grouting for prebored H-pile (FT 80-84, FT91-95, 10Nos)		7 23-Jul-12	31-Jul-12		-4	0%					
P310010	Prebored and install casing (FT 1, 3, 5, 7, 9 & 11, 6 nos)		9 31-Jul-12	10-Aug-12		6	0%					
P310020	Install H-pile		12 06-Aug-12	20-Aug-12		6	0%					
P310030	Grouting for prebored H-pile (FT 1, 3, 5, 7, 9 & 11, 6 nos)		4 17-Aug-12	22-Aug-12		6	0%					
P310040	Prebored and install casing (FT 2, 4, 6, 8, 10, 5 nos)		8 22-Aug-12	31-Aug-12		6	0%					
P310050	Install H-pile		11 27-Aug-12	08-Sep-12		6	0%					
P310060	Grouting for prebored H-pile (FT 2, 4, 6, 8, 10, 5 nos)		3 06-Sep-12	10-Sep-12		6	0%					
P310070	Prebored and install casing (FT 13, 15, 17, 19 & 21, 5 nos)		8 10-Sep-12	19-Sep-12		6	0%					
P310080	Install H-pile		11 14-Sep-12	27-Sep-12		6	0%					
P310130	Prebored and install casing (FT 23, 25, 27, 29, 31, 33 & 36, 7 nos)		10 19-May-12	04-Jun-12		25	0%					
P310140	Install H-pile		13 31-May-12	14-Jun-12		25	0%					
P310150	Grouting for prebored H-pile (FT 23, 25, 27, 29, 31, 33 & 36, 7 nos)		6 13-Jun-12	19-Jun-12		25	0%					
P310160	Prebored and install casing (FT 24, 26, 28, 30, 32 & 34, 6 nos)		9 20-Jun-12	30-Jun-12		25	0%					
P310170	Install H-pile		12 28-Jun-12	12-Jul-12		25	0%					
P310180	Grouting for prebored H-pile (FT 24, 26, 28, 30, 32 & 34, 6 nos)		5 11-Jul-12	16-Jul-12		25	0%					
P310190	Prebored and install casing (FT 38, 41, 43, 45 & 35, 5 nos)		9 17-Jul-12	26-Jul-12		25	0%					
P310200	Install H-pile		11 24-Jul-12	04-Aug-12		25	0%					
P310210	Grouting for prebored H-pile (FT 38, 41, 43, 45 & 35, 5 nos)		4 03-Aug-12	07-Aug-12		25	0%					
P310220	Prebored and install casing (FT 39, 42, 44 & 37, 4 nos)		7 08-Aug-12	15-Aug-12		25	0%					
P310230	Install H-pile		10 14-Aug-12	24-Aug-12		25	0%					
P310240	Grouting for prebored H-pile (FT 39, 42, 44 & 37, 4 nos)		3 23-Aug-12	25-Aug-12		25	0%					
P310250	Prebored and install casing (FT 46-50, FT61-60, 8Nos)		9 27-Aug-12	05-Sep-12		25	0%					
P310260	Install H-pile		12 01-Sep-12	14-Sep-12		25	0%					
P310270	Grouting for prebored H-pile (FT 46-50, FT61-60, 8Nos)		7 13-Sep-12	20-Sep-12		25	0%					
P310280	Prebored and install casing (FT 51-59, 9Nos)		11 06-Sep-12	19-Sep-12		-13	0%					
P310290	Install H-pile		13 13-Sep-12	28-Sep-12		-13	0%					
<b>Driven H-Pile</b>												
P320140	Pile load test for Driven H-pile		15 12-Apr-12 A	30-Apr-12 A			100%					
<b>Zone 3 - CEPT Tank</b>												
P320060	Driven H-piles (217+7Nos)		85 23-Dec-11 A	18-May-12 A			100%					
<b>Zone 4 - Inlet Section of Flocculation tank</b>												
P904240	Driven H-piles (31 Nos+ 25 Nos at CEPT)		28 31-Jul-12	01-Sep-12		-4	0%					
P904250	Pile load test for Driven H-pile		10 01-Sep-12	13-Sep-12		-4	0%					
<b>Excavation and Lateral Support for Substructure</b>												
<b>Cofferdam No. 1 (GL29-33, A-B)</b>												
P322000	Re-excavation of Cofferdam No.1		18 02-May-12	22-May-12 A			100%					
P322008	Install 2nd layer walling and struts at +1.25mPD		15 23-May-12	09-Jun-12		2	0%					
P322010	Excavation down to formation level at -1.75mPD		12 11-Jun-12	25-Jun-12		2	0%					
P322015	Backfilling to formation level of pile cap at +1.20mPD		12 13-Aug-12	25-Aug-12		3	0%					
<b>Cofferdam No. 2 (GL34-36, A)</b>												
P322200	Install sheetpile cofferdam (within Portion 3)		15 13-Sep-12	03-Oct-12		-4	0%					
<b>Cofferdam No. 5 (GL29-33, D-K)</b>												
P322500	Install sheetpile cofferdam		24 11-Jun-12	10-Jul-12		9	0%					
P322530	Excavation down to +1.5mPD		12 11-Jul-12	24-Jul-12		9	0%					

■ Actual Work      ◆ Milestone  
■ Remaining Work  
■ Critical Remaining Work

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**HATS Stage 2A - Upgrading works at Stonecutters Island Sewage Treatment Works**

Three Months Rolling Programme (24 May 2012 to 24 Aug 2012)

Date	Revision	Checked	Approved

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Activity % Complete	Qtr 2, 2012			Qtr 3, 2012		
							May	Jun	Jul	Aug	Sep	
<b>Cofferdam No. 6 (GL29-33, N-M)</b>												
P322600	Re-Excavation of cofferdam No. 6	18	02-May-12	05-Jun-12	-12	40%						
P322605	Install 2nd layer walling and struts at +1.25mPD	15	05-Jun-12	22-Jun-12	-12	0%						
P322610	Excavation down to formation level at -1.75mPD	12	22-Jun-12	09-Jul-12	-12	0%						
P322615	Backfilling to formation level of pile cap at +1.20mPD	12	24-Aug-12	07-Sep-12	-8	0%						
<b>R.C. Works</b>												
P300180	Erection of tower crane A	30	11-Sep-12	18-Oct-12	75	0%						
P300185	Erection of tower crane B	30	30-Aug-12	05-Oct-12	104	0%						
<b>Substructure</b>												
<b>GL 33-29 &amp; GL A-B (Northern Effluent tunnel)</b>												
P330000	R.C. works for Pile caps	16	27-Aug-12	13-Sep-12	3	0%						
P330010	R.C. works for Channel wall	16	14-Sep-12	04-Oct-12	3	0%						
<b>GL 33-29 &amp; GL M-N (Southern Effluent Tunnel)</b>												
P330100	R.C. works for Pile caps	16	07-Sep-12	26-Sep-12	-8	0%						
<b>GL 33-29 &amp; GL D-K (Distribution Channel)</b>												
P335000	R.C. works for pile cap (GL29-30)	18	04-Sep-12	24-Sep-12	9	0%						
<b>Portion 4 (Main Pumping Station)</b>												
<b>Submission of design of E&amp;M works</b>												
P301100	DDA of Main Pumping, motors and VSD (AIP No. 1)	65	24-May-12	27-Jul-12	-101	0%						
P301110	Approval/ comment for the DDA of Main Pumping, motors and VSD	56	23-Jun-12	17-Aug-12	-101	0%						
P301120	DDA of Cooling water system for pump bearing and motors (AIP No. 2)	120	20-Jun-12	17-Oct-12	-34	0%						
P301130	Approval/ comment for the DDA of Cooling water system for pump bearing and motors	120	20-Jul-12	16-Nov-12	-34	0%						
P301260	DDA of Air Mixing system of wet well (AIP No. 5)	180	14-Jun-12	10-Dec-12	101	0%						
P301270	Approval/ comment for the DDA of Air Mixing system of wet well	180	14-Jul-12	09-Jan-13	101	0%						
P301300	DDA of Control system architecture for DCS and Interfacing control system (AIP No. 15)	92	24-May-12	23-Aug-12	155	0%						
P301310	Approval/ comment for the DDA of Control system architecture for DCS and Interfacing control system	92	23-Jun-12	22-Sep-12	155	0%						
P301390	DDA of Ventilation system of MPS (AIP No. 18)	120	30-Jul-12	27-Nov-12	79	0%						
P301400	Approval/ comment for the DDA of Ventilation system of MPS2	120	29-Aug-12	27-Dec-12	79	0%						
P301410	DDA of Fire service of MPS (AIP No. 19)	171	22-Aug-12	08-Feb-13	27	0%						
P301430	DDA of Plumbing system (AIP No. 20)	201	28-Jun-12	14-Jan-13	240	0%						
P301440	Approval/ comment for the DDA of Plumbing system	201	28-Jul-12	13-Feb-13	240	0%						
P301450	DDA of Drainage system (AIP No. 21)	200	22-Aug-12	09-Mar-13	24	0%						
P301470	DDA of Lifting appliance (AIP No. 23)	180	15-Jul-12	11-Jan-13	171	0%						
P301540	Approval/ comment for the DDA of Lifting appliance	180	14-Aug-12	10-Feb-13	171	0%						
<b>Procurement/ Order/ Manufacturing/ Delivery</b>												
P302250	Procurement / Purchase Order of Main Sewage Pumps	30	18-Aug-12	16-Sep-12	-101	0%						
P302260	Manufacturing of Main Sewage Pumps	365	17-Sep-12	16-Sep-13	-101	0%						
P302280	Procurement / Purchase Order of Main Sewage Pump Motors	30	18-Aug-12	16-Sep-12	221	0%						
P302290	Manufacturing of Main Sewage Pump Motors	365	17-Sep-12	16-Sep-13	221	0%						
P302310	Procurement / Purchase Order of VSD for Main Sewage Pumps	30	18-Aug-12	16-Sep-12	-4	0%						
P302320	Manufacturing of VSD for Main Sewage Pumps	365	17-Sep-12	16-Sep-13	-4	0%						
<b>R.C. Works</b>												
<b>Access Floor No. 1 (-32.0mPD)</b>												
<b>Wet Well</b>												
P400180	R.C. works for kicker of wet well (0.85m H, -32.0 to -31.15mPD)	15	05-Apr-12 A	30-Apr-12 A		100%						
P400185	R.C. works for wet well (4.6m H, -31.15 to -26.65mPD)	35	01-May-12	16-Jun-12	27	98%						
P400190	R.C. works for wet well (4.5m H, -26.65 to -22.15mPD)	21	16-Jun-12	13-Jul-12	27	0%						
P400195	R.C. works for wet well (4.5m H, -22.15 to -17.65mPD)	21	13-Jul-12	07-Aug-12	27	0%						
<b>Staircase No. 1 to No. 3</b>												
P400215	R.C. works for staircase No. 1 to No. 3 (-32.0 to -18.0mPD)	60	21-May-12	03-Aug-12	117	0%						
<b>Lift Well</b>												
P400225	R.C. works for Lift well (-32.0 to -18.0mPD)	40	16-Jun-12	04-Aug-12	268	0%						
<b>Columns C1 (8 Nos)</b>												
P400245	R.C. works for Column C1 (1-4) up to -18.0mPD	15	05-Apr-12 A	25-Apr-12 A		100%						
P400295	R.C. works for Column C1 (5-8) up to -18.0mPD	15	26-Apr-12 A	15-May-12 A		100%						
<b>E&amp;M features</b>												
P400255	R.C. works for pump and pipeworks plinth	24	15-Jun-12	16-Jul-12	1487	0%						
P400265	R.C. works for column of travelling cranes	32	07-Mar-12 A	24-May-12	114	100%						
P400285	R.C. works for hydraulic features at wet well (Benching and Baffle)	48	26-Apr-12 A	13-Aug-12	47	0%						
<b>Access Floor No. 2 (-18.0mPD)</b>												
<b>Wet Well</b>												
P400205	R.C. works for wet well and beams (4.0m H, -17.65 to -13.65mPD)	21	07-Aug-12	31-Aug-12	31	0%						
P400415	R.C. Works for wet well (3.6m H, -13.65 to -10.0mPD)	18	31-Aug-12	21-Sep-12	31	0%						
<b>Floor slab and beams (-18.0mPD)</b>												
P400400	R.C. works for floor slab and beam (RHS)	21	07-Aug-12	31-Aug-12	27	0%						
P400405	R.C. works for floor slab and beam (LHS)	21	31-Aug-12	25-Sep-12	31	0%						
<b>Staircase No. 1 to No. 3</b>												
P400435	R.C. works for staircase No. 1 to No. 3 (-18.0 to -10.0mPD)	45	08-Sep-12	03-Nov-12	87	0%						
<b>Lift Well</b>												
P400445	R.C. works for Lift well (-18.0 to -10.0mPD)	30	08-Sep-12	16-Oct-12	238	0%						
<b>Columns C1 (8 Nos)</b>												
P400455	R.C. works for Column C1 (1-4) up to -10.0mPD	15	08-Sep-12	26-Sep-12	27	0%						
<b>Portion 4 (Main flow Culvert)</b>												
<b>Foundation Works</b>												
<b>Driven H-Pile</b>												

■ Actual Work      ◆ Milestone  
■ Remaining Work  
■ Critical Remaining Work

Contract No. DC/2009/10

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HATS Stage 2A - Upgrading works at Stonecutters Island Sewage Treatment Works  
 Three Months Rolling Programme (24 May 2012 to 24 Aug 2012)

Date	Revision	Checked	Approved

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Activity % Complete	Qtr 2, 2012			Qtr 3, 2012		
							May	Jun	Jul	Aug	Sep	
<b>Zone 1, on EVA</b>												
P903210	Driven H-Pile (For MFC)	21	24-Aug-12	18-Sep-12	7	0%						
<b>Zone 2, within Portion 4</b>												
P903150	Mobilization of Percussive Piling plants	7	09-Aug-12	17-Aug-12	7	0%						
P903160	Driven H-pile (For MFC, DOU, Odour Duct Bridge, 70 Nos)	45	18-Sep-12	13-Nov-12	75	0%						
<b>Civil Works</b>												
P400375	Traffic Diversion of existing traffic to temporary road (Two Stage)	6	17-Aug-12	24-Aug-12	7	0%						
<b>Portion 4 (Deodourization Unit No. 3 &amp; 1b and Odour duct bridge)</b>												
<b>Submission of design of E&amp;M works</b>												
P403000	DDA of design for the DOU No. 3 & 1b (AIP No. 13)	210	08-Jul-12	02-Feb-13	-43	0%						
P403010	Approval/ Comment of DDA for the DOU No. 3 & 1b	220	07-Aug-12	14-Mar-13	-43	0%						
<b>Portion 5 (Inlet Chamber)</b>												
<b>Submission of design of E&amp;M works</b>												
P501210	Submission of design for the MEICA & BS works for inlet chamber	100	05-Jul-12	12-Oct-12	-31	0%						
P501220	Approval/ comment for the design of the MEICA and BS works for inlet chamber	100	04-Aug-12	11-Nov-12	-31	0%						
P501230	Submission of design of knife gate valves	80	05-Jul-12	22-Sep-12	-36	0%						
P501240	Approval/ comment for the design of knife gate valves	80	04-Aug-12	22-Oct-12	-36	0%						
<b>R.C. Works</b>												
P400630	Possession of site	1	24-May-12	24-May-12	353	0%						
P400631	R.C. works for plinth of pipeworks and valves	90	25-May-12	08-Sep-12	376	0%						
<b>Diaphragm Wall opening</b>												
P400635	Breaking Diaphragm wall for twin wet well inlet pipes	60	25-May-12	04-Aug-12	286	0%						
<b>Portion 6 (Valve Chamber)</b>												
<b>Submission of design of E&amp;M works</b>												
P501310	DDA of design for knife gate valves (AIP No. 22)	90	04-May-12	21-Aug-12	98	0%						
P501320	Approval/ Comment of DDA for knife gate valves	90	03-Jun-12	31-Aug-12	98	0%						
<b>Procurement/ Order/ Manufacturing/ Delivery</b>												
P501720	Procurement / Purchase Order of Knife gate Valves	30	01-Sep-12	30-Sep-12	98	0%						
<b>Portion 8 (Extension of Sodium Hypochlorite Storage Compound)</b>												
<b>Submission of design of E&amp;M works</b>												
P801000	DDA of NAHClO storage, transfer and dosage system (AIP No. 12)	150	06-May-12	28-Nov-12	48	0%						
P801010	Approval/ comment of DDA for the MEICA & BS NaHClO storage compound	150	08-Jul-12	04-Dec-12	48	0%						
<b>Foundation Works</b>												
P800000	Possession of site	1	24-May-12	24-May-12	104	0%						
P800010	Site Clearance	14	25-May-12	09-Jun-12	87	0%						
<b>Re-driving test for existing daido Piles</b>												
P800020	SH-03 to 07 and SH-10 to 14 (10 Nos)	8	11-Jun-12	19-Jun-12	87	0%						
P800030	SH-17 to 21 and SH-24 to 28 (10 Nos)	8	20-Jun-12	29-Jun-12	87	0%						
P800040	SH-31 to 33 and SH-36 to 38 (6 Nos)	8	30-Jun-12	10-Jul-12	87	0%						
P800050	SH-01, 02, 08, 09, 15, 16, 22, 23, 29, 30, 34 & 35	12	20-Sep-12	05-Oct-12	87	0%						
<b>Excavation and Lateral Support for Substructure</b>												
P802000	Install sheetpile at GL1-2 & GLA-B	18	11-Jul-12	31-Jul-12	87	0%						
P802005	Excavation down to +4.5mPD	10	01-Aug-12	11-Aug-12	87	0%						
P802010	Install 1st layer walling and struts at +4.8mPD	12	13-Aug-12	25-Aug-12	87	0%						
P802030	Install temporary prop at +2.9mPD	15	27-Aug-12	12-Sep-12	87	0%						
P802040	Excavation for exposing daido pile heads	6	13-Sep-12	19-Sep-12	87	0%						

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

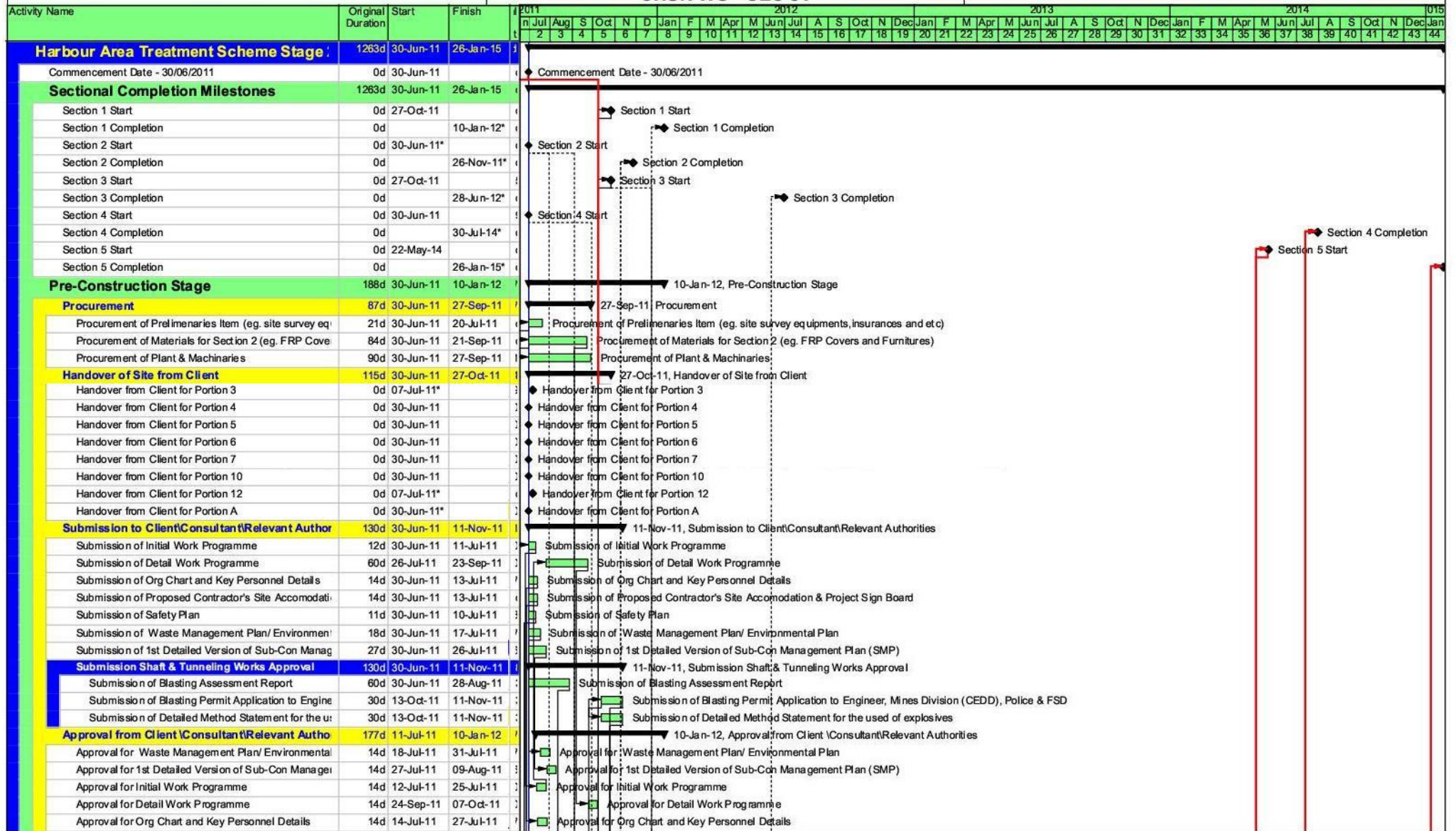
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Date	Revision	Checked	Approved

HATS Stage 2A - Upgrading works at Stonecutters Island Sewage Treatment Works

Three Months Rolling Programme (24 May 2012 to 24 Aug 2012)



█ Actual Work    ◆ Milestone  
█ Remaining Work    ▼ Summary  
█ Critical Work

DC/2009/18 - HARBOUR AREA TREATMENT SCHEME STAGE 2A - Upgrading Works at Stonecutters Island Sewer Treatment Works - Effluent Tunnel and Disinfection Facilities.

INITIAL WORK PROGRAMME, REV.0 (1st Submission)

Date	Revision	Checked	Approved
11-Jul-11	Initial Work Programme		







