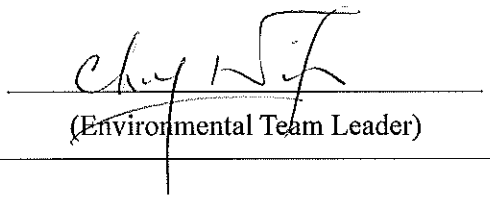
Harbour Area Treatment Scheme Stage 2A

Contract No. DC/2007/23, DC/2009/10, DC/2009/17, DC/2009/18 and DC/2009/19

Consolidated Monthly Environmental Monitoring and Audit Report March 2014

(Version 1.0)

Certified By 

(Environmental Team Leader)

REMARKS:

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

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Drainage Services Department
Sewage Services Branch
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15 April 2014
By Post

Attn: Mr. Danny Tang

Dear Sir,

Agreement No. CE 8/2009(EP)
Harbour Area Treatment Scheme (HATS) Stage 2A
Independent Environmental Checker for Construction Phase – Investigation
Submission of Monthly EM&A Consolidated Report for Stonecutters Island Sewage Treatment Works for March 2014 (Issue No. 52) Version 1.0

We refer to the captioned report consolidating the individual ETL certified and IEC verified Monthly EM&A Reports for Contract Nos. DC/2007/23, DC/2009/10, DC/2009/17, DC/2009/18 and DC/2009/19 at Stonecutters Island works site for HATS Stage 2A. We hereby verify the consolidated report.

Yours faithfully
for MOTT MACDONALD HONG KONG LIMITED

Dr. Anne F Kerr
Independent Environmental Checker

c.c. Ove Arup & Partners HK Ltd. Mr. Ted Y F Tang Fax: 2370 4377

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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 2A	Harbour Area Treatment Scheme Stage 2A

EXECUTIVE SUMMARY

Introduction

1. This is the 52nd 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/2009/17 – Upgrading Works at Stonecutters Island Sewage Treatment Works – Sludge Dewatering Facilities;
   - Contract no. DC/2009/10 – Upgrading Works at Stonecutters Island Sewage Treatment Works – Main Pumping Station, Sedimentation Tanks and Ancillary Facilities;
   - Contract no. DC/2009/18 – Upgrading Works at Stonecutters Island Sewage Treatment Works – Effluent Tunnel and Disinfection Facilities; and
   - Contract no. DC/2009/19 – Upgrading Woks at Stonecutters Island Sewage Treatment Works – Sludge Handling and Disposal Facilities.

2. The above-mentioned Contracts are under the same Environmental Permit (EP) No. EP-322/2008/F 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. The EM&A programme of Contract DC/2009/19 was commenced on 1 September 2013.

5. No amendment of the information in the EM&A reports for each individual contract was made in this consolidated monthly report.

6. This Report documents the findings of EM&A Works for the Project covering the period in March 2014.

7. 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/EMA%20Report-DC200723.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/DC%202009%2017/EMA%20Report-DC200917.html
DC/2009/10	Executive Summary	At SCISTW, air quality monitoring station AM7, AM8 and noise monitoring station NM6 were monitored by ET for Contract no. DC/2009/10.
	Web Site	http://www.hats2a-ema.com/RP_EMA/DC200910/EMA%20Report-DC200910.html
DC/2009/18	Executive Summary	At SCISTW, air quality monitoring station AM9 and noise monitoring station NM7 were monitored by ET for Contract no. DC/2009/18.
	Web Site	http://www.hats2a-ema.com/RP_EMA/DC200918/EMA%20Report-DC200918.html
DC/2009/19	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/DC200919/EMA%20Report-DC200919.html

Environmental Monitoring and Audit Works

8. The environmental monitoring works in the Project were covered by the ETs for the Contracts: DC/2007/23, DC/2009/10, DC/2009/17, DC/2009/18 and DC/2009/19 and the site audits were conducted once per week for each contract by their ETs.

9. 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	
DC/2009/10	AM7	1-hr TSP	0	0	0	0	
		24-hr TSP	0	0	0	0	
	AM8	1-hr TSP	0	0	0	0	
		24-hr TSP	0	0	0	0	
DC/2009/18	AM9	1-hr TSP	0	0	0	0	
		24-hr TSP	0	0	0	0	
DC/2007/23	NM5	Noise	0	0	0	0	
DC/2009/10	NM6		0	0	0	0	
DC/2009/18	NM7		0	0	0	0	

1-hour TSP Monitoring

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

24-hour TSP Monitoring

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

Construction Noise

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

Key Information in the Reporting Month

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

Table III Monthly Consolidated Summary Table for Key Information

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Complaint received	0	---	N/A	N/A	---
Status of submissions under EP	1	Monthly Consolidated EM&A Report for Stonecutters Island Sewage Treatment Works for February 2014	Submitted to EPD	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 the 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/F) for the Project was issued on 10th October 2012 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/2009/10, DC/2009/17, DC/2009/18 and DC/2009/19 are shown in **Figures 1 to Figure 3**.

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/2009/10, DC/2009/17 and DC/2009/18.

1.5 This is the 52nd consolidated monthly EM&A report summarizing the EM&A works conducted for the Project at SCISTW in March 2014.

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/2009/10

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

Contract no. DC/2009/17

- 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/2009/18

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

Contract no. DC/2009/19

- Construction of two brand new purpose-built self-propelled vessels with cranes mounted on vessels;
- Construction of ultimate 400 number of sludge containers for transporting dewatered sludge; and
- Improvement and refurbishment works at SCISTW.

Project Organizations

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

Table 1.1 Key Project Contacts

Contract No./ Position	DC/2007/23	DC/2009/10
Contract Title:	Construction of Sewage Conveyance System from North Point to Stonecutters Island;	Upgrading Works at SCISTW - Main Pumping Station, Sedimentation Tanks and Ancillary Facilities
Consultant	Metcalf & Eddy – AECOM JV	Ove Arup & Partners HK Ltd
The Engineer	Keith Tsang (Tel:2605 6262)	S.Y.Chan (Tel: 2528 3031)
The Engineer Representative	Y.H. Fung (Tel: 3713 3109)	Ted Tang (Tel: 2370 4311)
ER's Coordinator	Y.H. Fung (Tel: 3713 3109)	Natalie Kwok (Tel: 6794 8844)
Independent Environmental Checker	Dr. Anne Kerr (Tel:2828 5757)	Dr. Anne Kerr (Tel:2828 5757)
Contractor	Gammon Construction Ltd	Sun Fook Kong – Biwater Joint Venture
Site Agent	Mr. Max Ko (Tel: 9033 1292)	Mr. Ivan Tse (Tel: 6200 2149)
Environmental Officer	Mr. Leo Chow (Tel:9300 2013)	Mr. Ray Cheung (Tel:2620 0070)
Environmental Team	Environmental Resources Management Ms.Winnie Ko (Tel: 2271 3000)	Cinotech Consultant Limited Dr. Priscilla Choy (Tel: 2151 2089)

Table 1.1(cont'd) Key Project Contacts

Contract No.	DC/2009/17	DC/2009/18
Contract Title:	Upgrading Works at Stonecutters Island Sewage Treatment Works – Sludge Dewatering Facilities	Upgrading Works at Stonecutters Island Sewage Treatment Works – Effluent Tunnel and Disinfection Facilities
Consultant	Ove Arup & Partners HK Ltd	Ove Arup & Partners HK Ltd
The Engineer	S.Y.Chan (Tel: 2528 3031)	S.Y.Chan (Tel: 2528 3031)
The Engineer Representative	Ted Tang (Tel: 2370 4311)	Ted Tang (Tel: 2370 4311)
ER's Coordinator	Natalie Kwok (Tel: 6794 8844)	William Yu (Tel: 9705 9566)
Independent Environmental Checker	Dr. Anne Kerr (Tel:2828 5757)	Dr. Anne Kerr (Tel:2828 5757)
Contractor	China State- ATAL Joint Venture	Chun Wo – CEC Joint Venture
Site Agent	Mr. Ken Chong (Tel: 2370 3166)	Mr. W.C. Lee (Tel: 3975 6388)
Environmental Officer	Mr. Vincent Lai (Tel: 2370 2717)	Mr. Shelton Chan (Tel: 3975 6331)
Environmental Team	Cinotech Consultant Limited Dr. Priscilla Choy (Tel: 2151 2089)	Cinotech Consultant Limited Dr. Priscilla Choy (Tel: 2151 2089)
Contract No.	**DC/2009/19**	
Contract Title:	Upgrading Woks at Stonecutters Island Sewage Treatment Works – Sludge Handling and Disposal Facilities	
Consultant	Ove Arup & Partners HK Ltd	
The Engineer	Mr. Tang (Tel: 2990 6992)	
The Engineer Representative	Mr. Johnny Mak (Tel: 2990 6986)	
Independent Environmental Checker	Dr. Anne Kerr (Tel:2828 5757)	
Contractor	SITA – ATAL Joint Venture	
Project Manager	Mr. Laurent Bickert (Tel: 2590 5680)	
Environmental Team	Material Lab Consultants Limited Mr. Joseph Poon (Tel: 2450 8238)	

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	Riser Shaft: • Construction of lower shaft. Production Shaft (Tunnel L): • Pre-excavation grouting; and • Drilling and blasting.

DC/2009/17	Portion 3: • Installation of FRP works was in progress. • Waterproofing works on R/F of vehicle washing bay were completed. • Epoxy painting on G/F was in progress. Portion 4: • Installation of green roof system was in progress. • Finishing works of external walls were in progress. • Installation of Linwood decking on R/F of SDB was in progress. • Installation of FRP works was in progress. • Epoxy painting on 1/F & 2/F of SDB was in progress. Portion 5: • Nil External Works: • SWAC / PMAC submission and implementation of TTA for the commencement of external works were in progress. • Construction of cable trench and reinstatement works at Zone A5 (Stage 1) were completed. Breaking of concrete pavement for its Stage 2 was in progress. • Reinstatement works at Zone C2 (Stage 4) were completed. • Backfilling works at Zone C3 were in progress. • ELS works for laying of centrate pipes at Zone C3a (stage 2) were completed. The laying of pipes was in progress. • Backfilling works at Zone C5 were in progress. • ELS works for laying of sludge pipes between existing sludge storage tank nos. 3 & 4 at Zone C5 were completed. • Construction of U-channel around SDB was in progress. • Construction of footpath near seafront of NSCS was in progress. • Laying of pipe-in-pipe for chemical and sodium hypochlorite pipe on the roof of CEPT Tank was in progress. • WSD commenced the excavation works for connecting of our constructed watermains. • Installation of pipeworks and ductworks for the following systems were in progress.
DC/2009/10	• At MPS2, Construction of Roof Floor at Sector 2 was scheduled on 26 Mar 2014 (completed).Construction of Office Floor at Sector 1 was scheduled on 30 Mar 2014 (completed).Construction of perimeter wall, RC wall (W3) at Sector 1 up to +25.9mPD are in progress and the construction of perimeter wall and lift shaft at Sector 3 are in progress. • At Switchgear Building, the external finishing work, handrail installation and green roof construction are in progress. • At Portion 3, construction of RC slab at +10.30mPD of G.L. A-C/29-33 and construction of RC wall at G.L 31/K-M were completed. Rebar Fixing for Wall of Distribution Channel at +13.20mPD is in progress.Erection of Bulkhead wall for connection works at Northern Effluent Culvert is completed. • Driven H-pile works piling for both Main Flow Culvert, Odour Duct Bridge and DOU No.3 were completed during this report period. Piles foundation for

	service duct was completed (28/28, 100% completed) and sheet piling for Main Flow Culvert is in progress • At Portion 8, construction of base slab for Sodium Hypochlorite Storage Compound was completed and the construction of RC column and footing are in progress.
DC/2009/18	<u>Portion 3:</u> • Blasting and rock excavation at Riser Shaft Tunnel Extension; • Assembly of Tunnel Shutter for Tunnel Lining; and • ABWF Works at Dechlorination Compound. <u>Portion 7:</u> • Blasting and rock excavation at Drop Shaft Tunnel Extension.
DC/2009/19	• Interim Operation commenced on 1 November 2013. No construction works have been carried out during the reporting period.

Summary of EM&A Requirements

1.10 The EM&A programme requires construction phase monitoring for air quality and noise, as well as site audits covering environmental mitigation measures, including landscape and visual impact, waste/chemicals management, and general compliance with the EM&A Manual and relevant permits/licenses. 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 in March 2014, 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 Four designated monitoring stations, AM6, AM7, AM8 and AM9 were selected for impact dust monitoring. Table 2.1 describes the air quality monitoring locations, which are also depicted in **Figures 1 and 3**.

Table 2.1 Locations for Air Quality Monitoring

Monitoring Station	Responsible Contracts	Location of Measurement
AM6	DC/2007/23	Works site boundary of DC/2007/23
AM7	DC/2009/10	North West Kowloon Sewage Pumping Station
AM8		Block A of Government Dockyard
AM9	DC/2009/18	Work Site Boundary (Near Ngong Shuen Chau Barracks Group 2)

Monitoring Equipment

2.3 **Table 2.2** summarizes the equipment used in the impact air monitoring programme. Copies of calibration certificates were shown in **Appendix C**.

Table 2.2 Air Quality Monitoring Equipment

Contract No.	DC/2007/23	DC/2009/10	DC/2009/18
Laser Dust Monitor	N/A*	Met One Instruments: AEROCET-531 Sibata: LD-3B	Sibata: LD-3B
HVS Sampler	GMW GS-2310	TISCH: Model no. TE-5170	TISCH: Model no. TE-5170
Calibrator	CM-AIR-43	TISCH: Model TE-5025A	TISCH: Model TE-5025A

N/A*: 1-hr TSP monitoring by DC/2007/23 was carried out 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 and QA/QC procedure for monitoring equipment are presented in the monthly reports for Contracts DC/2007/23, DC/2009/10 and DC/2009/18.

Results and Observations

2.6 **Table 2.4** summaries the air quality monitoring results at AM6, AM7, AM8 and AM9 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	162	115 - 193	346	500
AM7	91	18 - 313	322	
AM8	87	20 - 304	307	
AM9	213.3	121.8 –296.2	318	
24 hours TSP				
AM6	101	82 - 131	196	260
AM7	129	88 - 161	207	
AM8	72	48 - 92	158	
AM9	118.7	55.5 - 144.5	169	

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 **Appendix D**.

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 Three noise monitoring stations, namely NM5, NM6 and NM7 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 three designated monitoring stations as listed in Table 3.1. **Figures 1 and 3** shows the locations of these stations.

Table 3.1 Noise Monitoring Stations

Monitoring Station	Responsible Contracts	Location of Measurement
NM5	DC/2007/23	Near FSD Diving Rescue and Training Centre
NM6	DC/2009/10	Customs' Marine Base
NM7	DC/2009/18	Open Area near Naval Base Barrack

Monitoring Equipment

3.3 Table 3.2 summarizes the noise monitoring equipment. Copies of calibration certificates were shown in **Appendix C**.

Table 3.2 Noise Monitoring Equipment

Contract No.	DC/2007/23	DC/2009/10	DC/2009/18
Sound Level Meter	Rion NL-31	SVANTEK Model no: SVAN 955	SVANTEK Model no: SVAN 955, SVAN 957
Calibrator	Rion NC-73	SVANTEK Model no: SV 30A	SVANTEK Model no: SV 30A

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 NM7	L_{eq}(30 min.) dB(A)	0700-1900 hrs on weekdays	Once per week
	L_{eq}(5 min.) dB(A)	During restricted hours	Weekly monitoring to be conducted during the construction works

Monitoring Methodology and QA/QC Procedures

3.5 The monitoring methodology and QA/QC procedure are presented in the monthly reports of the Contract DC/2007/23, DC/2009/10 and DC/2009/18.

Results and Observations

3.6 **Table 3.4** summaries the noise monitoring results at NM5, NM6 and NM7 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	Range, dB(A) L_{eq}(30 min.)	Limit Level ,dB(A) L_{eq}(30 min.)
NM5	61 - 63	75.0
NM6	63.2 - 65.6	
NM7	64.8-67.6	
For the time period 1900-2300 hrs. on Normal Weekdays, And 0700-2300 of Sundays and Public Holiday		
Monitoring Station	Range, dB(A) L_{eq}(5 min.)	Limit Level ,dB(A) L_{eq}(5 min.)
NM5	60 - 63	70.0
NM7	64.4-64.7	
All days during 2300 to 0700 hrs. of the next day		
NM7	58.8-59.5*	55.0

Remark:* Since the construction noise levels recorded in restricted hour from 23:00 to 07:00 of the next day were lower than the baseline level, the construction noise levels were considered non-valid exceedance of Limit Level.

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

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

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

3.10 The major noise sources identified at the designated noise monitoring stations during day time were the noise generated from trucks movement outside the noise enclosure, concreting work and the traffic noise from the Container Port Road South close to the site boundary of Contract No: DC/2009/18; while the major noise sources identified during the evening and night time was the traffic noise from the Container Port Road South and Stonecutters Bridge near to the Project area since the Construction works were mainly conducted within the noise enclosure during restricted hours.

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 March 2014
DC/2009/10	6, 13, 20 and 27 March 2014
DC/2009/17	5, 12, 20 and 26 March 2014
DC/2009/18	5, 12, 19 and 25 March 2014
DC/2009/19	7, 13, 17 and 28 March 2014

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 the five 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 the 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	Marine Deposit		
				Type 1 (m^3)	Type 2 (m^3)	Type 3 (Tonnes)
DC/2007/23	14,770*(m^3)	188*(kg) and 174*(m^3)	0*	0*	0*	0*
DC/2009/10	541(m^3)	109(kg) and 43(m^3)	0	0	0	0
DC/2009/17	80(m^3)	190(kg) and 7(tons)	0	0	0	0
DC/2009/18	9,643 (m^3)	3,460(kg) and 7 (m^3)	0	0	0	0
DC/2009/19	0	0	0	0	0	0

Remark*: 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 (kg) and other General Refuse (m^3, Ton).

4.8 The disposal location of wastes generated by the activities of the 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	12,401m^3 of Inert C&D materials were reused in other projects and 2,369m^3 of Inert C&D materials were disposed at Chai Wan Barging Point, TKO Area 137 and Tuen Mun Area 38. 180kg plastics and paper/cardboard packaging, but 8 kg of metal was sent for recycling. No plastics were collected by licensed Collector during the reporting period.
DC/2009/10	Tuen Mun Area 38 Fill Bank and NENT Landfill. No metals, but 88kg of paper/cardboard packaging and 21kg of plastics were sent for recycling during the reporting period.
DC/2009/17	Tuen Mun Area 38 Fill Bank and NENT Landfill. No plastics and metals, but 190 kg of paper/cardboard packaging was sent to recyclers during the reporting period.
DC/2009/18	Lam Tei Quarry, Tuen Mun Area 38 Fill Bank and NENT Landfill and Tseung Kwan O Area 137 Fill Bank. No plastics and paper/cardboard packaging, but 3,460kg of metals were sent to recyclers for recycling during the reporting period.
DC/2009/19	No waste was generated in the reporting period.

4.9 The summaries of amount of waste generated in the 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 the 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 and restricted hours was recorded in the reporting month. Summary of exceedance is presented in **Appendix G**.

Landscape and Visual

4.16 No non-compliance was recorded.

Summary of Complaints and Prosecutions

4.17 No environmental complaint and prosecution was received at SCISTW for the five contracts in the reporting month.

4.18 There were no environmental complaint and prosecution received since the commencement of the 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;
- Oil leakage from equipment and spillage;
- Silty surface runoff generated from the site area during raining;
- Dust generation should be mitigated by adequate water spraying, especially in dry days;
- Stockpile should be covered by tarpaulin to reduce dust generation;
- 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 zones 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 and restricted hours was recorded in the reporting month. Summary of exceedance is presented in **Appendix G**.

Environmental Audit

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

Complaint and Prosecution

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

Recommendations for the coming reporting month:

6.7 The following recommendations were made for the coming reporting month:

Air Quality

- To regularly maintain the machinery and vehicles on site;
- To mitigate the dust generation by adequate water spraying in dry days;
- To cover the stockpile with tarpaulin to reduce dust generation;
- 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;

Water Quality

- To identify any discharge of wastewater from the construction site;
- To avoid water from accumulation on site and carry out larviciding against mosquito breeding for stagnant water when mosquito larvae are observed;
- To clear the sediment in the wastewater treatment tanks regularly; and
- The discharged water quality must meet the requirements specified in the discharge licence.

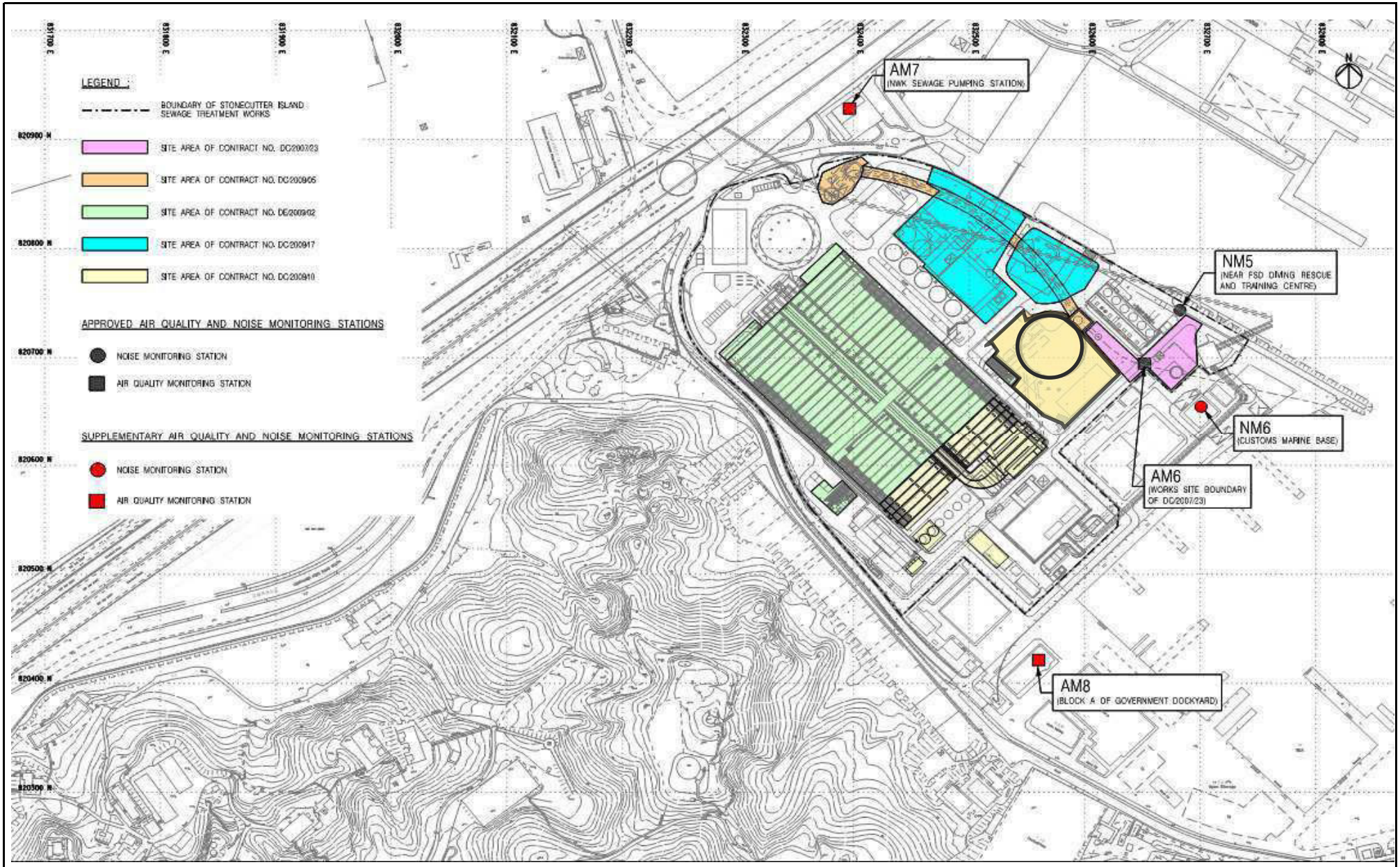
Waste/Chemical Management

- 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

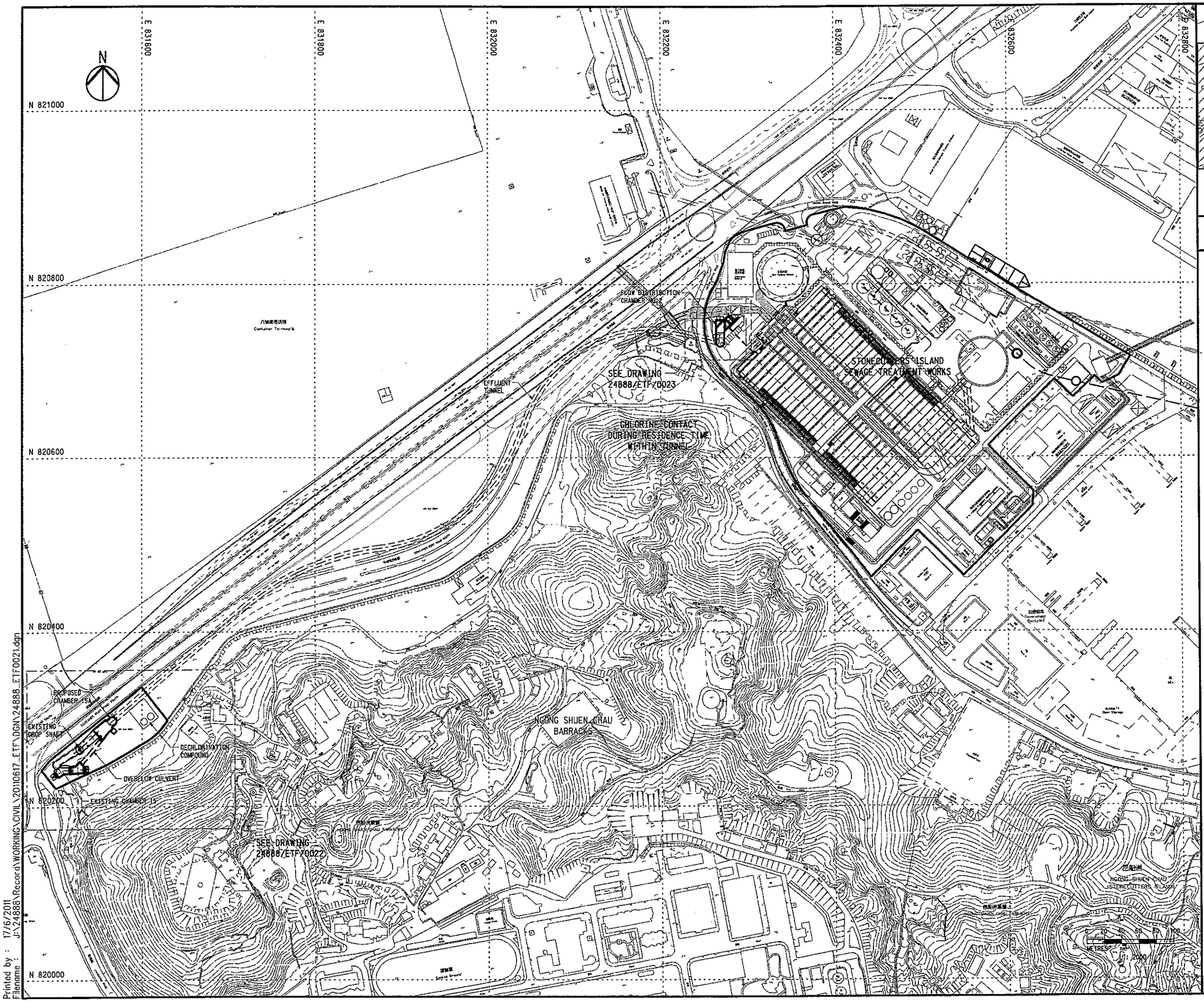
- To erect and maintain the protection fence around the retaining tree; and
- To avoid any heavy materials placed into tree protection zone.

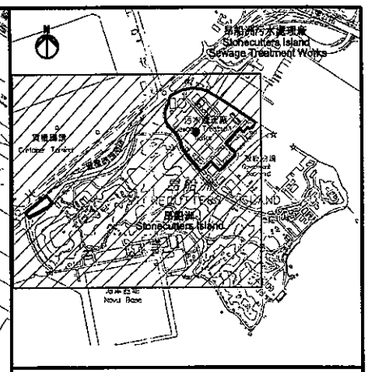
FIGURES



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
	General Location Plan of the Project and Locations of Air Quality and Noise Monitoring Stations	Date 8/2011	Figure 1

CINOTECH





KEY PLAN

LEGEND:

BOUNDARY OF SCISTW

ALIGNMENT OF EFFLUENT TUNNEL

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

Consultant

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

Project title

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

Drawing title

GENERAL LAYOUT
(SHEET 1)

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

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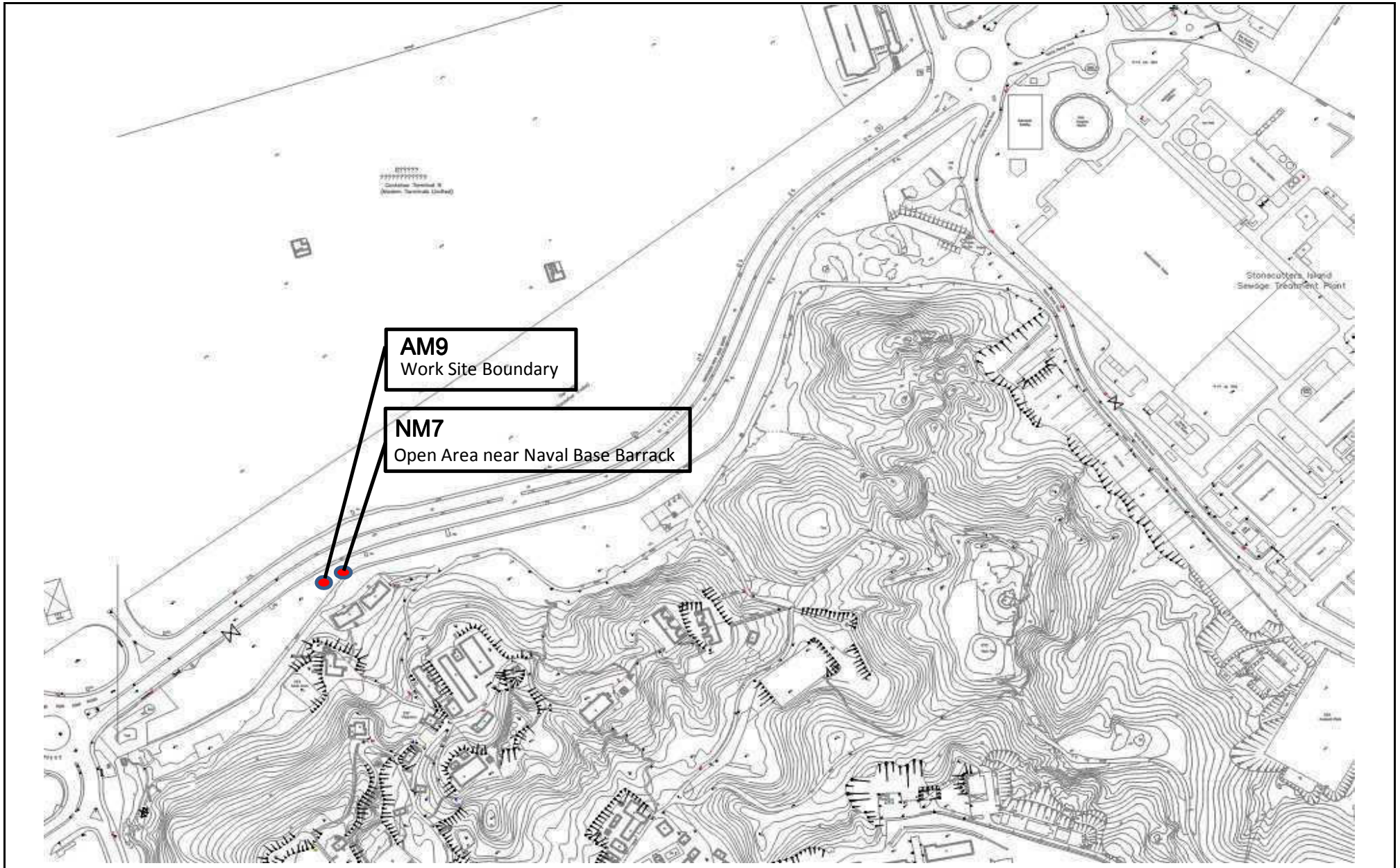
Filename : J:\24888\Record\WORKING\CIVIL\20110617_ETF\DGN\24888_ETF0021.dgn



Title	Contract No. DC/2009/18 HATS 2A -Upgrading Works at Stonecutters Island Sewage Treatment Works - Effluent Tunnel and Disinfection Facilities	Scale N.T.S	Project No. MA11043	CINOTECH
	Locations of Impact Air Quality and Noise Monitoring Stations	Date 12/2011	Figure 3	

APPENDIX A
ACTION AND LIMIT LEVELS FOR AIR QUALITY AND NOISE

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
AM9	318	169	500	260

Table A-2 Action and Limit Level for Construction Noise

Monitoring Stations	Time Period	Action Level	Limit Level in dB(A)
NM5 **NM6** **NM7**	0700-1900 hours on normal weekdays	When one documented complaint is received	75
	Restricted Hours (Evening Time) All days during the evening (1900 to 2300 hours), and general holidays (including Sundays) during the day-time and evening (0700 to 2300 hours)	N/A	70(1)
	Restricted Hours (Night Time) All days during the night-time (2300 to 0700 hours)	N/A	55(1)

Note(1): Construction Noise Criteria for activity other than Percussive Pilling.

APPENDIX B
ENVIRONMENTAL MONITORING SCHEDULES

DC/2007/23

Harbour Area Treatment Scheme Stage 2A

Construction of Sewage Conveyance System from North Point to Stonecutters Island

Impact Construction Air Quality Monitoring Schedule

AM6 - Works Site Boundary

Monitoring Month : March 2014

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						01-Mar
02-Mar	03-Mar	04-Mar	05-Mar	06-Mar	07-Mar	08-Mar
			1-hr and 24-hr Monitoring			
09-Mar	10-Mar	11-Mar	12-Mar	13-Mar	14-Mar	15-Mar
		1-hr and 24-hr Monitoring				
16-Mar	17-Mar	18-Mar	19-Mar	20-Mar	21-Mar	22-Mar
	1-hr and 24-hr Monitoring				1-hr and 24-hr Monitoring	
23-Mar	24-Mar	25-Mar	26-Mar	27-Mar	28-Mar	29-Mar
				1-hr and 24-hr Monitoring		
30-Mar	31-Mar					

Monitoring Month : April 2014

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		01-Apr	02-Apr	03-Apr	04-Apr	05-Apr
			1-hr and 24-hr Monitoring			
06-Apr	07-Apr	08-Apr	09-Apr	10-Apr	11-Apr	12-Apr
		1-hr and 24-hr Monitoring				
13-Apr	14-Apr	15-Apr	16-Apr	17-Apr	18-Apr	19-Apr
	1-hr and 24-hr Monitoring			1-hr and 24-hr Monitoring	Public Holiday	Public Holiday
20-Apr	21-Apr	22-Apr	23-Apr	24-Apr	25-Apr	26-Apr
	Public Holiday		1-hr and 24-hr Monitoring			
27-Apr	28-Apr	29-Apr	30-Apr			
		1-hr and 24-hr Monitoring				

DC/2007/23

Harbour Area Treatment Scheme Stage 2A

Construction of Sewage Conveyance System from North Point to Stonecutters Island

Impact Construction Noise Quality Monitoring Schedule

NM5 - A Location near the FSD Diving Rescue and Diving Training Centre near the Site Boundary

Monitoring Month : March 2014

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						01-Mar
02-Mar	03-Mar	04-Mar	05-Mar	06-Mar	07-Mar	08-Mar
		Noise Monitoring (Evening Time)	Noise Monitoring			
09-Mar	10-Mar	11-Mar	12-Mar	13-Mar	14-Mar	15-Mar
Noise Monitoring		Noise Monitoring				
16-Mar	17-Mar	18-Mar	19-Mar	20-Mar	21-Mar	22-Mar
	Noise Monitoring	Noise Monitoring (Evening Time)				
23-Mar	24-Mar	25-Mar	26-Mar	27-Mar	28-Mar	29-Mar
Noise Monitoring				Noise Monitoring		
30-Mar	31-Mar					

Monitoring Month: April 2014

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		01-Apr	02-Apr	03-Apr	04-Apr	05-Apr
			Noise Monitoring			
06-Apr	07-Apr	08-Apr	09-Apr	10-Apr	11-Apr	12-Apr
Noise Monitoring		Noise Monitoring				
13-Apr	14-Apr	15-Apr	16-Apr	17-Apr	18-Apr	19-Apr
	Noise Monitoring				Public Holiday	Public Holiday
20-Apr	21-Apr	22-Apr	23-Apr	24-Apr	25-Apr	26-Apr
Noise Monitoring	Public Holiday		Noise Monitoring			
27-Apr	28-Apr	29-Apr	30-Apr			
		Noise Monitoring (Daytime and Evening Time)				

DC/2009/10 HATS 2A Upgrading Main Pumping Station, Sedimentation Tanks and Ancillary Facilities at SISTW
Impact Air Quality and Noise Monitoring Schedule (March 2014)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1-Mar
2-Mar	3-Mar	4-Mar	5-Mar	6-Mar	7-Mar	8-Mar
	24 hr TSP	1hr TSP X 3 Noise (NM6)			24 hr TSP	
9-Mar	10-Mar	11-Mar	12-Mar	13-Mar	14-Mar	15-Mar
	1hr TSP X 3 Noise (NM6)			24 hr TSP	1hr TSP X 3	
16-Mar	17-Mar	18-Mar	19-Mar	20-Mar	21-Mar	22-Mar
			24 hr TSP	1hr TSP X 3 Noise (NM6)		
23-Mar	24-Mar	25-Mar	26-Mar	27-Mar	28-Mar	29-Mar
		24 hr TSP	1hr TSP X 3 Noise (NM6)			
30-Mar	31-Mar					
	24 hr TSP					

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

Air Quality Monitoring Station
AM7 - West Kowloon No.2 Sewage Pumping Station
AM8 - Block A of Government Dockyard

Noise Monitoring Station
NM6 - Customs' Marine Base (Block H of Government Dockyard) Rooftop

DC/2009/10 HATS 2A Upgrading Main Pumping Station, Sedimentation Tanks and Ancillary Facilities at SISTW
Tentative Impact Air Quality and Noise Monitoring Schedule (April 2014)

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

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

Air Quality Monitoring Station
AM7 - West Kowloon No.2 Sewage Pumping Station
AM8 - Block A of Government Dockyard

Noise Monitoring Station
NM6 - Customs' Marine Base (Block H of Government Dockyard) Rooftop

Contract No. DC/2009/18

HATS 2A -Upgrading Works at Stonecutters Island Sewage Treatment Works - Effluent Tunnel and Disinfection Facilities

Impact Air Quality and Noise Monitoring Schedule (March 2014)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1-Mar
2-Mar	3-Mar	4-Mar	5-Mar	6-Mar	7-Mar	8-Mar
	24 hr TSP	1hr TSP X 3 Noise (Daytime, Evening and Night Time)			24 hr TSP	
9-Mar	10-Mar	11-Mar	12-Mar	13-Mar	14-Mar	15-Mar
	1hr TSP X 3 Noise (Daytime, Evening and Night Time)			24 hr TSP	1hr TSP X 3	
16-Mar	17-Mar	18-Mar	19-Mar	20-Mar	21-Mar	22-Mar
			24 hr TSP	1hr TSP X 3 Noise (Daytime, Evening and Night Time)		
23-Mar	24-Mar	25-Mar	26-Mar	27-Mar	28-Mar	29-Mar
		24 hr TSP	1hr TSP X 3 Noise (Daytime, Evening and Night Time)			
30-Mar	31-Mar					
	24 hr TSP					

Air Quality Monitoring Location:
AM9 - Work Site Boundary (Near Ngong Shuen Chau Barracks Group 2)

Noise Monitoring Location:
NM7 - Open Area near Naval Base Barrack

Contract No. DC/2009/18

HATS 2A -Upgrading Works at Stonecutters Island Sewage Treatment Works - Effluent Tunnel and Disinfection Facilities

Tentative Impact Air Quality and Noise Monitoring Schedule (April 2014)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1-Apr	2-Apr	3-Apr	4-Apr	**5-Apr**
		1hr TSP X 3 Noise (Daytime, Evening and Night Time)			24 hr TSP	
6-Apr	7-Apr	8-Apr	9-Apr	10-Apr	11-Apr	12-Apr
	1hr TSP X 3 Noise (Daytime, Evening and Night Time)			24 hr TSP	1hr TSP X 3	
13-Apr	14-Apr	15-Apr	16-Apr	17-Apr	**18-Apr**	**19-Apr**
			24 hr TSP	1hr TSP X 3 Noise (Daytime, Evening and Night Time)		
20-Apr	**21-Apr**	22-Apr	23-Apr	24-Apr	25-Apr	26-Apr
		24 hr TSP	1hr TSP X 3 Noise (Daytime, Evening and Night Time)			
27-Apr	28-Apr	29-Apr	30-Apr			
	24 hr TSP	1hr TSP X 3 Noise (Daytime, Evening and Night Time)				

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

Air Quality Monitoring Location:
AM9 - Work Site Boundary (Near Ngong Shuen Chau Barracks Group 2)

Noise Monitoring Location:
NM7 - Open Area near Naval Base Barrack

APPENDIX C
CALIBRATION CERTIFICATES OF THE ENVIRONMENTAL MONITORING EQUIPMENT

High-Volume TSP Sampler
5-Point Calibration Record9

Location	:	AM6
Calibrated by	:	P.F.Yeung
Date	:	18/01/2014

Sampler

Model	:	GMWS-2310 ACCU-VOL
Serial Number	:	S/N 1254

Calibration Orfice and Standard Calibration Relationship

Serial Number	:	2323
Service Date	:	26 Dec 2012
Slope (m)	:	2.09107
Intercept (b)	:	-0.02838
Correlation Coefficient(r)	:	0.99996

Standard Condition

Pstd (hpa)	:	1013
Tstd (K)	:	298.18

Calibration Condition

Pa (hpa)	:	1026
Ta(K)	:	291

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1	18 holes	10.8	3.347	1.617	58	59.07
2	13 holes	8.5	2.969	1.433	52	52.96
3	10 holes	6.8	2.656	1.281	45	45.83
4	7 holes	4.5	2.160	1.040	36	36.66
5	5 holes	3.2	1.822	0.875	30	30.55

Sampler Calibration Relationship

Slope(m):39.082 Intercept(b):-3.815 Correlation Coefficient(r): 0.9991

Checked by: Magnum Fan Date: 22/01/2014

High-Volume TSP Sampler
5-Point Calibration Record9

Location	:	AM6
Calibrated by	:	P.F.Yeung
Date	:	18/03/2014

Sampler

Model	:	GMWS-2310 ACCU-VOL
Serial Number	:	S/N 1254

Calibration Orfice and Standard Calibration Relationship

Serial Number	:	2421
Service Date	:	27 Jan 2014
Slope (m)	:	2.06238
Intercept (b)	:	-0.02415
Correlation Coefficient(r)	:	0.99994

Standard Condition

Pstd (hpa)	:	1013
Tstd (K)	:	298.18

Calibration Condition

Pa (hpa)	:	1022
Ta(K)	:	296

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1	18 holes	10.2	3.293	1.590	55	56.71
2	13 holes	8.2	2.952	1.425	50	51.55
3	10 holes	6.6	2.649	1.278	45	46.40
4	7 holes	4.6	2.211	1.065	38	39.18
5	5 holes	2.8	1.725	0.829	31	31.96

Sampler Calibration Relationship

Slope(m):32.806 Intercept(b): 4.564 Correlation Coefficient(r): 0.9997

Checked by: Magnum Fan Date: 22/03/2014

TISCH ENVIROMENTAL, INC.
145 SOUTH MIAMI AVE.
VILLAGE OF CLEVES, OH 45002
513.467.9000
877.263.7610 TOLL FREE
513.467.9009 FAX
WWW.TISCH-ENV.COM

AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Dec 26, 2012 Rootsmeter S/N 0438320 Ta (K) - 295
Operator Tisch Orifice I.D. - 2323 Pa (mm) - 753.11

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1	NA	NA	1.00	1.4440	3.2	2.00
2	NA	NA	1.00	1.0240	6.4	4.00
3	NA	NA	1.00	0.9120	8.0	5.00
4	NA	NA	1.00	0.8720	8.8	5.50
5	NA	NA	1.00	0.7200	12.8	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)
0.9967	0.6902	1.4149
0.9925	0.9693	2.0010
0.9903	1.0858	2.2372
0.9893	1.1345	2.3464
0.9840	1.3666	2.8299

Qstd slope (m) = 2.09107
intercept (b) = -0.02838
coefficient (r) = 0.99996

y axis = SQRT[H2O(Pa/760)(298/Ta)]

Va	(x axis) Qa	(y axis)
0.9957	0.6896	0.8851
0.9915	0.9683	1.2517
0.9893	1.0847	1.3995
0.9883	1.1334	1.4678
0.9830	1.3652	1.7702

Qa slope (m) = 1.30939
intercept (b) = -0.01775
coefficient (r) = 0.99996

y axis = SQRT[H2O(Ta/Pa)]

CALCULATIONS

Vstd = Diff. Vol[(Pa-Diff. Hg)/760](298/Ta)
Qstd = Vstd/Time

Va = Diff Vol [(Pa-Diff Hg)/Pa]
Qa = Va/Time

For subsequent flow rate calculations:

Qstd = 1/m{[SQRT(H2O(Pa/760)(298/Ta))]- b}
Qa = 1/m{[SQRT H2O(Ta/Pa)]- b}

輝創工程有限公司
Sun Creation Engineering Limited
Calibration and Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C133573
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC13-1422)

Description / 儀器名稱 : Sound Level Meter
Manufacturer / 製造商 : Rion
Model No. / 型號 : NL-31
Serial No. / 編號 : 00410224
Supplied By / 委託者 : Envirotech Services Co.
Shop 6, G/F., Casio Mansion, 209 Shaukeiwan Road,
Hong Kong

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C
Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 14 June 2013

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
All results are within manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA
- Agilent Technologies, USA

Tested By 測試 : K C Lee

Certified By 核證 : K K Wong

Date of Issue 簽發日期 : 17 June 2013

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
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Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 – 校正及檢測實驗所
c/o 香港新界屯門興安里一號青山灣機樓四樓
Tel/電話: 2927 2606 Fax/傳真: 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

Certificate of Calibration
校正證書

Certificate No. : C133573
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

2. Self-calibration was performed before the test.

3. The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C130019
CL281	Multifunction Acoustic Calibrator	DC110233

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 120	L_A	A	Fast	94.00	1	93.6	± 1.1

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
30 - 120	L_A	A	Fast	94.00	1	93.6 (Ref.)
				104.00		103.6
				114.00		113.6

IEC 61672 Class 1 Spec. : ± 0.6 dB per 10 dB step and ± 1.1 dB for overall different.

6.2 Time Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 120	L_A	A	Fast	94.00	1	93.6	Ref.
			Slow			93.5	± 0.3

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Certificate of Calibration
校正證書

Certificate No. : C133573
證書編號

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 120	L_A	A	Fast	94.00	63 Hz	67.3	-26.2 ± 1.5
					125 Hz	77.3	-16.1 ± 1.5
					250 Hz	84.9	-8.6 ± 1.4
					500 Hz	90.3	-3.2 ± 1.4
					1 kHz	93.6	Ref.
					2 kHz	94.9	+1.2 ± 1.6
					4 kHz	94.8	+1.0 ± 1.6
					8 kHz	92.6	-1.1 (+2.1 ; -3.1)
					12.5 kHz	89.7	-4.3 (+3.0 ; -6.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 120	L_C	C	Fast	94.00	63 Hz	92.7	-0.8 ± 1.5
					125 Hz	93.4	-0.2 ± 1.5
					250 Hz	93.6	0.0 ± 1.4
					500 Hz	93.7	0.0 ± 1.4
					1 kHz	93.7	Ref.
					2 kHz	93.5	-0.2 ± 1.6
					4 kHz	93.0	-0.8 ± 1.6
					8 kHz	90.7	-3.0 (+2.1 ; -3.1)
					12.5 kHz	87.9	-6.2 (+3.0 ; -6.0)

Remarks : - UUT Microphone Model No. : UC-53A & S/N : 307154

- Mfr's Spec. : IEC 61672 Class 1

- Uncertainties of Applied Value : 94 dB : 63 Hz - 125 Hz : ± 0.35 dB
250 Hz - 500 Hz : ± 0.30 dB
1 kHz : ± 0.20 dB
2 kHz - 4 kHz : ± 0.35 dB
8 kHz : ± 0.45 dB
12.5 kHz : ± 0.70 dB
104 dB : 1 kHz : ± 0.10 dB (Ref. 94 dB)
114 dB : 1 kHz : ± 0.10 dB (Ref. 94 dB)

- The uncertainties are for a confidence probability of not less than 95 %.

Note :
The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
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輝創工程有限公司
Sun Creation Engineering Limited
Calibration and Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C134307
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC13-1709)

Description / 儀器名稱 : Sound Level Calibrator
Manufacturer / 製造商 : Rion
Model No. / 型號 : NC-73
Serial No. / 編號 : 10997142
Supplied By / 委託者 : Envirotech Services Co.
Shop 6, G/F., Casio Mansion, 209 Shaukeiwan Road,
Hong Kong

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C
Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 12 July 2013

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
All results are within manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA
- Agilent Technologies, USA

Tested By 測試 : K C Lee

Certified By 核證 : K M Wu

Date of Issue 簽發日期 : 15 July 2013

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
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Certificate of Calibration
校正證書

Certificate No. : C134307
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.

2. The results presented are the mean of 3 measurements at each calibration point.

3. Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C133632
CL281	Multifunction Acoustic Calibrator	DC130171
TST150A	Measuring Amplifier	C120886

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	93.7	± 0.5	± 0.2

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	0.988	1 kHz ± 2 %	± 1

Remark : The uncertainties are for a confidence probability of not less than 95 %.

Note :
The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

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High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

CINOTECH

File No. MA11007/55/0011

Station: AM7 - North West Kowloon Sewage Pumping Station Operator: WK

Date: 14-Feb-14 Next Due Date: 13-Apr-14

Equipment No.: A-01-55 Serial No. 2355

Ambient Condition			
Temperature, Ta (K)	280.8	Pressure, Pa (mmHg)	771.3

Orifice Transfer Standard Information					
Equipment No.:	A-04-04	Slope, mc	0.0588	Intercept, bc	-0.0461
Last Calibration Date:	30-Sep-13	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	29-Sep-14	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler

Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) **X - axis**	ΔW (HVS), in. of oil	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ **Y-axis**
1	12.7	3.70	63.68	8.0	2.94
2	9.8	3.25	56.04	6.4	2.63
3	8.3	2.99	51.63	5.2	2.37
4	5.4	2.41	41.80	3.4	1.91
5	3.2	1.86	32.36	2.0	1.47

By Linear Regression of Y on X

Slope , mw = 0.0473 **Intercept, bw :** -0.0632

Correlation coefficient* = 0.9993

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ **3.61**

Remarks:

Conducted by: WK Tang Signature: Kwen Date: 14/2/14

Checked by: IP Signature: Date: 16 February 2014

High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

CINOTECH

File No. MA11007/68/0010

Station: AM8 - Block A of Government Dockyard Operator: WK

Date: 14-Feb-14 Next Due Date: 13-Apr-14

Equipment No.: A-01-68 Serial No. 3219

Ambient Condition			
Temperature, Ta (K)	286.4	Pressure, Pa (mmHg)	769.1

Orifice Transfer Standard Information					
Equipment No.:	A-04-04	Slope, mc	0.0588	Intercept, bc	-0.0461
Last Calibration Date:	30-Sep-13	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	29-Sep-14	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler

Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) **X - axis**	ΔW (HVS), in. of oil	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ **Y-axis**
1	11.4	3.46	59.71	7.9	2.88
2	8.8	3.04	52.55	6.2	2.56
3	6.9	2.70	46.62	5.0	2.29
4	4.3	2.13	36.97	3.1	1.81
5	2.8	1.72	29.99	1.9	1.41

By Linear Regression of Y on X

Slope , mw = 0.0492 **Intercept, bw =** -0.0332

Correlation coefficient* = 0.9990

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ **4.13**

Remarks:

Conducted by: WK Tang Signature: Kwan Date: 14/2/14

Checked by: BV Signature: Date: 14 February 2014

High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

CINOTECH

File No. MA11043/63/0016

Project No. AM9 - Work Site Boundary (Near Ngong Shuen Chau Barracks Group 2)

Operator: WK

Date: 14-Feb-14 Next Due Date: 13-Apr-14

Equipment No.: A-01-63 Serial No. 2356

Ambient Condition			
Temperature, Ta (K)	281.2	Pressure, Pa (mmHg)	770.8

Orifice Transfer Standard Information					
Equipment No.:	A-04-04	Slope, mc	0.0588	Intercept, bc	-0.0461
Last Calibration Date:	30-Sep-13	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	29-Sep-14	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler

Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) **X - axis**	ΔW (HVS), in. of oil	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ **Y-axis**
1	12.3	3.64	62.62	8.6	3.04
2	9.8	3.25	55.98	6.9	2.72
3	6.5	2.64	45.74	4.7	2.25
4	5.0	2.32	40.21	3.3	1.88
5	3.2	1.85	32.32	2.1	1.50

By Linear Regression of Y on X

Slope , mw = 0.0511 **Intercept, bw =** -0.1421

Correlation coefficient* = 0.9987

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ **3.93**

Remarks:

Conducted by: WK Tang Signature: Kwan Date: 14/2/14

Checked by: BV Signature: Date: 14 February 2014

WELLAB 匯力 Testing & Research

WELLAB LIMITED
Rms 816, 1516 & 1701, Technology Park,
18 On Lai Street, Shatin, N.T, Hong Kong.
Tel: 2898 7388 Fax: 2898 7076
Website: www.wellab.com.hk

TEST REPORT

Description	Calibration Orifice	**Manufacturer**	TISCH
Serial No.	0993	**Temperature,Ta (K)**	300.8
Model No.	TE-5025A	**Pressure, Pa (mmHg)**	759.3
Date	30 September 2013	**Equipment No.:**	A-04-04

Plate	Diff.Vol (m^3)	Diff.Time (min)	Diff.Hg (mm)	Diff.H_2O (in.)
1	1.00	1.4103	3.4	2.00
2	1.00	0.9980	6.8	4.00
3	1.00	0.8970	8.5	5.00
4	1.00	0.8540	9.4	5.50
5	1.00	0.7060	13.6	8.00

DATA TABULATION

Vstd	(X axis) Qstd	(Y axis)
0.9853	0.6986	1.4069
0.9808	0.9828	1.9897
0.9786	1.0910	2.2245
0.9775	1.1446	2.3331
0.9720	1.3768	2.8138

Y axis= SQRT[H_2O(Pa/760)(298/Ta)]

Qstd Slope (m) = 2.07768
Intercept (b) = -0.04613
Coefficient (r) = 0.99997

Va	(X axis) Qa	(Y axis)
0.9955	0.7059	0.8901
0.9910	0.9930	1.2589
0.9888	1.1023	1.4074
0.9876	1.1565	1.4761
0.9821	1.3911	1.7803

Y axis= SQRT[H_2O(Ta/Pa)]

Qa Slope (m) = 1.30101
Intercept (b) = -0.02919
Coefficient (r) = 0.99997

CALCULATIONS

Vstd=Diff. Vol[(Pa-Diff.Hg)/760](298/Ta)
Qstd=Vstd/Time
Va=Diff.Vol[(Pa-Diff.Hg)/Pa]
Qa=Va/Time

For subsequent flow rate calculations:
Qstd=I/m{[SQRT(H_2O(Pa/760)(298/Ta))]-b}
Qa=I/m{[SQRT H_2O(Ta/Pa)]-b}

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

PATRICK TSE
Laboratory Manager

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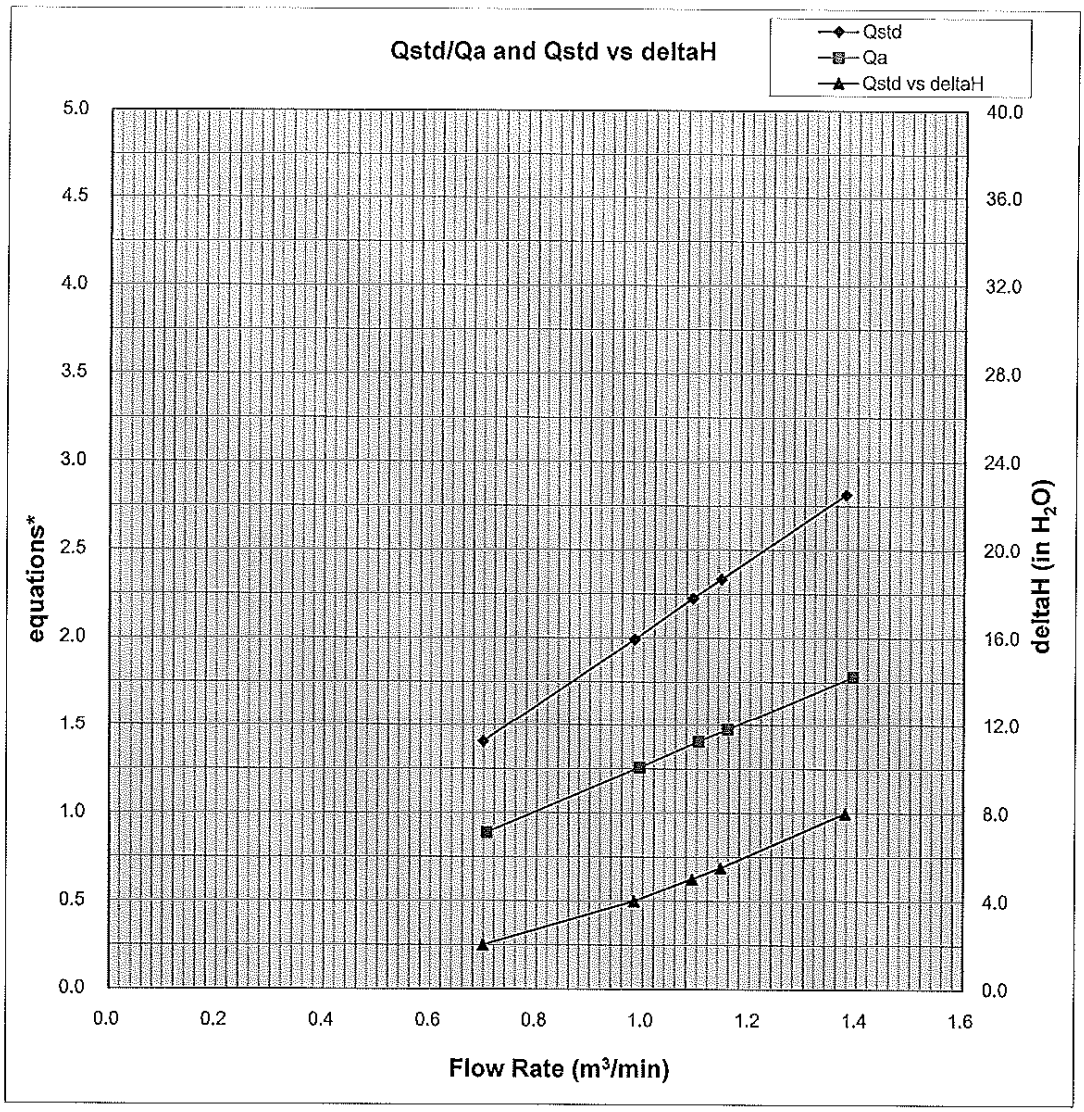
TEST REPORT



Y-axis equations:

Qstd series: SQRT[ΔH(Pa/Pstd)(Tstd/Ta)]

Qa series: SQRT[ΔH(Ta/Pa)]

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Website: www.wellab.com.hk

TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

ATTN: **Mr. WK Tang**

Test Report No.:	C/140221/1
Date of Issue:	2014-02-24
Date Received:	2014-02-21
Date Tested:	2014-02-21
Date Completed:	2014-02-24
Next Due Date:	2014-04-23
Page:	1 of 1

Certificate of Calibration

Item for Calibration:

Description	: Laser Dust Monitor
Manufacturer	: Sibata
Model No.	: LD-3B
Serial No.	: 954253
Sensitivity (K) 1 CPM	: 0.001 mg/m^3
Sen. Adjustment Scale Setting	: 772 CPM
Equipment No.	: A-02-05

Test Conditions:

Room Temperature	: 19 degree Celsius
Relative Humidity	: 67%

Test Specifications & Methodology:

1. Instruction and Operation Manual High Volume Sampler, Andersen Samplers, Inc.
2. In-house method in according to the instruction manual: The Laser Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Laser Dust Monitor and High Volume Sampler.

Results:

Correlation Factor (CF)	0.0031

****

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

PATRICK TSE
Laboratory Manager

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Website: www.wellab.com.hk

TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

ATTN: **Mr. W. K. Tang**

Test Report No.:	C/140227/3
Date of Issue:	2014-03-01
Date Received:	2014-02-27
Date Tested:	2014-02-27
Date Completed:	2014-03-01
Next Due Date:	2014-04-30
Page:	1 of 1

Certificate of Calibration

Item for Calibration:

Description	: Laser Dust Monitor
Manufacturer	: Sibata
Model No.	: LD-3B
Serial No.	: 095029
Sensitivity (K) 1 CPM	: 0.001 mg/m^3
Sen. Adjustment Scale Setting	: 551 CPM
Equipment No.	: A-02-10

Test Conditions:

Room Temperature	: 20 degree Celsius
Relative Humidity	: 65%

Test Specifications & Methodology:

1. Instruction and Operation Manual High Volume Sampler, Andersen Samplers, Inc.
2. In-house method in according to the instruction manual: The Laser Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Laser Dust Monitor and High Volume Sampler.

Results:

Correlation Factor (CF)	0.0033

****

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

PATRICK TSE
Laboratory Manager

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Rms 816, 1516 & 1701, Technology Park,
18 On Lai Street, Shatin, N.T, Hong Kong.
Tel: 2898 7388 Fax: 2898 7076
Website: www.wellab.com.hk

TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

ATTN: **Mr. W.K. Tang**

Test Report No.:	C/140207/2
Date of Issue:	2014-02-10
Date Received:	2014-02-07
Date Tested:	2014-02-07
Date Completed:	2014-02-10
Next Due Date:	2014-04-09
Page:	1 of 1

Certificate of Calibration

Item for Calibration:

Description	: Dust Monitor
Manufacturer	: Met One Instruments
Model No.	: AEROCET-531
Serial No.	: N6733
Flow rate	:0.1 cfm
Zero Count Test	:0 mg (The result of the 2-minute sample)
Equipment No.	: A-02-12

Test Conditions:

Room Temperature	: 20 degree Celsius
Relative Humidity	: 63%

Test Specifications & Methodology:

1. Instruction and Operation Manual High Volume Sampler, Andersen Samplers, Inc.
2. In-house method in according to the instruction manual: The Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Results:

Correlation Factor (CF)	1.154

****

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TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

ATTN: **Mr. W. K. Tang**

Test Report No.:	C/140227/4
Date of Issue:	2014-03-01
Date Received:	2014-02-27
Date Tested:	2014-02-27
Date Completed:	2014-03-01
Next Due Date:	2014-04-30
Page:	1 of 1

Certificate of Calibration

Item for Calibration:

Description	: Dust Monitor
Manufacturer	: Met One Instruments
Model No.	: AEROCET-531
Serial No.	: N6734
Flow rate	:0.1 cfm
Zero Count Test	:0 mg (The result of the 2-minute sample)
Equipment No.	: A-02-13

Test Conditions:

Room Temperature	: 20 degree Celsius
Relative Humidity	: 65%

Test Specifications & Methodology:

1. Instruction and Operation Manual High Volume Sampler, Andersen Samplers, Inc.
2. In-house method in according to the instruction manual: The Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Results:

Correlation Factor (CF)	1.043

****

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TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

ATTN: **Mr. W.K. Tang**

Test Report No.:	C/N/130919/2
Date of Issue:	2013-09-21
Date Received:	2013-09-19
Date Tested:	2013-09-21
Date Completed:	2013-09-21
Next Due Date:	2014-09-20
Page:	1 of 1

Certificate of Calibration

Item for calibration:

Description	: 'SVANTEK' Integrating Sound Level Meter
Manufacturer	: SVANTEK
Model No.	: SVAN 955
Serial No.	: 12563
Microphone No.	: 34377
Equipment No.	: N-08-03

Test conditions:

Room Temperatre	: 22 degree Celsius
Relative Humidity	: 57%

Test Specifications:

Performance checking at 94 and 114 dB

Methodology:

In-house method, according to manufacturer instruction manual

Results:

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

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TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

ATTN: **Mr. W.K. Tang**

Test Report No.:	C/N/130824/1
Date of Issue:	2013-08-25
Date Received:	2013-08-24
Date Tested:	2013-08-24
Date Completed:	2013-08-25
Next Due Date:	2014-08-24
Page:	1 of 1

Certificate of Calibration

Item for calibration:

Description	: 'SVANTEK' Integrating Sound Level Meter
Manufacturer	: SVANTEK
Model No.	: SVAN 955
Serial No.	: 21139
Microphone No.	: 43690
Equipment No.	: N-08-06

Test conditions:

Room Temperatre	: 20 degree Celsius
Relative Humidity	: 65%

Test Specifications:

Performance checking at 94 and 114 dB

Methodology:

In-house method, according to manufacturer instruction manual

Results:

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

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TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

ATTN: **Mr. W.K. Tang**

Test Report No.:	C/N/131129/3
Date of Issue:	2013-11-30
Date Received:	2013-11-29
Date Tested:	2013-11-29
Date Completed:	2013-11-30
Next Due Date:	2014-11-29
Page:	1 of 1

Certificate of Calibration

Item for calibration:

Description	: 'SVANTEK' Integrating Sound Level Meter
Manufacturer	: SVANTEK
Model No.	: SVAN 957
Serial No.	: 23851
Microphone No.	: 48532
Equipment No.	: N-08-12

Test conditions:

Room Temperatre	: 19 degree Celsius
Relative Humidity	: 57%

Test Specifications:

Performance checking at 94 and 114 dB

Methodology:

In-house method, according to manufacturer instruction manual

Results:

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

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TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	C/N/131101/1
Date of Issue:	2013-11-02
Date Received:	2013-11-01
Date Tested:	2013-11-01
Date Completed:	2013-11-02
Next Due Date:	2014-11-01

ATTN: **Mr. W.K. Tang**

Page: 1 of 1

Item for calibration:

Description	: Acoustical Calibrator
Manufacturer	: SVANTEK
Model No.	: SV30A
Serial No.	: 10965
Equipment No.	: N-09-02

Test conditions:

Room Temperatre	: 20 degree Celsius
Relative Humidity	: 52%

Methodology:

The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

Results:

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1 dB
At 114 dB SPL	114.0	114.0 ± 0.1 dB

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TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	C/N/131004/1
Date of Issue:	2013-10-05
Date Received:	2013-10-04
Date Tested:	2013-10-04
Date Completed:	2013-10-05
Next Due Date:	2014-10-04
Page:	1 of 1

ATTN: **Mr. W.K. Tang**

Item for calibration:

Description	: Acoustical Calibrator
Manufacturer	: SVANTEK
Model No.	: SV30A
Serial No.	: 24803
Equipment No.	: N-09-03

Test conditions:

Room Temperatre	: 21 degree Celsius
Relative Humidity	: 57%

Methodology:

The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

Results:

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1 dB
At 114 dB SPL	114.0	114.0 ± 0.1 dB

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TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	C/N/131004/2
Date of Issue:	2013-10-05
Date Received:	2013-10-04
Date Tested:	2013-10-04
Date Completed:	2013-10-05
Next Due Date:	2014-10-04

ATTN: **Mr. W.K. Tang**

Page: 1 of 1

Item for calibration:

Description	: Acoustical Calibrator
Manufacturer	: SVANTEK
Model No.	: SV30A
Serial No.	: 24791
Equipment No.	: N-09-04

Test conditions:

Room Temperatre	: 21 degree Celsius
Relative Humidity	: 57%

Methodology:

The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

Results:

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1 dB
At 114 dB SPL	114.0	114.0 ± 0.1 dB

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APPENDIX D
1-HOUR AND 24-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

1-hour TSP Monitoring Results

Station AM6

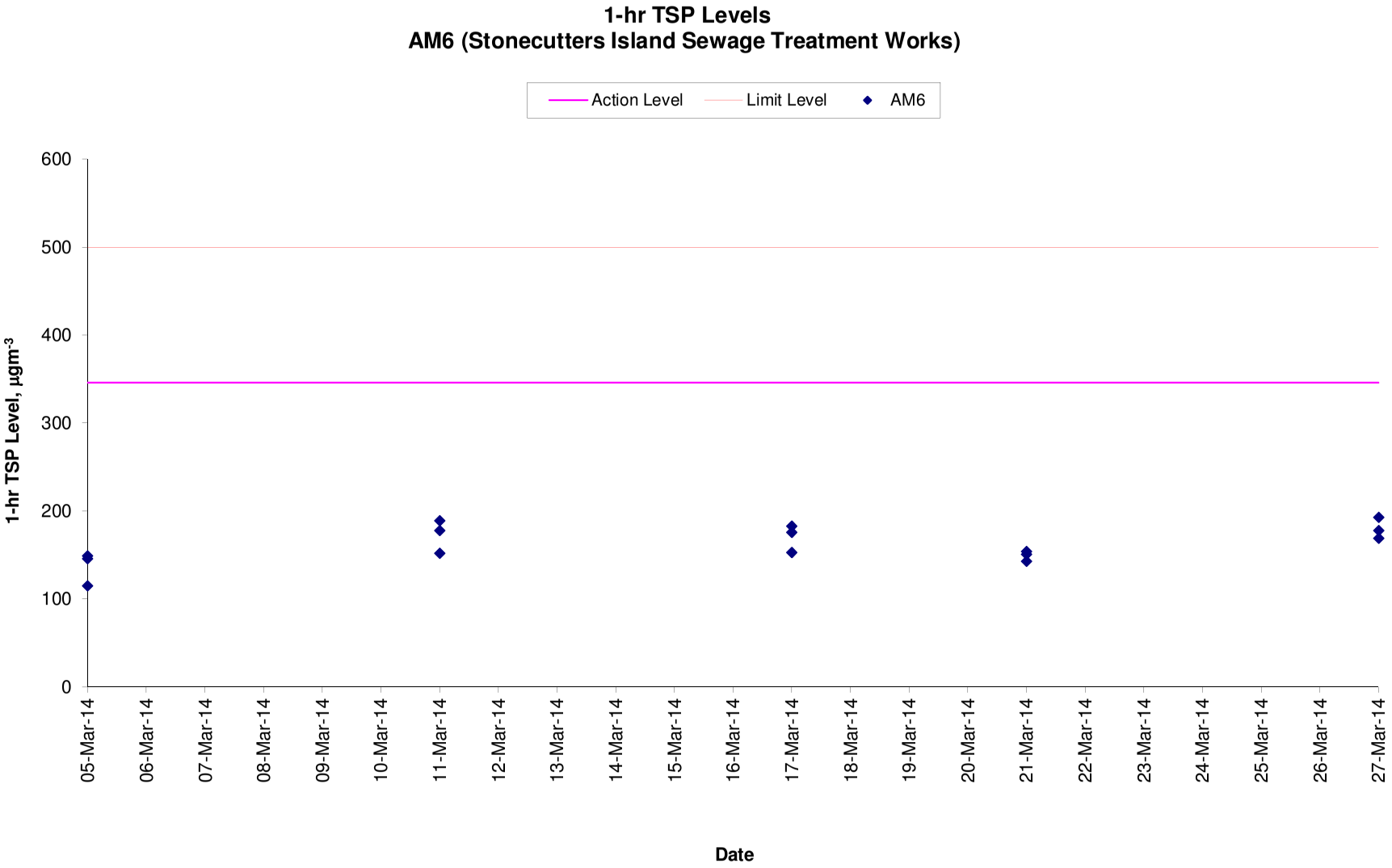
Date	Start Time	Finish Time	Weather	TSP Concentration ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)	Site Conditions / Observations / Remarks	Temperature (℃)	Wind Speed * (m/s)	Sampler ID	Filter ID
05-Mar-14	14:08	15:08	Cloudy	149	346	500	Construction work in progress	16	<5	GMW GS-2310 (S/N 1254)	9335
	15:10	16:10	Cloudy	146	346	500	Construction work in progress	16	<5	GMW GS-2310 (S/N 1254)	9336
	16:12	17:12	Cloudy	115	346	500	Construction work in progress	16	<5	GMW GS-2310 (S/N 1254)	9337
11-Mar-14	14:10	15:10	Cloudy	189	346	500	Construction work in progress	19	<5	GMW GS-2310 (S/N 1254)	9339
	15:12	16:12	Cloudy	178	346	500	Construction work in progress	19	<5	GMW GS-2310 (S/N 1254)	9340
	16:14	17:14	Cloudy	152	346	500	Construction work in progress	19	<5	GMW GS-2310 (S/N 1254)	9341
17-Mar-14	14:25	15:25	Cloudy	176	346	500	Construction work in progress	23	<5	GMW GS-2310 (S/N 1254)	9343
	15:27	16:27	Cloudy	153	346	500	Construction work in progress	23	<5	GMW GS-2310 (S/N 1254)	9344
	16:29	17:29	Cloudy	183	346	500	Construction work in progress	23	<5	GMW GS-2310 (S/N 1254)	9345
21-Mar-14	13:15	14:15	Cloudy	154	346	500	Construction work in progress	17	<5	GMW GS-2310 (S/N 1254)	9873
	14:17	15:17	Cloudy	143	346	500	Construction work in progress	17	<5	GMW GS-2310 (S/N 1254)	9874
	15:19	16:19	Cloudy	151	346	500	Construction work in progress	17	<5	GMW GS-2310 (S/N 1254)	9875
27-Mar-14	14:25	15:25	Sunny	169	346	500	Construction work in progress	25	<5	GMW GS-2310 (S/N 1254)	9877
	15:27	16:27	Sunny	178	346	500	Construction work in progress	25	<5	GMW GS-2310 (S/N 1254)	9878
	16:29	17:29	Sunny	193	346	500	Construction work in progress	25	<5	GMW GS-2310 (S/N 1254)	9879
			Min.	**115**							
			Max.	**193**							
			Average	**162**							

* Wind Speed data is presented in the Meteorological Data table

24-hour TSP Monitoring Results

Station AM6

Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time	Flow Rate (m^3/min)			TSP Conc.	Action Level	Limit Level	Observations / Remarks	Sampler	Filter
Date	Time	Date	Time		Initial	Final	Initial	Final	(hrs)	Initial	Final	Average	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)		ID	ID
05-Mar-14	17:14	06-Mar-14	17:14	Cloudy	2.7852	2.9293	13056.03	13080.03	24.00	1.22	1.22	1.22	82	196	260	Construction work in progress	GMW GS 2310 (S/N 1254)	9338
11-Mar-14	17:16	12-Mar-14	17:16	Cloudy	2.7955	3.0251	13083.03	13107.03	24.00	1.22	1.22	1.22	131	196	260	Construction work in progress	GMW GS 2310 (S/N 1254)	9342
17-Mar-14	17:31	18-Mar-14	17:31	Cloudy	2.7963	2.9577	13110.03	13134.03	24.00	1.20	1.20	1.20	93	196	260	Construction work in progress	GMW GS 2310 (S/N 1254)	9346
21-Mar-14	16:21	22-Mar-14	16:21	Sunny	2.7921	2.9600	13137.03	13161.03	24.00	1.20	1.20	1.20	97	196	260	Construction work in progress	GMW GS 2310 (S/N 1254)	9876
27-Mar-14	17:31	28-Mar-14	17:31	Sunny	2.7886	2.9622	13164.03	13188.03	24.00	1.20	1.20	1.20	100	196	260	Construction work in progress	GMW GS 2310 (S/N 1254)	9880
												Min.	**82**					
												Max.	**131**					
												Average	**101**					


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
05-Mar-14
06-Mar-14
07-Mar-14
08-Mar-14
09-Mar-14
10-Mar-14
11-Mar-14
12-Mar-14
13-Mar-14
14-Mar-14
15-Mar-14
16-Mar-14
17-Mar-14
18-Mar-14
19-Mar-14
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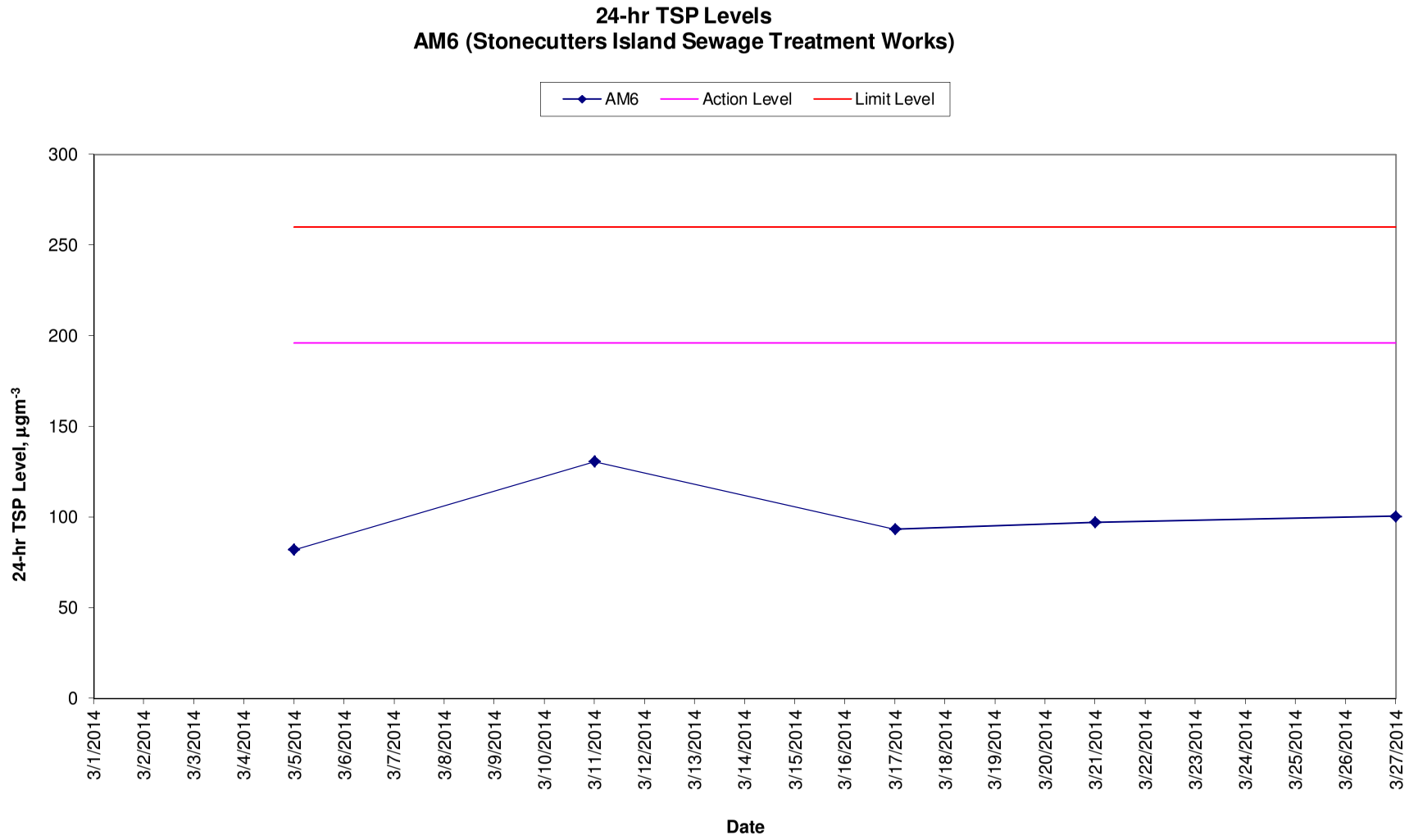
26-Mar-14
27-Mar-14
Date


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
3/1/2014
3/2/2014
3/3/2014
3/4/2014
3/5/2014
3/6/2014
3/7/2014
3/8/2014
3/9/2014
3/10/2014
3/11/2014
3/12/2014
3/13/2014
3/14/2014
3/15/2014
3/16/2014
3/17/2014
3/18/2014
3/19/2014
3/20/2014
3/21/2014
3/22/2014
3/23/2014
3/24/2014
3/25/2014
3/26/2014
3/27/2014
Date

Appendix D - 1-hour TSP Monitoring Results

Location AM7 - North West Kowloon Sewage Pumping Station			
Date	Time	Weather	Particulate Concentration (μg/m^3)
4-Mar-14	14:10	Cloudy	58
4-Mar-14	15:10	Cloudy	80
4-Mar-14	16:10	Cloudy	78
10-Mar-14	13:45	Cloudy	31
10-Mar-14	14:45	Cloudy	24
10-Mar-14	15:45	Cloudy	28
14-Mar-14	13:40	Cloudy	293
14-Mar-14	14:40	Cloudy	313
14-Mar-14	15:40	Cloudy	294
20-Mar-14	14:00	Cloudy	37
20-Mar-14	15:00	Cloudy	35
20-Mar-14	16:00	Cloudy	38
26-Mar-14	14:00	Sunny	19
26-Mar-14	15:00	Sunny	18
26-Mar-14	16:00	Sunny	23
		Average	91
		Maximum	313
		Minimum	18

Location AM8 - Block A of Government Dockyard			
Date	Time	Weather	Particulate Concentration (μg/m3)
4-Mar-14	8:55	Cloudy	52
4-Mar-14	9:55	Cloudy	54
4-Mar-14	10:55	Cloudy	60
10-Mar-14	9:00	Cloudy	23
10-Mar-14	10:00	Cloudy	25
10-Mar-14	11:00	Cloudy	22
14-Mar-14	9:00	Cloudy	304
14-Mar-14	10:00	Cloudy	302
14-Mar-14	11:00	Cloudy	303
20-Mar-14	9:00	Cloudy	32
20-Mar-14	10:00	Cloudy	34
20-Mar-14	11:00	Cloudy	36
26-Mar-14	9:00	Sunny	20
26-Mar-14	10:00	Sunny	22
26-Mar-14	11:00	Sunny	21
		Average	87
		Maximum	304
		Minimum	20

Appendix D - 24-hour TSP Monitoring Results

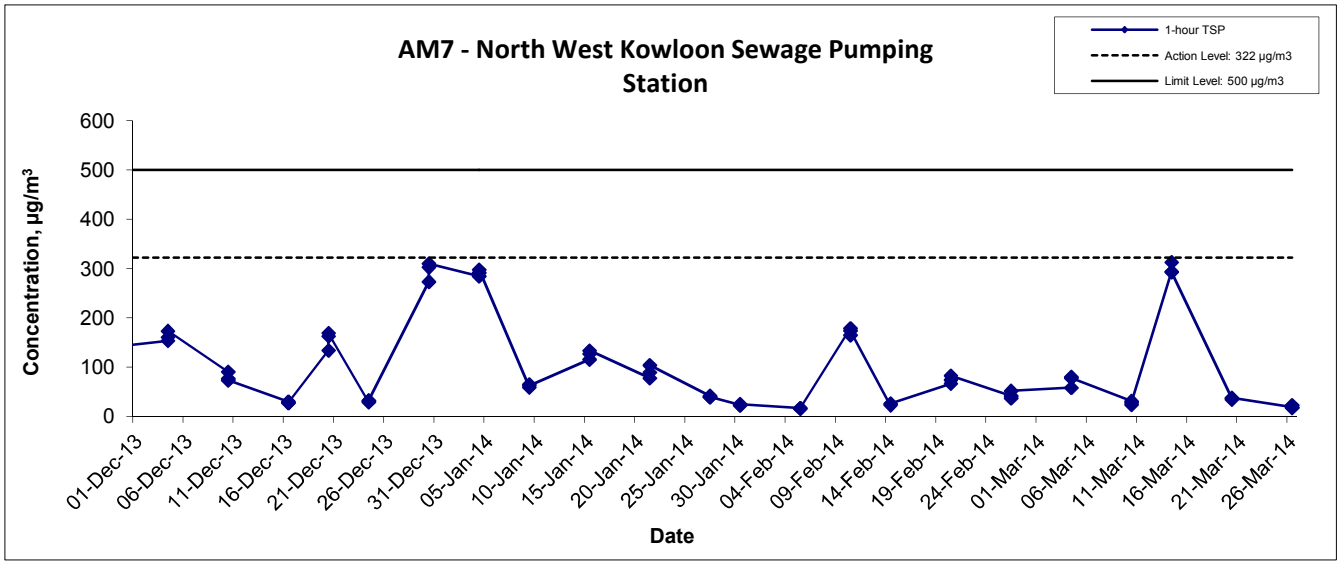
Location AM7 - North West Kowloon Sewage Pumping Station

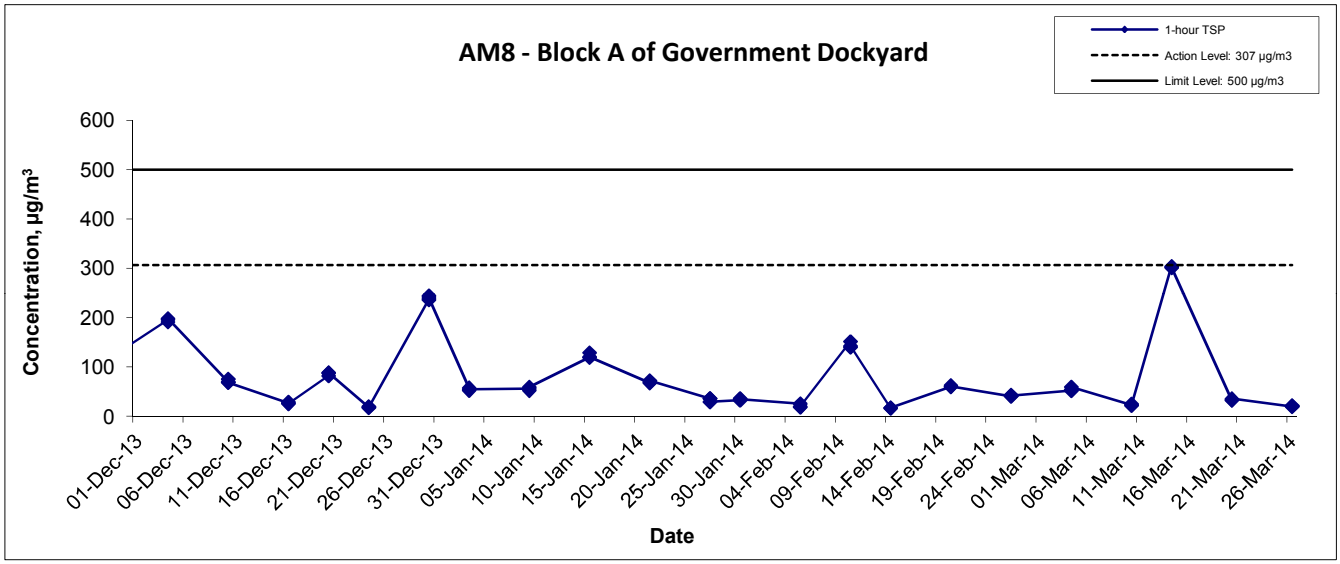
Start Date	Weather Condition	Air Temp. (K)	Filter Weight (g)		Particulate weight (g)	Elapse Time		Sampling Time(hrs.)	Flow Rate (m^3/min.)		Av. flow (m^3/min)	Total vol. (m^3)	Conc. ($\mu g/m^3$)
			Initial	Final		Initial	Final		Initial	Final			
3-Mar-14	Cloudy	289.1	3.8766	4.1532	0.2766	29609.3	29633.3	24.0	1.20	1.19	1.19	1720.6	160.8
7-Mar-14	Cloudy	287.6	3.8596	4.0484	0.1888	29633.3	29657.3	24.0	1.20	1.20	1.20	1728.6	109.2
13-Mar-14	Cloudy	292.3	3.8594	4.1155	0.2561	29657.3	29681.3	24.0	1.19	1.19	1.19	1710.7	149.7
19-Mar-14	Cloudy	295.4	3.7797	4.0308	0.2511	29681.3	29705.3	24.0	1.18	1.18	1.18	1700.4	147.7
25-Mar-14	Sunny	295.7	3.8674	4.0679	0.2005	29705.3	29729.3	24.0	1.18	1.18	1.18	1701.5	117.8
31-Mar-14	Cloudy	292.9	3.7091	3.8587	0.1496	29729.3	29753.3	24.0	1.18	1.18	1.18	1703.9	87.8
												Min	88
												Max	161
												Average	129

Location AM8 - Block A of Government Dockyard

Start Date	Weather Condition	Air Temp. (K)	Filter Weight (g)		Particulate weight (g)	Elapse Time		Sampling Time(hrs.)	Flow Rate (m^3/min.)		Av. flow (m^3/min)	Total vol. (m^3)	Conc. ($\mu g/m^3$)
			Initial	Final		Initial	Final		Initial	Final			
3-Mar-14	Cloudy	289.1	3.8820	4.0160	0.1340	3114.0	3138.0	24.0	1.21	1.21	1.21	1736.9	77.1
7-Mar-14	Cloudy	287.6	3.8638	3.9704	0.1066	3138.0	3162.0	24.0	1.21	1.21	1.21	1745.1	61.1
13-Mar-14	Cloudy	292.3	3.8556	4.0153	0.1597	3162.0	3186.0	24.0	1.20	1.20	1.20	1726.7	92.5
19-Mar-14	Cloudy	295.4	3.8133	3.9439	0.1306	3186.0	3210.0	24.0	1.19	1.19	1.19	1716.2	76.1
25-Mar-14	Sunny	295.7	3.8943	4.0252	0.1309	3210.0	3234.0	24.0	1.19	1.19	1.19	1717.3	76.2
31-Mar-14	Cloudy	292.9	3.6912	3.7742	0.0830	3234.0	3258.0	24.0	1.19	1.19	1.19	1719.8	48.3
												Min	48
												Max	92
												Average	72

1-hr TSP Concentration Levels

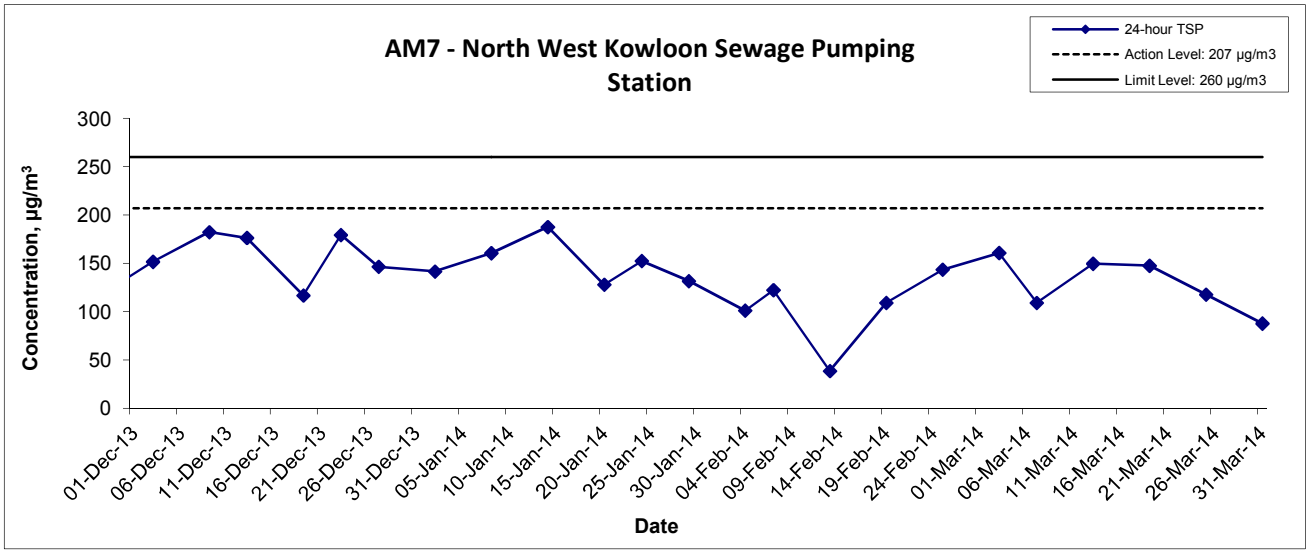


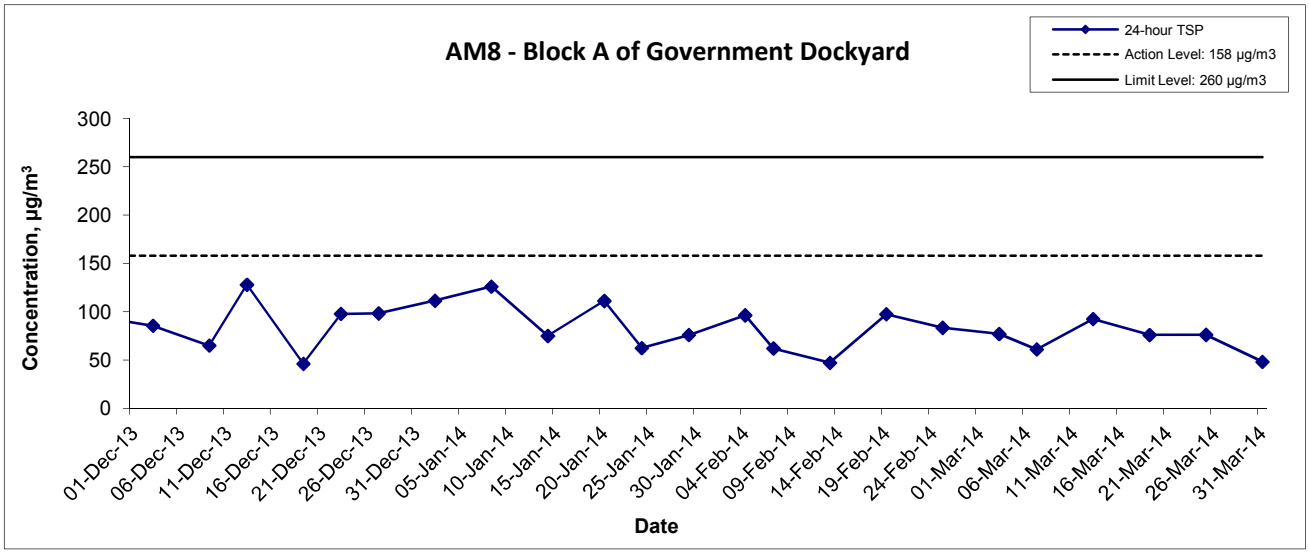


Title		Scale	Project No.
Contract No. DC/2009/10 HATS 2A – Upgrading Works at SCISTW– Main Pumping Station, Sedimentation Tanks and Ancillary Graphical Presentation of 1-hour TSP Monitoring Results		N.T.S	MA11007
		Date Mar 14	Appendix D

CINOTECH

24-hr TSP Concentration Levels





Title	Contract No. DC/2009/10 HATS 2A – Upgrading Works at SCISTW– Main Pumping Station, Sedimentation Tanks and Ancillary Graphical Presentation of 24-hour TSP Monitoring Results	Scale N.T.S Date Mar 14	Project No. MA11007 Appendix D	CINOTECH

Appendix D - 1-hour TSP Monitoring Results

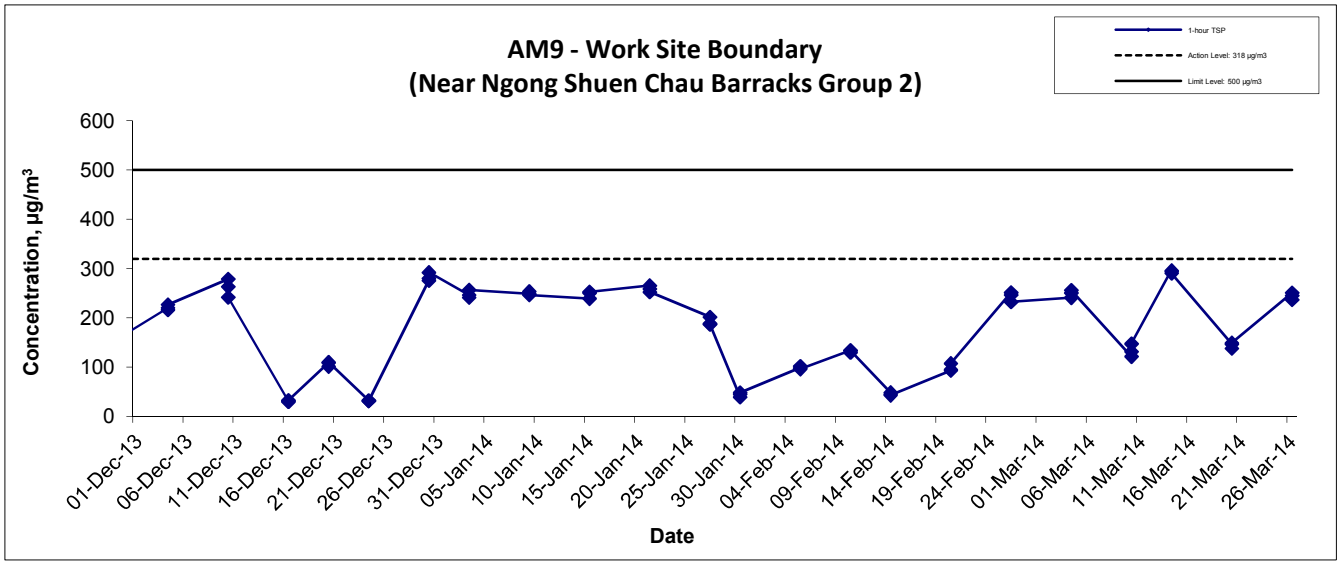
Location AM9 - Work Site Boundary (Near Ngong Shuen Chau Barracks Group 2)			
Date	Time	Weather	Particulate Concentration ($\mu g/m^3$)
4-Mar-14	13:00	Cloudy	241.3
4-Mar-14	14:00	Cloudy	250.9
4-Mar-14	15:00	Cloudy	256.4
10-Mar-14	8:55	Cloudy	121.8
10-Mar-14	9:55	Cloudy	131.8
10-Mar-14	10:55	Cloudy	147.7
14-Mar-14	9:00	Cloudy	296.2
14-Mar-14	10:00	Cloudy	294.1
14-Mar-14	11:00	Cloudy	290.7
20-Mar-14	8:50	Cloudy	146.9
20-Mar-14	9:50	Cloudy	138.4
20-Mar-14	10:50	Cloudy	149.4
26-Mar-14	9:00	Sunny	251.2
26-Mar-14	10:00	Sunny	245.4
26-Mar-14	11:00	Sunny	237.1
		Average	213.3
		Maximum	296.2
		Minimum	121.8

Appendix D - 24-hour TSP Monitoring Results

Location AM9 - Work Site Boundary (Near Ngong Shuen Chau Barracks Group 2)

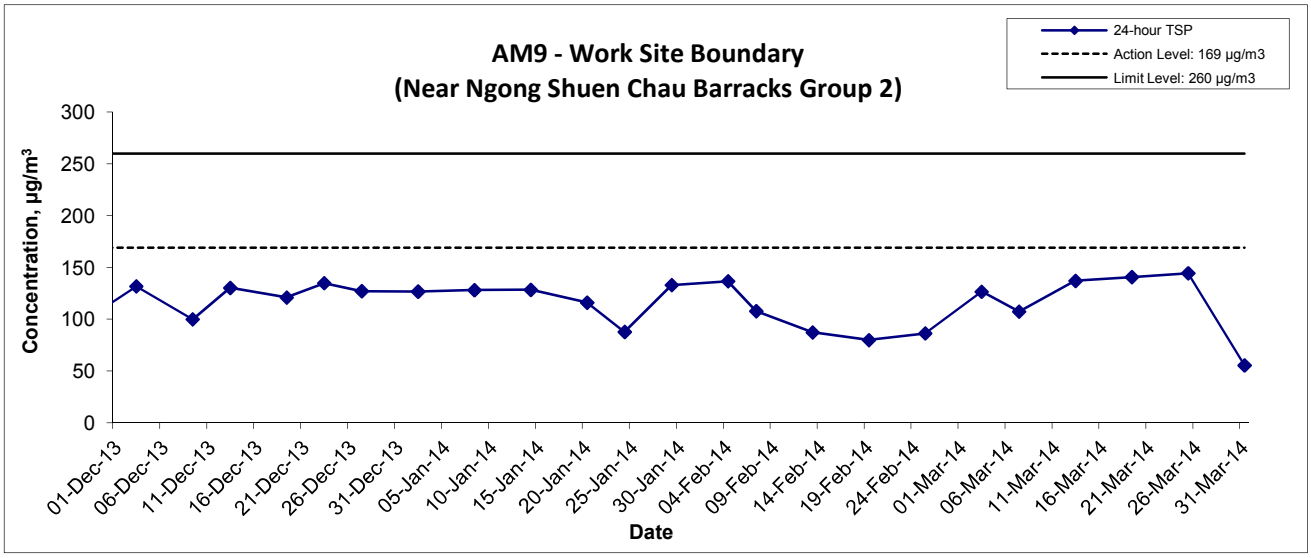
Start Date	Weather Condition	Air Temp. (K)	Filter Weight (g)		Particulate Weight (g)	Elapse Time		Sampling Time(hrs.)	Flow Rate (m^3/min.)		Av. flow (m^3/min)	Total vol. (m^3)	Conc. ($\mu g/m^3$)
			Initial	Final		Initial	Final		Initial	Final			
3-Mar-14	Cloudy	289.1	3.8751	4.0928	0.2177	2481.6	2505.6	24.0	1.19	1.19	1.19	1718.6	126.7
7-Mar-14	Cloudy	287.6	3.8826	4.0680	0.1854	2505.6	2529.6	24.0	1.20	1.20	1.20	1726.3	107.4
13-Mar-14	Cloudy	292.3	3.8672	4.1016	0.2344	2529.6	2553.6	24.0	1.19	1.19	1.19	1709.0	137.2
19-Mar-14	Cloudy	295.4	3.7694	4.0086	0.2392	2553.6	2577.6	24.0	1.18	1.18	1.18	1699.1	140.8
25-Mar-14	Sunny	295.7	3.8752	4.1208	0.2456	2577.6	2601.6	24.0	1.18	1.18	1.18	1700.1	144.5
31-Mar-14	Cloudy	292.9	3.7233	3.8178	0.0945	2601.6	2625.6	24.0	1.18	1.18	1.18	1702.5	55.5
												Min	55.5
												Max	144.5
												Average	118.7

1-hr TSP Concentration Levels



Title: Contract No. DC/2009/18 HATS 2A – Upgrading Works at SCISTW– Effluent Tunnel and Disinfection Facilities Graphical Presentation of 1-hour TSP Monitoring Results	Scale: N.T.S Date: Mar 14	Project No.: MA11043 Appendix: D	CINOTECH

24-hr TSP Concentration Levels



Title: Contract No. DC/2009/18 HATS 2A – Upgrading Works at SCISTW– Effluent Tunnel and Disinfection Facilities Graphical Presentation of 24-hour TSP Monitoring Results	Scale: N.T.S Date: Mar 14	Project No.: MA11043 Appendix: D	CINOTECH

APPENDIX E
NOISE MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

Daytime Noise Monitoring Results

Station NM5

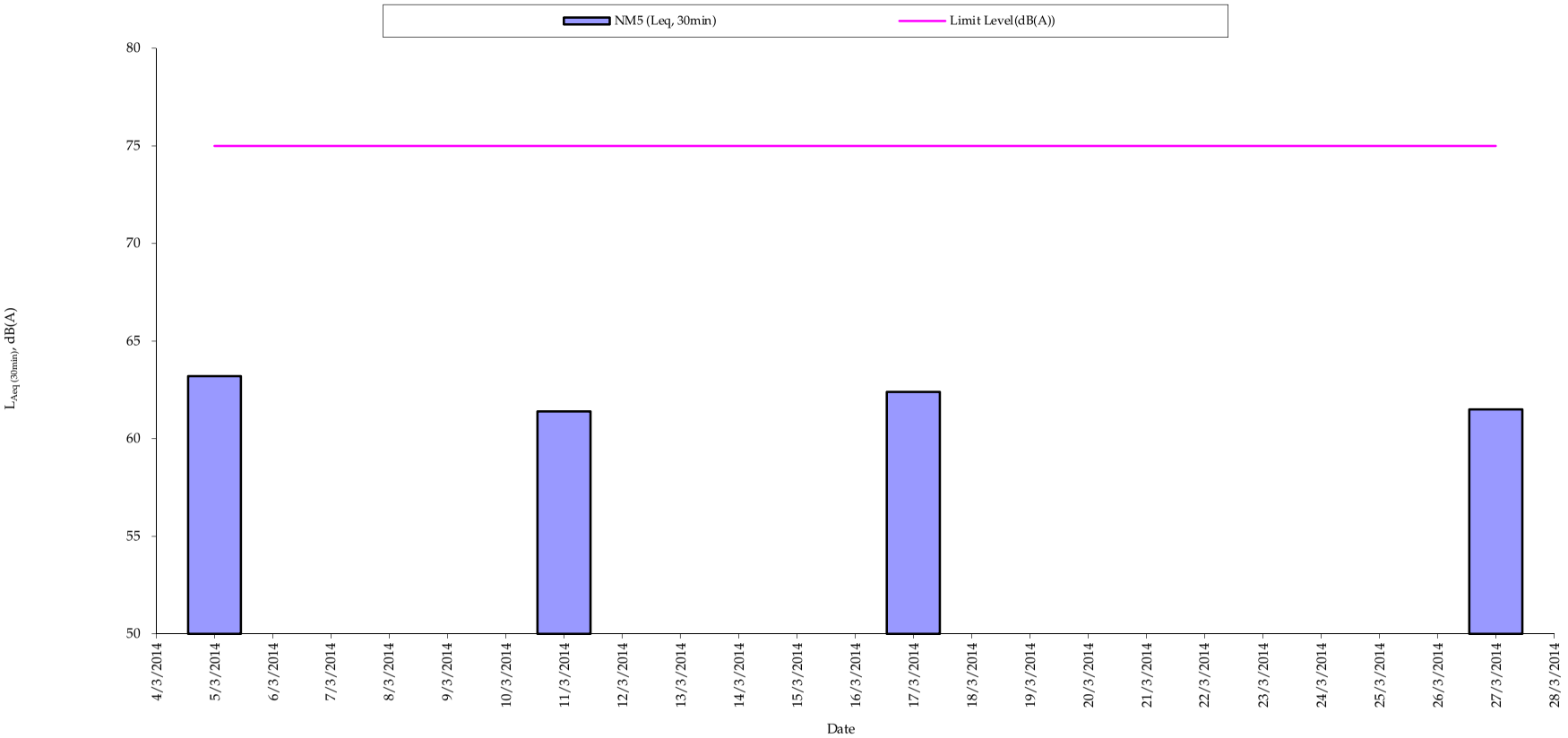
Date	Start Time	End Time	Weather	Noise level (dB(A)), 30 min			Major Construction Noise Source(s) Observed	Other Noise Source(s) Observed	Remarks	Temp. (℃)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
05-Mar-14	14:12	14:42	Cloudy	63	65	59	Drill rig, Welding machine, excavator	Traffic Noise	-	16	0.3	RION-NL31 (S/N 00410224)	RION-NL73 (S/N 10997142)
11-Mar-14	15:16	15:46	Cloudy	61	64	58	Drill rig, Welding machine, excavator, dump truck	Traffic Noise	-	19	0.3	RION-NL31 (S/N 00410224)	RION-NL73 (S/N 10997142)
17-Mar-14	14:40	15:10	Cloudy	62	65	59	Drill rig, execavator, dump truck	Traffic Noise	-	23	0.3	RION-NL31 (S/N 00410224)	RION-NL73 (S/N 10997142)
27-Mar-14	14:42	15:12	Sunny	62	64	56	Drill rig, Welding machine, excavator, dump truck	Traffic Noise	-	25	0.5	RION-NL31 (S/N 00410224)	RION-NL73 (S/N 10997142)
			Min.	**61**									
			Max.	**63**									

Restricted Hours Noise Monitoring Results

Station NM5

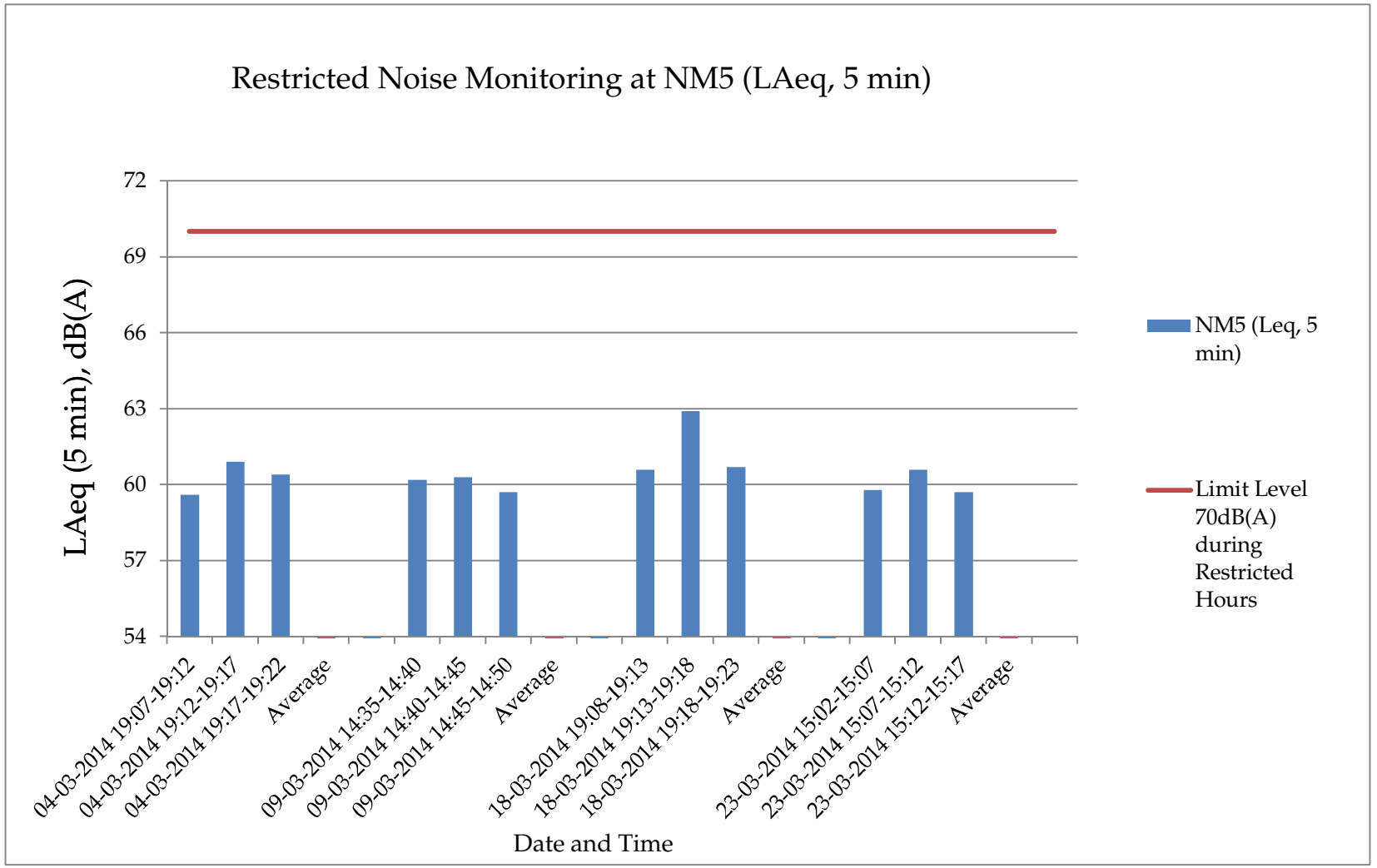
Date	Start Time	End Time	Weather	Noise level (dB(A)), 5 min			Major Construction Noise Source(s) Observed	Other Noise Source(s) Observed	Remarks	Temp. (℃)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
04-Mar-14	19:07	19:12	Cloudy	60	60	58	Drill Rig	Traffic Noise	-	16	0.5	RION- NL31 (S/N 00410224)	RION - NC73 (S/N 10997142)
	19:12	19:17	Cloudy	61	62	58			-				
	19:17	19:22	Cloudy	60	62	58			-				
	19:07	19:22	Cloudy	60	62	58			-				
09-Mar-14	14:35	14:40	Cloudy	60	62	58	Drill Rig	Traffic Noise	-	17	0.3	RION- NL31 (S/N 00410224)	RION - NC73 (S/N 10997142)
	14:40	14:45	Cloudy	60	62	59			-				
	14:45	14:50	Cloudy	60	62	58			-				
	14:35	14:50	Cloudy	60	62	58			-				
18-Mar-14	19:08	19:13	Cloudy	61	62	59	Drill Rig	Traffic Noise	-	22	0.5	RION- NL31 (S/N 00410224)	RION - NC73 (S/N 10997142)
	19:13	19:18	Cloudy	63	65	60			-				
	19:18	19:23	Cloudy	61	62	59			-				
	19:08	19:23	Cloudy	62	63	59			-				
23-Mar-14	15:02	15:07	Sunny	60	62	57	Drill Rig	Traffic Noise	-	22	0.3	RION- NL31 (S/N 00410224)	RION - NC73 (S/N 10997142)
	15:07	15:12	Sunny	61	63	57			-				
	15:12	15:17	Sunny	60	62	57			-				
	15:02	15:17	Sunny	60	62	57			-				
			Min.	**60**									
			Max.	**63**									

Normal Weekdays Noise Monitoring Results at NM5 ($L_{Aeq, 30min}$)



Remark:

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


Restricted Noise Monitoring at NM5 (LAeq, 5 min)
LAeq (5 min), dB(A)
72
69
66
63
60
57
54
04-03-2014 19:07-19:12
04-03-2014 19:12-19:17
04-03-2014 19:17-19:22
Average
09-03-2014 14:35-14:40
09-03-2014 14:40-14:45
09-03-2014 14:45-14:50
Average
18-03-2014 19:08-19:13
18-03-2014 19:13-19:18
18-03-2014 19:18-19:23
Average
23-03-2014 15:02-15:07
23-03-2014 15:07-15:12
23-03-2014 15:12-15:17
Average
Date and Time
NM5 (Leq, 5 min)
Limit Level 70dB(A) during Restricted Hours

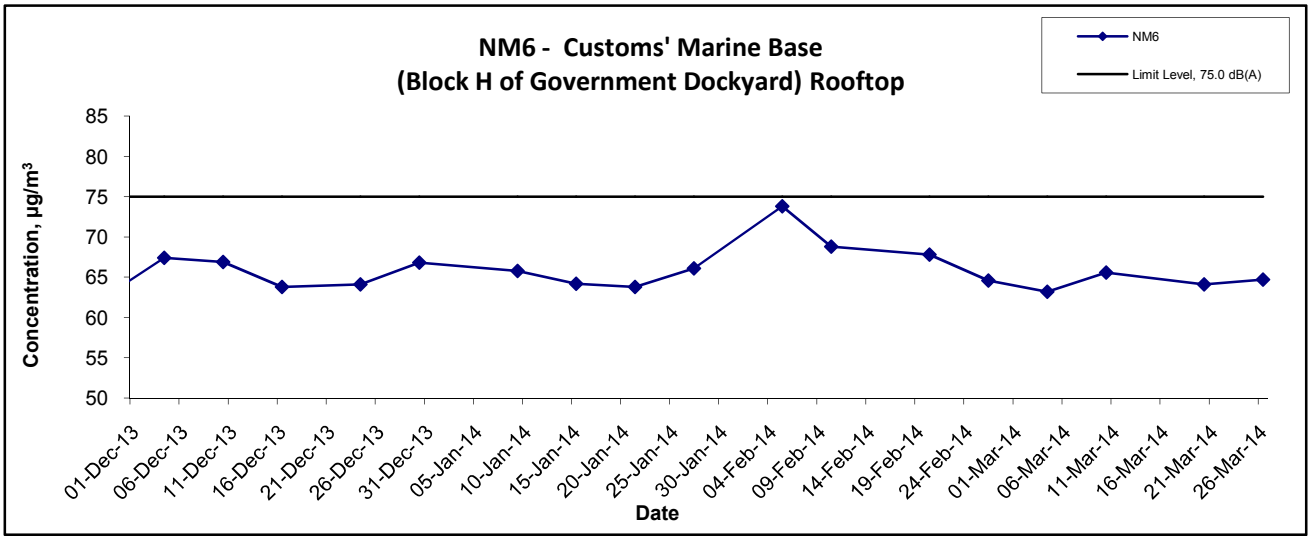
Appendix E - Noise Monitoring Results

(0700-1900 hrs on Normal Weekdays)

Location NM6 - Customs' Marine Base (Block H of Government Dockyard) Rooftop					
Date	Time	Weather	Unit: dB (A) (30-min) Measured Noise Level		
			L_{eq}	L_{10}	L_{90}
4-Mar-14	11:25	Cloudy	63.2	64.5	61.2
10-Mar-14	11:20	Cloudy	65.6	67.0	63.9
20-Mar-14	11:10	Cloudy	64.1	66.1	61.8
26-Mar-14	11:15	Sunny	64.7	66.5	60.2

Noise Levels

(0700-1900 hrs on Normal Weekdays)



Title: Contract No. DC/2009/10 HATS 2A – Upgrading Works at SCISTW– Main Pumping Station, Sedimentation Tanks and Ancillary Graphical Presentation of Noise Monitoring Result	Scale: N.T.S Date: Mar 14	Project No.: MA11007 Appendix: E	CINOTECH

Appendix E - Noise Monitoring Results

(0700-1900 hrs on Normal Weekdays)

Location NM7 - Open Area near Naval Base Barrack					
Date	Time	Weather	Unit: dB (A) (30-min)		
			Measured Noise Level		
			L_{eq}	L_{10}	L_{90}
4-Mar-14	13:00	Cloudy	67.4	69.2	60.3
10-Mar-14	09:15	Cloudy	67.6	69.2	60.4
20-Mar-14	09:10	Cloudy	66.5	68.7	60.5
26-Mar-14	09:00	Sunny	64.8	66.5	58.4

(Restricted Hours - 07:00 to 23:00 holidays & 19:00 to 23:00 on all other days)

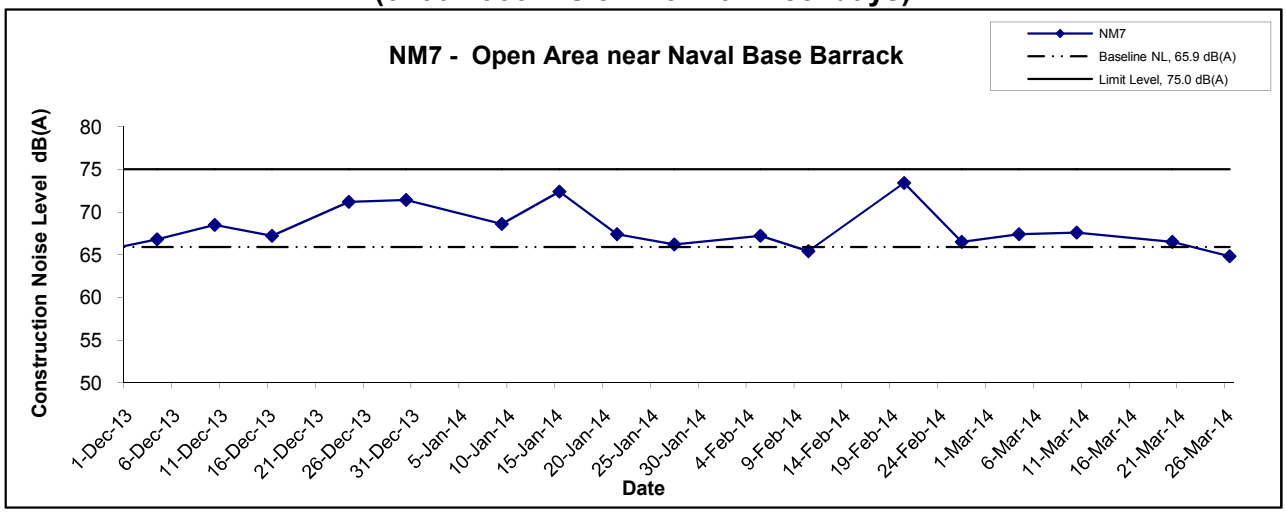
Location NM7 - Open Area near Naval Base Barrack						
Date	Time	Weather	dB (A) (5-min)			
			L_{eq}	L_{10}	L_{90}	Average L_{eq}
4-Mar-14	19:05	Fine	64.2	66.5	61.3	64.5
	19:10		64.9	67.1	61.3	
	19:15		64.3	66.2	59.9	
10-Mar-14	19:05	Fine	64.1	67.0	59.7	64.4
	19:10		64.4	67.3	60.2	
	19:15		64.7	67.9	60.9	
20-Mar-14	19:05	Fine	64.8	67.2	59.4	64.7
	19:10		64.6	66.9	60.0	
	19:15		64.7	66.8	60.5	
26-Mar-14	19:05	Fine	64.3	67.2	61.0	64.6
	19:10		64.7	67.9	61.4	
	19:15		64.9	67.5	61.5	

(Restricted Hours - 23:00 to 07:00 on all days)

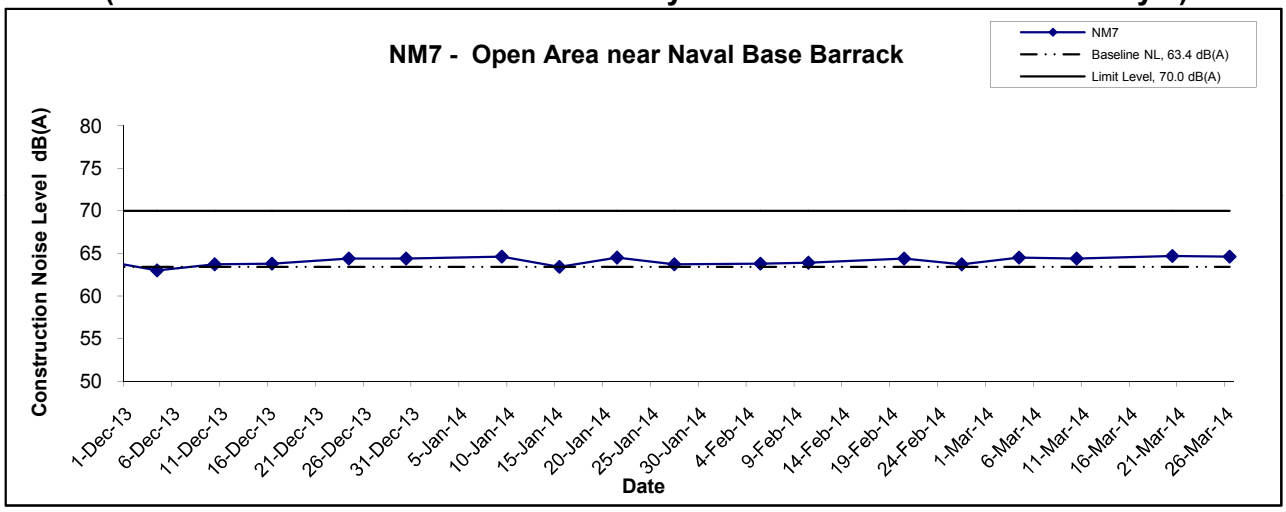
Location NM7 - Open Area near Naval Base Barrack								
Date	Time	Weather	dB (A) (5-min)				Baseline Level	Construction Noise Level
			L_{eq}	L_{10}	L_{90}	Average L_{eq}	L_{eq}	L_{eq}
4-Mar-14	23:00	Fine	59.8	62.8	57.6	58.8	59.7	58.8 Measured≦Baseline
	23:05		58.3	61.7	56.4			
	23:10		58.0	60.9	55.7			
10-Mar-14	23:00	Fine	58.9	60.2	57.8	59.3		59.3 Measured≦Baseline
	23:05		59.6	60.9	57.8			
	23:10		59.3	61.2	57.8			
20-Mar-14	23:00	Fine	59.2	61.2	55.8	59.2		59.2 Measured≦Baseline
	23:05		59.6	61.9	56.1			
	23:10		58.6	61.0	56.0			
26-Mar-14	23:00	Fine	58.9	61.2	55.9	59.5		59.5 Measured≦Baseline
	23:05		59.5	61.5	60.2			
	23:10		59.9	61.8	60.3			

Noise Levels

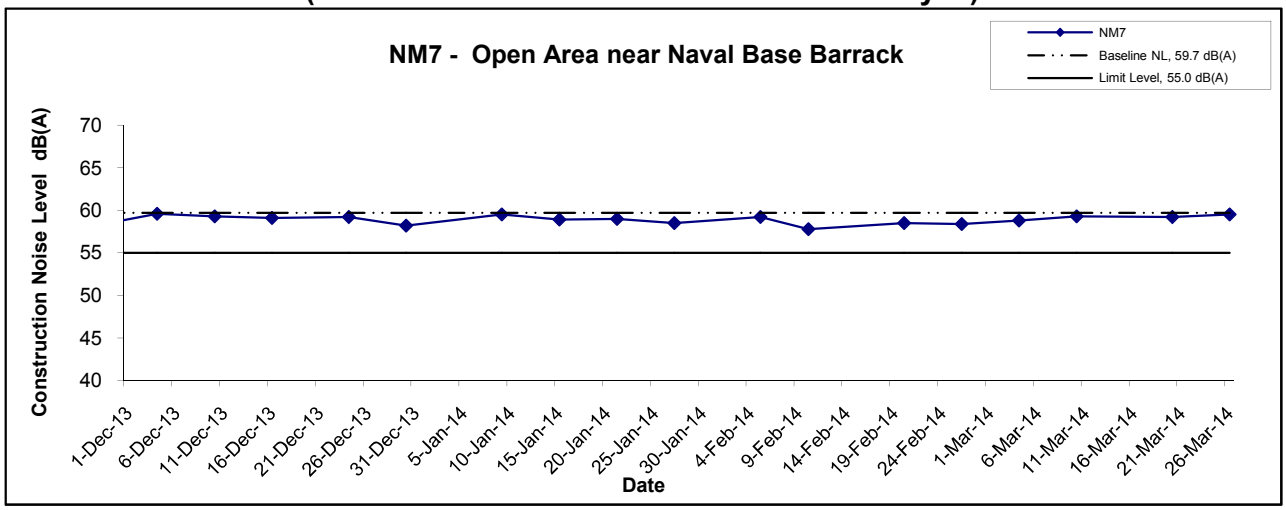
(0700-1900 hrs on Normal Weekdays)



(Restricted Hours - 07:00 - 23:00 holidays & 19:00 - 23:00 on all other days)



(Restricted Hours - 23:00 to 07:00 on all days)



Title: Contract No. DC/2009/18 HATS 2A – Upgrading Works at SCISTW– Effluent Tunnel and Disinfection Facilities Graphical Presentation of Noise Monitoring Result (NM7)	Scale: N.T.S	Project No.: MA11043	CINOTECH
	Date: Mar 14	Appendix: E	

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/ Licences/ Notification	Reference	Validity Period	Remarks
Wastewater Discharge License	Stonecutters Island Production Shaft and Riser Shaft WT00005069-2009	3 November 2010 – 31 October 2014	--
Chemical Waste Producer Registration	Stonecutters Island Production Shaft and Riser Shaft 5213-269-G2449-07	Throughout the Contract	--
Construction Noise Permit (CNP)	Stonecutters Island Production Shaft and Riser Shaft GW-RW0692-13	23 October 2013 – 22 April 2014	
	Stonecutters Island Area K-1 GW-RW0914-13	9 January 2014 – 8 July 2014	--

Table F.2 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
WT00012151-2012	28/2/2012	28/2/2017	The application was approved on 28-2-2012.	Valid
WT00015128-2013	28/1/2013	31/1/2018	The application was approved on 28-1-2013.	Valid
Registered Chemical Waste Producer				
WPN5213-269-3584-01	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 use of mechanical equipment outside permitted working hours				
GW-RW0882-13	25/12/2013	24/6/2014	Location: Portion 4&5	Valid
GW-RW0851-13	25/12/2013	24/6/2014	Location: Portion B	Valid
GW-RW0938-13	1/2/2014	31-7-2014	Location: Portion 3 and 8	Valid
GW-RW0937-13	1/2/2014	31-7-2014	Location: Portion 6	Valid

Reference Number	Valid Period		Details	Status
	From	To		
Renewal of Admission Ticket for Disposal of Special Waste (Grit) at Landfills				
No. 11032	1/12/2013	31/3/2014	N/A	Valid
No. 11290	1-4-2014	30-9-2014	N/A	Valid

Table F.3 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	15/09/2010	N/A	N/A	Valid
Notification of Works Under APCO				
Ref:321235	7/09/2010	N/A	--	Valid
Construction Noise Permit				
GW-RW0727-13	22/10/2013	20/4/2014	Location: Portion 3, 4 and 5	Valid
GW-RW0757-13	22/10/2013	20/4/2014	Location: Portion 3, 4 and 5	Valid

Table F.4 Summary of Environmental Licensing and Permit Status for Contract DC/2009/18

Permit/ A/C Number	Valid Period		Details	Status
	From	To		
Water Discharge License				
WT00010571-2011	13/10/2011	31/10/2016	Location: Portion 7A and 15A	Valid
Registered Chemical Waste Producer				
5213-269-C3689-01	8/9/2011	N/A	Site Area under the Project	Valid
Billing Account for Disposal of Construction Waste				
7013233	18/7/2011	N/A	N/A	Valid
Notification of Works Under APCO				
Ref: 332427	15/7/2011	N/A	N/A	N/A
Construction Noise Permit				

Permit/ A/C Number	Valid Period		Details	Status
	From	To		
GW-RW0665-13	13/11/2013	12/5/2014	Location: Construction site at Stonecutters Island Sewage treatment works (Barging Point)	Valid
GW-RW0759-13	13/11/2013	12/5/2014	Location: Construction site at Stonecutters Island Sewage treatment works (Portion 3)	Valid
GW-RW0835-13	1/12/2013	31/5/2014	Location: Construction site at Stonecutters Island Sewage treatment works (Portion 7)	Valid
GW-RW0868-13	14/12/2013	13/6/2014	Location: Construction site at Stonecutters Island Sewage treatment works (Portion 3)	Valid
GW-RW0942-13	8/1/2014	7/7/2014	Location: Construction site at Stonecutters Island Sewage treatment works (Portion C2)	Valid

Table F.5 Summary of Environmental Licensing and Permit Status for Contract DC/2009/19

Permits and/or Licences	Reference No.	Valid Period	Status in Reporting Month
Environmental Permit	EP-322/2008/F	N/A	Valid
Waste Disposal Account	Account No.: 7017913	N/A	Valid
Chemical Waste Producer (WENT)	9210-431-S3757-01	N/A	Valid
Admission Ticket (WENT)	11150	01 Feb 2014 to 30 Apr 2014	Valid
Admission Ticket (NENT)	10839	01 Nov 2013 to 30 Apr 2014	Valid
Admission Ticket (SENT)	10838	01 Nov 2013 to 30 Apr 2014	Valid
APCO (Notification only)	N/A	N/A	Notification submitted on 16 Sept 2013

APPENDIX G
SUMMARY OF EXCEEDANCE

APPENIDX G – SUMMARY OF EXCEEDANCE

Reporting Month: March 2014

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

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

c) Exceedance Report for Construction Noise (NIL)

No Exceedance of Action/Limit Level for normal working hours and restricted hours was recorded.

APPENDIX H
SITE AUDIT SUMMARY

Inspection date: 6 March 2014

Follow-up Actions Taken after Previous Site Audit

Stonecutters Island Production Shaft
- The liquid on the floor of the workshop had been removed.

Sai Ying Pun Production Shaft
- Chemical containers in the works area had been removed; and
- Stagnant water in the drain behind the noise enclosure had been removed.

North Point Production Shaft
- The Contractor was further reminded to store the waste batteries in designated chemical waste storage area.

Central Drop Shaft
- This is a follow-up item for site audit on 20 February since Central Drop Shaft works area had not been inspected in the last inspection – Sufficient drip trays had been provided for chemical containers.

Wan Chai East Production Shaft
Mixtures of chemicals observed accumulating inside the chemical storage area have been removed.

Observations and Recommendations

Stonecutters Island Production Shaft
- The Contractor was reminded to provide a drip tray for the chemical container found in the workshop; and
- The Contractor was reminded to place chemical waste containers in designated storage area.

Central Drop Shaft
- Chemical containers and other foreign objects are found in the tree protection zone. The Contractor was reminded to remove the objects, place the chemical containers within drip trays and erect a steadfast tree protection zone to protect the vegetation.

Wan Chai East Production Shaft
- Chemical waste was observed being stored in the chemical storage area. The Contractor was reminded to put the chemical waste in the chemical waste store.

Inspection date: 13 March 2014

Follow-up Actions Taken after Previous Site Audit

Stonecutters Island Production Shaft
- The chemical container had been removed from the workshop; and
- The chemical waste containers had been relocated to the chemical waste storage area.

Central Drop Shaft
- The majority of the chemical containers within the tree-protection zone as observed in the last site audit on 6 March 2014 had been removed. Yet there is chemical container containing oil residue still placed inside the tree-protection zone. The Contractor was further reminded to remove the oil container and store / dispose of it properly.

Wan Chai East Production Shaft

- Chemical waste observed in the chemical storage area has been removed.

Observations and Recommendations

Stonecutters Island Production Shaft

- The Contractor was reminded to provide sufficient drip trays for chemical containers in the workshop.

Sai Ying Pun Production Shaft

- The Contractor was reminded to provide sufficient drip trays for chemical containers placed beside the waste water treatment facility.

Central Drop Shaft

- Please also see Follow-up Actions for Central Drop Shaft – An oil container can still be observed in the tree protection zone in the works area. The Contractor was further reminded to remove the oil container and store / dispose of it properly.

Wan Chai East Production Shaft

- Several chemical drums were observed without drip trays outside the noise enclosure. The Contractor was reminded to provide drip trays for the chemical drums.

North Point Production Shaft

- Chemical stains were observed near the wheel washing bay. The Contractor was reminded to remove the chemical stains and dispose of as chemical waste.
- age.

Inspection date: 20 March 2014

Follow-up Actions Taken after Previous Site Audit

Stonecutters Island Production Shaft

- The chemical containers had been removed from the workshop.

Sai Ying Pun Production Shaft

- The free-standing chemical containers placed next to the wastewater treatment facility as observed in the last inspection had been removed.

Central Drop Shaft

- The Contractor had confirmed that the chemical containers in the tree-protection zone had been removed.

Wan Chai East Production Shaft

- The Contractor had provided sufficient drip trays for chemical containers outside the noise enclosure.

North Point Production Shaft

- The Contractor had removed the oil stain near the wheel washing bay and had disposed of it properly as chemical waste.

Observations and Recommendations

K1 Area

- A small patch of oil stain was observed near the site entrance. The Contractor was reminded to remove the oil stain and dispose of it properly as chemical waste; and
- Chemical containers were observed without secondary containment near the site entrance. The Contractor was reminded to provide them with secondary containment to prevent potential leakage.

Wan Chai Production Shaft

- Waste car batteries and barrels of hydraulic fluid were observed being stored at the workshop area and outside the noise enclosure without proper secondary containment. The Contractor was reminded to store the waste car batteries in designated chemical waste storage area and to provide secondary containment to all chemical containers.

North Point Production Shaft

- Chemicals were observed being stored outside the chemical storage area without secondary containment. The Contractor was reminded to provide the chemical containers with secondary containment.

Inspection date: 27 March 2014

Follow-up Actions Taken after Previous Site Audit

K1 Area

- The Contractor had confirmed that the oil stain had been removed; and
- Drip trays had been provided for free-standing chemical containers in the K1 area.

Wan Chai East Production Shaft

- The Contractor had confirmed that the waste car batteries were relocated and stored in designated chemical waste storage area. The chemical containers at the workshop area and outside the noise enclosure had been provided with drip trays.

North Point Production Shaft

- The Contractor had provided drip trays for free-standing chemical containers with drip trays.

Observations and Recommendations

Stonecutters Island Production Shaft

- There was a water-dripping air-conditioner in the storage room, which is located next to the tree-protection zone. The Contractor was reminded to repair the air-conditioner and remove the water in order to prevent the breeding of mosquitoes; and
- The label for the chemical waste storage fell off to the ground and the Contractor has provided the label immediately during the audit. The Contractor was reminded to label the designated chemical waste storage area properly.

Wan Chai Production Shaft

- The Contractor was reminded to provide sufficient drip trays for chemical containers found inside the noise enclosure to prevent leakage; and
- The Contractor was reminded to remove the stagnant water and rubbish found inside the waste skip.

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	140306
Date	6 March 2014 (Thursday)
Time	09:30-11:00

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

Ref. No.	Remarks/Observations	Related Item No.
140306-O01	*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* • The site area should be kept tidy and clear any oil stain and general refuses regularly. (Portion 4 and 3) *Part F - Permit / Licenses* • No environmental deficiency was identified during the site inspection. *Others* • Follow-up on previous audit sessions (ref: 140227): all environmental deficiency was improved by the Contractor. *Remark:* • N/A	E 1i & E 7i

	Name	Signature	Date
Recorded by	Victor Wong		6 March 2014
Checked by	Dr. Priscilla Choy		6 March 2014

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	140313
Date	13 March 2014 (Thursday)
Time	09:30-11:00

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

Ref. No.	Remarks/Observations	Related Item No.
140313-O01	***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*** • Oil containers should be confined by drip tray or placed in designated area (Portion 4). ***Part F - Permit / Licenses*** • No environmental deficiency was identified during the site inspection. ***Others*** • Follow-up on previous audit sessions (ref: 140305): all environmental deficiency was improved by the Contractor.	E 7ii
	Remark: • N/A	

	Name	Signature	Date
Recorded by	Victor Wong		13 March 2014
Checked by	Dr. Priscilla Choy		13 March 2014

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	140320
Date	20 March 2014 (Thursday)
Time	09:30-11:00

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***	
140320-O01	• Chemical containers should be contained by drip tray or stored in designated area (Portion 4, -18 area); Chemical label should be provided on the chemical container.	E 7i
140320-R02	• General refuse should be cleared regularly to prevent accumulation (Portion 4).	E 1i
	Part F - Permit / Licenses • No environmental deficiency was identified during the site inspection. ***Others*** • Follow-up on previous audit sessions (ref: 140313): all environmental deficiency was improved by the Contractor. ***Remark:*** • N/A	

	Name	Signature	Date
Recorded by	Victor Wong		20 March 2014
Checked by	Dr. Priscilla Choy		20 March 2014

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	140327
Date	27 March 2014 (Thursday)
Time	09:30-11:00

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

Ref. No.	Remarks/Observations	Related Item No.
140327-O02	***Part A - Water Quality*** • The pH meter on Portion 4 WetSep indicated a slightly high pH level despite no water is being discharged. The Contractor is reminded to ensure the WetSep is functional to prevent unsuitable water discharge. ***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 5iii
140327-O01	• Oil containers should be contained within drip tray and any oil spillage should be cleared up in Portion 4 (steel fixing area). ***Part F - Permit / Licenses*** • No environmental deficiency was identified during the site inspection. ***Others*** • Follow-up on previous audit sessions (ref: 140320): all environmental deficiency was improved by the Contractor. ***Remark:*** • N/A	E 7i & E 7ii

	Name	Signature	Date
Recorded by	Victor Wong		27 March 2014
Checked by	Dr. Priscilla Choy		27 March 2014

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	140305
Date	5 March 2014 (Wednesday)
Time	09:30-11:00

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.	
140305-R02	***Part C - Air Quality*** • The dusty material should be covered by impervious material to prevent the dust emission at Portion 4 and Portion 5. ***Part D – Noise*** • No environmental deficiency was identified during the site inspection.	C6
140305-O01	***Part E – Waste / Chemical Management*** • Properly clear the oil stain on the concrete pavement and the unpaved area at Portion 4 and Portion 3. ***Part F - Permit / Licenses*** • No environmental deficiency was identified during the site inspection. ***Others*** • Follow-up on previous audit sessions (ref: 140226): The outstanding item 140226-O01 is required to be followed up and remarked as 140305-O01 which will be reviewed in next weekly site inspection (Ref. No. 140312).	E7ii

	Name	Signature	Date
Recorded by	Janet Wai		5 March 2014
Checked by	Dr. Priscilla Choy		5 March 2014

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	140312
Date	12 March 2014 (Wednesday)
Time	09:30-11:00

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.	
140312-O02	***Part C - Air Quality*** • Stockpile should be covered properly to prevent dust emission and muddy-runoff formation (Portion 4 and 5). ***Part D – Noise*** • No environmental deficiency was identified during the site inspection.	C6
140312-O01	***Part E – Waste / Chemical Management*** • Chemical containers should be stored properly in designated area (Portion 4). ***Part F - Permit / Licenses*** • No environmental deficiency was identified during the site inspection. ***Others*** • Follow-up on previous audit sessions (ref: 140305): The outstanding item 140305-O02 is required to be followed up and has been remarked as Ref. No. 140312-O02.	E 3i

	Name	Signature	Date
Recorded by	Victor Wong		12 March 2014
Checked by	Dr. Priscilla Choy		12 March 2014

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	140320
Date	20 March 2014 (Thursday)
Time	14:00-15:30

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

Ref. No.	Remarks/Observations	Related Item No.
140320-O01	***Part A - Water Quality*** • Stockpiles should be covered properly to prevent dust emission and formation of muddy run-off (Portion 4 barging point and Portion 5); Bunding should be provided in the barging point along the shoreline to prevent muddy run-off from entering the sea. ***Part B – Landscape and Visual*** • No environmental deficiency was identified during the site inspection.	A 7 & A 14ii
140320-O01	***Part C - Air Quality*** • Stockpiles should be covered properly to prevent dust emission and formation of muddy run-off (Portion 4 barging point and Portion 5); Bunding should be provided in the barging point along the shoreline to prevent muddy run-off from entering the sea. ***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: 140312), all environmental deficiency was improved by the Contractor.	C6

	Name	Signature	Date
Recorded by	Victor Wong		20 March 2014
Checked by	Dr. Priscilla Choy		20 March 2014

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	140326
Date	26 March 2014 (Wednesday)
Time	09:30-11:00

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

Ref. No.	Remarks/Observations	Related Item No.
140326-O01	***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*** • No environmental deficiency was identified during the site inspection. ***Part F - Permit / Licenses*** • The environmental permit should be displayed near the site entrance in Portion 4. ***Others*** • Follow-up on previous audit sessions (ref: 140320), all environmental deficiency was improved by the Contractor.	F 1

	Name	Signature	Date
Recorded by	Victor Wong		26 March 2014
Checked by	Dr. Priscilla Choy		26 March 2014

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	140305
Date	5 March 2014 (Wednesday)
Time	14:00-16:00

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

Ref. No.	Remarks/Observations	Related Item No.
140305-O01 140305-R02	***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*** • Oil stain should be cleared from the pavement in Portion 7. • Drip tray in Portion 3 should be maintained properly to avoid any waste accumulation. ***Part F - Permit / Licenses*** • No environmental deficiency was identified during the site inspection. ***Others*** • Previous audit session (Ref. No. 140226), all environmental deficiency was improved by the Contractor. ***Remarks:*** • N/A	E 7i E 7ii

	Name	Signature	Date
Recorded by	Victor Wong		5 March 2014
Checked by	Dr. Priscilla Choy		5 March 2014

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	140312
Date	12 March 2014 (Wednesday)
Time	14:00-16:00

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***	
140312-O01	• Oil stain should be cleared from the surface; Equipment should be properly maintained to prevent oil leakage (Portion 3 and 7).	E 7i
140312-O02	• Oil containers should be stored properly in designated area or provided with drip tray (Portion 3 and 7).	E 7ii
140312-O03	• General refuse should be cleared regularly in Portion 7.	E 1i
	Part F - Permit / Licenses • No environmental deficiency was identified during the site inspection. ***Others*** • Previous audit session (Ref. No. 140305), all environmental deficiency was improved by the Contractor. ***Remarks:*** • N/A	

	Name	Signature	Date
Recorded by	Victor Wong		12 March 2014
Checked by	Dr. Priscilla Choy		12 March 2014

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	140319
Date	19 March 2014 (Wednesday)
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	
140319-O04	• The discharged water quality should be improved in Portion 7.	A 5iii & A 5iv
	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	
140319-O01	• Oil stain should be cleared from the pavement in Portion 3.	E 7i
140319-O02	• Oil containers should be contained by drip trays in Portion 3 and 7.	E 7ii
140319-O03	• General refuse should be cleared regularly in Portion 7.	E 1i & E 1iii
	Part F - Permit / Licenses	
	• No environmental deficiency was identified during the site inspection.	
	Others	
	• Previous audit session (Ref. No. 140312), outstanding item of 140312-O01, 140312-O02 and 140312-O03 will be followed up during the next site inspection.	
	Remarks:	
	• N/A	

	Name	Signature	Date
Recorded by	Victor Wong		19 March 2014
Checked by	Dr. Priscilla Choy		19 March 2014

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	140325
Date	25 March 2014 (Tuesday)
Time	15:00-16:00

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

Ref. No.	Remarks/Observations	Related Item No.
	Part A - Water Quality	
140325-O02	• The mud outside the vehicle washing facility should be cleared regularly (Portion 7).	A 13
140325-O03	• Cloudy water is observed in the sedimentation tank. The Contractor is reminded to review the quality of the discharge water regularly (Portion 3 and 7).	A 5iii & 5 iv
	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	
140325-O01	• Oil containers should be contained by drip tray in Portion 7.	E 7ii
	Part F - Permit / Licenses	
	• No environmental deficiency was identified during the site inspection.	
	Others	
	• Previous audit session (Ref. No. 140319), outstanding items of 140319-O02 and 140319-O04 will be followed up during the next site inspection.	
	Remarks:	
	• N/A	

	Name	Signature	Date
Recorded by	Victor Wong		25 March 2014
Checked by	Dr. Priscilla Choy		25 March 2014

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DC/2009/19 Harbour Area Treatment Scheme Stage 2A
Upgrading Works at Stonecutters Island Sewage Treatment Works –
Sludge Handling and Disposal Facilities

Remarks / Recommendations for Contractor

Date of Site Audit: 07 Mar 2014

Observation and/or Recommended Measures:

1. The Contractor was reminded to remove the oil-stain at the Workshop Area of Nim Bay.
2. The Contractor was reminded to enhance the Dust Control Measures at the Workshop Area of Nim Bay.

Target Date of Completion: Immediately & Continuously.

Signatures:

ET's Representative	
Contractor's Representative	
SO's Representative	
IEC's Representative	

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DC/2009/19 Harbour Area Treatment Scheme Stage 2A
Upgrading Works at Stonecutters Island Sewage Treatment Works –
Sludge Handling and Disposal Facilities

Remarks / Recommendations for Contractor

Date of Site Audit: 13 Mar 2014

Observation and/or Recommended Measures:

1. The Contractor was reminded to clear the Oil stain for the Pier at SCISTW and the Workshop Area at Nim Bay.

2. The Contractor was reminded to maintain the U-Channel properly for the Workshop Area at Nim Bay.

Target Date of Completion: Immediately & Continuously

Signatures:

ET's Representative	
Contractor's Representative	
SO's Representative	
IEC's Representative	

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DC/2009/19 Harbour Area Treatment Scheme Stage 2A
Upgrading Works at Stonecutters Island Sewage Treatment Works –
Sludge Handling and Disposal Facilities

Remarks / Recommendations for Contractor

Date of Site Audit: 17 Mar 2014

Observation and/or Recommended Measures:

The Contractor was reminded to maintain the Container Handling Unit's engine properly at SCISTW.

Target Date of Completion: Immediately & Continuously

Signatures:

ET's Representative	
Contractor's Representative	
SO's Representative	(WILLIAM YU)
IEC's Representative	

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DC/2009/19 Harbour Area Treatment Scheme Stage 2A
Upgrading Works at Stonecutters Island Sewage Treatment Works –
Sludge Handling and Disposal Facilities

Remarks / Recommendations for Contractor

Date of Site Audit: 28 Mar 2014

Observation and/or Recommended Measures:

The Contractor was reminded to [redacted] enhance the house-keeping property at SCISTW and Nim Bay's Workshop Area.

Target Date of Completion: Immediately & Continuously

Signatures:

ET's Representative	
Contractor's Representative	
SO's Representative	
IEC's Representative	

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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 H IMPLEMENTATION SCHEDULE OF ENVIRONMENTAL MITIGATION MEASURES (EMIS)

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract				
			DC/2007/23	DC/2009/17	DC/2009/10	DC/2009/18	DC/2009/19
A	**Air Quality**						
3.74	Skip hoist for material transport should be totally enclosed by impervious sheeting.	All construction sites	^	^	^	^	N/A
	Vehicle washing facilities should be provided at every vehicle exit point.			^	^	^	N/A
	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.			^	^	^	N/A
	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	N/A
	Use of regular watering, with complete coverage, to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather.			^	^	^	N/A
	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.			*	^	^	N/A
	Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs			^	^	^	N/A
	Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.			^	^	^	N/A

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract				
			DC/2007/23	DC/2009/17	DC/2009/10	DC/2009/18	DC/2009/19
	Imposition of speed controls for vehicles on unpaved site roads. Ten kilometers per hour is the recommended limit.			^	^	^	N/A
	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.			^	^	^	N/A
	Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.			^	^	^	N/A
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		^	^	^	N/A
B	**Airborne Noise**						
4.56–4.61	Use of quiet PME, movable barriers and acoustic mats.	All construction sites	^	^	^	^	N/A
4.67	Only well-maintained plant shall be operated on-site and plant shall be serviced regularly during the construction program.		^	^	^	^	N/A
	Silencers or mufflers on construction equipment shall be utilized and shall be properly maintained during the construction program.		^	^	^	^	N/A
	Mobile plant, if any, shall be sited as far away from NSRs as possible.		^	^	^	^	N/A
	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.		^	^	^	^	N/A

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract				
			DC/2007/23	DC/2009/17	DC/2009/10	DC/2009/18	DC/2009/19
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.		^	^	^	^	N/A
	Material stockpiles and other structures shall be effectively utilized, wherever practicable, in screening noise from on-site construction activities.		^	^	^	^	N/A
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	^	^	^	*	N/A
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.		^	^	*	#	N/A

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract				
			DC/2007/23	DC/2009/17	DC/2009/10	DC/2009/18	DC/2009/19
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.		<>	*	#	*	N/A
6.378	Any service shop and maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.		^	^	^	^	N/A
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.		<>	^	^	^	N/A

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract				
			DC/2007/23	DC/2009/17	DC/2009/10	DC/2009/18	DC/2009/19
	• 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 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.	All construction sites	^	*	^	*	N/A

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract				
			DC/2007/23	DC/2009/17	DC/2009/10	DC/2009/18	DC/2009/19
	• Proper shoring may need to be erected in order to prevent soil/mud from slipping into the storm culvert or sea.						
D	**Waste Management**						
9.107	Reusable steel or concrete panel shutters, fencing and hoarding and signboard should be used as a preferred alternative to items made of wood, to minimize wastage of wood. Attention should be paid to WBTC No. 19/2001 - Metallic Site Hoardings and Signboards to reduce the amount of timber used on construction sites. Metallic alternatives to timber are readily available and should be used rather than new timber. Precast concrete units should be adopted wherever feasible to minimize the use of timber formwork.	All construction sites	^	^	^	^	N/A
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	^	^	^	^	N/A
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.			^	^	^	N/A

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract				
			DC/2007/23	DC/2009/17	DC/2009/10	DC/2009/18	DC/2009/19
	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.			^	^	^	N/A
	Any unused chemicals or those with remaining functional capacity shall be recycled.			^	^	^	N/A
	Proper storage and site practices to minimise the potential for damage or contamination of construction materials.			*	*	#	N/A
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.		<>	^	^	^	N/A
	Training of site personnel in proper waste management and chemical waste handling procedures.			^	^	^	N/A
	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.			^	^	^	N/A
	Provision of sufficient waste disposal points and regular collection of waste.			^	*	^	N/A
	Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.			^	^	^	N/A
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	All construction sites	N/A	N/A	^	^	N/A

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract				
			DC/2007/23	DC/2009/17	DC/2009/10	DC/2009/18	DC/2009/19
	Drainage"						
9.131	Adequate number of portable toilets at temporary works areas or the PTWs to ensure that sewage from site staff would be properly collected.		^	^	^	^	N/A
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.		^	^	^	*	N/A
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.		^	^	^	^	N/A
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,		^	^	^	*	N/A

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract				
			DC/2007/23	DC/2009/17	DC/2009/10	DC/2009/18	DC/2009/19
	etc. The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the approved Chemical Waste Treatment Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.						
9.142	Prior to excavation of the marine deposit layer, the deposit should be tested in accordance with the ETWB TC(W) No. 34/2002 and the results should be presented in a Preliminary Sediment Quality Report. The marine deposit should be disposed of at the disposal site designated by the Marine Fill Committee (MFC) or Director of Environmental Protection (DEP) depending on the test results.		^	N/A	N/A	N/A	N/A
E	**Terrestrial Ecology**						
10.94	To implement effective noise mitigation measures as recommended in Section 4 of EIA.	All construction sites	^	N/A	N/A	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.		^	^	^	^	N/A
10.96	Fences/hoardings should be erected and installed along the boundary of the works areas.		^	^	^	^	N/A
10.97	Standard good site practices as suggested in Section 10 of EIA should be implemented.		^	N/A	N/A	N/A	N/A

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract				
			DC/2007/23	DC/2009/17	DC/2009/10	DC/2009/18	DC/2009/19
10.98	Provision of proper drainage system and runoff control measures such as use of sand/silt traps, oil/grease separators, sedimentation tanks, etc.		^	^	^	^	N/A
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.			^	^	^	N/A
	Trees unavoidably affected by the works should be transplanted where practical.			^	^	^	N/A
	Compensatory tree planting should be provided to compensate for felled trees.			^	^	^	N/A
	Control of night-time lighting.			^	^	^	N/A
Table 13.7	Erection of decorative screen hoarding compatible with the surrounding setting.			N/A	N/A	N/A	N/A
G	**Marine Ecology**						
11.137	To minimize the potential indirect impacts on water quality from construction site runoff and various construction activities, the practices outlined in ProPECC PN 1/94 Construction Site Drainage should be adopted.	All construction sites	^	^	^	^	N/A
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	^	^	^	^	N/A

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract				
			DC/2007/23	DC/2009/17	DC/2009/10	DC/2009/18	DC/2009/19
I	**Cultural Heritage**						
Tables 15.8 - 15.11	The construction vibration control limit (ppv of 25mm/s) shall be strictly followed.	Identified historical buildings/structures as mentioned in EM&A Manual Tables 15.8, 15.9, 15.10 and 15.11	NA. Vibration monitoring has not been launched during the reporting period	N/A	N/A	^	N/A

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;
	#	Recommendation was made during site audit and to be improved / rectified by the contractor.

APPENDIX K
COMPLAINT LOG

APPENDIX K – COMPLAINT LOG

Reporting Month: March 2014

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

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

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Early Bar
Progress Bar
Critical Activity

WPU7 Sheet 1 of 1

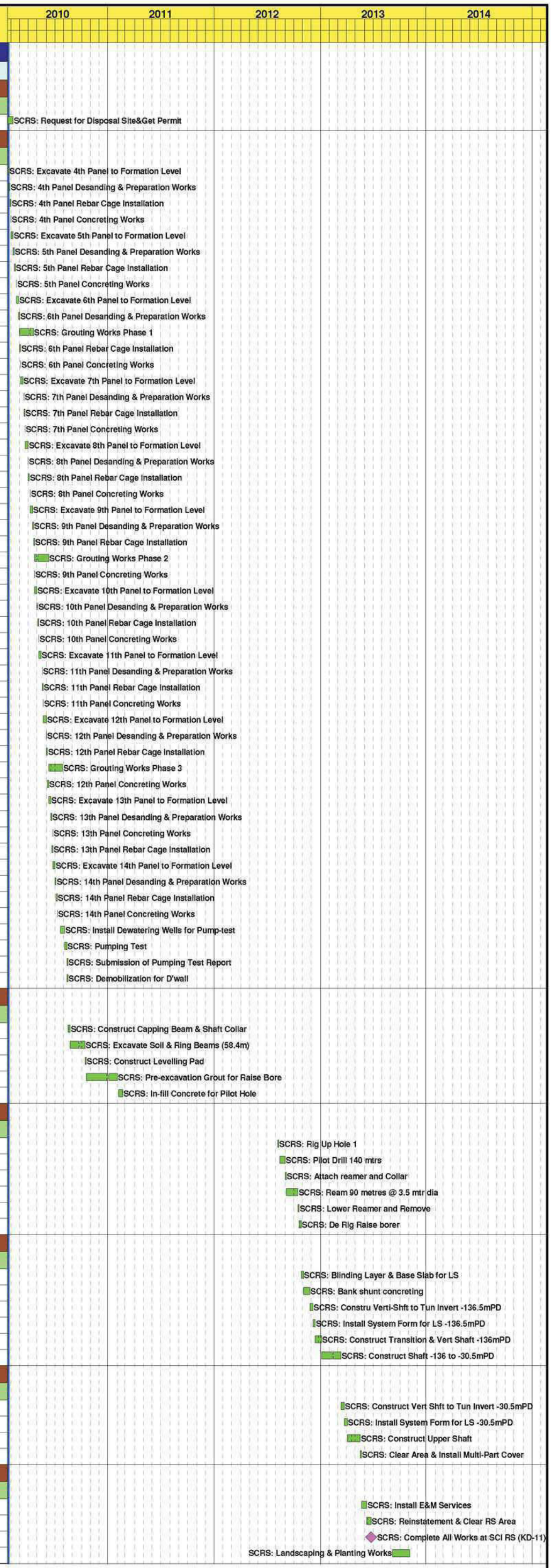
Habour Area Treatment Scheme Stage 2A
Contract No. DC/2007/23 - Construction of Sewage Conveyance from North Point to Stonecutters Island
Programme

Annex G8 Construction Programme for the Project

Gammon

Date	Revision	Checked	Approved

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



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

Early Bar
Progress Bar
Critical Activity

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WPU7 Sheet 1 of 2

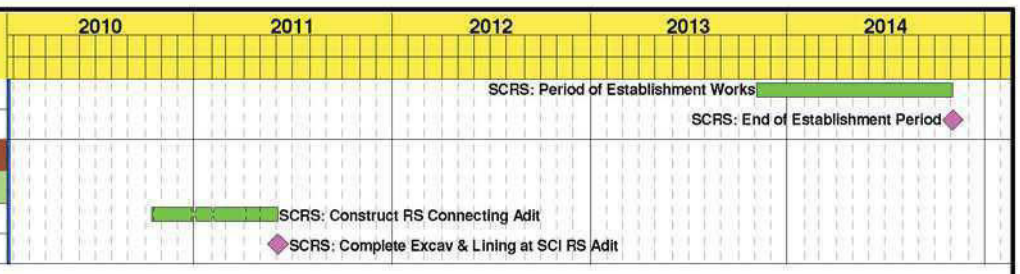
Habour Area Treatment Scheme Stage 2A
Contract No. DC/2007/23 - Construction of Sewage Conveyance from North Point to Stonecutters Island Programme

Annex G8 Construction Programme for the Project

Gammon

Date	Revision	Checked	Approved

Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	% Comp
SCRS2060	SCRS: Period of Establishment Works	360	07NOV13	01NOV14	0
SCRS2070	SCRS: End of Establishment Period	0		01NOV14	0
Connecting Adit					
SCRS2040	SCRS: Construct RS Connecting Adit	192	14OCT10	03JUN11	0
SCRS2050	SCRS: Complete Excav & Lining at SCI RS Adit	0		03JUN11	0



Start Date	31JUL09
Finish Date	15JAN15
Data Date	20JAN10
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Early Bar
Progress Bar
Critical Activity

WPU7 Sheet 2 of 2

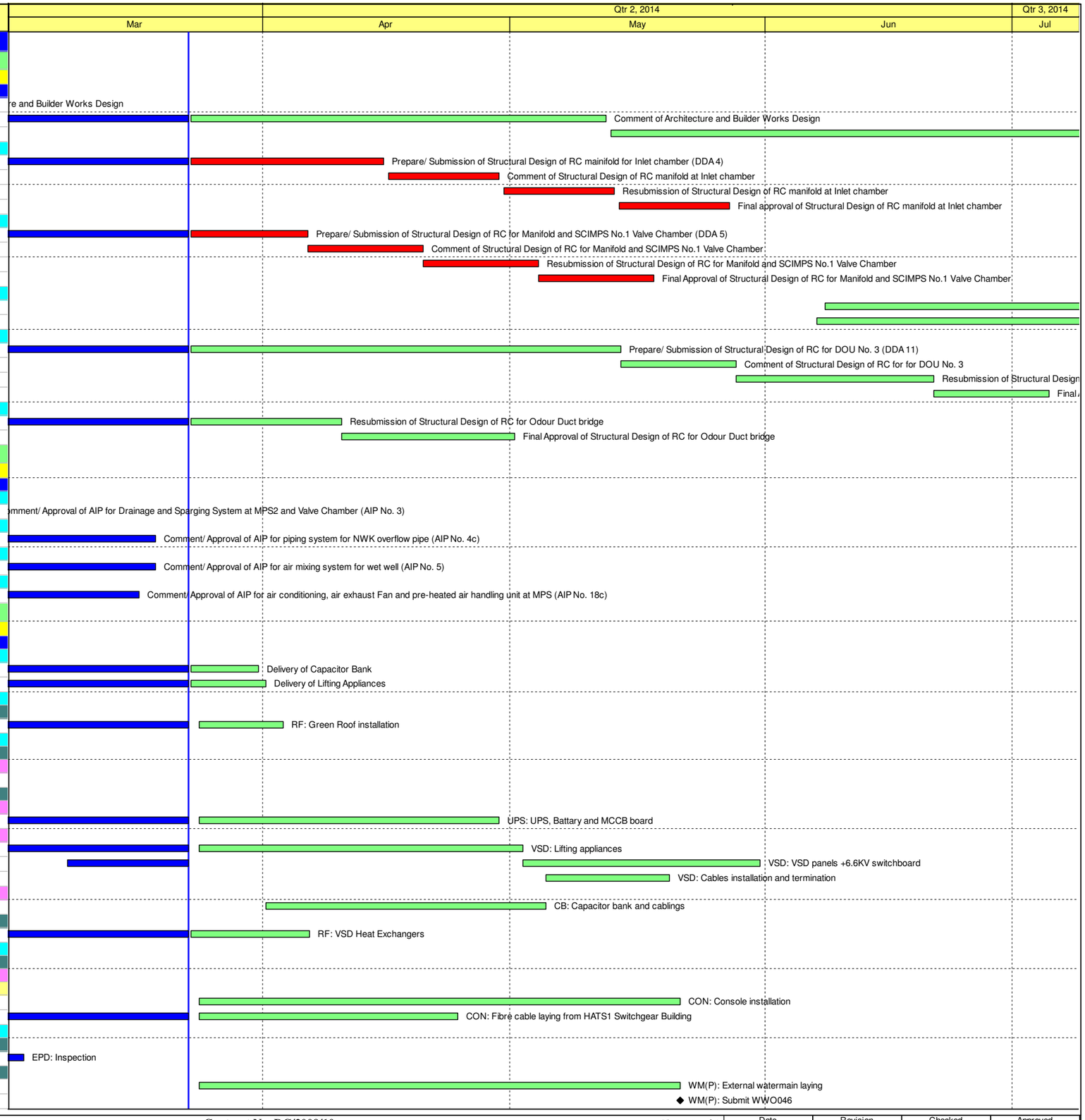
Habour Area Treatment Scheme Stage 2A
Contract No. DC/2007/23 - Construction of Sewage Conveyance from North Point to Stonecutters Island
Programme

Annex G8 Construction Programme for the Project

Gammon

Date	Revision	Checked	Approved

Activity ID	Activity Name	Original Duration	Total Float	Activity % Complete	Start	Finish
C10TGP05UTGP						
Civil and Geotechnical Submission						
Contractor Design, Submission and Approval						
Detailed Design Approval (DDA) Submission for Structural/ Builder Works						
CCD00250	Prepare/ Submission of Architecture and Builder Works Design	180		100%	16-Aug-2013 A	11-Feb-2014 A
CCD00260	Comment of Architecture and Builder Works Design	90	111	43.33%	12-Feb-2014 A	12-May-2014
CCD00270	Resubmission of Architecture and Builder Works Design	90	111	0%	13-May-2014	10-Aug-2014
DDA4 (SCIMPS2 and Inlet Chamber)						
CCD00165	Prepare/ Submission of Structural Design of RC mainifold for In	160	-53	85%	23-Dec-2012 A	15-Apr-2014
CCD00175	Comment of Structural Design of RC manifold at Inlet chamber	14	-53	0%	16-Apr-2014	29-Apr-2014
CCD00185	Resubmission of Structural Design of RC manifold at Inlet chan	14	-53	0%	30-Apr-2014	13-May-2014
CCD00215	Final approval of Structural Design of RC manifold at Inlet chan	14	-53	0%	14-May-2014	27-May-2014
DDA5 (SCIMPS No. 1 Valve Chamber)						
CCD00131	Prepare/ Submission of Structural Design of RC for Manifold ar	180	-88	92%	01-Dec-2011 A	06-Apr-2014
CCD00132	Comment of Structural Design of RC for Manifold and SCIMPS	14	-88	0%	06-Apr-2014	20-Apr-2014
CCD00133	Resubmission of Structural Design of RC for Manifold and SCII	14	-88	0%	20-Apr-2014	04-May-2014
CCD00134	Final Approval of Structural Design of RC for Manifold and SCIM	14	-88	0%	04-May-2014	18-May-2014
DDA10 (Polymer Bldg)						
CCD00171	Prepare/ Submission of Structural Design of RC for Polymer Bl	120	168	0%	08-Jun-2014	05-Oct-2014
CCD00410	Prepare/ Submission of Geotechnical Design review of Structu	70	139	0%	07-Jun-2014	15-Aug-2014
DDA11 (DOU No. 3 and DOU No. 1b)						
CCD00205	Prepare/ Submission of Structural Design of RC for DOU No. 3	175	45	70%	08-Jun-2012 A	14-May-2014
CCD00221	Comment of Structural Design of RC for for DOU No. 3	14	45	0%	14-May-2014	28-May-2014
CCD00222	Resubmission of Structural Design of RC for DOU No. 3	24	45	0%	28-May-2014	21-Jun-2014
CCD00223	Final Approval of Structural Design of RC for DOU No. 3	14	45	0%	21-Jun-2014	05-Jul-2014
DDA12 (Odour Duct Bridge)						
CCD00183	Resubmission of Structural Design of RC for Odour Duct bridge	75	82	75%	25-Feb-2013 A	10-Apr-2014
CCD00184	Final Approval of Structural Design of RC for Odour Duct bridge	21	82	0%	10-Apr-2014	01-May-2014
Electrical & Mechanical Equipment Submission						
Contractor Design, Submission and Approval						
Aproved In-princple (AIP) Submission						
AIP No. 3 - Drainage and Sparging System at Wet Well						
ECD00050	Comment/ Approval of AIP for Drainage and Sparging System a	107		100%	17-Apr-2012 A	27-Feb-2014 A
AIP No. 4 - Piping system for recirculation and centrate flow/ NWK overflow pipe						
ECD00059	Comment/ Approval of AIP for piping system for NWK overflow	309		100%	28-Mar-2012 A	19-Mar-2014 A
AIP No. 5 - Air mixing System for Wet Well						
ECD00055	Comment/ Approval of AIP for air mixing system for wet well (Al	335		100%	31-Mar-2012 A	19-Mar-2014 A
AIP No. 18 - Ventilation System of MPS, valve chamber and Switchgear bldg						
ECD00450	Comment/ Approval of AIP for air conditioning, air exhaust Fan a	330		100%	05-Apr-2012 A	17-Mar-2014 A
Infrastructure Construction Works						
Works for Section 2						
Portion 4 (Switchgear Building)						
Procurement/ Order/ Manufacturing/ Delivery						
P402123	Delivery of Capacitor Bank	28	162	70%	13-Oct-2013 A	31-Mar-2014
P402180	Delivery of Lifting Appliances	14	111	35%	01-Jan-2014 A	01-Apr-2014
Builder and finishes Works						
Roof Floor						
P405310	RF: Green Roof installation	24	150	60%	16-Jan-2014 A	03-Apr-2014
Electrical and Mechainical Installation						
Ground Floor						
Emergency Generator Room						
P904035	GEN: Fuel tank Installation	30		100%	02-Jan-2014 A	08-Feb-2014 A
First Floor						
UPS & MCCB board room						
P904120	UPS: UPS, Battary and MCCB board	40	132	30%	02-Nov-2013 A	29-Apr-2014
VSD Room 1 - 4						
P904110	VSD: Lifting appliances	35	65	15%	23-Jan-2014 A	02-May-2014
P904115	VSD: VSD panels +6.6KV switchboard	36	65	35%	08-Mar-2014 A	31-May-2014
P904116	VSD: Cables installation and termination	12	117	0%	05-May-2014	20-May-2014
Capacitor Bank Room						
P904000	CB: Capacitor bank and cablings	24	129	0%	01-Apr-2014	05-May-2014
Roof Floor						
P410020	RF: VSD Heat Exchangers	60	75	75%	03-Jan-2014 A	06-Apr-2014
Instrumentation and Control Automation (ICA) installation						
Hardware Installation at New Switchgear Building						
First Floor						
Control Room						
P42000	CON: Console installation	45	91	0%	24-Mar-2014	21-May-2014
P42001	CON: Fibre cable laying from HATS1 Switchgear Building	60	112	60%	14-May-2013 A	24-Apr-2014
Statutory Submission and Inspection						
Environmental Protection Department (EPD)						
P451070	EPD: Inspection	4		100%	02-Jan-2014 A	03-Mar-2014 A
Water Supply Department (WSD)						
P449030	WM(P): External watermain laying	45	140	0%	24-Mar-2014	21-May-2014
P449040	WM(P): Submit WWO046	0	169	0%		21-May-2014



Actual Work
Remaining Work
Critical Remaining Work
◆ Milestone

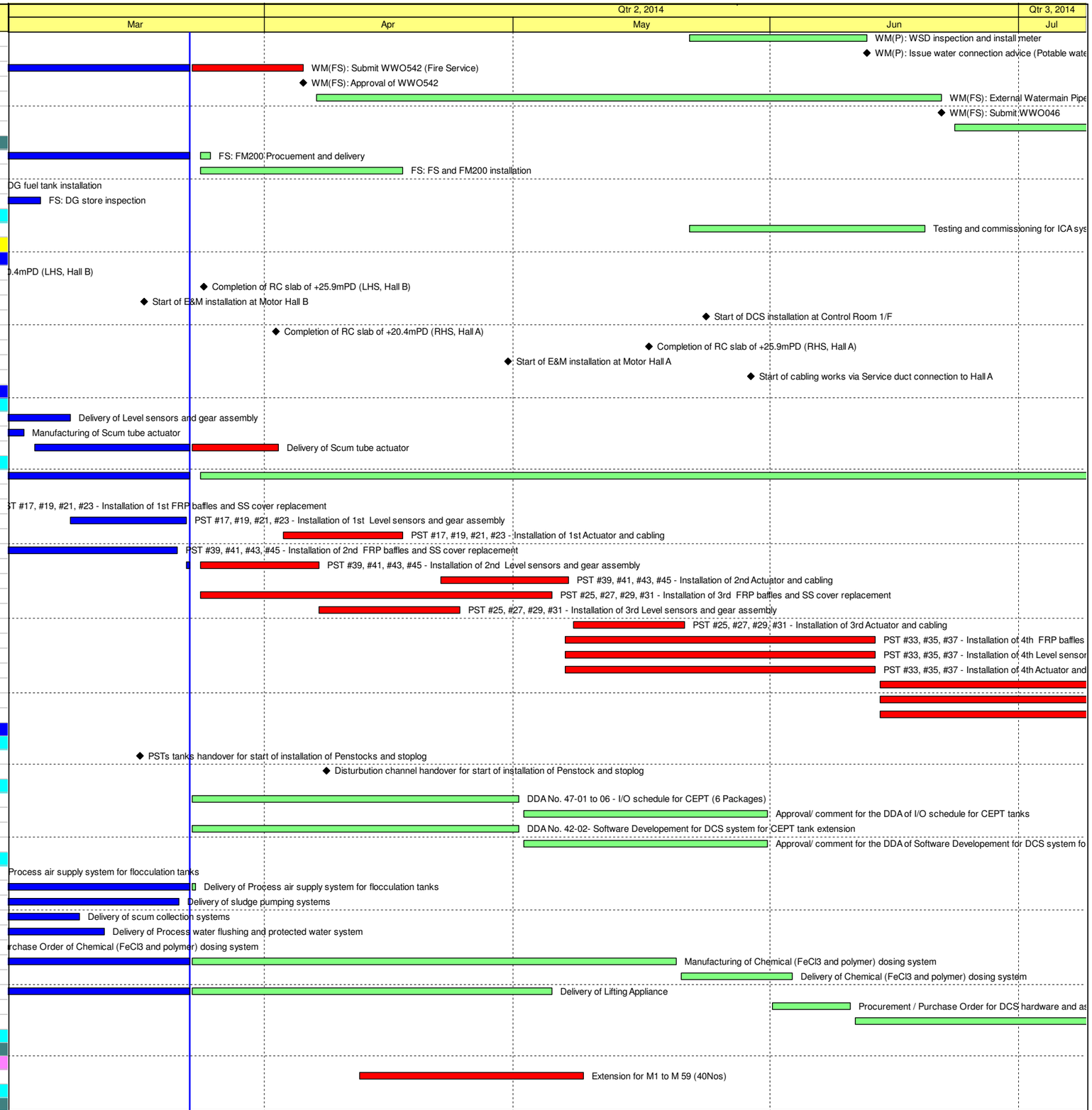
Contract No. DC/2009/10

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

Three Months Rolling Programme (24 Mar 2014 to 24 June 2014)

Date	Revision	Checked	Approved

Activity ID	Activity Name	Original Duration	Total Float	Activity % Complete	Start	Finish
P449050	WM(P): WSD inspection and install meter	18	140	0%	22-May-2014	12-Jun-2014
P449060	WM(P): Issue water connection advice (Potable water and Irrig	0	168	0%		12-Jun-2014
P451000	WM(FS): Submit WWO542 (Fire Service)	60	-42	76.67%	05-Feb-2014 A	05-Apr-2014
P451010	WM(FS): Approval of WWO542	0	-42	0%		05-Apr-2014
P451020	WM(FS): External Watermain Pipe laying	60	54	0%	07-Apr-2014	21-Jun-2014
P451030	WM(FS): Submit WWO046	0	54	0%		21-Jun-2014
P451040	WM(FS): WSD inspection and install meter	30	54	0%	23-Jun-2014	28-Jul-2014
Fire Service Department (FSD)						
P440035	FS: FM200 Procuement and delivery	100	187	98.5%	21-Nov-2013 A	25-Mar-2014
P440040	FS: FS and FM200 installation	21	182	0%	24-Mar-2014	17-Apr-2014
P440047	FS: DG fuel tank installation	21		100%	20-Jan-2014 A	26-Feb-2014 A
P440048	FS: DG store inspection	3		100%	27-Feb-2014 A	05-Mar-2014 A
Testing and Commissioning						
P400200	Testing and commissioning for ICA system in SGB Control roor	24	91	0%	22-May-2014	19-Jun-2014
Works for Section 3						
Key Date for Completion of Section 3						
S3KD0010	Completion of RC slab of +20.4mPD (LHS, Hall B)	0		100%		14-Feb-2014 A
S3KD0015	Completion of RC slab of +25.9mPD (LHS, Hall B)	0	1217	0%		24-Mar-2014
S3KD0020	Start of E&M installation at Motor Hall B	0		100%	17-Mar-2014 A	
S3KD0026	Start of DCS installation at Control Room 1/F	0	1157	0%	24-May-2014	
S3KD0030	Completion of RC slab of +20.4mPD (RHS, Hall A)	0	1209	0%		02-Apr-2014
S3KD0035	Completion of RC slab of +25.9mPD (RHS, Hall A)	0	1164	0%		17-May-2014
S3KD0040	Start of E&M installation at Motor Hall A	0	1181	0%	30-Apr-2014	
S3KD0050	Start of cabling works via Service duct connection to Hall A	0	1151	0%	29-May-2014	
Portion 1 (Existing CEPT tanks)						
Procurement/ Order/ Manufacturing/ Delivery						
P106130	Delivery of Level sensors and gear assembly	30		100%	06-Feb-2014 A	08-Mar-2014 A
P906380	Manufacturing of Scum tube actuator	180		100%	03-Apr-2013 A	03-Mar-2014 A
P906390	Delivery of Scum tube actuator	30	-69	63.33%	04-Mar-2014 A	02-Apr-2014
Electrical and Mechanical Installation						
P106170	PST #9 to #46 - Power upgrading for sump pump replacement	180	74	21.15%	06-Feb-2014 A	15-Sep-2014
P106173	PST #9 to #46 - Modification of sump transfer piping	180	-54	0%	16-Jul-2014	17-Feb-2015
P106175	PST #17, #19, #21, #23 - Installation of 1st FRP baffles and SS	32		100%	04-Nov-2013 A	27-Feb-2014 A
P106185	PST #17, #19, #21, #23 - Installation of 1st Level sensors and	12		100%	08-Mar-2014 A	22-Mar-2014 A
P106190	PST #17, #19, #21, #23 - Installation of 1st Actuator and cablin	12	-56	0%	03-Apr-2014	17-Apr-2014
P106205	PST #39, #41, #43, #45 - Installation of 2nd FRP baffles and S	32		100%	12-Feb-2014 A	21-Mar-2014 A
P106210	PST #39, #41, #43, #45 - Installation of 2nd Level sensors and	12	-35	0.62%	22-Mar-2014 A	07-Apr-2014
P106220	PST #39, #41, #43, #45 - Installation of 2nd Actuator and cablin	12	-56	0%	22-Apr-2014	07-May-2014
P106235	PST #25, #27, #29, #31 - Installation of 3rd FRP baffles and SS	32	-40	0%	24-Mar-2014	05-May-2014
P106240	PST #25, #27, #29, #31 - Installation of 3rd Level sensors and s	12	-35	0%	07-Apr-2014	24-Apr-2014
P106250	PST #25, #27, #29, #31 - Installation of 3rd Actuator and cablin	12	-56	0%	08-May-2014	21-May-2014
P106265	PST #33, #35, #37 - Installation of 4th FRP baffles and SS cov	32	-40	0%	07-May-2014	13-Jun-2014
P106270	PST #33, #35, #37 - Installation of 4th Level sensors and gear a	32	-40	0%	07-May-2014	13-Jun-2014
P106280	PST #33, #35, #37 - Installation of 4th Actuator and cabling	32	-40	0%	07-May-2014	13-Jun-2014
P905785	PST #9, #11, #13, #15 - Installation of 5th FRP baffles and SS	32	-40	0%	14-Jun-2014	22-Jul-2014
P905790	PST #9, #11, #13, #15 - Installation of 5th Level sensors and ge	32	-40	0%	14-Jun-2014	22-Jul-2014
P905800	PST #9, #11, #13, #15 - Installation of 5th Actuator and cabling	32	-40	0%	14-Jun-2014	22-Jul-2014
Portion 3 (Extension of CEPT Tank)						
Interface between Civil/ ABWF/ E&M works (CEPT tanks)						
CEPT010	PSTs tanks handover for start of installation of Penstocks and s	0		100%		17-Mar-2014 A
CEPT030	Disturbution channel handover for start of installation of Pensto	0	175	0%		08-Apr-2014
Submission of design of E&M works						
P906030	DDA No. 47-01 to 06 - I/O schedule for CEPT (6 Packages)	40	46	0%	23-Mar-2014	01-May-2014
P906040	Approval/ comment for the DDA of I/O schedule for CEPT tanks	30	46	0%	02-May-2014	31-May-2014
P906050	DDA No. 42-02- Software Developement for DCS system for C	40	46	0%	23-Mar-2014	01-May-2014
P906060	Approval/ comment for the DDA of Software Developement for I	30	46	0%	02-May-2014	31-May-2014
Procurement/ Order/ Manufacturing/ Delivery						
P301690	Manufacturing of Process air supply system for flocculation tan	300		100%	26-Apr-2013 A	19-Feb-2014 A
P301700	Delivery of Process air supply system for flocculation tanks	32	165	96.88%	20-Feb-2014 A	23-Mar-2014
P301730	Delivery of sludge pumping systems	45		100%	05-Feb-2014 A	21-Mar-2014 A
P301733	Delivery of scum collection systems	33		100%	05-Feb-2014 A	09-Mar-2014 A
P301760	Delivery of Process water flushing and protected water system	36		100%	05-Feb-2014 A	12-Mar-2014 A
P301800	Procurement / Purchase Order of Chemical (FeCl3 and polyme	28		100%	23-Jan-2014 A	19-Feb-2014 A
P301810	Manufacturing of Chemical (FeCl3 and polymer) dosing system	90	15	34.44%	20-Feb-2014 A	20-May-2014
P301820	Delivery of Chemical (FeCl3 and polymer) dosing system	14	15	0%	21-May-2014	03-Jun-2014
P301850	Delivery of Lifting Appliance	90	64	51.11%	05-Feb-2014 A	05-May-2014
P906190	Procurement / Purchase Order for DCS hardware and associa	10	46	0%	01-Jun-2014	10-Jun-2014
P906200	Manufacturing of DCS hardware and associated equipment (In	60	46	0%	11-Jun-2014	09-Aug-2014
Foundation Works						
Extension/ trimming of Existing Daido Piles						
Row M						
P902600	Extension for M1 to M 59 (40Nos)	18	-38	0%	12-Apr-2014	09-May-2014
Excavation and Lateral Support for Substructure						
Cofferdam No. 2 (GL34-36, A)						



Actual Work
Remaining Work
Critical Remaining Work
◆ Milestone

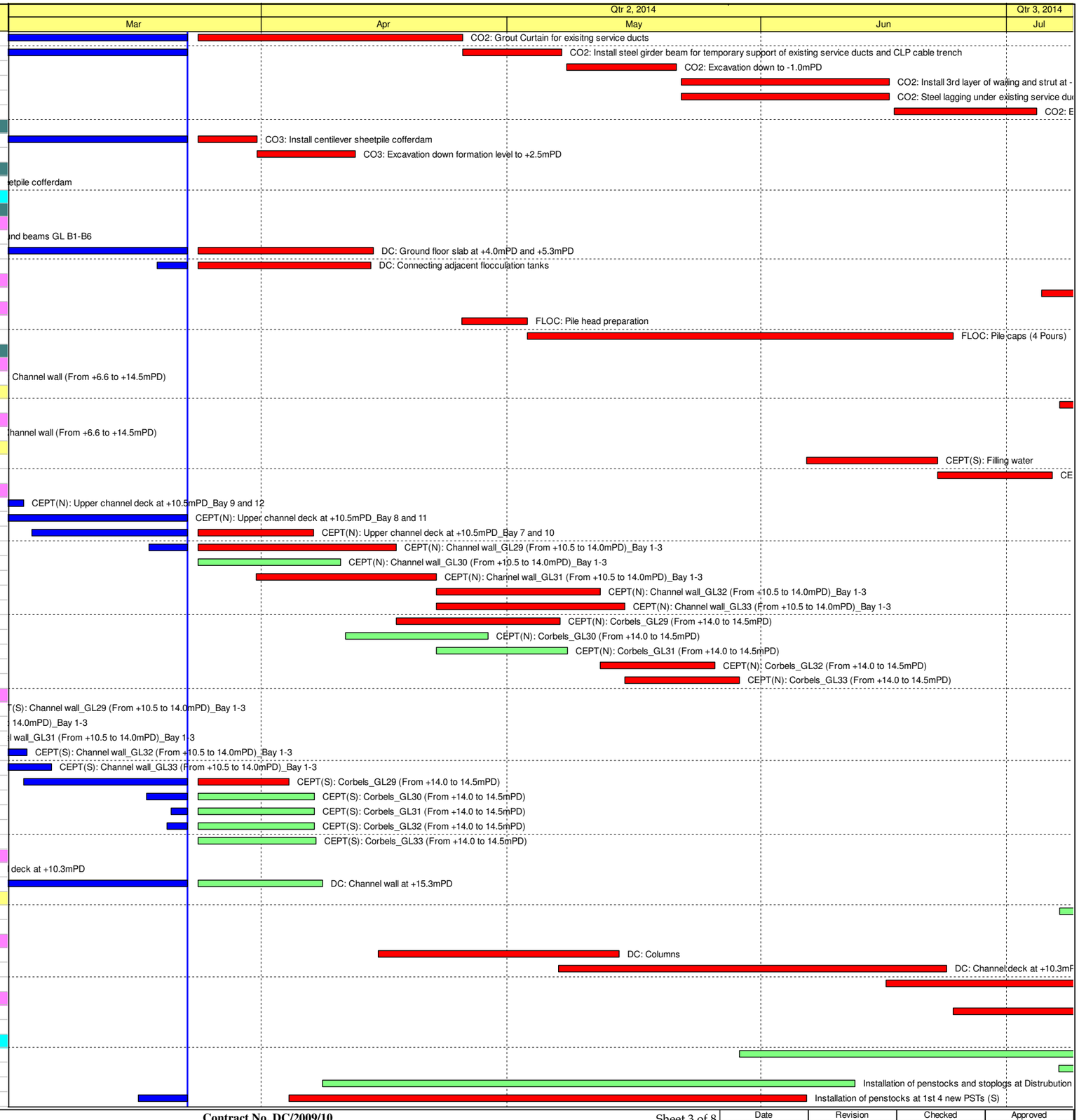
Contract No. DC/2009/10

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

Three Months Rolling Programme (24 Mar 2014 to 24 June 2014)

Date	Revision	Checked	Approved

Activity ID	Activity Name	Original Duration	Total Float	Activity % Complete	Start	Finish
P904290	CO2: Grout Curtain for exisitng service ducts	45	-81	45%	15-Apr-2013 A	25-Apr-2014
P904300	CO2: Install steel girder beam for temporary support of existing	15	-81	45%	06-Sep-2013 A	07-May-2014
P904360	CO2: Excavation down to -1.0mPD	12	-81	0%	08-May-2014	21-May-2014
P904370	CO2: Install 3rd layer of wailing and strut at -1.5mPD	21	-81	0%	22-May-2014	16-Jun-2014
P904380	CO2: Steel lagging under existing service ducts	21	-81	0%	22-May-2014	16-Jun-2014
P904390	CO2: Excavation down to final excavation level -3.4mPD	15	-81	0%	17-Jun-2014	04-Jul-2014
Cofferdam No. 3 (GL33-38, B1)						
P322400	CO3: Install centilever sheetpile cofferdam	12	-38	45%	20-Feb-2014 A	31-Mar-2014
P322430	CO3: Excavation down formation level to +2.5mPD	10	-38	0%	31-Mar-2014	12-Apr-2014
Cofferdam No. 4 (GL33-38, B3-B6)						
P322340	CO4: Removal sheetpile cofferdam	10		100%	20-Jan-2014 A	19-Feb-2014 A
R.C. Works						
Substructure						
GL 33-38 & GL B1-B9 (Disturbution Channel)						
P334012	DC: Backfilling for pile caps and ground beams GL B1-B6	14		100%	21-Jan-2014 A	10-Feb-2014 A
P334019	DC: Ground floor slab at +4.0mPD and +5.3mPD	24	-5	25%	11-Feb-2014 A	14-Apr-2014
P334030	DC: Connecting adjacent flocculation tanks	18	-4	5%	19-Mar-2014 A	14-Apr-2014
GL 34-37 & GL A-B (Flocculation tanks connecting to MFC)						
P332500	FLOC: Base slab at -3.0mPD	18	-81	0%	05-Jul-2014	25-Jul-2014
GL 33-38 & GL B-C (Flocculation tanks)						
P332521	FLOC: Pile head preparation	6	-38	0%	25-Apr-2014	03-May-2014
P332522	FLOC: Pile caps (4 Pours)	42	-38	0%	03-May-2014	24-Jun-2014
Superstructure						
GL33-29 & GL A-B (Northern Effluent Curlvert)						
P330040	NEC: Channel wall (From +6.6 to +14.5mPD)	55		100%	17-Dec-2013 A	25-Feb-2014 A
Preloading (Northern CEPT tanks)						
P3302[illegible]	CEPT(N): Filling water	16	-49	0%	07-Jul-2014	23-Jul-2014
GL33-29 & GL M-N (Southern Effluent Culvert)						
P330115	SEC: Channel wall (From +6.6 to +14.5mPD)	55		100%	16-Dec-2013 A	24-Feb-2014 A
Preloading (Southern CEPT tanks)						
P30061	CEPT(S): Filling water	16	-59	0%	06-Jun-2014	22-Jun-2014
P30062	CEPT (S): Settlement monitoring	14	-59	0%	22-Jun-2014	06-Jul-2014
GL 33-29 & GL B-D (Northern CEPT tanks)						
P330231	CEPT(N): Upper channel deck at +10.5mPD_Bay 9 and 12	28		100%	07-Feb-2014 A	03-Mar-2014 A
P330232	CEPT(N): Upper channel deck at +10.5mPD_Bay 8 and 11	28		100%	30-Jan-2014 A	23-Mar-2014 A
P330233	CEPT(N): Upper channel deck at +10.5mPD_Bay 7 and 10	28	-9	60%	04-Mar-2014 A	07-Apr-2014
P330239	CEPT(N): Channel wall_GL29 (From +10.5 to 14.0mPD)_Bay 1	24	-40	15%	18-Mar-2014 A	17-Apr-2014
P330240	CEPT(N): Channel wall_GL30 (From +10.5 to 14.0mPD)_Bay 1	15	15	0%	24-Mar-2014	10-Apr-2014
P330241	CEPT(N): Channel wall_GL31 (From +10.5 to 14.0mPD)_Bay 1	15	-9	0%	31-Mar-2014	22-Apr-2014
P330243	CEPT(N): Channel wall_GL32 (From +10.5 to 14.0mPD)_Bay 1	15	-6	0%	22-Apr-2014	12-May-2014
P330253	CEPT(N): Channel wall_GL33 (From +10.5 to 14.0mPD)_Bay 1	18	-9	0%	22-Apr-2014	15-May-2014
P330254	CEPT(N): Corbels_GL29 (From +14.0 to 14.5mPD)	12	-40	0%	17-Apr-2014	07-May-2014
P330256	CEPT(N): Corbels_GL30 (From +14.0 to 14.5mPD)	12	15	0%	11-Apr-2014	28-Apr-2014
P330257	CEPT(N): Corbels_GL31 (From +14.0 to 14.5mPD)	12	9	0%	22-Apr-2014	08-May-2014
P330258	CEPT(N): Corbels_GL32 (From +14.0 to 14.5mPD)	12	-6	0%	12-May-2014	26-May-2014
P330260	CEPT(N): Corbels_GL33 (From +14.0 to 14.5mPD)	12	-9	0%	15-May-2014	29-May-2014
GL 33-29 & GL M-K (Southern CEPT tanks)						
P300587	CEPT(S): Channel wall_GL29 (From +10.5 to 14.0mPD)_Bay 1	18		100%	05-Feb-2014 A	25-Feb-2014 A
P300590	CEPT(S): Channel wall_GL30 (From +10.5 to 14.0mPD)_Bay 1	15		100%	16-Jan-2014 A	06-Feb-2014 A
P300593	CEPT(S): Channel wall_GL31 (From +10.5 to 14.0mPD)_Bay 1	15		100%	29-Jan-2014 A	19-Feb-2014 A
P300596	CEPT(S): Channel wall_GL32 (From +10.5 to 14.0mPD)_Bay 1	15		100%	13-Feb-2014 A	03-Mar-2014 A
P300599	CEPT(S): Channel wall_GL33 (From +10.5 to 14.0mPD)_Bay 1	18		100%	13-Feb-2014 A	06-Mar-2014 A
P300602	CEPT(S): Corbels_GL29 (From +14.0 to 14.5mPD)	12	-45	15%	03-Mar-2014 A	04-Apr-2014
P300605	CEPT(S): Corbels_GL30 (From +14.0 to 14.5mPD)	12	2	5%	18-Mar-2014 A	07-Apr-2014
P300608	CEPT(S): Corbels_GL31 (From +14.0 to 14.5mPD)	12	2	5%	21-Mar-2014 A	07-Apr-2014
P300611	CEPT(S): Corbels_GL32 (From +14.0 to 14.5mPD)	12	2	5%	20-Mar-2014 A	07-Apr-2014
P300614	CEPT(S): Corbels_GL33 (From +14.0 to 14.5mPD)	12	1	0%	24-Mar-2014	07-Apr-2014
GL 33-29 & GL D-K (Disturbution Channel)						
P330300	DC: Channel deck at +10.3mPD	30		100%	03-Jan-2014 A	22-Feb-2014 A
P330310	DC: Channel wall at +15.3mPD	18	50	30%	24-Feb-2014 A	08-Apr-2014
Preloading (Disturbution Channel)						
P33036	DC: Filling water	10	77	0%	07-Jul-2014	18-Jul-2014
P33039	DC: Settlement Monitoring	10	94	0%	18-Jul-2014	28-Jul-2014
GL 33-38 & GL C-E (Disturbution Channel)						
P330320	DC: Columns	21	-5	0%	15-Apr-2014	14-May-2014
P330330	DC: Channel deck at +10.3mPD	40	-5	0%	07-May-2014	23-Jun-2014
P330340	DC: Channel Curve wall at +15.3mPD	40	-5	0%	16-Jun-2014	01-Aug-2014
GL 33-38 & GL B-C (Flocculation tanks)						
P330375	FLOC: Wall up to +9.0mPD	15	-38	0%	24-Jun-2014	12-Jul-2014
P330376	FLOC: Wall up to +13.0mPD	15	-38	0%	12-Jul-2014	30-Jul-2014
Electrical and Machainical Installation						
P300460	Installatiion of Process water flushing and protected water syst	35	31	0%	29-May-2014	11-Jul-2014
P300470	Installatiion of Process water flushing and protected water syst	35	31	0%	07-Jul-2014	16-Aug-2014
P300500	Installation of penstocks and stoplogs at Distrubution channels	50	141	0%	08-Apr-2014	12-Jun-2014
P300520	Installation of penstocks at 1st 4 new PSTs (S)	50	-45	5%	17-Mar-2014 A	06-Jun-2014



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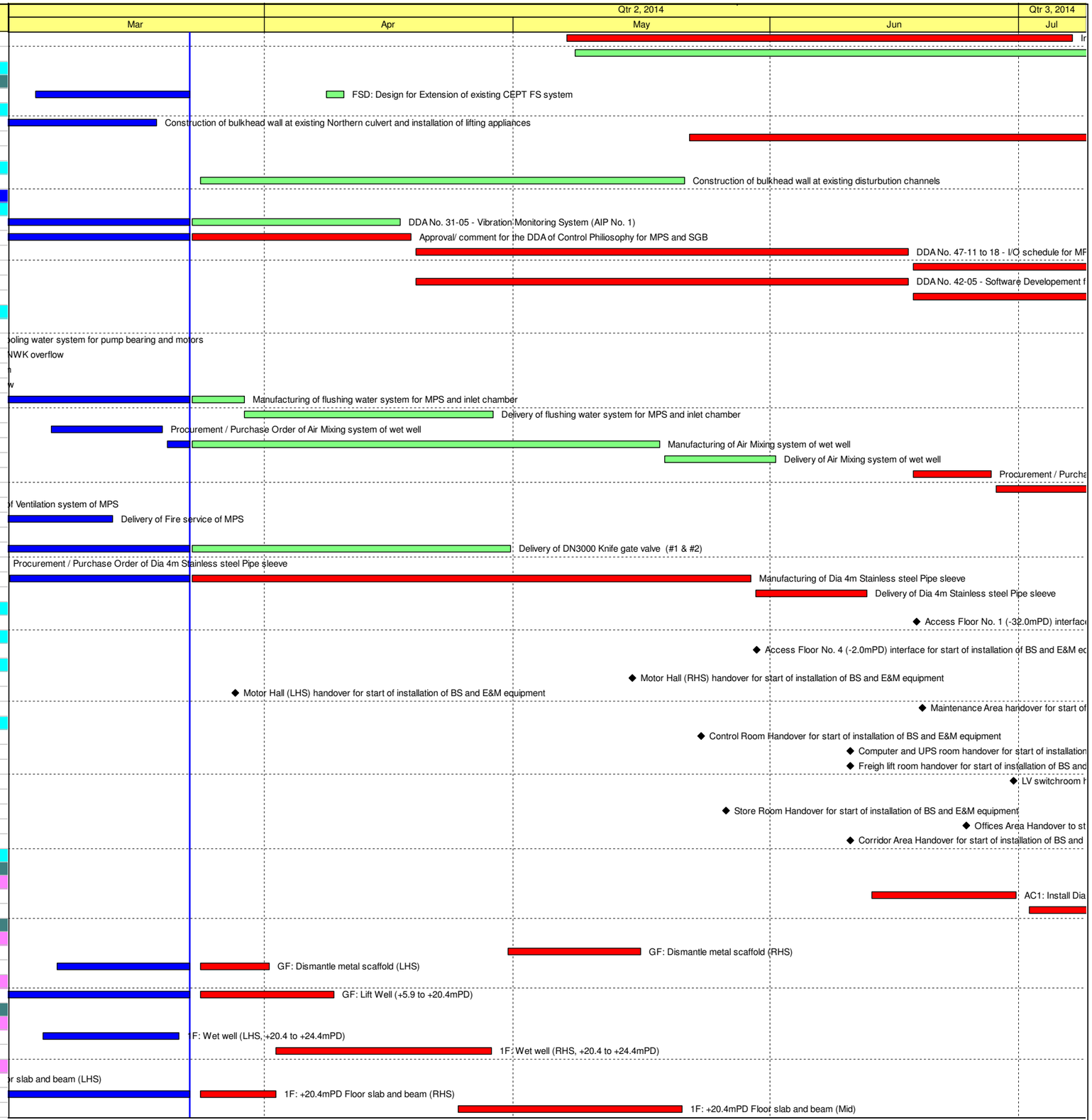
HATS Stage 2A - Upgrading works at StoneCutters Island Sewage Treatement Works

Three Months Rolling Programme (24 Mar 2014 to 24 June 2014)

Date	Revision	Checked	Approved

Activity ID	Activity Name	Original Duration	Total Float	Activity % Complete	Start	Finish
P300530	Installation of penstocks at 2nd 4 new PSTs (N)	50	-40	0%	07-May-2014	07-Jul-2014
P300620	Installation of Lifting appliance	120	50	0%	08-May-2014	29-Sep-2014
Statutory Submission and Inspection						
Fire Service Department						
P304000	FSD: Design for Extension of existing CEPT FS system	21	211	89.52%	04-Mar-2014 A	10-Apr-2014
Effluent Culvert Connection works						
P300280	Construction of bulkhead wall at existing Northern culvert and ir	45		100%	29-Jan-2014 A	19-Mar-2014 A
P300377	Construction of bulkhead wall at existing Southern culvert and ii	45	-56	0%	22-May-2014	15-Jul-2014
P300380	Connection of Effluent Culvert at Southern CEPT tanks	14	-68	0%	15-Jul-2014	29-Jul-2014
Disturbution Channel Connection works						
P904935	Construction of bulkhead wall at existing disturbution channels	45	133	0%	24-Mar-2014	21-May-2014
Portion 4 (Main Pumping Station)						
Submission of design of E&M works						
P301108	DDA No. 31-05 - Vibration Monitoring System (AIP No. 1)	210	175	88%	28-Apr-2012 A	17-Apr-2014
P301330	Approval/ comment for the DDA of Control Philiosophy for MPS	90	-126	70%	30-Sep-2013 A	18-Apr-2014
P301340	DDA No. 47-11 to 18 - I/O schedule for MPS and SGB	60	-126	0%	19-Apr-2014	17-Jun-2014
P301350	Approval/ comment for the DDA of I/O schedule for MPS and S	45	-126	0%	18-Jun-2014	01-Aug-2014
P301360	DDA No. 42-05 - Software Developement for DCS system for S	60	-126	0%	19-Apr-2014	17-Jun-2014
P301370	Approval/ Comment for the DDA of Software Developement for	45	-126	0%	18-Jun-2014	01-Aug-2014
Procurement/ Order/ Manufacturing/ Delivery						
P302360	Delivery of Lifting Appliance	40		100%	29-Dec-2013 A	06-Feb-2014 A
P302390	Delivery of Cooling water system for pump bearing and motors	21		100%	31-Jan-2014 A	21-Feb-2014 A
P302423	Delivery of Piping system for NWK overflow	60		100%	16-Dec-2013 A	13-Feb-2014 A
P302432	Delivery of Piping system for recirculation	55		100%	16-Dec-2013 A	08-Feb-2014 A
P302443	Delivery of Piping system for centrate flow	55		100%	16-Dec-2013 A	08-Feb-2014 A
P302445	Manufacturing of flushing water system for MPS and inlet cham	60	107	88.75%	28-Jan-2014 A	29-Mar-2014
P302446	Delivery of flushing water system for MPS and inlet chamber	30	107	0%	29-Mar-2014	28-Apr-2014
P302460	Procurement / Purchase Order of Air Mixing system of wet well	14		100%	06-Mar-2014 A	19-Mar-2014 A
P302470	Manufacturing of Air Mixing system of wet well	60	2	5%	20-Mar-2014 A	18-May-2014
P302480	Delivery of Air Mixing system of wet well	14	2	0%	19-May-2014	01-Jun-2014
P302520	Procurement / Purchase Order of DCS and Interfacing control	10	-126	0%	18-Jun-2014	27-Jun-2014
P302530	Manufacturing for DCS hardware and Interfacing control system	60	-126	0%	28-Jun-2014	26-Aug-2014
P302630	Delivery of Ventilation system of MPS	30		100%	25-Jan-2014 A	23-Feb-2014 A
P302660	Delivery of Fire service of MPS	50		100%	23-Jan-2014 A	13-Mar-2014 A
P302720	Delivery of Drainage System	60		100%	16-Dec-2013 A	13-Feb-2014 A
P904910	Delivery of DN3000 Knife gate valve (#1 & #2)	60	72	35%	16-Jan-2014 A	30-Apr-2014
P906340	Procurement / Purchase Order of Dia 4m Stainless steel Pipe s	14		100%	15-Feb-2014 A	28-Feb-2014 A
P906350	Manufacturing of Dia 4m Stainless steel Pipe sleeve	90	-59	24.44%	01-Mar-2014 A	29-May-2014
P906360	Delivery of Dia 4m Stainless steel Pipe sleeve	14	-59	0%	30-May-2014	12-Jun-2014
Interface between Civil/ ABWF/ E&M works (Access Floor No. 1, -32.0mPD)						
MPS0015	Access Floor No. 1 (-32.0mPD) interface for start of FRP acce	0	-20	0%		18-Jun-2014
Interface between Civil/ ABWF/ E&M works (Access Floor No. 4, -2.0mPD)						
MPS0040	Access Floor No. 4 (-2.0mPD) interface for start of installation	0	-48	0%		30-May-2014
Interface between Civil/ ABWF/ E&M works (G/F level, +5.90mPD)						
MPS0050	Motor Hall (RHS) handover for start of installation of BS and E&	0	-47	0%		15-May-2014
MPS0060	Motor Hall (LHS) handover for start of installation of BS and E&	0	1	0%		28-Mar-2014
MPS0070	Maintenance Area handover for start of installation of BS and E	0	67	0%		19-Jun-2014
Interface between Civil/ ABWF/ E&M works (1/F level, +20.40mPD)						
MPS0080	Control Room Handover for start of installation of BS and E&M	0	-17	0%		23-May-2014
MPS0090	Computer and UPS room handover for start of installation of BS	0	61	0%		10-Jun-2014
MPS0100	Freigh lift room handover for start of installation of BS and E&M	0	143	0%		10-Jun-2014
MPS0110	LV switchroom handover for start of installation of BS and E&M	0	-61	0%		30-Jun-2014
MPS0130	Stop Log Room handover for start of installation of BS and E&M	0	-75	0%		14-Jul-2014
MPS0150	Store Room Handover for start of installation of BS and E&M eq	0	112	0%		26-May-2014
MPS0160	Offices Area Handover to start of installation of BS and E&M eq	0	54	0%		24-Jun-2014
MPS0170	Corridor Area Handover for start of installation of BS and E&M e	0	143	0%		10-Jun-2014
R.C. Works						
Access Floor No. 1 (-32.0mPD)						
E&M features						
P400315	AC1: Install Dia 4m S.S. sleeve pipe and blank end	15	-45	0%	13-Jun-2014	30-Jun-2014
P400325	AC1: R.C. works for Puddle pipe sleeve	18	-45	0%	02-Jul-2014	22-Jul-2014
Ground floor slab (+5.9mPD)						
Floor slab and beams (+5.9mPD)						
P903630	GF: Dismantle metal scaffold (RHS)	12	-36	0%	30-Apr-2014	16-May-2014
P903640	GF: Dismantle metal scaffold (LHS)	12	-4	35%	07-Mar-2014 A	01-Apr-2014
Lift Well						
P902910	GF: Lift Well (+5.9 to +20.4mPD)	24	-52	45%	06-Jan-2014 A	09-Apr-2014
1/f slab (+20.4mPD)						
Wet Well						
P902960	1F: Wet well (LHS, +20.4 to +24.4mPD)	15		100%	05-Mar-2014 A	21-Mar-2014 A
P903180	1F: Wet well (RHS, +20.4 to +24.4mPD)	18	-69	0%	02-Apr-2014	28-Apr-2014
Floor slab and beams (+20.4mPD)						
P902940	1F: +20.4mPD Floor slab and beam (LHS)	18		100%	22-Nov-2013 A	19-Feb-2014 A
P902950	1F: +20.4mPD Floor slab and beam (RHS)	18	-69	55%	17-Jan-2014 A	02-Apr-2014
P902955	1F: +20.4mPD Floor slab and beam (Mid)	21	-69	0%	24-Apr-2014	21-May-2014



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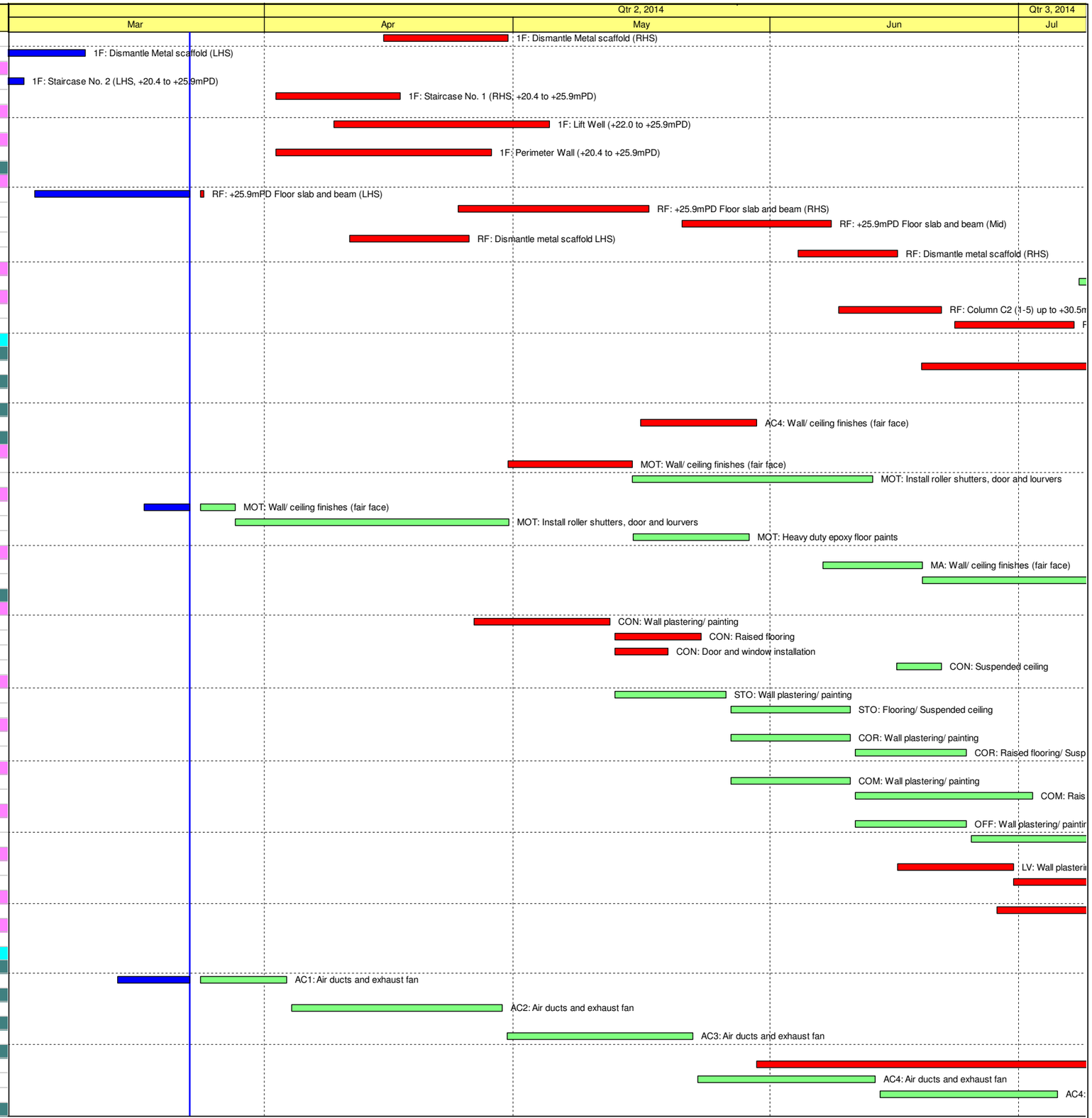
P903100	1F: Dismantle Metal scaffold (RHS)	10	-36	0%	15-Apr-2014	30-Apr-2014
P903110	1F: Dismantle Metal scaffold (LHS)	10		100%	26-Feb-2014 A	10-Mar-2014 A
Staircase No. 1 & No. 2						
P903000	1F: Staircase No. 2 (LHS, +20.4 to +25.9mPD)	12		100%	20-Feb-2014 A	03-Mar-2014 A
P903090	1F: Staircase No. 1 (RHS, +20.4 to +25.9mPD)	15	-52	0%	02-Apr-2014	17-Apr-2014
Lift Well						
P903010	1F: Lift Well (+22.0 to +25.9mPD)	18	-52	0%	09-Apr-2014	05-May-2014
Perimeter Wall						
P903050	1F: Perimeter Wall (+20.4 to +25.9mPD)	18	-49	0%	02-Apr-2014	28-Apr-2014
Roof Floor slab (+25.9mPD)						
Floor slab and beams (+25.9mPD)						
P902980	RF: +25.9mPD Floor slab and beam (LHS)	18	-15	94.44%	04-Mar-2014 A	24-Mar-2014
P902990	RF: +25.9mPD Floor slab and beam (RHS)	18	-49	0%	24-Apr-2014	17-May-2014
P902994	RF: +25.9mPD Floor slab and beam (Mid)	18	-88	0%	21-May-2014	08-Jun-2014
P902995	RF: Dismantle metal scaffold LHS)	10	-15	0%	11-Apr-2014	25-Apr-2014
P902996	RF: Dismantle metal scaffold (RHS)	10	-49	0%	04-Jun-2014	16-Jun-2014
Upper Roof slab (+30.5mPD)						
P903080	URF: Floor slab and beam at +30.5mPD	15	32	0%	08-Jul-2014	24-Jul-2014
Columns C2 (10 Nos)						
P903060	RF: Column C2 (1-5) up to +30.5mPD	12	-69	0%	09-Jun-2014	21-Jun-2014
P903070	RF: Column C2 (5-10) up to +30.5mPD	12	-69	0%	23-Jun-2014	07-Jul-2014
Builder and finishes Works						
Access Floor No. 1 (-32.0mPD)						
P400355	AC1: FRP Access flooring	140	-16	0%	19-Jun-2014	03-Dec-2014
Access Floor No. 2 (-18.0mPD)						
P400485	AC2: Heavy duty epoxy floor paints	18	82	0%	18-Jul-2014	07-Aug-2014
Access Floor No. 4 (-2.0mPD)						
P400565	AC4: Wall/ ceiling finishes (fair face)	12	-36	0%	16-May-2014	30-May-2014
Motor Hall (+5.9mPD)						
Motor Hall (RHS)						
P400655	MOT: Wall/ ceiling finishes (fair face)	11	-34	0%	30-Apr-2014	15-May-2014
P400665	MOT: Install roller shutters, door and lourvers	24	129	0%	15-May-2014	13-Jun-2014
Motor Hall (LHS)						
P400695	MOT: Wall/ ceiling finishes (fair face)	10	1	55%	17-Mar-2014 A	28-Mar-2014
P400705	MOT: Install roller shutters, door and lourvers	24	164	0%	28-Mar-2014	30-Apr-2014
P400715	MOT: Heavy duty epoxy floor paints	12	141	0%	15-May-2014	29-May-2014
Maintenance area						
P903940	MA: Wall/ ceiling finishes (fair face)	10	12	0%	07-Jun-2014	19-Jun-2014
P903950	MA: Install roller shutters, door and lourvers	24	100	0%	19-Jun-2014	18-Jul-2014
First Floor (+20.4mPD)						
Control Room						
P400725	CON: Wall plastering/ painting	12	-15	0%	26-Apr-2014	12-May-2014
P400735	CON: Raised flooring	10	-15	0%	13-May-2014	23-May-2014
P400736	CON: Door and window installation	6	-11	0%	13-May-2014	19-May-2014
P400737	CON: Suspended ceiling	6	121	0%	16-Jun-2014	21-Jun-2014
Store Room						
P400745	STO: Wall plastering/ painting	12	81	0%	13-May-2014	26-May-2014
P400755	STO: Flooring/ Suspended ceiling	12	131	0%	27-May-2014	10-Jun-2014
Corridor						
P400765	COR: Wall plastering/ painting	12	81	0%	27-May-2014	10-Jun-2014
P400775	COR: Raised flooring/ Suspended ceiling	12	119	0%	11-Jun-2014	24-Jun-2014
Computer and UPS Room						
P400785	COM: Wall plastering/ painting	12	33	0%	27-May-2014	10-Jun-2014
P400795	COM: Raised flooring/ Suspended ceiling	18	33	0%	11-Jun-2014	02-Jul-2014
Offices						
P400805	OFF: Wall plastering/ painting	12	45	0%	11-Jun-2014	24-Jun-2014
P400815	OFF: Raised flooring/ Suspended ceiling	24	45	0%	25-Jun-2014	23-Jul-2014
LV swtichroom						
P400825	LV: Wall plastering/ painting	12	-49	0%	16-Jun-2014	30-Jun-2014
P400835	LV: Raised flooring/ Suspended ceiling	18	-49	0%	30-Jun-2014	22-Jul-2014
Stop Log Room						
P400875	SL: Wall painting	12	-60	0%	28-Jun-2014	14-Jul-2014
FS room						
P400935	FS: Wall/ ceiling plastering/ painting	12	6	0%	14-Jul-2014	28-Jul-2014
Building Service Installation						
Access Floor No. 1 (-32.0mPD)						
P400281	AC1: Air ducts and exhaust fan	18	48	44.44%	14-Mar-2014 A	03-Apr-2014
Access Floor No. 2 (-19.0mPD)						
P904440	AC2: Air ducts and exhaust fan	18	48	0%	04-Apr-2014	29-Apr-2014
Access Floor No. 3 (-10.0mPD)						
P904480	AC3: Air ducts and exhaust fan	18	48	0%	30-Apr-2014	22-May-2014
Access Floor No. 4 (-2.0mPD)						
P400370	AC4: Building services equipment	36	-36	0%	30-May-2014	14-Jul-2014
P904510	AC4: Air ducts and exhaust fan	18	48	0%	23-May-2014	13-Jun-2014
P904790	AC4: Smoke Extraction System	18	78	0%	14-Jun-2014	05-Jul-2014
Motor Hall (+5.9mPD)						



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Activity ID	Activity Name	Original Duration	Total Float	Activity % Complete	Start	Finish
Motor Hall (RHS)						
P400440	MOT: Building services equipment	42	-34	0%	15-May-2014	05-Jul-2014
P904590	MOT: Air Ducts	18	48	0%	23-May-2014	13-Jun-2014
Motor Hall (LHS)						
P400450	MOT: Building services equipment	42	1	0%	28-Mar-2014	23-May-2014
P904610	MOT: Air Ducts	18	48	0%	23-May-2014	13-Jun-2014
Maintenance Area						
P401810	MA: Building services equipment	36	56	0%	19-Jun-2014	01-Aug-2014
P904630	MA: Air Ducts	18	48	0%	14-Jun-2014	05-Jul-2014
First Floor (+20.4mPD)						
Control Room						
P400460	CON: Building services equipment	18	-15	0%	24-May-2014	14-Jun-2014
Store Room						
P400480	STO: Building services equipment	18	93	0%	27-May-2014	17-Jun-2014
Corridor						
P400470	COR: Installation of Building services equipment	18	81	0%	11-Jun-2014	02-Jul-2014
Computer and UPS Room						
P401610	COM: Building services equipment	12	33	0%	03-Jul-2014	16-Jul-2014
Fan Room						
P904540	FAN: Air Ducts	30	55	0%	07-Jul-2014	09-Aug-2014
P904570	FAN: Exhaust Fans	30	48	0%	07-Jul-2014	09-Aug-2014
Stop Log Room						
P401780	SL: Building services equipment	24	-60	0%	14-Jul-2014	11-Aug-2014
Electrical and Machainical Installation						
Access Floor No. 1 (-32.0mPD)						
P903760	AC1: Main Sewage Pumps pipeworks (Main Sewage Pump Nc	45	56	48.22%	26-Feb-2014 A	24-Apr-2014
P903770	AC1: Main Sewage Pumps pipeworks (Main Sewage Pump No	45	56	0%	17-Apr-2014	16-Jun-2014
P903775	AC1: Main Sewage Pump No.5 - 8 (LHS)	180	-26	57.22%	16-Nov-2013 A	28-Jun-2014
P903780	AC1: Main Sewage Pumps pipeworks (Main Sewage Pump No	55	-16	76.36%	30-Jan-2014 A	08-Apr-2014
P903790	AC1: Main Sewage Pumps pipeworks (Main Sewage Pump No	55	-16	0%	09-Apr-2014	18-Jun-2014
P904070	AC1: Air Scour Pipeworks	60	1	0%	03-Jun-2014	12-Aug-2014
P904410	AC1: Cooling Water Pipeworks for Pump Bearings	60	50	41.67%	22-Feb-2014 A	09-May-2014
P904640	AC1: Piping system for recirculation	90	117	40%	10-Feb-2014 A	31-May-2014
P904650	AC1: Piping system for centrate flow	45	106	80%	10-Feb-2014 A	02-Apr-2014
P904652	AC1: Piping system for NWK overflow	85	107	37.65%	14-Feb-2014 A	30-May-2014
P904662	AC1: DN 3000 Knife Gate Valve (#1 and #2)	90	58	6.67%	17-Mar-2014 A	11-Aug-2014
Access Floor No. 2 (-19.0mPD)						
P903830	AC2: Pipeworks and associated cabling works (Main Sewage I	24	95	0%	09-Apr-2014	13-May-2014
P903840	AC2: Pipeworks and associated cabling works (Main Sewage I	24	56	0%	04-Jun-2014	03-Jul-2014
P903850	AC2: Pipeworks and associated cabling works (Main Sewage I	24	75	0%	09-Apr-2014	12-May-2014
P903860	AC2: Pipeworks and associated cabling works (Main Sewage I	24	20	0%	19-Jun-2014	17-Jul-2014
Access Floor No. 3 (-10.0mPD)						
P903960	AC3: Pipeworks and associated cabling works (Main Sewage I	24	95	0%	29-Apr-2014	29-May-2014
P903970	AC3: Pipeworks and associated cabling works (Main Sewage I	24	56	0%	20-Jun-2014	19-Jul-2014
P903980	AC3: Pipeworks and associated cabling works (Main Sewage I	24	75	0%	13-May-2014	10-Jun-2014
P903990	AC3: Pipeworks and associated cabling works (Main Sewage I	24	20	0%	18-Jul-2014	14-Aug-2014
Access Floor No. 4 (-2.0mPD)						
P903891	AC4: Pipeworks and associated cabling works (Main Sewage I	24	95	0%	17-May-2014	16-Jun-2014
P903892	AC4: Pipeworks and associated cabling works (Main Sewage I	24	56	0%	05-Jul-2014	02-Aug-2014
P903893	AC4: Pipeworks and associated cabling works (Main Sewage I	24	75	0%	11-Jun-2014	09-Jul-2014
P903900	AC4: Cooling water system (Main Sewage Pump No.1 - 4)	60	-36	0%	14-Jul-2014	23-Sep-2014
P904280	AC4: Cooling Water Pumps	45	33	0%	30-May-2014	24-Jul-2014
P904400	AC4: Process Water Tank	24	48	0%	14-Jul-2014	11-Aug-2014
P904680	AC4: Flushing water system for MPS and Inlet chamber	45	88	0%	28-Apr-2014	23-Jun-2014
P904780	AC4: Centrate Pipeworks	45	27	0%	14-Jul-2014	04-Sep-2014
Motor Hall (+5.9mPD)						
Motor Hall (RHS)						
P903810	MOT: Lifting appliance at Motor Hall (RHS)	35	-34	0%	15-May-2014	26-Jun-2014
P904770	MOT: Sewage pump motor	120	-34	0%	26-Jun-2014	18-Nov-2014
Motor Hall (LHS)						
P903820	MOT: Lifting appliance at Motor Hall (LHS)	35	1	0%	28-Mar-2014	15-May-2014
P904800	MOT: Sewage pump motor	120	1	0%	15-May-2014	08-Oct-2014
Maintenance Area						
P903890	MA: Lifting appliance at Maintenance Area	80	12	0%	19-Jun-2014	23-Sep-2014
First Floor (+20.4mPD)						
Freigh Lift Room						
P401650	LT: Freigh Lift Car	121	-52	0%	17-Jul-2014	09-Dec-2014
Stop Log Room						
P903923	STO: stoplogs	60	-60	0%	14-Jul-2014	23-Sep-2014
Statutory Submission and Inspection						
Water Supplier Department (WSD)						
P402600	WM(P): Submission of WWO542 (Potable water and Irrigation	80		100%	01-Jan-2014 A	22-Mar-2014 A
P402635	WM(FS): Submission of WWO542 (Fire service)	75	-21	0%	04-Jul-2014	17-Sep-2014
Fire Service Department (FSD)						
P402710	FS: FS installation	120	84	6.67%	14-Mar-2014 A	09-Aug-2014

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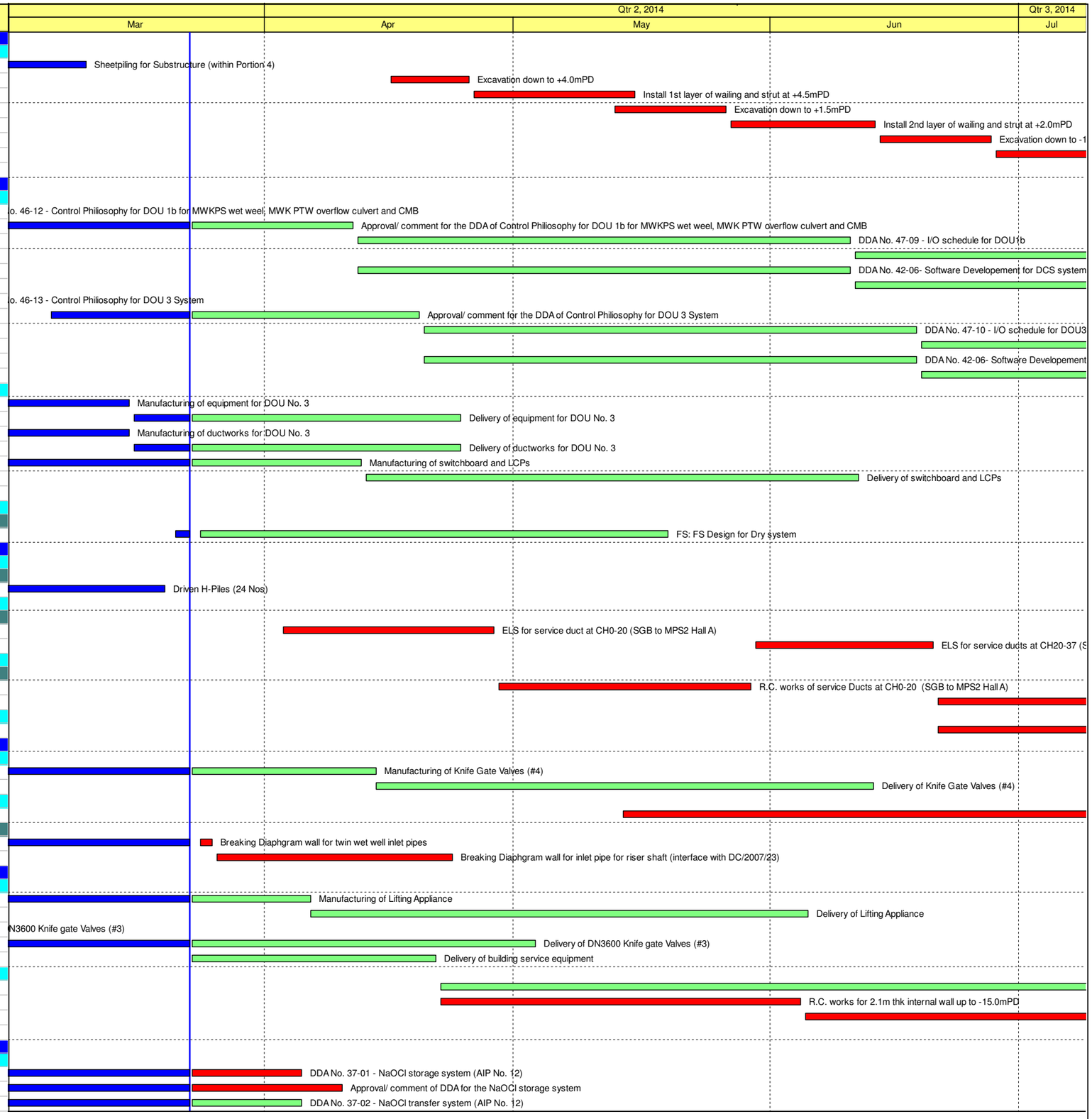
Three Months Rolling Programme (24 Mar 2014 to 24 June 2014)

Date	Revision	Checked	Approved

Activity ID	Activity Name	Original Duration	Total Float	Activity % Complete	Start	Finish
Portion 4 (Main flow Culvert)						
Excavation and Lateral Support Works for Substructure (Near MPS2)						
P903130	Sheetpiling for Substructure (within Portion 4)	18		100%	17-Feb-2014 A	10-Mar-2014 A
P903440	Excavation down to +4.0mPD	6	-63	0%	16-Apr-2014	25-Apr-2014
P903450	Install 1st layer of wailing and strut at +4.5mPD	15	-63	0%	26-Apr-2014	15-May-2014
P903460	Excavation down to +1.5mPD	12	-63	0%	13-May-2014	26-May-2014
P903470	Install 2nd layer of wailing and strut at +2.0mPD	15	-63	0%	27-May-2014	13-Jun-2014
P903490	Excavation down to -1.0mPD	12	-63	0%	14-Jun-2014	27-Jun-2014
P903500	Install 3rd layer of wailing and strut at -1.5mPD	18	-63	0%	28-Jun-2014	19-Jul-2014
P903520	Excavation down to final excavation level -3.4mPD	15	-63	0%	14-Jul-2014	30-Jul-2014
Portion 4 (Deodourization Unit No. 3 & 1b and Odour duct bridge)						
Submission of design of E&M works						
P906070	DDA No. 46-12 - Control Philiosophy for DOU 1b for MWKPS w	90		100%	23-Sep-2013 A	25-Feb-2014 A
P906080	Approval/ comment for the DDA of Control Philiosophy for DOU	45	29	55.56%	26-Feb-2014 A	11-Apr-2014
P906090	DDA No. 47-09 - I/O schedule for DOU1b	60	29	0%	12-Apr-2014	10-Jun-2014
P906100	Approval/ comment for the DDA of I/O schedule for CEPT tank:	30	29	0%	11-Jun-2014	10-Jul-2014
P906110	DDA No. 42-06- Software Developement for DCS system for D	60	29	0%	12-Apr-2014	10-Jun-2014
P906120	Approval/ comment for the DDA of Software Developement for I	30	29	0%	11-Jun-2014	10-Jul-2014
P906130	DDA No. 46-13 - Control Philiosophy for DOU 3 System	90		100%	24-Sep-2013 A	25-Feb-2014 A
P906140	Approval/ comment for the DDA of Control Philiosophy for DOU	45	21	37.78%	06-Mar-2014 A	19-Apr-2014
P906150	DDA No. 47-10 - I/O schedule for DOU3	60	21	0%	20-Apr-2014	18-Jun-2014
P906160	Approval/ comment for the DDA of I/O schedule for DOU 3	30	21	0%	19-Jun-2014	18-Jul-2014
P906170	DDA No. 42-06- Software Developement for DCS system for D	60	21	0%	20-Apr-2014	18-Jun-2014
P906180	Approval/ comment for the DDA of Software Developement for I	30	21	0%	19-Jun-2014	18-Jul-2014
Procurement/ Order/ Manufacturing/ Delivery						
P403090	Manufacturing of equipment for DOU No. 3	240		100%	19-Jul-2013 A	15-Mar-2014 A
P403100	Delivery of equipment for DOU No. 3	40	145	17.5%	16-Mar-2014 A	24-Apr-2014
P403120	Manufacturing of ductworks for DOU No. 3	240		100%	19-Jul-2013 A	15-Mar-2014 A
P403130	Delivery of ductworks for DOU No. 3	40	176	17.5%	16-Mar-2014 A	24-Apr-2014
P403210	Manufacturing of switchboard and LCPs	360	158	94.17%	18-Apr-2013 A	12-Apr-2014
P403220	Delivery of switchboard and LCPs	60	158	0%	13-Apr-2014	11-Jun-2014
P906220	Procurement / Purchase Order for DCS hardware and associa	10	21	0%	19-Jul-2014	28-Jul-2014
Statutory Submission and Inspection						
Fire Service Department (FSD)						
P905190	FS: FS Design for Dry system	45	3	4.44%	21-Mar-2014 A	19-May-2014
Portion 4 (Service Ducts)						
Foundation Works						
Driven H-pile						
P903540	Driven H-Piles (24 Nos)	24		100%	14-Jan-2014 A	20-Mar-2014 A
Excavation and lateral support for substructure						
Service Duct (Type 1)						
P400550	ELS for service duct at CH0-20 (SGB to MPS2 Hall A)	18	-66	0%	03-Apr-2014	28-Apr-2014
P401270	ELS for service ducts at CH20-37 (SGB to MPS2 Hall B)	18	-66	0%	30-May-2014	20-Jun-2014
R.C. Works						
Service Duct (Type 1)						
P400560	R.C. works of service Ducts at CH0-20 (SGB to MPS2 Hall A)	25	-66	0%	29-Apr-2014	29-May-2014
P401250	R.C. works of service ducts at CH20-37 (SGB to MPS2 Hall B)	18	-66	0%	21-Jun-2014	12-Jul-2014
Civil Works						
P400585	Dia 600mm Centrate Pipes near MPS	45	-19	0%	21-Jun-2014	13-Aug-2014
Portion 5 (Inlet Chamber)						
Procurement/ Order/ Manufacturing/ Delivery						
P501520	Manufacturing of Knife Gate Valves (#4)	450	41	95%	11-Nov-2012 A	14-Apr-2014
P501530	Delivery of Knife Gate Valves (#4)	60	41	0%	14-Apr-2014	13-Jun-2014
R.C. Works						
P400631	R.C. works for Lower Manifold	60	-39	0%	14-May-2014	24-Jul-2014
Diaphgram Wall opening						
P400628	Breaking Diaphgram wall for twin wet well inlet pipes	35	-24	94.29%	13-Feb-2014 A	25-Mar-2014
P400629	Breaking Diaphgram wall for inlet pipe for riser shaft (interface	21	-24	0%	26-Mar-2014	23-Apr-2014
Portion 6 (Valve Chamber)						
Procurement/ Order/ Manufacturing/ Delivery						
P501700	Manufacturing of Lifting Appliance	390	123	96.23%	12-Mar-2013 A	06-Apr-2014
P501710	Delivery of Lifting Appliance	60	123	0%	06-Apr-2014	05-Jun-2014
P501730	Manufacturing of DN3600 Knife gate Valves (#3)	450		100%	22-Oct-2012 A	19-Feb-2014 A
P501740	Delivery of DN3600 Knife gate Valves (#3)	60	129	30%	20-Feb-2014 A	03-May-2014
P501830	Delivery of building service equipment	30	217	0%	23-Mar-2014	21-Apr-2014
R.C. Works						
P600010	Installation of waterproofing membrance	150	17	0%	22-Apr-2014	21-Oct-2014
P600020	R.C. works for 2.1m thk internal wall up to -15.0mPD	35	-72	0%	22-Apr-2014	04-Jun-2014
P600090	R.C. works for Base slabs and concrete chamber	35	-72	0%	05-Jun-2014	16-Jul-2014
P600100	R.C. works for 1.1m thk internal wall up to +2.8mPD	50	-72	0%	17-Jul-2014	13-Sep-2014
Portion 8 (Extension of Sodium Hypochlorite Storage Compound)						
Submission of design of E&M works						
P801000	DDA No. 37-01 - NaOCl storage system (AIP No. 12)	45	-45	70%	24-Oct-2012 A	05-Apr-2014
P801001	Approval/ comment of DDA for the NaOCl storage system	33	-45	45%	02-Nov-2012 A	10-Apr-2014
P801002	DDA No. 37-02 - NaOCl transfer system (AIP No. 12)	45	80	70%	27-Sep-2012 A	05-Apr-2014



Actual Work
Remaining Work
Critical Remaining Work
◆ Milestone

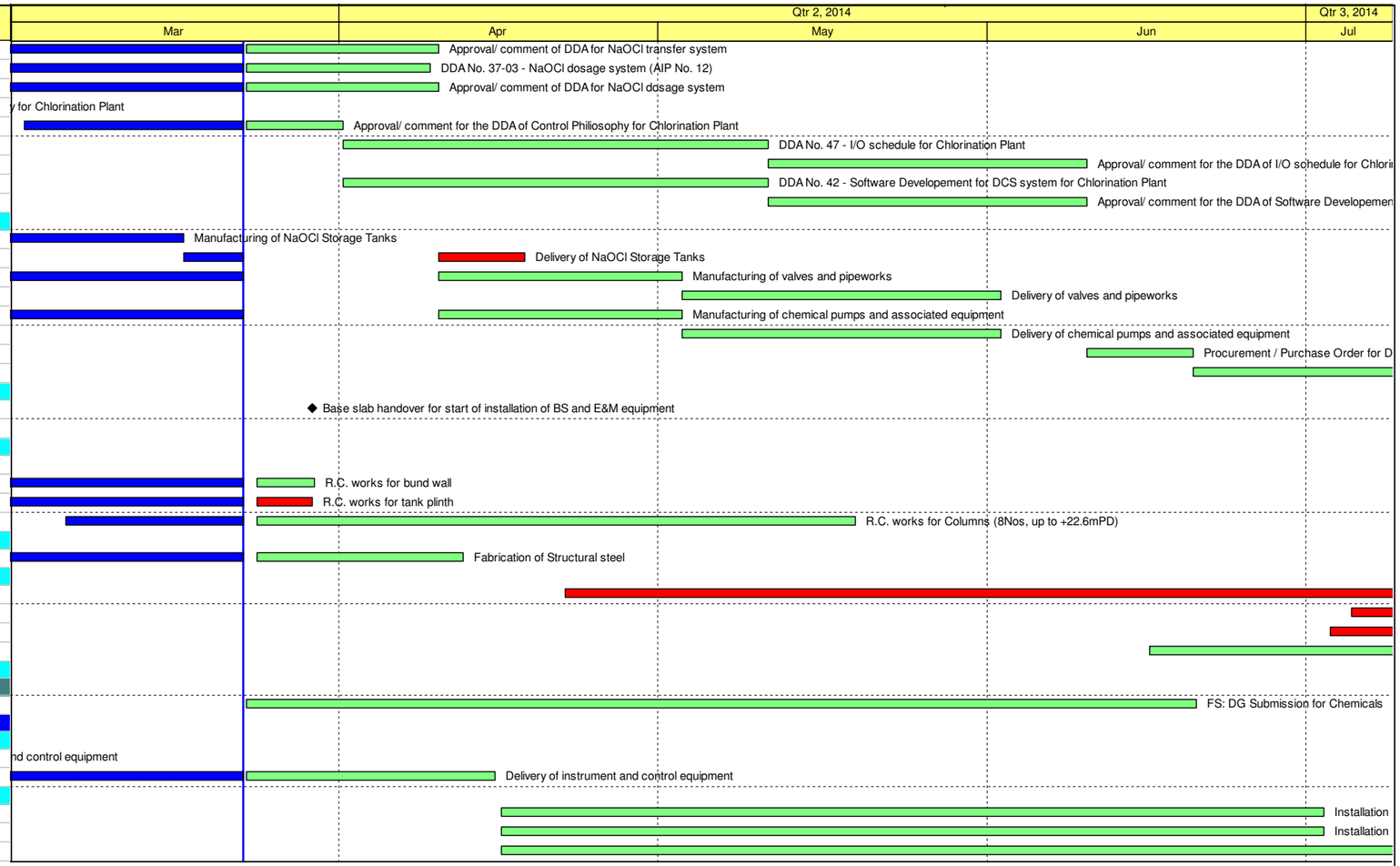
Contract No. DC/2009/10

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

Three Months Rolling Programme (24 Mar 2014 to 24 June 2014)

Date	Revision	Checked	Approved

Activity ID	Activity Name	Original Duration	Total Float	Activity % Complete	Start	Finish
P801003	Approval/ comment of DDA for NaOCl transfer system	33	80	45%	29-Dec-2012 A	10-Apr-2014
P801004	DDA No. 37-03 - NaOCl dosage system (AIP No. 12)	59	80	70%	08-Aug-2012 A	09-Apr-2014
P801005	Approval/ comment of DDA for NaOCl dosage system	33	80	45%	06-Oct-2012 A	10-Apr-2014
P906250	DDA No. 46-25 - Control Philiosophy for Chlorination Plant	60		100%	23-Sep-2013 A	11-Feb-2014 A
P906260	Approval/ comment for the DDA of Control Philiosophy for Chlor	30	58	69.33%	02-Mar-2014 A	01-Apr-2014
P906270	DDA No. 47 - I/O schedule for Chlorination Plant	40	58	0%	01-Apr-2014	11-May-2014
P906280	Approval/ comment for the DDA of I/O schedule for Chlorinatior	30	58	0%	11-May-2014	10-Jun-2014
P906290	DDA No. 42 - Software Developement for DCS system for Chlo	40	58	0%	01-Apr-2014	11-May-2014
P906300	Approval/ comment for the DDA of Software Developement for I	30	58	0%	11-May-2014	10-Jun-2014
Procurement/ Order/ Manufacturing/ Delivery						
P801150	Manufacturing of NaOCl Storage Tanks	120		100%	17-Nov-2013 A	17-Mar-2014 A
P801160	Delivery of NaOCl Storage Tanks	14	-45	41.28%	17-Mar-2014 A	18-Apr-2014
P801180	Manufacturing of valves and pipeworks	150	80	84.73%	15-Nov-2013 A	03-May-2014
P801190	Delivery of valves and pipeworks	30	80	0%	03-May-2014	02-Jun-2014
P801210	Manufacturing of chemical pumps and associated equipment	150	80	84.73%	15-Nov-2013 A	03-May-2014
P801220	Delivery of chemical pumps and associated equipment	30	80	0%	03-May-2014	02-Jun-2014
P906310	Procurement / Purchase Order for DCS hardware and associa	10	58	0%	10-Jun-2014	20-Jun-2014
P906320	Manufacturing of DCS hardware and associated equipment for	60	58	0%	20-Jun-2014	19-Aug-2014
Interface between Civil/ ABWF/ E&M works (NaOCl storage compound)						
NAOCL010	Base slab handover for start of installation of BS and E&M equi	0	-25	0%		29-Mar-2014
NAOCL020	Storage tanks and E&M equipment completion for start of insta	0	-19	0%		18-Jul-2014
R.C. Works						
P905470	R.C. works for pile caps	24		100%	14-Dec-2013 A	11-Feb-2014 A
P905480	R.C. works for bund wall	12	46	50%	27-Jan-2014 A	29-Mar-2014
P905485	R.C. works for tank plinth	18	-22	70%	27-Jan-2014 A	29-Mar-2014
P905490	R.C. works for Columns (8Nos, up to +22.6mPD)	45	46	5%	06-Mar-2014 A	19-May-2014
Structural Steel Works						
P800100	Fabrication of Structural steel	120	72	85.83%	16-Nov-2013 A	12-Apr-2014
Electrical and Machainical Installation						
P905500	On site assembling for storage tanks	72	-38	0%	22-Apr-2014	18-Jul-2014
P905505	Weld test (internal and external)	12	-38	0%	05-Jul-2014	18-Jul-2014
P905510	Internal Lining	36	-38	0%	03-Jul-2014	13-Aug-2014
P905520	External Painting	36	20	0%	16-Jun-2014	28-Jul-2014
Statutory Submission and Inspection						
Fire Sevice Department (FSD)						
P905640	FS: DG Submission for Chemicals	90	150	0%	23-Mar-2014	20-Jun-2014
Sai Ying Pun Junction Shaft						
Procurement/ Order/ Manufacturing/ Delivery						
P801270	Manufacturing of instrument and control equipment	180		100%	18-Aug-2013 A	13-Feb-2014 A
P801280	Delivery of instrument and control equipment	61	91	60.66%	14-Feb-2014 A	15-Apr-2014
Electrical and Machainical Installation						
P801290	Installation of instrumentation at Sai Ying Pun Junction	60	101	0%	16-Apr-2014	02-Jul-2014
P801300	Installation of control equipment at Sai Ying Pun Junction	60	101	0%	16-Apr-2014	02-Jul-2014
P801310	Installation of electrical cabling works at Sai Ying Pun Junction	90	71	0%	16-Apr-2014	06-Aug-2014



Actual Work
Remaining Work
Critical Remaining Work
◆ Milestone

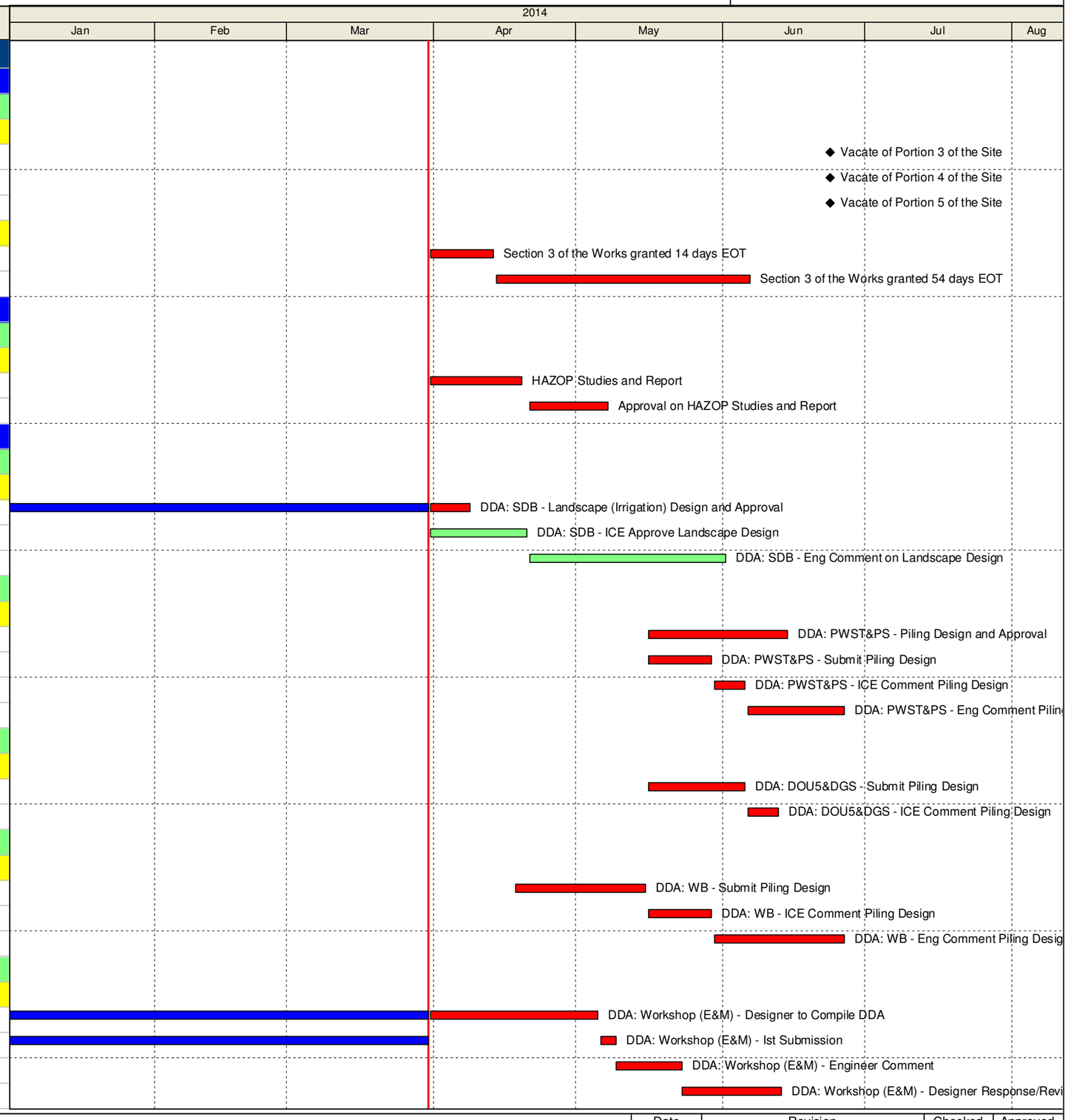
Contract No. DC/2009/10

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

Three Months Rolling Programme (24 Mar 2014 to 24 June 2014)

Date	Revision	Checked	Approved

Activity ID	Activity Name	Original Duration	Start	Finish
DC/2009/17 Programme Updated up to 31-Mar-14				
KEY DATE				
Completion				
Vacating of Area				
AD000120	Vacate of Portion 3 of the Site	0		23-Jun-14*
AD000130	Vacate of Portion 4 of the Site	0		23-Jun-14*
AD000140	Vacate of Portion 5 of the Site	0		23-Jun-14*
Extension of Time				
KD000025	Section 3 of the Works granted 14 days EOT	14	31-Mar-14*	13-Apr-14
KD000026	Section 3 of the Works granted 54 days EOT	54	14-Apr-14	06-Jun-14*
Preliminaries and General Requirement				
General Requirements				
Initial Works				
PG000410	HAZOP Studies and Report	15	31-Mar-14	19-Apr-14
PG000420	Approval on HAZOP Studies and Report	13	21-Apr-14	07-May-14
Design of Permanent Works				
DDA1 (SDB and Associated Structure)				
Sub-Package- F				
DP024190	DDA: SDB - Landscape (Irrigation) Design and Approval	175	26-Nov-12 A	08-Apr-14
DP024210	DDA: SDB - ICE Approve Landscape Design	21	31-Mar-14	20-Apr-14
DP024220	DDA: SDB - Eng Comment on Landscape Design	42	21-Apr-14	01-Jun-14
DDA5 (PWST & Pumping System)				
Sub-Package - A				
DP030105	DDA: PWST&PS - Piling Design and Approval	30	16-May-14	14-Jun-14
DP030110	DDA: PWST&PS - Submit Piling Design	14	16-May-14	29-May-14
DP030120	DDA: PWST&PS - ICE Comment Piling Design	7	30-May-14	05-Jun-14
DP030130	DDA: PWST&PS - Eng Comment Piling Design	21	06-Jun-14	26-Jun-14
DDA7 (DOU5 and DGS)				
Sub-Package - A				
DP034110	DDA: DOU5&DGS - Submit Piling Design	21	16-May-14	05-Jun-14
DP034120	DDA: DOU5&DGS - ICE Comment Piling Design	7	06-Jun-14	12-Jun-14
DDA8 (Workshop Building)				
Sub-Package - A				
DP033110	DDA: WB - Submit Piling Design	28	18-Apr-14	15-May-14
DP033120	DDA: WB - ICE Comment Piling Design	14	16-May-14	29-May-14
DP033130	DDA: WB - Eng Comment Piling Design	28	30-May-14	26-Jun-14
Detailed Design Approval (DDA) Submission				
DDA 35 - Workshop Equipment				
DP008810	DDA: Workshop (E&M) - Designer to Compile DDA	120	05-Apr-13 A	05-May-14
DP008820	DDA: Workshop (E&M) - Ist Submission	7	01-Jun-13 A	09-May-14
DP008830	DDA: Workshop (E&M) - Engineer Comment	14	09-May-14	23-May-14
DP008840	DDA: Workshop (E&M) - Designer Response/Revision	21	23-May-14	13-Jun-14

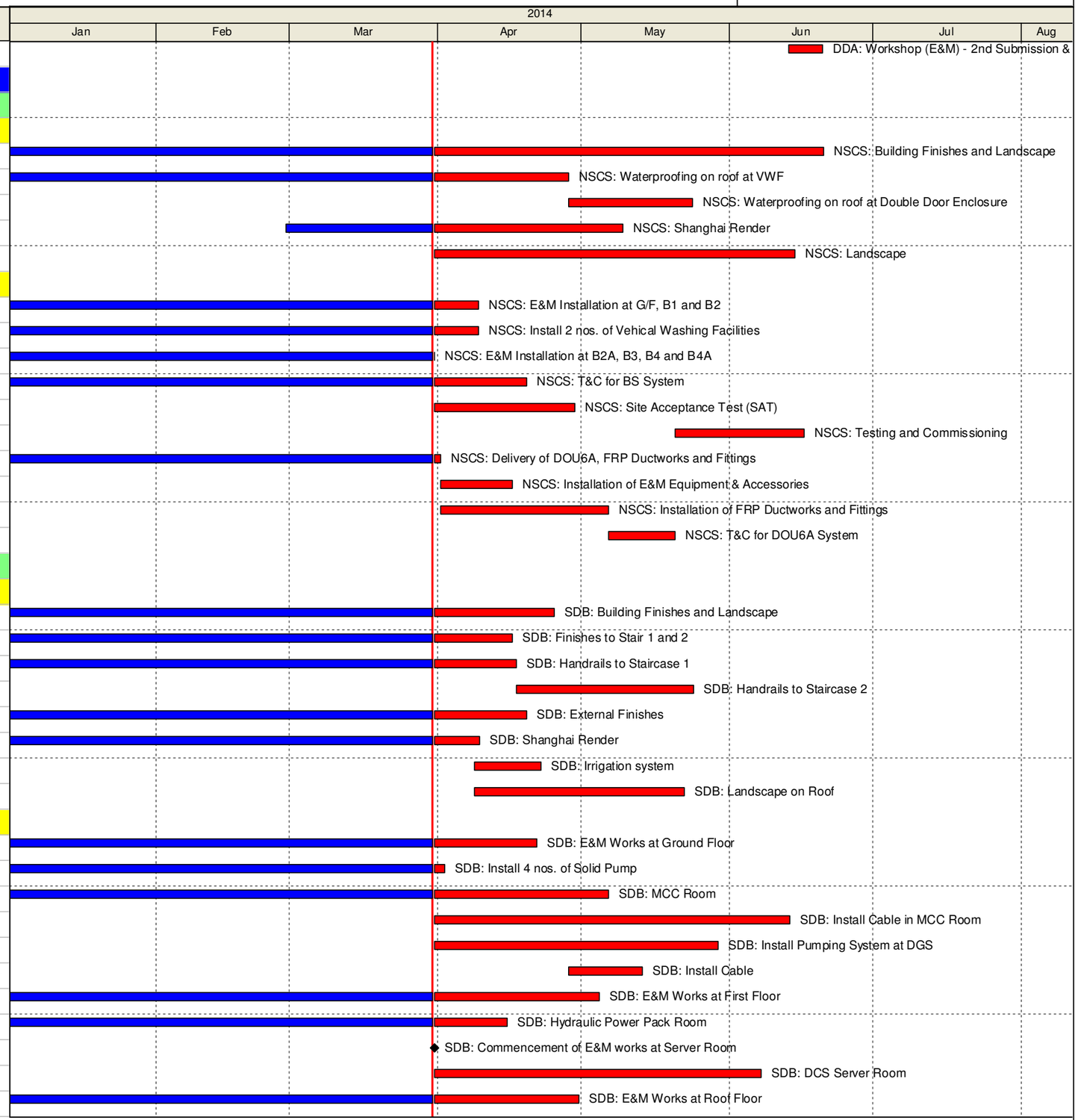


Actual Work ◆ Milestone
Remaining Work
Critical Remaining Work

Three Months Rolling Programme - April to June 2014

Date	Revision	Checked	Approved

Activity ID	Activity Name	Original Duration	Start	Finish
DP008850	DDA: Workshop (E&M) - 2nd Submission & ICE Cert	7	13-Jun-14	20-Jun-14
Section 3 of the Works				
Northern Sludge Cake Silo				
Architectural Finishes				
S3000450	NSCS: Building Finishes and Landscape	230	29-Sep-12 A	20-Jun-14
S3000510	NSCS: Waterproofing on roof at VWF	21	31-Dec-13 A	28-Apr-14
S3000530	NSCS: Waterproofing on roof at Double Door Enclosure	21	28-Apr-14	24-May-14
S3000550	NSCS: Shanghai Render	60	28-Feb-14 A	09-May-14
S3000570	NSCS: Landscape	60	31-Mar-14	14-Jun-14
E&M Installation and T&C				
S3000810	NSCS: E&M Installation at G/F, B1 and B2	98	02-Jan-13 A	09-Apr-14
S3000840	NSCS: Install 2 nos. of Vehical Washing Facilities	95	14-Jan-13 A	09-Apr-14
S3000880	NSCS: E&M Installation at B2A, B3, B4 and B4A	75	02-Jan-13 A	31-Mar-14
S3000968	NSCS: T&C for BS System	20	28-Oct-13 A	19-Apr-14
S3000970	NSCS: Site Acceptance Test (SAT)	30	31-Mar-14	29-Apr-14
S3000980	NSCS: Testing and Commissioning	27	20-May-14	16-Jun-14
S3001000	NSCS: Delivery of DOU6A, FRP Ductworks and Fittings	18	25-Mar-13 A	01-Apr-14
S3001010	NSCS: Installation of E&M Equipment & Accessories	15	01-Apr-14	16-Apr-14
S3001030	NSCS: Installation of FRP Ductworks and Fittings	35	01-Apr-14	06-May-14
S3001040	NSCS: T&C for DOU6A System	14	06-May-14	20-May-14
Sludge Dewatering Building and DOU6				
Architectural Finishes				
S3001380	SDB: Building Finishes and Landscape	385	05-Jul-12 A	25-Apr-14
S3001479	SDB: Finishes to Stair 1 and 2	118	31-Dec-13 A	16-Apr-14
S3001492	SDB: Handrails to Staircase 1	25	31-Dec-13 A	17-Apr-14
S3001494	SDB: Handrails to Staircase 2	30	17-Apr-14	24-May-14
S3001515	SDB: External Finishes	145	11-Dec-12 A	19-Apr-14
S3001520	SDB: Shanghai Render	80	31-Dec-13 A	09-Apr-14
S3001530	SDB: Irrigation system	10	08-Apr-14	22-Apr-14
S3001540	SDB: Landscape on Roof	34	08-Apr-14	22-May-14
E&M Installation and T&C				
S3003020	SDB: E&M Works at Ground Floor	220	06-Sep-12 A	21-Apr-14
S3003310	SDB: Install 4 nos. of Solid Pump	45	24-Dec-12 A	02-Apr-14
S3003360	SDB: MCC Room	74	12-Nov-12 A	06-May-14
S3003400	SDB: Install Cable in MCC Room	75	31-Mar-14	13-Jun-14
S3003450	SDB: Install Pumping System at DGS	60	31-Mar-14	29-May-14
S3003470	SDB: Install Cable	16	28-Apr-14	13-May-14
S3003490	SDB: E&M Works at First Floor	175	05-Oct-12 A	04-May-14
S3003690	SDB: Hydraulic Power Pack Room	79	14-Jan-13 A	15-Apr-14
S3003730	SDB: Commencement of E&M works at Server Room	0	31-Mar-14	
S3003740	SDB: DCS Server Room	69	31-Mar-14	07-Jun-14
S3003790	SDB: E&M Works at Roof Floor	202	03-Oct-12 A	30-Apr-14



Actual Work ◆ Milestone
Remaining Work
Critical Remaining Work

Three Months Rolling Programme - April to June 2014

Date	Revision	Checked	Approved

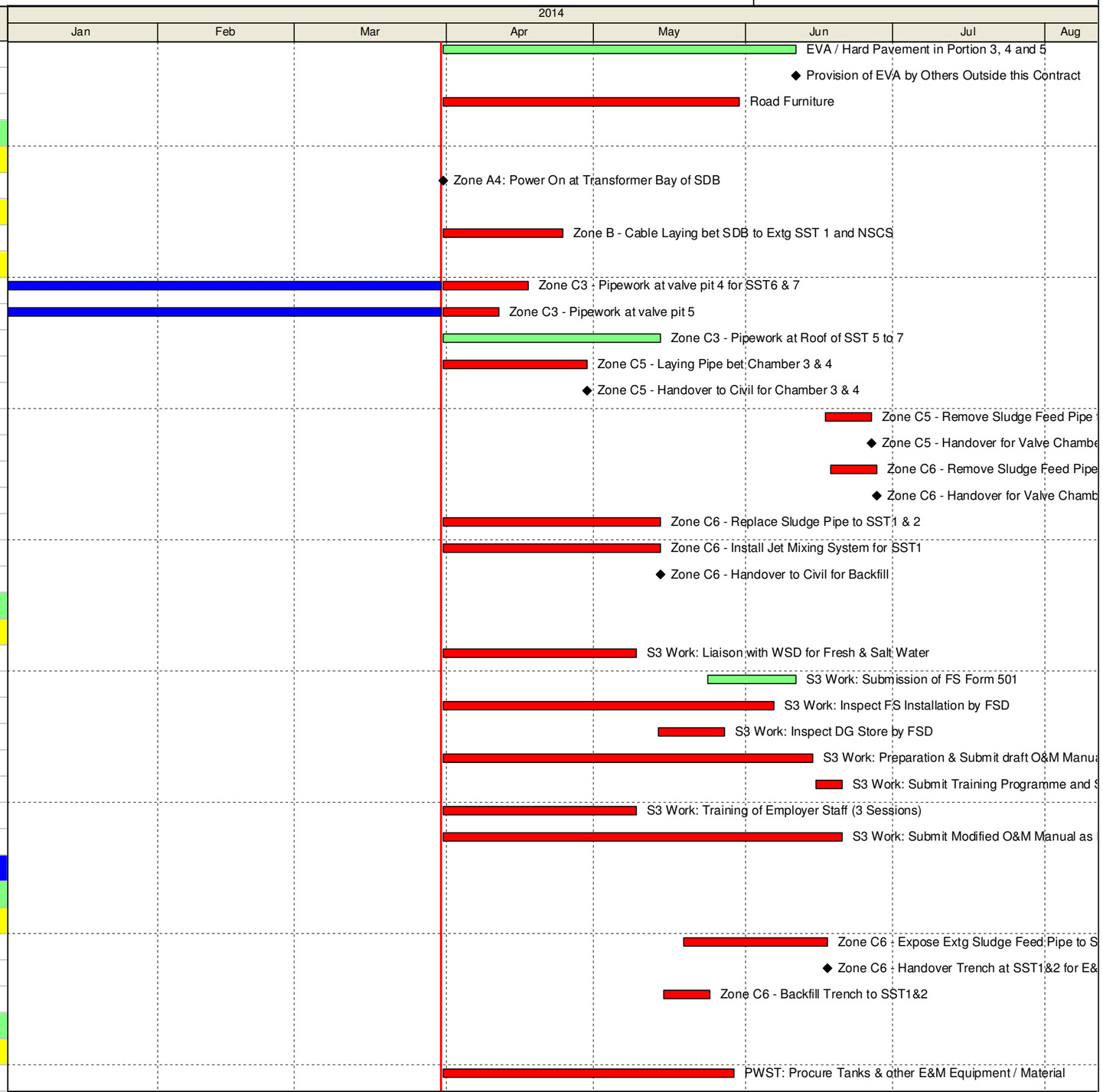
Activity ID	Activity Name	Original Duration	Start	Finish
S3003830	SDB: Install Cable on Roof	24	25-Aug-13 A	04-Apr-14
S3003950	SDB: T&C for BS System	30	31-Mar-14	29-Apr-14
S3003960	SDB: Essential Electric Supply by Others	0	03-May-14*	
S3004000	SDB: Precommissioning Test	25	28-May-14	21-Jun-14
S3004010	SDB: Liaise with ST2 to Decommission Extg Plant	60	31-Mar-14	14-Jun-14
S3004020	SDB: Testing and Commissioning	183	28-Nov-13 A	11-Jun-14
S3004030	SDB: Group 1 (5 nos Centrifuge) Performance Test	60	18-Apr-14	16-Jun-14
S3004040	SDB: Group 2 (5 nos Centrifuge) Performance Test	49	30-Apr-14	17-Jun-14
S3004050	SDB: Group 3 (4 nos Centrifuge) Performance Test	49	30-Apr-14	17-Jun-14
S3004060	SDB: Handover to DSD	5	18-Jun-14	23-Jun-14
S3004070	Decommissioning of Extg SDB / Cake Silo	4	19-Jun-14	23-Jun-14
Sludge Storage Tank 6 and 7				
Structure				
S3005850	SST: External Painting for Tank 6	30	31-Mar-14	09-May-14
E&M Installation and T&C				
S3006670	SST: Commencement of E&M at Sludge Storage TanK 6	0	31-Mar-14	
S3006680	SST: Install Sludge Feed Pipe, Recirculation Pipe and Scum Pipe at Tank 6	75	31-Mar-14	13-Jun-14
S3006685	SST: Install Jet Mixer at Sludge Storage Tank 6	45	30-Apr-14	13-Jun-14
S3006700	SST: Commencement of E&M at Sludge Storage Tank 7	0	31-Mar-14	
S3006710	SST: Install Jet Mixer at Sludge Storage Tank 7	45	29-Apr-14	13-Jun-14
S3006720	SST: Install Sludge Feed Pipe, Recirculation Pipe and Scum Pipe at Tank 7	75	31-Mar-14	13-Jun-14
S3006730	SST: Site Acceptance Test (SAT)	20	02-Jun-14	21-Jun-14
S3006740	SST: Testing and commissioning (Internal T&C)	20	02-Jun-14	21-Jun-14
S3006750	SST: Final T&C with Dewatering Centrifuges	45	10-May-14	23-Jun-14
System				
Pump, Piping and Ducting				
S3008340	As-constructed Drg for piping and ducting	90	31-Mar-14	28-Jun-14
S3009940	Firemains bet External Suppy Point to Zone B1	105	01-Mar-13 A	15-Apr-14
S3009950	Additional Fire Signal Duct bet Admin Bldg - SDB	65	31-Mar-14	20-Jun-14
S3009960	Additional Fire Signal Cable bet Admin Bldg -SDB	30	10-May-14	08-Jun-14
External (Civil) Works				
Zone A				
S3008440	Zone A5: Cabe Trough to MPS	65	31-Mar-14	20-Jun-14
Zone C				
S3009760	Zone C5 - Backfill / Reinstate bet Chamber 3 & 4	21	30-Apr-14	20-May-14
S3009800	Zone C5 - Replace Sludge Feed Pipe to SST3 & 4	30	26-May-14	24-Jun-14
S3009810	Zone C5 - Expose Extg Sludge Feed Pipe to SST3 & 4	30	26-May-14	24-Jun-14
S3009820	Zone C5 - Handover Trench at SST3 & 4 for E&M	0		24-Jun-14
S3009840	Zone C5 - Modify Valve Chamber 2	75	31-Mar-14	13-Jun-14
S3009845	Zone C5 - Handover Valve Chamber 3 for E&M	0		13-Jun-14
Road and Drain				
S3011310	U Channel around SDB and NSCS	65	31-Mar-14	20-Jun-14

Actual Work ◆ Milestone
Remaining Work
Critical Remaining Work

Three Months Rolling Programme - April to June 2014

Date	Revision	Checked	Approved

Activity ID	Activity Name	Original Duration	Start	Finish
S3011800	EVA / Hard Pavement in Portion 3, 4 and 5	56	31-Mar-14	11-Jun-14
S3012010	Provision of EVA by Others Outside this Contract	0		11-Jun-14
S3012100	Road Furniture	48	31-Mar-14	30-May-14
External (E&M) Works				
Zone A				
S3008438	Zone A4: Power On at Transformer Bay of SDB	0		31-Mar-14
Zone B				
S3008720	Zone B - Cable Laying bet SDB to Extg SST 1 and NSCS	25	31-Mar-14	24-Apr-14
Zone C				
S3009475	Zone C3 - Pipework at valve pit 4 for SST6 & 7	45	07-Mar-13 A	17-Apr-14
S3009478	Zone C3 - Pipework at valve pit 5	30	18-Feb-13 A	11-Apr-14
S3009480	Zone C3 - Pipework at Roof of SST 5 to 7	45	31-Mar-14	14-May-14
S3009750	Zone C5 - Laying Pipe bet Chamber 3 & 4	30	31-Mar-14	29-Apr-14
S3009755	Zone C5 - Handover to Civil for Chamber 3 & 4	0		29-Apr-14
S3009830	Zone C5 - Remove Sludge Feed Pipe to SST3 & 4	10	17-Jun-14	26-Jun-14
S3009835	Zone C5 - Handover for Valve Chamber 2 Construction	0		26-Jun-14
S3009900	Zone C6 - Remove Sludge Feed Pipe to SST1 & 2	10	18-Jun-14	27-Jun-14
S3009905	Zone C6 - Handover for Valve Chamber 1 Construction	0		27-Jun-14
S3009920	Zone C6 - Replace Sludge Pipe to SST1 & 2	45	31-Mar-14	14-May-14
S3009925	Zone C6 - Install Jet Mixing System for SST1	45	31-Mar-14	14-May-14
S3009928	Zone C6 - Handover to Civil for Backfill	0		14-May-14
Statutory Inspection and Training				
E&M Installation and T&C				
S3013095	S3 Work: Liaison with WSD for Fresh & Salt Water	30	31-Mar-14	09-May-14
S3013110	S3 Work: Submission of FS Form 501	14	24-May-14	11-Jun-14
S3013120	S3 Work: Inspect FS Installation by FSD	53	31-Mar-14	06-Jun-14*
S3013130	S3 Work: Inspect DG Store by FSD	12	14-May-14	27-May-14
S3013170	S3 Work: Preparation & Submit draft O&M Manuals	60	31-Mar-14	14-Jun-14
S3013180	S3 Work: Submit Training Programme and Syllabus	6	15-Jun-14	20-Jun-14
S3013190	S3 Work: Training of Employer Staff (3 Sessions)	30	31-Mar-14	09-May-14
S3013210	S3 Work: Submit Modified O&M Manual as PS40.07	65	31-Mar-14	20-Jun-14
Section 5 of the Works				
Demolition Works				
Initial Works				
S3009880	Zone C6 - Expose Extg Sludge Feed Pipe to SST1 & 2	30	19-May-14	17-Jun-14
S3009890	Zone C6 - Handover Trench at SST1&2 for E&M	0		17-Jun-14
S3009930	Zone C6 - Backfill Trench to SST1&2	10	15-May-14	24-May-14
Process Water Storage Tank				
Procurement, Manufacture and Delivery				
S5009660	PWST: Procure Tanks & other E&M Equipment / Material	60	31-Mar-14	29-May-14



Actual Work ◆ Milestone
Remaining Work
Critical Remaining Work

Three Months Rolling Programme - April to June 2014

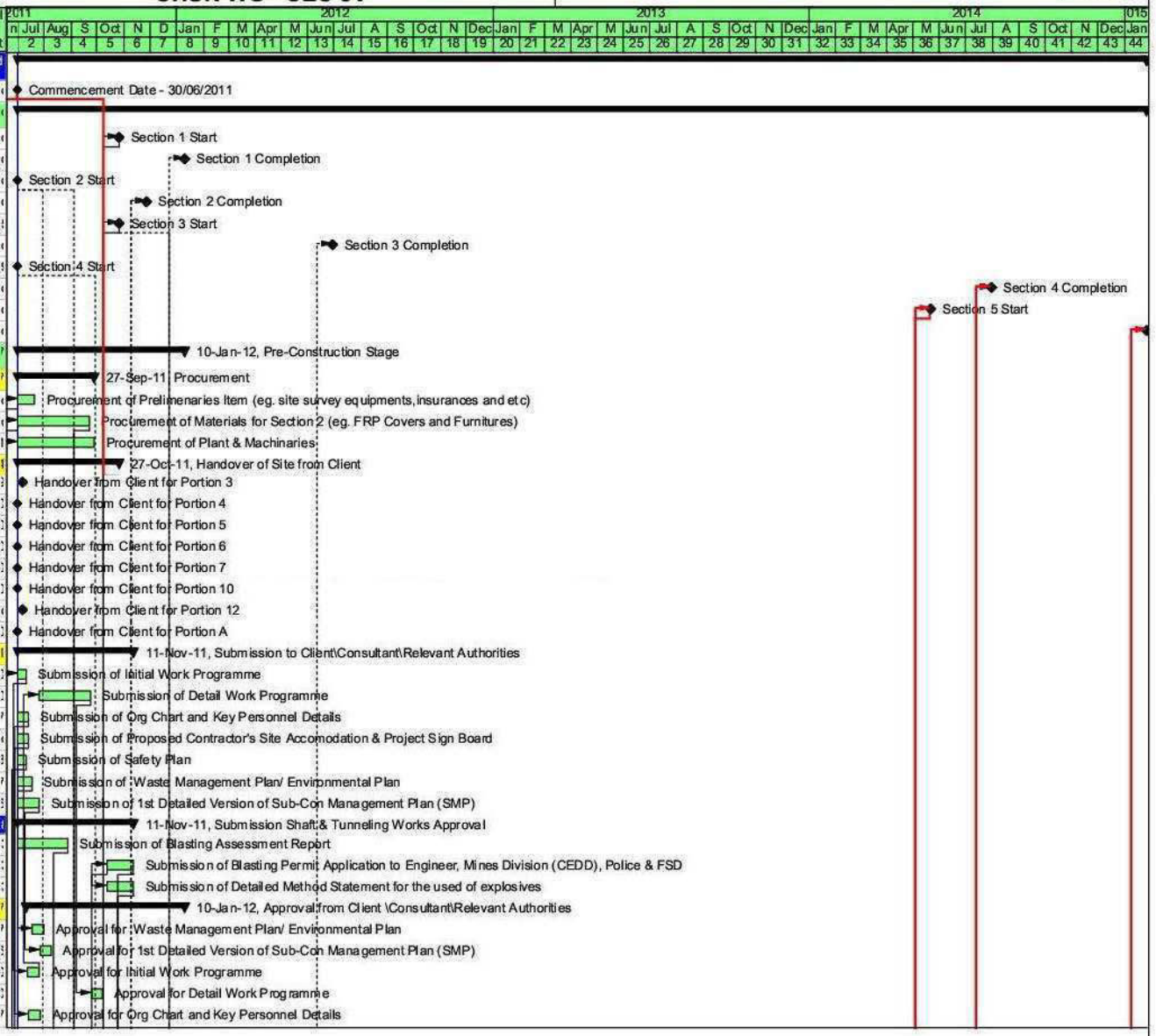
Date	Revision	Checked	Approved

Harbour Area Treatment Scheme Stage 2A - Initial Work Programme

CHUN WO - CEC JV

09-Jul-11 12:08

Activity Name	Original Duration	Start	Finish
Harbour Area Treatment Scheme Stage 2	1263d	30-Jun-11	26-Jan-15
Commencement Date - 30/06/2011	0d	30-Jun-11	
Sectional Completion Milestones	1263d	30-Jun-11	26-Jan-15
Section 1 Start	0d	27-Oct-11	
Section 1 Completion	0d		10-Jan-12*
Section 2 Start	0d	30-Jun-11*	
Section 2 Completion	0d		26-Nov-11*
Section 3 Start	0d	27-Oct-11	
Section 3 Completion	0d		28-Jun-12*
Section 4 Start	0d	30-Jun-11	
Section 4 Completion	0d		30-Jul-14*
Section 5 Start	0d	22-May-14	
Section 5 Completion	0d		26-Jan-15*
Pre-Construction Stage	188d	30-Jun-11	10-Jan-12
Procurement	87d	30-Jun-11	27-Sep-11
Procurement of Prelimenaries Item (eg. site survey eq	21d	30-Jun-11	20-Jul-11
Procurement of Materials for Section 2 (eg. FRP Cove	84d	30-Jun-11	21-Sep-11
Procurement of Plant & Machinaries	90d	30-Jun-11	27-Sep-11
Handover of Site from Client	115d	30-Jun-11	27-Oct-11
Handover from Client for Portion 3	0d	07-Jul-11*	
Handover from Client for Portion 4	0d	30-Jun-11	
Handover from Client for Portion 5	0d	30-Jun-11	
Handover from Client for Portion 6	0d	30-Jun-11	
Handover from Client for Portion 7	0d	30-Jun-11	
Handover from Client for Portion 10	0d	30-Jun-11	
Handover from Client for Portion 12	0d	07-Jul-11*	
Handover from Client for Portion A	0d	30-Jun-11*	
Submission to Client\Consultant\Relevant Author	130d	30-Jun-11	11-Nov-11
Submission of Initial Work Programme	12d	30-Jun-11	11-Jul-11
Submission of Detail Work Programme	60d	26-Jul-11	23-Sep-11
Submission of Org Chart and Key Personnel Details	14d	30-Jun-11	13-Jul-11
Submission of Proposed Contractor's Site Accomodati	14d	30-Jun-11	13-Jul-11
Submission of Safety Plan	11d	30-Jun-11	10-Jul-11
Submission of Waste Management Plan/ Environmen	18d	30-Jun-11	17-Jul-11
Submission of 1st Detailed Version of Sub-Con Manag	27d	30-Jun-11	26-Jul-11
Submission Shaft & Tunneling Works Approval	130d	30-Jun-11	11-Nov-11
Submission of Blasting Assessment Report	60d	30-Jun-11	28-Aug-11
Submission of Blasting Permit Application to Engine	30d	13-Oct-11	11-Nov-11
Submission of Detailed Method Statement for the us	30d	13-Oct-11	11-Nov-11
Approval from Client \Consultant\Relevant Autho	177d	11-Jul-11	10-Jan-12
Approval for Waste Management Plan/ Environmental	14d	18-Jul-11	31-Jul-11
Approval for 1st Detailed Version of Sub-Con Manage	14d	27-Jul-11	09-Aug-11
Approval for Initial Work Programme	14d	12-Jul-11	25-Jul-11
Approval for Detail Work Programme	14d	24-Sep-11	07-Oct-11
Approval for Org Chart and Key Personnel Details	14d	14-Jul-11	27-Jul-11



Actual Work ◆ Milestone
Remaining Work ▼ Summary
Critical Work

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

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

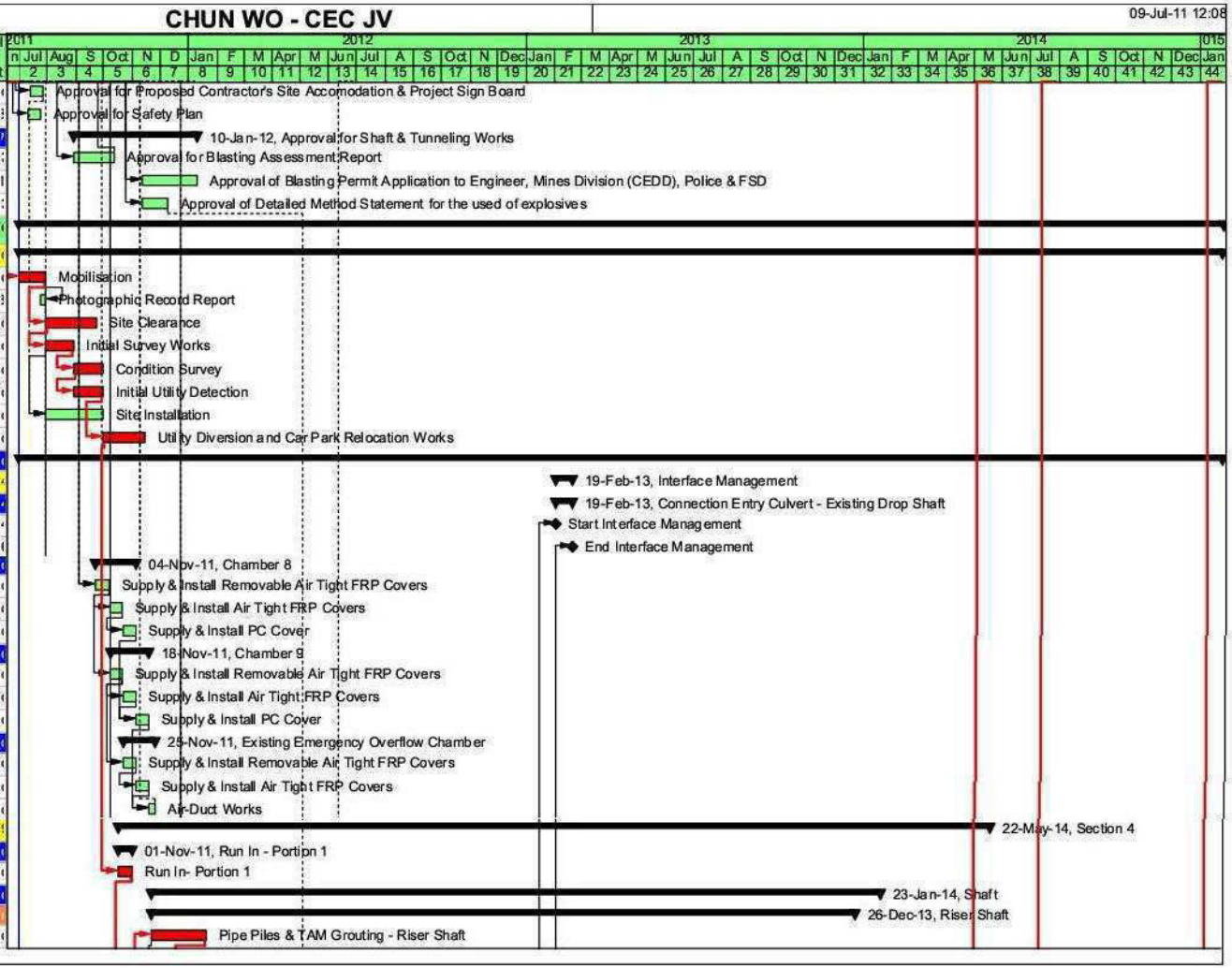
Date	Revision	Checked	Approved
11-Jul-11	Initial Work Programme		

Harbour Area Treatment Scheme Stage 2A - Initial Work Programme

CHUN WO - CEC JV

09-Jul-11 12:08

Activity Name	Original Duration	Start	Finish
Approval for Proposed Contractor's Site Accomodation	14d	14-Jul-11	27-Jul-11
Approval for Safety Plan	14d	11-Jul-11	24-Jul-11
Approval for Shaft & Tunneling Works	128d	29-Aug-11	10-Jan-12
Approval for Blasting Assessment Report	45d	29-Aug-11	12-Oct-11
Approval of Blasting Permit Application to Engineer,	60d	12-Nov-11	10-Jan-12
Approval of Detailed Method Statement for the used	28d	12-Nov-11	09-Dec-11
Construction Stage	1263d	30-Jun-11	26-Jan-15
Preliminaries	1262d	30-Jun-11	24-Jan-15
Mobilisation	24d	30-Jun-11	30-Jul-11
Photographic Record Report	5d	25-Jul-11	30-Jul-11
Site Clearance	42d	30-Jul-11	23-Sep-11
Initial Survey Works	24d	30-Jul-11	30-Aug-11
Condition Survey	24d	30-Aug-11	30-Sep-11
Initial Utility Detection	24d	30-Aug-11	30-Sep-11
Site Installation	48d	30-Jul-11	30-Sep-11
Utility Diversion and Car Park Relocation Works	36d	30-Sep-11	14-Nov-11
Reccuring Items	1262d	30-Jun-11	24-Jan-15
Interface Management	17d	01-Feb-13	19-Feb-13
Connection Entry Culvert - Existing Drop Shaft	17d	01-Feb-13	19-Feb-13
Start Interface Management	0d	01-Feb-13	
End Interface Management	0d		19-Feb-13
Chamber 8	42d	22-Sep-11	04-Nov-11
Supply & Install Removable Air Tight FRP Covers	12d	22-Sep-11	07-Oct-11
Supply & Install Air Tight FRP Covers	12d	08-Oct-11	21-Oct-11
Supply & Install PC Cover	12d	22-Oct-11	04-Nov-11
Chamber 9	41d	08-Oct-11	18-Nov-11
Supply & Install Removable Air Tight FRP Covers	12d	08-Oct-11	21-Oct-11
Supply & Install Air Tight FRP Covers	12d	22-Oct-11	04-Nov-11
Supply & Install PC Cover	12d	05-Nov-11	18-Nov-11
Existing Emergency Overflow Chamber	33d	22-Oct-11	25-Nov-11
Supply & Install Removable Air Tight FRP Covers	12d	22-Oct-11	04-Nov-11
Supply & Install Air Tight FRP Covers	12d	05-Nov-11	18-Nov-11
Air-Duct Works	6d	19-Nov-11	25-Nov-11
Section 4	918d	17-Oct-11	22-May-14
Run In - Portion 1	14d	17-Oct-11	01-Nov-11
Run In- Portion 1	13d	17-Oct-11	01-Nov-11
Shaft	767d	22-Nov-11	23-Jan-14
Riser Shaft	740d	22-Nov-11	26-Dec-13
Pipe Piles & TAM Grouting - Riser Shaft	49d	22-Nov-11	20-Jan-12

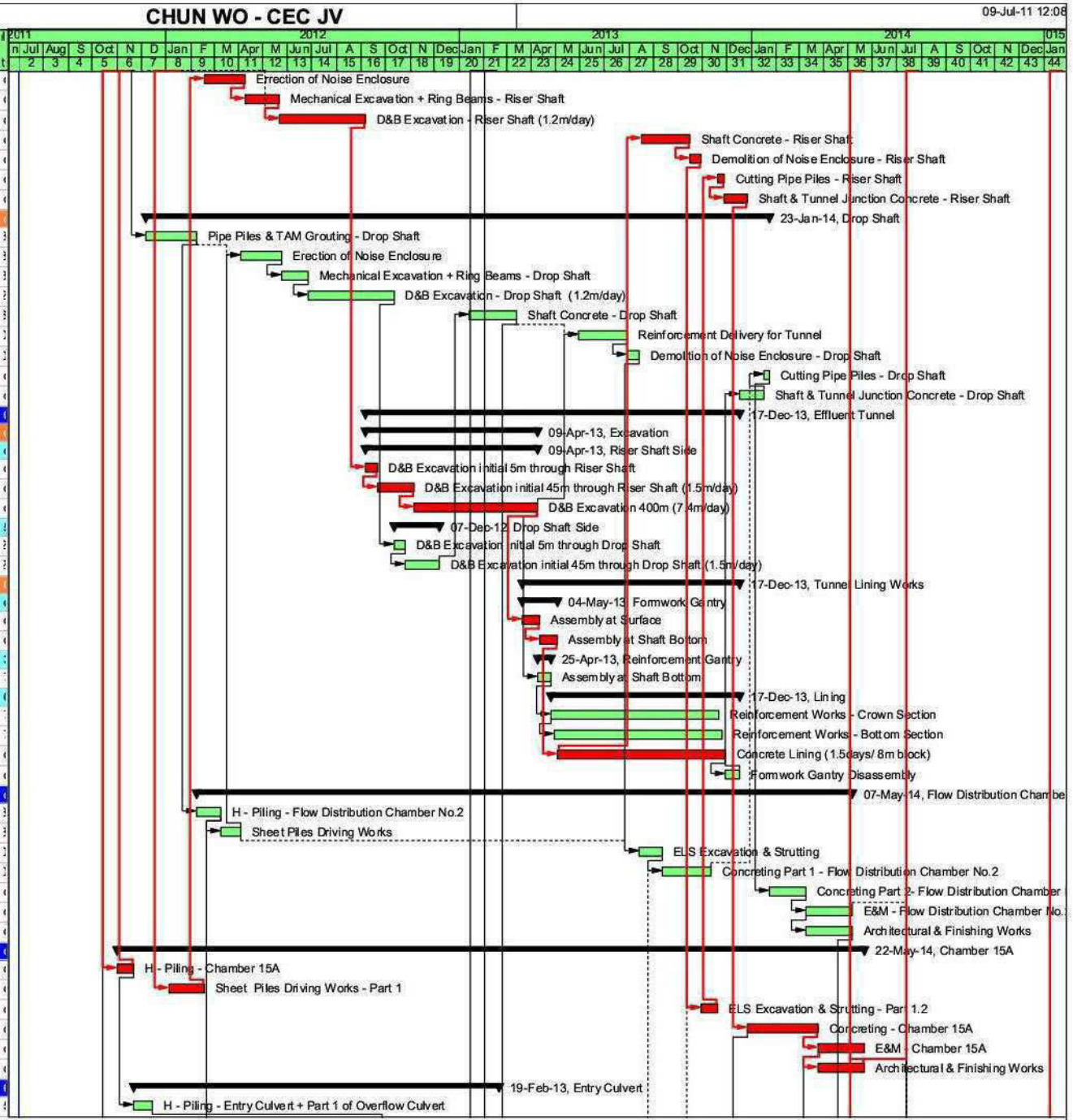


Harbour Area Treatment Scheme Stage 2A - Initial Work Programme

CHUN WO - CEC JV

09-Jul-11 12:08

Activity Name	Original Duration	Start	Finish
Erection of Noise Enclosure	42d	18-Feb-12	09-Apr-12
Mechanical Excavation + Ring Beams - Riser Sh	35d	09-Apr-12	21-May-12
D&B Excavation - Riser Shaft (1.2m/day)	72d	21-May-12	06-Sep-12
Shaft Concrete - Riser Shaft	46d	16-Aug-13	16-Oct-13
Demolition of Noise Enclosure - Riser Shaft	12d	16-Oct-13	30-Oct-13
Cutting Pipe Piles - Riser Shaft	6d	20-Nov-13	27-Nov-13
Shaft & Tunnel Junction Concrete - Riser Shaft	24d	27-Nov-13	26-Dec-13
Drop Shaft	754d	07-Dec-11	23-Jan-14
Pipe Piles & TAM Grouting - Drop Shaft	49d	07-Dec-11	08-Feb-12
Erection of Noise Enclosure	42d	03-Apr-12	24-May-12
Mechanical Excavation + Ring Beams - Drop Sha	27d	24-May-12	26-Jun-12
D&B Excavation - Drop Shaft (1.2m/day)	69d	26-Jun-12	12-Oct-12
Shaft Concrete - Drop Shaft	48d	14-Jan-13	14-Mar-13
Reinforcement Delivery for Tunnel	48d	30-May-13	29-Jul-13
Demolition of Noise Enclosure - Drop Shaft	12d	29-Jul-13	13-Aug-13
Cutting Pipe Piles - Drop Shaft	6d	16-Jan-14	23-Jan-14
Shaft & Tunnel Junction Concrete - Drop Shaft	24d	17-Dec-13	16-Jan-14
Effluent Tunnel	453d	06-Sep-12	17-Dec-13
Excavation	209d	06-Sep-12	09-Apr-13
Riser Shaft Side	209d	06-Sep-12	09-Apr-13
D&B Excavation initial 5m through Riser Shaft	10d	06-Sep-12	21-Sep-12
D&B Excavation initial 45m through Riser Sha	30d	21-Sep-12	06-Nov-12
D&B Excavation 400m (7.4m/day)	105d	06-Nov-12	09-Apr-13
Drop Shaft Side	54d	12-Oct-12	07-Dec-12
D&B Excavation initial 5m through Drop Shaft	10d	12-Oct-12	26-Oct-12
D&B Excavation initial 45m through Drop Sha	30d	26-Oct-12	07-Dec-12
Tunnel Lining Works	263d	21-Mar-13	17-Dec-13
Formwork Gantry	43d	21-Mar-13	04-May-13
Assembly at Surface	18d	21-Mar-13	12-Apr-13
Assembly at Shaft Bottom	18d	12-Apr-13	04-May-13
Reinforcement Gantry	16d	09-Apr-13	25-Apr-13
Assembly at Shaft Bottom	14d	09-Apr-13	25-Apr-13
Lining	228d	25-Apr-13	17-Dec-13
Reinforcement Works - Crown Section	169d	25-Apr-13	21-Nov-13
Reinforcement Works - Bottom Section	169d	29-Apr-13	25-Nov-13
Concrete Lining (1.5days/ 8m block)	169d	04-May-13	29-Nov-13
Formwork Gantry Disassembly	15d	29-Nov-13	17-Dec-13
Flow Distribution Chamber No.2	795d	08-Feb-12	07-May-14
H - Piling - Flow Distribution Chamber No.2	26d	08-Feb-12	09-Mar-12
Sheet Piles Driving Works	21d	09-Mar-12	03-Apr-12
ELS Excavation & Strutting	23d	13-Aug-13	11-Sep-13
Concreting Part 1 - Flow Distribution Chamber No.2	48d	11-Sep-13	11-Nov-13
Concreting Part 2- Flow Distribution Chamber No.2	36d	23-Jan-14	10-Mar-14
E&M - Flow Distribution Chamber No.2	48d	10-Mar-14	07-May-14
Architectural & Finishing Works	48d	10-Mar-14	07-May-14
Chamber 15A	904d	01-Nov-11	22-May-14
H - Piling - Chamber 15A	18d	01-Nov-11	22-Nov-11
Sheet Piles Driving Works - Part 1	36d	04-Jan-12	18-Feb-12
ELS Excavation & Strutting - Part 1.2	18d	30-Oct-13	20-Nov-13
Concreting - Chamber 15A	72d	26-Dec-13	25-Mar-14
E&M - Chamber 15A	48d	25-Mar-14	22-May-14
Architectural & Finishing Works	48d	25-Mar-14	22-May-14
Entry Culvert	439d	22-Nov-11	19-Feb-13
H - Piling - Entry Culvert + Part 1 of Overflow Culvert	20d	22-Nov-11	15-Dec-11

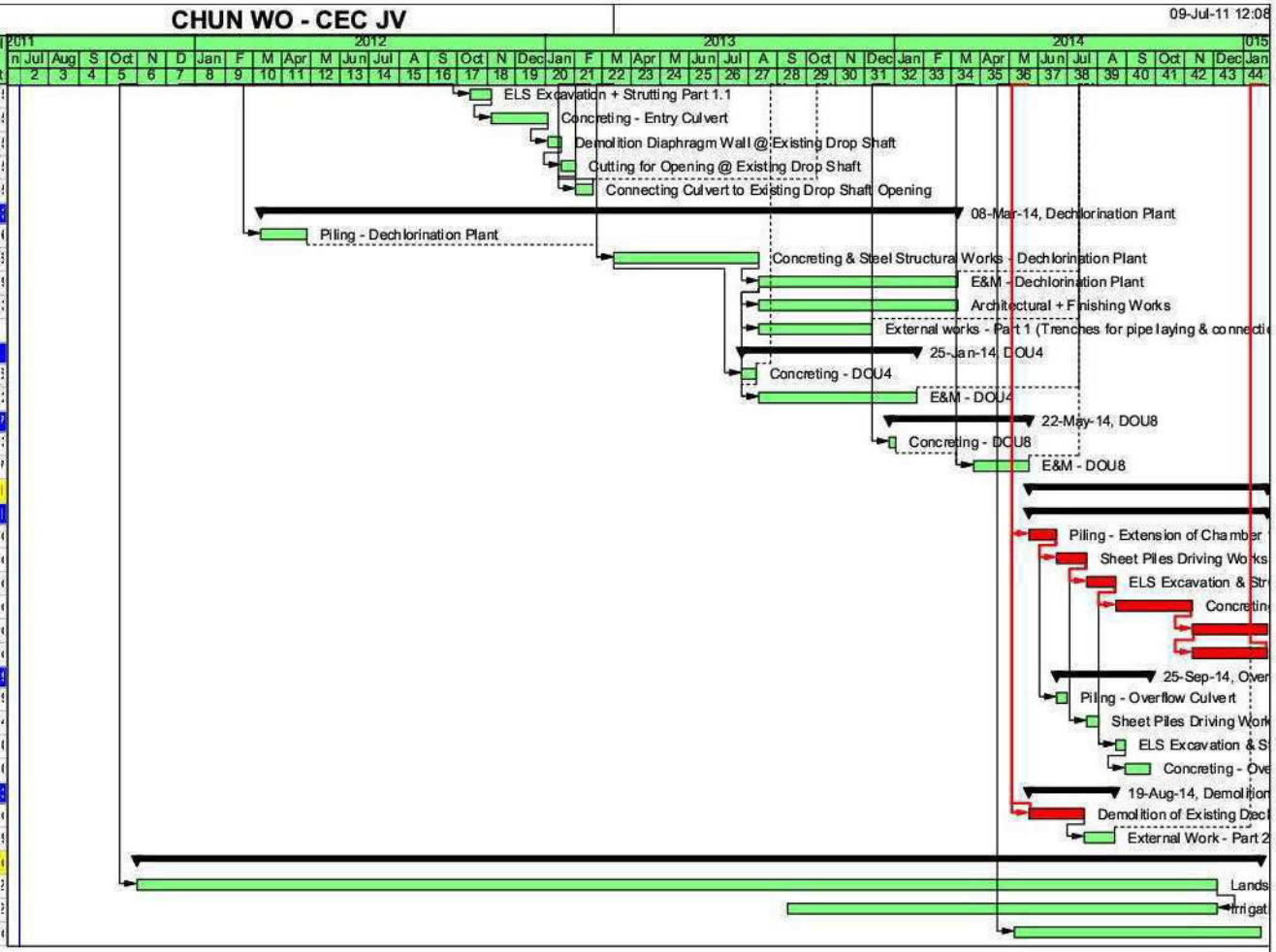


Harbour Area Treatment Scheme Stage 2A - Initial Work Programme

CHUN WO - CEC JV

09-Jul-11 12:08

Activity Name	Original Duration	Start	Finish
ELS Excavation + Strutting Part 1.1	18d	15-Oct-12	05-Nov-12
Concreting - Entry Culvert	50d	05-Nov-12	04-Jan-13
Demolition Diaphragm Wall @ Existing Drop Shaft	12d	04-Jan-13	18-Jan-13
Cutting for Opening @ Existing Drop Shaft	12d	18-Jan-13	01-Feb-13
Connecting Culvert to Existing Drop Shaft Opening	12d	01-Feb-13	19-Feb-13
Dechlorination Plant	706d	09-Mar-12	08-Mar-14
Piling - Dechlorination Plant	40d	09-Mar-12	26-Apr-12
Concreting & Steel Structural Works - Dechlorinatio	123d	14-Mar-13	12-Aug-13
E&M - Dechlorination Plant	168d	12-Aug-13	08-Mar-14
Architectural + Finishing Works	168d	12-Aug-13	08-Mar-14
External works - Part 1 (Trenches for pipe laying &	96d	12-Aug-13	09-Dec-13
DOU4	176d	25-Jul-13	25-Jan-14
Concreting - DOU4	12d	25-Jul-13	09-Aug-13
E&M - DOU4	135d	12-Aug-13	25-Jan-14
DOU8	143d	26-Dec-13	22-May-14
Concreting - DOU8	6d	26-Dec-13	03-Jan-14
E&M - DOU8	48d	25-Mar-14	22-May-14
Section 5	240d	22-May-14	26-Jan-15
Extension of Chamber	240d	22-May-14	26-Jan-15
Piling - Extension of Chamber 15	24d	22-May-14	20-Jun-14
Sheet Piles Driving Works - Part 2	25d	20-Jun-14	21-Jul-14
ELS Excavation & Strutting - Part 2	24d	21-Jul-14	20-Aug-14
Concreting - Extension of Chamber 15	63d	20-Aug-14	08-Nov-14
E&M - Extension of Chamber 15	65d	08-Nov-14	26-Jan-15
Architectural & Finishing Works - Extension of Chan	65d	08-Nov-14	26-Jan-15
Overflow Culvert	92d	20-Jun-14	25-Sep-14
Piling - Overflow Culvert	8d	20-Jun-14	30-Jun-14
Sheet Piles Driving Works - Overflow Culvert	10d	21-Jul-14	02-Aug-14
ELS Excavation & Strutting - Overflow Culvert	8d	20-Aug-14	30-Aug-14
Concreting - Overflow Culvert	20d	30-Aug-14	25-Sep-14
Demolition of Existing Dechlorination Plant	86d	22-May-14	19-Aug-14
Demolition of Existing Dechlorination Plant	48d	22-May-14	19-Jul-14
External Work - Part 2 (Concrete Pavement)	24d	19-Jul-14	19-Aug-14
Landscape Works	1138d	01-Nov-11	19-Jan-15
Landscaping Softwork	918d	01-Nov-11	05-Dec-14
Irrigation System	450d	11-Sep-13	05-Dec-14
Establishment Works	258d	07-May-14	19-Jan-15

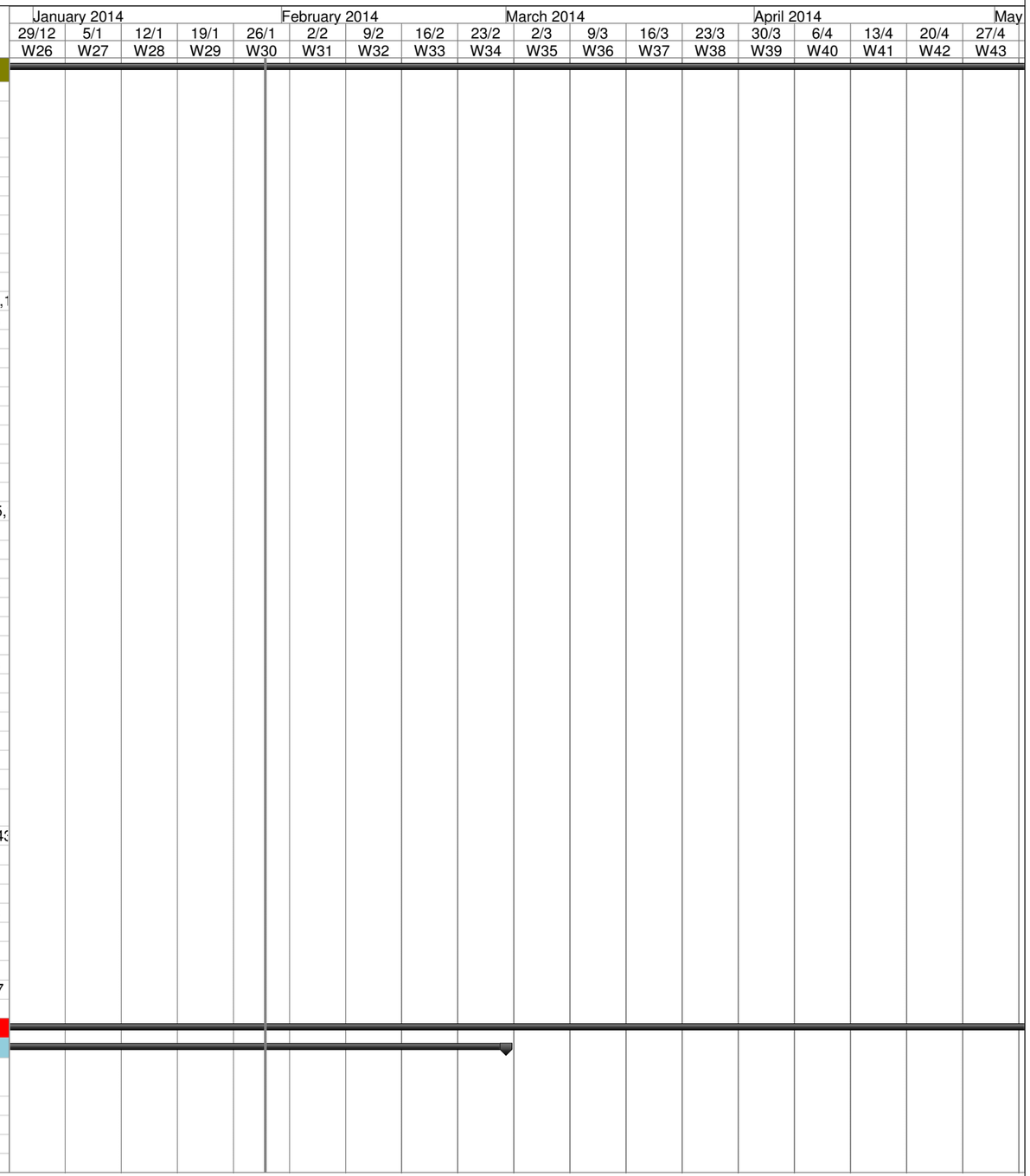


Drainage Services Department
Government of the HKSAR

Contract No DC/2009/19
Harbour Area Treatment Scheme Stage 2A
Upgrading Works at Stonecutters Island Sewage Treatment Works - Sludge Handling and Disposal Facilities
3-Months Rolling Programme

SITA ATAL JV

ID	Task Name	Duration	Start	Finish	% Complete	Predecessors
1	**DETAILED WORKS PROGRAMME**	**950.75 days**	**Fri 28/6/13**	**Wed 3/2/16**	**24%**	
2	LETTER OF ACCEPTANCE	0 days	Fri 28/6/13	Fri 28/6/13	100%	3FS-7 days
3	Section 1 COMMENCEMENT OF DESIGN AND CONSTRUCTION WORKS	0 days	Fri 5/7/13	Fri 5/7/13	100%	
7	Section 2 COMMENCEMENT OF INTERIM OPERATION	0 days	Fri 1/11/13	Fri 1/11/13	0%	
10	**Mobilisation**	**154 days**	**Fri 28/6/13**	**Fri 29/11/13**	**98%**	
11	Submit particulars of Management Team to SO	14 days	Fri 28/6/13	Fri 12/7/13	100%	2
12	Appoint Design Team	14 days	Fri 28/6/13	Fri 12/7/13	100%	2
13	Submit Staffing Proposal to SO	14 days	Fri 5/7/13	Fri 19/7/13	100%	3
14	Submit Designer's Warranty to Employer	28 days	Fri 12/7/13	Fri 9/8/13	100%	12
15	Appoint Design Checker	25 days	Fri 28/6/13	Tue 23/7/13	100%	2
16	Submit Design Checker Agreement and Warranty to SO	14 days	Fri 26/7/13	Fri 9/8/13	100%	15
17	SO to approve Designer and Design Checker	0 days	Tue 6/8/13	Tue 6/8/13	100%	12FS+14 days,1
18	SO to notify date for commencement of the Design	0 days	Tue 20/8/13	Tue 20/8/13	100%	17FS+14 days
19	Enter Sub-contract with Proposed Ship Builder	42 days	Fri 28/6/13	Fri 9/8/13	80%	2
20	Notify SO of engagement of Proposed Ship Builder	0 days	Fri 16/8/13	Fri 16/8/13	80%	19FS+7 days
21	Submit Sub-contractor Management Plan to SO	31 days	Fri 28/6/13	Mon 29/7/13	100%	2
22	Obtain Guarantee or provide Deposit to Employer	49 days	Fri 28/6/13	Fri 16/8/13	100%	2
23	Provide details of insurance policies to Employer	78 days	Fri 28/6/13	Sat 14/9/13	99%	2
24	Provide Uniform Design	7 days	Fri 5/7/13	Fri 12/7/13	100%	3
25	Provide Uniform to Workers	0 days	Fri 29/11/13	Fri 29/11/13	100%	7FS+28 days
26	Provide Uniform to ER	0 days	Tue 10/9/13	Tue 10/9/13	80%	24FS+2 mons
27	Book ISO 9001 certification audit	45 days	Fri 5/7/13	Mon 19/8/13	100%	2
28	Completion of Mobilisation	0 days	Fri 29/11/13	Fri 29/11/13	100%	11,12,13,14,15,
29	**Programme**	**101 days**	**Fri 28/6/13**	**Mon 7/10/13**	**100%**	
30	Prepare and submit 1st three month rolling programme	25 days	Fri 28/6/13	Tue 23/7/13	100%	2
31	Prepare & submit Contractor's Programme to SO	53 days	Fri 28/6/13	Tue 20/8/13	100%	2
32	SO consents to Contractor's Programme	0 days	Mon 9/9/13	Mon 9/9/13	100%	31FS+14 days
33	Prepare and submit 3 month Rolling Programme	11 days	Wed 14/8/13	Sun 25/8/13	100%	31
34	SO consents to 3-month Rolling Programme	0 days	Mon 9/9/13	Mon 9/9/13	100%	33
35	Prepare and submit Detailed Works Programme	14 days	Mon 9/9/13	Mon 23/9/13	100%	32
36	SO consents to Detailed Works Programme	0 days	Mon 7/10/13	Mon 7/10/13	100%	35FS+14 days
37	Completion of Programme	0 days	Mon 7/10/13	Mon 7/10/13	100%	32,36,34
38	**Safety Plan**	46 days	Fri 28/6/13	Tue 13/8/13	100%	
39	Prepare and submit draft Safety Plan to SO	14 days	Fri 28/6/13	Fri 12/7/13	100%	2
40	Arrange meeting to discuss draft Safety Plan with SO	0 days	Fri 19/7/13	Fri 19/7/13	100%	39FS+7 days
41	Submit final Safety Plan to SO	0 days	Tue 13/8/13	Tue 13/8/13	100%	2FS+35 days
42	**Environmental Management Plan**	**55 days**	**Fri 28/6/13**	**Thu 22/8/13**	**100%**	
43	Prepare and submit draft Environmental Management Plan to SO	21 days	Fri 28/6/13	Fri 19/7/13	100%	2
44	Finalise and submit Environmental Management Plan to SO	0 days	Thu 22/8/13	Thu 22/8/13	100%	2FS+45 days,43
45	**Design Plan and Design Criteria**	**89 days**	**Fri 28/6/13**	**Wed 25/9/13**	**99%**	
46	Prepare and submit Design Plan to SO and Design Checker	31 days	Fri 28/6/13	Mon 29/7/13	100%	2
47	Revise and resubmit Design Plan to SO	8 days	Tue 20/8/13	Wed 28/8/13	100%	46
48	SO approves Design Plan	0 days	Wed 25/9/13	Wed 25/9/13	90%	47FS+28 days
49	Prepare and submit E&M design criteria to Design Checker	39 days	Mon 29/7/13	Fri 6/9/13	100%	12,46
50	Prepare and submit Civil design criteria to Design Checker	45 days	Mon 29/7/13	Thu 12/9/13	100%	12,46
51	**Possession of the Site**	**31.25 days**	**Mon 30/9/13**	**Fri 1/11/13**	**100%**	
52	Take over Portion P1 (at WENT RA)	0 days	Fri 1/11/13	Fri 1/11/13	100%	3FS+30 days,7
53	Take over Portion P2 (at SCISTW for temporary offices)	0 days	Mon 30/9/13	Mon 30/9/13	100%	
58	**Marine Vessels**	**548 days**	**Thu 1/8/13**	**Sat 31/1/15**	**18%**	
59	**Design**	**212 days**	**Thu 1/8/13**	**Sat 1/3/14**	**83%**	
60	**Prepare and submit stage 1 documents to Stat Authorities/ Government (Marine Department)**	**14 days**	**Thu 1/8/13**	**Thu 15/8/13**	**100%**	
61	Prepare Vessel General Arrangement	14 days	Thu 1/8/13	Thu 15/8/13	100%	19FS-2 days
62	Prepare Vessel Safety Plan	14 days	Thu 1/8/13	Thu 15/8/13	100%	19FS-2 days
63	Prepare Oil Pollution system	14 days	Thu 1/8/13	Thu 15/8/13	100%	19FS-2 days
64	Submit Stage 1 documents	0 days	Thu 15/8/13	Thu 15/8/13	100%	61,62,63



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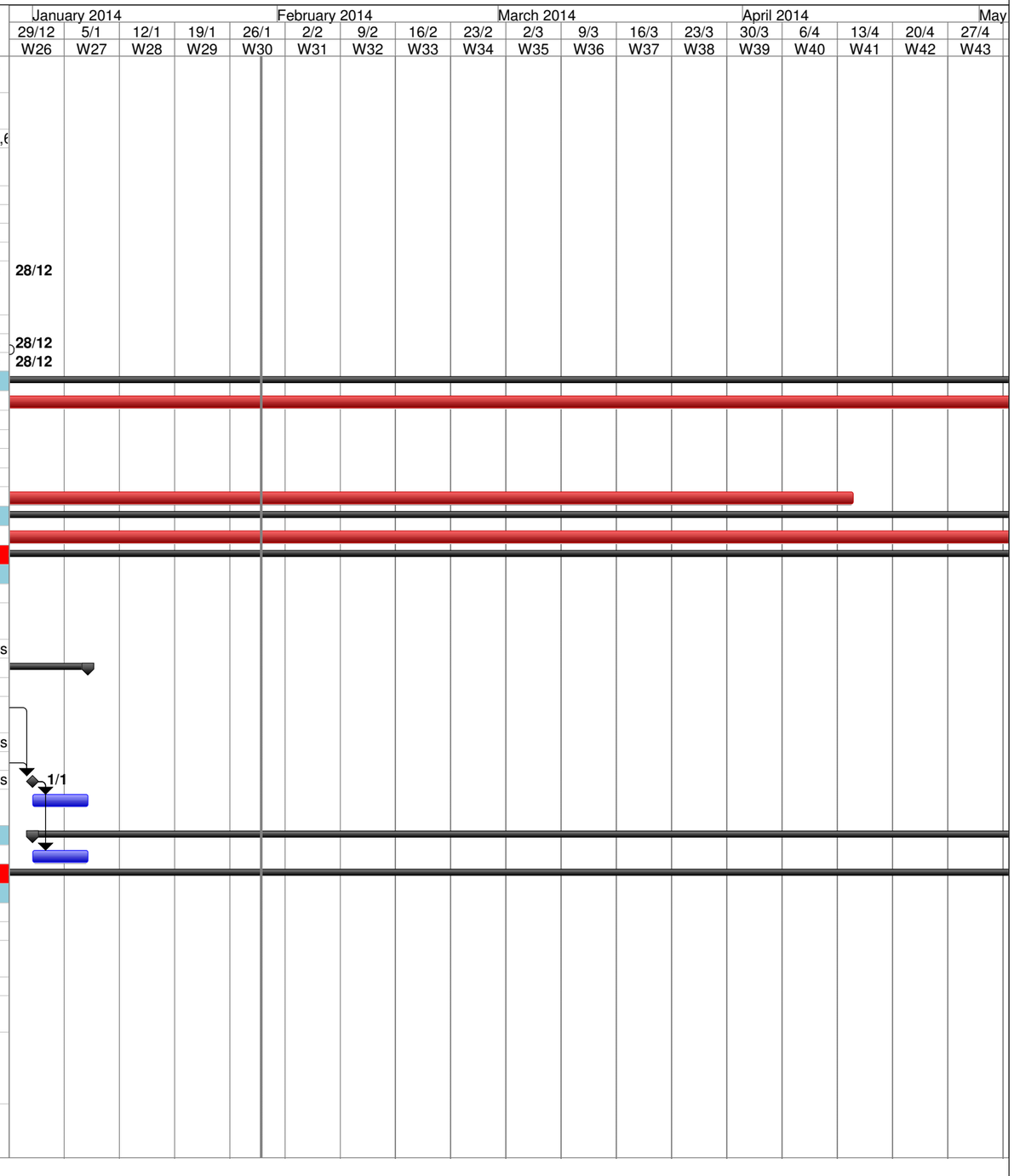
Task | Split | Milestone | Summary | Project Summary | External Tasks | External Milestone | Inactive Task | Inactive Milestone | Inactive Summary | Manual Task | Duration-only | Manual Summary Rollup | Manual Summary | Start-only | Finish-only | Critical | Critical Split | Progress | Deadline

ID	Task Name	Duration	Start	Finish	% Complete	Predecessors
65	Stage 1 endorsed by Statutory Authorities/ Government Departments	0 days	Thu 12/9/13	Thu 12/9/13	100%	64FS+28 days
66	Prepare and submit AIP documents to SO and Design Checker	28 days	Thu 15/8/13	Thu 12/9/13	100%	60
67	SO consents to detailed Design proceeding (AIP)	0 days	Thu 10/10/13	Thu 10/10/13	100%	66FS+28 days,6
68	**Prepare and submit stage 2 DDA documents to Stat Authorities/ Government (Lloyld's Register)**	**79 days**	**Thu 12/9/13**	**Sat 30/11/13**	**67%**	
69	1st submission to Lloyd's (Hull Structure)	15 days	Thu 12/9/13	Fri 27/9/13	100%	65
70	2nd submission to Lloyd's (Machinery & Piping)	22 days	Mon 23/9/13	Tue 15/10/13	100%	69FS-4 days
71	3rd submission to Lloyd's (Electrical)	16 days	Tue 15/10/13	Thu 31/10/13	80%	70
72	4th submission to Lloyds (Outfitting & others)	30 days	Thu 31/10/13	Sat 30/11/13	20%	71
73	Stage 2 DDA endorsed by Statutory Authorities/ Government Departments (Lloyld's Register and Marine Department)	0 days	Sat 28/12/13	Sat 28/12/13	80%	68FS+28 days
74	Submit DDA documents to Design Checker	38 days	Wed 23/10/13	Sat 30/11/13	100%	67,72FF
75	Design Checker certifies Detail Design drawings	0 days	Sat 28/12/13	Sat 28/12/13	50%	74FS+28 days
76	Provide list of certified Design drawings to SO	0 days	Sat 28/12/13	Sat 28/12/13	50%	74FS+28 days
79	**Ship Building**	**544 days**	**Thu 1/8/13**	**Tue 27/1/15**	**11%**	**18**
80	**Procurement and delivery of machinery**	364 days	Thu 1/8/13	Thu 31/7/14	25%	
81	**Procurement and delivery of materials**	105 days	Tue 20/8/13	Tue 3/12/13	90%	60
82	Survey of hull plating material test (LRS)	2 days	Fri 1/11/13	Sun 3/11/13	100%	81FS-32 days
83	**Production design lofting**	70 days	Thu 10/10/13	Thu 19/12/13	80%	67
84	Survey of preparation before welding (LRS)	16 days	Wed 16/10/13	Fri 1/11/13	100%	83SS+6 days
85	**Block construction**	151 days	Fri 15/11/13	Tue 15/4/14	0%	75
123	**Gantry Crane**	**538 days**	**Wed 7/8/13**	**Tue 27/1/15**	**25%**	
124	**Procurement and fabrication**	456 days	Wed 7/8/13	Thu 6/11/14	30%	
130	**Sludge Containers**	**604.75 days**	**Fri 9/8/13**	**Sun 5/4/15**	**5%**	
131	**1 - AIP Design Submission**	**54 days**	**Fri 9/8/13**	**Wed 2/10/13**	**99%**	
132	Preparation of Stage 1 AIP documents	26 days	Fri 9/8/13	Wed 4/9/13	100%	
133	Submit Stage 1 AIP Design documents to Design Checker and SO	0 days	Wed 4/9/13	Wed 4/9/13	100%	132
134	SO consents to AIP Design Submission proceeding	0 days	Wed 2/10/13	Wed 2/10/13	20%	133FS+28 days
135	**II - DDA Design Submission**	**98 days**	**Wed 2/10/13**	**Wed 8/1/14**	**0%**	**134**
136	Preparation of Stage 2 DDA documents	7 days	Wed 2/10/13	Wed 9/10/13	0%	134
137	Submit Detailed DDA Design Submission to Design Checker and SO	0 days	Wed 9/10/13	Wed 9/10/13	0%	136
138	Design Checker certifies DDA Detail Design drawings	0 days	Wed 6/11/13	Wed 6/11/13	0%	137FS+28 days
139	Provide list of certified DDA Design drawings to SO	0 days	Wed 6/11/13	Wed 6/11/13	0%	138
140	SO consents to certified Design (DDA)	0 days	Wed 1/1/14	Wed 1/1/14	0%	139FS+56 days
141	Deposit Registered Design with Employer, SO and Design Checker	7 days	Wed 1/1/14	Wed 8/1/14	0%	140
143	**III - Manufacturing/ Procurement**	**196 days**	**Wed 1/1/14**	**Wed 16/7/14**	**0%**	
144	Procurement	7 days	Wed 1/1/14	Wed 8/1/14	0%	140
158	**Improvement Works**	**528 days**	**Wed 14/8/13**	**Sat 24/1/15**	**26%**	
159	**I - AIP Design Submission**	**133 days**	**Wed 14/8/13**	**Wed 25/12/13**	**99%**	
160	Measure seabed levels at SCISTW	13 days	Wed 14/8/13	Tue 27/8/13	100%	3FS+30 days
161	Measure seabed levels at WENT	2 days	Mon 30/9/13	Wed 2/10/13	0%	160
162	Initial inspection to existing SCISTW facilities and seawall.	8 days	Tue 27/8/13	Wed 4/9/13	100%	160
163	Initial inspection to existing WENT facilities and seawall.	12 days	Wed 4/9/13	Mon 16/9/13	100%	162
164	Prepararation of Stage 1 AIP documents	28 days	Wed 25/9/13	Wed 23/10/13	100%	48,162,163
165	Make submissions for investigation and monitoring on the environmental aspect before commencement of and during Construction Works as stated in the Employer"s Requirements – Part B.	28 days	Wed 25/9/13	Wed 23/10/13	100%	48
166	Prepare submission for carrying out temporary traffic diversions for construction work on existing roads within SCISTW.	28 days	Wed 25/9/13	Wed 23/10/13	100%	48



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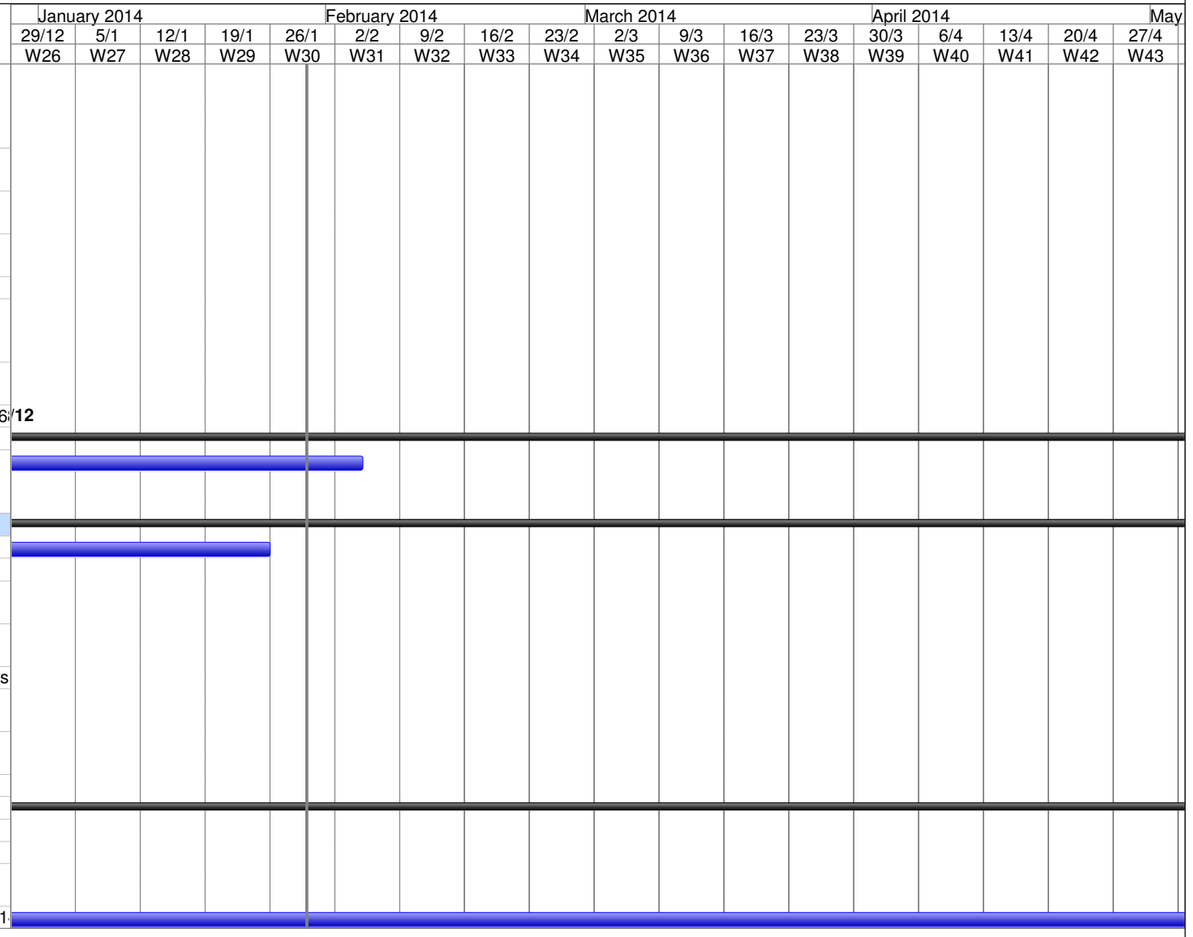
Task	Project Summary	Inactive Milestone	Manual Summary Rollup	Critical
Split	External Tasks	Inactive Summary	Manual Summary	Critical Split
Milestone	External Milestone	Manual Task	Start-only	Progress
Summary	Inactive Task	Duration-only	Finish-only	Deadline

Drainage Services Department
Government of the HKSAR

Contract No DC/2009/19
Harbour Area Treatment Scheme Stage 2A
Upgrading Works at Stonecutters Island Sewage Treatment Works - Sludge Handling and Disposal Facilities
3-Months Rolling Programme

SITA ATAL JV

ID	Task Name	Duration	Start	Finish	% Complete	Predecessors
167	Prepare Submission of diversion of existing pipes and flows, modifications to existing facilities, which may or may not be subject to access restrictions and limitations on loading to the existing seawall and other structures.	28 days	Wed 25/9/13	Wed 23/10/13	100%	48
168	Identify Limitations, constraints and restrictions within SCISTW and WENT RA	28 days	Wed 25/9/13	Wed 23/10/13	100%	48
169	Liaison with utilities undertakers, government departments, EPD and WSD	28 days	Wed 25/9/13	Wed 23/10/13	100%	48
170	Interface requirements with other contractors within SCISTW and disposal sites	28 days	Wed 25/9/13	Wed 23/10/13	100%	48
171	Submit Stage 1 AIP documents to Stat Authorities/ Governmen	0 days	Wed 23/10/13	Wed 23/10/13	100%	164
172	Stage 1 endorsed by Statutory Authorities/ Government Departments (including Marine Department, DSD/ST2 and EPD)	0 days	Wed 20/11/13	Wed 20/11/13	100%	171FS+28 days
173	Submit Stage 1 AIP documents to Design Checker and SO	7 days	Wed 20/11/13	Wed 27/11/13	80%	172
174	SO consents to DDA Design Submission proceeding	0 days	Wed 25/12/13	Wed 25/12/13	0%	165,166,167,16/12
175	**II - DDA Design Submission**	**168 days**	**Wed 25/12/13**	**Wed 11/6/14**	**0%**	**174**
176	Preparation of Stage 2 DDA documents	42 days	Wed 25/12/13	Wed 5/2/14	0%	
206	**V - E&M Works**	**423 days**	**Wed 27/11/13**	**Sat 24/1/15**	**7%**	
207	Prepare the electrical system analysis	60 days	Wed 27/11/13	Sun 26/1/14	30%	173
220	**Interim Operation Plan**	**80 days**	**Sat 3/8/13**	**Tue 22/10/13**	**100%**	
221	Prepare and submit Interim Operation Plan to SO and Design Checker	14 days	Sat 3/8/13	Sat 17/8/13	100%	7FS-90 days
222	Revise and resubmit Interim Operation Plan to SO and Design Checker	12 days	Thu 12/9/13	Tue 24/9/13	100%	221
223	Design Checker certifies Interim Operation Plan	0 days	Tue 8/10/13	Tue 8/10/13	100%	222FS+14 days
224	Submit certified Interim Operation Plan to SO	0 days	Tue 8/10/13	Tue 8/10/13	100%	223,3FS+42 days
225	SO consents to Interim Operation Plan	0 days	Tue 22/10/13	Tue 22/10/13	100%	224FS+14 days
226	SO to give notice of commencement of Interim Operation	0 days	Fri 11/10/13	Fri 11/10/13	100%	7FS-3 wks
227	**Interim Operation**	**463 days**	**Fri 1/11/13**	**Sat 7/2/15**	**0%**	
228	Take over 150 - 200 existing sludge containers	0 days	Fri 1/11/13	Fri 1/11/13	100%	7
229	Take over the Container Maintenance Building	0 days	Fri 1/11/13	Fri 1/11/13	70%	7
230	Take over the Vehicle Washing Machine at Northern Sludge Silos (subject to SO instruction)	0 days	Fri 1/11/13	Fri 1/11/13	0%	7
231	Perform Interim Opeartion	425 days	Tue 5/11/13	Sun 4/1/15	0%	7,8FF,225FS+1



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