Harbour Area Treatment Scheme Stage 2A

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

Consolidated Monthly Environmental Monitoring and Audit Report October 2011

(Version 1.1)

Certified By

(Environmental Team Leader)

REMARKS:

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

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

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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 Stage 2A

EXECUTIVE SUMMARY

Introduction

1. This is the 23rd Consolidated Environmental Monitoring and Audit (EM&A) Report summaries the key information of EM&A monthly 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.

   - 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.

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 monthly summary of the EM&A works at SCISTW for ease of reference. 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 monthly report.

5. This Report documents the findings of EM&A Works for the Project covering the period from 1 October 2011 to 31 October 2011.

6. The details of the EM&A for individual contracts can be found in the separate EM&A monthly 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	http://www.hats2a-ema.com/RP_EMA/DC200723/EM&A%20Report.html
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	http://www.hats2a-ema.com/RP_EMA/DC200905/EM&A%20Report.html
DE/2009/02	Executive Summary	At SCISTW, air quality monitoring station AM8 was monitored by ET for Contract no. DE/2009/02.
	Web Site	http://www.hats2a-ema.com/RP_EMA/DE200902/EM&A%20Report.html
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	http://www.hats2a-ema.com/RP_EMA/DC200917/EM&A%20Report.html
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	http://www.hats2a-ema.com/RP_EMA/DC200910/EM&A%20Report.html

Environmental Monitoring Works

7. The environmental monitoring works were conducted by the ETs for the Contracts: DC/2007/23, DC/2009/05 and DE/2009/02 and no monitoring work is requested for DC/2009/17 and DC/2009/10. Site audits were conducted once per week for each contract by their ETs.

8. Summary of the non-compliance of the reporting month is tabulated in Table II.

Table II Summary Table for Non-compliance Recorded in the Reporting Month

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/2007/23	NM5	Noise	0	2	0	0	Investigated Report Submitted
DC/2009/05	NM6		0	0	0	0	N/A

1-hour TSP Monitoring

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

24-hour TSP Monitoring

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

Construction Noise

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

12. Exceedance of Noise Limit Level during restricted hours on 4 and 18 October 2011 were recorded by ET of Contract: DC/2007/23 at NM5. The summary of the investigation results was extracted from the monthly report of Contract DC/2007/23 and could be referred to **Table 3.5** of this consolidated monthly report.

Key Information in the Reporting Month

13. Summary of key information in the reporting month is tabulated in **Table III**.

Table III Summary Table for Key Information in the Reporting Month

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Complaint received	0	---	N/A	N/A	---
Status of submissions under EP	1	Monthly Consolidation EM&A Report for Stonecutters Island Sewage Treatment Works for September 2011	Submitted to EPD on 25 October 2011	No comment	---
Notifications of any summons & prosecutions received	0	--	N/A	N/A	---

Key Information in the EIA Report

14. 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 five contracts are provided in the **Appendix J**.

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 24th 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 and DC/2009/10 are shown in **Figure 1**.

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 contractually responsible for consolidating the key information from all monthly EM&A reports from the ETs of other Contracts at SCISTW into a single monthly summary for ease of reference.

1.4 The 1st to 11th consolidated monthly EM&A reports were prepared by Ove Arup & Partners Hong Kong Ltd (Arup) and submitted to EPD. From November 2010 onwards, the 12th and subsequent consolidated monthly EM&A report will be prepared and submitted by Cinotech Consultant Limited, the ET for the Contracts DC/2009/17 and DC/2009/10.

1.5 This is the 23rd consolidated monthly EM&A report summarizing the EM&A works conducted for the Project at SCISTW from 1 to 31 October 2011.

1.6 The monthly 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 monthly 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.

Project Organizations

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

Table 1.1 Key Project Contacts

Contract No.	DC/2007/23	DC/2009/05	DE/2009/02	DC/2009/17	DC/2009/10
Contract Title:	Construction of Sewage Conveyance System from North Point to Stonecutters Island;	Construction of Interconnection Tunnel and Diaphragm Wall for Main Pumping Station at SCISTW	Provision of Covers and Deodourisation Facilities to the Existing Sedimentation Tanks at SCISTW.	Upgrading Works at Stonecutters Island Sewage Treatment Works – Sludge Dewatering Facilities	Upgrading Works at SCISTW - Main Pumping Station, Sedimentation Tanks and Ancillary Facilities
Consultant	Metcalf & Eddy – AECOM JV	Ove Arup & Partners HK Ltd	Ove Arup & Partners HK Ltd	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)	S.Y.Chan (Tel: 2528 3031)	S.Y.Chan (Tel: 2528 3031)
The Engineer Representative	Y.H. Fung (Tel: 3713 3100)	Ted Tang (Tel: 2990 6982)	Ted Tang (Tel: 2990 6982)	Ted Tang (Tel: 2990 6982)	Ted Tang (Tel: 2990 6982)
ER's Coordinator	Dominic Lam (Tel: 9221 6319)	William Yu (Tel: 9705 9566)	William Yu (Tel: 9705 9566)	Natalie Kwok (Tel: 67948844)	Natalie Kwok (Tel: 67948844)

Contract No.	DC/2007/23	DC/2009/05	DE/2009/02	DC/2009/17	DC/2009/10
Contractor	Gammon Construction Ltd	China State-Shanghai Tunnel Joint Venture	ATAL Engineering Ltd.	China State- ATAL Joint Venture	Sun Fook Kong – Biwater Joint Venture
Site Agent	Max Ko (Tel: 9033 1292)	Chris Leung (Tel: 23703166)	Barry Lee (Tel:9025 2410)	Tony Wong (Tel: 23703166)	Mr. Dan Tang (Tel: 9280 0731)
Environmental Officer	Leo Chow (Tel:9300 2013)	Holmes Wong (Tel: 6300 6117)	Mr. L.C. Wong (Tel: 9376 0414)	H.S.Lui (Tel: 9050 2212)	Mr. Leo Lau (Tel:9209 2703)
Environmental Team	Environmental Resources Management	AECOM Asia Co Ltd	Action- United Environmental services and Consulting	Cinotech Consultant Limited	Cinotech Consultant Limited
Environmental Team Leader	Winnie Ko (Tel: 2271 3147)	Edith Ng (Tel: 3922 9407)	T.W.Tam (Tel: 2959 6059)	Priscilla Choy (Tel: 2151 2089)	Priscilla Choy (Tel: 2151 2089)

Construction Programme

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

Table 1.2 Construction Works in the Reporting Month

Contract No.	Construction Works in the Reporting Month
DC/2007/23	• Pre-excavation grouting at Riser Shaft; and • Shaft sinking, rock blast and pre-excavation grouting at Production Shaft.
DC/2009/05	• Bulk excavation at inlet chamber; • Construction of RC structures at inlet chamber (RC Structure); • Work for mini-pile at main pumping station area; • Shotcreting at main pumping station and inlet chamber area; • Ground stabilization work for dilution water pumping station; • Ground freezing at launching shaft; • Mobilization of tunnel boring machine; and • Preparation work for drilling of ground freezing at inlet chamber and launching shaft for mine tunnel.
DE/2009/02	• Erection of odour duct bridge at DOU No. 1 • Excavation for drainage works at DOU No. 1 and No. 2 • Installation of FRP cover at Tank. No. 36 and 38 • Installation of FRP duct works at sedimentation tank and DOU No. 1
DC/2009/17	• The drag wall construction was completed at Portion 3 and steel fixing for pile cap were in progress; • Open cut excavation and construction of pile caps & ground beams were in progress at Portion 4; • Steel fixing and erection of falseworks for the wall of Sludge Tank No. 6 was in progress at Portion 5; • E&M works as required under SI No. 0003 (replacement of motorized valves) and 0015 (addition of NaCl2 pipe for ADF) were in progress; • Installation of portable chemical dosing equipment for Sludge Storage Tanks No. 1 to 5 was completed; • DDAs for Design Calculation, Polyelectrolyte Preparation System, Sludge Feed System, Deodourization System, Sludge Conveyor System, Lifting Appliances and H.V. Electrical Supply System were re-submitted; and • The manufacturing of centrifuge was in progress.
DC/2009/10	• All Daido Piles re-driving works and 2 Nos. Trial Driven H-piles at Portion 3; • Scraper installation and cleaning of #13 existing sedimentation tank were completed; • Baffles Installation was completed at #40 & #42 sedimentation tanks; • The 2nd stage TTA was commenced; • The 2nd stage of roadwork & drainage works including overflow pipe installation is ongoing at the main access road adjacent to Portion 3; • Storage Building Foundation was ongoing;and • The 1st Static Load Test at Portion 3.

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 1 October to 31 October 2011, 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 and AM8 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

Monitoring Equipment

2.3 Table 2.2 summarizes the equipment used in the impact air monitoring programme. Copies of calibration certificates could be refer to the monthly report for respective contracts.

Table 2.2 Air Quality Monitoring Equipment

Equipment	Model and Make		
Contract No.	DC/2007/23	DC/2009/05	DE/2009/02
Laser Dust Monitor	N/A*	Sibata Digital Dust Monitor (Model No. LD-3B)	TSI Dust Trak Model 8520
HVS Sampler	GMW GS-2310 (S/N1254)	Graseby Andersen Total Suspended Particulate Mass Flow Controlled Sampling System (Model No.GMWS2310)	Grasby Anderson GMWS 2310 HVS
Calibrator	CM-AIR-43 (S/N 0438320)	TEOM Monitor, Series 1400ab(For 1-hour TSP meter) TISCH Model TE-5025A(For HVS Sampler)	TISCH Model TE-5025A

N/A*: 1-hr TSP monitoring by DC/2007/23 was carried by using HVS sampler.

Monitoring Parameters, Frequency and Duration

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

Table 2.3 Impact Dust Monitoring Parameters, Frequency and Duration

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

Monitoring Methodology and QA/QC Procedure

2.5 The monitoring methodology, QA/QC procedure and copies of calibration certificates for monitoring equipments are presented in the monthly reports for Contracts DC/2007/23, DC/2009/05 and DE/2009/02.

Results and Observations

2.6 **Table 2.4** summaries the air quality monitoring results at AM6, AM7 and AM8 in reporting month.

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

Air Quality Monitoring Station	Average* μgm^{-3}	Range μgm^{-3}	Action Level μgm^{-3}	Limit Level μgm^{-3}
1 hour TSP				
AM6	164	121-229	346	500
AM7	83	78-90	322	
AM8	128	82-215	307	
24 hours TSP				
AM6	89	76-98	196	260
AM7	67	25-109	207	
AM8	111	32-133	158	

Note*: The average of 1-hour and 24-hour TSP result in μgm^{-3} is the arithmetic mean of the monitoring results in that reporting month.

2.7 All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. Summary of exceedance is presented in **Appendix G**.

2.8 All 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. Summary of exceedance is presented in **Appendix G**.

2.9 The monitoring data and graphical presentations of 1-hour and 24-hour TSP monitoring results are shown in **Appendices C** and **D** respectively.

2.10 According to the 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 and NM6 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 DC/2009/17*	Near DSF Diving Rescue and Training Centre
NM6	DC/2009/05	Customs' Marine Base

Remarks*: Contract DC/2009/17 conducted noise monitoring at NM5 on 23 October 2011 due to construction works conducted in restricted hours.

Monitoring Equipment

3.3 Table 3.2 summarizes the noise monitoring equipment.

Table 3.2 Noise Monitoring Equipment

Equipment	Model No.		
Contract No.	DC/2007/23	DC/2009/05	DC/2009/17
Sound Level Meter	Rion NL-31 (S/N 00320533)	B&K (Model No. 2238,2250L,2270) and Rion NL-31	SVAN 955 (S/N 14302)
Calibrator	Rion NC-73 (S/N 10786708)	Rion NC-73 B&K 4231 (S/N 1790985)	SV30A (S/N 10965)

Monitoring Parameters, Frequency and Duration

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

Table 3.3 Noise Monitoring Parameters, Frequency and Duration

Monitoring Stations	Parameter	Period	Frequency
NM5 NM6	L_{eq}(30 min.) dB(A)	0700-1900 hrs on weekdays	Once per week
	L_{eq}(5 min.) dB(A)	1900-2300 hrs on weekdays	
	L_{eq}(5 min.) dB(A)	0700-1900 hrs on Public Holiday	

Monitoring Methodology and QA/QC Procedures

3.5 The monitoring methodology, copies of calibration certificates for monitoring equipments and QA/QC procedure are presented in the monthly reports of the Contract DC/2007/23; DC/2009/05 and DC/2009/10.

Results and Observations

3.6 **Table 3.4** summaries the noise monitoring results at NM5 and NM6 in reporting month.

Table 3.4 Summary of Noise Monitoring Results in Reporting Month

For the time period 0700-1900 hrs. on weekdays			
Monitoring Station	Average, dB(A) L_{eq}(30 min.)	Range, dB(A) L_{eq}(30 min.)	Limit Level ,dB(A) L_{eq}(30 min.)
NM5	60.3*	59.2-61.7	75.0
NM6	68.9	66.7-71.7	
For the time period 1900-2300 hrs on weekdays/ For the time period 0700-2300 hrs on Public Holiday			
NM5(by DC/2007/23)	59.1*	56.4-61.2	70.0
NM5(by DC/2009/17)	59.3	N/A[1]	
NM6	62.7	61.6-63.9	

Note*: The average of the dB(A) L_{eq} (30 min) is the arithmetic mean of the monitoring results in that reporting month.

1: Only one set of noise data was recorded in the reporting month.

3.7 All construction noise monitoring at two designated locations were conducted by their ETs as scheduled in the reporting month.

3.8 No Action/Limit Level exceedance for normal working hours was recorded in the reporting month. Summary of exceedance is presented in **Appendix G**.

3.9 Exceedance of Noise Limit Level during restricted hours on 4 and 18 October 2011 were recorded by ET of Contract: DC/2007/23. The summary of the investigation results was extracted from the monthly report of Contract DC/2007/23 and shown in **Table 3.5**

Table 3.5 Summary of the Investigation Results for Exceedance of Limit Level at NM5

Monitoring Stations	Record of Exceedance	Result of Investigation
NM5	Exceedance of Limit Level on 4 October 2011 (23:10- 23:25)	It was observed no outdoor construction activities at the Stonecutter Island Production and Riser Shafts during the noise monitoring session. This is consistent with the works summary provided by the Contractor showing no outdoor construction activities that have taken place during the same period. According to the works summary provided by the Contractor, construction activities that took place during the noise monitoring session included modification works on double sinking stage; trimming of overlaying working surface and re-drilling for 2nd bunton set. These activities are quiet in nature, and were carried out inside the noise enclosure. Based on the above, the exceedance observed is considered probably attributable to the traffic noise from Tsing Sha Highway near the Site and is non-project related.
NM5	Exceedance of Limit Level on 18 October 2011 (23:02- 23:17)	It was observed no outdoor construction activities at the Stonecutter Island Production and Riser Shafts during the noise monitoring session. This is consistent with the works summary provided by the Contractor showing no outdoor construction activities that have taken place during the same period. According to the works summary provided by the Contractor, construction activities that took place during the noise monitoring session included mucking and breaking rocks for SR5 installation; and sorting excavated material at muck pin. These activities are quiet in nature, and were carried out inside the noise enclosure. Based on the above, the exceedance observed is considered probably attributable to the traffic noise from Tsing Sha Highway near the Site and is non-project related.

3.10 Noise monitoring results and graphical presentations are shown in **Appendix E**.

3.11 The major noise sources identified at the designated noise monitoring stations were the traffic noise and those generated from 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 Environmental site audits were conducted in the reporting month for each Contract is the following. No non-compliance was observed during the site audits.

Table 4.1 Summary of Date of Site Inspection

Contract No.	Date of Site Inspection
DC/2007/23	6, 13, 20 and 27 October 2011
DC/2009/05	4, 11, 18 and 27 October 2011
DE/2009/02	3, 10, 18 and 24 October 2011
DC/2009/17	6, 13, 20 and 27 October 2011
DC/2009/10	7, 14, 19 and 28 October 2011

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 11.10 of the EM&A Manual. No non-compliance was observed during the site inspections.

4.4 The summaries of site audits for 5 contracts are attached in **Appendix H**.

Review of Environmental Monitoring Procedures

4.5 The monitoring works conducted by the monitoring teams 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 F**.

Status of Waste Management

4.7 The amount of wastes generated by the activities of five contracts in the reporting month is the following:

Table 4.2 Summary of Amount of Waste Generated in Reporting Month

Contract	Inert C&D[1] Materials	Other C&D[2] Waste	Chemical Waste (L)	Marine Deposit (m^3)		
				Type 1 (Tonnes)	Type 2 (Tonnes)	Type 3 (Tonnes)
DC/2007/23	7241.36* (Tonnes)	32.08* (Tonnes)	0	0*	0*	0*
DC/2009/05	1781.95 (Tonnes)	13.86 (Tonnes)	0	0	0	0
DE/2009/02	40(m^3)	20(m^3)	0	0	0	0
DC/2009/17	869.41(m^3)	28.235(Tonnes) and 8.1 (kg)	0	0	0	0
DC/2009/10	192(m^3)	5 (m^3)	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.

4.8 The disposal location of wastes generated by the activities of five contracts is the following:

Table 4.3 Summary of Disposal Location of Waste Generated in Reporting Month

Contract No.	Disposal Location of Wastes in Report Month
DC/2007/23	Tuen Mun Area 38 Fill Bank, Tseung Kwan O Area 137 Fill Bank, Chai Wan Barging Point and SENT Landfill. 1,565.21 tonnes of broken rock has been transferred to Lam Tei Quarry for use. No steel material, but 15 kg plastics, 254 kg of paper/cardboard packaging was sent to recyclers for recycling during the reporting period.
DC/2009/05	Tuen Mun Area 38 Fill Bank, Tseung Kwan O Area 137 Fill Bank, and NENT Landfill.
DE/2009/02	Tuen Mun Area 38 Fill Bank and NENT Landfill.
DC/2009/17	Tuen Mun Area 38 Fill Bank and NENT Landfill.
DC/2009/10	Tuen Mun Area 38 Fill Bank and NENT Landfill.

4.9 The summaries of amount of waste generated in five contracts could be referred to respective monthly report.

Implementation Status of Environmental Mitigation Measures

4.10 Details of the implementation of mitigation measures for five contracts are provided in the **Appendix J**.

4.11 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 H**.

Implementation Status of Event Action Plans

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

1-hr TSP

4.13 No Action/Limit Level exceedance was recorded.

24-hr TSP

4.14 No Action/Limit Level exceedance was recorded.

Construction Noise

4.15 No Action/Limit Level exceedance for normal working hours was recorded in the reporting month. Summary of exceedance is presented in **Appendix G**.

4.16 Exceedance of Noise Limit Level during restricted hours on 4 and 18 October 2011 were recorded by ET of Contract: DC/2007/23. The summary of the investigation results was extracted from the monthly report of Contract DC/2007/23 and shown in **Table 3.5**

Landscape and Visual

4.17 No non-compliance was recorded.

Summary of Complaints and Prosecutions

4.18 No environmental complaint and prosecution was received for five contracts in the reporting month.

4.19 There were no environmental complaint and prosecution received since the commencement of five contracts. The Complaint Log is presented in **Appendix K**.

5. FUTURE KEY ISSUES

Key Issues for the Coming Month

5.1 Key environmental issues in the coming month include:

- Generation of dust from stockpiles of excavated and dusty materials, unpaved site area and vehicle movement, 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.

Monitoring Schedule for the Next Month

5.2 The tentative environmental monitoring schedules for the next month are shown in **Appendix B**.

Construction Program for the Next Month

5.3 The tentative construction programs are provided in **Appendix L**.

6. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

6.1 Environmental monitoring and audit works were performed in the reporting month and all monitoring results were checked and reviewed.

1-hour TSP Monitoring

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

24-hour TSP Monitoring

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

Construction Noise Monitoring

6.4 No Action/Limit Level exceedance for normal working hours was recorded in the reporting month. Summary of exceedance is presented in **Appendix G**.

6.5 Exceedance of Noise Limit Level during restricted hours on 4 and 18 October 2011 were recorded by ET of Contract: DC/2007/23. The summary of the investigation results was extracted from the monthly report of Contract DC/2007/23 and shown in **Table 3.5**

Environmental Audit

6.6 Environmental site audits were conducted on weekly basis in the reporting month. No non-compliance was recorded.

Complaint and Prosecution

6.7 No environmental complaint and prosecution was received in the reporting month.

Recommendations for the coming reporting month:

6.8 According to the environmental audit performed in the reporting month, the following recommendations were made for the coming reporting month:

Air Quality

- 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; and
- To implement dust suppression measures on all haul roads, stockpiles, dried/unpaved surfaces and excavation/road breaking works.

Noise

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

Water Quality

- To identify any discharge of wastewater 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.

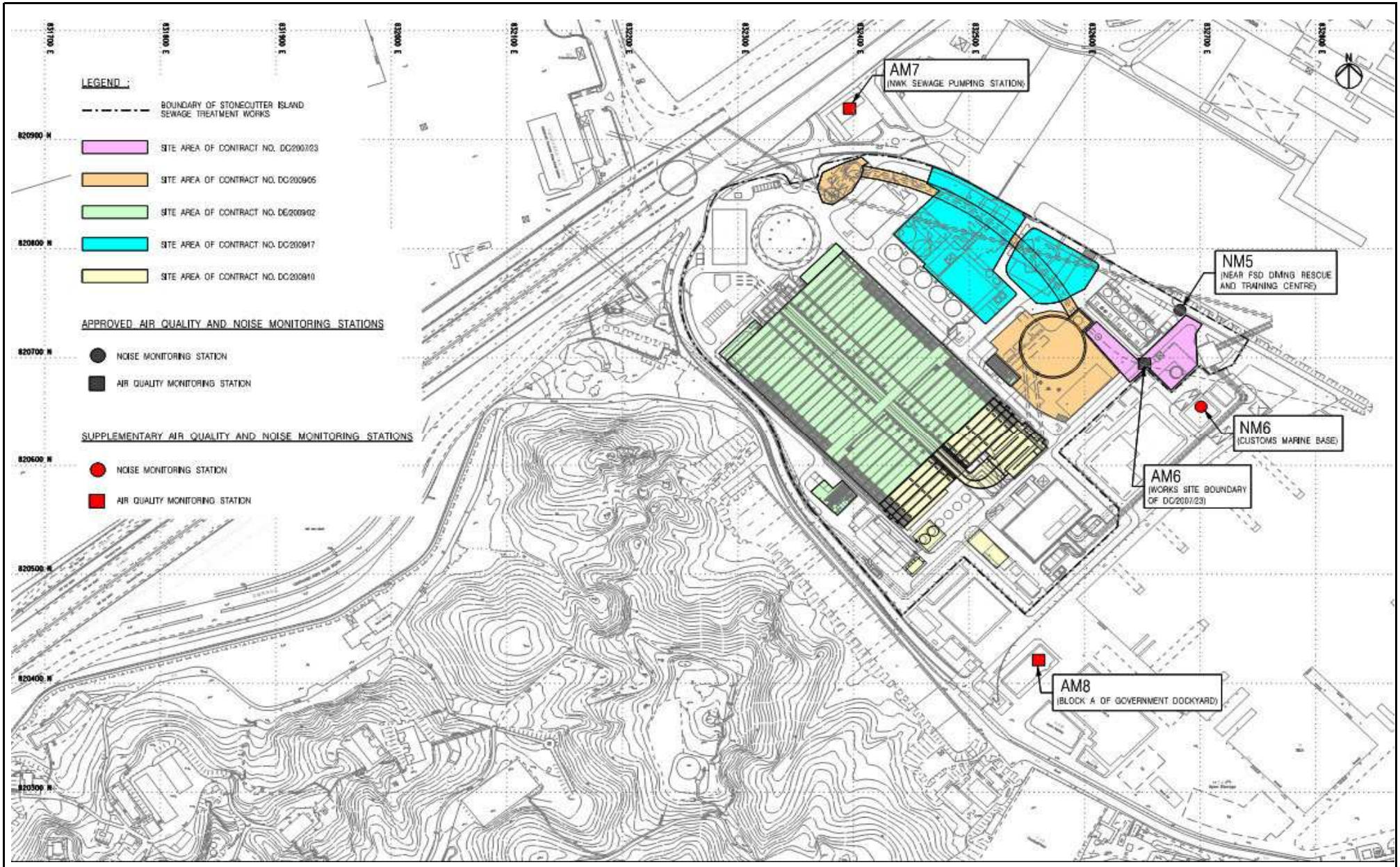
Waste/Chemical Management

- 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/ equipment on site;
- To avoid any discharge or accidental spillage of chemical waste or oil directly from the equipment;
- To well maintain the equipment and drip trays to avoid oil leakage; and
- To avoid improper handling or storage of oil drum on site.

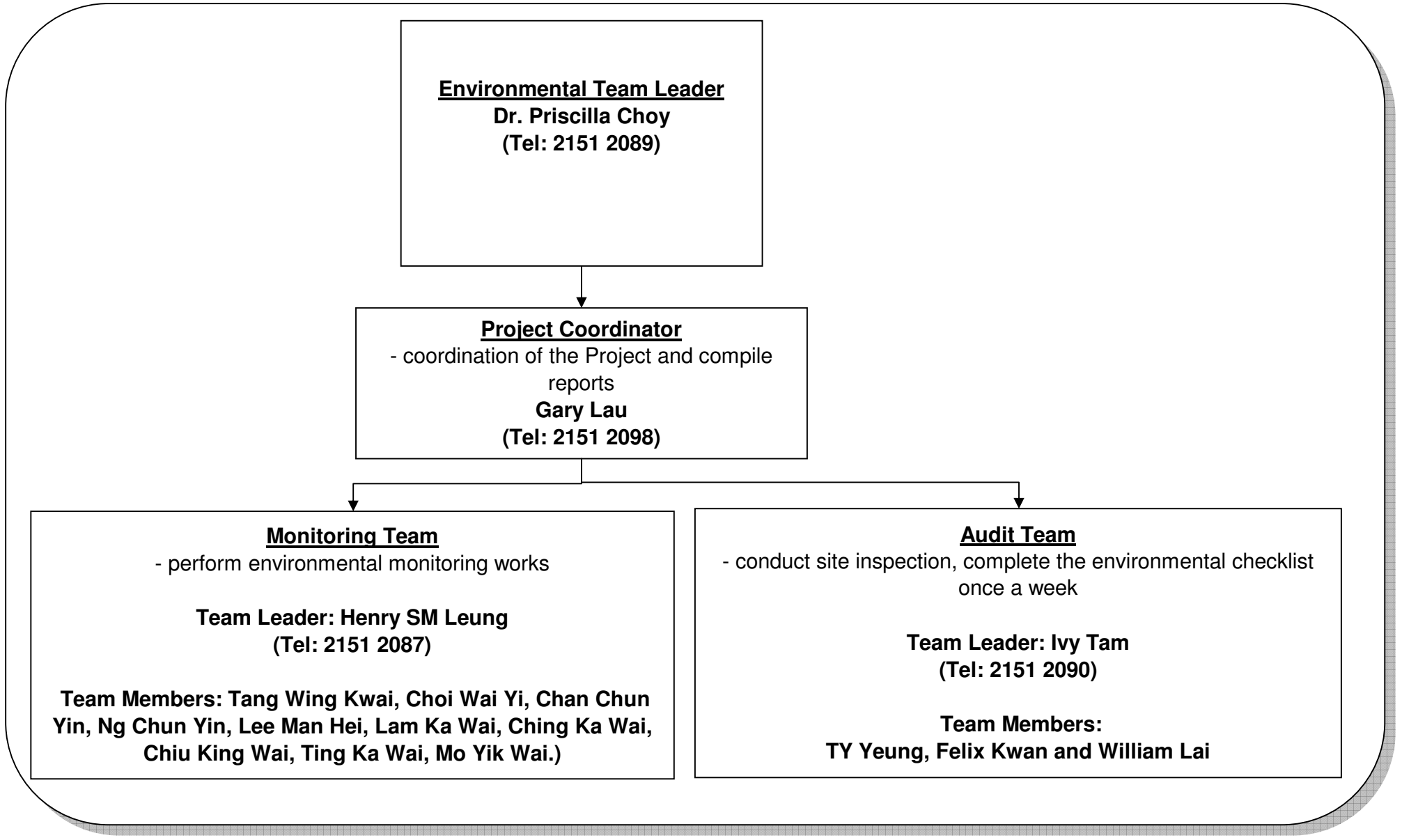
Landscape and Visual

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

FIGURES



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 8/2011	Figure 1	



Title	Scale	Project No.
HATS 2A – Upgrading Works at SISTW Main Pumping Station, Sedimentation Tanks and Ancillary Facilities ET's Organization Chart	N.T.S	MA11007
	Date: Feb-11	Figure: 2

CINOTECH

APPENDIX A
ACTION AND LIMIT LEVELS FOR AIR QUALITYAND NOISE QUALITY

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 ($\mu g/m^3$)		Limit Level ($\mu g/m^3$)	
	1-hour	24-hour	1-hour	24-hour
AM6	346	196	500	260
AM7	322	207	500	260
AM8	307	158	500	260

Table A-2 Action and Limit Level for Construction Noise

Monitoring Stations	Time Period	Action Level	Limit Level in dB(A)
NM5 NM6	0700-1900 hours on normal weekdays	When one documented complaint is received	75
	0700-2300 hours on holidays; and 1900-2300 hours on all other days		70
	2300-0700 hours of next day		55

APPENDIX B
ENVIRONMENTAL MONITORING SCHEDULES

Contract No. DC/2009/10 HATS 2A –Upgrading Works at SCISTW Main Pumping Station, Sedimentation Tanks and Ancillary Facilities

Impact Air Quality and Noise Monitoring Schedule for October 2011

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1-Oct
						National Day
2-Oct	3-Oct	4-Oct	**5-Oct**	6-Oct	7-Oct	8-Oct
	Noise Monitoring (NM6)	1-hr TSP Monitoring (AM8) 1-hr & 24-hr TSP (AM6) Noise Monitoring (NM5)	Chung Yeung Festival 1-hr and 24-TSP Monitoring (AM7)	24-hr TSP Monitoring (AM8)		
9-Oct	10-Oct	11-Oct	12-Oct	13-Oct	14-Oct	15-Oct
	1-hr TSP Monitoring (AM8) 1-hr & 24-hr TSP (AM6) Noise Monitoring (NM5)	1-hr and 24-TSP Monitoring (AM7) Noise Monitoring (NM6)	24-hr TSP Monitoring (AM8)		1-hr & 24-hr TSP (AM6)	1-hr TSP Monitoring (AM8)
16-Oct	17-Oct	18-Oct	19-Oct	20-Oct	21-Oct	22-Oct
	Noise Monitoring (NM6) 1-hr and 24-TSP Monitoring (AM7)	24-hr TSP Monitoring (AM8)		Noise Monitoring (NM5) 1-hr & 24-hr TSP (AM6)	1-hr TSP Monitoring (AM8)	
23-Oct	24-Oct	25-Oct	26-Oct	27-Oct	28-Oct	29-Oct
1-hr and 24-TSP Monitoring (AM7) Noise Monitoring (NM5)	24-hr TSP Monitoring (AM8)		1-hr & 24-hr TSP (AM6) Noise Monitoring (NM5)	1-hr TSP Monitoring (AM8)		24-hr TSP Monitoring (AM8) Noise Monitoring (NM6) 1-hr and 24-TSP Monitoring (AM7)
30-Oct	31-Oct					

Air Quality Monitoring Station
AM6 - Works site boundary of DC/2007/23
AM7 - North West Kowloon Sewage Pumping Station
AM8 - Block A of Government Dockyard

Noise Monitoring Station
NM5 - Near FSD Diving Rescue and Training Centre

Contract No. DC/2009/10 HATS 2A –Upgrading Works at SCISTW Main Pumping Station, Sedimentation Tanks and Ancillary Facilities

Tentative Impact Air Quality and Noise Monitoring Schedule for November 2011

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1-Nov	2-Nov	3-Nov	4-Nov	5-Nov
		1-hr & 24-hr TSP (AM6) Noise Monitoring (NM5)	1-hr TSP Monitoring (AM8)		24-hr TSP Monitoring (AM8) Noise Monitoring (NM6) 1-hr and 24-TSP Monitoring (AM7)	
6-Nov	7-Nov	8-Nov	9-Nov	10-Nov	11-Nov	12-Nov
	1-hr & 24-hr TSP (AM6) Noise Monitoring (NM5)	1-hr TSP Monitoring (AM8)		24-hr TSP Monitoring (AM8) Noise Monitoring (NM6) 1-hr and 24-TSP Monitoring (AM7)	1-hr & 24-hr TSP (AM6)	
13-Nov	14-Nov	15-Nov	16-Nov	17-Nov	18-Nov	19-Nov
	1-hr TSP Monitoring (AM8)		24-hr TSP Monitoring (AM8) Noise Monitoring (NM6) 1-hr and 24-TSP Monitoring (AM7)	1-hr & 24-hr TSP (AM6) Noise Monitoring (NM5)		1-hr TSP Monitoring (AM8)
20-Nov	21-Nov	22-Nov	23-Nov	24-Nov	25-Nov	26-Nov
		Noise Monitoring (NM6) 24-hr TSP Monitoring (AM8) 1-hr and 24-TSP Monitoring (AM7)	1-hr & 24-hr TSP (AM6) Noise Monitoring (NM5) Noise Monitoring (NM6)		1-hr TSP Monitoring (AM8)	
27-Nov	28-Nov	29-Nov	30-Nov			
	24-hr TSP Monitoring (AM8) Noise Monitoring (NM6) 1-hr and 24-TSP Monitoring (AM7)	1-hr & 24-hr TSP (AM6) Noise Monitoring (NM5)				

Air Quality Monitoring Station

AM6 - Works site boundary of DC/2007/23
AM7 - North West Kowloon Sewage Pumping Station
AM8 - Block A of Government Dockyard

Noise Monitoring Station

NM5 - Near FSD Diving Rescue and Training Centre

APPENDIX C
1-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

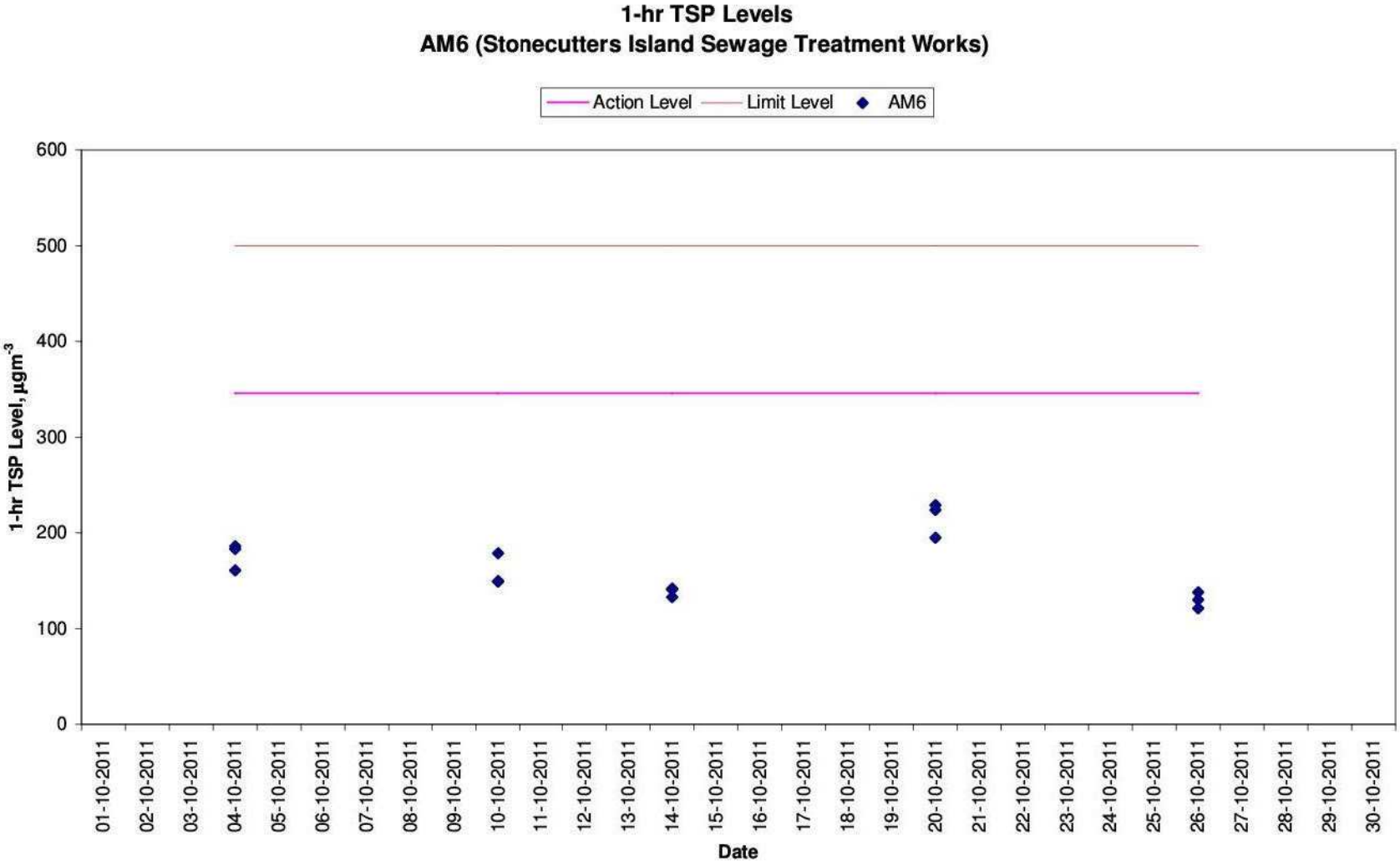
Appendix C - 1-hour TSP Monitoring Results and Graphical Presentations

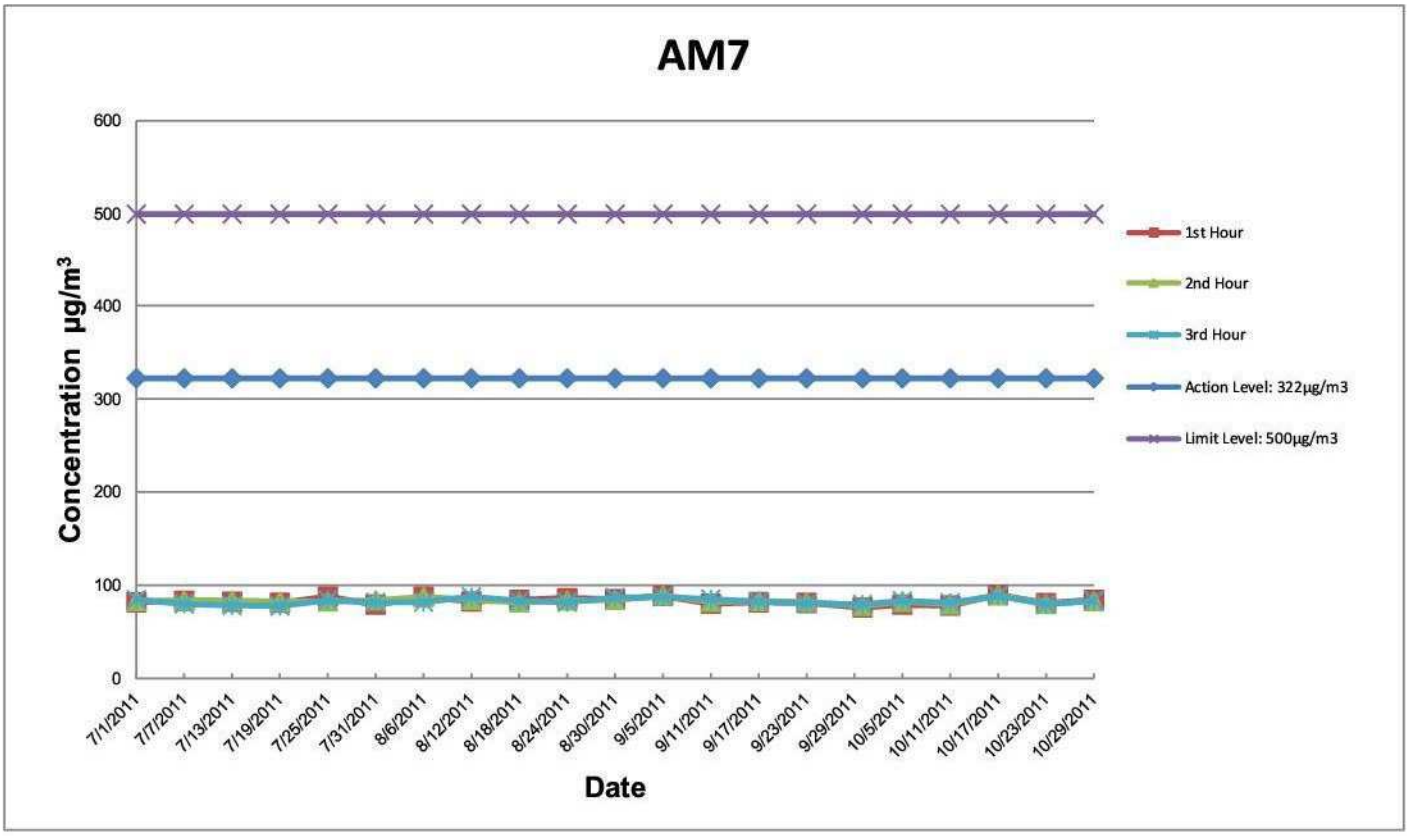
1-hour TSP Monitoring Results

Station AM6

Date	Start Time	Finish Time	Weather	TSP Concentration ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)	Site Conditions / Observations / Remarks	Temperature (°C)	Wind Speed * (m/s)	Sampler ID	Filter ID
04-Oct-11	13:10	14:10	Cloudy	161	346	500	Construction work in progress	22	<5	1254	9647
	14:12	15:12	Cloudy	183	346	500	Construction work in progress	22	<5	1254	9648
	15:14	16:14	Cloudy	186	346	500	Construction work in progress	22	<5	1254	9649
10-Oct-11	13:00	14:00	Cloudy	179	346	500	Construction work in progress	23	<5	1254	9651
	14:02	15:02	Cloudy	149	346	500	Construction work in progress	23	<5	1254	9652
	15:04	16:04	Cloudy	150	346	500	Construction work in progress	23	<5	1254	9653
14-Oct-11	13:10	14:10	Cloudy	133	346	500	Construction work in progress	25	<5	1254	9655
	14:12	15:12	Cloudy	142	346	500	Construction work in progress	25	<5	1254	9656
	15:14	16:14	Cloudy	141	346	500	Construction work in progress	25	<5	1254	9657
20-Oct-11	13:25	14:25	Sunny	195	346	500	Construction work in progress	24	<5	1254	9659
	14:27	15:27	Sunny	224	346	500	Construction work in progress	24	<5	1254	9660
	15:29	16:29	Sunny	229	346	500	Construction work in progress	24	<5	1254	9661
26-Oct-11	13:10	14:10	Cloudy	130	346	500	Construction work in progress	24	<5	1254	9663
	14:12	15:12	Cloudy	138	346	500	Construction work in progress	24	<5	1254	9664
	15:14	16:14	Cloudy	121	346	500	Construction work in progress	24	<5	1254	9665
			Min.	**121**							
			Max.	**229**							
			Average	**164**							

* Wind Speed data is presented in the Meteorological Data table


1-hr TSP Levels
AM6 (Stonecutters Island Sewage Treatment Works)
Action Level
Limit Level
AM6
1-hr TSP Level, µgm-3
600
500
400
300
200
100
0
01-10-2011
02-10-2011
03-10-2011
04-10-2011
05-10-2011
06-10-2011
07-10-2011
08-10-2011
09-10-2011
10-10-2011
11-10-2011
12-10-2011
13-10-2011
14-10-2011
15-10-2011
16-10-2011
17-10-2011
18-10-2011
19-10-2011
20-10-2011
21-10-2011
22-10-2011
23-10-2011
24-10-2011
25-10-2011
26-10-2011
27-10-2011
28-10-2011
29-10-2011
30-10-2011
Date



AECOM	HATS Stage 2A - Construction of Interconnection Tunnel and Diaphragm Wall for Main Pumping Station at SCISTW	SCALE	N.T.S.	DATE	Nov-11
		CHECK	ENFL	DRAWN	PWYN
	Graphical Presentation of 1-hour TSP Monitoring Results	JOB NO.	60143571	APPENDIX No. C	Rev. -

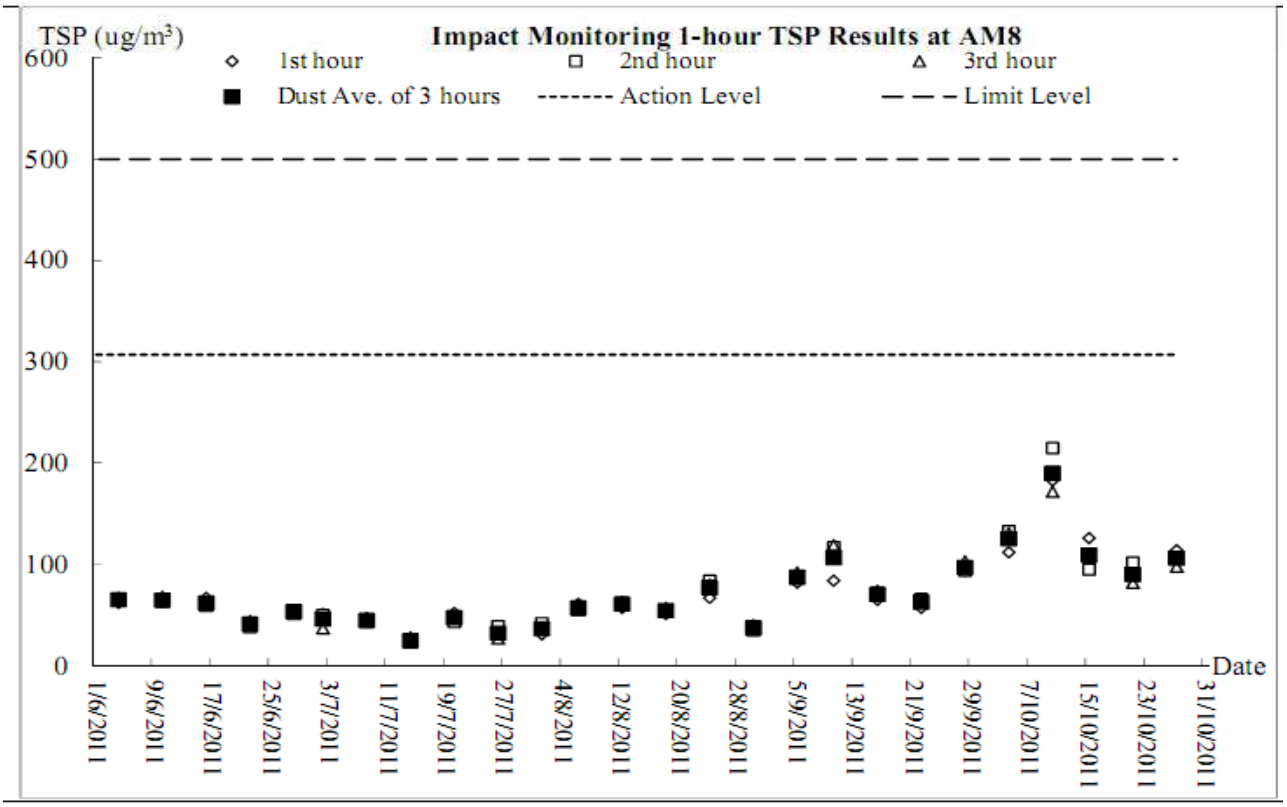
Appendix C - 1-hour TSP Monitoring Results and Graphical Presentations

1-hour TSP Monitoring Results at Station AM7 (Rooftop of West Kowloon No.2 Sewage Pumping Station)

Date	Start Time	Finish Time	Weather	TSP Concentration ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)	Site Conditions / Observations / Remarks	Mean Temperature (°C)	Mean Wind Speed (km/h)	Sampler ID	Filter ID
5-Oct-11	10:27	11:27	Fine	***79***	322	500	Dust from Project site, traffic emission and dust from other construction sites	24.5	6.0	A005-12a	-
	11:27	12:27	Fine	***82***							
	12:27	13:27	Fine	***83***							
11-Oct-11	13:32	14:32	Fine	***78***	322	500	Dust from Project site, traffic emission and dust from other construction sites	24.8	10.3	A005-13a	-
	14:32	15:32	Fine	***80***							
	15:32	16:32	Fine	***81***							
17-Oct-11	14:16	15:16	Sunny	***90***	322	500	Dust from Project site, traffic emission and dust from other construction sites	25.3	6.6	A005-13a	-
	15:16	16:16	Sunny	***89***							
	16:16	17:16	Sunny	***89***							
23-Oct-11	13:13	14:13	Cloudy	***81***	322	500	Dust from Project site, traffic emission and dust from other construction sites	25.0	9.7	A005-12a	-
	14:13	15:13	Cloudy	***80***							
	15:13	16:13	Cloudy	***80***							
29-Oct-11	14:00	15:00	Sunny	***84***	322	500	Dust from Project site, traffic emission and dust from other construction sites	24.1	4.5	A005-12a	-
	15:00	16:00	Sunny	***83***							
	16:00	17:00	Sunny	***84***							
			Min.	**78**							
			Max.	**90**							
			Average	**83**							

Summary of 1-hour TSP Monitoring Results – AM8 as Monitored by DE/2009/02

1-hour TSP (μg/m³)				
Date	Start Time	1st hour measured	2nd hour measured	3rd hour measured
4-Oct-11	14:08	183	215	172
10-Oct-11	13:09	126	95	107
15-Oct-11	14:09	86	102	82
21-Oct-11	10:00	114	106	98
27-Oct-11	9:15	151	142	147
Average (Range)		**128 (82-215)**		



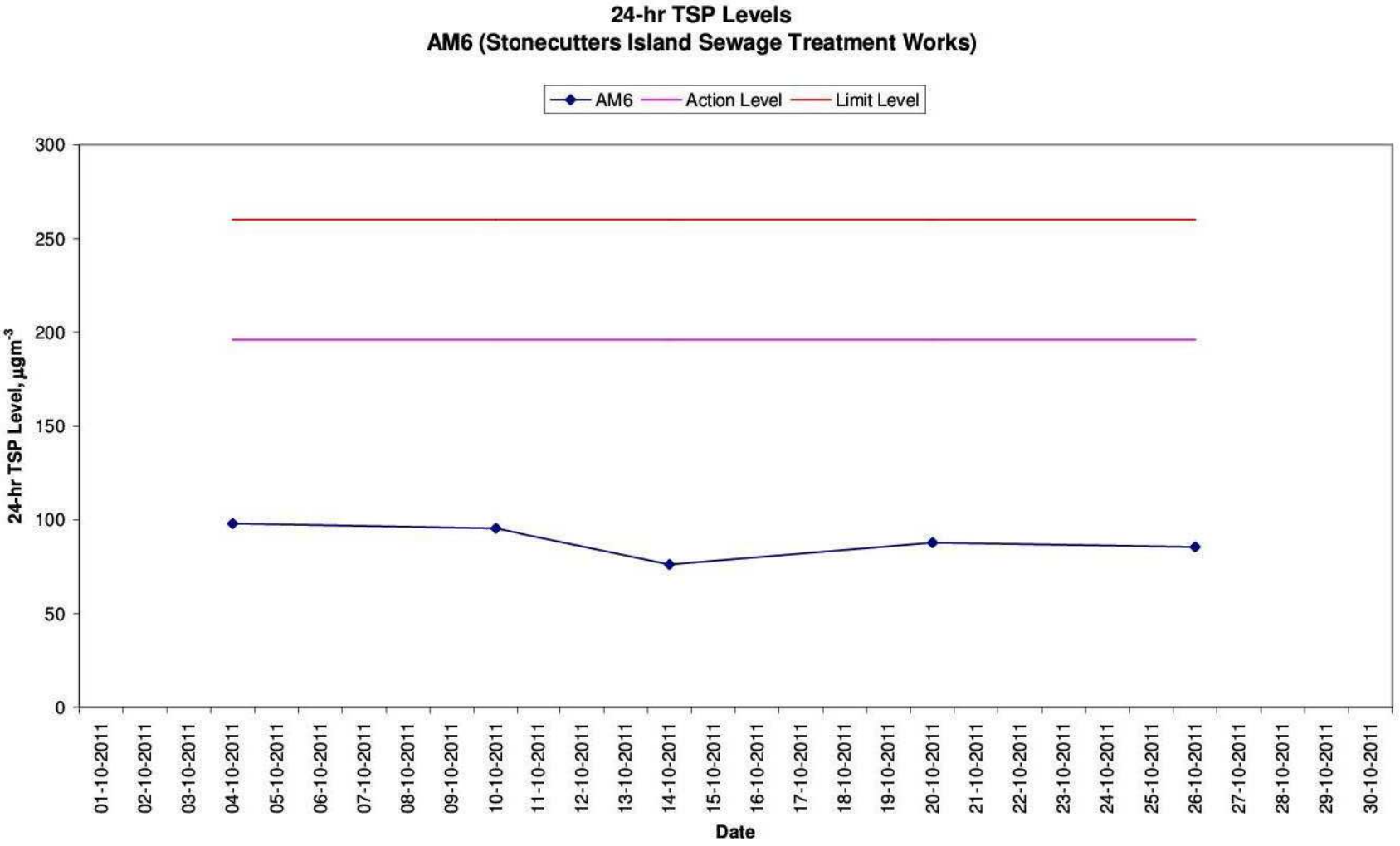
APPENDIX D
24-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

Appendix D - 24-hour TSP Monitoring Results and Graphical Presentations

24-hour TSP Monitoring Results

Station AM6

Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m^3/min)			TSP Conc. ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)	Observations / Remarks	Sampler ID	Filter ID
Date	Time	Date	Time		Initial	Final	Initial	Final		Initial	Final	Average						
04-Oct-11	16:16	05-Oct-11	16:16	Cloudy	2.8559	3.0297	8760.03	8784.03	24.00	1.23	1.23	1.23	98	196	260	Construction work in progress	1254	9650
10-Oct-11	16:06	11-Oct-11	16:06	Cloudy	2.8127	2.9820	8787.03	8811.03	24.00	1.23	1.23	1.23	96	196	260	Construction work in progress	1254	9654
14-Oct-11	16:16	15-Oct-11	16:16	Cloudy	2.8827	3.0179	8814.03	8838.03	24.00	1.23	1.23	1.23	76	196	260	Construction work in progress	1254	9658
20-Oct-11	16:31	21-Oct-11	16:31	Sunny	2.8667	3.0221	8841.03	8865.03	24.00	1.23	1.23	1.23	88	196	260	Construction work in progress	1254	9662
26-Oct-11	16:16	27-Oct-11	16:16	Cloudy	2.8929	3.0446	8868.03	8892.03	24.00	1.23	1.23	1.23	86	196	260	Construction work in progress	1254	9666
												Min.	76					
												Max.	98					
												Average	89					


24-hr TSP Levels
AM6 (Stonecutters Island Sewage Treatment Works)
AM6
Action Level
Limit Level
24-hr TSP Level, µgm-3
300
250
200
150
100
50
0
01-10-2011
02-10-2011
03-10-2011
04-10-2011
05-10-2011
06-10-2011
07-10-2011
08-10-2011
09-10-2011
10-10-2011
11-10-2011
12-10-2011
13-10-2011
14-10-2011
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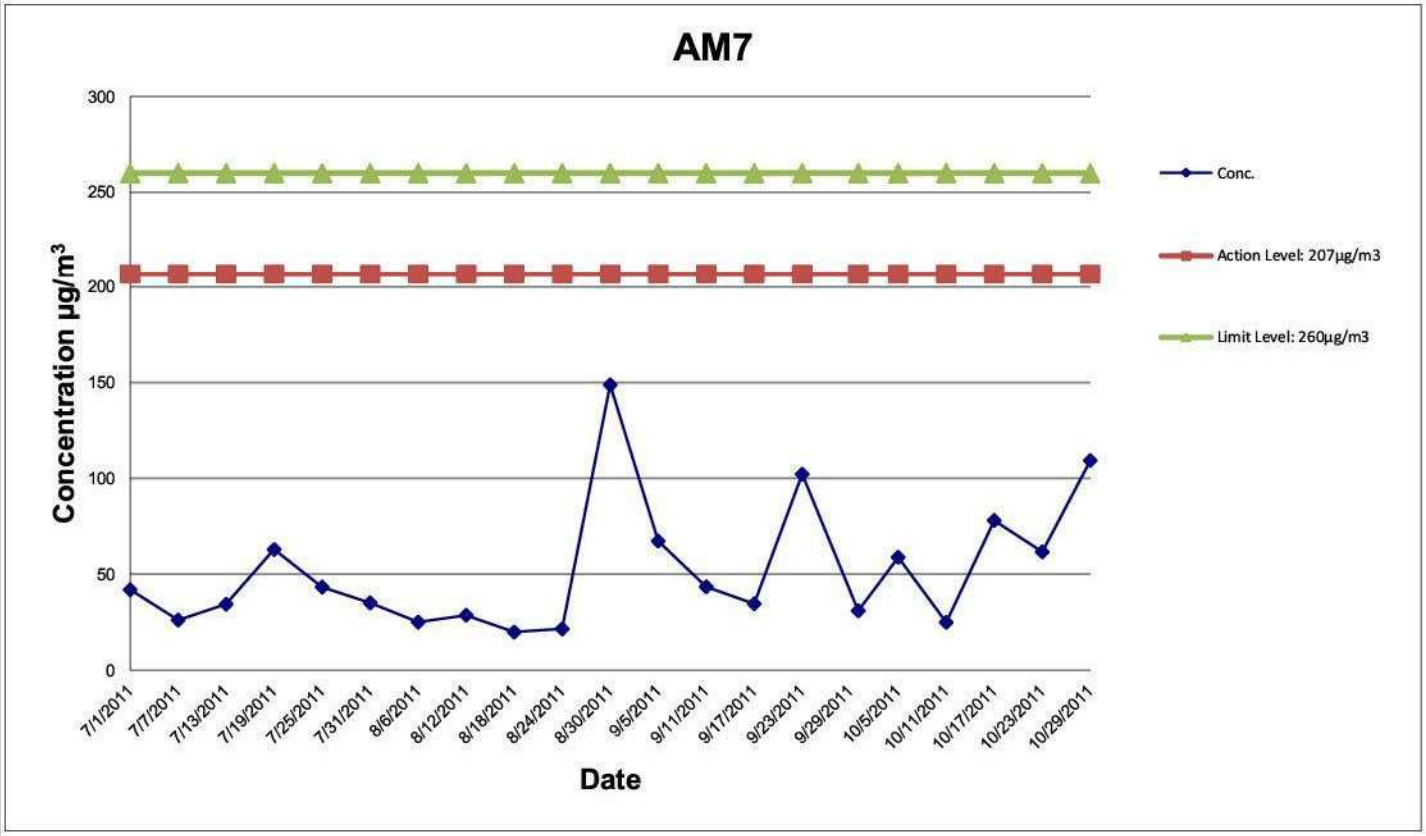
26-10-2011
27-10-2011
28-10-2011
29-10-2011
30-10-2011
Date

Appendix D - 24-hour TSP Monitoring Results and Graphical Presentations

24-hour TSP Monitoring Results at Station AM7 (Rooftop of West Kowloon No.2 Sewage Pumping Station)

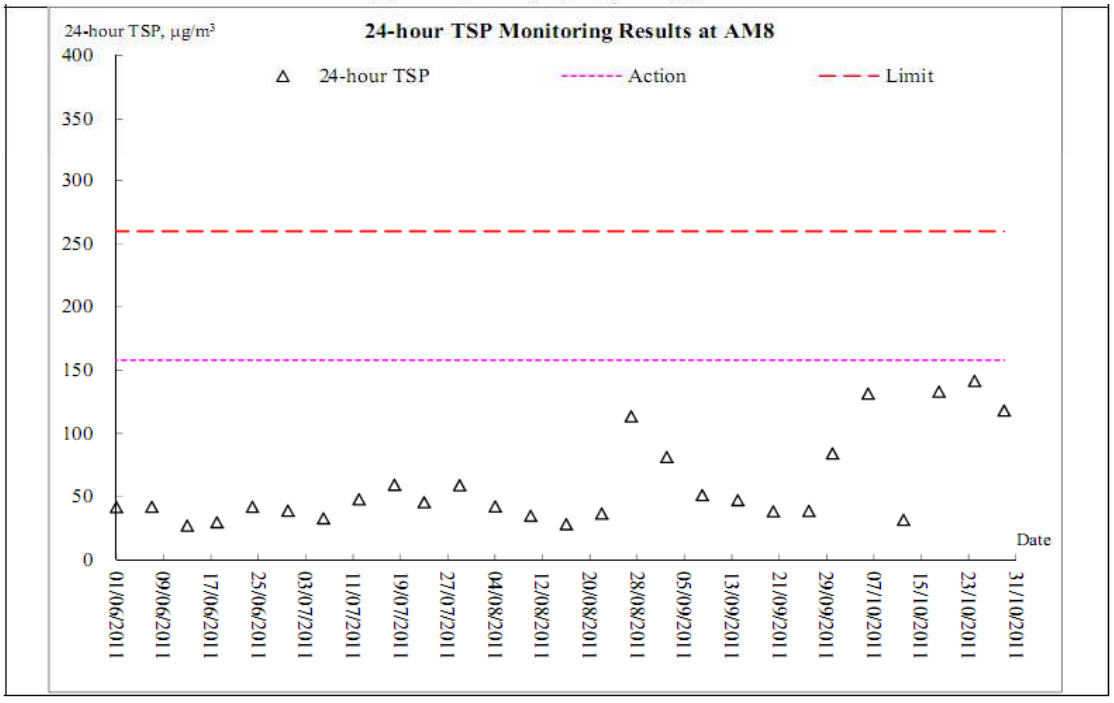
Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m^3/min)			TSP Conc. ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)	Observations / Remarks	Sampler ID	Filter ID
Date	Time	Date	Time		Initial	Final	Initial	Final		Initial	Final	Average						
4-Oct-11	16:00	5-Oct-11	16:00	Cloudy	2.7885	2.9025	9286.84	9310.84	24.00	1.3470	1.3470	1.3470	59	207	260	Dust from Project site, traffic emission and dust from other construction sites	A.001.12T	13560
10-Oct-11	16:00	11-Oct-11	16:00	Rainy	2.7653	2.8135	9310.84	9334.84	24.00	1.3470	1.3470	1.3470	25	207	260	Dust from Project site, traffic emission and dust from other construction sites	A.001.12T	13579
16-Oct-11	16:00	17-Oct-11	16:00	Sunny	2.7969	2.9482	9334.84	9358.84	24.00	1.3470	1.3470	1.3470	78	207	260	Dust from Project site, traffic emission and dust from other construction sites	A.001.12T	13602
22-Oct-11	16:00	23-Oct-11	16:00	Cloudy	2.7960	2.9155	9358.84	9382.84	24.00	1.3470	1.3470	1.3470	62	207	260	Dust from Project site, traffic emission and dust from other construction sites	A.001.12T	13625
28-Oct-11	16:00	29-Oct-11	16:00	Sunny	2.7927	3.0047	9382.84	9406.84	24.00	1.3470	1.3470	1.3470	109	207	260	Dust from Project site, traffic emission and dust from other construction sites	A.001.12T	13660
												Min.	25					
												Max.	109					
												Average	67					



AECOM	HATS Stage 2A - Construction of Interconnection Tunnel and Diaphragm Wall for Main Pumping Station at SCISTW	SCALE	N.T.S.	DATE	Nov-11
		CHECK	ENFL	DRAWN	PWYN
	Graphical Presentation of 24-hour TSP Monitoring Results	JOB NO.	60143571	APPENDIX No. D	Rev. -

Summary of 24-hour TSP Monitoring Results – AM8 as Monitored by DE/2009/02

DATE	SAMPLE NUMBER	ELAPSED TIME INITIAL	ELAPSED TIME FINAL	ELAPSED TIME (min)	MIN CHART READING	MAX CHART READING	AVG CHART READING	AVG TEMP (oC)	STANDARD AVG PRESS (hPa)	STANDARD FLOW RATE (m3/min)	STANDARD AIR VOLUME (std m3)	INITIAL FILTER WEIGHT (g)	FINAL FILTER WEIGHT (g)	WEIGHT DUST COLLECTED (g)	DUST 24-hour TSP IN AIR (ug/m^3)
6-Oct-11	24267	10311.66	10335.49	1429.80	32	34	33.0	25.2	1014.3	0.85	1210	2.75	2.9092	0.1592	132
12-Oct-11	24277	10335.49	10359.32	1429.80	32	34	33.0	25.9	1013	0.84	1208	2.747	2.7851	0.0381	32
18-Oct-11	24242	10359.32	10383.47	1449.00	33	35	34.0	24.7	1016.9	0.88	1270	2.7909	2.9598	0.1689	133
24-Oct-11	24312	10383.47	10407.62	1449.00	34	36	35.0	25.7	1013.8	0.90	1305	2.8663	3.0511	0.1848	142
29-Oct-11	24275	10407.62	10431.77	1449.00	37	39	38.0	24.1	1016.2	1.00	1442	2.7696	2.9398	0.1702	118



APPENDIX E
NOISE MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

Appendix E - Noise Monitoring Results and Graphical Presentations

Daytime Noise Monitoring Results

Station NM5

Date	Start Time	End Time	Weather	Noise level (dB(A)), 30 min			Major Construction Noise Source(s) Observed	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
04-Oct-11	15:10	15:40	Cloudy	60.9	63.4	58.2	Drill rig, welding machine	Traffic Noise	-	22	0.8	RION- NL31 (S/N 00320533)	RION - NC73 (S/N 10786708)
10-Oct-11	13:10	13:40	Cloudy	61.7	63.1	58.3	Drill rig	Traffic noise & Aircraft noise	-	23	0.5	RION- NL31 (S/N 00320533)	RION - NC73 (S/N 10786708)
20-Oct-11	15:50	16:20	Sunny	59.3	60.9	57.9	Drill rig, welding machine	Traffic noise & Aircraft noise	-	22	0.5	RION- NL31 (S/N 00320533)	RION - NC73 (S/N 10786708)
26-Oct-11	15:20	15:50	Cloudy	59.2	61.0	56.5	Drill rig, welding machine	Traffic noise & Aircraft noise	-	24	0.3	RION- NL31 (S/N 00320533)	RION - NC73 (S/N 10786708)
			Min.	**59.2**									
			Max.	**61.7**									

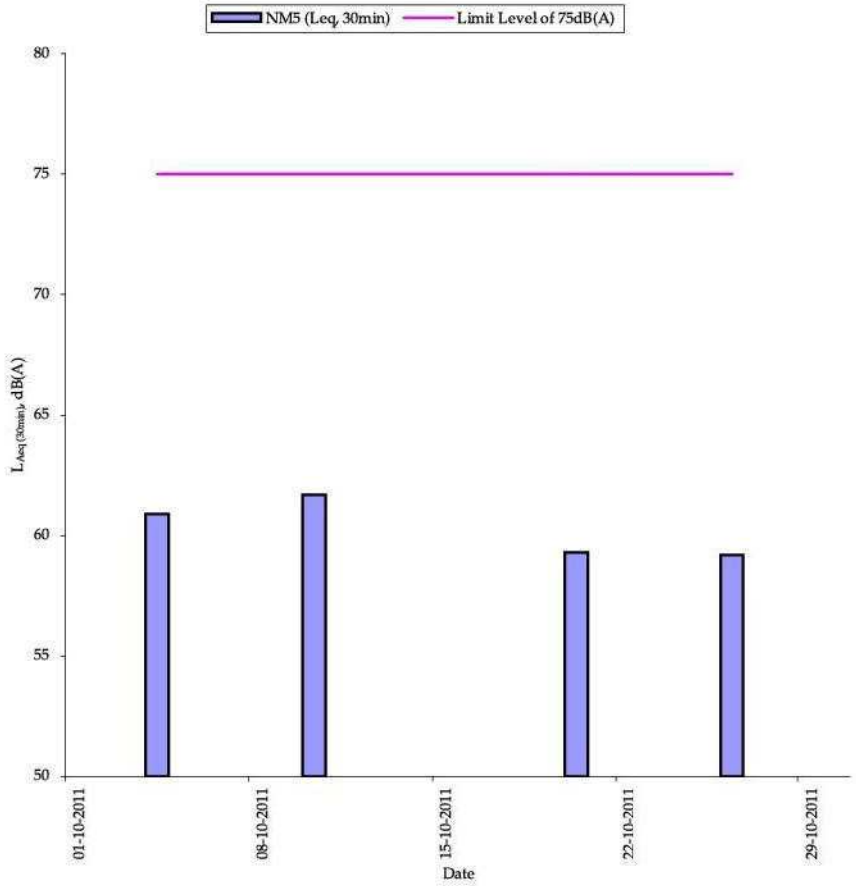
Appendix E - Nosie Monitoring Results and Graphical Presentations

Restricted Hours Noise Monitoring Results

Station NM5

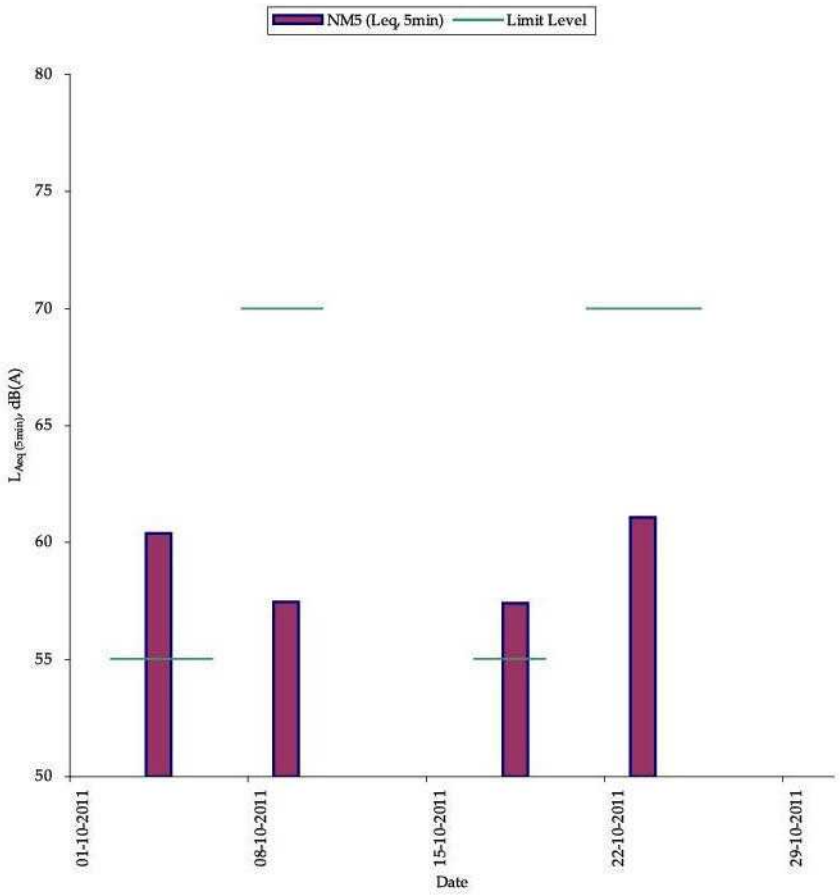
Date	Start Time	End Time	Weather	Noise level (dB(A)), 5 min			Major Construction Noise Source(s)	Other Noise Source(s)	Remarks	Temp. (℃)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
04-Oct-11	23:10	23:15	Cloudy	60.4	62.6	58.4	Drill rig	Traffic noise	-	22	1.2	RION- NL31 (S/N 00320533)	RION - NC73 (S/N 10786708)
	23:15	23:20	Cloudy	60.9	62.2	58.8			-				
	23:20	23:25	Cloudy	59.8	61.5	57.9			-				
	23:10	23:25	Cloudy	60.4	62.1	58.4			-				
09-Oct-11	13:10	13:15	Sunny	58.9	61.3	55.0	Drill rig	Traffic noise & aircraft noise	-	28	0.5	RION- NL31 (S/N 00320533)	RION - NC73 (S/N 10786708)
	13:15	13:20	Sunny	56.6	58.3	55.1			-				
	13:20	13:25	Sunny	56.4	58.0	55.0			-				
	13:10	13:25	Sunny	57.5	59.5	55.0			-				
18-Oct-11	23:02	23:07	Cloudy	57.7	58.7	56.6	Drill rig	Traffic noise & insect noise	-	26	0.5	RION- NL31 (S/N 00320533)	RION - NC73 (S/N 10786708)
	23:07	23:12	Cloudy	57.3	58.3	56.1			-				
	23:12	23:17	Cloudy	57.2	58.1	56.0			-				
	23:02	23:17	Cloudy	57.4	58.4	56.2			-				
23-Oct-11	9:20	9:25	Sunny	61.2	62.2	58.9	Drill rig	Traffic noise &	-	26	0.5	RION- NL31 (S/N 00320533)	RION - NC73 (S/N 10786708)
	9:25	9:30	Sunny	61.0	62.0	59.1			-				
	9:30	9:35	Sunny	61.0	62.3	59.3			-				
	9:20	9:35	Sunny	61.1	62.2	59.1			-				
			Min.	**56.4**									
			Max.	**61.2**									

Normal 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 period

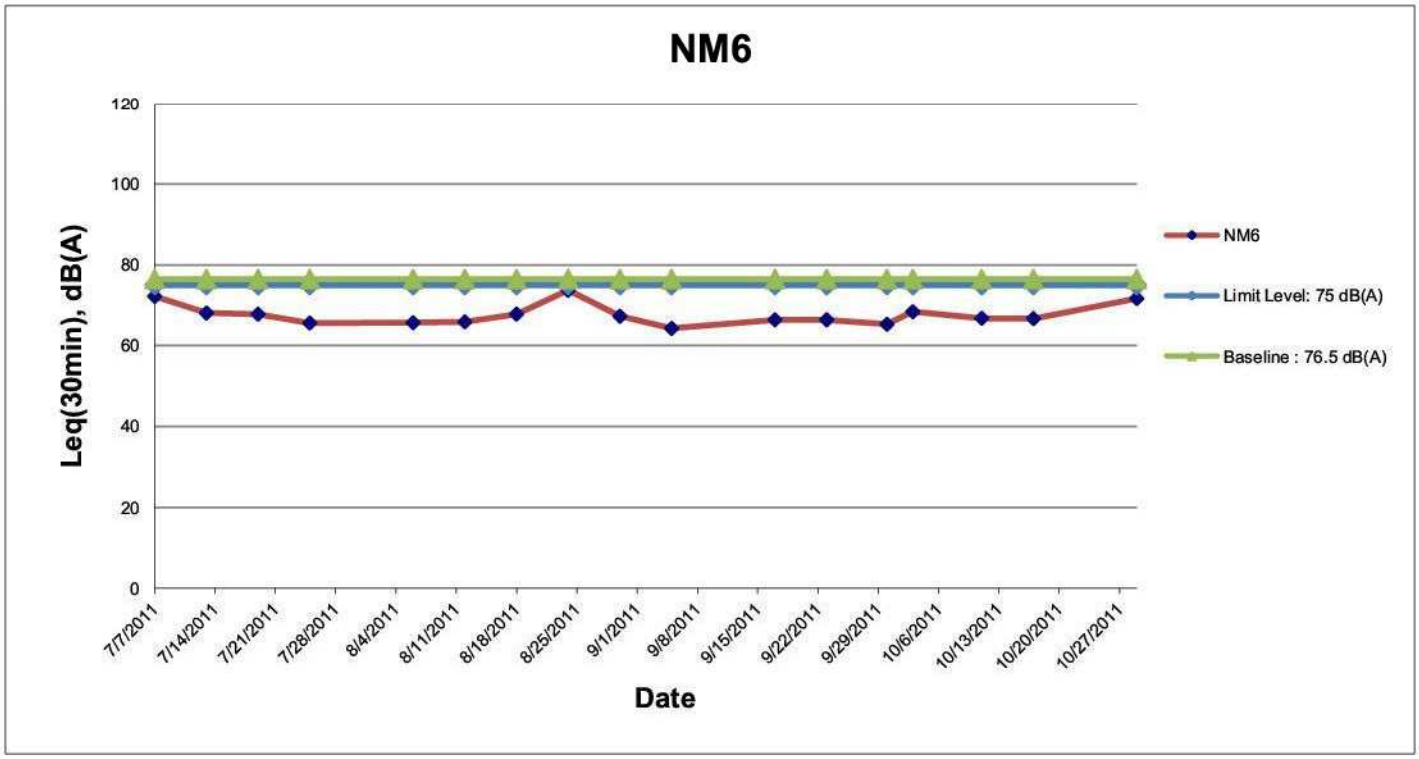
Appendix E - Noise Monitoring Results and Graphical Presentations

Location : NM6 Customs' Marine Base (Block H of Government Dockyard) Rooftop

Daytime (07:00-19:00 hrs) Noise Monitoring Results on Normal Weekdays

Date	Start Time	End Time	Weather	Noise level (dB(A)), 30 min[+]			Major Construction Noise Source(s) Observed	Other Noise Source(s) Observed	Remarks	Mean Temp. (°C)	Mean Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
3-Oct-11	11:14	11:44	Cloudy	68.4	71.0	66.0	excavation in process	other construction site nearby; road traffic noise	-	22.6	<5 m/s	B&K 2238	Rion NC-73
11-Oct-11	13:40	14:10	Fine	66.8	68.4	64.3	excavation in process	other construction site nearby; road traffic noise	-	24.8	<5 m/s	Rion NL-31	Rion NC-73
17-Oct-11	14:45	15:15	Sunny	66.7	69.0	64.0	excavation in process	other construction site nearby; road traffic noise	-	25.3	<5 m/s	B&K 2238	Rion NC-73
29-Oct-11	14:30	15:00	Sunny	71.7	73.3	67.8	excavation in process	other construction site nearby; road traffic noise	-	24.1	<5 m/s	Rion NL-31	Rion NC-73
			Min.	**66.7**									
			Max.	**71.7**									

[+] - Façade measurement



AECOM	HATS Stage 2A - Construction of Interconnection Tunnel and Diaphragm Wall for Main Pumping Station at SCISTW	SCALE	N.T.S.	DATE	Nov-11
		CHECK	ENFL	DRAWN	PWYN
	Graphical Presentation of Daytime Noise Monitoring Results on Normal Weekdays	JOB NO.	60143571	APPENDIX No. E	Rev. -

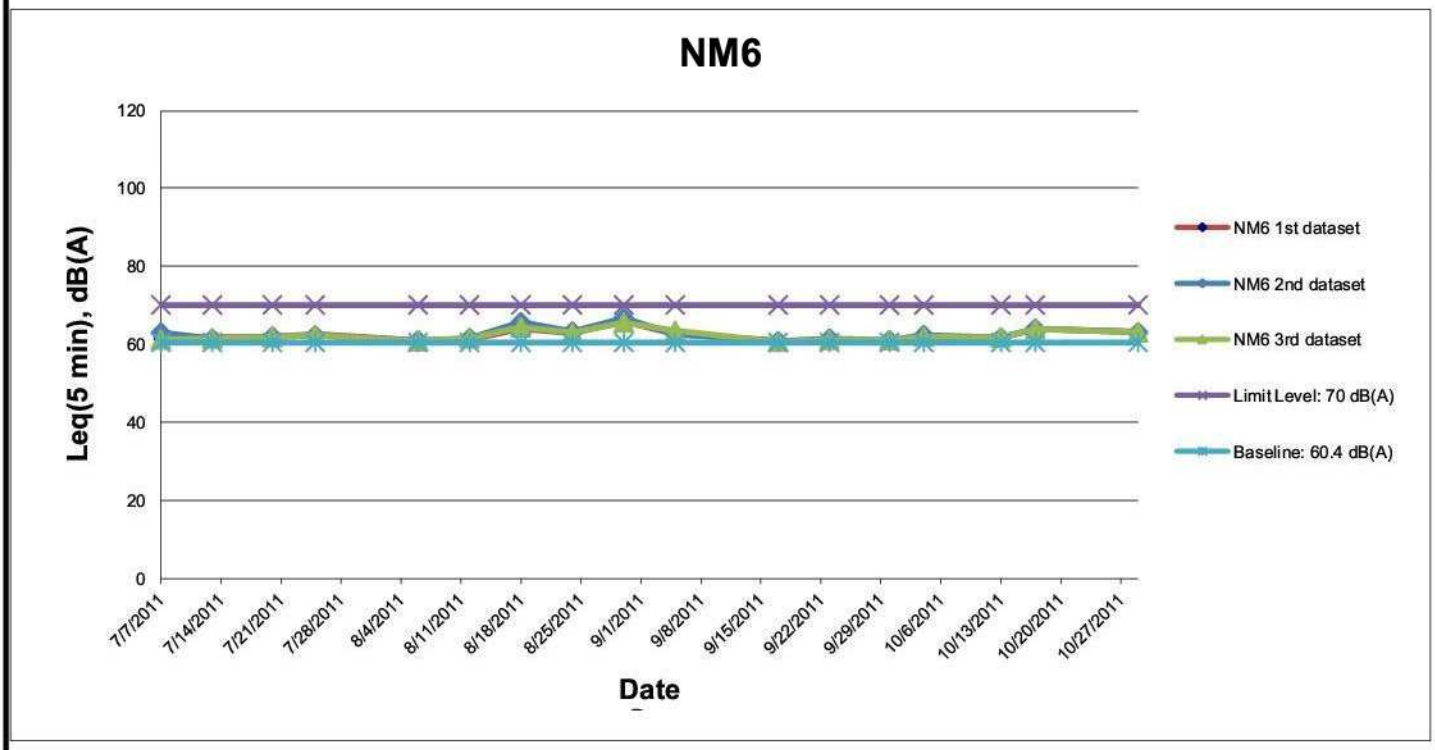
Appendix E - Noise Monitoring Results and Graphical Presentations

Location : NM6 Customs' Marine Base (Block H of Government Dockyard) Rooftop

Evening time (19:00-23:00 hrs) Noise Monitoring Results on Normal Weekdays

Date	Start Time	End Time	Weather	Noise level (dB(A)), 5 min+			Major Construction Noise Source(s) Observed	Other Noise Source(s) Observed	Remarks	Mean Temp. (°C)	Mean Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
4-Oct-11	19:06	19:11	Fine	61.7	62.2	61.2	excavation in process	traffic noise from nearby pier	-	23.8	<5 m/s	B&K 2250L	B&K 4231
	19:11	19:16		62.3	63.0	61.5							
	19:16	19:21		61.9	62.2	61.6							
13-Oct-11	21:10	21:15	Fine	61.6	62.0	61.0	excavation in process	traffic noise from nearby pier	-	24.8	<5 m/s	B&K 2238	B&K 4231
	21:15	21:20		61.6	62.0	61.0							
	21:20	21:25		61.7	62.0	61.0							
17-Oct-11	19:03	19:08	Fine	63.8	64.5	63.0	excavation in process; crane in operation	traffic noise from nearby pier	-	25.3	<5 m/s	B&K 2238	B&K 4231
	19:08	19:13		63.9	64.5	63.0							
	19:13	19:18		63.8	64.5	63.0							
29-Oct-11	19:11	19:16	Fine	63.2	63.6	62.7	excavation in process; crane in operation	traffic noise from nearby pier	-	24.1	<5 m/s	B&K 2270	B&K 4231
	19:16	19:21		63.0	63.7	62.8							
	19:21	19:26		63.0	63.6	62.7							
			Min.	**61.6**									
			Max.	**63.9**									

+ - Façade measurement



AECOM	HATS Stage 2A - Construction of Interconnection Tunnel and Diaphragm Wall for Main Pumping Station at SCISTW	SCALE	N.T.S.	DATE	Nov-11
		CHECK	ENFL	DRAWN	PWYN
	Graphical Presentation of Evening Noise Monitoring Results on Normal Weekdays	JOB NO.	60143571	APPENDIX No. E	Rev. -

APPENDIX F
ENVIRONMENTAL PERMITS AND LICENSES

APPENIDX F –Environmental Permits and Licenses

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

Permit No.	Valid Period		Details	Status
	From	To		
Wastewater Discharge License				
WT00005069-2009	11/8/2010	31/10/2014	Location: Stonecutters Island Production Shaft and Riser Shaft	Valid
Chemical Waste Producer Registration				
5213-269-G2449-07	--	--	Location: Stonecutters Island Production Shaft and Riser Shaft	Valid
Construction Noise Permit				
GW-RW0458-11	19/7/2011	6/1/2012	Location: Stonecutters Island Production Shaft and Riser Shaft	Superseded by CNP No. GW-RW-0648-11
GW-RW0648-11	20/9/2011	15/3/2012	Location: Stonecutters Island Production Shaft and Riser Shaft	Valid

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

Permit No.	Valid Period		Details	Status
	From	To		
Wastewater Discharge License				
WT00005755-2010	21/4/2011	31/1/2015	Discharge of Construction Runoff from Contract DC/2009/05	Valid
Registered Chemical Waste Producer				
WPN5213-269-C3572-01	23/10/2009	N/A	Whole Construction Site for Contract DC/2009/05	Valid
Waste Charges A/C: 7009440	N/A	N/A	Whole Construction Site for Contract DC/2009/05	Valid
Air Pollution Control Ordinance				
NA notification	09/11/09	19/12/11*	Whole Construction Site for Contract DC/2009/05	Valid*
Construction Noise Permit				
GW-RW0617-11	08/09/11	04/02/12	Construction Site at Portion 2,3, 4 and 6 for Contract DC/2009/05	Valid
GW-RW0738-11	26/10/11	23/04/12	Construction Site at Portion 2,3, 4 and 6 for Contract DC/2009/05	Valid
Marine Dumping Permit (Excavated Sediment Requiring Type 1 – Open Sea Disposal)				
EP/MD/11-153	18/04/11	17/10/11#	Excavated material from Construction Site at Portion 2, 3 and 4 for Contract DC/2009/05	Expired on 17/10/11#

Remark: * The original contract completion was 19 Dec 2011 but it was further revised to 25 Feb 2012 which based upon the Extension of Time (EoT) No. 4 issued as of to date. The Contractor will further update EPD by revising the Form NA to EPD pursuant to APCO.

\# Application of new marine dumping permit is in progress (waiting the approval of EPD). No new marine dumping permit was issued in October 2011.

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

Permit No.	Valid Period		Details	Status
	From	To		
Wastewater Discharge Licence				
WT00006432-2010	--	30/4/2015	--	Valid
Registered Chemical Waste Producer				
5213-269-A2605-01	--	--	--	Valid
Construction Noise Permit				
GW-RW0417-11	23/6/2011	1/12/2011	--	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 F.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	Valid

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

Reference Number	Valid Period		Details	Status
	From	To		
Water Discharge License				
WT00009245-2011	1/6/2011	30/6/2016	The application was approved on 1-6-2011.	Valid
Registered Chemical Waste Producer				
WPN5213-269-S3584-01	N/A	N/A	The application was approved on 4-5-2011.	Valid
Billing Account for Disposal of Construction Waste				
CSW01444	16/3/2011	N/A	The application was approved on 16-3-2011.	Valid
Notification of Works Under APCO				
327427	N/A	N/A	Notice form received by EPD on 2-3-2011.	N/A
Construction Noise Permit for Percussive Piling				
PP-RW0018-11	2/11/2011	1/8/2012	The application was approved on 1-11-2011.	Valid
Construction Noise Permit for use of mechanical equipment outside permitted working hours				
GW-RW0204-11	4/4/2011	3/10/2011	The application was approved on 28-3-2011.	Expired
GW-RW0651-11	24/9/2011	3/4/2012	The application was approved on 9-23-2011.	Valid

APPENDIX G
SUMMARY OF EXCEEDANCE

APPENIDX G – SUMMARY OF EXCEEDANCE

Reporting Month: October 2011

a) Exceedance Report for 1-hr TSP (NIL)

b) Exceedance Report for 24-hr TSP (NIL)

c) Exceedance Report for Construction Noise

1. No Exceedance of Action/Limit Level exceedance for normal working hours was recorded.

2. Noise Level recorded during restricted hours on 4 and 18 October 2011 were recorded by ET for Contract DC/2007/23. The summary of the investigation results was extracted from the monthly report of the Contract DC/2007/23:

Monitoring Stations	Record of Exceedance	Result of Investigation
NM5	Exceedance of Limit Level on 4 October 2011 (23:10- 23:25)	It was observed no outdoor construction activities at the Stonecutter Island Production and Riser Shafts during the noise monitoring session. This is consistent with the works summary provided by the Contractor showing no outdoor construction activities that have taken place during the same period. According to the works summary provided by the Contractor, construction activities that took place during the noise monitoring session included modification works on double sinking stage; trimming of overlaying working surface and re-drilling for 2nd bunton set. These activities are quiet in nature, and were carried out inside the noise enclosure. Based on the above, the exceedance observed is considered probably attributable to the traffic noise from Tsing Sha Highway near the Site and is non-project related.
NM5	Exceedance of Limit Level on 18 October 2011 (23:02- 23:17)	It was observed no outdoor construction activities at the Stonecutter Island Production and Riser Shafts during the noise monitoring session. This is consistent with the works summary provided by the Contractor showing no outdoor construction activities that have taken place during the same period. According to the works summary provided by the Contractor, construction activities that took place during the noise monitoring session included mucking and breaking rocks for SR5 installation; and sorting excavated material at muck pin. These activities are quiet in nature, and were carried out inside the noise enclosure. Based on the above, the exceedance observed is considered probably attributable to the traffic noise from Tsing Sha Highway near the Site and is non-project related.

APPENDIX H
SITE AUDIT SUMMARY

7.6 ENVIRONMENTAL SITE INSPECTION

Weekly site inspections were carried out by the representatives of the Contractor, Engineer and the ET. Site inspections were conducted on 6, 13, 20, and 27 October 2011. The representative of the IEC joined the site inspection on 27 October 2011. There was no non-compliance recorded during the site inspections.

Major findings and recommendations are summarised as follows:

Riser Shaft

- On 6 October, dirty stagnant water was observed in the wheel washing bay near Gate 1, the Contractor was reminded to remove the stagnant water and clean the wheel washing bay.
- On 6 October, stagnant water was observed inside the bucket of excavator, inside the un-using sedimentation tank and piping material. The Contractor was reminded to remove the stagnant water. Also the Contractor was suggested to turnover the bucket and cover the piping material and un-use sedimentation tank well to prevent accumulating of stagnant water.
- On 6 October, the tree protection zone was observed not large enough to protect the trees. The roots of trees were observed being damaged. The Contractor was reminded to enlarge the tree protection zone and remove all construction material inside the tree protection zone
- On 13 October, stagnant water was observed inside the un-used sedimentation tank next to the noise enclosure. The Contractor was reminded to clear the stagnant water and cover the tank with tarpaulin sheet to prevent accumulation of stagnant water.
- On 20 October, stagnant water was observed inside the drip tray at the backyard on noise enclosure. The Contractor was reminded to remove the stagnant waster in order to prevent breeding of mosquito.
- On 20 October, oil drums without drip tray were observed at the backyard of noise enclosure. The Contractor was reminded to provide drip tray for the oil drums to prevent leakage of chemical.
- On 20 October, chemical bottles without drip tray were observed next to the noise enclosure. The Contractor was reminded to provide drip trays for the chemical bottles to prevent leakage of chemical.
- On 27 October, stagnant water was observed on tarpaulin sheet on oil drums. The Contractor was reminded to remove the stagnant waster in order to prevent breeding of mosquito.

Production Shaft

- Nil

5 ENVIRONMENTAL SITE INSPECTION AND AUDIT

5.1 Site Inspection

5.1.1 Site Inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures for the Project. In the reporting month, 4 site inspections were carried out on 4, 11, 18 and 27 October 2011. Particular observations are described below.

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

5.1.3 Air Quality Impact

- Nil.

5.1.4 Construction Noise Impact

- Nil.

5.1.5 Water Quality Impact

- Mitigation measures for mud storage area at Inlet Chamber Area were observed insufficient. The Contractor was reminded to remove the mud accumulated outside the concrete bunds of the storage area and storage the mud inside the bunds of mud storage area. Proper mitigation measure should be also provided for the 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.

- Broken sandbags near site entrance at Main Pumping Station Works Area and broken sandbag bunding near Inlet Chamber Works Area were found. The Contractor was reminded to replace all broken sandbags and maintain the sandbag bunding properly to prevent surface runoff from construction works flowing outside the work area and discharging to public drain. The Contractor was recommended to review and maintain the effectiveness of sandbag bunding regularly.

- Silt was accumulated on ground near Inlet Chamber Area. The Contractor was reminded to remove the silt regularly to prevent surface runoff to the public drain due to rain.

- Silty water was accumulated inside a temporary soil storage area at Main Pumping Station Area. The Contractor was reminded to remove the silty water regularly and provide proper mitigation measure for the storage area to intercept silty water runoff from the temporary soil storage area and discharging to the public drain.

5.1.6 Chemical and Waste Management

- Oil drums placed in 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 stains at Inlet Chamber Works Area were observed. 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 dispose 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.

- Stagnant water was accumulated inside drip trays placed at Main Pumping Station Works Area. The Contractor was reminded to clear the stagnant water and handle it as chemical waste.

5.1.7 Landscape and Visual Impact

- Electric cables were accumulated inside a tree protection zone at Launching Shaft Works Area. The Contractor was reminded to remove the cable from the tree protection zone area as soon as possible and maintain the zone area tidiness and cleanness.

5.1.8 Other

- The Contractor was reminded to remove the stagnant water in works area more frequently to avoid mosquito breeding.

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. **Four** site inspections were carried out on **3, 10, 18 and 24 October 2011** with the Representatives of the Engineer and the Contractor to evaluate the site environmental performance in this Reporting Month. No non-compliance was noted.

Observations for the site inspections and monthly audit within this Reporting Month are summarized in ***Table 6-1*** and inspection checklist is attached in ***Annex M***.

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

Date	Findings / Deficiencies	Follow-Up Status
3 October 2011	• Stagnant water cumulated inside the drip tray was observed at DOU 1 after the rainstorm, the contractor was reminded to clean to prevent mosquito breeding. • Stagnant water cumulated inside the waste skip was observed at DOU 2 after the rainstorm, the contractor was reminded to clean to prevent mosquito breeding.	The deficiencies were improved as observed during the site inspection on 10 October 2011.
10 October 2011	• Free standing chemical container without drip tray was observed to DOU2, the contractor was reminded to provide drip tray for all chemical container.	The deficiency was improved as observed during the site inspection on 18 October 2011.
18 October 2011	• No environmental issue was observed during the site inspection.	N.A.
24 October 2011	• Un-used cement bag without cover was observed at DOU1, the contractor was reminded to provide mitigation measure to prevent dust generation. • General refuse scattered at storage area near DOU2 was observed, the contractor was reminded to clean and maintain the site area clean and tidy.	The deficiency was improved as observed during the site inspection on 1 November 2011.

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	111006
Date	6 October 2011 (Thursday)
Time	09:30-10:10

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

Ref. No.	Remarks/Observations	Related Item No.
111006-R01	***Part A - Water Quality*** • No environmental deficiency was identified during the site inspection. ***Part B – Landscape and Visual*** • No environmental deficiency was identified during the site inspection. ***Part C - Air Quality*** • To cover the stockpile in Portion 3 to reduce dust generation. ***Part D – Noise*** • No environmental deficiency was identified during the site inspection. ***Part E – Waste / Chemical Management*** • No environmental deficiency was identified during the site inspection. ***Part F - Permit / Licenses*** • No environmental deficiency was identified during the site inspection. ***Others*** • Follow-up on previous audit sessions: Previous audit session (Ref. No.110928), all environmental deficiency was improved by the Contractor.	C 6

	Name	Signature	Date
Recorded by	Gary Lau		7 October 2011
Checked by	Dr. Priscilla Choy		7 October 2011

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	111013
Date	13 October 2011 (Thursday)
Time	09:30-10:15

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

Ref. No.	Remarks/Observations	Related Item No.
111013-R01	***Part A - Water Quality*** • To repair the bund at the exit of Portion 4 to prevent the spoilage of wastewater. ***Part B – Landscape and Visual*** • No environmental deficiency was identified during the site inspection. ***Part C - Air Quality*** • No environmental deficiency was identified during the site inspection. ***Part D – Noise*** • No environmental deficiency was identified during the site inspection. ***Part E – Waste / Chemical Management*** • No environmental deficiency was identified during the site inspection. ***Part F - Permit / Licenses*** • No environmental deficiency was identified during the site inspection. ***Others*** • Follow-up on previous audit sessions: Previous audit session (Ref. No.111006), all environmental deficiency was improved by the Contractor.	A 2

	Name	Signature	Date
Recorded by	Gary Lau		13 October 2011
Checked by	Dr. Priscilla Choy		13 October 2011

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	111020
Date	20 October 2011 (Thursday)
Time	09:00-10:15

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

Ref. No.	Remarks/Observations	Related Item No.
	Part A - Water Quality • No environmental deficiency was identified during the site inspection. ***Part B – Landscape and Visual*** • No environmental deficiency was identified during the site inspection. ***Part C - Air Quality*** • No environmental deficiency was identified during the site inspection. ***Part D – Noise*** • No environmental deficiency was identified during the site inspection. ***Part E – Waste / Chemical Management*** • To clear the stagnant water in the drip tray in Portion 3. • Tarpaulin should be provided to avoid oil leakage in Portion 4. ***Part F - Permit / Licenses*** • No environmental deficiency was identified during the site inspection. ***Others*** • Follow-up on previous audit sessions: Previous audit session (Ref. No.111013), all environmental deficiency was improved by the Contractor. ***Remarks:*** • The Contractor was reminded to clear the refuse in ditch in Portion 3 to ensure the wastewater can flow smoothly.	
111020-R01		E 7ii
111020-R02		E 7i

	Name	Signature	Date
Recorded by	Gary Lau		21 October 2011
Checked by	Dr. Priscilla Choy		21 October 2011

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	111027
Date	27 October 2011 (Thursday)
Time	09:00-10:30

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

Ref. No.	Remarks/Observations	Related Item No.
111027-R01	***Part A - Water Quality*** • Oil stain was observed in Portion 5. The Contractor was reminded to clear it. ***Part B – Landscape and Visual*** • No environmental deficiency was identified during the site inspection. ***Part C - Air Quality*** • No environmental deficiency was identified during the site inspection. ***Part D – Noise*** • No environmental deficiency was identified during the site inspection. ***Part E – Waste / Chemical Management*** • Oil stain was observed in Portion 5. The Contractor was reminded to clear it. ***Part F - Permit / Licenses*** • No environmental deficiency was identified during the site inspection. ***Others*** • Follow-up on previous audit sessions: Previous audit session (Ref. No.111020), all environmental deficiency was improved by the Contractor.	A 17

	Name	Signature	Date
Recorded by	Gary Lau		28 October 2011
Checked by	Dr. Priscilla Choy		28 October 2011

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	111007
Date	7 October 2011 (Friday)
Time	09:30-10:15

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

Ref. No.	Remarks/Observations	Related Item No.
111007-R01	*Part A - Water Quality* • To clear the oil strains at the exit of Portion 3. *Part B – Landscape and Visual* • No environmental deficiency was identified during the site inspection. *Part C - Air Quality* • No environmental deficiency was identified during the site inspection. *Part D – Noise* • No environmental deficiency was identified during the site inspection. *Part E – Waste / Chemical Management*	A 17
111007-R02	• Drip tray should be provided to equipment to avoid oil leakage. *Part F - Permit / Licenses* • No environmental deficiency was identified during the site inspection. *Others* • Follow-up on previous audit sessions (ref: 110930): all environmental deficiency was improved by the Contractor.	E 7i

	Name	Signature	Date
Recorded by	Gary Lau		7 October 2011
Checked by	Dr. Priscilla Choy		7 October 2011

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	111014
Date	14 October 2011 (Friday)
Time	09:30-10:30

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

Ref. No.	Remarks/Observations	Related Item No.
	Part A - Water Quality	
111014-R01	• To clear the stagnant water in the channel next to traffic Road.	A 11
111014-R02	• To avoid oil leakage from the equipment in Portion 3.	A 17
	Part B – Landscape and Visual	
	• No environmental deficiency was identified during the site inspection.	
	Part C - Air Quality	
	• No environmental deficiency was identified during the site inspection.	
	Part D – Noise	
	• No environmental deficiency was identified during the site inspection.	
	Part E – Waste / Chemical Management	
	• No environmental deficiency was identified during the site inspection.	
	Part F - Permit / Licenses	
	• No environmental deficiency was identified during the site inspection.	
	Others	
	• Follow-up on previous audit sessions (ref: 111007): all environmental deficiency was improved by the Contractor.	

	Name	Signature	Date
Recorded by	Gary Lau		14 October 2011
Checked by	Dr. Priscilla Choy		14 October 2011

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	111019
Date	19 October 2011 (Wednesday)
Time	09:30-10:50

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

Ref. No.	Remarks/Observations	Related Item No.
	Part A - Water Quality	
111019-R01	• To bund surrounding Portion 3 was observed broken. The Contractor was reminded to repair it regularly.	A 2
111019-R02	• Sand bags should be provided to construction area next to Portion 3 to prevent spillage of wastewater.	A 2
111019-R03	• To clear the oil stains outside Portion 3.	A 17
	Part B – Landscape and Visual • No environmental deficiency was identified during the site inspection.	
	Part C - Air Quality • No environmental deficiency was identified during the site inspection.	
	Part D – Noise • No environmental deficiency was identified during the site inspection.	
	Part E – Waste / Chemical Management • No environmental deficiency was identified during the site inspection.	
	Part F - Permit / Licenses • No environmental deficiency was identified during the site inspection.	
	Others • Follow-up on previous audit sessions (ref: 111014): all environmental deficiency was improved by the Contractor.	
	Remarks: • Stagnant water should be cleared regularly. • To properly collect and dispose of the general refuse behind site office.	

	Name	Signature	Date
Recorded by	Gary Lau		19 October 2011
Checked by	Dr. Priscilla Choy		19 October 2011

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	111028
Date	28 October 2011 (Friday)
Time	09:30-10:30

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

Ref. No.	Remarks/Observations	Related Item No.
111028-R01	*Part A - Water Quality* • To clear the debris neat the gully outside Portion 3. *Part B – Landscape and Visual* • No environmental deficiency was identified during the site inspection. *Part C - Air Quality* • No environmental deficiency was identified during the site inspection. *Part D – Noise* • No environmental deficiency was identified during the site inspection. *Part E – Waste / Chemical Management* • No environmental deficiency was identified during the site inspection. *Part F - Permit / Licenses* • No environmental deficiency was identified during the site inspection. *Others* • Follow-up on previous audit sessions (ref: 111019): all environmental deficiency was improved by the Contractor.	A 19

	Name	Signature	Date
Recorded by	Gary Lau		28 October 2011
Checked by	Dr. Priscilla Choy		28 October 2011

APPENDIX I
EVENT ACTION PLANS

APPENDIX I – Event / Action Plans

Table I-1 Event / Action Plan For Air Quality

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

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
	actions required; 7. If exceedance continues, arrange meeting with IEC and ER; 8. If exceedance stops, cease additional monitoring			
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 I-2 Event / Action Plan For Construction Noise

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
Action Level being exceeded	1. Notify ER, IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the IEC and Contractor on remedial measures required; 5. Increase monitoring frequency to check mitigation effectiveness	1. Review the investigation results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Advise the ER on the effectiveness of the proposed 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. Supervise the implementation of remedial measures	1. Submit noise mitigation proposals to IEC and ER; 2. Implement noise mitigation proposals
Limit Level being exceeded	1. Inform IEC, ER, Contractor and EPD; 2. Repeat measurements to confirm findings; 3. Increase monitoring frequency; 4. Identify source and investigate the cause of exceedance; 5. Carry out analysis of Contractor's working procedures; 6. Discuss with the IEC, Contractor and ER on remedial measures required; 7. Assess effectiveness of	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly.	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. Supervise the implementation of remedial measures; 5. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC and ER within 3 working days of notification; 3. Implement the agreed proposals; 4. Submit further proposal if problem still not under control; 5. Stop the relevant portion of works as instructed by

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
	Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring		until the exceedance is abated	the ER until the exceedance is abated

APPENDIX J
ENVIRONMENTAL MITIGATION
IMPLEMENTATION SCHEDULE (EMIS)

APPENDIX J 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
A	**Air Quality**						
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	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
	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	**Airborne Noise**						
4.56–4.61	Use of quiet PME, movable barriers and acoustic mats.	All construction sites	^	^	^	^	^
4.67	Only well-maintained plant shall be operated on-site and plant shall be serviced regularly during the construction program.		^	^	^	^	^
	Silencers or mufflers on construction equipment shall be utilized and shall be properly maintained during the construction program.		^	^	^	^	^
	Mobile plant, if any, shall be sited as far away from NSRs as possible.		^	^	^	^	^
	Machines and plant (such as trucks) that may be in intermittent use shall be shut down between works periods or shall be throttled down to a minimum.		^	^	^	^	^
4.67	Plant known to emit noise strongly in one direction shall, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.		^	^	^	^	^
	Material stockpiles and other structures shall be effectively utilized, wherever practicable, in screening noise from on-site construction activities.		^	^	^	^	^

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
C	**Water Quality**						
6.349 to 6.375	Construction Site Runoff and General Construction Activities The mitigation measures as outlined in the ProPECC PN 1/94 Construction Site Drainage should be adopted where applicable.	All construction sites	<>	#	^	^	*
6.376	Effluent Discharge There is a need to apply to EPD for a discharge licence for discharge of effluent from the construction site under the WPCO. The discharge quality must meet the requirements specified in the discharge licence. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the WPCO license which is under the ambit of regional office (RO) of EPD. Minimum distances of 100 m should be maintained between the discharge points of construction site effluent and the existing saltwater intakes.		^	^	^	*	*
6.377	Accidental Spillage of Chemicals Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.		^	^	^	^	^
6.378	Any service shop and maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of		<>	^	^	^	^

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
	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: • Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport. • Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents. • Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.		^	#	*	*	*
6.380	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. • The use of less or smaller construction plants may be specified to reduce the disturbance to the storm water courses or marine environment. • Temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction materials should be located	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
	well away from any water courses during carrying out of the construction works. • Stockpiling of construction materials and dusty materials should be covered and located away from any water courses. • Construction debris and spoil should be covered up and/or disposed of as soon as possible to avoid being washed into the nearby water receivers. Construction activities, which generate large amount of wastewater, should be carried out in a distance • away from the waterfront, where practicable. • Proper shoring may need to be erected in order to prevent soil/mud from slipping into the storm culvert or sea.						
D	**Waste Management**						
9.107	Reusable steel or concrete panel shutters, fencing and hoarding and signboard should be used as a preferred alternative to items made of wood, to minimise wastage of wood. Attention should be paid to WBTC No. 19/2001 - Metallic Site Hoardings and Signboards to reduce the amount of timber used on construction sites. Metallic alternatives to timber are readily available and should be used rather than new timber. Precast concrete units should be adopted wherever feasible to minimize the use of timber formwork.	All construction sites	^	^	^	^	^
9.109	All waste materials should be segregated into categories covering: • excavated materials suitable for reuse on-site; • excavated materials suitable for public filling facilities; • remaining C&D waste for landfill; • chemical waste; and • general refuse for landfill.	All construction sites	^	^	^	^	^

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
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 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		^	^	^	^	^

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
	would be properly collected.						
9.133	General refuse should be stored in enclosed bins, skips or compaction units separating from C&D material and disposed of at designated landfill.		^	^	*	^	^
9.135	The recyclable component of the municipal waste generated by the workforce, such as aluminium cans, paper and cleansed plastic containers should be separated from other waste. Provision and collection of recycling bins for different types of recyclable waste should be set up by the Contractor. The Contractor should also be responsible for arranging recycling companies to collect these materials.		^	^	^	^	^
9.137	If chemical wastes are produced at the construction site, the Contractor would be required to register with the EPD as a chemical waste producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the approved Chemical Waste Treatment Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.		^	^	^	^	^
9.142	Prior to excavation of the marine deposit layer, the deposit should be tested in accordance with the ETWB TC(W) No. 34/2002 and the results should be presented in a Preliminary Sediment Quality Report. The marine deposit should be disposed of at the disposal site		^	^	^	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
	designated by the Marine Fill Committee (MFC) or Director of Environmental Protection (DEP) depending on the test results.						
E	**Terrestrial Ecology**						
10.94	To implement effective noise mitigation measures as recommended in Section 4 of EIA.	All construction sites	^	^	^	N/A	N/A
10.95	Dust control practices such as regular watering, complete coverage of any aggregate or dusty material storage piles, and re-schedule of dusty activities during high-wind conditions as well as other measures recommended in Section 3 of EIA, should be implemented.		^	^	^	^	^
10.96	Fences/hoardings should be erected and installed along the boundary of the works areas.		^	^	^	^	^
10.97	Standard good site practices as suggested in Section 10 of EIA should be implemented.		^	^	^	N/A	N/A
10.98	Provision of proper drainage system and runoff control measures such as use of sand/silt traps, oil/grease separators, sedimentation tanks, etc.		^	#	^	^	^
F	**Landscape and Visual**						
Table 13.7	Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical.	All construction sites	<>	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	^	^	^
	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

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
G	**Marine Ecology**						
11.137	To minimize the potential indirect impacts on water quality from construction site runoff and various construction activities, the practices outlined in ProPECC PN 1/94 Construction Site Drainage should be adopted.	All construction sites	^	#	^	^	^
H	**Hazard to Life**						
14A.201	Limiting use of cranes in terms of locations, lifting height, swing angle and setting up safety zone.	Exact location will be determined on construction site by the engineer	^	^	^	^	^

Remarks:	^ Compliance of mitigation measure;
	<> 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;

APPENDIX K
COMPLAINT LOG

APPENDIX K – COMPLAINT LOG

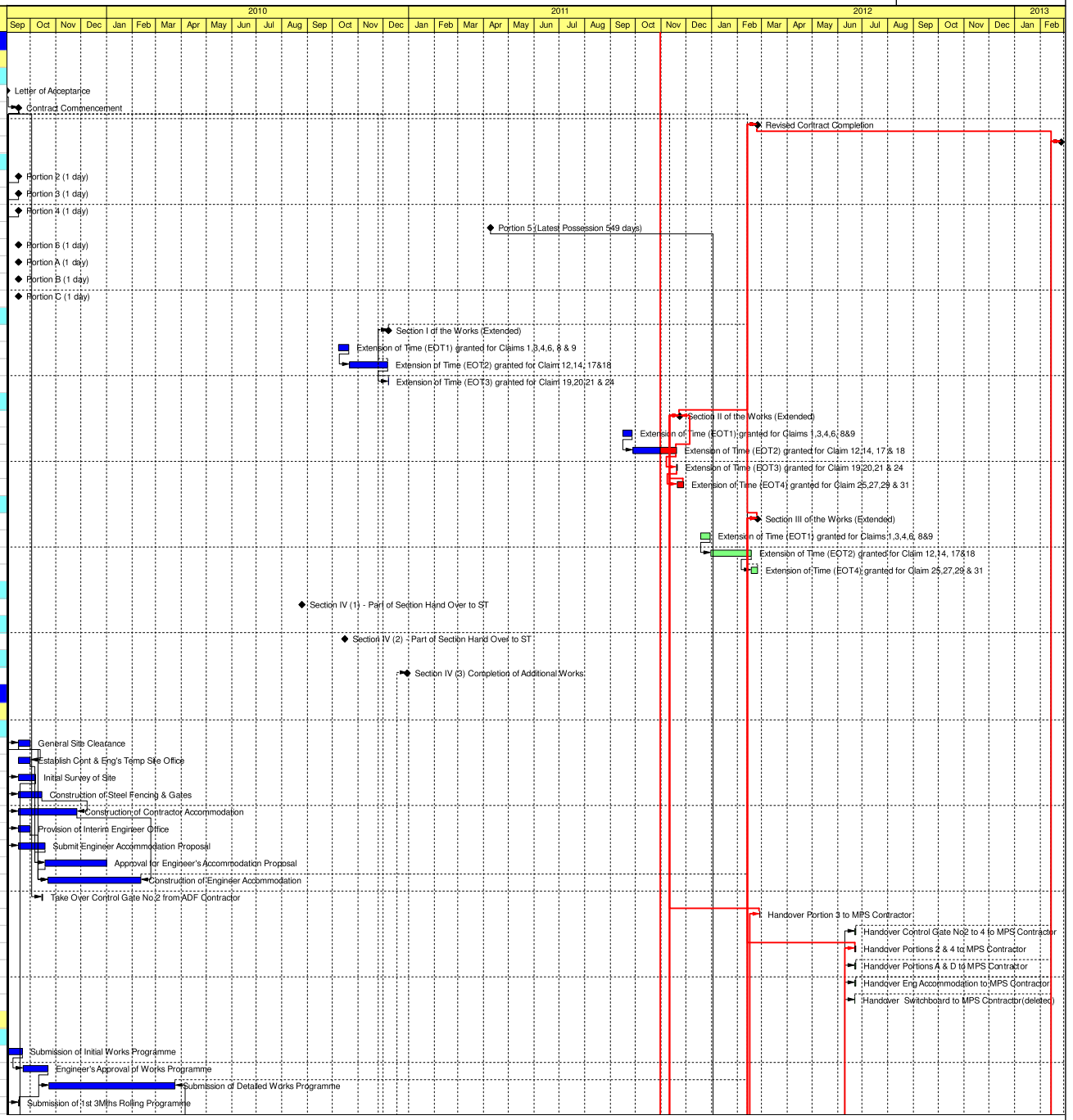
Reporting Month: October 2011

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

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

APPENDIX L
CONSTRUCTION PROGRAMME

Activity ID	Activity Name	Orig Dur	Target Start	Target Finish	Start	Finish	Rem Dur	Total Float
Key Dates								
(For All Works Under the Contract)								
General								
KD-1000	Letter of Acceptance	0	03-Sep-09		03-Sep-09 A		0	
KD-2000	Contract Commencement	0	17-Sep-09		17-Sep-09 A		0	
KD-2500	Revised Contract Completion	0		18-Feb-12		25-Feb-12*	0	0
KD-2600	Revised End of Maintenance Period	0		18-Feb-13		25-Feb-13	0	-7
Portion Handover								
KD-6000	Portion 2 (1 day)	0	17-Sep-09		17-Sep-09 A		0	
KD-6100	Portion 3 (1 day)	0	17-Sep-09		17-Sep-09 A		0	
KD-6200	Portion 4 (1 day)	0	17-Sep-09		17-Sep-09 A		0	
KD-6300	Portion 5 (Latest Possession 549 days)	0	19-Mar-11		09-Apr-11 A		0	
KD-6400	Portion 6 (1 day)	0	17-Sep-09		17-Sep-09 A		0	
KD-6500	Portion A (1 day)	0	17-Sep-09		17-Sep-09 A		0	
KD-6600	Portion B (1 day)	0	17-Sep-09		17-Sep-09 A		0	
KD-6700	Portion C (1 day)	0	17-Sep-09		17-Sep-09 A		0	
Section I of the Works (387 days)								
KD-3000	Section I of the Works (Extended)	0		31-Dec-10		07-Dec-10 A	0	
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	
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	
KD-3030	Extension of Time (EOT3) granted for Claim 19,20,21 & 24	1			07-Dec-10 A	07-Dec-10 A	0	
Section II of the Works (730 days)								
KD-4000	Section II of the Works (Extended)	0		15-Nov-11		23-Nov-11*	0	0
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 A	27-Sep-11 A	0	
KD-4020	Extension of Time (EOT2) granted for Claim 12,14, 17 & 18	49	28-Sep-11	15-Nov-11	28-Sep-11 A	19-Nov-11	20	-5
KD-4030	Extension of Time (EOT3) granted for Claim 19,20,21 & 24	1			20-Nov-11	20-Nov-11	1	-5
KD-4040	Extension of Time (EOT4) granted for Claim 25,27,29 & 31	8			21-Nov-11	28-Nov-11	8	-5
Section III of the Works (823 days)								
KD-5000	Section III of the Works (Extended)	0		18-Feb-12		25-Feb-12*	0	0
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	11	1
KD-5020	Extension of Time (EOT2) granted for Claim 12,14, 17&18	49	31-Dec-11	18-Feb-12	31-Dec-11	17-Feb-12	49	1
KD-5060	Extension of Time (EOT4) granted for Claim 25,27,29 & 31	8			18-Feb-12	25-Feb-12	8	1
Section IV (1) of the Additional Works (131 days								
KD-5030	Section IV (1) - Part of Section Hand Over to ST	0		25-Aug-10		25-Aug-10 A	0	
Section IV (2) of the Additional Works (199 days								
KD-5040	Section IV (2) - Part of Section Hand Over to ST	0		15-Oct-10		15-Oct-10 A	0	
Section IV (3) of the Addtional Works (199 days)								
KD-5050	Section IV (3) Completion of Additional Works	0		30-Dec-10		30-Dec-10 A	0	
Preliminaries and General Requirement								
General Requirement								
General								
PG/00020	General Site Clearance	14	17-Sep-09	30-Sep-09	17-Sep-09 A	30-Sep-09 A	0	
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	
PG/00040	Initial Survey of Site	21	17-Sep-09	07-Oct-09	17-Sep-09 A	07-Oct-09 A	0	
PG/00050	Construction of Steel Fencing & Gates	28	17-Sep-09	14-Oct-09	17-Sep-09 A	14-Oct-09 A	0	
PG/00060	Construction of Contractor Accommodation	71	17-Sep-09	26-Nov-09	17-Sep-09 A	26-Nov-09 A	0	
PG/00070	Provision of Interim Engineer Office	14	17-Sep-09	30-Sep-09	17-Sep-09 A	30-Sep-09 A	0	
PG/00080	Submit Engineer Accommodation Proposal	32	17-Sep-09	18-Oct-09	17-Sep-09 A	18-Oct-09 A	0	
PG/00090	Approval for Engineer's Accommodation Proposal	80	19-Oct-09	31-Dec-09	19-Oct-09 A	31-Dec-09 A	0	
PG/00100	Construction of Engineer Accommodation	125	22-Oct-09	11-Feb-10	22-Oct-09 A	11-Feb-10 A	0	
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	
PG/00120	Handover Portion 3 to MPS Contractor	1	24-Feb-12	24-Feb-12	28-Feb-12	28-Feb-12	1	-95
PG/00130	Handover Control Gate No2 to 4 to MPS Contractor	1	11-Apr-12	11-Apr-12	22-Jun-12	22-Jun-12	1	241
PG/00140	Handover Portions 2 & 4 to MPS Contractor	1	11-Apr-12	11-Apr-12	22-Jun-12	22-Jun-12	1	-118
PG/00150	Handover Portions A & D to MPS Contractor	1	11-Apr-12	11-Apr-12	22-Jun-12	22-Jun-12	1	241
PG/00160	Handover Eng Accommodation to MPS Contractor	1	11-Apr-12	11-Apr-12	22-Jun-12	22-Jun-12	1	241
PG/00170	Handover Switchboard to MPS Contractor(deleted)	0	11-Apr-12	11-Apr-12	22-Jun-12	22-Jun-12	0	242
Submission, Approvals and Permits								
General								
PG/00220	Submission of Initial Works Programme	19	03-Sep-09	21-Sep-09	03-Sep-09 A	21-Sep-09 A	0	
PG/00230	Engineer's Approval of Works Programme	31	22-Sep-09	22-Oct-09	22-Sep-09 A	22-Oct-09 A	0	
PG/00240	Submission of Detailed Works Programme	150	23-Oct-09	24-Mar-10	23-Oct-09 A	24-Mar-10 A	0	
PG/00250	Submission of 1st 3Mths Rolling Programme	14	17-Sep-09	17-Sep-09	17-Sep-09 A	17-Sep-09 A	0	



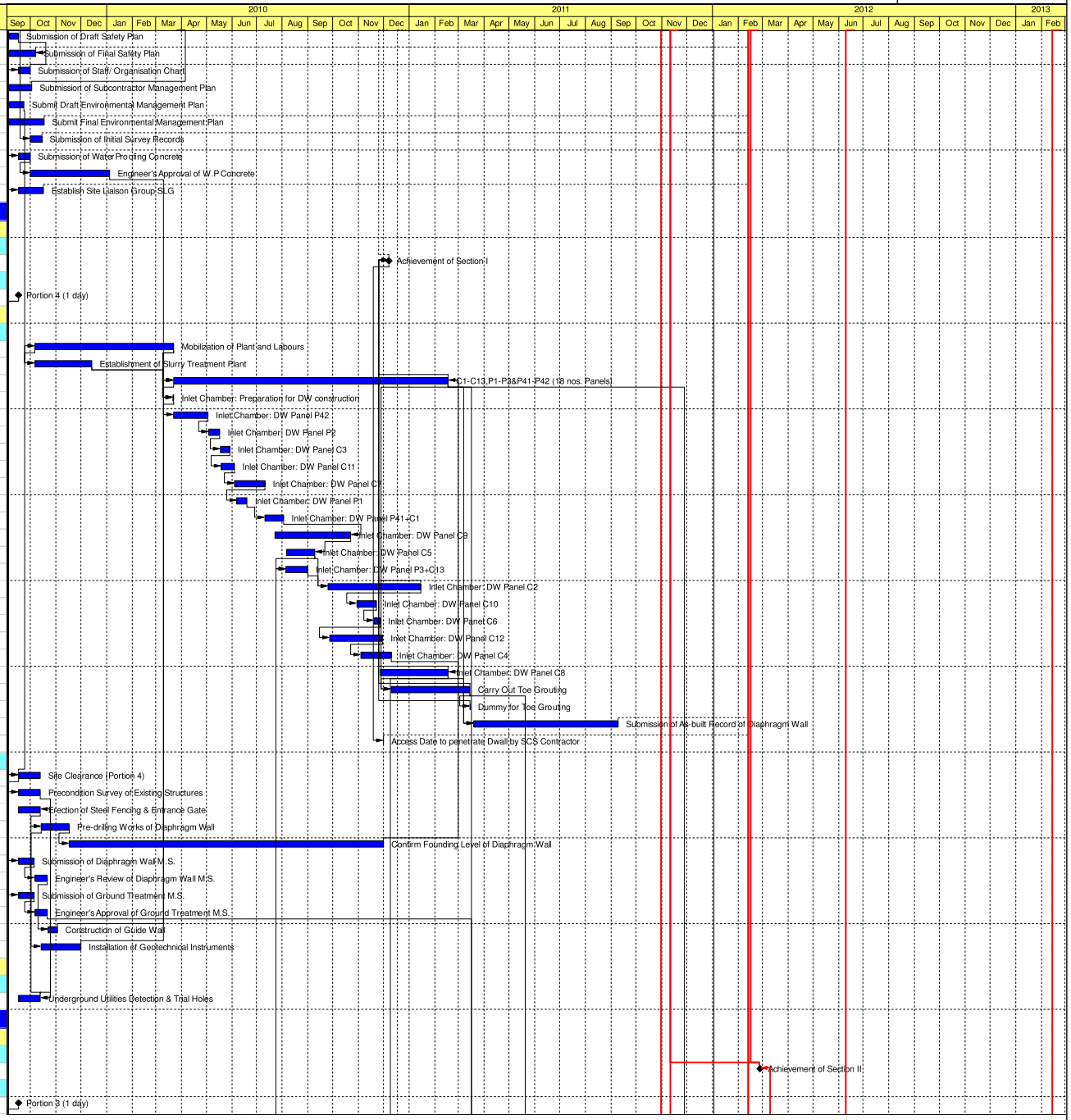
Actual Work | Remaining Work | Critical Remaining Work | Milestone

Monthly Progress Update - 31 Octoberr 2011

Prepared by: Rey Roque

Date	Revision	Checked	Approved
31-Oct-11	Monthly update	HW	CL

Activity ID	Activity Name	Orig Dur	Target Start	Target Finish	Start	Finish	Rem Dur	Total Float
PG/00260	Submission of Draft Safety Plan	14	03-Sep-09	16-Sep-09	03-Sep-09 A	16-Sep-09 A	0	
PG/00270	Submission of Final Safety Plan	35	03-Sep-09	07-Oct-09	03-Sep-09 A	07-Oct-09 A	0	
PG/00280	Submission of Staff/ Organisation Chart	14	17-Sep-09	30-Sep-09	17-Sep-09 A	30-Sep-09 A	0	
PG/00290	Submission of Subcontractor Management Plan	30	03-Sep-09	02-Oct-09	03-Sep-09 A	02-Oct-09 A	0	
PG/00300	Submit Draft Environmental Management Plan	21	03-Sep-09	23-Sep-09	03-Sep-09 A	23-Sep-09 A	0	
PG/00310	Submit Final Environmental Management Plan	45	03-Sep-09	17-Oct-09	03-Sep-09 A	17-Oct-09 A	0	
PG/00320	Submission of Initial Survey Records	14	01-Oct-09	14-Oct-09	01-Oct-09 A	14-Oct-09 A	0	
PG/00330	Submission of Water Proofing Concrete	14	17-Sep-09	30-Sep-09	17-Sep-09 A	30-Sep-09 A	0	
PG/00340	Engineer's Approval of W.P Concrete	135	01-Oct-09	04-Jan-10	01-Oct-09 A	04-Jan-10 A	0	
PG/00350	Establish Site Liaison Group SLG	30	17-Sep-09	16-Oct-09	17-Sep-09 A	16-Oct-09 A	0	
Section 1								
(For All Works Under the Contract)								
Key Dates								
KD3000	Achievement of Section I	0		30-Jan-11		07-Dec-10 A	0	
Portion Handover								
KD6200	Portion 4 (1 day)	0	17-Sep-09		17-Sep-09 A		0	
Inlet Chamber								
Diaphragm Wall								
S1/02040	Mobilization of Plant and Labours	130	06-Oct-09	22-Mar-10	06-Oct-09 A	22-Mar-10 A	0	
S1/02050	Establishment of Slurry Treatment Plant	60	06-Oct-09	14-Dec-09	06-Oct-09 A	14-Dec-09 A	0	
S1/02060	C1-C13,P1-P3&P41-P42 (18 nos. Panels)	129	23-Mar-10	06-Jan-11	23-Mar-10 A	17-Feb-11 A	0	
S1/02070	Inlet Chamber: Preparation for DW construction	1	22-Mar-10	22-Mar-10	22-Mar-10 A	22-Mar-10 A	0	
S1/02080	Inlet Chamber: DW Panel P42	13	23-Mar-10	03-May-10	23-Mar-10 A	03-May-10 A	0	
S1/02090	Inlet Chamber: DW Panel P2	14	04-May-10	17-May-10	04-May-10 A	17-May-10 A	0	
S1/02100	Inlet Chamber: DW Panel C3	10	18-May-10	29-May-10	18-May-10 A	29-May-10 A	0	
S1/02110	Inlet Chamber: DW Panel C11	10	19-May-10	04-Jun-10	19-May-10 A	04-Jun-10 A	0	
S1/02120	Inlet Chamber: DW Panel C7	10	04-Jun-10	10-Jul-10	04-Jun-10 A	10-Jul-10 A	0	
S1/02130	Inlet Chamber: DW Panel P1	4	07-Jun-10	19-Jun-10	07-Jun-10 A	19-Jun-10 A	0	
S1/02140	Inlet Chamber: DW Panel P41+C1	13	11-Jul-10	02-Aug-10	11-Jul-10 A	02-Aug-10 A	0	
S1/02150	Inlet Chamber: DW Panel C9	13	23-Jul-10	22-Oct-10	23-Jul-10 A	22-Oct-10 A	0	
S1/02160	Inlet Chamber: DW Panel C5	13	06-Aug-10	08-Sep-10	06-Aug-10 A	08-Sep-10 A	0	
S1/02170	Inlet Chamber: DW Panel P3+C13	13	05-Aug-10	31-Aug-10	05-Aug-10 A	31-Aug-10 A	0	
S1/02180	Inlet Chamber: DW Panel C2	13	25-Sep-10	07-Jan-11	25-Sep-10 A	15-Jan-11 A	0	
S1/02190	Inlet Chamber: DW Panel C10	4	29-Oct-10	22-Nov-10	29-Oct-10 A	22-Nov-10 A	0	
S1/02200	Inlet Chamber: DW Panel C6	4	19-Nov-10	26-Nov-10	19-Nov-10 A	26-Nov-10 A	0	
S1/02210	Inlet Chamber: DW Panel C12	4	27-Sep-10	29-Nov-10	27-Sep-10 A	29-Nov-10 A	0	
S1/02220	Inlet Chamber: DW Panel C4	4	03-Nov-10	09-Dec-10	03-Nov-10 A	09-Dec-10 A	0	
S1/02230	Inlet Chamber: DW Panel C8	4	27-Nov-10	07-Jan-11	27-Nov-10 A	17-Feb-11 A	0	
S1/02260	Carry Out Toe Grouting	48	10-Dec-10	29-Jan-11	10-Dec-10 A	14-Mar-11 A	0	
S1/02262	Dummy for Toe Grouting	0	30-Jan-11	30-Jan-11	15-Mar-11 A	15-Mar-11 A	0	
S1/02270	Submission of As-built Record of Diaphragm Wall	28	08-Jan-11	08-Feb-11	20-Mar-11 A	09-Sep-11 A	0	
S1/02280	Access Date to penetrate Dwall by SCS Contractor	2	30-Jan-11	01-Feb-11	01-Dec-10 A	01-Dec-10 A	0	
Initial Works / Associated Submission								
S1/01020	Site Clearance (Portion 4)	21	17-Sep-09	13-Oct-09	17-Sep-09 A	13-Oct-09 A	0	
S1/01030	Precondition Survey of Existing Structures	21	17-Sep-09	13-Oct-09	17-Sep-09 A	13-Oct-09 A	0	
S1/01040	Erection of Steel Fencing & Entrance Gate	21	17-Sep-09	13-Oct-09	17-Sep-09 A	13-Oct-09 A	0	
S1/01050	Pre-drilling Works of Diaphragm Wall	28	14-Oct-09	16-Nov-09	14-Oct-09 A	16-Nov-09 A	0	
S1/01060	Confirm Founding Level of Diaphragm Wall	135	17-Nov-09	30-Nov-10	17-Nov-09 A	30-Nov-10 A	0	
S1/01070	Submission of Diaphragm Wall M.S.	14	17-Sep-09	05-Oct-09	17-Sep-09 A	05-Oct-09 A	0	
S1/01080	Engineer's Review of Diaphragm Wall M.S.	14	06-Oct-09	21-Oct-09	06-Oct-09 A	21-Oct-09 A	0	
S1/01090	Submission of Ground Treatment M.S.	14	17-Sep-09	05-Oct-09	17-Sep-09 A	05-Oct-09 A	0	
S1/01100	Engineer's Approval of Ground Treatment M.S.	14	06-Oct-09	21-Oct-09	06-Oct-09 A	21-Oct-09 A	0	
S1/01110	Construction of Guide Wall	28	22-Oct-09	02-Nov-09	22-Oct-09 A	02-Nov-09 A	0	
S1/01120	Installation of Geotechnical Instruments	40	14-Oct-09	30-Nov-09	14-Oct-09 A	30-Nov-09 A	0	
Utilities and Services								
General								
S1/01000	Underground Utilities Detection & Trial Holes	14	17-Sep-09	13-Oct-09	17-Sep-09 A	13-Oct-09 A	0	
Section 2								
(For All Works Under the Contract)								
Key Dates								
KD4000	Achievement of Section II	0		23-Feb-12		27-Feb-12	0	-97
Portion Handover								
KD6100	Portion 3 (1 day)	0	17-Sep-09		17-Sep-09 A		0	



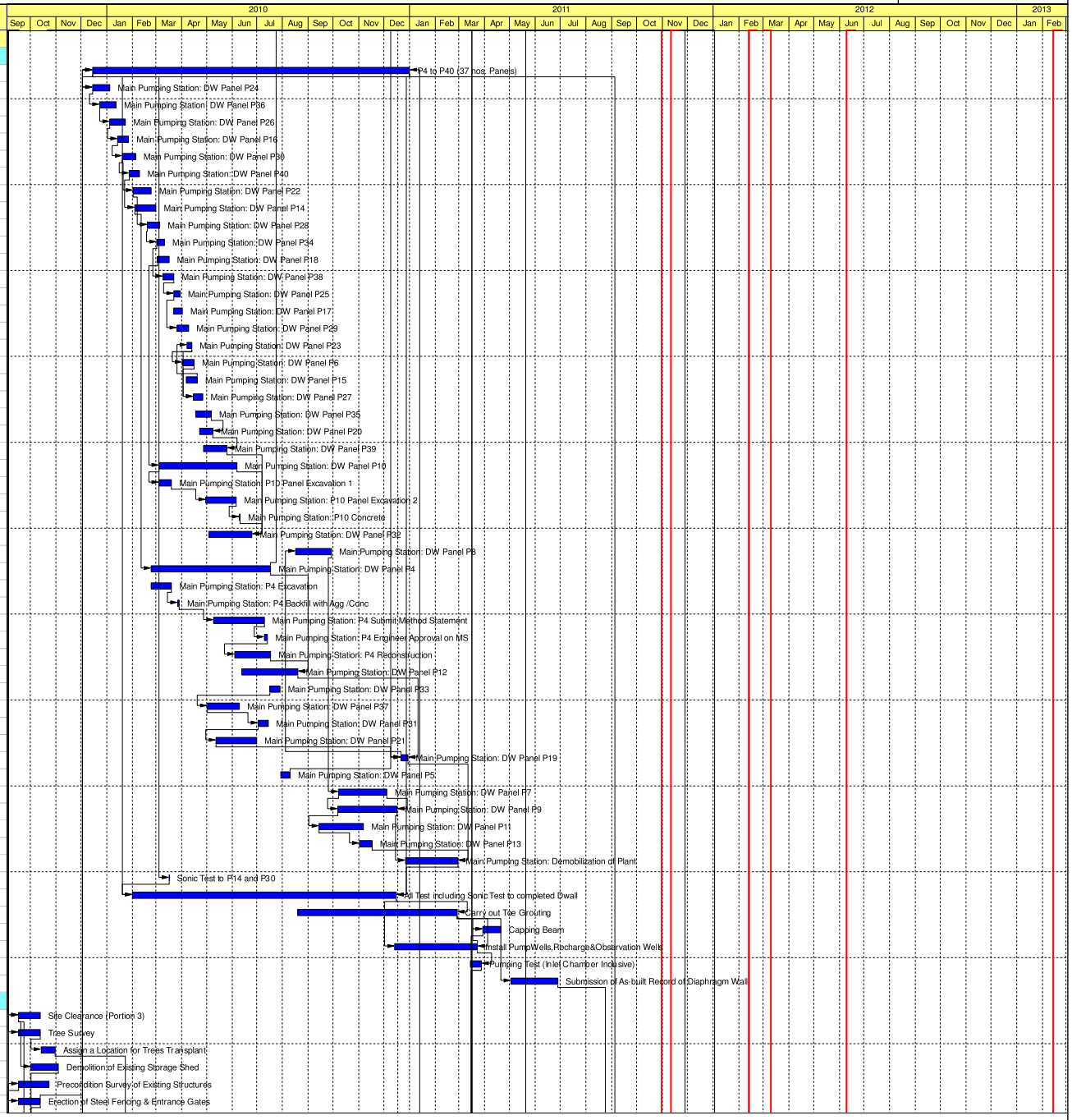
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Monthly Progress Update - 31 Octoberr 2011

Prepared by: Rey Roque

Date	Revision	Checked	Approved
31-Oct-11	Monthly update	HW	CL

Activity ID	Activity Name	Orig Dur	Target Start	Target Finish	Start	Finish	Rem Dur	Total Float
Main Pumping Station								
Diaphragm Wall								
S2/03550	P4 to P40 (37 nos. Panels)	234	15-Dec-09	31-Dec-10	15-Dec-09 A	31-Dec-10 A	0	
S2/03560	Main Pumping Station: DW Panel P24	21	15-Dec-09	04-Jan-10	15-Dec-09 A	04-Jan-10 A	0	
S2/03570	Main Pumping Station: DW Panel P36	21	23-Dec-09	12-Jan-10	23-Dec-09 A	12-Jan-10 A	0	
S2/03580	Main Pumping Station: DW Panel P26	19	05-Jan-10	23-Jan-10	05-Jan-10 A	23-Jan-10 A	0	
S2/03590	Main Pumping Station: DW Panel P16	14	14-Jan-10	27-Jan-10	14-Jan-10 A	27-Jan-10 A	0	
S2/03600	Main Pumping Station: DW Panel P30	16	20-Jan-10	04-Feb-10	20-Jan-10 A	04-Feb-10 A	0	
S2/03610	Main Pumping Station: DW Panel P40	13	28-Jan-10	09-Feb-10	28-Jan-10 A	09-Feb-10 A	0	
S2/03620	Main Pumping Station: DW Panel P22	18	02-Feb-10	23-Feb-10	02-Feb-10 A	23-Feb-10 A	0	
S2/03630	Main Pumping Station: DW Panel P14	22	04-Feb-10	01-Mar-10	04-Feb-10 A	01-Mar-10 A	0	
S2/03640	Main Pumping Station: DW Panel P28	15	19-Feb-10	05-Mar-10	19-Feb-10 A	05-Mar-10 A	0	
S2/03650	Main Pumping Station: DW Panel P34	10	02-Mar-10	11-Mar-10	02-Mar-10 A	11-Mar-10 A	0	
S2/03660	Main Pumping Station: DW Panel P18	15	03-Mar-10	17-Mar-10	03-Mar-10 A	17-Mar-10 A	0	
S2/03670	Main Pumping Station: DW Panel P38	14	09-Mar-10	22-Mar-10	09-Mar-10 A	22-Mar-10 A	0	
S2/03680	Main Pumping Station: DW Panel P25	16	23-Mar-10	30-Mar-10	23-Mar-10 A	30-Mar-10 A	0	
S2/03690	Main Pumping Station: DW Panel P17	8	23-Mar-10	02-Apr-10	23-Mar-10 A	02-Apr-10 A	0	
S2/03700	Main Pumping Station: DW Panel P29	10	26-Mar-10	09-Apr-10	26-Mar-10 A	09-Apr-10 A	0	
S2/03710	Main Pumping Station: DW Panel P23	10	08-Apr-10	13-Apr-10	08-Apr-10 A	13-Apr-10 A	0	
S2/03720	Main Pumping Station: DW Panel P6	16	02-Apr-10	16-Apr-10	02-Apr-10 A	16-Apr-10 A	0	
S2/03730	Main Pumping Station: DW Panel P15	10	07-Apr-10	19-Apr-10	07-Apr-10 A	19-Apr-10 A	0	
S2/03740	Main Pumping Station: DW Panel P27	15	15-Apr-10	26-Apr-10	15-Apr-10 A	26-Apr-10 A	0	
S2/03750	Main Pumping Station: DW Panel P35	10	18-Apr-10	06-May-10	18-Apr-10 A	06-May-10 A	0	
S2/03760	Main Pumping Station: DW Panel P20	10	23-Apr-10	08-May-10	23-Apr-10 A	08-May-10 A	0	
S2/03770	Main Pumping Station: DW Panel P39	10	27-Apr-10	25-May-10	27-Apr-10 A	25-May-10 A	0	
S2/03780	Main Pumping Station: DW Panel P10	116	05-Mar-10	06-Jun-10	05-Mar-10 A	06-Jun-10 A	0	
S2/03782	Main Pumping Station: P10 Panel Excavation 1	15	05-Mar-10	19-Mar-10	05-Mar-10 A	19-Mar-10 A	0	
S2/03784	Main Pumping Station: P10 Panel Excavation 2	20	30-Apr-10	05-Jun-10	30-Apr-10 A	05-Jun-10 A	0	
S2/03786	Main Pumping Station: P10 Concrete	4	10-Jun-10	10-Jun-10	10-Jun-10 A	10-Jun-10 A	0	
S2/03790	Main Pumping Station: DW Panel P32	15	04-May-10	24-Jun-10	04-May-10 A	24-Jun-10 A	0	
S2/03800	Main Pumping Station: DW Panel P8	15	16-Aug-10	28-Sep-10	16-Aug-10 A	28-Sep-10 A	0	
S2/03810	Main Pumping Station: DW Panel P4	141	23-Feb-10	17-Jul-10	23-Feb-10 A	17-Jul-10 A	0	
S2/03820	Main Pumping Station: P4 Excavation	25	23-Feb-10	19-Mar-10	23-Feb-10 A	19-Mar-10 A	0	
S2/03830	Main Pumping Station: P4 Backfill with Agg /Conc	3	27-Mar-10	29-Mar-10	27-Mar-10 A	29-Mar-10 A	0	
S2/03840	Main Pumping Station: P4 Submit Method Statement	21	10-May-10	09-Jul-10	10-May-10 A	09-Jul-10 A	0	
S2/03850	Main Pumping Station: P4 Engineer Approval on MS	6	10-Jul-10	13-Jul-10	10-Jul-10 A	13-Jul-10 A	0	
S2/03860	Main Pumping Station: P4 Reconstruction	18	04-Jun-10	17-Jul-10	04-Jun-10 A	17-Jul-10 A	0	
S2/03870	Main Pumping Station: DW Panel P12	15	12-Jun-10	19-Aug-10	12-Jun-10 A	19-Aug-10 A	0	
S2/03880	Main Pumping Station: DW Panel P33	8	16-Jul-10	28-Jul-10	16-Jul-10 A	28-Jul-10 A	0	
S2/03890	Main Pumping Station: DW Panel P37	8	02-May-10	09-Jun-10	02-May-10 A	09-Jun-10 A	0	
S2/03900	Main Pumping Station: DW Panel P31	8	02-Jul-10	14-Jul-10	02-Jul-10 A	14-Jul-10 A	0	
S2/03910	Main Pumping Station: DW Panel P21	8	12-May-10	30-Jun-10	12-May-10 A	30-Jun-10 A	0	
S2/03920	Main Pumping Station: DW Panel P19	8	21-Dec-10	30-Dec-10	21-Dec-10 A	30-Dec-10 A	0	
S2/03930	Main Pumping Station: DW Panel P5	8	29-Jul-10	09-Aug-10	29-Jul-10 A	09-Aug-10 A	0	
S2/03940	Main Pumping Station: DW Panel P7	8	07-Oct-10	04-Dec-10	07-Oct-10 A	04-Dec-10 A	0	
S2/03950	Main Pumping Station: DW Panel P9	8	06-Oct-10	16-Dec-10	06-Oct-10 A	16-Dec-10 A	0	
S2/03960	Main Pumping Station: DW Panel P11	8	13-Sep-10	06-Nov-10	13-Sep-10 A	06-Nov-10 A	0	
S2/03970	Main Pumping Station: DW Panel P13	8	01-Nov-10	16-Nov-10	01-Nov-10 A	16-Nov-10 A	0	
S2/03980	Main Pumping Station: Demobilization of Plant	5	27-Dec-10	31-Dec-10	27-Dec-10 A	28-Feb-11 A	0	
S2/04020	Sonic Test to P14 and P30	1	17-Mar-10	17-Mar-10	17-Mar-10 A	17-Mar-10 A	0	
S2/04030	All Test including Sonic Test to completed Dwall	75	01-Feb-10	15-Dec-10	01-Feb-10 A	15-Dec-10 A	0	
S2/04050	Carry out Toe Grouting	75	19-Aug-10	14-Jan-11	19-Aug-10 A	27-Feb-11 A	0	
S2/04070	Capping Beam	20	15-Jan-11	08-Feb-11	30-Mar-11 A	21-Apr-11 A	0	
S2/04080	Install PumpWells,Recharge&Observation Wells	21	14-Dec-10	15-Feb-11	14-Dec-10 A	23-Mar-11 A	0	
S2/04090	Pumping Test (Inlet Chamber Inclusive)	21	16-Feb-11	08-Mar-11	15-Mar-11 A	28-Mar-11 A	0	
S2/04100	Submission of As-built Record of Diaphragm Wall	21	15-Jan-11	08-Feb-11	03-May-11 A	28-Jun-11 A	0	
Initial Works / Associated Submission								
S2/03120	Site Clearance (Portion 3)	21	17-Sep-09	13-Oct-09	17-Sep-09 A	13-Oct-09 A	0	
S2/03130	Tree Survey	21	17-Sep-09	13-Oct-09	17-Sep-09 A	13-Oct-09 A	0	
S2/03140	Assign a Location for Trees Transplant	14	14-Oct-09	30-Oct-09	14-Oct-09 A	30-Oct-09 A	0	
S2/03150	Demolition of Existing Storage Shed	30	02-Oct-09	03-Nov-09	02-Oct-09 A	03-Nov-09 A	0	
S2/03160	Precondition Survey of Existing Structures	30	17-Sep-09	23-Oct-09	17-Sep-09 A	23-Oct-09 A	0	
S2/03170	Erection of Steel Fencing & Entrance Gates	21	17-Sep-09	13-Oct-09	17-Sep-09 A	13-Oct-09 A	0	



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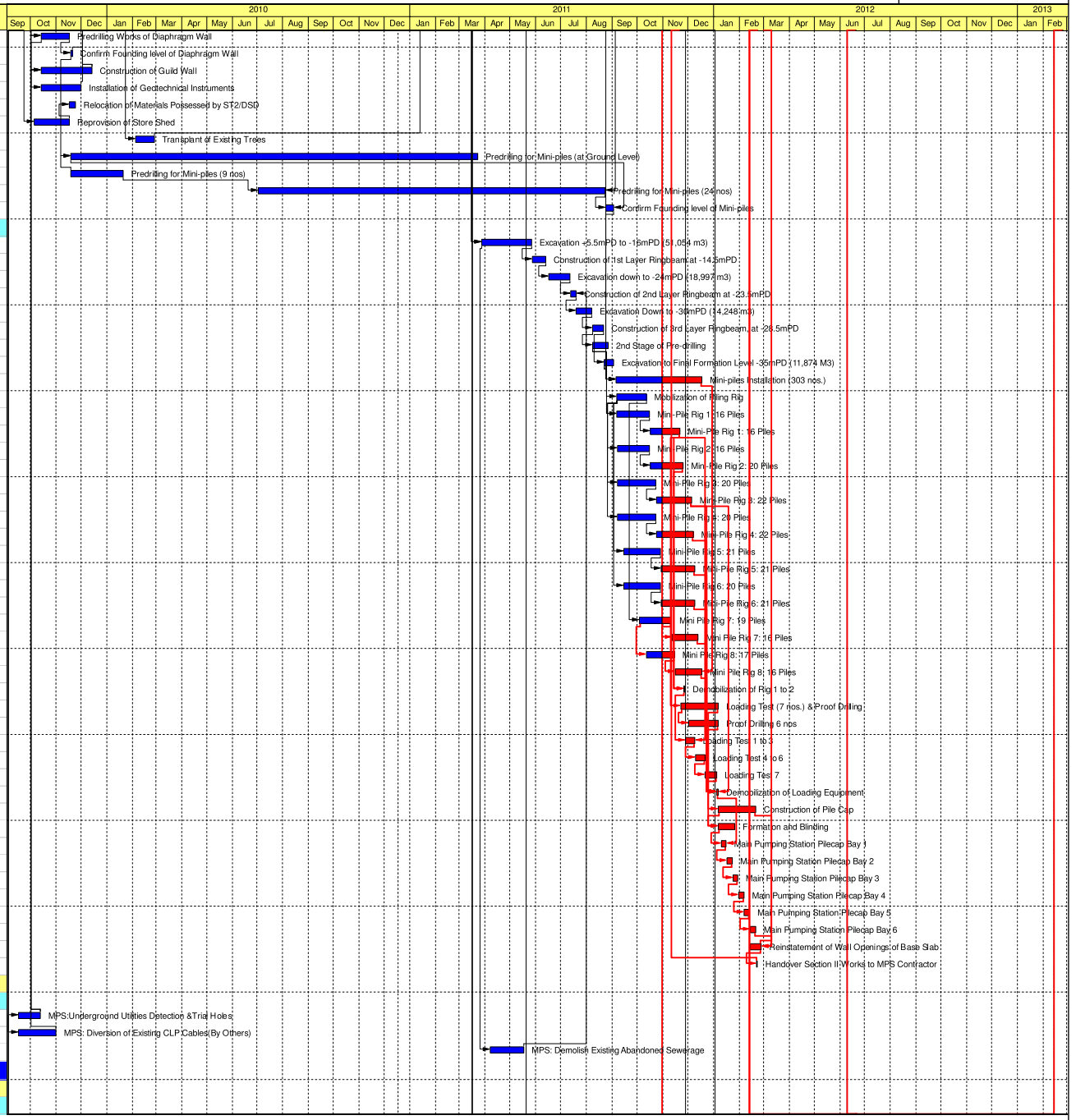
Date	Revision	Checked	Approved
31-Oct-11	Monthly update	HW	CL

Activity ID	Activity Name	Orig Dur	Target Start	Target Finish	Start	Finish	Rem Dur	Total Float
S2/03180	Predrilling Works of Diaphragm Wall	30	14-Oct-09	16-Nov-09	14-Oct-09 A	16-Nov-09 A	0	
S2/03190	Confirm Founding level of Diaphragm Wall	14	19-Nov-09	20-Nov-09	19-Nov-09 A	20-Nov-09 A	0	
S2/03200	Construction of Guild Wall	52	14-Oct-09	14-Dec-09	14-Oct-09 A	14-Dec-09 A	0	
S2/03210	Installation of Geotechnical Instruments	45	14-Oct-09	30-Nov-09	14-Oct-09 A	30-Nov-09 A	0	
S2/03220	Relocation of Materials Possessed by ST2/DSD	8	17-Nov-09	24-Nov-09	17-Nov-09 A	24-Nov-09 A	0	
S2/03230	Reprovision of Store Shed	28	05-Oct-09	16-Nov-09	05-Oct-09 A	16-Nov-09 A	0	
S2/03240	Transplant of Existing Trees	7	05-Feb-10	27-Feb-10	05-Feb-10 A	27-Feb-10 A	0	
S2/03250	Predrilling for Mini-piles (at Ground Level)	200	19-Nov-09	14-Mar-11	19-Nov-09 A	23-Mar-11 A	0	
S2/03260	Predrilling for Mini-piles (9 nos)	51	19-Nov-09	20-Jan-10	19-Nov-09 A	20-Jan-10 A	0	
S2/03270	Predrilling for Mini-piles (24 nos)	60	02-Jul-10	28-Feb-11	02-Jul-10 A	24-Aug-11 A	0	
S2/03280	Confirm Founding level of Mini-piles	7	01-Mar-11	14-Mar-11	25-Aug-11 A	02-Sep-11 A	0	
Other Works								
S2/05020	Excavation +5.5mPD to -16mPD (51,054 m3)	15	09-Mar-11	23-Mar-11	28-Mar-11 A	27-May-11 A	0	
S2/05030	Construction of 1st Layer Ringbeam at -14.5mPD	17	24-Mar-11	09-Apr-11	28-May-11 A	13-Jun-11 A	0	
S2/05040	Excavation down to -24mPD (18,997 m3)	18	10-Apr-11	27-Apr-11	17-Jun-11 A	12-Jul-11 A	0	
S2/05050	Construction of 2nd Layer Ringbeam at -23.5mPD	17	28-Apr-11	14-May-11	13-Jul-11 A	20-Jul-11 A	0	
S2/05060	Excavation Down to -30mPD (14,248 m3)	14	15-May-11	28-May-11	20-Jul-11 A	07-Aug-11 A	0	
S2/05070	Construction of 3rd Layer Ringbeam, at -28.5mPD	14	29-May-11	19-Jun-11	08-Aug-11 A	21-Aug-11 A	0	
S2/05075	2nd Stage of Pre-drilling	20			08-Aug-11 A	27-Aug-11 A	0	
S2/05080	Excavation to Final Formation Level -35mPD (11,874 M3)	14	20-Jun-11	03-Jul-11	22-Aug-11 A	02-Sep-11 A	0	
S2/05090	Mini-piles Installation (303 nos.)	169	22-Jul-11	06-Jan-12	06-Sep-11 A	17-Dec-11	48	-71
S2/05100	Mobilization of Piling Rig	6	30-Jun-11	05-Jul-11	07-Sep-11 A	12-Oct-11 A	0	
S2/05110	Mini-Pile Rig 1: 16 Piles	32	22-Jul-11	29-Sep-11	07-Sep-11 A	16-Oct-11 A	0	
S2/05120	Mini-Pile Rig 1: 16 Piles	32	30-Sep-11	08-Dec-11	17-Oct-11 A	21-Nov-11	22	-95
S2/05130	Mini-Pile Rig 2: 16 Piles	32	22-Jul-11	29-Sep-11	07-Sep-11 A	16-Oct-11 A	0	
S2/05140	Mini-Pile Rig 2: 20 Piles	40	30-Sep-11	08-Dec-11	17-Oct-11 A	25-Nov-11	26	-87
S2/05150	Mini-Pile Rig 3: 20 Piles	40	22-Jul-11	29-Sep-11	07-Sep-11 A	24-Oct-11 A	0	
S2/05160	Mini-Pile Rig 3: 22 Piles	44	30-Sep-11	08-Dec-11	25-Oct-11 A	05-Dec-11	36	-59
S2/05170	Mini-Pile Rig 4: 20 Piles	40	22-Jul-11	27-Sep-11	07-Sep-11 A	24-Oct-11 A	0	
S2/05180	Mini-Pile Rig 4: 22 Piles	44	28-Sep-11	01-Dec-11	25-Oct-11 A	07-Dec-11	38	-61
S2/05190	Mini-Pile Rig 5: 21 Piles	42	22-Jul-11	24-Sep-11	15-Sep-11 A	29-Oct-11 A	0	
S2/05200	Mini-Pile Rig 5: 21 Piles	42	25-Sep-11	01-Dec-11	30-Oct-11 A	09-Dec-11	40	-63
S2/05210	Mini-Pile Rig 6: 20 Piles	40	22-Jul-11	29-Sep-11	15-Sep-11 A	29-Oct-11 A	0	
S2/05220	Mini-Pile Rig 6: 21 Piles	42	30-Sep-11	28-Nov-11	30-Oct-11 A	09-Dec-11	40	-63
S2/05222	Mini Pile Rig 7: 19 Piles	38			04-Oct-11 A	11-Nov-11	12	-71
S2/05224	Mini Pile Rig 7: 16 Piles	32			12-Nov-11	13-Dec-11	32	-67
S2/05226	Mini Pile Rig 8: 17 Piles	34			12-Oct-11 A	15-Nov-11	16	-71
S2/05228	Mini Pile Rig 8: 16 Piles	32			16-Nov-11	17-Dec-11	32	-71
S2/05230	Demobilization of Rig 1 to 2	2	02-Dec-11	03-Dec-11	26-Nov-11	27-Nov-11	2	-87
S2/05240	Loading Test (7 nos.) & Proof Drilling	44	19-Oct-11	06-Jan-12	22-Nov-11	06-Jan-12	44	-95
S2/05250	Proof Drilling 6 nos	34	29-Oct-11	27-Dec-11	02-Dec-11	06-Jan-12	34	-95
S2/05260	Loading Test 1 to 3	12	05-Dec-11	14-Dec-11	28-Nov-11	09-Dec-11	12	-87
S2/05270	Loading Test 4 to 6	12	15-Dec-11	24-Dec-11	10-Dec-11	21-Dec-11	12	-87
S2/05280	Loading Test 7	12	25-Dec-11	03-Jan-12	22-Dec-11	04-Jan-12	12	-87
S2/05300	Demobilization of Loading Equipment	2	04-Jan-12	05-Jan-12	05-Jan-12	06-Jan-12	2	-87
S2/05310	Construction of Pile Cap	45	03-Jan-12	16-Feb-12	07-Jan-12	20-Feb-12	45	-95
S2/05320	Formation and Blinding	20	03-Jan-12	22-Jan-12	07-Jan-12	26-Jan-12	20	-95
S2/05330	Main Pumping Station Pilecap Bay 1	7	06-Jan-12	12-Jan-12	10-Jan-12	16-Jan-12	7	-95
S2/05340	Main Pumping Station Pilecap Bay 2	7	13-Jan-12	19-Jan-12	17-Jan-12	23-Jan-12	7	-95
S2/05350	Main Pumping Station Pilecap Bay 3	7	20-Jan-12	26-Jan-12	24-Jan-12	30-Jan-12	7	-95
S2/05360	Main Pumping Station Pilecap Bay 4	7	27-Jan-12	02-Feb-12	31-Jan-12	06-Feb-12	7	-95
S2/05370	Main Pumping Station Pilecap Bay 5	7	03-Feb-12	09-Feb-12	07-Feb-12	13-Feb-12	7	-95
S2/05380	Main Pumping Station Pilecap Bay 6	7	10-Feb-12	16-Feb-12	14-Feb-12	20-Feb-12	7	-95
S2/05390	Reinstatement of Wall Openings of Base Slab	14	10-Feb-12	23-Feb-12	14-Feb-12	27-Feb-12	14	-95
S2/05400	Handover Section II Works to MPS Contractor	1	02-Feb-12	02-Feb-12	22-Feb-12	22-Feb-12	1	-89
Utilities and Services								
General								
S2/03010	MPS:Underground Utilities Detection &Trial Holes	21	17-Sep-09	13-Oct-09	17-Sep-09 A	13-Oct-09 A	0	
S2/03020	MPS: Diversion of Existing CLP Cables(By Others)	36	17-Sep-09	31-Oct-09	17-Sep-09 A	31-Oct-09 A	0	
S2/03040	MPS: Demolish Existing Abandoned Sewerage	18	09-Mar-11	29-Mar-11	07-Apr-11 A	17-May-11 A	0	
Section 3								
(For All Works Under the Contract)								
Key Dates								



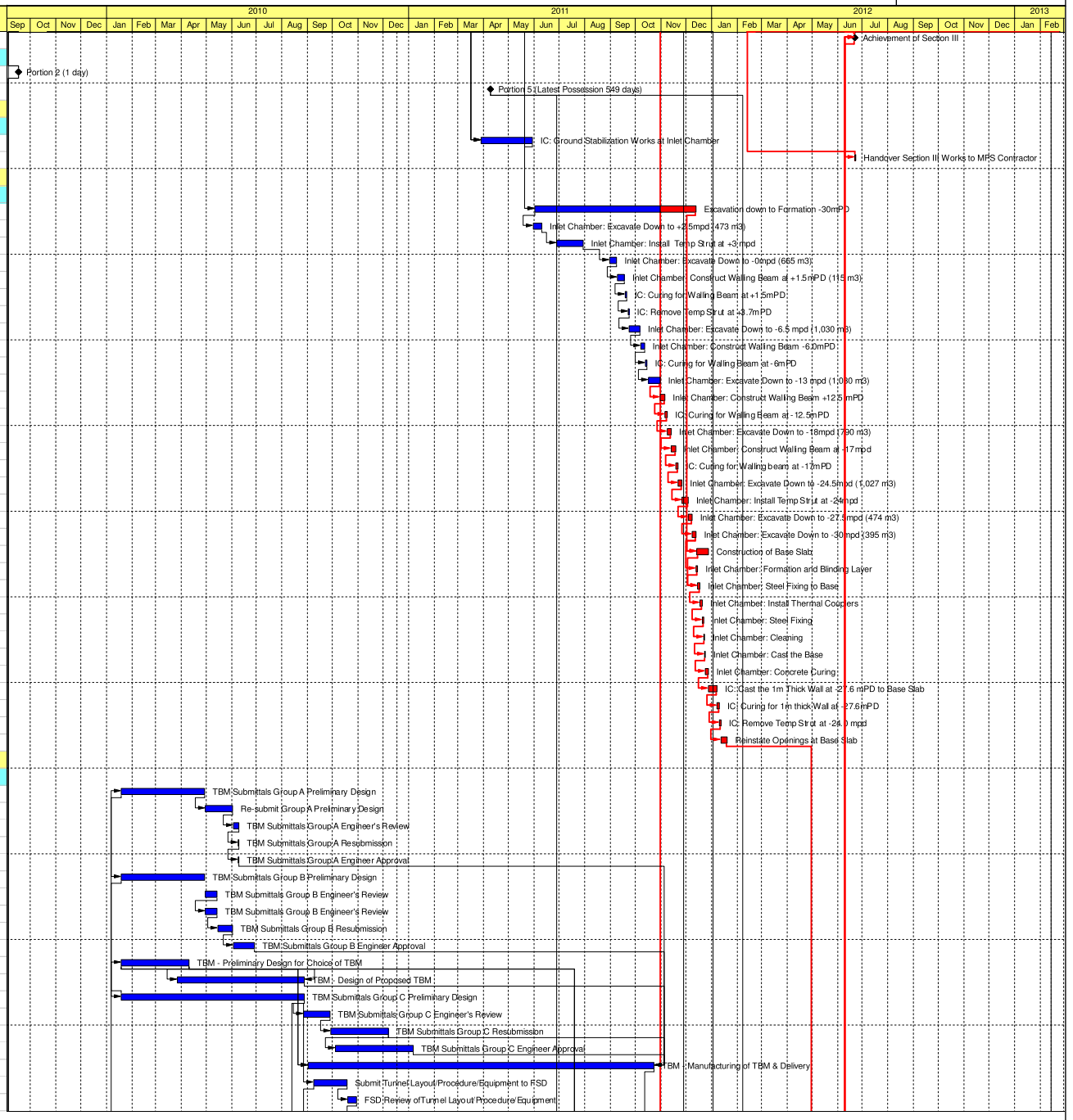
Actual Work | Remaining Work | Critical Remaining Work | Milestone

Monthly Progress Update - 31 Octoberr 2011

Prepared by: Rey Roque

Date	Revision	Checked	Approved
31-Oct-11	Monthly update	HW	CL

Activity ID	Activity Name	Orig Dur	Target Start	Target Finish	Start	Finish	Rem Dur	Total Float
KD5000	Achievement of Section III	0		10-Apr-12		21-Jun-12	0	-118
Portion Handover								
KD6000	Portion 2 (1 day)	0	17-Sep-09		17-Sep-09 A		0	
KD6300	Portion 5 (Latest Possession 549 days)	0	19-Mar-11		09-Apr-11 A		0	
General Requirement								
General								
S3/06010	IC: Ground Stabilization Works at Inlet Chamber	100	09-Mar-11	16-Jun-11	29-Mar-11 A	30-May-11 A	0	
S3/06020	Handover Section III Works to MPS Contractor	1	11-Apr-12	11-Apr-12	22-Jun-12	22-Jun-12	1	-118
Inlet Chamber								
General								
S3/06120	Excavation down to Formation -30mPD	87	04-Jul-11	28-Sep-11	01-Jun-11 A	13-Dec-11	44	-8
S3/06130	Inlet Chamber: Excavate Down to +2.5mpd (473 m3)	4	04-Jul-11	07-Jul-11	31-May-11 A	10-Jun-11 A	0	
S3/06140	Inlet Chamber: Install Temp Strut at +3 mpd	2	08-Jul-11	09-Jul-11	28-Jun-11 A	30-Jul-11 A	0	
S3/06150	Inlet Chamber: Excavate Down to -0mpd (665 m3)	10	10-Jul-11	19-Jul-11	31-Aug-11 A	09-Sep-11 A	0	
S3/06160	Inlet Chamber: Construct Walling Beam at +1.5mPD (115 m	4	20-Jul-11	21-Jul-11	10-Sep-11 A	18-Sep-11 A	0	
S3/06165	IC: Curing for Walling Beam at +1.5mPD	3			19-Sep-11 A	21-Sep-11 A	0	
S3/06168	IC: Remove Temp Strut at +3.7mPD	2			22-Sep-11 A	23-Sep-11 A	0	
S3/06170	Inlet Chamber: Excavate Down to -6.5 mpd (1,030 m3)	5	22-Jul-11	02-Aug-11	24-Sep-11 A	07-Oct-11 A	0	
S3/06180	Inlet Chamber: Construct Walling Beam -6.0mPD	5	03-Aug-11	04-Aug-11	08-Oct-11 A	12-Oct-11 A	0	
S3/06185	IC: Curing for Walling Beam at -6mPD	3			13-Oct-11 A	15-Oct-11 A	0	
S3/06190	Inlet Chamber: Excavate Down to -13 mpd (1,030 m3)	6	05-Aug-11	14-Aug-11	17-Oct-11 A	31-Oct-11	1	-8
S3/06200	Inlet Chamber: Construct Walling Beam +12.5 mPD	5	15-Aug-11	16-Aug-11	31-Oct-11	05-Nov-11	5	-8
S3/06205	IC: Curing for Walling Beam at -12.5mPD	3			05-Nov-11	08-Nov-11	3	-8
S3/06210	Inlet Chamber: Excavate Down to -18mpd (790 m3)	5	17-Aug-11	25-Aug-11	08-Nov-11	13-Nov-11	5	-8
S3/06220	Inlet Chamber: Construct Walling Beam at -17mpd	5	26-Aug-11	27-Aug-11	13-Nov-11	18-Nov-11	5	-8
S3/06225	IC: Curing for Walling beam at -17mPD	3			18-Nov-11	21-Nov-11	3	-8
S3/06230	Inlet Chamber: Excavate Down to -24.5mpd (1,027 m3)	5	28-Aug-11	08-Sep-11	21-Nov-11	26-Nov-11	5	-8
S3/06240	Inlet Chamber: Install Temp Strut at -24mpd	7	09-Sep-11	10-Sep-11	26-Nov-11	03-Dec-11	7	-8
S3/06250	Inlet Chamber: Excavate Down to -27.5mpd (474 m3)	5	11-Sep-11	17-Sep-11	03-Dec-11	08-Dec-11	5	-8
S3/06270	Inlet Chamber: Excavate Down to -30mpd (395 m3)	5	20-Sep-11	28-Sep-11	08-Dec-11	13-Dec-11	5	-8
S3/06280	Construction of Base Slab	14	29-Sep-11	24-Oct-11	14-Dec-11	28-Dec-11	14	-6
S3/06290	Inlet Chamber: Formation and Blinding Layer	2	29-Sep-11	01-Oct-11	13-Dec-11	15-Dec-11	2	-8
S3/06300	Inlet Chamber: Steel Fixing to Base	3	02-Oct-11	08-Oct-11	15-Dec-11	18-Dec-11	3	-8
S3/06310	Inlet Chamber: Install Thermal Couplers	2	09-Oct-11	12-Oct-11	18-Dec-11	20-Dec-11	2	-8
S3/06320	Inlet Chamber: Steel Fixing	2	13-Oct-11	19-Oct-11	20-Dec-11	22-Dec-11	2	-8
S3/06330	Inlet Chamber: Cleaning	1	20-Oct-11	20-Oct-11	22-Dec-11	23-Dec-11	1	-8
S3/06340	Inlet Chamber: Cast the Base	1	21-Oct-11	21-Oct-11	23-Dec-11	24-Dec-11	1	-8
S3/06350	Inlet Chamber: Concrete Curing	3	22-Oct-11	24-Oct-11	24-Dec-11	28-Dec-11	3	-8
S3/06450	IC: Cast the 1m Thick Wall at -27.6 mPD to Base Slab	9	20-Nov-11	28-Nov-11	28-Dec-11	07-Jan-12	9	-8
S3/06470	IC: Curing for 1m thick Wall at -27.6mPD	3	13-Dec-11	15-Dec-11	07-Jan-12	10-Jan-12	3	-8
S3/06480	IC: Remove Temp Strut at -24.0 mpd	2	16-Dec-11	17-Dec-11	10-Jan-12	12-Jan-12	2	-8
S3/06600	Reinstate Openings at Base Slab	7	21-Jan-12	03-Feb-12	12-Jan-12	19-Jan-12	7	-8
Interconnection Tunnel								
Detail Design								
S3/07320	TBM Submittals Group A Preliminary Design	111	19-Jan-10	29-Apr-10	19-Jan-10 A	29-Apr-10 A	0	
S3/07325	Re-submit Group A Preliminary Design	47	30-Apr-10	02-Jun-10	30-Apr-10 A	02-Jun-10 A	0	
S3/07330	TBM Submittals Group A Engineer's Review	36	03-Jun-10	09-Jun-10	03-Jun-10 A	09-Jun-10 A	0	
S3/07340	TBM Submittals Group A Resubmission	19	09-Jun-10	09-Jun-10	09-Jun-10 A	09-Jun-10 A	0	
S3/07350	TBM Submittals Group A Engineer Approval	16	09-Jun-10	09-Jun-10	09-Jun-10 A	09-Jun-10 A	0	
S3/07360	TBM Submittals Group B Preliminary Design	111	19-Jan-10	29-Apr-10	19-Jan-10 A	29-Apr-10 A	0	
S3/07365	TBM Submittals Group B Engineer's Review	47	30-Apr-10	14-May-10	30-Apr-10 A	14-May-10 A	0	
S3/07370	TBM Submittals Group B Engineer's Review	36	30-Apr-10	14-May-10	30-Apr-10 A	14-May-10 A	0	
S3/07380	TBM Submittals Group B Resubmission	19	15-May-10	02-Jun-10	15-May-10 A	02-Jun-10 A	0	
S3/07390	TBM Submittals Group B Engineer Approval	16	03-Jun-10	28-Jun-10	03-Jun-10 A	28-Jun-10 A	0	
S3/07400	TBM - Preliminary Design for Choice of TBM	63	19-Jan-10	10-Apr-10	19-Jan-10 A	10-Apr-10 A	0	
S3/07410	TBM - Design of Proposed TBM	119	27-Mar-10	27-Aug-10	27-Mar-10 A	27-Aug-10 A	0	
S3/07420	TBM Submittals Group C Preliminary Design	111	19-Jan-10	27-Aug-10	19-Jan-10 A	27-Aug-10 A	0	
S3/07430	TBM Submittals Group C Engineer's Review	36	27-Aug-10	27-Sep-10	27-Aug-10 A	27-Sep-10 A	0	
S3/07440	TBM Submittals Group C Resubmission	19	28-Sep-10	07-Dec-10	28-Sep-10 A	07-Dec-10 A	0	
S3/07450	TBM Submittals Group C Engineer Approval	16	04-Oct-10	13-Jan-11	04-Oct-10 A	06-Jan-11 A	0	
S3/07460	TBM - Manufacturing of TBM & Delivery	235	01-Sep-10	03-Jun-11	01-Sep-10 A	24-Oct-11 A	0	
S3/07470	Submit Tunnel Layout/Procedure/Equipment to FSD	60	08-Sep-10	18-Oct-10	08-Sep-10 A	18-Oct-10 A	0	
S3/07480	FSD Review of Tunnel Layout/Procedure/Equipment	28	19-Oct-10	29-Oct-10	19-Oct-10 A	29-Oct-10 A	0	



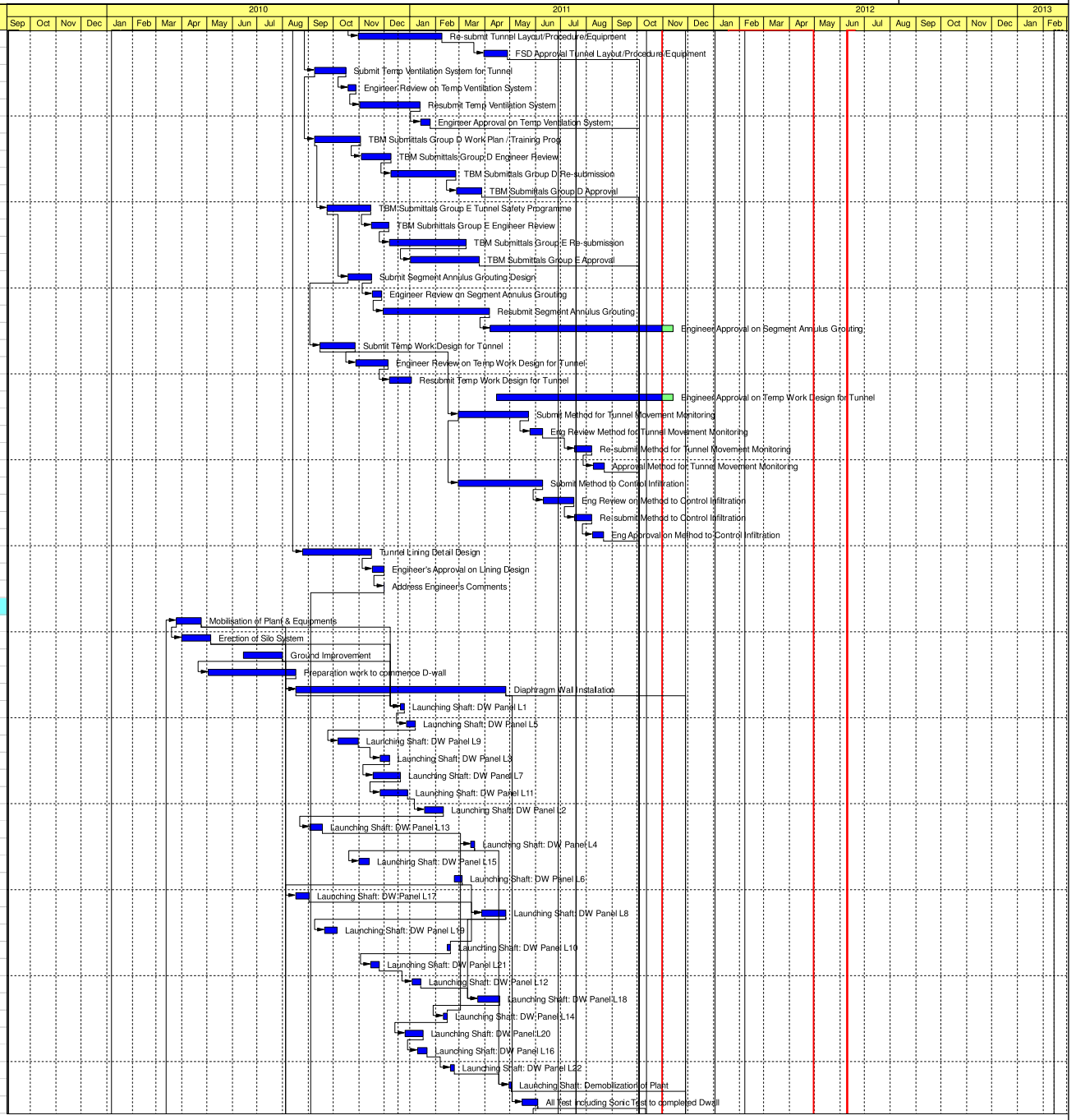
Actual Work | Remaining Work | Critical Remaining Work | Milestone

Monthly Progress Update - 31 Octoberr 2011

Prepared by: Rey Roque

Date	Revision	Checked	Approved
31-Oct-11	Monthly update	HW	CL

Activity ID	Activity Name	Orig Dur	Target Start	Target Finish	Start	Finish	Rem Dur	Total Float
S3/07490	Re-submit Tunnel Layout/Procedure/Equipment	60	30-Oct-10	25-Feb-11	30-Oct-10 A	08-Feb-11 A	0	
S3/07500	FSD Approval Tunnel Layout/Procedure/Equipment	28	26-Feb-11	25-Mar-11	31-Mar-11 A	27-Apr-11 A	0	
S3/07510	Submit Temp Ventilation System for Tunnel	60	08-Sep-10	15-Oct-10	08-Sep-10 A	15-Oct-10 A	0	
S3/07520	Engineer Review on Temp Ventilation System	28	18-Oct-10	27-Oct-10	18-Oct-10 A	27-Oct-10 A	0	
S3/07530	Resubmit Temp Ventilation System	21	01-Nov-10	06-Jan-11	01-Nov-10 A	13-Jan-11 A	0	
S3/07540	Engineer Approval on Temp Ventilation System	14	07-Jan-11	20-Jan-11	14-Jan-11 A	25-Jan-11 A	0	
S3/07610	TBM Submittals Group D Work Plan / Training Prog	60	08-Sep-10	02-Nov-10	08-Sep-10 A	02-Nov-10 A	0	
S3/07620	TBM Submittals Group D Engineer Review	28	03-Nov-10	08-Dec-10	03-Nov-10 A	08-Dec-10 A	0	
S3/07630	TBM Submittals Group D Re-submission	14	09-Dec-10	12-Jan-11	09-Dec-10 A	25-Feb-11 A	0	
S3/07640	TBM Submittals Group D Approval	14	13-Jan-11	26-Jan-11	26-Feb-11 A	28-Mar-11 A	0	
S3/07650	TBM Submittals Group E Tunnel Safety Programme	60	23-Sep-10	14-Nov-10	23-Sep-10 A	14-Nov-10 A	0	
S3/07660	TBM Submittals Group E Engineer Review	28	15-Nov-10	06-Dec-10	15-Nov-10 A	06-Dec-10 A	0	
S3/07670	TBM Submittals Group E Re-submission	14	07-Dec-10	12-Jan-11	07-Dec-10 A	09-Mar-11 A	0	
S3/07680	TBM Submittals Group E Approval	14	13-Jan-11	26-Jan-11	02-Jan-11 A	25-Mar-11 A	0	
S3/07690	Submit Segment Annulus Grouting Design	60	18-Oct-10	15-Nov-10	18-Oct-10 A	15-Nov-10 A	0	
S3/07700	Engineer Review on Segment Annulus Grouting	28	16-Nov-10	27-Nov-10	16-Nov-10 A	27-Nov-10 A	0	
S3/07710	Resubmit Segment Annulus Grouting	14	29-Nov-10	06-Jan-11	29-Nov-10 A	06-Apr-11 A	0	
S3/07720	Engineer Approval on Segment Annulus Grouting	14	07-Jan-11	20-Jan-11	07-Apr-11 A	13-Nov-11	14	461
S3/07730	Submit Temp Work Design for Tunnel	60	31-Dec-10	04-Mar-11	15-Sep-10 A	27-Oct-10 A	0	
S3/07740	Engineer Review on Temp Work Design for Tunnel	28	05-Mar-11	01-Apr-11	28-Oct-10 A	05-Dec-10 A	0	
S3/07750	Resubmit Temp Work Design for Tunnel	14	02-Apr-11	15-Apr-11	07-Dec-10 A	03-Jan-11 A	0	
S3/07760	Engineer Approval on Temp Work Design for Tunnel	14	16-Apr-11	29-Apr-11	15-Apr-11 A	13-Nov-11	14	461
S3/07770	Submit Method for Tunnel Movement Monitoring	60	31-Dec-10	04-Mar-11	28-Feb-11 A	24-May-11 A	0	
S3/07780	Eng Review Method for Tunnel Movement Monitoring	28	05-Mar-11	01-Apr-11	25-May-11 A	09-Jun-11 A	0	
S3/07790	Re-submit Method for Tunnel Movement Monitoring	14	02-Apr-11	15-Apr-11	18-Jul-11 A	08-Aug-11 A	0	
S3/07800	Approval Method for Tunnel Movement Monitoring	14	16-Apr-11	29-Apr-11	09-Aug-11 A	22-Aug-11 A	0	
S3/07810	Submit Method to Control Infiltration	60	31-Dec-10	04-Mar-11	28-Feb-11 A	09-Jun-11 A	0	
S3/07820	Eng Review on Method to Control Infiltration	28	05-Mar-11	01-Apr-11	10-Jun-11 A	17-Jul-11 A	0	
S3/07830	Re-submit Method to Control Infiltration	14	02-Apr-11	15-Apr-11	18-Jul-11 A	08-Aug-11 A	0	
S3/07840	Eng Approval on Method to Control Infiltration	14	16-Apr-11	29-Apr-11	09-Aug-11 A	22-Aug-11 A	0	
S3/07850	Tunnel Lining Detail Design	90	25-Aug-10	15-Nov-10	25-Aug-10 A	15-Nov-10 A	0	
S3/07860	Engineer's Approval on Lining Design	18	16-Nov-10	30-Nov-10	16-Nov-10 A	30-Nov-10 A	0	
S3/07870	Address Engineer's Comments	20	30-Nov-10	30-Nov-10	30-Nov-10 A	30-Nov-10 A	0	
Launching Shaft Construction								
S3/08020	Mobilisation of Plant & Equipments	24	25-Mar-10	24-Apr-10	25-Mar-10 A	24-Apr-10 A	0	
S3/08030	Erection of Silo System	24	01-Apr-10	05-May-10	01-Apr-10 A	05-May-10 A	0	
S3/08035	Ground Improvement	40	14-Jun-10	31-Jul-10	14-Jun-10 A	31-Jul-10 A	0	
S3/08038	Preparation work to commence D-wall	14	03-May-10	16-Aug-10	03-May-10 A	16-Aug-10 A	0	
S3/08040	Diaphragm Wall Installation	120	16-Aug-10	06-Mar-11	16-Aug-10 A	26-Apr-11 A	0	
S3/08050	Launching Shaft: DW Panel L1	12	20-Dec-10	24-Dec-10	20-Dec-10 A	24-Dec-10 A	0	
S3/08060	Launching Shaft: DW Panel L5	5	31-Dec-10	04-Jan-11	28-Dec-10 A	07-Jan-11 A	0	
S3/08070	Launching Shaft: DW Panel L9	5	06-Oct-10	30-Oct-10	06-Oct-10 A	30-Oct-10 A	0	
S3/08080	Launching Shaft: DW Panel L3	5	26-Nov-10	07-Dec-10	26-Nov-10 A	07-Dec-10 A	0	
S3/08090	Launching Shaft: DW Panel L7	5	17-Nov-10	20-Dec-10	17-Nov-10 A	20-Dec-10 A	0	
S3/08100	Launching Shaft: DW Panel L11	5	26-Nov-10	28-Dec-10	26-Nov-10 A	28-Dec-10 A	0	
S3/08110	Launching Shaft: DW Panel L2	5	05-Jan-11	09-Jan-11	19-Jan-11 A	10-Feb-11 A	0	
S3/08120	Launching Shaft: DW Panel L13	5	02-Sep-10	17-Sep-10	02-Sep-10 A	17-Sep-10 A	0	
S3/08130	Launching Shaft: DW Panel L4	5	10-Jan-11	14-Jan-11	15-Mar-11 A	19-Mar-11 A	0	
S3/08140	Launching Shaft: DW Panel L15	5	31-Oct-10	12-Nov-10	31-Oct-10 A	12-Nov-10 A	0	
S3/08150	Launching Shaft: DW Panel L6	5	15-Jan-11	19-Jan-11	23-Feb-11 A	04-Mar-11 A	0	
S3/08160	Launching Shaft: DW Panel L17	5	16-Aug-10	01-Sep-10	16-Aug-10 A	01-Sep-10 A	0	
S3/08170	Launching Shaft: DW Panel L8	14	20-Jan-11	24-Jan-11	28-Mar-11 A	26-Apr-11 A	0	
S3/08180	Launching Shaft: DW Panel L19	5	20-Sep-10	05-Oct-10	20-Sep-10 A	05-Oct-10 A	0	
S3/08190	Launching Shaft: DW Panel L10	5	25-Jan-11	29-Jan-11	15-Feb-11 A	19-Feb-11 A	0	
S3/08200	Launching Shaft: DW Panel L21	5	14-Nov-10	24-Nov-10	14-Nov-10 A	24-Nov-10 A	0	
S3/08210	Launching Shaft: DW Panel L12	5	30-Jan-11	07-Feb-11	04-Jan-11 A	14-Jan-11 A	0	
S3/08220	Launching Shaft: DW Panel L18	22	08-Feb-11	12-Feb-11	23-Mar-11 A	19-Apr-11 A	0	
S3/08230	Launching Shaft: DW Panel L14	5	13-Feb-11	17-Feb-11	10-Feb-11 A	15-Feb-11 A	0	
S3/08240	Launching Shaft: DW Panel L20	5	26-Dec-10	21-Feb-11	26-Dec-10 A	17-Jan-11 A	0	
S3/08250	Launching Shaft: DW Panel L16	5	22-Feb-11	26-Feb-11	10-Jan-11 A	21-Jan-11 A	0	
S3/08260	Launching Shaft: DW Panel L22	5	27-Feb-11	03-Mar-11	19-Feb-11 A	23-Feb-11 A	0	
S3/08270	Launching Shaft: Demobilization of Plant	3	04-Mar-11	06-Mar-11	30-Apr-11 A	02-May-11 A	0	
S3/08280	All Test including Sonic Test to completed Dwall	24	07-Mar-11	30-Mar-11	16-May-11 A	03-Jun-11 A	0	



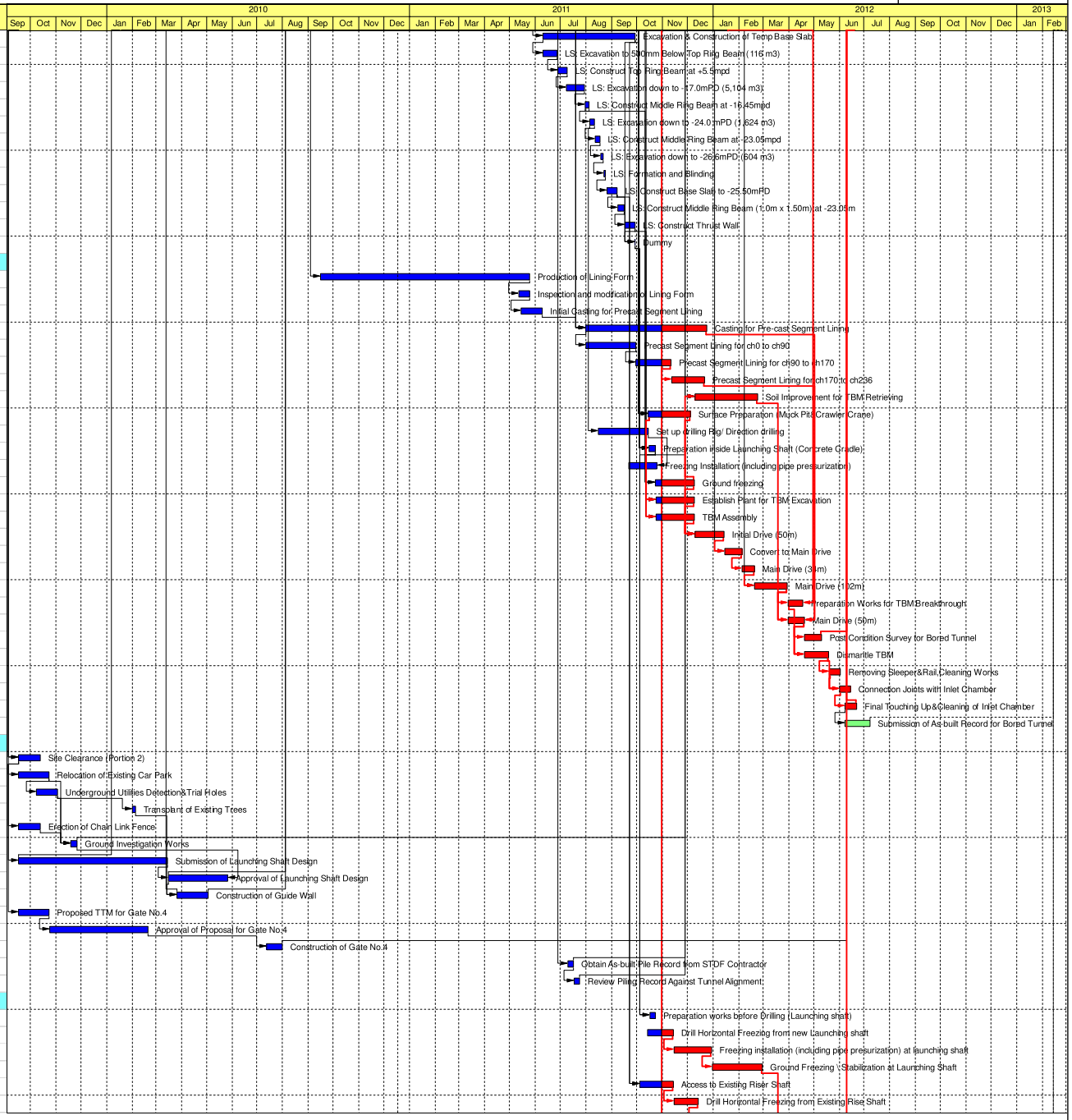
Actual Work | Critical Remaining Work
Remaining Work | Milestone

Monthly Progress Update - 31 Octoberr 2011

Prepared by: Rey Roque

Date	Revision	Checked	Approved
31-Oct-11	Monthly update	HW	CL

Activity ID	Activity Name	Orig Dur	Target Start	Target Finish	Start	Finish	Rem Dur	Total Float
S3/08320	Excavation & Construction of Temp Base Slab	77	07-Mar-11	04-Jun-11	10-Jun-11 A	29-Sep-11 A	0	
S3/08330	LS: Excavation to 500mm Below Top Ring Beam (116 m3)	2	07-Mar-11	08-Mar-11	10-Jun-11 A	27-Jun-11 A	0	
S3/08340	LS: Construct Top Ring Beam at +5.5mpd	10	09-Mar-11	18-Mar-11	28-Jun-11 A	09-Jul-11 A	0	
S3/08350	LS: Excavation down to -17.0mPD (5,104 m3)	10	19-Mar-11	07-Apr-11	09-Jul-11 A	30-Jul-11 A	0	
S3/08360	LS: Construct Middle Ring Beam at -16.45mpd	8	08-Apr-11	22-Apr-11	31-Jul-11 A	05-Aug-11 A	0	
S3/08370	LS: Excavation down to -24.0 mPD (1,624 m3)	7	23-Apr-11	02-May-11	06-Aug-11 A	11-Aug-11 A	0	
S3/08380	LS: Construct Middle Ring Beam at -23.05mpd	8	03-May-11	17-May-11	12-Aug-11 A	18-Aug-11 A	0	
S3/08390	LS: Excavation down to -26.6mPD (604 m3)	5	18-May-11	22-May-11	19-Aug-11 A	22-Aug-11 A	0	
S3/08400	LS: Formation and Blinding	6	23-May-11	28-May-11	23-Aug-11 A	25-Aug-11 A	0	
S3/08410	LS: Construct Base Slab to -25.50mPD	7	29-May-11	04-Jun-11	26-Aug-11 A	08-Sep-11 A	0	
S3/08415	LS: Construct Middle Ring Beam (1.0m x 1.50m) at -23.05m	12			09-Sep-11 A	16-Sep-11 A	0	
S3/08417	LS: Construct Thrust Wall	7			17-Sep-11 A	29-Sep-11 A	0	
S3/08420	Dummy	0	05-Jun-11	05-Jun-11	29-Sep-11 A	29-Sep-11 A	0	
Bored Tunnel								
S3/08520	Production of Lining Form	60	15-Sep-10	02-Jan-11	15-Sep-10 A	25-May-11 A	0	
S3/08530	Inspection and modification of Lining Form	14	03-Jan-11	16-Jan-11	12-May-11 A	25-May-11 A	0	
S3/08540	Initial Casting for Precast Segment Lining	40	17-Jan-11	01-Mar-11	15-May-11 A	09-Jun-11 A	0	
S3/08550	Casting for Pre-cast Segment Lining	206	26-Feb-11	09-Oct-11	01-Aug-11 A	24-Dec-11	55	-33
S3/08560	Precast Segment Lining for ch0 to ch90	76	26-Feb-11	12-May-11	01-Aug-11 A	30-Sep-11 A	0	
S3/08570	Precast Segment Lining for ch90 to ch170	50	13-May-11	31-Jul-11	30-Sep-11 A	11-Nov-11	12	-14
S3/08580	Precast Segment Lining for ch170 to ch236	40	01-Aug-11	09-Oct-11	12-Nov-11	21-Dec-11	40	-14
S3/08600	Soil Improvement for TBM Retrieving	60	07-Mar-11	20-May-11	10-Dec-11	23-Feb-12	60	-67
S3/08610	Surface Preparation (Muck Pit&Crawler Crane)	55	27-May-11	01-Aug-11	15-Oct-11 A	04-Dec-11	35	-118
S3/08625	Set up drilling Rig/ Direction drilling	40			16-Aug-11 A	15-Oct-11 A	0	
S3/08630	Preparation inside Launching Shaft (Concrete Cradle)	25	05-Jun-11	18-Aug-11	16-Oct-11 A	24-Oct-11 A	0	
S3/08635	Freezing Installation (including pipe pressurization)	30			22-Sep-11 A	26-Oct-11 A	0	
S3/08640	Ground freezing	40	04-Apr-11	31-Aug-11	24-Oct-11 A	09-Dec-11	40	-118
S3/08645	Establish Plant for TBM Excavation	45	15-Jul-11	28-Aug-11	25-Oct-11 A	09-Dec-11	40	-118
S3/08650	TBM Assembly	45	18-Jul-11	31-Aug-11	25-Oct-11 A	09-Dec-11	40	-118
S3/08710	Initial Drive (50m)	34	01-Sep-11	04-Oct-11	10-Dec-11	14-Jan-12	34	-118
S3/08720	Convert to Main Drive	21	05-Oct-11	25-Oct-11	15-Jan-12	04-Feb-12	21	-118
S3/08730	Main Drive (34m)	15	26-Oct-11	14-Nov-11	05-Feb-12	19-Feb-12	15	-118
S3/08740	Main Drive (102m)	40	15-Nov-11	24-Dec-11	20-Feb-12	30-Mar-12	40	-118
S3/08745	Preparation Works for TBM Breakthrough	19			31-Mar-12	18-Apr-12	19	-98
S3/08750	Main Drive (50m)	20	25-Dec-11	17-Jan-12	31-Mar-12	19-Apr-12	20	-118
S3/08770	Post Condition Survey for Bored Tunnel	21	18-Jan-12	07-Feb-12	20-Apr-12	10-May-12	21	-76
S3/08780	Dismantle TBM	30	18-Jan-12	16-Feb-12	20-Apr-12	19-May-12	30	-118
S3/08790	Removing Sleeper&Rail,Cleaning Works	14	17-Feb-12	08-Mar-12	20-May-12	02-Jun-12	14	-106
S3/08800	Connection Joints with Inlet Chamber	14	29-Feb-12	20-Mar-12	01-Jun-12	14-Jun-12	14	-118
S3/08810	Final Touching Up&Cleaning of Inlet Chamber	14	21-Mar-12	10-Apr-12	08-Jun-12	21-Jun-12	14	-118
S3/08820	Submission of As-built Record for Bored Tunnel	30	21-Mar-12	19-Apr-12	08-Jun-12	07-Jul-12	30	226
Initial Works / Associated Submission								
S3/07020	Site Clearance (Portion 2)	14	17-Sep-09	13-Oct-09	17-Sep-09 A	13-Oct-09 A	0	
S3/07030	Relocation of Existing Car Park	30	17-Sep-09	23-Oct-09	17-Sep-09 A	23-Oct-09 A	0	
S3/07040	Underground Utilities Detection&Trial Holes	21	08-Oct-09	02-Nov-09	08-Oct-09 A	02-Nov-09 A	0	
S3/07050	Transplant of Existing Trees	21	01-Feb-10	04-Feb-10	01-Feb-10 A	04-Feb-10 A	0	
S3/07060	Erection of Chain Link Fence	21	17-Sep-09	13-Oct-09	17-Sep-09 A	13-Oct-09 A	0	
S3/07070	Ground Investigation Works	30	19-Nov-09	26-Nov-09	19-Nov-09 A	26-Nov-09 A	0	
S3/07080	Submission of Launching Shaft Design	145	17-Sep-09	15-Mar-10	17-Sep-09 A	15-Mar-10 A	0	
S3/07090	Approval of Launching Shaft Design	45	16-Mar-10	26-May-10	16-Mar-10 A	26-May-10 A	0	
S3/07100	Construction of Guide Wall	21	26-Mar-10	03-May-10	26-Mar-10 A	03-May-10 A	0	
S3/07110	Proposed TTM for Gate No.4	30	17-Sep-09	23-Oct-09	17-Sep-09 A	23-Oct-09 A	0	
S3/07120	Approval of Proposal for Gate No.4	90	24-Oct-09	19-Feb-10	24-Oct-09 A	19-Feb-10 A	0	
S3/07130	Construction of Gate No.4	21	12-Jul-10	31-Jul-10	12-Jul-10 A	31-Jul-10 A	0	
S3/07140	Obtain As-built Pile Record from STDF Contractor	6	19-Mar-11	25-Mar-11	10-Jul-11 A	17-Jul-11 A	0	
S3/07150	Review Piling Record Against Tunnel Alignment	6	26-Mar-11	01-Apr-11	18-Jul-11 A	25-Jul-11 A	0	
Mined Tunnel								
S3/09020	Preparation works before Drilling (Launching shaft)	21	07-Jun-11	13-Sep-11	17-Oct-11 A	24-Oct-11 A	0	
S3/09030	Drill Horizontal Freezing from new Launching shaft	30	14-Jun-11	13-Jul-11	14-Oct-11 A	14-Nov-11	15	-68
S3/09040	Freezing installation (including pipe presurization) at launchi	45	04-Sep-11	02-Nov-11	15-Nov-11	30-Dec-11	45	-68
S3/09050	Ground Freezing \ Stabilization at Launching Shaft	60	03-Nov-11	01-Jan-12	31-Dec-11	29-Feb-12	60	-68
S3/09060	Access to Existing Riser Shaft	30	08-Jun-11	07-Jul-11	05-Oct-11 A	14-Nov-11	15	-98
S3/09070	Drill Horizontal Freezing from Existing Rise Shaft	30	08-Jul-11	01-Sep-11	15-Nov-11	14-Dec-11	30	-98



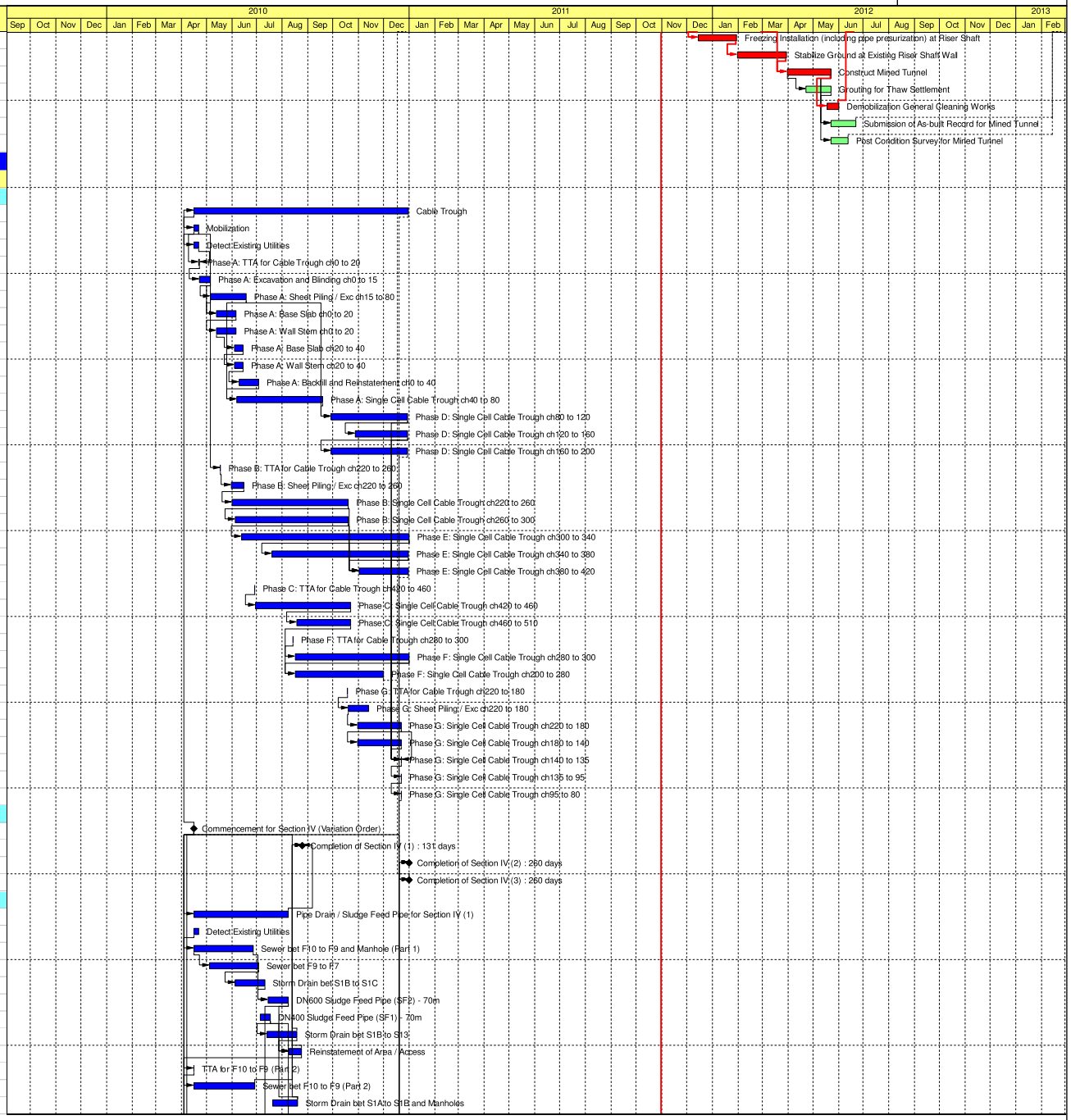
Actual Work | Remaining Work | Critical Remaining Work | Milestone

Monthly Progress Update - 31 Octoberr 2011

Prepared by: Rey Roque

Date	Revision	Checked	Approved
31-Oct-11	Monthly update	HW	CL

Activity ID	Activity Name	Orig Dur	Target Start	Target Finish	Start	Finish	Rem Dur	Total Float
S3/09080	Freezing Installation (including pipe presurization) at Riser S	45	02-Sep-11	31-Oct-11	15-Dec-11	30-Jan-12	45	-98
S3/09090	Stabilize Ground at Existing Riser Shaft Wall	60	04-Dec-11	01-Feb-12	31-Jan-12	30-Mar-12	60	-98
S3/09110	Construct Mined Tunnel	53	02-Feb-12	25-Mar-12	31-Mar-12	22-May-12	53	-98
S3/09115	Grouting for Thaw Settlement	30			23-Apr-12	22-May-12	30	42
S3/09120	Demobilization General Cleaning Works	15	26-Mar-12	09-Apr-12	18-May-12	01-Jun-12	15	-98
S3/09130	Submission of As-built Record for Mined Tunnel	30	26-Mar-12	24-Apr-12	23-May-12	21-Jun-12	30	42
S3/09140	Post Condition Survey for Mined Tunnel	21	26-Mar-12	15-Apr-12	23-May-12	12-Jun-12	21	251
Supplementary Agreement								
Utilities and Services								
Cable Works								
V1/02020	Cable Trough	150	16-Apr-10	09-Jan-11	16-Apr-10 A	31-Dec-10 A	0	
V1/02030	Mobilization	6	16-Apr-10	21-Apr-10	16-Apr-10 A	21-Apr-10 A	0	
V1/02035	Detect Existing Utilities	6	16-Apr-10	21-Apr-10	16-Apr-10 A	21-Apr-10 A	0	
V1/02040	Phase A: TTA for Cable Trough ch0 to 20	1	22-Apr-10	22-Apr-10	22-Apr-10 A	22-Apr-10 A	0	
V1/02050	Phase A: Excavation and Blinding ch0 to 15	5	23-Apr-10	05-May-10	23-Apr-10 A	05-May-10 A	0	
V1/02055	Phase A: Sheet Piling / Exc ch15 to 80	30	06-May-10	18-Jun-10	06-May-10 A	18-Jun-10 A	0	
V1/02060	Phase A: Base Slab ch0 to 20	6	13-May-10	05-Jun-10	13-May-10 A	05-Jun-10 A	0	
V1/02070	Phase A: Wall Stem ch0 to 20	5	13-May-10	05-Jun-10	13-May-10 A	05-Jun-10 A	0	
V1/02080	Phase A: Base Slab ch20 to 40	4	04-Jun-10	14-Jun-10	04-Jun-10 A	14-Jun-10 A	0	
V1/02090	Phase A: Wall Stem ch20 to 40	4	04-Jun-10	14-Jun-10	04-Jun-10 A	14-Jun-10 A	0	
V1/02100	Phase A: Backfill and Reinstatement ch0 to 40	6	10-Jun-10	03-Jul-10	10-Jun-10 A	03-Jul-10 A	0	
V1/02110	Phase A: Single Cell Cable Trough ch40 to 80	14	07-Jun-10	18-Sep-10	07-Jun-10 A	18-Sep-10 A	0	
V1/02120	Phase D: Single Cell Cable Trough ch80 to 120	14	28-Sep-10	29-Dec-10	28-Sep-10 A	29-Dec-10 A	0	
V1/02130	Phase D: Single Cell Cable Trough ch120 to 160	14	28-Oct-10	29-Dec-10	28-Oct-10 A	29-Dec-10 A	0	
V1/02140	Phase D: Single Cell Cable Trough ch160 to 200	14	28-Sep-10	29-Dec-10	28-Sep-10 A	29-Dec-10 A	0	
V1/02190	Phase B: TTA for Cable Trough ch220 to 260	1	18-May-10	18-May-10	18-May-10 A	18-May-10 A	0	
V1/02200	Phase B: Sheet Piling / Exc ch220 to 260	14	31-May-10	15-Jun-10	31-May-10 A	15-Jun-10 A	0	
V1/02210	Phase B: Single Cell Cable Trough ch220 to 260	14	01-Jun-10	19-Oct-10	01-Jun-10 A	19-Oct-10 A	0	
V1/02215	Phase B: Single Cell Cable Trough ch260 to 300	14	05-Jun-10	19-Oct-10	05-Jun-10 A	19-Oct-10 A	0	
V1/02220	Phase E: Single Cell Cable Trough ch300 to 340	14	12-Jun-10	31-Dec-10	12-Jun-10 A	31-Dec-10 A	0	
V1/02230	Phase E: Single Cell Cable Trough ch340 to 380	14	19-Jul-10	01-Jan-11	19-Jul-10 A	31-Dec-10 A	0	
V1/02240	Phase E: Single Cell Cable Trough ch380 to 420	21	01-Nov-10	02-Jan-11	01-Nov-10 A	31-Dec-10 A	0	
V1/02250	Phase C: TTA for Cable Trough ch420 to 460	1	28-Jun-10	28-Jun-10	28-Jun-10 A	28-Jun-10 A	0	
V1/02260	Phase C: Single Cell Cable Trough ch420 to 460	25	29-Jun-10	22-Oct-10	29-Jun-10 A	22-Oct-10 A	0	
V1/02270	Phase C: Single Cell Cable Trough ch460 to 510	25	18-Aug-10	22-Oct-10	18-Aug-10 A	22-Oct-10 A	0	
V1/02280	Phase F: TTA for Cable Trough ch280 to 300	1	13-Aug-10	13-Aug-10	13-Aug-10 A	13-Aug-10 A	0	
V1/02290	Phase F: Single Cell Cable Trough ch280 to 300	30	16-Aug-10	31-Dec-10	16-Aug-10 A	31-Dec-10 A	0	
V1/02300	Phase F: Single Cell Cable Trough ch200 to 280	47	16-Aug-10	30-Nov-10	16-Aug-10 A	30-Nov-10 A	0	
V1/02340	Phase G: TTA for Cable Trough ch220 to 180	1	18-Oct-10	18-Oct-10	18-Oct-10 A	18-Oct-10 A	0	
V1/02350	Phase G: Sheet Piling / Exc ch220 to 180	14	19-Oct-10	12-Nov-10	19-Oct-10 A	12-Nov-10 A	0	
V1/02360	Phase G: Single Cell Cable Trough ch220 to 180	14	30-Oct-10	22-Dec-10	30-Oct-10 A	22-Dec-10 A	0	
V1/02370	Phase G: Single Cell Cable Trough ch180 to 140	14	30-Oct-10	22-Dec-10	30-Oct-10 A	22-Dec-10 A	0	
V1/02380	Phase G: Single Cell Cable Trough ch140 to 135	0	22-Dec-10	22-Dec-10	22-Dec-10 A	22-Dec-10 A	0	
V1/02390	Phase G: Single Cell Cable Trough ch135 to 95	0	22-Dec-10	22-Dec-10	22-Dec-10 A	22-Dec-10 A	0	
V1/02400	Phase G: Single Cell Cable Trough ch95 to 80	0	22-Dec-10	22-Dec-10	22-Dec-10 A	22-Dec-10 A	0	
Key Dates								
KD7000	Commencement for Section IV (Variation Order)	0	16-Apr-10		16-Apr-10 A		0	
KD7100	Completion of Section IV (1) : 131 days	0		25-Aug-10		25-Aug-10 A	0	
KD7200	Completion of Section IV (2) : 260 days	0		31-Dec-10		31-Dec-10 A	0	
KD7300	Completion of Section IV (3) : 260 days	0		31-Dec-10		31-Dec-10 A	0	
Pipe Works								
V1/01120	Pipe Drain / Sludge Feed Pipe for Section IV (1)	120	16-Apr-10	07-Aug-10	16-Apr-10 A	07-Aug-10 A	0	
V1/01125	Detect Existing Utilities	6	16-Apr-10	21-Apr-10	16-Apr-10 A	21-Apr-10 A	0	
V1/01130	Sewer bet F10 to F9 and Manhole (Part 1)	46	16-Apr-10	26-Jun-10	16-Apr-10 A	26-Jun-10 A	0	
V1/01140	Sewer bet F9 to F7	35	05-May-10	03-Jul-10	05-May-10 A	03-Jul-10 A	0	
V1/01150	Storm Drain bet S1B to S1C	14	05-Jun-10	10-Jul-10	05-Jun-10 A	10-Jul-10 A	0	
V1/01160	DN600 Sludge Feed Pipe (SF2) - 70m	8	14-Jul-10	07-Aug-10	14-Jul-10 A	07-Aug-10 A	0	
V1/01170	DN400 Sludge Feed Pipe (SF1) - 70m	8	05-Jul-10	17-Jul-10	05-Jul-10 A	17-Jul-10 A	0	
V1/01180	Storm Drain bet S1B to S13	32	13-Jul-10	18-Aug-10	13-Jul-10 A	18-Aug-10 A	0	
V1/01190	Reinstatement of Area / Access	7	09-Aug-10	23-Aug-10	09-Aug-10 A	23-Aug-10 A	0	
V1/01200	TTA for F10 to F9 (Part 2)	1	16-Apr-10	16-Apr-10	16-Apr-10 A	16-Apr-10 A	0	
V1/01210	Sewer bet F10 to F9 (Part 2)	31	16-Apr-10	28-Jun-10	16-Apr-10 A	28-Jun-10 A	0	
V1/01220	Storm Drain bet S1A to S1B and Manholes	31	20-Jul-10	19-Aug-10	20-Jul-10 A	19-Aug-10 A	0	



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Monthly Progress Update - 31 Octoberr 2011

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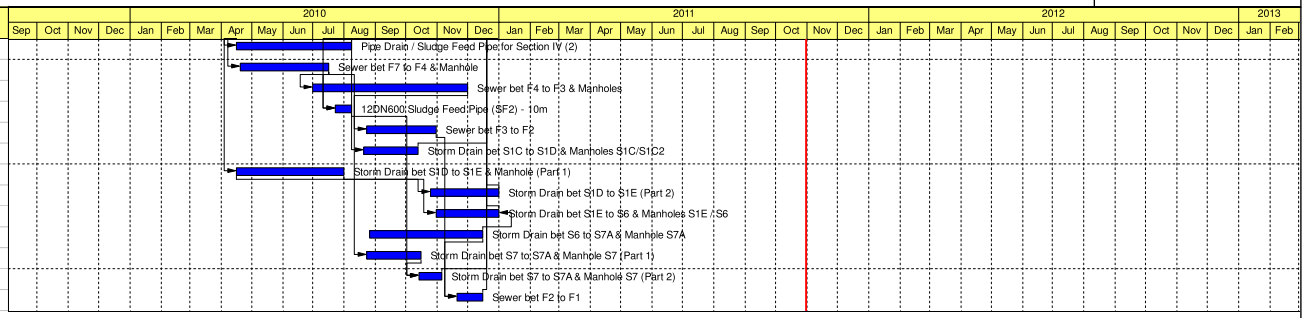
Activity ID	Activity Name	Orig Dur	Target Start	Target Finish	Start	Finish	Rem Dur	Total Float
V1/01235	Pipe Drain / Sludge Feed Pipe for Section IV (2)	150	16-Apr-10	07-Aug-10	16-Apr-10 A	07-Aug-10 A	0	
V1/01240	Sewer bet F7 to F4 & Manhole	52	20-Apr-10	16-Jul-10	20-Apr-10 A	16-Jul-10 A	0	
V1/01250	Sewer bet F4 to F3 & Manholes	50	30-Jun-10	30-Nov-10	30-Jun-10 A	30-Nov-10 A	0	
V1/01260	12DN600 Sludge Feed Pipe (SF2) - 10m	22	23-Jul-10	07-Aug-10	23-Jul-10 A	07-Aug-10 A	0	
V1/01270	Sewer bet F3 to F2	24	23-Aug-10	30-Oct-10	23-Aug-10 A	30-Oct-10 A	0	
V1/01290	Storm Drain bet S1C to S1D & Manholes S1C/S1C2	56	20-Aug-10	12-Oct-10	20-Aug-10 A	12-Oct-10 A	0	
V1/01300	Storm Drain bet S1D to S1E & Manhole (Part 1)	90	16-Apr-10	31-Jul-10	16-Apr-10 A	31-Jul-10 A	0	
V1/01305	Storm Drain bet S1D to S1E (Part 2)	56	25-Oct-10	31-Dec-10	25-Oct-10 A	31-Dec-10 A	0	
V1/01310	Storm Drain bet S1E to S6 & Manholes S1E / S6	52	30-Oct-10	31-Dec-10	30-Oct-10 A	31-Dec-10 A	0	
V1/01320	Storm Drain bet S6 to S7A & Manhole S7A	45	26-Aug-10	15-Dec-10	26-Aug-10 A	15-Dec-10 A	0	
V1/01330	Storm Drain bet S7 to S7A & Manhole S7 (Part 1)	50	23-Aug-10	15-Oct-10	23-Aug-10 A	15-Oct-10 A	0	
V1/01340	Storm Drain bet S7 to S7A & Manhole S7 (Part 2)	38	13-Oct-10	05-Nov-10	13-Oct-10 A	05-Nov-10 A	0	
V1/01350	Sewer bet F2 to F1	24	20-Nov-10	15-Dec-10	20-Nov-10 A	15-Dec-10 A	0	



Actual Work | Critical Remaining Work
Remaining Work | Milestone

Monthly Progress Update - 31 Octoberr 2011

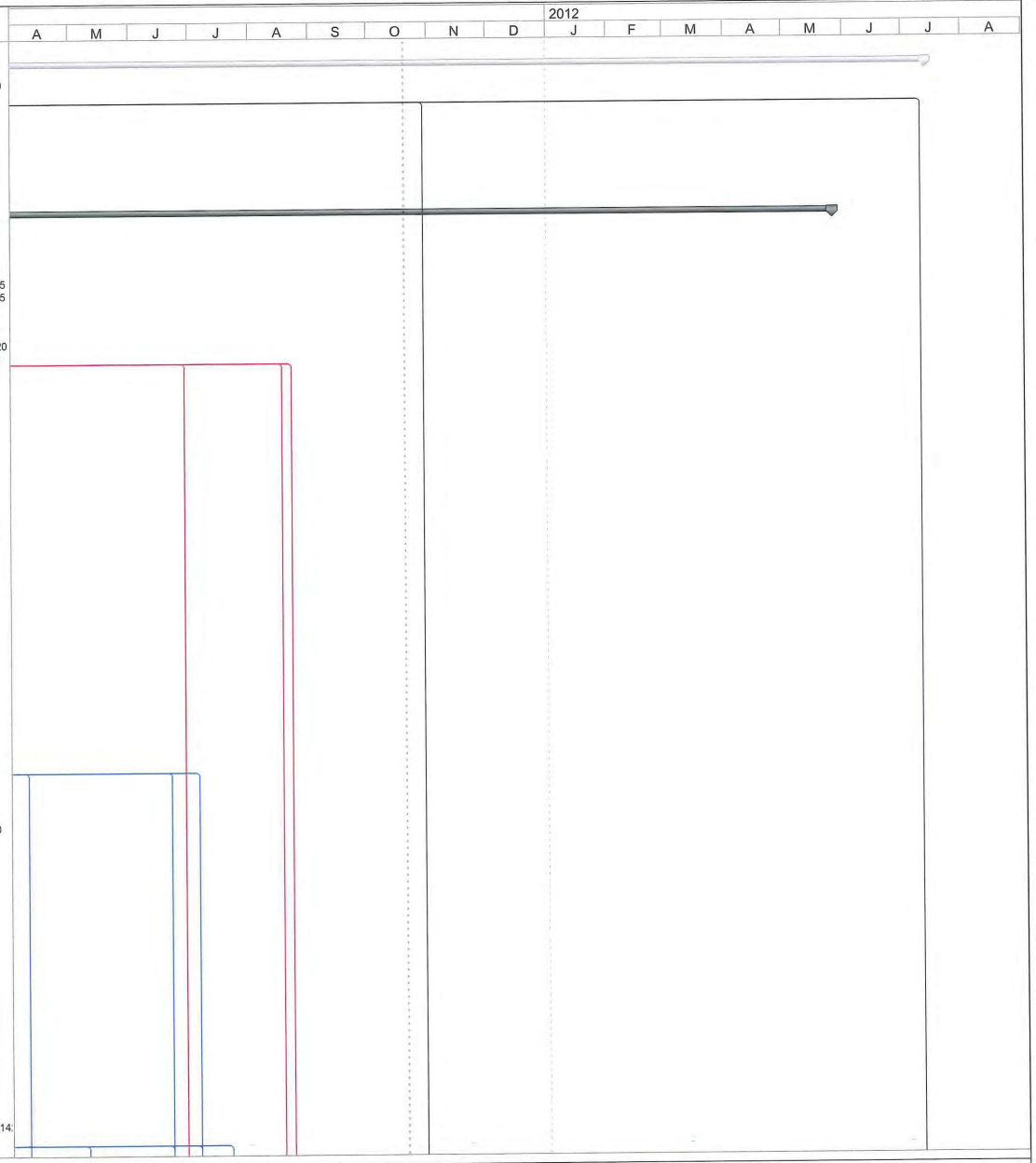
Prepared by: Rey Roque

Date	Revision	Checked	Approved
31-Oct-11	Monthly update	HW	CL

Three Months Rolling Programme for Contract No. DE/2009/02
Provision of Covers and Deodourisation Facilities to the Existing Sedimentation Tanks at Stonecutters Island Sewage Treatment Works (Oct11 to Dec11)

(Revision 0)

ID	WBS	Task Name	Duration	Early Start	Start	Finish	Late Finish	Free Slack	Total Slack	Predecessors	Successors
0	**0**	**DE/2009/02 Contract Duration**	**988 d**	**30/10/09**	**30/10/09**	**13/7/12**	**13/7/12**	**0 d**	**0 d**		
1	1	Project Commencement Date	0 d	30/10/09	30/10/09	30/10/09	30/10/09	0 d	0 d		3,4FS+39 d,13FS+90 d,15,154FS+153 d,100FS+425
2	**2**	**Site Preparation**	**67 d**	**30/10/09**	**30/10/09**	**4/1/10**	**27/6/12**	**45 d**	**45 d**		
13	3	Submission of ICE Certified Detailed Design	0 d	27/1/10	27/1/10	27/1/10	13/7/12	898 d	898 d	1FS+90 d	
14	**4**	**Preliminary and Detailed Design Submission**	**940 d**	**30/10/09**	**30/10/09**	**26/5/12**	**27/6/12**	**0 d**	**0 d**		
15	4.1	Preparation of Preliminary Design Submission and Submit to the Engineer	20 d	30/10/09	30/10/09	18/11/09	18/11/09	0 d	0 d	1	16
16	4.2	First review and comment Preliminary Design by the Engineer	14 d	19/11/09	19/11/09	2/12/09	2/12/09	0 d	0 d	15	17,19,55,57FS+43 d,58FS+43 d,60FS+65 d,63FS+65 d,65FS+95
17	4.3	Revise Preliminary Design (PD) Submission	14 d	3/12/09	3/12/09	16/12/09	16/12/09	0 d	0 d	16	18
18	4.4	Review and Approval of revised PD by the Engineer	14 d	17/12/09	17/12/09	30/12/09	30/12/09	0 d	0 d	17	67FS+75 d,139FS+120 d,19,156,59FS+545 d,61FS+595
19	4.5	Preparation of Detailed Design (DD) Submission	24 d	31/12/09	31/12/09	23/1/10	23/1/10	0 d	0 d	16,18	20
20	4.6	Obtain of ICE Certificate of DD Submission and Submit to the Engineer	3 d	24/1/10	24/1/10	26/1/10	26/1/10	0 d	0 d	19	21
21	4.7	First review and comment DD by the Engineer	30 d	27/1/10	27/1/10	25/2/10	25/2/10	0 d	0 d	20	22
22	4.8	Revise DD Submission & obtain ICE Certificate and Submit to the Engineer	30 d	26/2/10	26/2/10	27/3/10	27/3/10	0 d	0 d	21	23
23	4.9	Review and Approval of revised DD by the Engineer	21 d	28/3/10	28/3/10	17/4/10	17/4/10	0 d	0 d	22	40,158FS-19 d
24	4.10	Preparation of Preliminary General Building Plan (GBP) Design Submission	90 d	11/2/10	11/2/10	11/5/10	12/8/10	0 d	93 d	1FS+104 d	25
25	4.11	Obtain ICE Certificate of Preliminary GBP Submission and Submit to the Engineer	14 d	12/5/10	12/5/10	25/5/10	26/8/10	0 d	93 d	24	26
26	4.12	First review and comment Preliminary GBP Design by the Engineer	90 d	26/5/10	26/5/10	23/8/10	24/11/10	0 d	93 d	25	27
27	4.13	Review Preliminary GBP Design Submission	163 d	24/8/10	24/8/10	2/2/11	6/5/11	0 d	93 d	26	28
28	4.14	Review and Approval of Detailed GBP Design by the Engineer	23 d	3/2/11	3/2/11	25/2/11	29/5/11	0 d	93 d	27	29
29	4.15	Obtain of Final ICE Certificate of Detailed GBP Submission and Submit to the Engineer	7 d	26/2/11	26/2/11	4/3/11	5/6/11	15 d	93 d	28	128,129,144,145
30	4.16	Preparation of Preliminary Foundation Design Submission and Method Statement	21 d	5/2/10	5/2/10	25/2/10	3/3/10	0 d	6 d	110	31
31	4.17	Obtain ICE Certificate of Preliminary Foundation Design Submission and Method Statement and Submit to the Engineer	14 d	26/2/10	26/2/10	11/3/10	17/3/10	0 d	6 d	30	32,115,116,119,120
32	4.18	First review and comment Preliminary Foundation Design by the Engineer	15 d	12/3/10	12/3/10	26/3/10	6/5/10	0 d	41 d	31	33
33	4.19	Revise Preliminary Foundation Design Submission and Method statement	14 d	27/3/10	27/3/10	9/4/10	20/5/10	0 d	41 d	32	34
34	4.20	Obtain ICE Certificate of Revised Foundation Design Submission and Method Statement and Submit to the Engineer	14 d	10/4/10	10/4/10	23/4/10	3/6/10	0 d	41 d	33	35,36FS+123 d
35	4.21	Review and Approval of revised Foundation Design and Method Statement by the Engineer	14 d	24/4/10	24/4/10	7/5/10	17/6/10	7 d	41 d	34	116,120
36	4.22	Preparation of Pile Load Test Method Statement and Submit to the Engineer	14 d	25/8/10	25/8/10	7/9/10	12/1/11	0 d	127 d	34FS+123 d	37
37	4.23	Review and Approval of Pile Load Test Method Statement	14 d	8/9/10	8/9/10	21/9/10	26/1/11	0 d	127 d	36	38,117,121
38	4.24	Preparation of method statement of construction of pile cap and control room and Submit to the Engineer	14 d	22/9/10	22/9/10	5/10/10	26/2/11	0 d	144 d	37	39
39	4.25	Review and Approval of method statement of construction of pile cap and contrl room	14 d	6/10/10	6/10/10	19/10/10	12/3/11	97 d	144 d	38	28,129,130,141,143,14



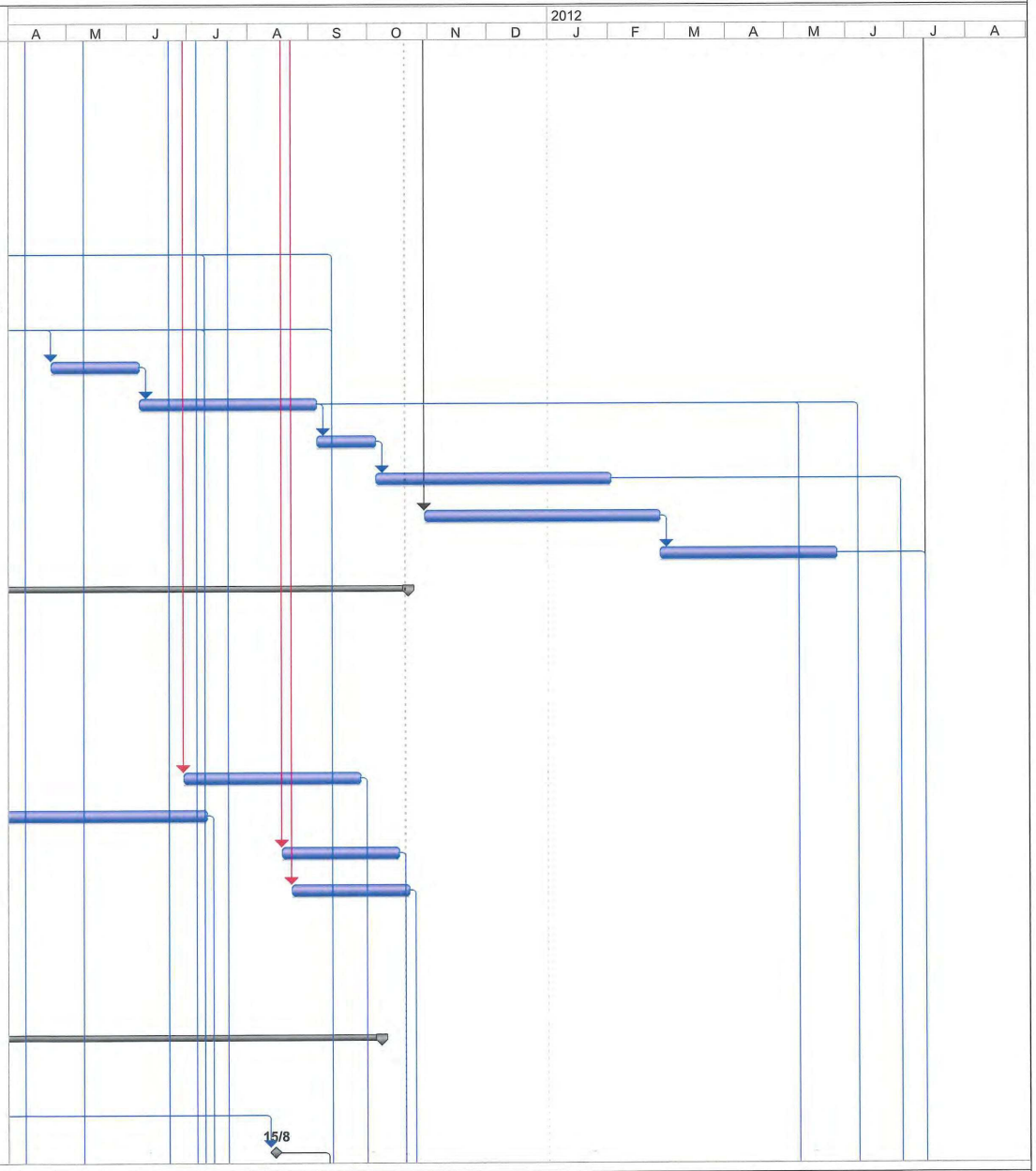
Contract No. DE/2009/02
Revision: 0
Date: 19 Oct 2011

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

ATAL Engineering Limited

Three Months Rolling Programme for Contract No. DE/2009/02
Provision of Covers and Deodourisation Facilities to the Existing Sedimentation Tanks at Stonecutters Island Sewage Treatment Works (Oct11 to Dec11)
(Revision 0)

ID	WBS	Task Name	Duration	Early Start	Start	Finish	Late Finish	Free Slack	Total Slack	Predecessors	Successors
40	4.26	Preparation of Preliminary Odour Duct Bridge Design Submission	60 d	18/4/10	18/4/10	16/6/10	20/6/10	0 d	4 d	23	41
41	4.27	Obtain ICE Certificate of Preliminary Odour Duct Bridge Design Submission and Submit to the Engineer	14 d	17/6/10	17/6/10	30/6/10	4/7/10	0 d	4 d	40	42
42	4.28	First review and comment Preliminary Odour Duct Bridge Design Submission	30 d	1/7/10	1/7/10	30/7/10	3/8/10	0 d	4 d	41	43
43	4.29	Review Preliminary Odour Duct Bridge Design Submission	60 d	31/7/10	31/7/10	28/9/10	2/10/10	0 d	4 d	42	44
44	4.30	Obtain ICE Certificate of Revised Odour Duct Bridge Design Submission and Submit to the Engineer	14 d	29/9/10	29/9/10	12/10/10	16/10/10	0 d	4 d	43	45
45	4.31	Review and Approval of Revised Odour Duct Bridge Design Submission	30 d	13/10/10	13/10/10	11/11/10	15/11/10	0 d	4 d	44	150,151,87,46
46	4.32	Preparation of method statement of erection of odour duct bridge (TTA included) and Submit to the Engineer	14 d	12/11/10	12/11/10	25/11/10	21/4/11	0 d	147 d	45	47
47	4.33	Review and Approval of method statement of erection of odour duct bridge (TTA included)	28 d	26/11/10	26/11/10	23/12/10	19/5/11	0 d	147 d	46	150,151,48FS+120 d
48	4.34	Preparation of Commissioning Test Plan and Submit to the Engineer	45 d	23/4/11	23/4/11	6/6/11	16/10/11	0 d	132 d	47FS+120 d	49
49	4.35	Review and Approval of Commissioning Test Plan by the Engineer	90 d	7/6/11	7/6/11	4/9/11	14/1/12	0 d	132 d	48	50,320,327,329
50	4.36	Preparation of Training Plan and Submit to the Engineer	30 d	5/9/11	5/9/11	4/10/11	13/2/12	0 d	132 d	49	51
51	4.37	Review and Approval of Training Plan by the Engineer	120 d	5/10/11	5/10/11	1/2/12	12/6/12	132 d	132 d	50	328
52	4.38	Preparation of As-built drawings and Submit to the Engineer	120 d	30/10/11	30/10/11	26/2/12	29/3/12	0 d	32 d	1FS+730 d	53
53	4.39	Review and Approval of As-built drawings	90 d	27/2/12	27/2/12	26/5/12	27/6/12	32 d	32 d	52	330
54	**5**	**Equipment Submission and Approval**	**688 d**	**3/12/09**	**3/12/09**	**21/10/11**	**17/12/11**	**1 d**	**1 d**		
55	5.1	Odour Containment System (FRP Cover) - Prototype	30 d	3/12/09	3/12/09	1/1/10	2/1/10	0 d	1 d	16	156FS+12 d
56	5.2	Odour Containment System (FRP Cover) - Other Covers / walkway	80 d	15/1/10	15/1/10	4/4/10	4/4/10	0 d	0 d	16FS+43 d	75,76
57	5.3	Deodourizing System	70 d	15/1/10	15/1/10	25/3/10	4/4/10	10 d	10 d	16FS+43 d	75,76
58	5.4	LV Switchboard	80 d	15/1/10	15/1/10	4/4/10	6/4/10	0 d	2 d	16FS+43 d	92,93
59	5.5	FRP Cover at Rapid Mix Tank (VO12)	90 d	29/6/11	29/6/11	26/9/11	28/9/11	0 d	2 d	18FS+545 d	97
60	5.6	Modification proposal of SCADA System (VO13)	520 d	6/2/10	6/2/10	10/7/11	19/8/11	0 d	40 d	16FS+65 d	94
61	5.7	FRP Cover at Flow Distribution Chamber (VO14)	60 d	18/8/11	18/8/11	16/10/11	17/12/11	0 d	62 d	18FS+595 d	98
62	5.8	Isolation Stopboard for Scum Pit and Effluent Drop Structure (VO15)	60 d	23/8/11	23/8/11	21/10/11	9/12/11	0 d	49 d	18FS+600 d	99
63	5.9	FRP Ductwork and Support	70 d	6/2/10	6/2/10	16/4/10	19/4/10	0 d	3 d	16FS+65 d	78FS+180 d
64	5.10	CCTV System	90 d	29/1/10	29/1/10	28/4/10	12/12/10	0 d	228 d	16FS+57 d	95
65	5.11	Electrical Accessories	60 d	8/3/10	8/3/10	6/5/10	19/8/11	0 d	470 d	16FS+95 d	96
66	**6**	**Statutory Submission and Inspection**	**571 d**	**16/3/10**	**16/3/10**	**7/10/11**	**13/7/12**	**280 d**	**280 d**		
67	6.1	Preparation of revised FS Plan including DG goods store application	28 d	16/3/10	16/3/10	12/4/10	5/4/12	0 d	724 d	18FS+75 d	68
68	6.2	Approval of revised FS Plan including DG goods store application by FSD	45 d	13/4/10	13/4/10	27/5/10	20/5/12	444 d	724 d	67	69
69	6.3	Submission of Form 501 for FS Inspection	0 d	15/8/11	15/8/11	15/8/11	21/5/12	0 d	280 d	68	70FS+30 d



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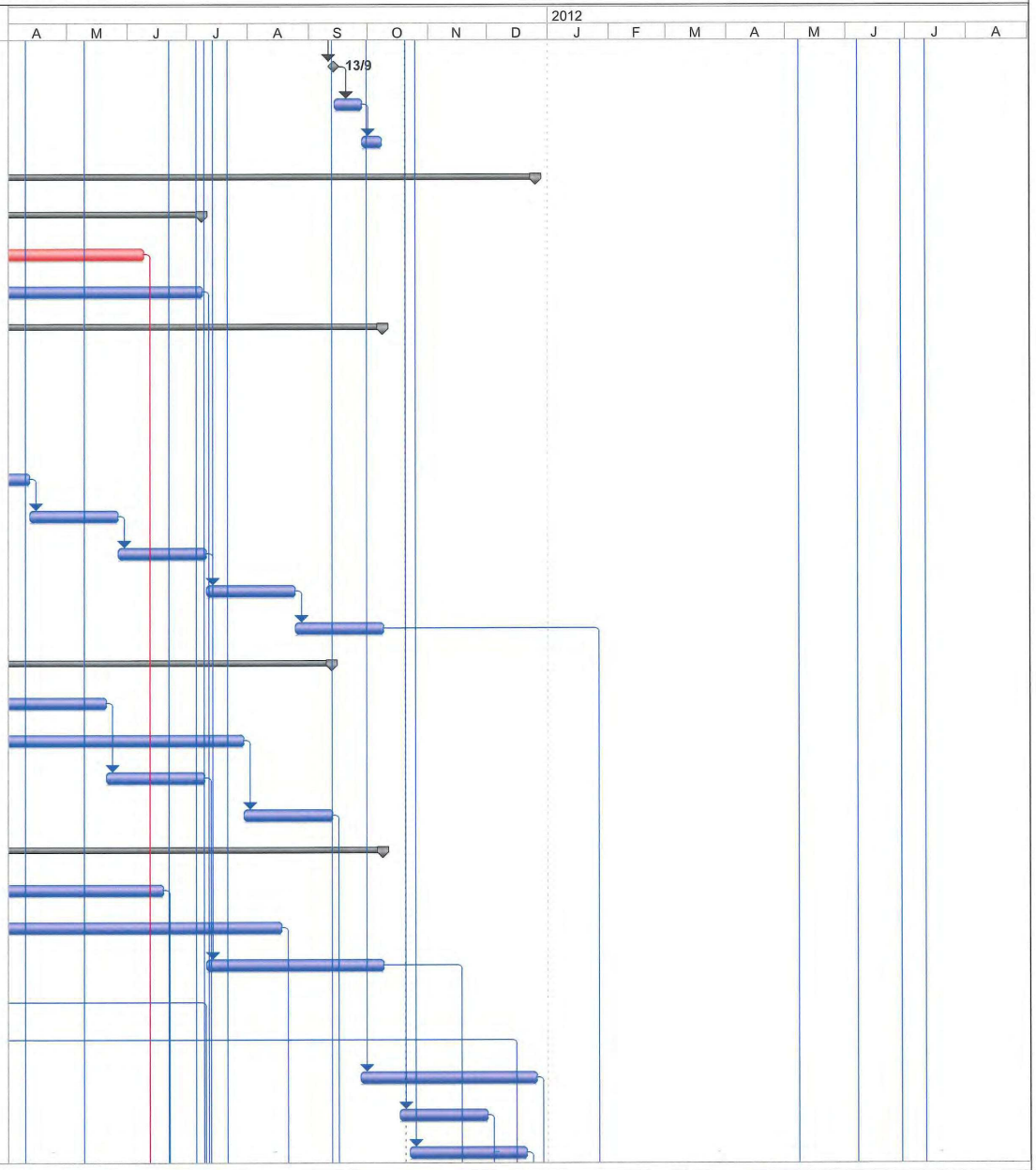
70	6.4	First FS Inspection	0 d	13/9/11	13/9/11	13/9/11	20/6/12	0 d	280 d	69FS+30 d	71
71	6.5	Defect rectification following to the first FS Inspection	14 d	14/9/11	14/9/11	27/9/11	3/7/12	0 d	280 d	70	72
72	6.6	Final FS Inspection and Issue of FS Certificate	10 d	28/9/11	28/9/11	7/10/11	13/7/12	280 d	280 d	71	
73	**7**	**Equipment Manufacturing, Factory Testing, Shipment and Delivery other than FRP Covers & Accessories for Containment System**	**630 d**	**5/4/10**	**5/4/10**	**25/12/11**	**7/2/12**	**0 d**	**0 d**		
74	**7.1**	**Deodourization System**	**460 d**	**5/4/10**	**5/4/10**	**8/7/11**	**8/9/11**	**0 d**	**0 d**		
75	7.1.1	Deodourization System (DOU2)	430 d	5/4/10	5/4/10	8/6/11	8/6/11	0 d	0 d	57,56	278
76	7.1.2	Deodorization System (DOU1)	460 d	5/4/10	5/4/10	8/7/11	8/9/11	0 d	62 d	57,56	279
77	**7.2**	**FRP Ductwork and Support**	**360 d**	**14/10/10**	**14/10/10**	**8/10/11**	**29/1/12**	**3 d**	**3 d**		
78	7.2.1	FRP Ductwork and Support (33-45)	45 d	14/10/10	14/10/10	27/11/10	30/11/10	0 d	3 d	63FS+180 d	268FS+110 d,79
79	7.2.2	FRP Ductwork and Support (21-31)	45 d	28/11/10	28/11/10	11/1/11	4/5/11	0 d	113 d	78	80
80	7.2.3	FRP Ductwork and Support (9-19)	45 d	12/1/11	12/1/11	25/2/11	18/6/11	0 d	113 d	79	81
81	7.2.4	FRP Ductwork and Support (1-7)	45 d	26/2/11	26/2/11	11/4/11	2/8/11	0 d	113 d	80	82
82	7.2.5	FRP Ductwork and Support (2-8)	45 d	12/4/11	12/4/11	26/5/11	16/9/11	0 d	113 d	81	83
83	7.2.6	FRP Ductwork and Support (10-20)	45 d	27/5/11	27/5/11	10/7/11	31/10/11	0 d	113 d	82	84
84	7.2.7	FRP Ductwork and Support (22-32)	45 d	11/7/11	11/7/11	24/8/11	15/12/11	0 d	113 d	83	85
85	7.2.8	FRP Ductwork and Support(34-46)	45 d	25/8/11	25/8/11	8/10/11	29/1/12	110 d	113 d	84	275
86	**7.3**	**Odour Duct Bridge**	**305 d**	**12/11/10**	**12/11/10**	**12/9/11**	**16/9/11**	**4 d**	**4 d**		
87	7.3.1	Fabrication of individual parts of Odour Duct Bridge at DOU1	190 d	12/11/10	12/11/10	20/5/11	24/5/11	0 d	4 d	45	88SS+70 d,89
88	7.3.2	Fabrication of individual parts of Odour Duct Bridge at DOU2	190 d	21/1/11	21/1/11	29/7/11	2/8/11	0 d	4 d	87SS+70 d	90
89	7.3.3	Shipment and Delivery of Odour Duct Brdige at DOU1	50 d	21/5/11	21/5/11	9/7/11	18/7/11	0 d	9 d	87	150
90	7.3.4	Shipment and Delivery of Odour Duct Brdige at DOU2	45 d	30/7/11	30/7/11	12/9/11	16/9/11	0 d	4 d	88	151
91	**7.4**	**Electrical and Building Services Equipment**	**552 d**	**5/4/10**	**5/4/10**	**8/10/11**	**17/12/11**	**2 d**	**2 d**		
92	7.4.1	LV Switchboard (DOU1)	440 d	5/4/10	5/4/10	18/6/11	14/10/11	0 d	118 d	58	281
93	7.4.2	LV Switchboard (DOU2)	500 d	5/4/10	5/4/10	17/8/11	19/8/11	0 d	2 d	58	282
94	7.4.3	Modification proposal of SCADA System (VO13)	90 d	11/7/11	11/7/11	8/10/11	17/11/11	38 d	40 d	60	284
95	7.4.4	CCTV System	210 d	29/4/10	29/4/10	24/11/10	10/7/11	228 d	228 d	64	289
96	7.4.5	Electrical Accessories	120 d	7/5/10	7/5/10	3/9/10	17/12/11	458 d	470 d	65	283
97	7.5	FRP Cover at Rapid Mix Tank (VO12)	90 d	27/9/11	27/9/11	25/12/11	27/12/11	0 d	2 d	59	290
98	7.6	FRP Cover at Flow Distribution Chamber (VO14)	45 d	17/10/11	17/10/11	30/11/11	31/1/12	0 d	62 d	61	291
99	7.7	Isolation Stopboard for Scum Pit and Effluent Drop Structure (VO15)	60 d	22/10/11	22/10/11	20/12/11	7/2/12	0 d	49 d	62	292



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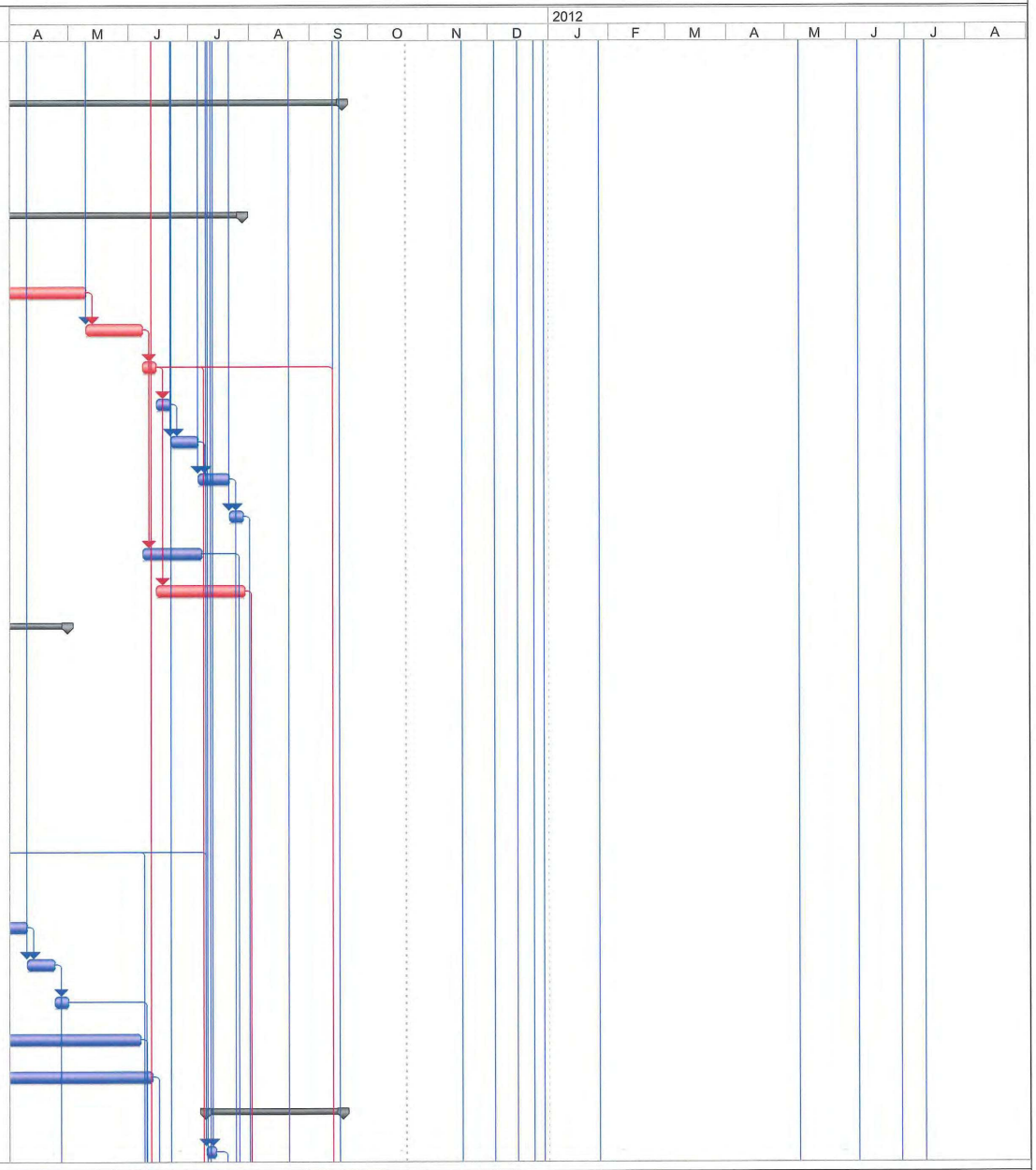
100	8	Completion of Pilings and Concrete Base Slabs for the Two Deodourisation Units	0 d	28/12/10	28/12/10	28/12/10	13/7/12	563 d	563 d	1FS+425 d	
101	**9**	**Civil Construction**	**629 d**	**28/12/09**	**28/12/09**	**17/9/11**	**21/9/11**	**0 d**	**0 d**		
102	**9.1**	**Condition Survey**	**80 d**	**28/12/09**	**28/12/09**	**17/3/10**	**17/3/10**	**0 d**	**0 d**		
108	**9.2**	**Piling Works**	**433 d**	**5/1/10**	**5/1/10**	**13/3/11**	**13/3/11**	**0 d**	**0 d**		
122	**9.3**	**Construction of Concrete Plinth for DOU2**	**576 d**	**30/12/09**	**30/12/09**	**28/7/11**	**29/7/11**	**1 d**	**1 d**		
123	9.3.1	Underground Utility Survey at DOU2	7 d	30/12/09	30/12/09	5/1/10	20/3/11	439 d	439 d	134SS	124
124	9.3.2	Excavation including temporary works and safety measures	50 d	21/3/11	21/3/11	9/5/11	9/5/11	0 d	0 d	117FS+7 d,123	125
125	9.3.3	Pile Cap	29 d	10/5/11	10/5/11	7/6/11	7/6/11	0 d	0 d	124,39	126,131
126	9.3.4	Concrete Plinth	7 d	8/6/11	8/6/11	14/6/11	14/6/11	0 d	0 d	125	279,132,127,151
127	9.3.5	Backfill to Ground Level	7 d	15/6/11	15/6/11	21/6/11	22/6/11	0 d	1 d	126	128
128	9.3.6	Pour 2a - Wall of Control Room	14 d	22/6/11	22/6/11	5/7/11	6/7/11	0 d	1 d	39,29,127	129
129	9.3.7	Pour 2b - Roof of Control Room	16 d	6/7/11	6/7/11	21/7/11	22/7/11	0 d	1 d	128,39,29	130,286
130	9.3.8	Block work wall of Control Room and Finishing works	7 d	22/7/11	22/7/11	28/7/11	29/7/11	1 d	1 d	129,39	153
131	9.4	Watermain laying works	30 d	8/6/11	8/6/11	7/7/11	29/7/11	22 d	22 d	125	153
132	9.5	Reinstatement of road and drainage	45 d	15/6/11	15/6/11	29/7/11	29/7/11	0 d	0 d	126	153
133	**9.6**	**Construction of Concrete Plinth for DOU1**	**487 d**	**30/12/09**	**30/12/09**	**30/4/11**	**29/7/11**	**90 d**	**90 d**		
134	9.6.1	Underground Utility Survey at DOU1	7 d	30/12/09	30/12/09	5/1/10	26/4/10	0 d	111 d	9FS+17 d	123SS,136
135	**9.6.2**	**Tree transplant**	**50 d**	**6/1/10**	**6/1/10**	**24/2/10**	**15/6/10**	**111 d**	**111 d**	**7FS+30 d**	
139	9.6.3	Diversion of underground utilities including concrete service duct	270 d	30/4/10	30/4/10	24/1/11	12/3/11	0 d	47 d	18FS+120 d,138	141,140FS-18 d
140	9.6.4	Excavation including temporary works and safety measures	20 d	7/1/11	7/1/11	26/1/11	17/3/11	3 d	50 d	121,139FS-18 d	141FS-5 d
141	9.6.5	Pile Cap	43 d	25/1/11	25/1/11	8/3/11	24/4/11	0 d	47 d	140FS-5 d,39,139	143,142,147
142	9.6.6	Concrete Plinth	6 d	9/3/11	9/3/11	14/3/11	30/4/11	0 d	47 d	141,39	278,148,143,150
143	9.6.7	Backfill to Ground Level	5 d	15/3/11	15/3/11	19/3/11	5/6/11	0 d	78 d	141,39,142	144
144	9.6.8	Pour 1a - Wall of Control Room	21 d	20/3/11	20/3/11	9/4/11	26/6/11	0 d	78 d	39,29,143	145
145	9.6.9	Pour 2b - Roof of Control Room	14 d	10/4/11	10/4/11	23/4/11	10/7/11	0 d	78 d	144,29	146,285
146	9.6.10	Block work wall of Control Room and Finishing works	7 d	24/4/11	24/4/11	30/4/11	29/7/11	43 d	90 d	145	152
147	9.7	Watermain laying works	90 d	9/3/11	9/3/11	6/6/11	29/7/11	6 d	53 d	141	152
148	9.8	Reinstatement of road and drainage	90 d	15/3/11	15/3/11	12/6/11	29/7/11	0 d	47 d	142	152
149	**9.9**	**Erection of Odour Bridge**	**70 d**	**10/7/11**	**10/7/11**	**17/9/11**	**21/9/11**	**4 d**	**4 d**		
150	9.9.1	Odour Bridge connecting DOU1	5 d	10/7/11	10/7/11	14/7/11	23/7/11	6 d	9 d	45,89,47,142	272



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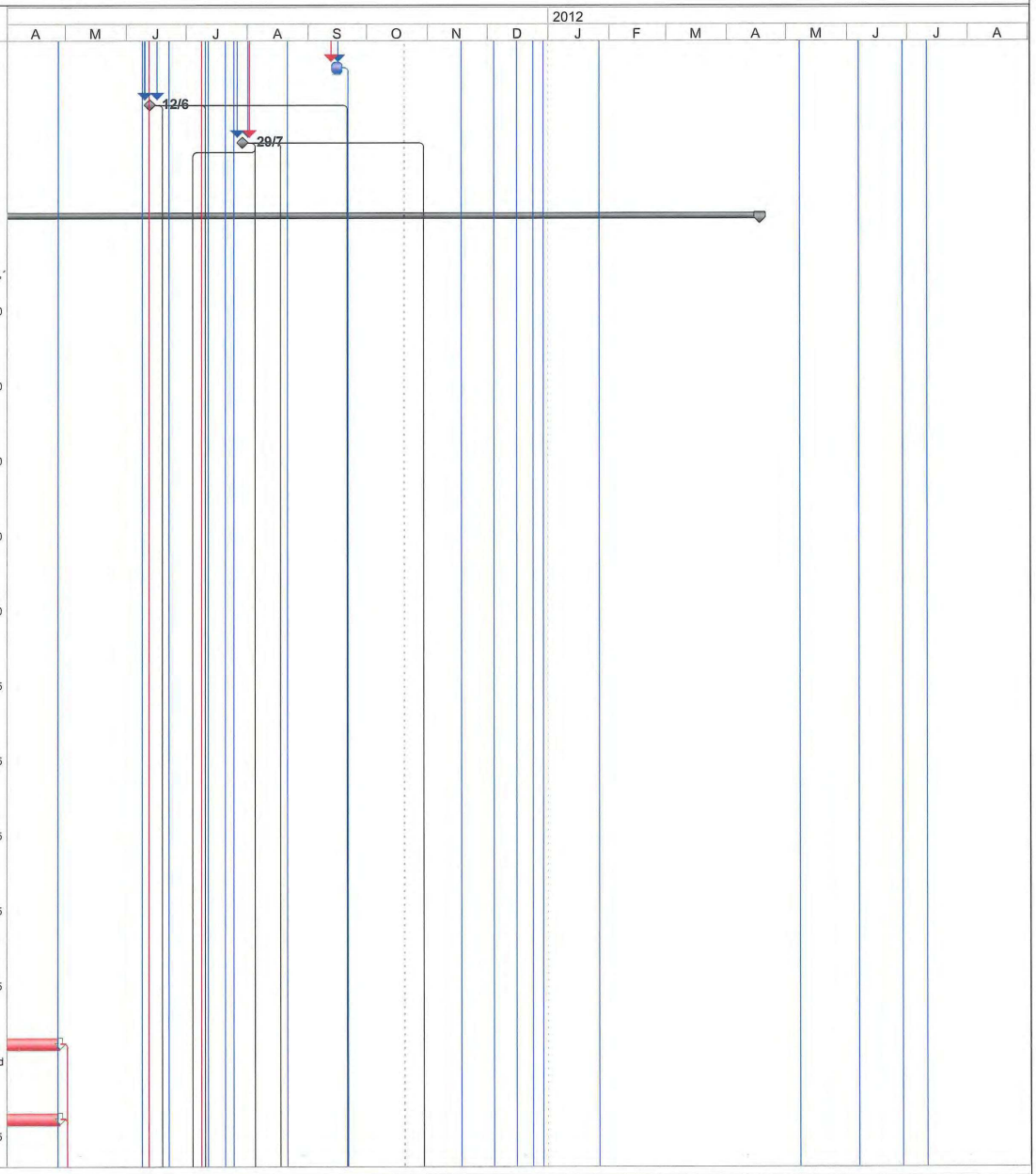
ATAL Engineering Limited

Three Months Rolling Programme for Contract No. DE/2009/02
Provision of Covers and Deodourisation Facilities to the Existing Sedimentation Tanks at Stonecutters Island Sewage Treatment Works (Oct11 to Dec11)

(Revision 0)

ID	WBS	Task Name	Duration	Early Start	Start	Finish	Late Finish	Free Slack	Total Slack	Predecessors	Successors
151	9.9.2	Odour Bridge connecting DOU2	5 d	13/9/11	13/9/11	17/9/11	21/9/11	1 d	4 d	45,90,47,126	273
152	10	**Site Availability of the Plinth and Control Room for DOU1**	**0 d**	12/6/11	**12/6/11**	**12/6/11**	29/7/11	0 d	47 d	**146,147,148**	287,289FS-19 d,294,281
153	11	**Site Availability of the Plinth and Control Room for DOU2**	**0 d**	29/7/11	**29/7/11**	**29/7/11**	29/7/11	0 d	0 d	**130,131,132**	288,289FS-19 d,295,282
154	12	Completion of Installation of Prototype Covers on Tank 43	0 d	31/3/10	31/3/10	31/3/10	13/7/12	835 d	835 d	1FS+153 d	
155	13	**Delivery and Installation of FRP Covers & Accessories for Containment System**	**825 d**	**14/1/10**	**14/1/10**	**17/4/12**	**7/5/12**	**1 d**	**1 d**		
156	13.1	Delivery and Manufacture of Sedimentation Tank No.43	33 d	14/1/10	14/1/10	15/2/10	16/2/10	0 d	1 d	16,55FS+12 d,18	157FS-21 d
157	13.2	Installation and Testing of Containment System of Sedimentation Tank No.43	62 d	26/1/10	26/1/10	28/3/10	29/3/10	1 d	1 d	156FS-21 d	),158,161,163,165,167,
158	13.3	Delivery and Manufacture of Sedimentation Tank No.33	30 d	30/3/10	30/3/10	28/4/10	28/4/10	0 d	0 d	157,23FS-19 d	159FS+11 d,160FS-10 d
159	13.4	Installation and Testing of Containment System of Sedimentation Tank No.33	66 d	10/5/10	10/5/10	14/7/10	14/7/10	0 d	0 d	158FS+11 d,157	169,171
160	13.5	Delivery and Manufacture of Sedimentation Tank No.35	31 d	19/4/10	19/4/10	19/5/10	19/5/10	0 d	0 d	158FS-10 d	161FS+10 d,162FS-10 d
161	13.6	Installation and Testing of Containment System of Sedimentation Tank No.35	221 d	30/5/10	30/5/10	5/1/11	5/1/11	0 d	0 d	157,160FS+10 d	173FS-35 d
162	13.7	Delivery and Manufacture of Sedimentation Tank No.37	27 d	10/5/10	10/5/10	5/6/10	5/6/10	0 d	0 d	160FS-10 d,157	163FS+20 d,164FS-10 d
163	13.8	Installation and Testing of Containment System of Sedimentation Tank No.37	196 d	26/6/10	26/6/10	7/1/11	7/1/11	0 d	0 d	162FS+20 d,157	175FS-30 d
164	13.9	Delivery and Manufacture of Sedimentation Tank No.39	33 d	27/5/10	27/5/10	28/6/10	28/6/10	0 d	0 d	162FS-10 d	165FS+20 d,166FS-10 d
165	13.10	Installation and Testing of Containment System of Sedimentation Tank No.39	120 d	19/7/10	19/7/10	15/11/10	15/11/10	0 d	0 d	164FS+20 d,157	177
166	13.11	Delivery and Manufacture of Sedimentation Tank No.41	21 d	19/6/10	19/6/10	9/7/10	9/7/10	0 d	0 d	164FS-10 d	167FS+20 d,168FS-10 d
167	13.12	Installation and Testing of Containment System of Sedimentation Tank No.41	94 d	30/7/10	30/7/10	31/10/10	31/10/10	0 d	0 d	166FS+20 d,157	179
168	13.13	Delivery and Manufacture of Sedimentation Tank No.21	33 d	30/6/10	30/6/10	1/8/10	1/8/10	0 d	0 d	166FS-10 d	169FS+20 d,170FS-15 d
169	13.14	Installation and Testing of Containment System of Sedimentation Tank No.21	66 d	22/8/10	22/8/10	26/10/10	26/10/10	0 d	0 d	168FS+20 d,159	181
170	13.15	Delivery and Manufacture of Sedimentation Tank No.23	30 d	18/7/10	18/7/10	16/8/10	16/8/10	0 d	0 d	168FS-15 d	171FS+10 d,172FS-15 d
171	13.16	Installation and Testing of Containment System of Sedimentation Tank No.23	67 d	27/8/10	27/8/10	1/11/10	1/11/10	0 d	0 d	170FS+10 d,159	183FS+10 d
172	13.17	Delivery and Manufacture of Sedimentation Tank No.25	27 d	2/8/10	2/8/10	28/8/10	28/8/10	0 d	0 d	170FS-15 d	173FS+10 d,174FS-15 d
173	13.18	Installation and Testing of Containment System of Sedimentation Tank No.25	79 d	2/12/10	2/12/10	18/2/11	18/2/11	0 d	0 d	172FS+10 d,161FS-35 d	185
174	13.19	Delivery and Manufacture of Sedimentation Tank No.27	32 d	14/8/10	14/8/10	14/9/10	14/9/10	0 d	0 d	172FS-15 d	175FS+30 d,176FS-15 d
175	13.20	Installation and Testing of Containment System of Sedimentation Tank No.27	72 d	9/12/10	9/12/10	18/2/11	18/2/11	0 d	0 d	174FS+30 d,163FS-30 d	187FS-10 d
176	13.21	Delivery and Manufacture of Flocculation Tank No.1	42 d	31/8/10	31/8/10	11/10/10	11/10/10	0 d	0 d	174FS-15 d	177FS+10 d,178FS-15 d
177	13.22	Installation and Testing of Containment System of Flocculation Tank No.1	164 d	16/11/10	16/11/10	28/4/11	28/4/11	0 d	0 d	176FS+10 d,165	189
178	13.23	Delivery and Manufacture of Flocculation Tank No.3	30 d	27/9/10	27/9/10	26/10/10	26/10/10	0 d	0 d	176FS-15 d	179FS+5 d,180FS-15 d
179	13.24	Installation and Testing of Containment System of Flocculation Tank No.3	179 d	1/11/10	1/11/10	28/4/11	28/4/11	0 d	0 d	178FS+5 d,167	191
180	13.25	Delivery and Manufacture of Sedimentation Tank No.17	30 d	12/10/10	12/10/10	10/11/10	10/11/10	0 d	0 d	178FS-15 d	181FS+20 d,182FS-15 d



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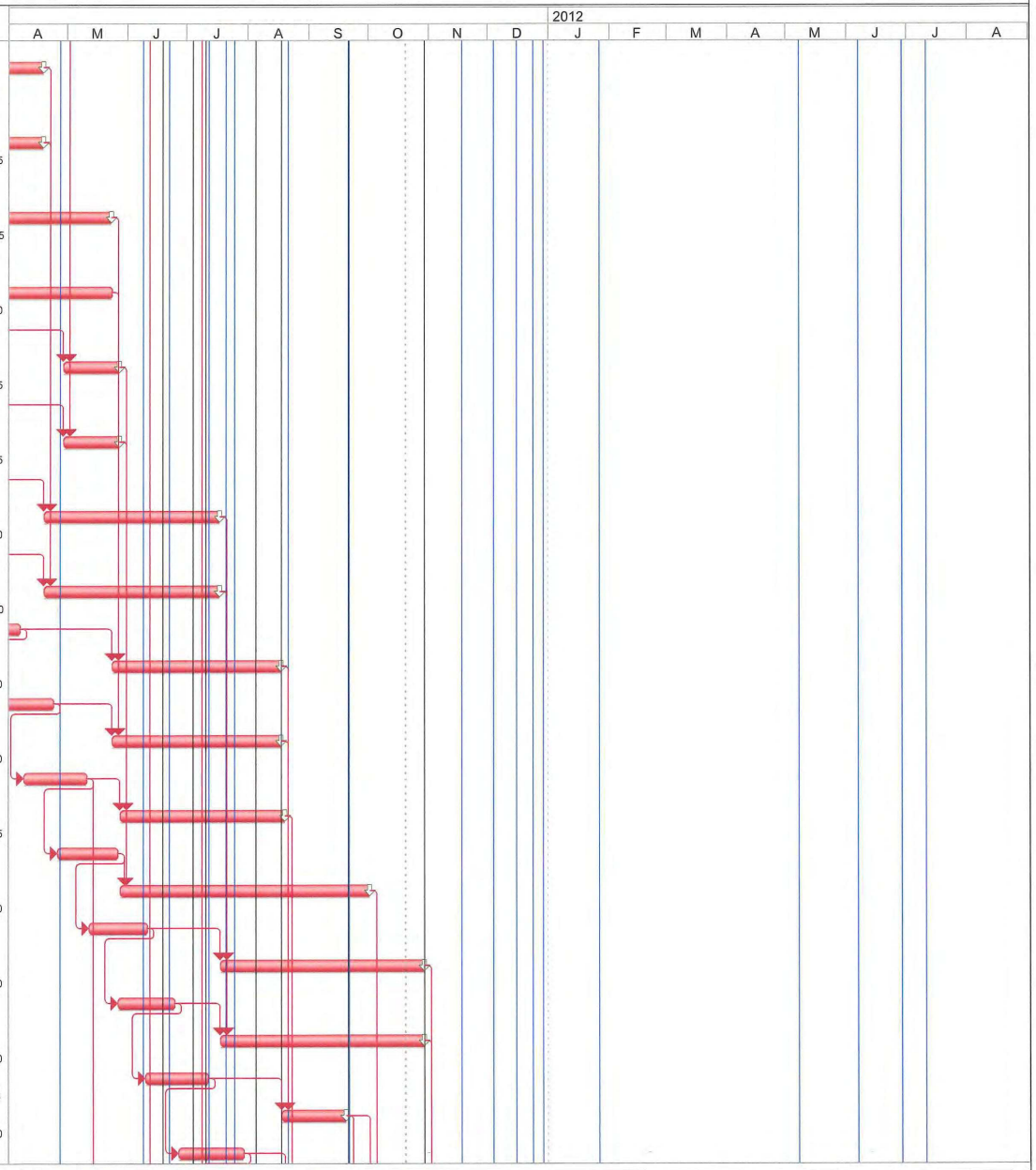
181	13.26	Installation and Testing of Containment System of Sedimentation Tank No.17	139 d	1/12/10	1/12/10	18/4/11	18/4/11	0 d	0 d	180FS+20 d,169	193
182	13.27	Delivery and Manufacture of Sedimentation Tank No.19	34 d	27/10/10	27/10/10	29/11/10	29/11/10	0 d	0 d	180FS-15 d	183,184FS-15 d
183	13.28	Installation and Testing of Containment System of Sedimentation Tank No.19	140 d	30/11/10	30/11/10	18/4/11	18/4/11	0 d	0 d	182,171FS+10 d	195
184	13.29	Delivery and Manufacture of Flocculation Tank No.2	30 d	15/11/10	15/11/10	14/12/10	14/12/10	0 d	0 d	182FS-15 d	185FS-20 d,186FS-15 d
185	13.30	Installation and Testing of Containment System of Flocculation Tank No.2	94 d	19/2/11	19/2/11	23/5/11	23/5/11	0 d	0 d	184FS-20 d,173	197
186	13.31	Delivery and Manufacture of Flocculation Tank No.4	32 d	30/11/10	30/11/10	31/12/10	31/12/10	0 d	0 d	184FS-15 d	187FS+15 d,188FS-15 d,252,254
187	13.32	Installation and Testing of Containment System of Flocculation Tank No.4	104 d	9/2/11	9/2/11	23/5/11	23/5/11	0 d	0 d	186FS+15 d,175FS-10 d	199
188	13.33	Delivery and Manufacture of Sedimentation Tank No 13	37 d	17/12/10	17/12/10	22/1/11	22/1/11	0 d	0 d	186FS-15 d	190FS-15 d,189FS-20 d
189	13.34	Installation and Testing of Containment System of Sedimentation Tank No 13	29 d	29/4/11	29/4/11	27/5/11	27/5/11	0 d	0 d	188FS-20 d,177	201
190	13.35	Delivery and Manufacture of Sedimentation Tank No 15	45 d	8/1/11	8/1/11	21/2/11	21/2/11	0 d	0 d	188FS-15 d	191FS-20 d,192FS-15 d
191	13.36	Installation and Testing of Containment System of Sedimentation Tank No 15	29 d	29/4/11	29/4/11	27/5/11	27/5/11	0 d	0 d	190FS-20 d,179	203
192	13.37	Delivery and Manufacture of Sedimentation Tank No 11	21 d	7/2/11	7/2/11	27/2/11	27/2/11	0 d	0 d	190FS-15 d	193FS-20 d,194FS-15 d
193	13.38	Installation and Testing of Containment System of Sedimentation Tank No 11	90 d	19/4/11	19/4/11	17/7/11	17/7/11	0 d	0 d	192FS-20 d,181	205
194	13.39	Delivery and Manufacture of Sedimentation Tank No 9	37 d	13/2/11	13/2/11	21/3/11	21/3/11	0 d	0 d	192FS-15 d	196FS-15 d,195FS-20 d
195	13.40	Installation and Testing of Containment System of Sedimentation Tank No 9	90 d	19/4/11	19/4/11	17/7/11	17/7/11	0 d	0 d	194FS-20 d,183	207
196	13.41	Delivery and Manufacture of Sedimentation Tank No 45	31 d	7/3/11	7/3/11	6/4/11	6/4/11	0 d	0 d	194FS-15 d	198FS-15 d,197FS+10 d
197	13.42	Installation and Testing of Containment System of Sedimentation Tank No 45	86 d	24/5/11	24/5/11	17/8/11	17/8/11	0 d	0 d	196FS+10 d,185	209
198	13.43	Delivery and Manufacture of Sedimentation Tank No 31	32 d	23/3/11	23/3/11	23/4/11	23/4/11	0 d	0 d	196FS-15 d	200FS-15 d,199FS-20 d
199	13.44	Installation and Testing of Containment System of Sedimentation Tank No 31	86 d	24/5/11	24/5/11	17/8/11	17/8/11	0 d	0 d	198FS-20 d,187	209
200	13.45	Delivery and Manufacture of Sedimemtation Tank No 29	32 d	9/4/11	9/4/11	10/5/11	10/5/11	0 d	0 d	198FS-15 d	202FS-15 d,201FS-20 d,264
201	13.46	Installation and Testing of Containment System of Sedimemtation Tank No 29	84 d	28/5/11	28/5/11	19/8/11	19/8/11	0 d	0 d	200FS-20 d,189	211
202	13.47	Delivery and Manufacture of Flocculation Tank 5	31 d	26/4/11	26/4/11	26/5/11	26/5/11	0 d	0 d	200FS-15 d	203FS-20 d,204FS-15 d
203	13.48	Installation and Testing of Containment System of Flocculation Tank 5	127 d	28/5/11	28/5/11	1/10/11	1/10/11	0 d	0 d	202FS-20 d,191	213,256
204	13.49	Delivery and Manufacture of Flocculation Tank No.7	30 d	12/5/11	12/5/11	10/6/11	10/6/11	0 d	0 d	202FS-15 d	206FS-15 d,205FS-20 d
205	13.50	Installation and Testing of Containment System of Flocculation Tank No.7	104 d	18/7/11	18/7/11	29/10/11	29/10/11	0 d	0 d	204FS-20 d,193	215,258
206	13.51	Delivery and Manufacture of Flocculation Tank No.6	29 d	27/5/11	27/5/11	24/6/11	24/6/11	0 d	0 d	204FS-15 d	208FS-15 d,207FS-20 d
207	13.52	Installation and Testing of Containment System of Flocculation Tank No.6	104 d	18/7/11	18/7/11	29/10/11	29/10/11	0 d	0 d	206FS-20 d,195	215
208	13.53	Delivery and Manufacture of Flocculation Tank 8	32 d	10/6/11	10/6/11	11/7/11	11/7/11	0 d	0 d	206FS-15 d	210FS-15 d,209FS-20 d
209	13.54	Installation and Testing of Containment System of Flocculation Tank 8	33 d	18/8/11	18/8/11	19/9/11	19/9/11	0 d	0 d	208FS-20 d,197,199	217,219,260,221,223
210	13.55	Delivery and Manufacture of Prototype near Tank No.33	33 d	27/6/11	27/6/11	29/7/11	29/7/11	0 d	0 d	208FS-15 d	212FS-15 d,211FS-20 d



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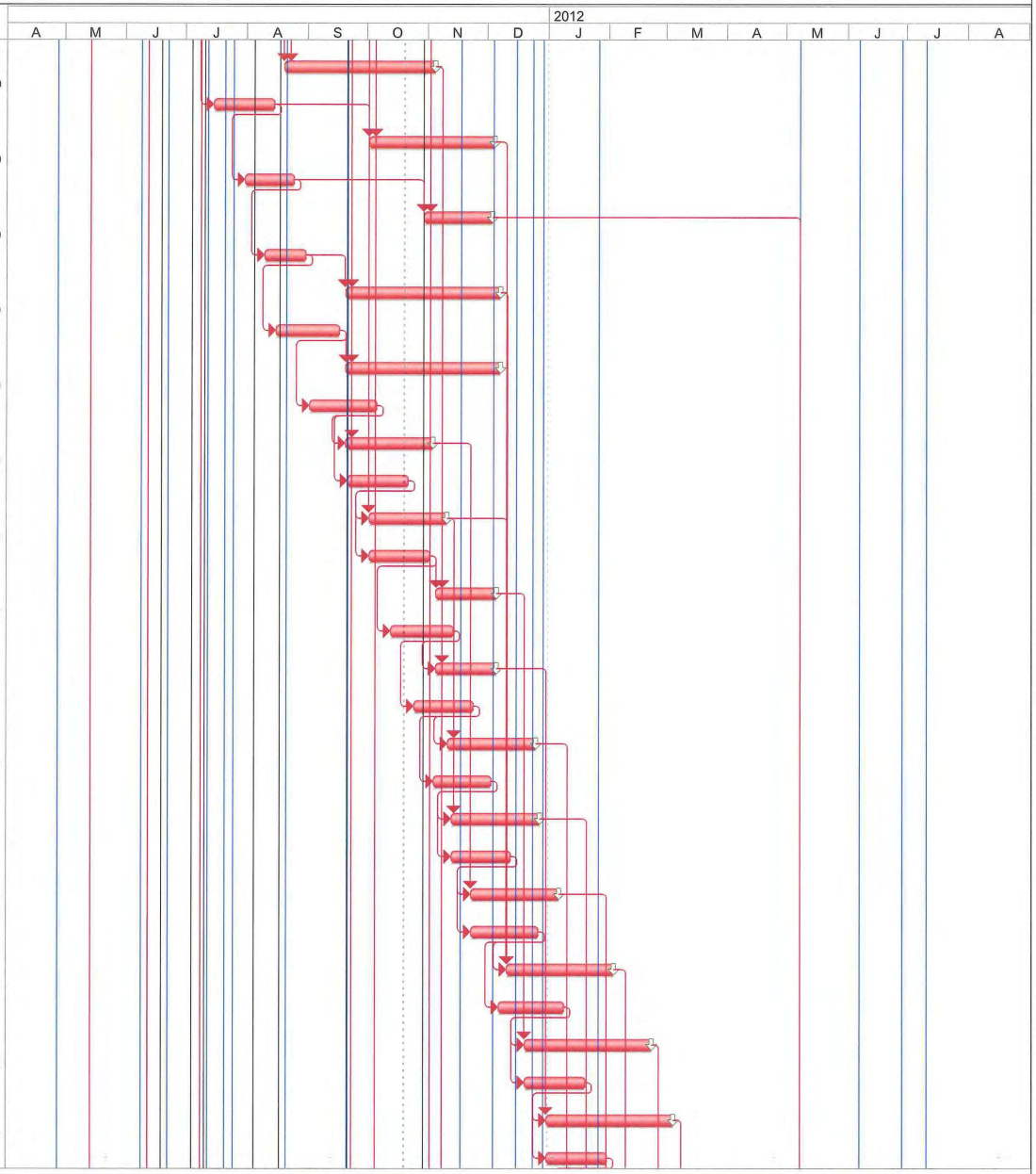
211	13.56	Installation and Testing of Containment System of Prototype near Tank No.33	77 d	20/8/11	20/8/11	4/11/11	4/11/11	0 d	0 d	210FS-20 d,201	262,225,227
212	13.57	Delivery and Manufacture of Sedimentation Tank No.38	31 d	15/7/11	15/7/11	14/8/11	14/8/11	0 d	0 d	210FS-15 d	214FS-15 d,213FS-20 d
213	13.58	Installation and Testing of Containment System of Sedimentation Tank No.38	64 d	2/10/11	2/10/11	4/12/11	4/12/11	0 d	0 d	212FS-20 d,203	235FS+3 d
214	13.59	Delivery and Manufacture of Sedimentation Tank No.36	25 d	31/7/11	31/7/11	24/8/11	24/8/11	0 d	0 d	212FS-15 d	216FS-15 d,215FS-20 d
215	13.60	Installation and Testing of Containment System of Sedimentation Tank No.36	35 d	30/10/11	30/10/11	3/12/11	3/12/11	0 d	0 d	214FS-20 d,205,207	327
216	13.61	Delivery and Manufacture of Sedimentation Tank No.22	21 d	10/8/11	10/8/11	30/8/11	30/8/11	0 d	0 d	214FS-15 d	218FS-15 d,217FS-20 d
217	13.62	Installation and Testing of Containment System of Sedimentation Tank No.22	79 d	20/9/11	20/9/11	7/12/11	7/12/11	0 d	0 d	216FS-20 d,209	235FS+3 d
218	13.63	Delivery and Manufacture of Sedimentation Tank No.24	32 d	16/8/11	16/8/11	16/9/11	16/9/11	0 d	0 d	216FS-15 d	220FS-15 d,219FS-20 d
219	13.64	Installation and Testing of Containment System of Sedimentation Tank No.24	79 d	20/9/11	20/9/11	7/12/11	7/12/11	0 d	0 d	218FS-20 d,209	
220	13.65	Delivery and Manufacture of Sedimentation Tank No.30	34 d	2/9/11	2/9/11	5/10/11	5/10/11	0 d	0 d	218FS-15 d	222FS-15 d,221FS-20 d
221	13.66	Installation and Testing of Containment System of Sedimentation Tank No.30	45 d	20/9/11	20/9/11	3/11/11	3/11/11	0 d	0 d	220FS-20 d,209	233
222	13.67	Delivery and Manufacture of Sedimentation Tank No.32	31 d	21/9/11	21/9/11	21/10/11	21/10/11	0 d	0 d	220FS-15 d	224FS-20 d,223FS-20 d
223	13.68	Installation and Testing of Containment System of Sedimentation Tank No.32	40 d	2/10/11	2/10/11	10/11/11	10/11/11	0 d	0 d	222FS-20 d,209	235,229,231
224	13.69	Delivery and Manufacture of Sedimentation Tank No.10	31 d	2/10/11	2/10/11	1/11/11	1/11/11	0 d	0 d	222FS-20 d	226FS-20 d,225FS-20 d
225	13.70	Installation and Testing of Containment System of Sedimentation Tank No.10	31 d	5/11/11	5/11/11	5/12/11	5/12/11	0 d	0 d	224FS-20 d,211	237
226	13.71	Delivery and Manufacture of Sedimentation Tank No.12	32 d	13/10/11	13/10/11	13/11/11	13/11/11	0 d	0 d	224FS-20 d	228FS-20 d,227FS-20 d
227	13.72	Installation and Testing of Containment System of Sedimentation Tank No.12	31 d	5/11/11	5/11/11	5/12/11	5/12/11	0 d	0 d	226FS-20 d,211	239
228	13.73	Delivery and Manufacture of Sedimentation Tank No.28	30 d	25/10/11	25/10/11	23/11/11	23/11/11	0 d	0 d	226FS-20 d	230FS-20 d,229FS-20 d
229	13.74	Installation and Testing of Containment System of Sedimentation Tank No.28	45 d	11/11/11	11/11/11	25/12/11	25/12/11	0 d	0 d	228FS-20 d,223	241
230	13.75	Delivery and Manufacture of Sedimentation Tank No.26	29 d	4/11/11	4/11/11	2/12/11	2/12/11	0 d	0 d	228FS-20 d	232FS-20 d,231FS-20 d
231	13.76	Installation and Testing of Containment System of Sedimentation Tank No.26	45 d	13/11/11	13/11/11	27/12/11	27/12/11	0 d	0 d	230FS-20 d,223	243
232	13.77	Delivery and Manufacture of Sedimentation Tank No.18	30 d	13/11/11	13/11/11	12/12/11	12/12/11	0 d	0 d	230FS-20 d	234FS-20 d,233FS-20 d
233	13.78	Installation and Testing of Containment System of Sedimentation Tank No.18	45 d	23/11/11	23/11/11	6/1/12	6/1/12	0 d	0 d	232FS-20 d,221	245
234	13.79	Delivery and Manufacture of Sedimentation Tank No.20	34 d	23/11/11	23/11/11	26/12/11	26/12/11	0 d	0 d	232FS-20 d	236FS-20 d,235FS-20 d
235	13.80	Installation and Testing of Containment System of Sedimentation Tank No.20	55 d	11/12/11	11/12/11	3/2/12	3/2/12	0 d	0 d	234FS-20 d,223,213FS+3 d,217FS+3 d	247
236	13.81	Delivery and Manufacture of Sedimentation Tank No.44	33 d	7/12/11	7/12/11	8/1/12	8/1/12	0 d	0 d	234FS-20 d	238FS-20 d,237FS-20 d
237	13.82	Installation and Testing of Containment System of Sedimentation Tank No.44	65 d	20/12/11	20/12/11	22/2/12	22/2/12	0 d	0 d	236FS-20 d,225	249
238	13.83	Delivery and Manufacture of Sedimentation Tank No.46	31 d	20/12/11	20/12/11	19/1/12	19/1/12	0 d	0 d	236FS-20 d	240FS-20 d,239FS-20 d
239	13.84	Installation and Testing of Containment System of Sedimentation Tank No.46	65 d	31/12/11	31/12/11	4/3/12	4/3/12	0 d	0 d	238FS-20 d,227	251
240	13.85	Delivery and Manufacture of Prototype near Tank No.34	31 d	31/12/11	31/12/11	30/1/12	30/1/12	0 d	0 d	238FS-20 d	242FS-20 d,241FS-20 d



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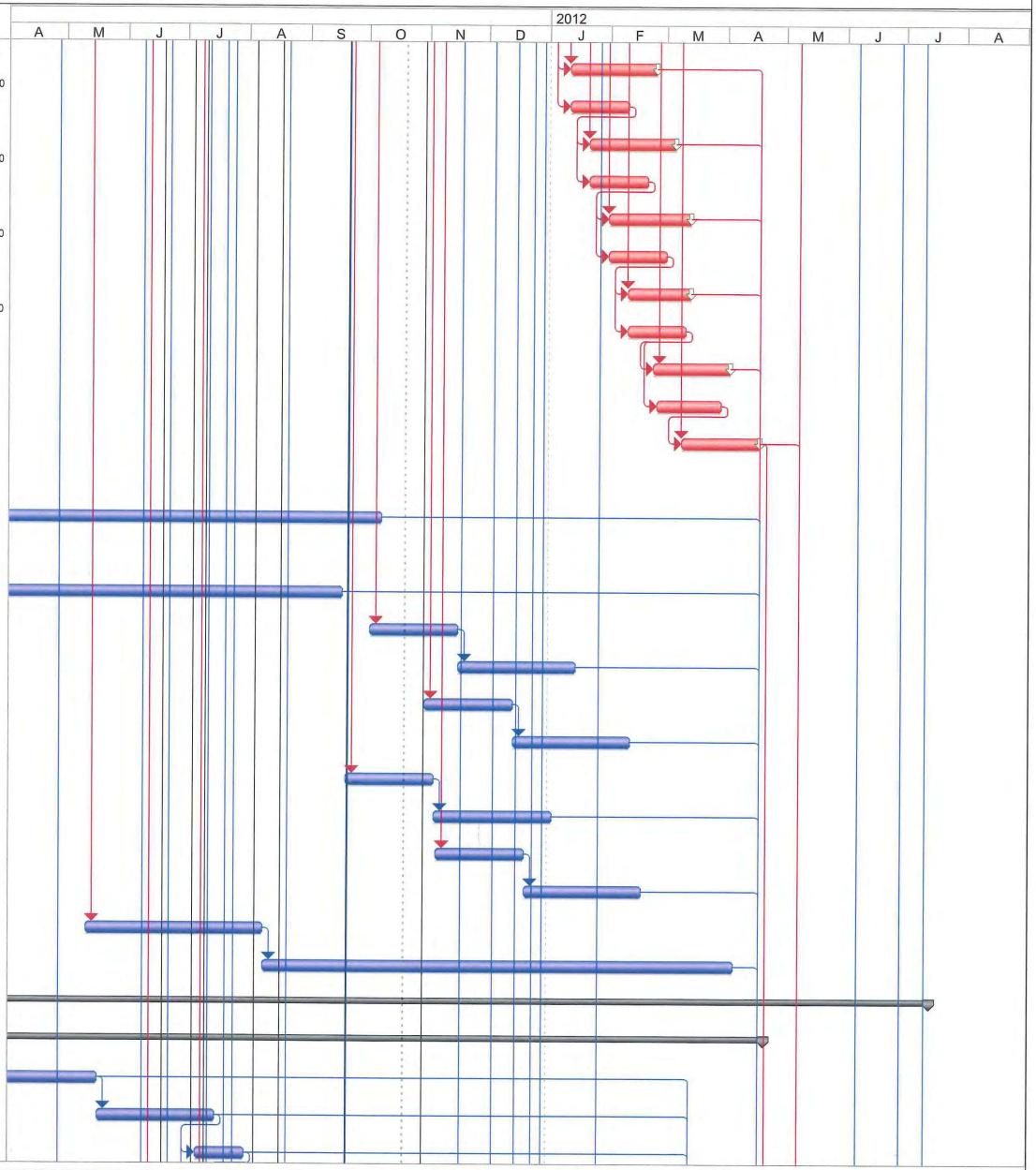
241	13.86	Installation and Testing of Containment System of Prototype near Tank No.34	45 d	11/1/12	11/1/12	24/2/12	24/2/12	0 d	0 d	240FS-20 d,229	297FS+52 d
242	13.87	Delivery and Manufacture of Sedimentation Tank No.34	30 d	11/1/12	11/1/12	9/2/12	9/2/12	0 d	0 d	240FS-20 d	244FS-20 d,243FS-20 d
243	13.88	Installation and Testing of Containment System of Sedimentation Tank No.34	45 d	21/1/12	21/1/12	5/3/12	5/3/12	0 d	0 d	242FS-20 d,231	297FS+42 d
244	13.89	Delivery and Manufacture of Sedimentation Tank No.14	30 d	21/1/12	21/1/12	19/2/12	19/2/12	0 d	0 d	242FS-20 d	246FS-20 d,245FS-20 d
245	13.90	Installation and Testing of Containment System of Sedimentation Tank No.14	43 d	31/1/12	31/1/12	13/3/12	13/3/12	0 d	0 d	244FS-20 d,233	297FS+32 d
246	13.91	Delivery and Manufacture of Sedimentation Tank No.16	30 d	31/1/12	31/1/12	29/2/12	29/2/12	0 d	0 d	244FS-20 d	248FS-20 d,247FS-20 d
247	13.92	Installation and Testing of Containment System of Sedimentation Tank No.16	33 d	10/2/12	10/2/12	13/3/12	13/3/12	0 d	0 d	246FS-20 d,235	297FS+22 d
248	13.93	Delivery and Manufacture of Sedimentation Tank No.40	30 d	10/2/12	10/2/12	10/3/12	10/3/12	0 d	0 d	246FS-20 d	250FS-15 d,249FS-20 d
249	13.94	Installation and Testing of Containment System of Sedimentation Tank No.40	40 d	23/2/12	23/2/12	2/4/12	2/4/12	0 d	0 d	248FS-20 d,237	297FS+9 d
250	13.95	Delivery and Manufacture of Sedimentation Tank No.42	33 d	25/2/12	25/2/12	28/3/12	28/3/12	0 d	0 d	248FS-15 d	251FS-20 d
251	13.96	Installation and Testing of Containment System of Sedimentation Tank No.42	40 d	9/3/12	9/3/12	17/4/12	17/4/12	0 d	0 d	250FS-20 d,239	297,320
252	13.97	Delivery and Manufacture of Main Disribution Channel (1-19)	80 d	1/1/11	1/1/11	21/3/11	20/10/11	0 d	213 d	186	253
253	13.98	Installation and Testing of Containment System of Main Disribution Channel (1-19)	200 d	22/3/11	22/3/11	7/10/11	7/5/12	193 d	213 d	252	297
254	13.99	Delivery and Manufacture of Main Disribution Channel (21-31)	80 d	1/1/11	1/1/11	21/3/11	9/11/11	0 d	233 d	186	255
255	13.100	Installation and Testing of Containment System of Main Disribution Channel (21-31)	180 d	22/3/11	22/3/11	17/9/11	7/5/12	213 d	233 d	254	297
256	13.101	Delivery and Manufacture of Main Disribution Channel (33-45)	45 d	2/10/11	2/10/11	15/11/11	8/3/12	0 d	114 d	203	257
257	13.102	Installation and Testing of Containment System of Main Disribution Channel (33-45)	60 d	16/11/11	16/11/11	14/1/12	7/5/12	94 d	114 d	256	297
258	13.103	Delivery and Manufacture of Main Disribution Channel (22-32)	45 d	30/10/11	30/10/11	13/12/11	8/3/12	0 d	86 d	205	259
259	13.104	Installation and Testing of Containment System of Main Disribution Channel (22-32)	60 d	14/12/11	14/12/11	11/2/12	7/5/12	66 d	86 d	258	297
260	13.105	Delivery and Manufacture of Main Disribution Channel (34-46)	45 d	20/9/11	20/9/11	3/11/11	8/3/12	0 d	126 d	209	261
261	13.106	Installation and Testing of Containment System of Main Disribution Channel (34-46)	60 d	4/11/11	4/11/11	2/1/12	7/5/12	106 d	126 d	260	297
262	13.107	Delivery and Manufacture of Main Disribution Channel (2-20)	45 d	5/11/11	5/11/11	19/12/11	8/3/12	0 d	80 d	211	263
263	13.108	Installation and Testing of Containment System of Main Disribution Channel (2-20)	60 d	20/12/11	20/12/11	17/2/12	7/5/12	60 d	80 d	262	297
264	13.109	Delivery and Manufacture of Scum Pit and Effluent Drop Structure	90 d	11/5/11	11/5/11	8/8/11	10/9/11	0 d	33 d	200	265
265	13.110	Installation and Testing of Containment System of Scum Pit and Effluent Drop Structure	240 d	9/8/11	9/8/11	4/4/12	7/5/12	33 d	33 d	264	297
266	**14**	**Site Installation**	**484 d**	**18/3/11**	**18/3/11**	**13/7/12**	**13/7/12**	**0 d**	**0 d**		
267	**14.1**	**FRP Ductwork**	**400 d**	**18/3/11**	**18/3/11**	**20/4/12**	**23/4/12**	**3 d**	**3 d**		
268	14.1.1	Sedimentation Tank (33-45, Odd Number)	60 d	18/3/11	18/3/11	16/5/11	19/5/11	0 d	3 d	78FS+110 d	269,322
269	14.1.2	Sedimentation Tank (9 -31, Odd Number)	60 d	17/5/11	17/5/11	15/7/11	18/7/11	0 d	3 d	268	270FS-10 d,323,271FS-10 d
270	14.1.3	Flocculation Tank (Odd Number)	25 d	6/7/11	6/7/11	30/7/11	2/8/11	0 d	3 d	269FS-10 d	325,272FS-10 d



Contract No. DE/2009/02
Revision: 0
Date: 19 Oct 2011

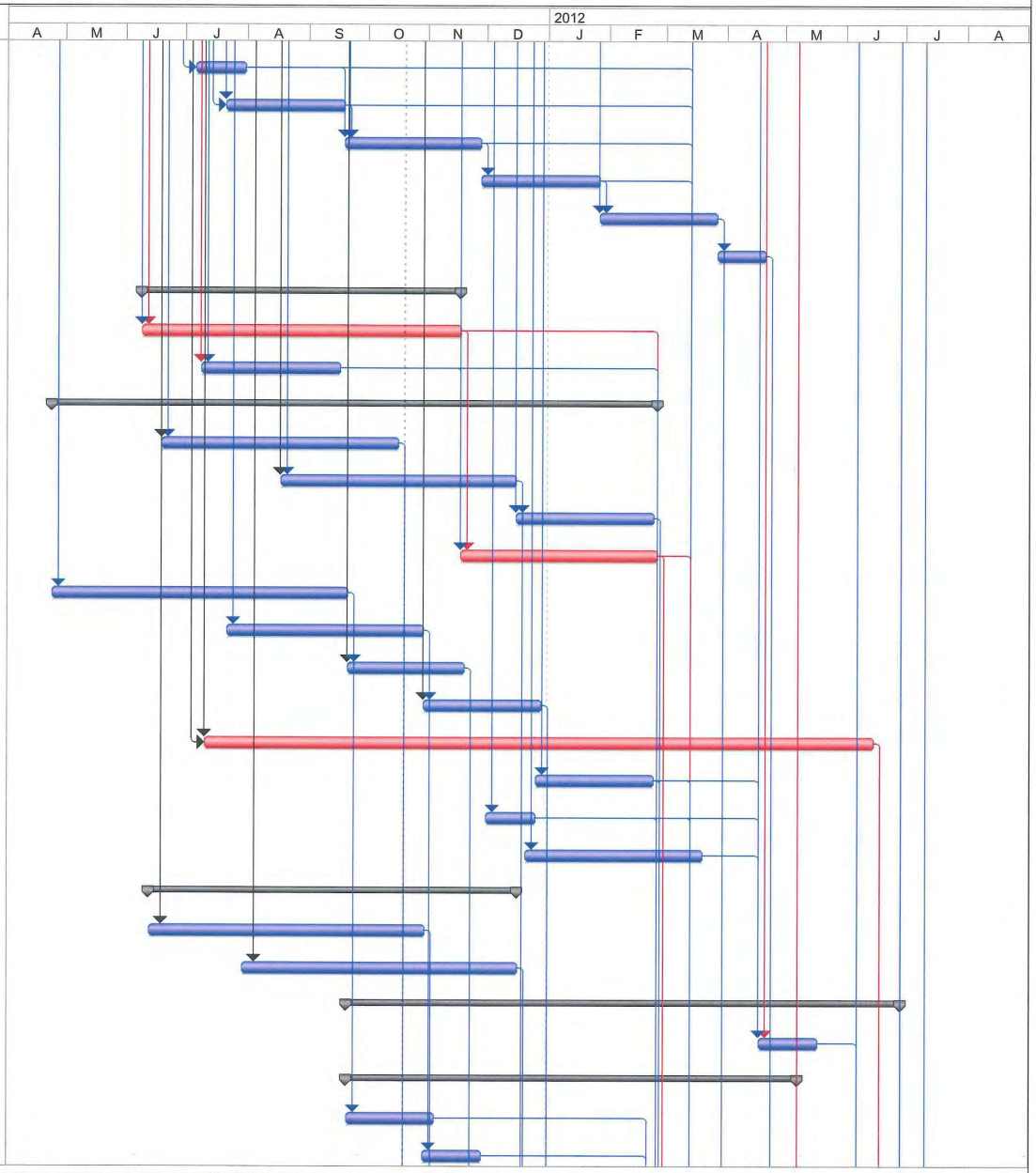
Task | Progress | Summary | External Tasks | Group By Summary
Critical Task | Milestone | Split | Project Summary | Deadline

ATAL Engineering Limited

Three Months Rolling Programme for Contract No. DE/2009/02
Provision of Covers and Deodourisation Facilities to the Existing Sedimentation Tanks at Stonecutters Island Sewage Treatment Works (Oct11 to Dec11)

(Revision 0)

ID	WBS	Task Name	Duration	Early Start	Start	Finish	Late Finish	Free Slack	Total Slack	Predecessors	Successors
271	14.1.4	Flocculation Tank (Even Number)	25 d	6/7/11	6/7/11	30/7/11	21/9/11	50 d	53 d	269FS-10 d	318,273
272	14.1.5	Main Distribution Channel (Odd Number)	60 d	21/7/11	21/7/11	18/9/11	21/9/11	0 d	3 d	150,270FS-10 d	324,273
273	14.1.6	Main Distribution Channel (Even Number)	70 d	19/9/11	19/9/11	27/11/11	30/11/11	0 d	3 d	151,271,272	317,274
274	14.1.7	Sedimentation Tank (10 -32, Even Number)	60 d	28/11/11	28/11/11	26/1/12	29/1/12	0 d	3 d	273	316,275
275	14.1.8	Sedimentation Tank (34 -46, Even Number)	60 d	27/1/12	27/1/12	26/3/12	29/3/12	0 d	3 d	85,274	315,276
276	14.1.9	Inlet Works	25 d	27/3/12	27/3/12	20/4/12	23/4/12	0 d	3 d	275	319,326
277	**14.2**	**Deodorization System**	**162 d**	**9/6/11**	**9/6/11**	**17/11/11**	**17/11/11**	**0 d**	**0 d**		
278	14.2.1	Deodourization System No. 2	162 d	9/6/11	9/6/11	17/11/11	17/11/11	0 d	0 d	142,75	306,284
279	14.2.2	Deodourization System No. 1	70 d	9/7/11	9/7/11	16/9/11	17/11/11	60 d	62 d	126,76	284,307
280	**14.3**	**Electrical Installation**	**308 d**	**24/4/11**	**24/4/11**	**25/2/12**	**25/2/12**	**0 d**	**0 d**		
281	14.3.1	LV Switchboard at DOU1	120 d	19/6/11	19/6/11	16/10/11	11/2/12	0 d	118 d	92,152	303
282	14.3.2	LV Switchboard at DOU2	120 d	18/8/11	18/8/11	15/12/11	17/12/11	0 d	2 d	93,153	283,304
283	14.3.3	Cabling Laying and Termination for DOU and SCADA	70 d	16/12/11	16/12/11	23/2/12	25/2/12	0 d	2 d	96,282	305
284	14.3.4	Modification of SCADA System (VO13)	100 d	18/11/11	18/11/11	25/2/12	25/2/12	0 d	0 d	94,279,278	306,307,308
285	14.3.5	Earthing Installation at DOU1	150 d	24/4/11	24/4/11	20/9/11	7/12/11	0 d	78 d	145	299,287
286	14.3.6	Earthing Installation at DOU2	100 d	22/7/11	22/7/11	29/10/11	7/12/11	0 d	39 d	129	300,288
287	14.3.7	Lightning Installation at DOU1	60 d	21/9/11	21/9/11	19/11/11	5/2/12	0 d	78 d	152,285	301
288	14.3.8	Lightning Installation at DOU2	60 d	30/10/11	30/10/11	28/12/11	5/2/12	0 d	39 d	153,286	302
289	14.4	CCTV System and associated cabling work	340 d	11/7/11	11/7/11	14/6/12	14/6/12	0 d	0 d	95,153FS-19 d,152FS-19 d	309
290	14.5	FRP Cover at Rapid Mix Tank (VO12)	60 d	26/12/11	26/12/11	23/2/12	25/2/12	2 d	2 d	97	306,307,308,297
291	14.6	FRP Cover at Flow Distribution Chamber (VO14)	25 d	1/12/11	1/12/11	25/12/11	25/2/12	62 d	62 d	98	306,307,308,297
292	14.7	Isolation Stopboard for Scum Pit and Effluent Drop Structure (VO15)	90 d	21/12/11	21/12/11	19/3/12	7/5/12	29 d	49 d	99	297
293	**14.8**	**BS Installation**	**187 d**	**13/6/11**	**13/6/11**	**16/12/11**	**27/4/12**	**133 d**	**133 d**		
294	14.8.1	Building Services and FS Equipment Installation at DOU1	140 d	13/6/11	13/6/11	30/10/11	27/4/12	0 d	180 d	152	312
295	14.8.2	Building Services and FS Equipment Installation at DOU2	140 d	30/7/11	30/7/11	16/12/11	27/4/12	0 d	133 d	153	311
296	**14.9**	**Testing and Commissioning**	**282 d**	**21/9/11**	**21/9/11**	**28/6/12**	**28/6/12**	**0 d**	**0 d**		
297	14.9.1	Overall Testing and Commissioning of Containment System	30 d	18/4/12	18/4/12	17/5/12	6/6/12	20 d	20 d	251,241FS+52 d,243FS+42 d,245FS+32	329
298	**14.9.2**	**Electrical Installation**	**230 d**	**21/9/11**	**21/9/11**	**7/5/12**	**7/5/12**	**0 d**	**0 d**		
299	14.9.2.1	Earthing Installation at DOU1	45 d	21/9/11	21/9/11	4/11/11	25/2/12	113 d	113 d	285	305
300	14.9.2.2	Earthing Installation at DOU2	30 d	30/10/11	30/10/11	28/11/11	25/2/12	89 d	89 d	286	305

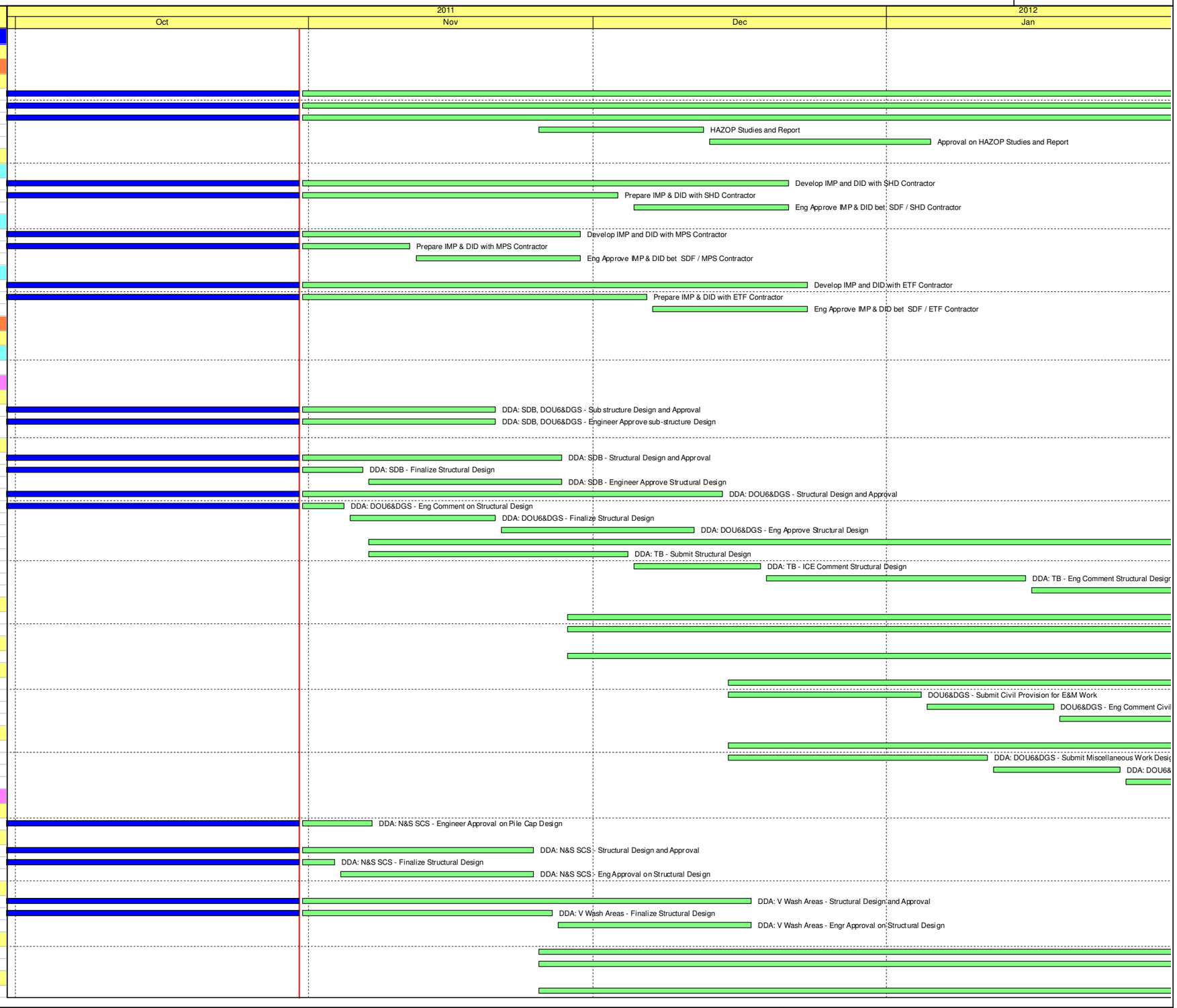


Contract No. DE/2009/02
Revision: 0
Date: 19 Oct 2011

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

ATAL Engineering Limited

Activity ID	Activity Name	Orig Dur	Start	Finish	Rem Dur
Works Programme Update Oct 2011					
Preliminaries and General Requirement					
General					
Initial Works					
PG000190	Environmental Impact Monitoring	1600	04-Dec-10 A	01-Jun-16	1347
PG000260	Maintenance and Upkeeping of Portion D	2095	25-Aug-10 A	01-Jun-16	1676
PG000300	Maintenance and Security in Portion E	2095	25-Aug-10 A	01-Jun-16	1676
PG000410	HAZOP Studies and Report	15	25-Nov-11	12-Dec-11	15
PG000420	Approval on HAZOP Studies and Report	18	13-Dec-11	05-Jan-12	18
Interface and Liaison					
Interface with Contractor of DC/2009/19					
PG000378	Develop IMP and DID with SHD Contractor	95	16-Apr-11 A	21-Dec-11	45
PG000380	Prepare IMP & DID with SHD Contractor	80	16-Apr-11 A	03-Dec-11	30
PG000382	Eng Approve IMP & DID bet SDF / SHD Contractor	15	05-Dec-11	21-Dec-11	15
Interface with Contractor of DC/2009/10					
PG000384	Develop IMP and DID with MPS Contractor	95	11-Apr-11 A	29-Nov-11	26
PG000386	Prepare IMP & DID with MPS Contractor	80	11-Apr-11 A	11-Nov-11	11
PG000388	Eng Approve IMP & DID bet SDF / MPS Contractor	15	12-Nov-11	29-Nov-11	15
Interface with Contractor of DC/2009/18					
PG000390	Develop IMP and DID with ETF Contractor	95	09-Sep-11 A	23-Dec-11	47
PG000392	Prepare IMP & DID with ETF Contractor	80	09-Sep-11 A	06-Dec-11	32
PG000394	Eng Approve IMP & DID bet SDF / ETF Contractor	15	07-Dec-11	23-Dec-11	15
Design of Permanent Works					
Design Submission and Approval					
Detailed Design Approval (DDA) for Civil / Builder Work					
Package					
DDA1 (SDB, DOU6, DGS and Transformer Bay)					
Sub-Package - A1					
DP025015	DDA: SDB, DOU6&DGS - Sub structure Design and Approv	93	27-Apr-11 A	20-Nov-11	21
DP025045	DDA: SDB, DOU6&DGS - Engineer Approve sub-structure Design	30	13-Jul-11 A	20-Nov-11	21
Sub-Package - B					
DP024035	DDA: SDB - Structural Design and Approval	175	24-Dec-10 A	27-Nov-11	28
DP024061	DDA: SDB - Finalize Structural Design	28	29-Apr-11 A	06-Nov-11	7
DP024062	DDA: SDB - Engineer Approve Structural Design	21	07-Nov-11	27-Nov-11	21
DP025200	DDA: DOU6&DGS - Structural Design and Approval	158	23-Jan-11 A	14-Dec-11	45
DP025230	DDA: DOU6&DGS - Eng Comment on Structural Design	28	14-Apr-11 A	04-Nov-11	5
DP025240	DDA: DOU6&DGS - Finalize Structural Design	16	05-Nov-11	20-Nov-11	16
DP025250	DDA: DOU6&DGS - Eng Approve Structural Design	21	21-Nov-11	11-Dec-11	21
DP029105	DDA: TB - Structural Design and Approval	112	07-Nov-11	26-Feb-12	112
DP029110	DDA: TB - Submit Structural Design	28	07-Nov-11	04-Dec-11	28
DP029130	DDA: TB - ICE Comment Structural Design	14	05-Dec-11	18-Dec-11	14
DP029140	DDA: TB - Eng Comment Structural Design	28	19-Dec-11	15-Jan-12	28
DP029150	DDA: TB - Finalize Structural Design	28	16-Jan-12	12-Feb-12	28
Sub-Package - C					
DP024065	DDA: SDB/DOU6&DGS - Bldg/ Architectural Design & Appr	250	28-Nov-11	03-Aug-12	250
DP024070	DDA: SDB - Submit Building Work Design	110	28-Nov-11	16-Mar-12	110
Sub-Package - D					
DP024100	DDA: SDB/DOU6&DGS - Submit Architecture Design	110	28-Nov-11	16-Mar-12	110
Sub-Package - E					
DP025300	DOU6&DGS - Civil Provision for E&M Work	56	15-Dec-11	08-Feb-12	56
DP025310	DOU6&DGS - Submit Civil Provision for E&M Work	21	15-Dec-11	04-Jan-12	21
DP025330	DOU6&DGS - Eng Comment Civil Provision -E&M Work	14	05-Jan-12	18-Jan-12	14
DP025340	DOU6&DGS - Finalize Civil Provision -E&M	14	19-Jan-12	01-Feb-12	14
Sub-Package- F					
DP025400	DDA: DOU6&DGS - Misc Work Design and Approval	112	15-Dec-11	04-Apr-12	112
DP025410	DDA: DOU6&DGS - Submit Miscellaneous Work Design	28	15-Dec-11	11-Jan-12	28
DP025420	DDA: DOU6&DGS - ICE Approve Miscellaneous Design	14	12-Jan-12	25-Jan-12	14
DP025430	DDA: DOU6&DGS - Eng Comment Miscellaneous Design	21	26-Jan-12	15-Feb-12	21
DDA2 (N&S Sludge Cake Silos)					
Sub-Package - A1					
DP026180	DDA: N&S SCS - Engineer Approval on Pile Cap Design	28	25-May-11 A	07-Nov-11	8
Sub-Package - B1					
DP026200	DDA: N&S SCS - Structural Design and Approval	158	19-Dec-10 A	24-Nov-11	25
DP026240	DDA: N&S SCS - Finalize Structural Design	28	07-Apr-11 A	03-Nov-11	4
DP026250	DDA: N&S SCS - Eng Approval on Structural Design	21	04-Nov-11	24-Nov-11	21
Sub-Package - B2					
DP026260	DDA: V Wash Areas - Structural Design and Approval	158	26-Dec-10 A	17-Dec-11	48
DP026360	DDA: V Wash Areas - Finalize Structural Design	28	14-Apr-11 A	26-Nov-11	27
DP026370	DDA: V Wash Areas - Engr Approval on Structural Design	21	27-Nov-11	17-Dec-11	21
Sub-Package - C					
DP026300	DDA: N&S SCS - Building Work Design and Approval	240	25-Nov-11	21-Jul-12	240
DP026310	DDA: N&S SCS - Submit Building Work Design	100	25-Nov-11	03-Mar-12	100
Sub-Package - D					
DP026405	DDA: N&S SCS - Architecture Work Design and Approval	240	25-Nov-11	21-Jul-12	240



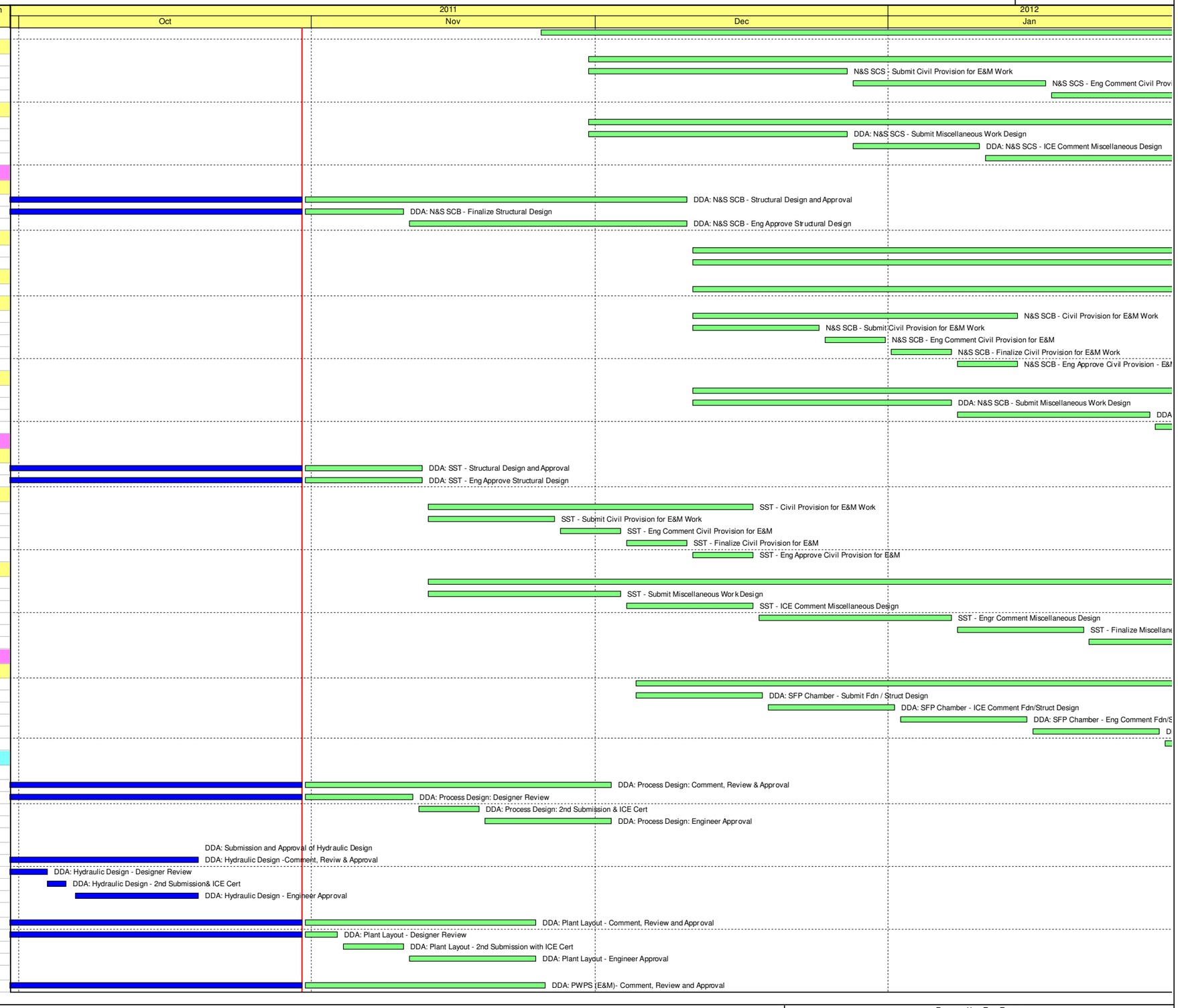
Actual Work ◆ Milestone
Remaining Work
Critical Remaining Work

Three Months Rolling Programme - 01 November 2011 to 31 January 2012

Prepared by: Rey Roque

Date	Revision	Checked	Approved
31-Oct-11	Three Months Rolling Programme		TW

Activity ID	Activity Name	Orig Dur	Start	Finish	Rem Dur
DP026410	DDA: N&S SCS - Submit Architecture Design	100	25-Nov-11	03-Mar-12	100
Sub-Package - E					
DP026500	N&S SCS - Civil Provision for E&M Work	77	30-Nov-11	14-Feb-12	77
DP026510	N&S SCS - Submit Civil Provision for E&M Work	28	30-Nov-11	27-Dec-11	28
DP026530	N&S SCS - Eng Comment Civil Provision for E&M	21	28-Dec-11	17-Jan-12	21
DP026540	N&S SCS - Finalize Civil Provision for E&M Work	14	18-Jan-12	31-Jan-12	14
Sub-Package - F					
DP026605	DDA: N&S SCS - Miscellaneous Work Design	112	30-Nov-11	20-Mar-12	112
DP026610	DDA: N&S SCS - Submit Miscellaneous Work Design	28	30-Nov-11	27-Dec-11	28
DP026620	DDA: N&S SCS - ICE Comment Miscellaneous Design	14	28-Dec-11	10-Jan-12	14
DP026630	DDA: N&S SCS - Eng Comment Miscellaneous Design	21	11-Jan-12	31-Jan-12	21
DDA3 (N&S Sludge Conveyor Bridges)					
Sub-Package - B					
DP027110	DDA: N&S SCB - Structural Design and Approval	151	24-Dec-10 A	10-Dec-11	41
DP027150	DDA: N&S SCB - Finalize Structural Design	28	05-Apr-11 A	10-Nov-11	11
DP027160	DDA: N&S SCB - Eng Approve Structural Design	30	11-Nov-11	10-Dec-11	30
Sub-Package - C					
DP027200	DDA: N&S SCB - Bldg / Archi Design and Approval	236	11-Dec-11	02-Aug-12	236
DP027210	DDA: N&S SCB - Submit Building Work Design	75	11-Dec-11	23-Feb-12	75
Sub-Package - D					
DP027310	DDA: N&S SCB - Submit Architecture Design	75	11-Dec-11	23-Feb-12	75
Sub-Package - E					
DP027400	N&S SCB - Civil Provision for E&M Work	35	11-Dec-11	14-Jan-12	35
DP027410	N&S SCB - Submit Civil Provision for E&M Work	14	11-Dec-11	24-Dec-11	14
DP027430	N&S SCB - Eng Comment Civil Provision for E&M	7	25-Dec-11	31-Dec-11	7
DP027440	N&S SCB - Finalize Civil Provision for E&M Work	7	01-Jan-12	07-Jan-12	7
DP027450	N&S SCB - Eng Approve Civil Provision - E&M	7	08-Jan-12	14-Jan-12	7
Sub-Package - F					
DP027500	DDA: N&S SCB - Misc Work Design and Approval	119	11-Dec-11	07-Apr-12	119
DP027510	DDA: N&S SCB - Submit Miscellaneous Work Design	28	11-Dec-11	07-Jan-12	28
DP027520	DDA: N&S SCB - ICE Comment Miscellaneous Design	21	08-Jan-12	28-Jan-12	21
DP027530	DDA: N&S SCB - Eng Comment Miscellaneous Design	21	29-Jan-12	18-Feb-12	21
DDA4 (Sludge Storage Tanks)					
Sub-Package - B					
DP028200	DDA: SST - Structural Design and Approval	112	09-Jan-11 A	12-Nov-11	13
DP028250	DDA: SST - Eng Approve Structural Design	14	28-May-11 A	12-Nov-11	13
Sub-Package - C					
DP028400	SST - Civil Provision for E&M Work	35	13-Nov-11	17-Dec-11	35
DP028410	SST - Submit Civil Provision for E&M Work	14	13-Nov-11	26-Nov-11	14
DP028430	SST - Eng Comment Civil Provision for E&M	7	27-Nov-11	03-Dec-11	7
DP028440	SST - Finalize Civil Provision for E&M	7	04-Dec-11	10-Dec-11	7
DP028450	SST - Eng Approve Civil Provision for E&M	7	11-Dec-11	17-Dec-11	7
Sub-Package - D					
DP028460	SST - Miscellaneous Work Design and Approval	84	13-Nov-11	04-Feb-12	84
DP028470	SST - Submit Miscellaneous Work Design	21	13-Nov-11	03-Dec-11	21
DP028480	SST - ICE Comment Miscellaneous Design	14	04-Dec-11	17-Dec-11	14
DP028490	SST - Engr Comment Miscellaneous Design	21	18-Dec-11	07-Jan-12	21
DP028500	SST - Finalize Miscellaneous Work Design	14	08-Jan-12	21-Jan-12	14
DP028510	SST - Engr Approve Miscellaneous Design	14	22-Jan-12	04-Feb-12	14
DDA6 (Sludge Feed Pipework Chambers)					
Sub-Package - A					
DP031105	DDA: SFP Chamber - Fdn/ Struct Design & Approval	70	05-Dec-11	12-Feb-12	70
DP031110	DDA: SFP Chamber - Submit Fdn / Struct Design	14	05-Dec-11	18-Dec-11	14
DP031120	DDA: SFP Chamber - ICE Comment Fdn/Struct Design	14	19-Dec-11	01-Jan-12	14
DP031130	DDA: SFP Chamber - Eng Comment Fdn/Struct Design	14	02-Jan-12	15-Jan-12	14
DP031140	DDA: SFP Chamber - Finalize Fdn/Struct Design	14	16-Jan-12	29-Jan-12	14
DP031150	DDA: SFP Chamber - Eng Approve Fdn/Struct Design	14	30-Jan-12	12-Feb-12	14
Detailed Design Approval (DDA) Submission					
Submission and Approval of DDA 21 (Process Design)					
DP006015	DDA: Process Design: Comment, Review & Approval	63	05-Apr-11 A	02-Dec-11	33
DP006040	DDA: Process Design: Designer Review	21	14-Jun-11 A	11-Nov-11	12
DP006050	DDA: Process Design: 2nd Submission & ICE Cert	7	12-Nov-11	18-Nov-11	7
DP006060	DDA: Process Design: Engineer Approval	14	19-Nov-11	02-Dec-11	14
Submission and Approval of DDA 22 (Hydraulic Design)					
DP006200	DDA: Submission and Approval of Hydraulic Design	93	27-Mar-11 A	20-Oct-11 A	0
DP006215	DDA: Hydraulic Design -Comment, Reviw & Approval	60	26-Apr-11 A	20-Oct-11 A	0
DP006240	DDA: Hydraulic Design - Designer Review	21	10-Aug-11 A	04-Oct-11 A	0
DP006250	DDA: Hydraulic Design - 2nd Submission& ICE Cert	7	04-Oct-11 A	06-Oct-11 A	0
DP006260	DDA: Hydraulic Design - Engineer Approval	14	07-Oct-11 A	20-Oct-11 A	0
Submission and Approval of DDA 23 (Plant Layout Design)					
DP006415	DDA: Plant Layout - Comment, Review and Approval	63	05-Apr-11 A	24-Nov-11	25
DP006440	DDA: Plant Layout - Designer Review	21	14-Jun-11 A	03-Nov-11	4
DP006450	DDA: Plant Layout - 2nd Submission with ICE Cert	7	04-Nov-11	10-Nov-11	7
DP006460	DDA: Plant Layout - Engineer Approval	14	11-Nov-11	24-Nov-11	14
Submission and Approval of DDA 25 (Process Water Pumping System)					
DP006815	DDA: PWPS (E&M)- Comment, Review and Approval	59	05-Jun-11 A	25-Nov-11	26



Actual Work ◆ Milestone

Remaining Work

Critical Remaining Work

Three Months Rolling Programme - 01 November 2011 to 31 January 2012

Prepared by: Rey Roque

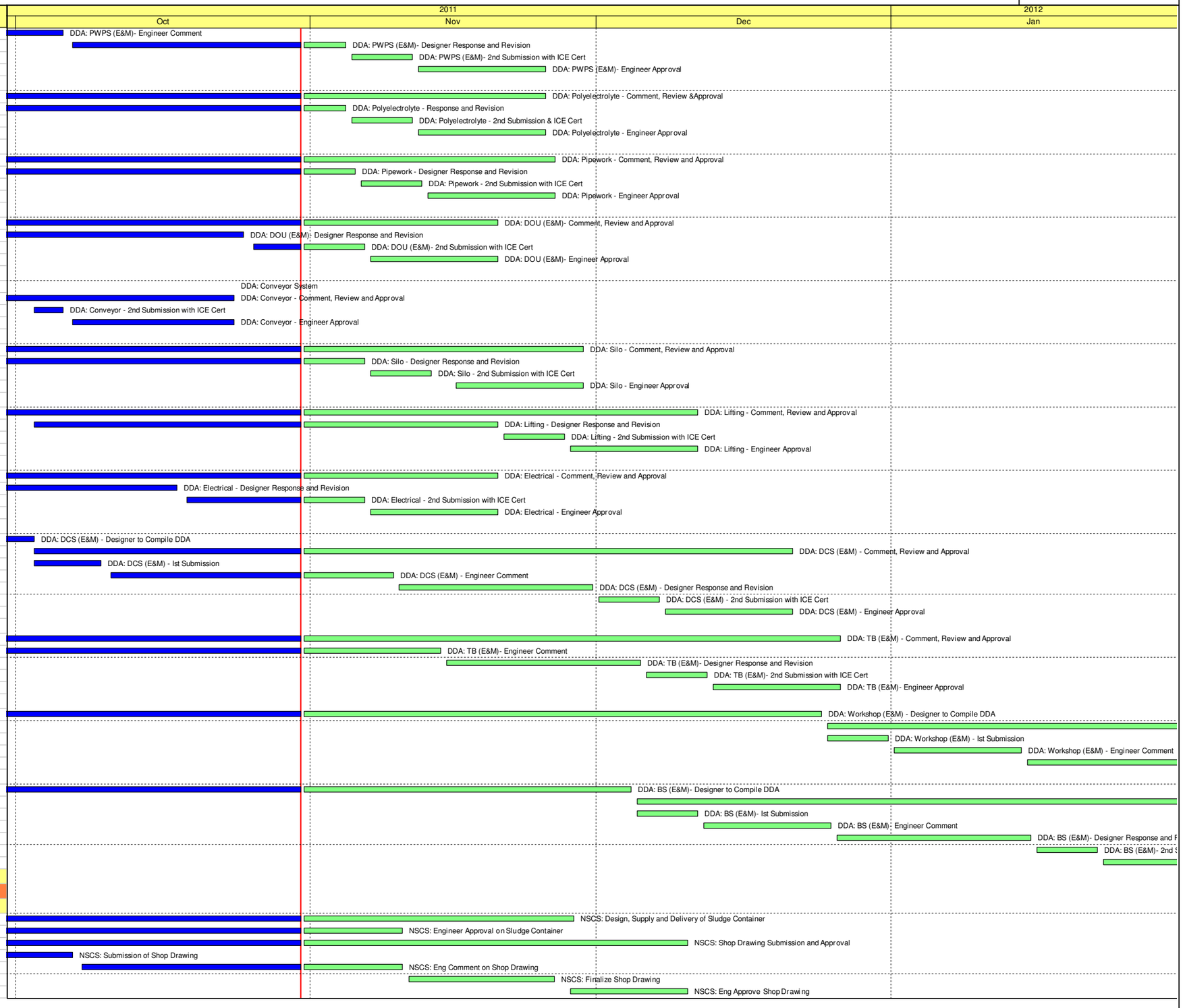
Date	Revision	Checked	Approved
31-Oct-11	Three Months Rolling Programme		TW

Works Programme Update Oct 2011

Harbour Area Treatment Scheme Stage 2A - Upgrading Works at Stonecutters Island Sewage Treatment Works - Sludge Dewatering Facilities

02-Nov-11 09:21

Activity ID	Activity Name	Orig Dur	Start	Finish	Rem Dur
DP006830	DDA: PWPS (E&M)- Engineer Comment	14	21-Jun-11 A	06-Oct-11 A	0
DP006840	DDA: PWPS (E&M)- Designer Response and Revision	21	07-Oct-11 A	04-Nov-11	5
DP006850	DDA: PWPS (E&M)- 2nd Submission with ICE Cert	7	05-Nov-11	11-Nov-11	7
DP006860	DDA: PWPS (E&M)- Engineer Approval	14	12-Nov-11	25-Nov-11	14
	Submission and Approval of DDA 26 (Polyelectrolyte System)				
DP007015	DDA: Polyelectrolyte - Comment, Review &Approval	63	28-Jun-11 A	25-Nov-11	26
DP007040	DDA: Polyelectrolyte - Response and Revision	21	23-Aug-11 A	04-Nov-11	5
DP007050	DDA: Polyelectrolyte - 2nd Submission & ICE Cert	7	05-Nov-11	11-Nov-11	7
DP007060	DDA: Polyelectrolyte - Engineer Approval	14	12-Nov-11	25-Nov-11	14
	Submission and Approval of DDA 27 (Sludge Feed System)				
DP008015	DDA: Pipework - Comment, Review and Approval	63	12-Jul-11 A	26-Nov-11	27
DP008040	DDA: Pipework - Designer Response and Revision	21	23-Aug-11 A	05-Nov-11	6
DP008050	DDA: Pipework - 2nd Submission with ICE Cert	7	06-Nov-11	12-Nov-11	7
DP008060	DDA: Pipework - Engineer Approval	14	13-Nov-11	26-Nov-11	14
	Submission and Approval of DDA 28 (Deodourisation System)				
DP007415	DDA: DOU (E&M)- Comment, Review and Approval	56	20-May-11 A	20-Nov-11	21
DP007440	DDA: DOU (E&M)- Designer Response and Revision	21	24-Sep-11 A	25-Oct-11 A	0
DP007450	DDA: DOU (E&M)- 2nd Submission with ICE Cert	7	26-Oct-11 A	06-Nov-11	7
DP007460	DDA: DOU (E&M)- Engineer Approval	14	07-Nov-11	20-Nov-11	14
	Submission and Approval of DDA 29 (Conveyor System)				
DP007600	DDA: Conveyor System	123	20-Apr-11 A	24-Oct-11 A	0
DP007615	DDA: Conveyor - Comment, Review and Approval	63	05-Jul-11 A	24-Oct-11 A	0
DP007650	DDA: Conveyor - 2nd Submission with ICE Cert	7	03-Oct-11 A	06-Oct-11 A	0
DP007660	DDA: Conveyor - Engineer Approval	14	07-Oct-11 A	24-Oct-11 A	0
	Submission and Approval of DDA 30 (Sludge Cakes Silos System)				
DP007815	DDA: Silo - Comment, Review and Approval	63	02-Jun-11 A	29-Nov-11	30
DP007840	DDA: Silo - Designer Response and Revision	21	20-Sep-11 A	06-Nov-11	7
DP007850	DDA: Silo - 2nd Submission with ICE Cert	7	07-Nov-11	13-Nov-11	7
DP007860	DDA: Silo - Engineer Approval	14	16-Nov-11	29-Nov-11	14
	Submission and Approval of DDA 31 (Lifting Appliances)				
DP007215	DDA: Lifting - Comment, Review and Approval	63	16-Aug-11 A	11-Dec-11	42
DP007240	DDA: Lifting - Designer Response and Revision	21	03-Oct-11 A	20-Nov-11	21
DP007250	DDA: Lifting - 2nd Submission with ICE Cert	7	21-Nov-11	27-Nov-11	7
DP007260	DDA: Lifting - Engineer Approval	14	28-Nov-11	11-Dec-11	14
	Submission and Approval of DDA 32 (Electrical Switchboard and MCC)				
DP008215	DDA: Electrical - Comment, Review and Approval	63	02-Jun-11 A	20-Nov-11	21
DP008240	DDA: Electrical - Designer Response and Revision	21	18-Aug-11 A	18-Oct-11 A	0
DP008250	DDA: Electrical - 2nd Submission with ICE Cert	7	19-Oct-11 A	06-Nov-11	7
DP008260	DDA: Electrical - Engineer Approval	14	07-Nov-11	20-Nov-11	14
	Submission and Approval of DDA 33 (DCS System)				
DP008410	DDA: DCS (E&M) - Designer to Compile DDA	90	03-May-11 A	03-Oct-11 A	0
DP008415	DDA: DCS (E&M) - Comment, Review and Approval	63	03-Oct-11 A	21-Dec-11	52
DP008420	DDA: DCS (E&M) - Ist Submission	7	03-Oct-11 A	10-Oct-11 A	0
DP008430	DDA: DCS (E&M) - Engineer Comment	14	11-Oct-11 A	09-Nov-11	10
DP008440	DDA: DCS (E&M) - Designer Response and Revision	21	10-Nov-11	30-Nov-11	21
DP008450	DDA: DCS (E&M) - 2nd Submission with ICE Cert	7	01-Dec-11	07-Dec-11	7
DP008460	DDA: DCS (E&M) - Engineer Approval	14	08-Dec-11	21-Dec-11	14
	Submission and Approval of DDA 34 (H.V. Electrical Supply System)				
DP008615	DDA: TB (E&M) - Comment, Review and Approval	63	28-May-11 A	26-Dec-11	57
DP008630	DDA: TB (E&M)- Engineer Comment	14	04-Jun-11 A	14-Nov-11	15
DP008640	DDA: TB (E&M)- Designer Response and Revision	21	15-Nov-11	05-Dec-11	21
DP008650	DDA: TB (E&M)- 2nd Submission with ICE Cert	7	06-Dec-11	12-Dec-11	7
DP008660	DDA: TB (E&M)- Engineer Approval	14	13-Dec-11	26-Dec-11	14
	Submission and Approval of DDA 35 (Workshop Equipment)				
DP008810	DDA: Workshop (E&M) - Designer to Compile DDA	120	13-May-11 A	24-Dec-11	55
DP008815	DDA: Workshop (E&M) - Comment, Review & Approval	63	25-Dec-11	25-Feb-12	63
DP008820	DDA: Workshop (E&M) - Ist Submission	7	25-Dec-11	31-Dec-11	7
DP008830	DDA: Workshop (E&M) - Engineer Comment	14	01-Jan-12	14-Jan-12	14
DP008840	DDA: Workshop (E&M) - Designer Response/Revision	21	15-Jan-12	04-Feb-12	21
	Submission and Approval of DDA 36 (Building Services System)				
DP009010	DDA: BS (E&M)- Designer to Compile DDA	90	08-May-11 A	04-Dec-11	35
DP009015	DDA: BS (E&M) - Comment, Reivw and Approval	63	05-Dec-11	05-Feb-12	63
DP009020	DDA: BS (E&M)- Ist Submission	7	05-Dec-11	11-Dec-11	7
DP009030	DDA: BS (E&M)- Engineer Comment	14	12-Dec-11	25-Dec-11	14
DP009040	DDA: BS (E&M)- Designer Response and Revision	21	26-Dec-11	15-Jan-12	21
DP009050	DDA: BS (E&M)- 2nd Submission with ICE Cert	7	16-Jan-12	22-Jan-12	7
DP009060	DDA: BS (E&M)- Engineer Approval	14	23-Jan-12	05-Feb-12	14
	SECTION 3 OF THE WORKS				
	NORTHERN SLUDGE CAKE SILO				
	Design and Manufacture				
S3000228	NSCS: Design, Supply and Delivery of Sludge Container	138	05-May-11 A	28-Nov-11	25
S3000243	NSCS: Engineer Approval on Sludge Container	21	09-Jun-11 A	10-Nov-11	10
S3000252	NSCS: Shop Drawing Submission and Approval	83	13-Jul-11 A	10-Dec-11	36
S3000253	NSCS: Submission of Shop Drawing	36	13-Jul-11 A	07-Oct-11 A	0
S3000254	NSCS: Eng Comment on Shop Drawing	21	08-Oct-11 A	10-Nov-11	10
S3000256	NSCS: Finalize Shop Drawing	14	11-Nov-11	26-Nov-11	14
S3000258	NSCS: Eng Approve Shop Drawing	12	28-Nov-11	10-Dec-11	12



Actual Work ◆ Milestone

Remaining Work

Critical Remaining Work

Three Months Rolling Programme - 01 November 2011 to 31 January 2012

Prepared by: Rey Roque

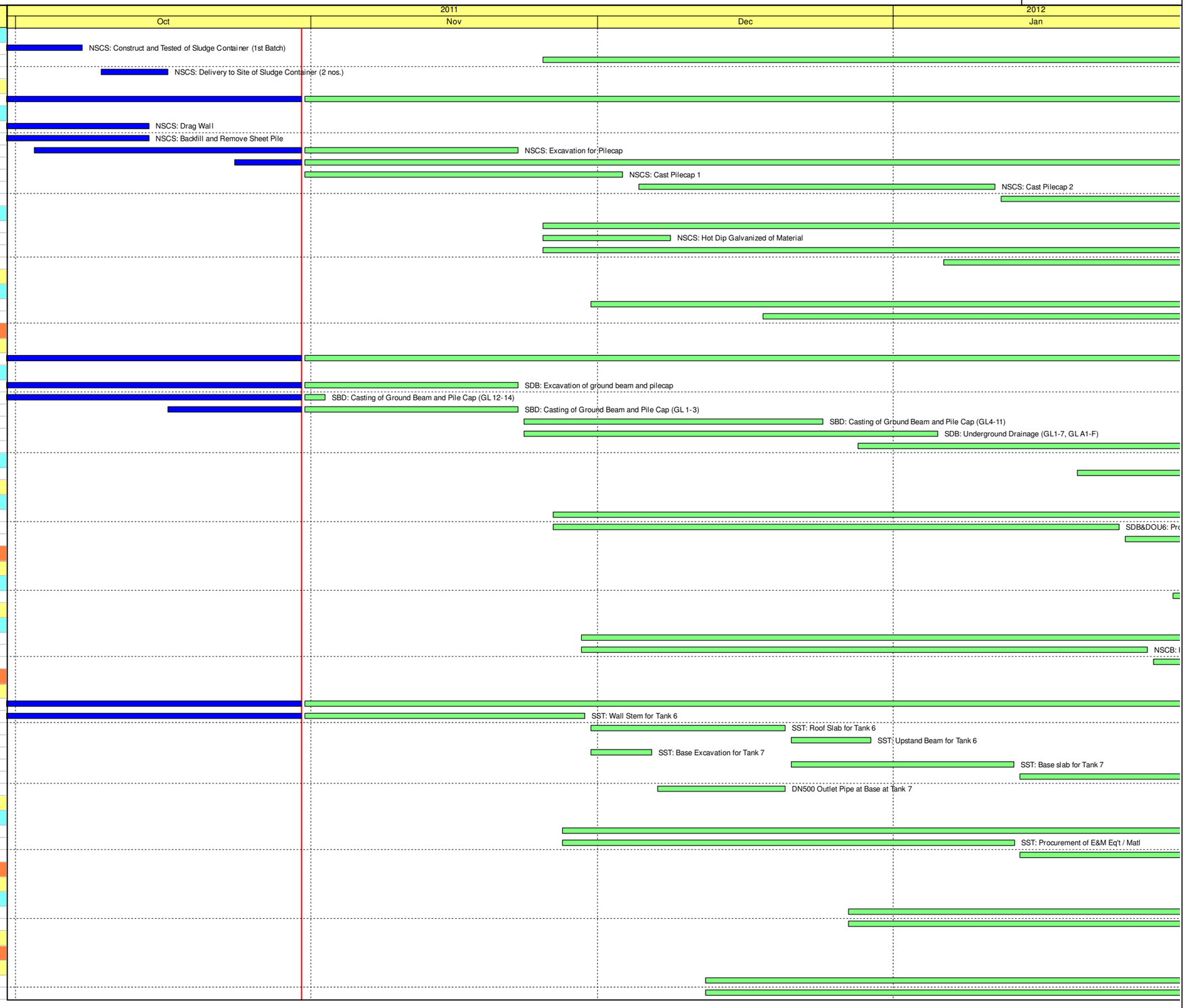
Date	Revision	Checked	Approved
31-Oct-11	Three Months Rolling Programme		TW

Works Programme Update Oct 2011

Harbour Area Treatment Scheme Stage 2A - Upgrading Works at Stonecutters Island Sewage Treatment Works - Sludge Dewatering Facilities

02-Nov-11 09:21

Activity ID	Activity Name	Orig Dur	Start	Finish	Rem Dur
Manafacture and Delivery					
S3000248	NSCS: Construct and Tested of Sludge Container (1st Batch)	30	15-Sep-11 A	08-Oct-11 A	0
S3000250	NSCS: Procurement and Delivery of Steelwork	75	25-Nov-11	29-Feb-12	75
S3000257	NSCS: Delivery to Site of Sludge Container (2 nos.)	10	10-Oct-11 A	17-Oct-11 A	0
Structure					
S3000246	NSCS: Remaining Piling and Structure	518	28-Jan-11 A	27-Oct-12	293
Sub-Structure Construction					
S3000310	NSCS: Drag Wall	122	04-Jul-11 A	15-Oct-11 A	0
S3000335	NSCS: Backfill and Remove Sheet Pile	18	07-Sep-11 A	15-Oct-11 A	0
S3000340	NSCS: Excavation for Pilecap	45	03-Oct-11 A	22-Nov-11	20
S3000350	NSCS: Construct Pilecap	80	24-Oct-11 A	09-Feb-12	80
S3000360	NSCS: Cast Pilecap 1	30	31-Oct-11	03-Dec-11	30
S3000370	NSCS: Cast Pilecap 2	30	05-Dec-11	11-Jan-12	30
S3000380	NSCS: Backfill to Pilecap	20	12-Jan-12	09-Feb-12	20
Steel Delivery & Assembly on Site					
S3000260	NSCS: Preparation / Prefabrication of Steelwork	124	25-Nov-11	02-May-12	124
S3000262	NSCS: Hot Dip Galvanized of Material	12	25-Nov-11	08-Dec-11	12
S3000264	NSCS: Prepare Individual Steel Member	90	25-Nov-11	17-Mar-12	90
S3000266	NSCS: Assembly Tower 1	18	06-Jan-12	01-Feb-12	18
E&M Procurement, Installation/ Testing & Commisioning					
Manufacture and Delivery					
S3000600	NSCS: Procurement and Delivery of E&M Eq't /Matl	390	30-Nov-11	23-Dec-12	390
S3000610	NSCS: Procurement of E&M Equipment /Material	60	18-Dec-11	15-Feb-12	60
SLUDGE DEWATERING BUILDING and DOU6					
Superstructure Construction					
S3001201	SDB: Remaining Piling, Structure and Finishes	484	08-Feb-11 A	22-Oct-12	288
Ground Beam and Pilecap					
S3001210	SDB: Excavation of ground beam and pilecap	60	05-Jul-11 A	22-Nov-11	20
S3001215	SBD: Casting of Ground Beam and Pile Cap (GL 12-14)	24	30-Aug-11 A	02-Nov-11	2
S3001217	SBD: Casting of Ground Beam and Pile Cap (GL 1-3)	28	17-Oct-11 A	22-Nov-11	20
S3001219	SBD: Casting of Ground Beam and Pile Cap (GL4-11)	28	23-Nov-11	24-Dec-11	28
S3001220	SDB: Underground Drainage (GL1-7, GL A1-F)	35	23-Nov-11	05-Jan-12	35
S3001225	SBD: Underground Drainage (GL 7-14, GL A1-F)	30	28-Dec-11	07-Feb-12	30
Structure Ground Floor at +5.4					
S3001230	SDB: GF and Upper GF GL 1-7 Base Slab	18	20-Jan-12	15-Feb-12	18
E&M Procurement, Installation/ Testing & Commissioning					
Manufacture & Delivery					
S3001550	SDB&DOU6: Procure./ Delivery of E&M Eq't / Matl	390	26-Nov-11	19-Dec-12	390
S3001560	SDB&DOU6: Procurement of E&M Eq't / Matl	60	26-Nov-11	24-Jan-12	60
S3001570	SDB&DOU6: Manufacturing of E&M Equipment/ Material	230	25-Jan-12	10-Sep-12	230
NORTHERN SLUDGE CONVEYOR BRIDGE					
Procurement, Construction and Installation					
Manufacture & Delivery					
S3002405	NSCB: Procurement and Delivery of Steel Material	90	30-Jan-12	19-May-12	90
E&M Installation/ Testing and Commissioning					
Manufacture and Delivery					
S3002600	NSCB: Procurement & Delivery of E&M Equipment/ Material	375	29-Nov-11	07-Dec-12	375
S3002610	NSCB: Procurement of E&M Eq'uipment/ Material	60	29-Nov-11	27-Jan-12	60
S3002620	NSCB: Manufacturing of E&M Equipment/ Material	180	28-Jan-12	25-Jul-12	180
SLUDGE STORAGE TANK 6 & 7					
Structure					
S3005505	Piling and Structure for Sludge Storage Tank	349	22-Feb-11 A	17-Apr-12	134
S3005710	SST: Wall Stem for Tank 6	48	23-Sep-11 A	29-Nov-11	26
S3005810	SST: Roof Slab for Tank 6	18	30-Nov-11	20-Dec-11	18
S3005820	SST: Upstand Beam for Tank 6	6	21-Dec-11	29-Dec-11	6
S3005910	SST: Base Excavation for Tank 7	6	30-Nov-11	06-Dec-11	6
S3006010	SST: Base slab for Tank 7	18	21-Dec-11	13-Jan-12	18
S3006110	SST: Wall Stem for Tank 7	48	14-Jan-12	15-Mar-12	48
S3008185	DN500 Outlet Pipe at Base at Tank 7	12	07-Dec-11	20-Dec-11	12
E&M Procurement Installation/ Testing & Commissioning					
Manufacture & Delivery					
S3006450	SST: Procurement & Delivery of E&M Eq't / Matl	280	27-Nov-11	01-Sep-12	280
S3006460	SST: Procurement of E&M Eq't / Matl	48	27-Nov-11	13-Jan-12	48
S3006470	SST: Manufacturing of E&M Eq't / Matl	135	14-Jan-12	27-May-12	135
Transformer Bay					
E&M Procurment, Installation & T&C					
Manufacture & Delivery					
S3007410	TB: Procurement & Delivery of E&M Eq't / Matl	400	27-Dec-11	29-Jan-13	400
S3007420	TB: Procurement of E&M Eq't / Matl	60	27-Dec-11	24-Feb-12	60
SECTION 5 OF THE WORKS					
SOUTHERN SLUDGE CAKE SILO					
Design Submission and Approval					
S5003102	SSCS: Shop Drawing Submission and Approval	90	12-Dec-11	03-Apr-12	90
S5003104	SSCS: Submit Shop Drawing	36	12-Dec-11	31-Jan-12	36



Actual Work ◆ Milestone

Remaining Work

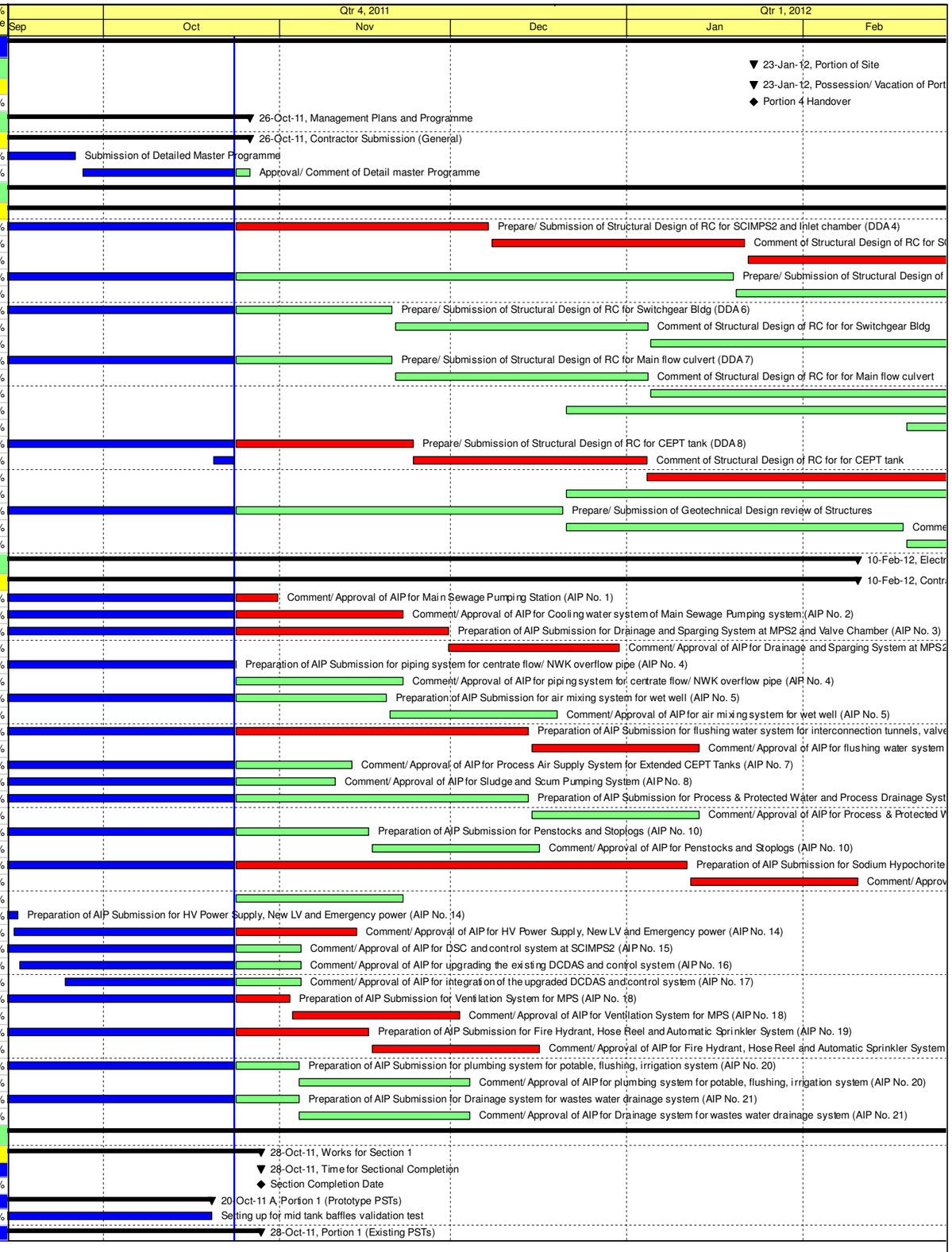
Critical Remaining Work

Three Months Rolling Programme - 01 November 2011 to 31 January 2012

Prepared by: Rey Roque

Date	Revision	Checked	Approved
31-Oct-11	Three Months Rolling Programme		TW

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Activity % Complete
3 Month Rolling Programme (24 Oct 2011 to 24 Jan 2012)						
Portion of Site						
Possession/ Vacation of Portion						
PS1020	Portion 4 Handover	0	23-Jan-12		0	0%
Management Plans and Programme						
Contractor Submission (General)						
GN0030	Submission of Detailed Master Programme	60	27-Jun-11 A	26-Sep-11 A		100%
GN0040	Approval/ Comment of Detail master Programme	30	27-Sep-11	26-Oct-11	121	90%
Civil and Geotechnical Submission						
Contractor Design, Submission and Approval						
CCD00121	Prepare/ Submission of Structural Design of RC for SCIMPS2 and Inlet chamber (DDA 4)	150	24-Aug-11	07-Dec-11	-8	70%
CCD00122	Comment of Structural Design of RC for SCIMPS2 and Inlet chamber	45	08-Dec-11	21-Jan-12	-8	0%
CCD00123	Resubmission of Structural Design of RC for SCIMPS2 and Inlet chamber	75	22-Jan-12	05-Apr-12	-8	0%
CCD00131	Prepare/ Submission of Structural Design of RC for SCIMPS No.1 Valve Chamber (DDA 5)	180	24-Jul-11 A	19-Jan-12	246	51.11%
CCD00132	Comment of Structural Design of RC for SCIMPS No.1 Valve Chamber	45	20-Jan-12	04-Mar-12	246	0%
CCD00141	Prepare/ Submission of Structural Design of RC for Switchgear Bldg (DDA 6)	150	24-Jun-11 A	20-Nov-11	104	81.33%
CCD00142	Comment of Structural Design of RC for for Switchgear Bldg	45	21-Nov-11	04-Jan-12	104	0%
CCD00143	Resubmission of Structural Design of RC for Switchgear Bldg	75	05-Jan-12	19-Mar-12	104	0%
CCD00151	Prepare/ Submission of Structural Design of RC for Main flow culvert (DDA 7)	150	24-Jun-11 A	20-Nov-11	578	81.33%
CCD00152	Comment of Structural Design of RC for for Main flow culvert	45	21-Nov-11	04-Jan-12	578	0%
CCD00153	Resubmission of Structural Design of RC for Main flow culvert	75	05-Jan-12	19-Mar-12	578	0%
CCD00161	Prepare/ Submission of Structural Design of RC for Extension of NaHClO Bldg (DDA 9)	120	21-Dec-11	18-Apr-12	92	0%
CCD00181	Prepare/ Submission of Structural Design of RC for DOU No. 3 and Duct bridge (DDA 11 & 12)	120	19-Feb-12	17-Jun-12	524	0%
CCD00191	Prepare/ Submission of Structural Design of RC for CEPT tank (DDA 8)	90	25-May-11	24-Nov-11	-14	65%
CCD00192	Comment of Structural Design of RC for for CEPT tank	45	20-Oct-11 A	04-Jan-12	-14	8.67%
CCD00193	Resubmission of Structural Design of RC for CEPT tank	75	04-Jan-12	19-Mar-12	-14	0%
CCD00206	Prepare/ Submission of Structural Design for Steel Structures	120	21-Dec-11	18-Apr-12	62	0%
CCD00210	Prepare/ Submission of Geotechnical Design review of Structures	120	23-Aug-11	20-Dec-11	89	51.67%
CCD00220	Comment of Geotechnical Design review of Structures	60	21-Dec-11	18-Feb-12	89	0%
CCD00230	Resubmission of Geotechnical Design review of Structures	45	19-Feb-12	03-Apr-12	89	0%
Electrical & Mechanical Equipment Submission						
Contractor Design, Submission and Approval						
ECD00030	Comment/ Approval of AIP for Main Sewage Pumping Station (AIP No. 1)	30	30-Jun-11 A	31-Oct-11	-94	74%
ECD00040	Comment/ Approval of AIP for Cooling water system of Main Sewage Pumping system (AIP No. 2)	30	21-Jul-11 A	22-Nov-11	-43	0%
ECD00045	Preparation of AIP Submission for Drainage and Sparging System at MPS2 and Valve Chamber (AIP No. 3)	210	24-Feb-11	30-Nov-11	-68	82%
ECD00050	Comment/ Approval of AIP for Drainage and Sparging System at MPS2 and Valve Chamber (AIP No. 3)	30	30-Nov-11*	30-Dec-11	-68	0%
ECD00051	Preparation of AIP Submission for piping system for centrate flow/ NWK overflow pipe (AIP No. 4)	241	24-Feb-11	24-Oct-11	76	100%
ECD00052	Comment/ Approval of AIP for piping system for centrate flow/ NWK overflow pipe (AIP No. 4)	30	24-Oct-11*	22-Nov-11	76	0%
ECD00053	Preparation of AIP Submission for air mixing system for wet well (AIP No. 5)	269	24-Feb-11	19-Nov-11	78	89.96%
ECD00055	Comment/ Approval of AIP for air mixing system for wet well (AIP No. 5)	30	20-Nov-11*	19-Dec-11	78	0%
ECD00056	Preparation of AIP Submission for flushing water system for interconnection tunnels, valve chamber (AIP No. 6)	294	24-Feb-11	14-Dec-11	0	82.31%
ECD00070	Comment/ Approval of AIP for flushing water system for interconnection tunnels, valve chamber (AIP No. 6)	30	15-Dec-11*	13-Jan-12	0	0%
ECD00080	Comment/ Approval of AIP for Process Air Supply System for Extended CEPT Tanks (AIP No. 7)	30	24-Aug-11	13-Nov-11	71	30%
ECD00150	Comment/ Approval of AIP for Sludge and Scum Pumping System (AIP No. 8)	30	08-Sep-11	10-Nov-11	49	40%
ECD00155	Preparation of AIP Submission for Process & Protected Water and Process Drainage System for CEPT Tanks (AIP No. 9)	294	24-Feb-11	14-Dec-11	131	82.31%
ECD00160	Comment/ Approval of AIP for Process & Protected Water and Process Drainage System for CEPT Tanks (AIP No. 9)	30	15-Dec-11*	13-Jan-12	131	0%
ECD00165	Preparation of AIP Submission for Penstocks and Stoplogs (AIP No. 10)	266	24-Feb-11	16-Nov-11	57	90.98%
ECD00170	Comment/ Approval of AIP for Penstocks and Stoplogs (AIP No. 10)	30	17-Nov-11*	16-Dec-11	57	0%
ECD00195	Preparation of AIP Submission for Sodium Hypochorite storage, transfer and dosing system (AIP No. 12)	322	24-Feb-11	11-Jan-12	0	75.16%
ECD00200	Comment/ Approval of AIP for Sodium Hypochorite storage, transfer and dosing system (AIP No. 12)	30	12-Jan-12*	10-Feb-12	0	0%
ECD00210	Comment/ Approval of AIP for Deodourization System DOU3 and DOU1b (AIP No. 13)	30	03-Sep-12	22-Nov-11	225	0%
ECD00215	Preparation of AIP Submission for HV Power Supply, New LV and Emergency power (AIP No. 14)	203	24-Feb-11	16-Sep-11 A		100%
ECD00220	Comment/ Approval of AIP for HV Power Supply, New LV and Emergency power (AIP No. 14)	30	15-Sep-11	14-Nov-11	-31	28%
ECD00230	Comment/ Approval of AIP for DSC and control system at SCIMPS2 (AIP No. 15)	30	16-Aug-11	04-Nov-11	23	60%
ECD00240	Comment/ Approval of AIP for upgrading the existing DCDAS and control system (AIP No. 16)	30	16-Sep-11	04-Nov-11	31	60%
ECD00250	Comment/ Approval of AIP for integration of the upgraded DCDAS and control system (AIP No. 17)	30	24-Sep-11	04-Nov-11	63	60%
ECD00255	Preparation of AIP Submission for Ventilation System for MPS (AIP No. 18)	252	24-Feb-11	02-Nov-11	0	96.03%
ECD00260	Comment/ Approval of AIP for Ventilation System for MPS (AIP No. 18)	30	03-Nov-11*	02-Dec-11	0	0%
ECD00265	Preparation of AIP Submission for Fire Hydrant, Hose Reel and Automatic Sprinkler System (AIP No. 19)	266	24-Feb-11	16-Nov-11	0	90.98%
ECD00270	Comment/ Approval of AIP for Fire Hydrant, Hose Reel and Automatic Sprinkler System (AIP No. 19)	30	17-Nov-11*	16-Dec-11	0	0%
ECD00275	Preparation of AIP Submission for plumbing system for potable, flushing, irrigation system (AIP No. 20)	222	24-Feb-11	04-Nov-11	114	95%
ECD00280	Comment/ Approval of AIP for plumbing system for potable, flushing, irrigation system (AIP No. 20)	30	04-Nov-11*	04-Dec-11	114	0%
ECD00285	Preparation of AIP Submission for Drainage system for wastes water drainage system (AIP No. 21)	222	24-Feb-11	04-Nov-11	114	95%
ECD00290	Comment/ Approval of AIP for Drainage system for wastes water drainage system (AIP No. 21)	30	04-Nov-11*	04-Dec-11	114	0%
Infrastructure Construction Works						
Works for Section 1						
Time for Sectional Completion						
TC0020	Section Completion Date	0		28-Oct-11*	0	0%
Portion 1 (Prototype PSTs)						
P101050	Setting up for mid tank baffles validation test	19	24-Aug-11	20-Oct-11 A		100%
Portion 1 (Existing PSTs)						



Actual Work
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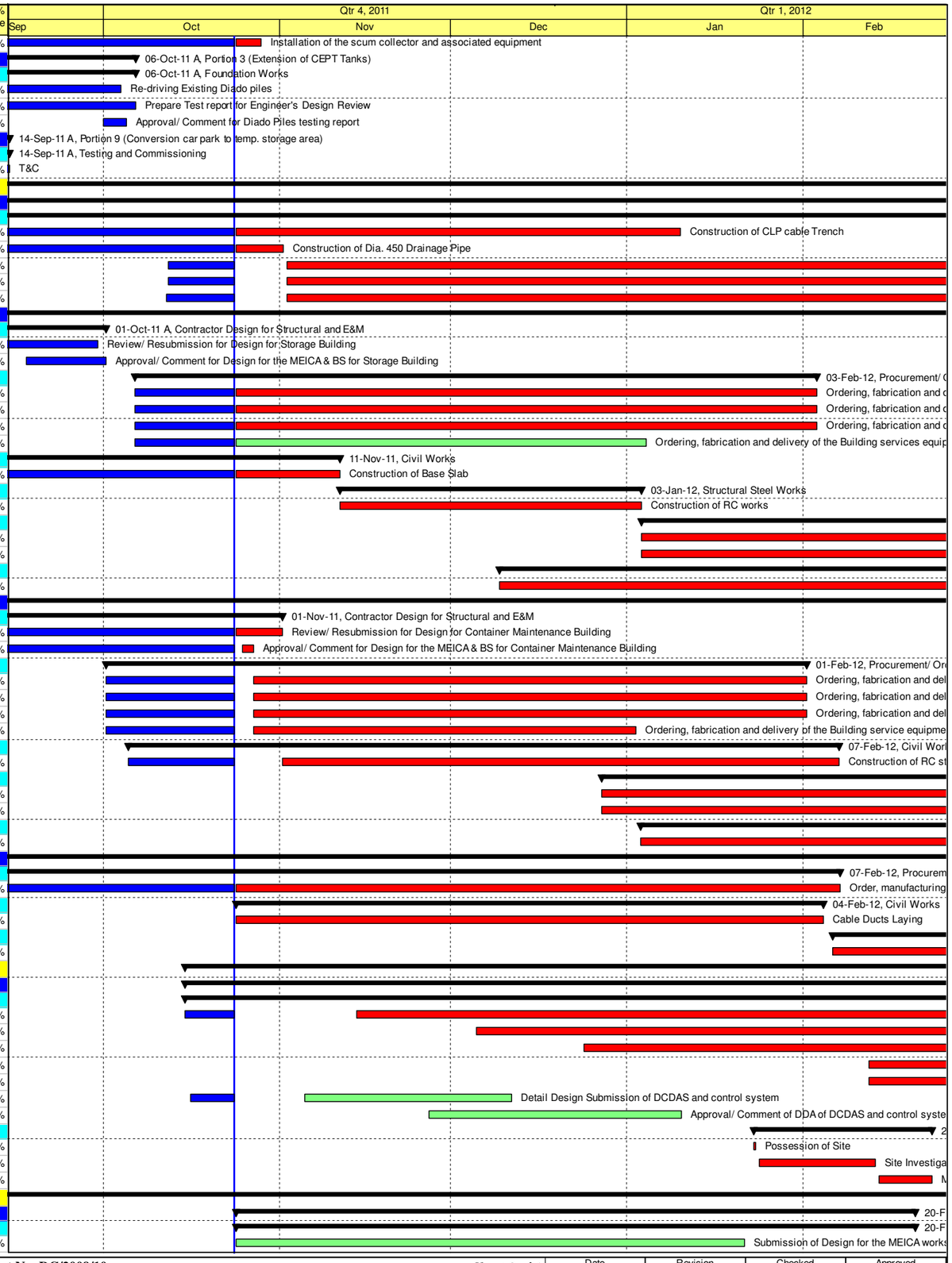
Contract No. DC/2009/10

HATS Stage 2A - Upgrading works at StoneCutters Island Sewage Treatement Works

Three Months Rolling Programme (24 Oct 2011 ~ 24 Jan 2012)

Date	Revision	Checked	Approved

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Activity % Complete
P102030	Installation of the scum collector and associated equipment	24	24-Aug-11	28-Oct-11	0	79.17%
Portion 3 (Extension of CEPT Tanks)						
Foundation Works						
P300030	Re-driving Existing Diado piles	75	02-May-11	04-Oct-11 A		100%
P300040	Prepare Test report for Engineer's Design Review	14	26-Jul-11 A	06-Oct-11 A		100%
P300290	Approval/ Comment for Diado Piles testing report	14	01-Oct-11 A	05-Oct-11 A		100%
Portion 9 (Conversion car park to temp. storage area)						
Testing and Commissioning						
P900300	T&C	4	09-Sep-11	14-Sep-11 A		100%
Works for Section 1A						
Portion 3 (Extension of CEPT Tanks)						
Civil Works						
P300060	Construction of CLP cable Trench	90	14-Jul-11 A	10-Jan-12	-35	13%
P300070	Construction of Dia. 450 Drainage Pipe	90	14-Jul-11 A	01-Nov-11	-35	90%
P300080	Construction of NWK DN1200 Overflow pipe (CH140-330)	150	12-Oct-11 A	23-Mar-12	-28	5%
P300090	Construction of chemical pipe trench (CH0-119)	150	12-Oct-11 A	30-Mar-12	-35	0%
P300250	Construction of Dia 250 watermain	150	12-Oct-11 A	30-Mar-12	-35	0%
Portion 9 (Permanent Storage Building)						
Contractor Design for Structural and E&M						
P900090	Review/ Resubmission for Design for Storage Building	70	04-Jun-11 A	30-Sep-11 A		100%
P900200	Approval/ Comment for Design for the MEICA & BS for Storage Building	14	17-Sep-11	01-Oct-11 A		100%
Procurement/ Order/ Manufacturing/ Delivery						
P900210	Ordering, fabrication and delivery of the lifting appliance	90	06-Oct-11 A	03-Feb-12	-10	0%
P900220	Ordering, fabrication and delivery of the storage shelves	90	06-Oct-11 A	03-Feb-12	-10	0%
P900230	Ordering, fabrication and delivery of the sewage pumpings and pipeworks	90	06-Oct-11 A	03-Feb-12	-10	0%
P900240	Ordering, fabrication and delivery of the Building services equipment	90	06-Oct-11 A	04-Jan-12	21	19.44%
Civil Works						
P900100	Construction of Base Slab	12	08-Sep-11	11-Nov-11	-14	0%
Structural Steel Works						
P900120	Construction of RC works	45	11-Nov-11	03-Jan-12	-14	0%
Electrical and Machainical Installation						
P900130	E&M works installation	50	03-Jan-12	01-Mar-12	-10	0%
P900180	BS works installation	50	03-Jan-12	01-Mar-12	-10	0%
Builder and finishes Works						
P900140	Internal Finishes Works	75	09-Dec-11	06-Mar-12	-14	0%
Portion 1 (Container Maintenance Building)						
Contractor Design for Structural and E&M						
P100030	Review/ Resubmission for Design for Container Maintenance Building	55	04-Jun-11 A	01-Nov-11	-32	85%
P900270	Approval/ Comment for Design for the MEICA & BS for Container Maintenance Building	14	19-Aug-11	27-Oct-11	-32	85%
Procurement/ Order/ Manufacturing/ Delivery						
P901000	Ordering, fabrication and delivery of the traveling crane system	90	01-Oct-11 A	01-Feb-12	-32	0%
P901010	Ordering, fabrication and delivery of the internal wash system	90	01-Oct-11 A	01-Feb-12	-32	0%
P901020	Ordering, fabrication and delivery of the wastewater pumping system	90	01-Oct-11 A	01-Feb-12	-32	0%
P901030	Ordering, fabrication and delivery of the Building service equipment	90	01-Oct-11 A	02-Jan-12	-2	25%
Civil Works						
P100040	Construction of RC structures	50	05-Oct-11 A	07-Feb-12	-18	0%
Electrical and Machainical Installation						
P100070	E&M works installation	66	27-Dec-11	13-Mar-12	-27	0%
P100310	BS works Installation	66	27-Dec-11	13-Mar-12	-27	0%
Builder and finishes Works						
P100080	Internal Finishes Works	60	03-Jan-12	03-Mar-12	-21	0%
Portion 1 (Real weather Station and H2S Sensors)						
Procurement/ Order/ Manufacturing/ Delivery						
P100950	Order, manufacturing and delivery for Real weather station and H2S sensors	155	05-Sep-11	07-Feb-12	-39	31.23%
Civil Works						
P100910	Cable Ducts Laying	90	24-Oct-11	04-Feb-12	-33	0%
Electrical and Mechanical Installation						
P100920	Installation of H2S sensor	50	06-Feb-12	03-Apr-12	-33	0%
Works for Section 2						
Portion 4 (Switchgear Building)						
Submission of Design for Structural and E&M						
P401000	Detail Design Submission of HV switchboards	200	15-Oct-11 A	23-May-12	-22	4.5%
P401010	Approval/ Comment of DDA of HV switchboards	200	05-Dec-11	22-Jun-12	-22	0%
P401020	Detail Design Submission of LV switchboards	140	24-Dec-11	12-May-12	-31	0%
P401030	Approval/ Comment of DDA of LV switchboards	140	12-Feb-12	01-Jul-12	-31	0%
P401040	Detail Design Submission of Transformer	110	12-Feb-12	01-Jun-12	-31	0%
P401100	Detail Design Submission of DCDAS and control system	45	16-Oct-11 A	11-Dec-11	275	17.78%
P401110	Approval/ Comment of DDA of DCDAS and control system	45	27-Nov-11	10-Jan-12	275	0%
Foundation Works						
P400000	Possession of Site	1	23-Jan-12	23-Jan-12	0	0%
P400010	Site Investigation (Predrilling)	21	24-Jan-12	13-Feb-12	0	0%
P400020	Mobilization of Piling Plant	10	14-Feb-12	23-Feb-12	0	0%
Works for Section 3						
Portion 1 (Existing CEPT tanks)						
Submission of design of E&M works						
P106000	Submission of Design for the MEICA works for modification works of CEPT tanks	90	24-Oct-11	21-Jan-12	206	0%



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Contract No. DC/2009/10

HATS Stage 2A - Upgrading works at StoneCutters Island Sewage Treatement Works

Three Months Rolling Programme (24 Oct 2011 ~ 24 Jan 2012)

Date	Revision	Checked	Approved

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Activity % Complete
P106010	Approval/ comment of Design for the MEICA works for modification works of CEPT tanks	90	23-Nov-11	20-Feb-12	206	0%
Portion 3 (Extension of CEPT Tank)						
Submission of design of E&M works						
P301000	Detail Design Submission of Process air supply system for flocculation tanks (AIP No. 7)	225	14-Nov-11	25-Jun-12	71	0%
P301010	Approval/ comment for the DDA of Process air supply system for flocculation tanks	225	14-Dec-11	25-Jul-12	71	0%
P301020	Detail Design Submission of the sludge and scum collection (AIP No. 8)	295	01-Nov-11	21-Aug-12	49	0%
P301030	Approval/ comment for DDA of the sludge and scum collection	295	01-Dec-11	20-Sep-12	49	0%
P301480	Detail Design Submission of the Process water flushing and protected water sytem (AIP No. 9)	170	14-Jan-12	01-Jul-12	131	0%
P301490	Approval/ comment for DDA of the Process water flushing and protected water sytem	170	13-Feb-12	31-Jul-12	131	0%
P301500	Detail Design Submission of the Penstock and stoplogs for CEPT tanks (AIP No. 10)	210	17-Dec-11	13-Jul-12	57	0%
P301510	Approval/ comment for DDA of the Penstock and stoplogs for CEPT tanks	210	16-Jan-12	12-Aug-12	57	0%
Foundation Works						
P300100	Allow 2 month for Engineer Design Review	60	05-Oct-11 A	26-Nov-11	-35	44.33%
P300105	Pile load test for existing daido Piles	52	16-Oct-11 A	16-Dec-11	-48	10%
P300110	Site Investigation (Predrilling)	30	16-Dec-11	20-Jan-12	-48	0%
P300120	Mobilization of Piling Plant	12	20-Jan-12	03-Feb-12	-48	0%
P300125	Preliminary Pile	45	03-Feb-12	27-Mar-12	-48	0%
P300170	Trimming/ Extension of Diado Pile	142	16-Dec-11	30-May-12	-48	0%
Portion 4 (Main Pumping Station)						
Submission of design of E&M works						
P301100	Detail Design Submission of Main Pumping, motors and VSD (AIP No. 1)	146	30-Jul-11 A	20-Dec-11	17	66%
P301110	Approval/ comment for the DDA of Main Pumping, motors and VSD	95	24-Sep-11	31-Dec-11	17	36%
P301112	Approval/ comment for the DDA of lifting appliance	400	14-Sep-11	26-Oct-12	-24	9.88%
P301130	Approval/ comment for the DDA of Cooling water system for pump bearing and motors	320	01-Oct-11 A	15-Sep-12	-43	7.03%
P301220	Detail Design Submission of Drainage and sparging system at wet well (AIP No. 3)	260	22-Oct-11 A	13-Sep-12	-68	0.77%
P301230	Approval/ comment for the DDA of Drainage and sparging system at wet well	260	27-Jan-12	13-Oct-12	-68	0%
P301240	Detail Design Submission of Piping system for recirculation and centrate flow/ NWK overflow (AIP No. 4)	230	23-Nov-11	09-Jul-12	76	0%
P301250	Approval/ comment for the DDA of Piping system for recirculation and centrate flow/ NWK overflow	230	23-Dec-11	08-Aug-12	76	0%
P301260	Detail Design Submission of Air Mixing system of wet well (AIP No. 5)	200	20-Dec-11	06-Jul-12	78	0%
P301270	Approval/ comment for the DDA of Air Mixing system of wet well	200	19-Jan-12	05-Aug-12	78	0%
P301280	Detail Design Submission of New HV & LV power supply, emergency power supply (AIP No. 14)	250	15-Oct-11 A	12-Jul-12	10	3.6%
P301290	Approval/ comment for the DDA of New HV & LV power supply, emergency power supply	250	05-Dec-11	11-Aug-12	10	0%
P301300	Detail Design Submission of Control system architecture for DCS and Interfacing control system (AIP No. 15)	80	15-Sep-11	15-Dec-11	23	48.75%
P301310	Approval/ comment for the DDA of Control system architecture for DCS and Interfacing control system	80	05-Nov-11	23-Jan-12	23	0%
P301320	Detail Design Submission of Control system architecture for upgrading existing DCDAS at MPS1 and HATS 1 PTW (AIP No. 16)	50	16-Oct-11 A	16-Dec-11	31	16%
P301330	Approval/ comment for the DDA of Control system architecture for upgrading existing DCDAS at MPS1 and HATS 1 PTWs	50	27-Nov-11	15-Jan-12	31	0%
P301340	Detail Design Submission of Conctrol system architecture for upgrading existing control system (AIP No. 17)	25	09-Oct-11 A	14-Nov-11	63	60%
P301350	Approval/ comment for the DDA of Conctrol system architecture for upgrading existing control system	25	20-Nov-11	14-Dec-11	63	0%
P301390	Detail Design Submission of Ventilation system of MPS (AIP No. 18)	240	03-Dec-11	29-Jul-12	0	0%
P301400	Approval/ comment for the DDA of Ventilation system of MPS	240	02-Jan-12	28-Aug-12	0	0%
P301410	Detail Design Submission of Fire service of MPS (AIP No. 19)	210	17-Dec-11	13-Jul-12	0	0%
P301420	Approval/ comment for the DDA of Fire service of MPS	210	16-Jan-12	12-Aug-12	0	0%
P301430	Detail Design Submission of Plumbling system (AIP No. 20)	270	04-Dec-11	30-Aug-12	114	0%
P301440	Approval/ comment for the DDA of Plumbling system	270	03-Jan-12	29-Sep-12	114	0%
P301450	Detail Design Submission of Drainage system (AIP No. 21)	270	04-Dec-11	30-Aug-12	114	0%
P301460	Approval/ comment for the DDA of Drainage system	270	03-Jan-12	29-Sep-12	114	0%
Procurement/ Order/ Manufacturing/ Delivery						
P301135	Ordering, manufacturing and delivery of Main Pumping, motors and VSD	635	04-Jan-12	30-Sep-13	17	0%
P301190	Ordering, manufacturing and delivery of Control system architecture for DCS and Interfacing control system	370	24-Jan-12	27-Jan-13	23	0%
P301200	Ordering, manufacturing and delivery of Control system architecture for upgrading existing DCDAS at MPS1 and HATS 1 PTWs	370	16-Jan-12	19-Jan-13	31	0%
P301210	Ordering, manufacturing and delivery of Conctrol system architecture for upgrading existing control system	370	15-Dec-11	18-Dec-12	63	0%
R.C. Works						
P400150	Possession of site	1	23-Jan-12	23-Jan-12	0	0%
P400160	Site Clearance	35	24-Jan-12	27-Feb-12	0	0%
Portion 4 (Main flow Culvert)						
Foundation Works						
P400340	Site Investigation (Predrilling)	40	23-Jan-12	02-Mar-12	151	0%
Portion 4 (Deodourization Unit No. 3 and 1b)						
Submission of design of E&M works						
P403000	Detail Design Submission of design for the DOU No. 3 & 1b (AIP No. 13)	210	16-Oct-11 A	12-Jun-12	225	3.57%
P403010	Approval/ Comment of DDA for the DOU No. 3 & 1b	220	15-Dec-11	22-Jul-12	225	0%
Portion 5 (Inlet Chamber)						
Submission of design of E&M works						
P501210	Submission of design for the MEICA & BS works for inlet chamber	180	14-Jan-12	11-Jul-12	0	0%
P501220	Approval/ comment for the design of the MEICA and BS works for inlet chamber	180	13-Feb-12	10-Aug-12	0	0%
P501230	Submission of design of knife gate valves	150	14-Jan-12	11-Jun-12	0	0%
P501240	Approval/ comment for the design of knife gate valves	170	13-Feb-12	31-Jul-12	0	0%
Portion 6 (Valve Chamber)						
Submission of design of E&M works						
P501290	Submission of design for the MEICA & BS works for Valve chamber	150	22-Oct-11 A	26-May-12	-62	1.33%
P501300	Approval/ comment for the design of the MEICA and BS works for Valve chamber	150	27-Jan-12	25-Jun-12	-62	0%
P501310	Submission of design of knife gate valves	120	29-Jan-12	28-May-12	-94	0%
Portion 8 (Extension of Sodium Hypochlorite Storage Compound)						
Submission of design of E&M works						

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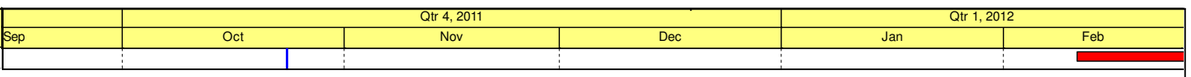
P801000	Detail Design Submission of NAHCLO storage, transfer and dosage system	180	11-Feb-12	08-Aug-12	0	0%



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