MONTHLY EM&A REPORT

ATAL-Degrémont-China State Joint Venture

Contract No. DC/2008/03 Design, Build and Operate Pillar Point Sewage Treatment Works: *Fifth Monthly EM&A Report*

March 2011

Environmental Resources Management

21/F Lincoln House 979 King's Road Taikoo Place Island East, Hong Kong Telephone: (852) 2271 3000 Facsimile: (852) 2723 5660 E-mail: post.hk@erm.com http://www.erm.com

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Contract No. DC/2008/03 Design, Build and Operate Pillar Point Sewage Treatment Works: *Fifth Monthly EM&A Report*

March 2011 Reference 0119806

For and on behalf of
ERM-Hong Kong, Limited
Approved by: Frank Wan
Signed: Marchart
Position: Partner
Certified by: (Environmental Team Leader – Winnie Ko)
Certified by:
Date: 14 April 2011



AECOM 8/F Grand Central Plaza, Tower 2 138 Shatin Rural Committee Road Shatin, Hong Kong www.aecom.com +852 3105 8686 tel +852 2317 7609 fax

Your Ref: 60017423/C/enfl/11041401

By Hand & By Fax (2833 9162)

Drainage Services Department Sewage Services Branch Harbour Area Treatment Scheme Division 5/F., Western Magistracy, 2A Pok Fu Lam Road, Hong Kong.

Attn: Mr. Eddie S.K. LEUNG (T:2159 3413)

14 April 2011

Dear Sir,

Contract No. CV/2008/03 Design, Build and Operate Pillar Point Sewage Treatment Works

Monthly EM&A Report for March 2011

Reference is made to Environmental Team (ET)'s revised draft of the Monthly EM&A Report for March 2011 provided by email dated 14 April 2011. We have no further comment.

We hereby verify the said Monthly EM&A Report as having complied with the requirement as set out in the EM&A Manual in accordance with the condition 3.6 of Environmental Permit No. EP-321/2008.

Should you have any queries, please feel free to contact the undersigned at 3105 8537.

For and on behalf of AECOM Asia Co. Ltd.

Y T Tang Independent Environmental Checker

c.c.

AECOM – Mr. Tim Lee ERM – Ms. Winnie Ko ATAL-Degremont-China State JV – Mr. C.Y. Fong (Fax No. 2317 7609) (Fax No. 2723 5660) (Fax No. 2811 3321)

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EXECUTIVE SUMMARY

The construction works of *DC/2008/03 of Design, Build and Operate Pillar Point Sewage Treatment Works (the Project)* commenced on 13 November 2010. This is the fifth monthly Environmental Monitoring and Audit (EM&A) report presenting the EM&A works carried out during the period from 1 to 31 March 2011 in accordance with the EM&A Manual.

Summary of Construction Works undertaken during the Reporting Month

Works undertaken in the reporting month include:

- Mini Pile soil nailing in P2;
- Waling and struting in P2;
- Shotcreting in P2; and
- Predrilling in P2.

Environmental Monitoring and Audit Progress

A summary of the monitoring activities undertaken in this reporting period is listed below:

- 24-hour TSP Monitoring at each monitoring station (AM1 and AM2) 5 sets
- 1-hour TSP Monitoring at each monitoring station (AM1 and AM2) 15 sets
- Joint Environmental Site Inspection
- Landscape & Visual Monitoring
 1 time

4 times

Air Quality

Five sets of 24-hour TSP and fifteen sets of 1-hr TSP measurements were carried out at each of the designated monitoring stations during the reporting period. No exceedance was recorded during the reporting period.

Waste Management

Waste generated from this Project includes inert construction and demolition (C&D) materials (public fill) and non-inert C&D materials (construction wastes). A total of 22,859 tonnes of public fill were delivered to the fill bank and 385 kg of metals, paper/cardboard and plastics were sent to recyclers in the reporting period. No general refuse and chemical waste was disposed of in the reporting period.

Environmental Site Inspection

Four weekly joint environmental site inspections were carried out by the representatives of the Contractor, the SOR and the Environmental Team (ET). Details of the audit findings and implementation status of the mitigation measures are presented in *Section 7.1*.

Landscape & Visual

Review on landscape and visual mitigation measures was performed on 11 March 2011. Details of the audit findings and implementation status of the mitigation measures are presented in *Sections 3.2* and *7.2*.

Environmental Exceedance/Non-conformance/Compliant/Summons and Prosecution

No exceedance was recorded during the reporting period.

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

No environmental complaint and summon/prosecution was received in this reporting period.

Future Key Issues

Works to be undertaken in the next reporting month include:

- Site formation in Administrative Building in P1;
- Utilities Diversion in P2;
- Mini-piling in P2;
- Shotcreting in P2;
- Post drilling in P2;
- Mini-Pile tension test in P2;
- Formation CBR Text in P2;
- Blinding Work for CEPT and PTW in P2;
- Steel pipe installation in P2;
- DI pipe installation in P2; and
- Bottom Slab Concrete in P2.

Potential environmental impacts arising from the above construction activities are mainly associated with dust, construction noise, site runoff, waste management and landscaping issues.

1 INRODUCTION

ERM-Hong Kong, Limited (ERM) was appointed by ATAL – Degrémont – China State Joint Venture (ADC-JV) (the Contractor) as the Environmental Team (ET) to undertake Environmental Monitoring and Audit (EM&A) programme for the Contract No. *DC/2008/03 of Design, Build and Operate Pillar Point Sewage Treatment Works (the Project).*

1.1 PURPOSE OF THE REPORT

This is the fifth EM&A report which summarises the impact monitoring results and audit findings for the EM&A programme during the reporting period from 1 to 31 March 2011.

1.2 STRUCTURE OF THE REPORT

The structure of the report is as follows:

Section 1 : **Introduction** details the scope and structure of the report.

Section 2: Project Information

summarises background and scope of the Project, site description, project organization, construction programme, the construction works undertaken and the status of Environmental Permits (EP)/licences over the construction phase of the Project.

Section 3: Environmental Monitoring Requirements

summarises the environmental monitoring including monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequency, monitoring locations, Action and Limit Levels, Event/Action Plans, environmental mitigation measures as recommended in the approved EIA report, EP and relevant environmental requirements stated in the Contract Specification.

- Section 4 : **Implementation Status on Environmental Mitigation Measures** summarises the implementation of environmental protection measures during the reporting period.
- Section 5 : **Monitoring Results** summarises the monitoring results obtained in the reporting period.

Section 6 : Waste Management summarises the quantity of public fill and construction waste generated in the reporting period

Section 7: Environmental Site Inspection

summarises the audit findings of the weekly site inspections undertaken within the reporting period.

Section 8: Environmental Non-conformance

summarises any exceedance of environmental performance standard, and environmental complaints and environmental summons received within the reporting period.

Section 9: Further Key Issues

summarises the impact forecast and monitoring schedule for the next reporting month.

Section 10 : Review of the EM&A Data and Predictions

compares the monitoring data and waste quantity against predictions in the approved Project EIA report.

Section 11 : Conclusions

2.1 BACKGROUND

The existing Pillar Point Sewage Treatment Works (PPSTW) is located to the north of the Tuen Mun River Trade Terminal and is abutting the Lung Mun Road to its north. It is a preliminary treatment works with screening and grit removal processes with treated effluent discharged to the sea (North Western Water Control Zone) via a twin submarine outfall. The *Review of the Tuen Mun and Tsing Yi Sewerage Master Plan* (RTMTYSMP) commissioned in February 1999, recommended to expand the sewage treatment capacity and to upgrade the plant to chemically enhanced primary treatment (CEPT) with disinfection in order to cater for the projected ultimate population and planned developments in the Tuen Mun area, and to improve the effluent quality and hence to reduce the pollution loadings to the receiving waters.

The upgrading of the PPSTW comprises the following works:

- expanding the treatment capacity of the existing PPSTW to cope with the increased peak wet-weather sewage flow in Tuen Mun area;
- upgrading the sewage treatment level of the existing PPSTW to incorporate chemical treatment with disinfection at minimum removal rates of 70%, 55% and 99.9% of suspended solids (SS), biochemical oxygen demand (BOD) and *E.coli*, respectively;
- upgrading existing septic waste reception facilities at PPSTW; and
- providing and upgrading ancillary facilities including the administration building, workshop, laboratory, odour control facilities, sludge handling and dewatering facilities, access roads and minor landscaping works within the STW for the operation and maintenance of the upgraded STW.

The potential environmental impacts of the Project have been studied in the "Upgrading of Pillar Point Sewage Treatment Works" (EIAO Register No: AEIAR-145/2008). The EIA was approved on 10 June 2008 under the Environmental Impact Assessment Ordinance (EIAO) and an Environmental Permit (EP-321/2008) for the works was granted on 17 November 2008. Under the requirements of Condition 3.1 of EP-322/2008, an EM&A programme as set out in the EM&A Manual is required to be implemented.

The construction works commenced on 13 November 2010 and are scheduled for completion by 2014.

2.2 GENERAL SITE DESCRIPTION

The open area adjacent to the existing PPSTW has been designated for the upgrading works. The layout of the upgrading works is illustrated in *Annex A*.

2.3 CONSTRUCTION ACTIVITIES

A summary of the major construction activities undertaken in this reporting period is shown in *Table 2.1*. The locations of the construction activities are shown in *Annex B*. The construction programme of the Project in the reporting month and the upcoming 3 months is presented in *Annex L*.

Table 2.1 Summary of Construction Activities Undertaken in Reporting Period

- Mini Pile soil nailing in P2
- Waling and strut ing in P2
- Shotcreting in P2
- Predrilling in P2

2.4 PROJECT ORGANISATION AND MANAGEMENT STRUCTURE

The project organization chart and contact details are shown in *Annex C*.

2.5 STATUS OF ENVIRONMENTAL APPROVAL DOCUMENTS

A summary of the valid permits, licences, and/or notifications on environmental protection for this Project is presented in *Table 2.2*.

Table 2.2 Summary of Environmental Licensing, Notification and Permit Status

Permit/ Licences/	Reference	Validity Period	Remarks
Notification		5	
Environmental	EP-321/2008	Throughout the	Permit granted on 17
Permit		Contract	November 2008.
Notification of	Ref No. 308136	Throughout the	-
Construction Works		Contract	
under Air Pollution			
Control (Construction			
Dust) Regulation			
Water Discharge	WT00008027-	Till 31 December	Wastewater discharge
License	2010	2015	licence was issued by
			EPD on 7 December 2010.
Construction Noise	GW-RW0588-10	1 December 2010 –	-
Permit		30 May 2011	
	GW-RW0074-11	28 January 2011 – 27	-
		July 2011	
Chemical Waste	5213-421-A2620-	Throughout the	Licence approved on 28
Producer Registration	01	Contract	October 2010

3 ENVIRONMENTAL MONITORING REQUIREMENTS

3.1 AIR QUALITY MONITORING

3.1.1 Monitoring Location

The proposed air quality monitoring stations for the construction phase of the Project, as recommended in the approved EM&A Manual, are given in *Table 3.1* and shown in *Annex D*. The proposed locations (AM1 and AM2) have been agreed with the Drainage Services Department (DSD), Environmental Protection Department (EPD) and the Independent Environmental Checker (IEC).

Table 3.1Construction Phase Air Monitoring Locations

Monitoring ID	Air Quality Monitoring Station
AM1	Tuen Mun EMSD Servicing Vehicle Station
AM2	River Trade Terminal Office

3.1.2 Monitoring Parameter and Frequency

The construction phase air quality monitoring was conducted at the designated monitoring stations in accordance with the requirements stipulated in the EM&A Manual. 1-hour and 24-hour TSP levels were monitored at the frequency and duration stated in *Table 3.2*. The construction phase TSP monitoring was conducted as per the schedule presented in *Annex E*.

Table 3.2Construction Phase Air Quality Monitoring Parameters and Frequency

Parameter	Frequency	
24-hour TSP	Once every 6 days	
1-hour TSP	3 times every 6 days	

3.1.3 Action and Limit Levels

The Action and Limit levels have been established and presented in Table 3.3.

Table 3.3Action and Limit Levels for Air Quality

Parameter	Air Monitoring Station	Action Level, µgm-3	Limit Level, µgm- ³
24-hour TSP	AM1	183	260
	AM2	192	260
1-hour TSP	AM1	343	500
	AM2	383	500

3.1.4 Monitoring Equipment

Continuous 24-hour and 1-hour TSP monitoring were performed using High Volume Samplers (HVS) with appropriate sampling inlets installed, located at the designated monitoring stations. The performance specification of HVS complied with the standard method "*Determination of Suspended Particulate*

Matter in the Atmosphere (High Volume Method)" as stipulated in US EPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50 Appendix B). Table 3.4 summarises the equipment that were deployed for the 24-hour and 1hour TSP monitoring respectively.

Table 3.4TSP Monitoring Equipment

Monitoring Station	Monitoring Equipment (HVS and Calibrator)
24-hr and 1-hr TSP	
AM1	GMW GS-2310 (S/N 7580), CM-AIR-43 (S/N 9833620)
AM2	GMW GS-2310 (S/N 1247), CM-AIR-43 (S/N 9833620)
	/ GMW GS-2310 (S/N 1252), CM-AIR-43 (S/N 9833620)

3.1.5 Monitoring Methodology

The setup locations of the HVSs at monitoring stations were listed in *Table 3.1*. All HVSs were free-standing with no obstruction.

The following criteria were considered in the installation of the HVSs:

- appropriate support to secure the samplers against gusty wind were provided at AM1 and AM2;
- a minimum of 2m separation from walls, parapets and penthouses was required for rooftop samplers;
- no furnace or incinerator flues were nearby;
- airflow around the sampler was unrestricted; and
- permission was obtained to set up the samplers and to gain access to the monitoring stations.

Preparation of Filter Papers

- glass fibre filters were labelled and sufficient filters that were clean and without pinholes were selected;
- all filters were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25°C and not variable by more than ± 3°C; the relative humidity (RH) was 40%; and
- SGS Hong Kong Ltd, a HOKLAS accredited laboratory, implements comprehensive quality assurance and quality control programmes.

Field Monitoring

- the power supply was checked to ensure that the HVSs were working properly;
- the filter holder and the area surrounding the filter were cleaned;

- the filter holder was removed by loosening the foul bolts and a new filter, with stamped number upward, on a supporting screen was aligned carefully;
- the filter was properly aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter;
- the swing bolts were fastened to hold the filter holder down to the frame. The pressure applied should be sufficient to avoid air leakage at the edges;
- then the shelter lid was closed and secured with the aluminium strip;
- the HVSs were warmed-up for about 5 minutes to establish runtemperature conditions;
- a new flowrate record sheet was set into the flow recorder;
- the flow rates of the HVSs were checked and adjusted to between 1.22 1.37 m³min⁻¹ which were within the range specified in the EM&A Manual (ie 0.6 1.7 m³min⁻¹);
- the programmable timer was set for a sampling period of 24 hours ± 1 hour, and the starting time, weather condition and the filter number were recorded;
- the initial elapsed time was recorded;
- at the end of sampling, the sampled filter was removed carefully and folder in half length so that only surfaces with collected particulate matter were in contact;
- it was then placed in a clean plastic envelope and sealed;
- all monitoring information was recorded on a standard data sheet; and
- filters were sent to SGS Hong Kong Ltd for analysis.

Maintenance and Calibration

- the HVSs and their accessories were maintained in good working condition, such as replacing motor brushes routinely and checking electrical wiring to ensure a continuous power supply; and
- the flow rate of each HVS with mass flow controller were calibrated using an orifice calibrator. Initial calibrations of the dust monitoring equipments were conducted upon installation and prior to commissioning. Five-point calibration was carried out for HVSs using CM-AIR-43 Calibration Kit. HVSs are calibrated on a bi-monthly basis. The calibration records for the HVSs are given in *Annex G*.

Wind Data Monitoring

Average wind data (wind speed and wind direction) during the monitoring period were obtained from the meteorological station at Tuen Mun of the Hong Kong Observatory (HKO) and were presented in *Annex F*.

3.1.6 Event and Action Plan

The Event/Action Plan (EAP) for air quality monitoring is presented in *Annex H*.

3.2 LANDSCAPE AND VISUAL MONITORING

In accordance with the EM&A Manual, monthly landscape and visual monitoring is required to ensure that the design, implementation and maintenance of landscape and visual mitigation measures recommended in the approved EIA Report are fully achieved. The monitoring procedures and criteria as described in the EM&A Manual were adopted.

3.3 ENVIRONMENTAL MITIGATION MEASURES AND ENVIRONMENTAL REQUIREMENTS IN CONTRACT

All relevant environmental mitigation measures listed in the EIA Report and the EM&A Manual as well as the specific environmental requirements stated in Contract Specification are summarised in *Annex I*. A summary of the key environmental mitigation measures implemented as per the Contract Requirements is also presented in *Annex I*.

IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREMENTS

The Contractor has implemented environmental mitigation measures and requirements as stated in the EIA Report, EM&A Manual and EP. The implementation status of the measures during the reporting period is summarised in *Annex I*.

5.1 AIR QUALITY

A total of 5 sets of 24-hour and 15 sets of 1-hour TSP measurements were carried out at each of the monitoring stations (AM1 and AM2) during the reporting period. The monitoring data for 24-hour TSP and 1-hour TSP together with wind data and graphical presentations are presented in *Annex F*. The weather conditions during the monitoring period were fine to cloudy. The local impacts near the monitoring stations of AM1 and AM2 were mainly associated with vehicular emissions. No exceedance of Action and Limit Level of 1-hr and 24-hr TSP was recorded during the reporting period.

Wastes generated from this Project include inert construction and demolition (C&D) materials (public fill) and non-inert C&D materials (construction waste). Construction waste comprises of general refuse, metals and paper/cardboard packaging materials. Metals generated from the Project are also grouped into construction waste as the materials were not disposed of with others at public fill. Reference has been made to the Monthly Summary Waste Flow Table prepared by the Contractor (*Annex J*). With reference to relevant handling records and trip tickets of this Project, the quantities of different types of waste generated in the reporting month are summarised in *Table 6.1*. The public fill and construction waste generated from the Project were disposed of at the Tuen Mun Area 38 Fill Bank and WENT Landfill, respectively. 150 kg of metals, 180 kg of paper/cardboard packaging and 55 kg of plastics were sent to recyclers for recycling during the reporting period.

Table 6.1Quantities of Waste Generated from the Project

Month / Year	Quantity			
	C&D Materials Disposed	C&D Materials Disposed of at	Chemical	
	of at Public Fill (inert) ^(a)	Landfill (Non-inert)	Waste	
		(Construction waste) (b) (c)		
March 2011	22,859 tonnes	9.02 tonnes	0 kg	
excavated s	·1	bricks, concrete, building debris, rub ed in this Project during the reporting Mun Area 38 Fill Bank.		

(b) Non-inert C&D materials (construction wastes) include metals, paper / cardboard packaging waste, plastics and other wastes such as general refuse. Metals generated from the Project are grouped into construction wastes as the materials were not disposed of with others at the public fill. 9.02 tonnes of general refuse is recorded in the reporting month. Construction wastes other than metals and paper/cardboard packaging were disposed of at WENT Landfill. 150 kg of metals, 180 kg of paper/cardboard packaging and 55 kg of plastics were recovered and sent to recyclers for recycling during the reporting period.

(c) General refuse was disposed of at WENT by subcontractors.

7 ENVIRONMENTAL INSPECTIONS

7.1 WEEKLY SITE AUDITS

Joint site inspections were conducted by the representatives of the Contractor, SOR and the ET on 4, 11, 18 and 25 March 2011. The IEC was also present during the joint inspection on 18 March 2011. There was no non-compliance recorded during the site inspections.

Major findings observed during the reporting period were summarised as follows:

4 March 2011

- Moisten dust and dry dust was observed on the haul road along the northern site boundary near the stockpiling area and at the access road along the southern site boundary, respectively. The Contractor was recommended to clear the road regularly as a good housekeeping practice.
- Stagnant water and spilled oil were observed in an empty drip tray and in a drip tray containing an oil drum, respectively, located at the southern site boundary. The Contractor was recommended to clean the water and flip over any empty container to avoid holding water within 3 working days. It was also recommended to clear the oil and cover the entire oil drum and drip tray with impermeable material such as tarpaulin sheet within 3 working days.
- Construction materials and machines were still observed to be placed near and directly above the roots of the retained trees along the southern site boundary. The Contractor was recommended to relocate all construction materials and machines away from the roots of the retained trees, and keep the tree root zones clear to prevent tree damage. Contractor was also advised to install protective fences around every retained tree within 3 working days to avoid storing construction materials that will affect the health of the trees.
- The de-bagging, batching and mixing processes located at eastern of excavated area at P2 was observed not fully sheltered on the top and the 3 sides that the processes together with large amount of empty cement bags were generating cement dust. Also, the cement stocks were observed not covered entirely by impervious sheet nor placed under the shelter.

The Contractor was recommended to cover every stock of more than 20 bags of cement are entirely by impervious sheeting or located under the shelter. It was also recommended to review and amend the shelter set-up so that to ensure the entire batching process is carried out and placed in an area sheltered on the top and the 3 sides.

11 March 2011

- Deposited silt and grit were observed in the U-channel under construction at the western of P2 and also the peripheral channel near sedimentation tank at the southern of the site. The Contractor was reminded to clear the silt and grit to maintain the water flow in the channel.
- 2 oil drums were observed placed at the workers' rest area at the southwest of the site without drip trays. The Contractor was recommended to provide drip trays for the temporary storage of chemicals on site to avoid potential spillages within 3 working days.
- Dry dust was still observed on the access road along the southern site boundary, respectively. The Contractor was recommended to clear the road regularly as a good housekeeping practice.

18 March 2011

- Turbid water was observed to be overflowing from the sedimentation tank into the storm drain near the exiting pumping station. The Contractor was recommended to repair all faulty hoses and to check the set up of the pumping system to avoid water overflow within 3 working days.
- Accumulated groundwater and oil sheens were observed in the construction site near Gate 1 at P1. The Contractor was recommended to find out the machines which are leaking. Also, the Contractor was recommended to clean the accumulated water and dispose the wastewater as chemical waste within 3 working days
- Retained trees along access roads and near works area at the southern boundary of the site was still observed that construction materials, material debris and machines were placed very near to the roots of these retained trees. Though the retained trees were properly fenced, the Contractor was advised to relocate all construction materials and machine away from the roots of the retained trees and keep the tree root zone clear to prevent tree damage within 3 working days.

25 March 2011

- Dry dust was observed on the haul road along the western of P2 near the stockpiling area. The Contractor was recommended to clear dust on the road regularly within 3 working days and to maintain it as a good housekeeping practice.
- Deposited silt and grit, and stagnant water were observed in the Uchannel under construction at the western of P2. The Contractor was reminded to clear the silt and grit, and stagnant water to maintain the water flow in the channel, and prevent mosquito breeding within 3 working days.
- Rock breaking activities along the southern boundary of the excavated area at P2 were observed to be generating dust. No dust suppressive measures were implemented. The Contractor was recommended to

arrange and to implement dust suppressive measures (ie. water spraying) for all dusty works on site at all times within 3 working days.

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

7.2 LANDSCAPE AND VISUAL MONITORING

In accordance with the EM&A Manual, monthly landscape and visual monitoring is required to ensure that the design, implementation and maintenance of landscape and visual mitigation measures recommended in the EIA Report are fully achieved. Review on landscape and visual mitigation measures was performed. It was confirmed that most of the necessary landscape and visual mitigation measures as summarised in *Annex I* were implemented by the Contractor. The major findings were summarised as follow:

11 March 2011

- Retained trees T04, T05 and T06 along access roads and near works area at the southern boundary of the site was observed that construction materials, material debris and machines were placed very near to the roots of these retained trees. Though the retained trees were properly fenced, the Contractor was advised to relocate all construction materials and machine away from the roots of the retained trees and keep the tree root zone clear to prevent tree damage.
- Some Transplanted trees in the nursery were showing improvement on its health condition except from transplanted trees 368, 373, 374, 376 and 380. These transplanted trees were still showing poor health condition. The Contractor was advised to review the health condition of these trees and take appropriate action to improve the condition of all affected transplanted trees in the nursery.

The Contractor was recommended to implement follow-up actions and the status of the follow-up actions will be reviewed in the first weekly site inspections in the next reporting period.

Key landscape and visual mitigation measures implemented in the reporting period include:

- Set up of a temporary tree nursery;
- Control dust and erosion of exposed soil;
- Stockpiling of topsoil for future reuse;
- Maintain existing tree record inventory; and
- Re-use existing top soil for new planting areas.

8 ENVIRONMENTAL NON-CONFORMANCE

8.1.1 Summary of Monitoring Exceedance

No exceedances of Action and Limit Levels of 1-hr and 24-hr TSP were recorded during the reporting period.

8.1.2 Summary of Environmental Non-Compliance

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

8.1.3 Summary of Environmental Complaint

No complaint was received during the reporting period. The cumulative summons/prosecution log is shown in *Annex K*.

8.1.4 Summary of Environmental Summon and Successful Prosecution

No summon was received during the reporting period. The cumulative summons/prosecution log is shown in *Annex K*.

9 FUTURE KEY ISSUES

9.1.1 Key Issues for the Coming Month

Works to be undertaken for the coming monitoring period are summarised in *Table 9.1*.

Table 9.1 Construction Works to be Undertaken in the Next Reporting Period

Wo	rk to be taken
•	Site formation in Administrative Building in P1

- Utilities Diversion in P2
- Mini-piling in P2
- Shotcreting in P2
- Post drilling in P2
- Mini-Pile tension test in P2
- Formation CBR Text in P2
- Blinding Work for CEPT and PTW in P2
- Steel pipe installation in P2
- DI pipe installation in P2
- Bottom Slab Concrete in P2

Potential environmental impacts arising from the above construction activities are mainly associated with dust, construction noise, site runoff, waste management and landscaping issues.

9.1.2 Monitoring Schedule for the Next Reporting Period

The tentative schedule of TSP monitoring for the next reporting period was presented in *Annex E*. Environmental monitoring will be conducted at the same monitoring locations in the next reporting period. The monitoring programme has been reviewed and was considered as adequate to cater for the nature of works in progress.

9.1.3 Construction Programme for the Next Three Months

The most updated construction programme for the Project is presented in *Annex L*.

10.1 AIR QUALITY

10

Since the EIA has included only qualitative assessment of dust impact during construction phase, the comparison was made between the monitoring results from the start of the Project and the Hong Kong Air Quality Objectives (HKAQO) (*Table 10.1*).

Table 10.1 Comparison of the HKAQO and Air Quality Monitoring Results

Monitoring Station	HKAQO, ugm ⁻³	Measured 24-hour TSP Monitor Results, ugm ^{-3 (a) (b)}	
	24 hour (1)	Average	Range
AM1	260	77	62 - 100
AM2	260	87	70 - 102
Notes:			

(a) Only 24-hour TSP monitoring results were compared as there is no 1 hour TSP criterion in HKAQO.

(b) Average and range of data were calculated between the commencement of construction works and this reporting month.

The monitoring results show that the average and range of 24-hour TSP levels recorded since the commencement of the construction works have been well below the 24-hour TSP criterion in the HKAQO. Recommended mitigation measures in *Section 3.7.1.1* of EIA have been implemented throughout the construction period and were considered effective.

10.2 WASTE MANAGEMENT

The estimated amount of waste generated in this Project and the accumulated quantities of waste generated up to this reporting month are presented in *Table 10.2*. Recommended mitigation measures in *Sections 7.5.1.1* to 7.5.1.9 of the EIA will continue to be implemented during the construction stage.

Table 10.2Quantity of Actual Amount of C&D Materials, General Wastes and Chemical
Wastes Generated and EIA Estimation

Type of Material	Estimated Amount of Public Fill and Construction Waste in EIA (inert & non-inert)	Accumulated Actual Amount of Public Fill and Construction Waste Recorded ^(a) ^(b) (inert & non-inert)
Amount of C&D Materials Arising	61,489 m ³	59,811 m ³
Amount of C&D Materials Reused on site	14,926m ³	0 m ³
Amount of C&D Materials Sent to Public Fills	46,563m ³	59,811 m ³
General Refuse	Small	62.49 tonnes (c)
Chemical Waste	Small	0 kg

Notes:

(a) The actual amount of C&D Materials was recorded since the commencement of construction works.

(b) The density of soil and rock (bulked) is 1.8 tonnes/ m^3 .

(c) 18.05, 28.4, 4.59 and 2.43 tonnes of general refuse was disposed in November 2010, December 2010, January 2011 and February 2011, respectively.

10.3 CONCLUSION OF REVIEW

The EIA predictions and the monitoring results since the commencement of construction works have been reviewed. The EIA concluded that the Project would not cause adverse impacts to the environment, and the monitoring results have also indicated the same so far. Mitigation measures recommended in the EP, EIA and EM&A Manual will continue to be implemented throughout the construction phase of the Project.

CONCLUSIONS

11

This EM&A Report presents the EM&A works undertaken during the reporting period from 1 to 31 March 2011 in accordance with EM&A Manual and requirements of EP (EP-321/2008).

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

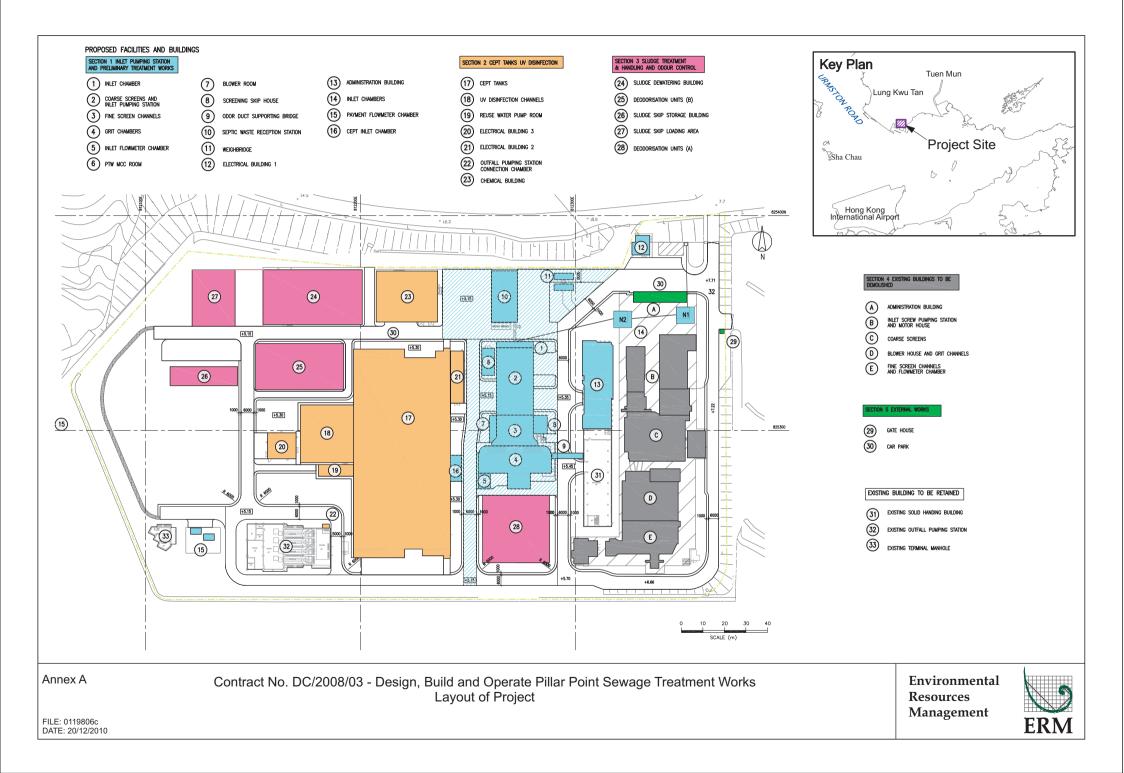
Monthly landscape and visual monitoring was conducted in the reporting period. Most of the necessary landscape and visual mitigation measures recommended in the EIA Report were implemented by the Contractor. Follow-up actions would be implemented by the Contractor to improve protection measures on the retained or to-be transplanted trees.

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

No complaint and summons/prosecution was received during the reporting period.

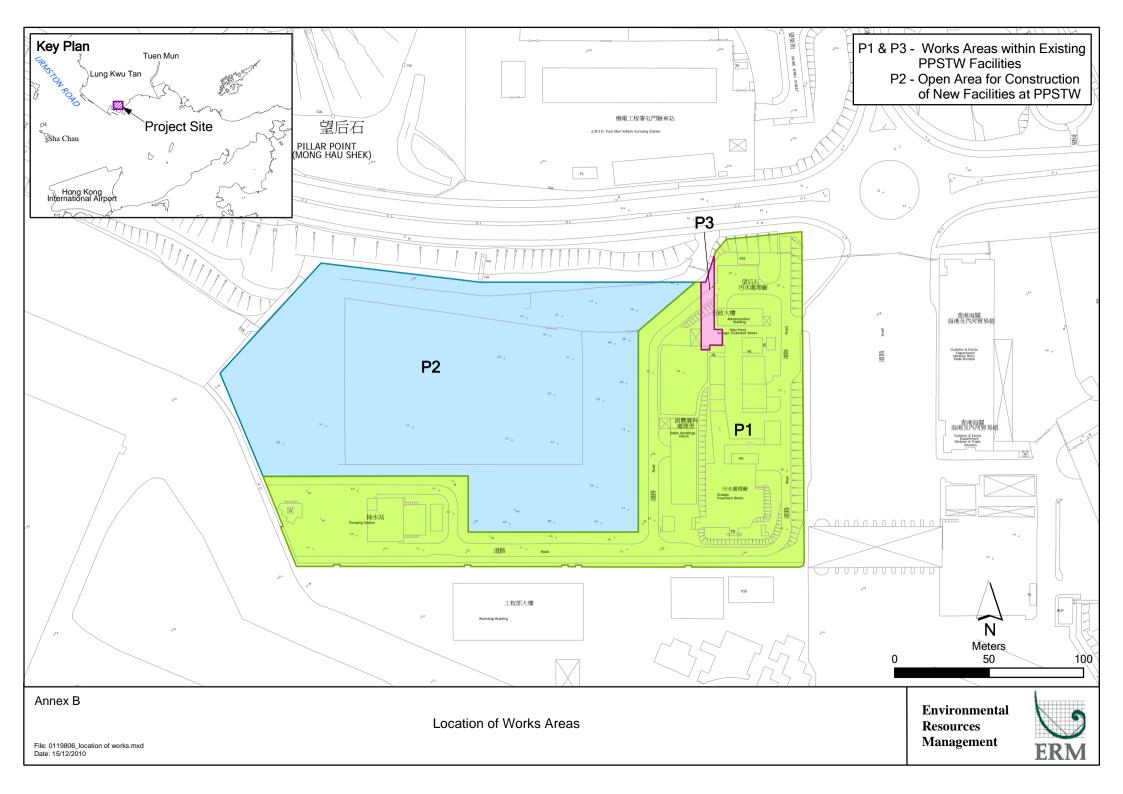
The ET will keep track on the EM&A programme to ensure compliance of environmental requirements and the proper implementation of all necessary mitigation measures in the coming periods. Annex A

Location of Project



Annex B

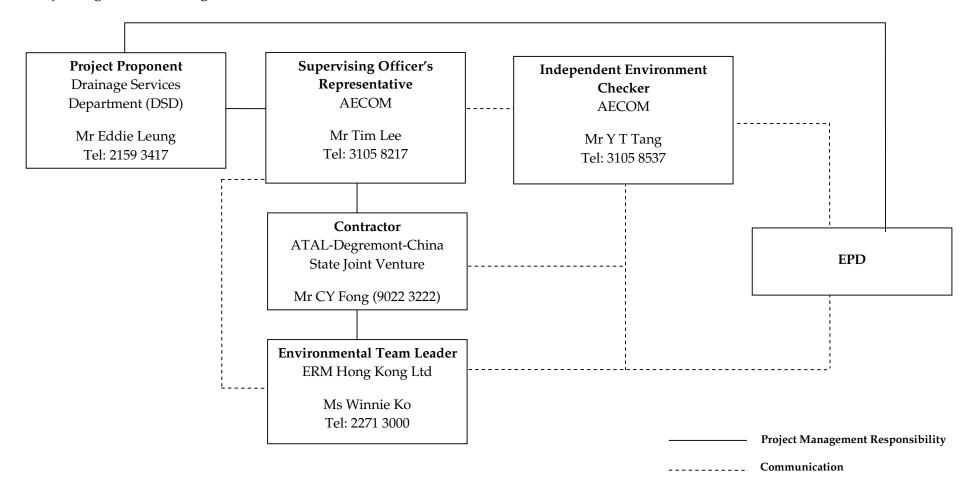
Works Location



Annex C

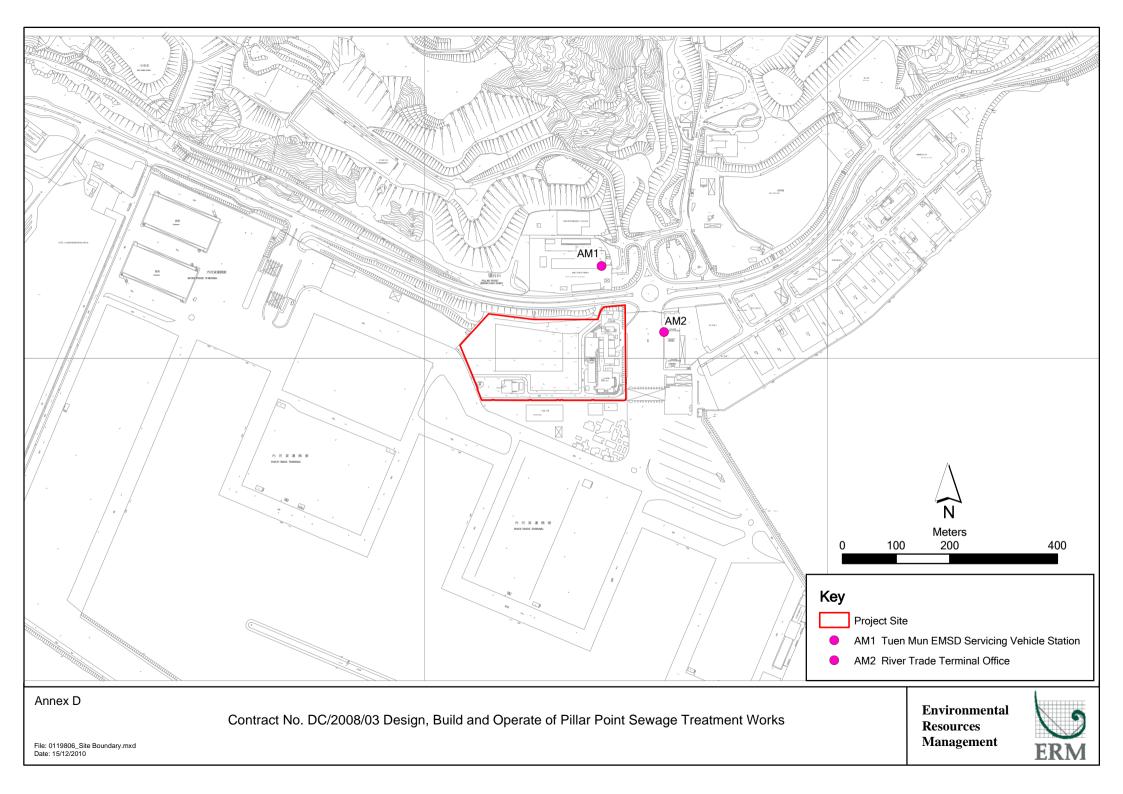
Project Organization Chart with Contact Details

<u>Project Organization During Construction Phase (with contact details)</u>



Annex D

Locations of Air Quality Monitoring Stations



Annex D

Locations of Air Quality Monitoring Stations



AM1 - Tuen Mun EMSD Servicing Vehicle Station



AM2 - River Trade Terminal Office

Annex E

Monitoring Schedule of Reporting Month and Next Month

Contract No. DC/2008/03 - Design, Build and Operate Pillar Point Sewage Treatment Works (Tuen Mun EMSD Servicing Vehicle Station - AM1 & River Trade Terminal Office - AM2) March 2011

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1-Mar	2-Mar	3-Mar	4-Mar	5-Mar
				3X1-hr & 1X 24-hr TSP		
6-Mar	7-Mar	8-Mar	9-Mar	10-Mar	11-Mar	12-Mar
			3X1-hr & 1X 24-hr TSP			
13-Mar	14-Mar	15-Mar	16-Mar	17-Mar	18-Mar	19-Mar
		3X1-hr & 1X 24-hr TSP				
20-Mar	21-Mar	22-Mar	23-Mar	24-Mar	25-Mar	26-Mar
	3X1-hr & 1X 24-hr TSP					3X1-hr & 1X 24-hr TSP
27-Mar	28-Mar	29-Mar	30-Mar	31-Mar		

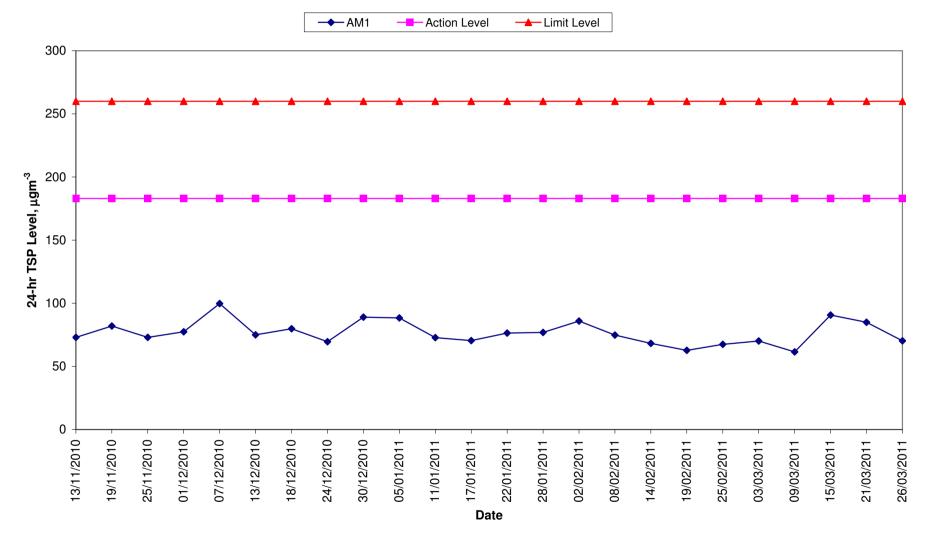
Contract No. DC/2008/03 - Design, Build and Operate Pillar Point Sewage Treatment Works (Tuen Mun EMSD Servicing Vehicle Station - AM1 & River Trade Terminal Office - AM2) April 2011

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1-Apr	2-Apr
					3X1-hr & 1X 24-hr TSP	
3-Apr	4-Apr	5-Apr	6-Apr	7-Apr	8-Apr	9-Apr
				3X1-hr & 1X 24-hr TSP		
10-Apr	11-Apr	12-Apr	13-Apr	14-Apr	15-Apr	16-Apr
			3X1-hr & 1X 24-hr TSP			
17-Apr	18-Apr	19-Apr	20-Apr	21-Apr	22-Apr	23-Apr
		3X1-hr & 1X 24-hr TSP				
24-Apr	25-Apr	26-Apr	27-Apr	28-Apr	29-Apr	30-Apr
	3X1-hr & 1X 24-hr TSP					3X1-hr & 1X 24-hr TSP

Annex F

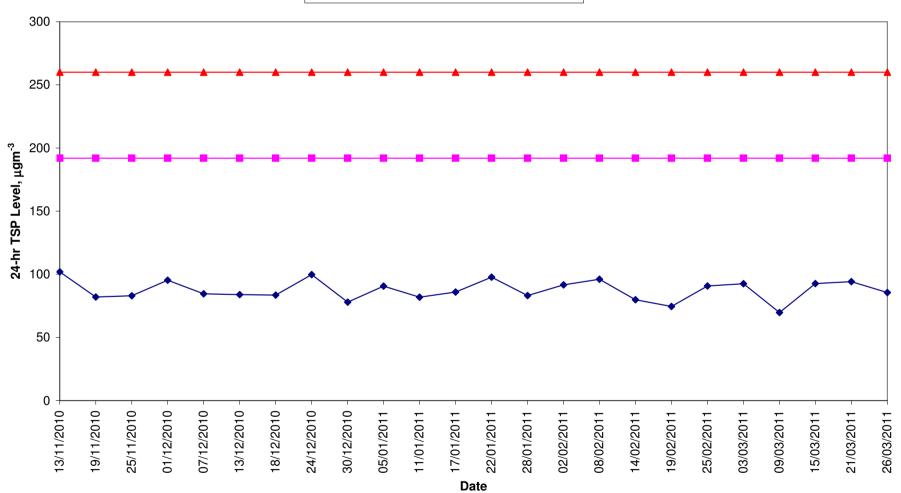
24-hour and 1-hour TSP Monitoring Results

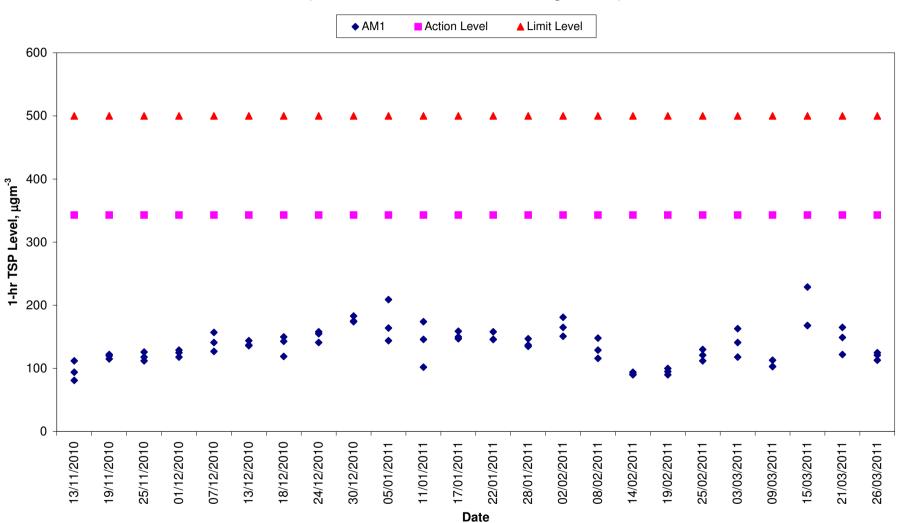
24-hr TSP Levels AM1 (Tuen Mun EMSD Vehicle Servicing Station)



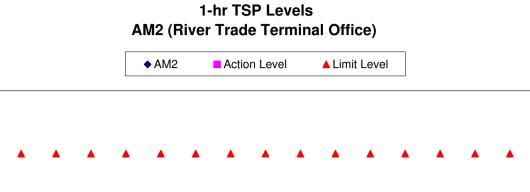
24-hr TSP Levels AM2 (River Trade Terminal Office)

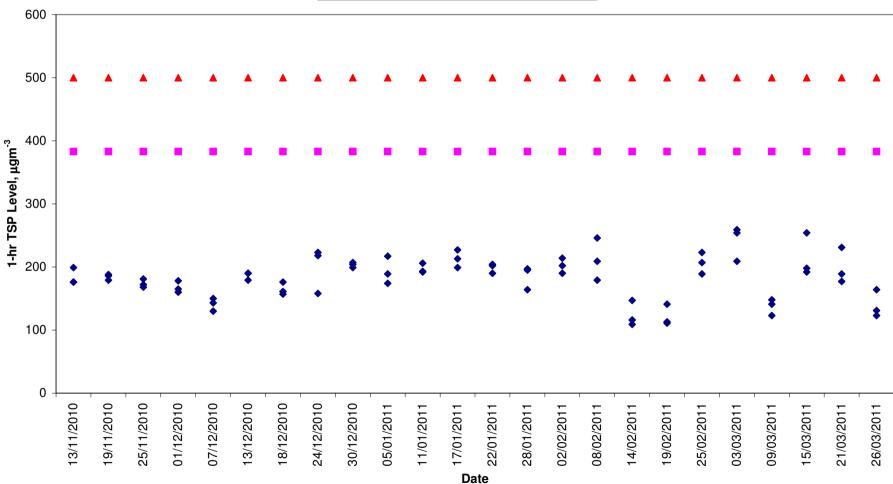
AM2 ---- Action Level ----- Limit Level





1-hr TSP Levels AM1 (Tuen Mun EMSD Vehicle Servicing Station)





1-hour TSP Monitoring Results

Station AM1

*

				TSP					Wind Speed		
	Start	Finish	Weather	Concentration	Action Level	Limit Level	Site Conditions /	Temperature	*	Sampler	Filter
Date	Time	Time		(µg/m³)	(µg/m ³)	(µg/m ³)	Observations / Remarks	(°°)	(m/s)	ID	ID
3-Mar-11	13:10	14:10	Sunny	163	343	500	Construction work in progress	20	*	7580	8288
	14:10	15:10	Sunny	141	343	500	Construction work in progress	21	*	7580	8289
	15:10	16:10	Sunny	118	343	500	Construction work in progress	22	*	7580	8290
9-Mar-11	13:10	14:10	Cloudy	103	343	500	Construction work in progress	16	*	7580	8410
	14:10	15:10	Cloudy	103	343	500	Construction work in progress	17	*	7580	8411
	15:10	16:10	Cloudy	113	343	500	Construction work in progress	17	*	7580	8412
15-Mar-11	13:10	14:10	Cloudy	229	343	500	Construction work in progress	21	*	7580	8418
	14:10	15:10	Cloudy	168	343	500	Construction work in progress	21	*	7580	8435
	15:10	16:10	Cloudy	168	343	500	Construction work in progress	22	*	7580	8436
21-Mar-11	13:10	14:10	Sunny	165	343	500	Construction work in progress	25	*	7580	8451
	14:10	15:10	Sunny	122	343	500	Construction work in progress	26	*	7580	8452
	15:10	16:10	Sunny	149	343	500	Construction work in progress	27	*	7580	8453
26-Mar-11	13:10	14:10	Fine	125	343	500	Construction work in progress	20	*	7580	8467
	14:10	15:10	Fine	113	343	500	Construction work in progress	21	*	7580	8468
	15:10	16:10	Fine	121	343	500	Construction work in progress	22	*	7580	8469
			Min.	103							

Max.	229
Average	140

Wind Speed data is presented in the Meteorological Data table

1-hour TSP Monitoring Results

Station AM2

*

				TSP					Wind Speed		
	Start	Finish	Weather	Concentration	Action Level	Limit Level	Site Conditions /	Temperature	*	Sampler	Filter
Date	Time	Time		(µg/m ³)	(µg/m ³)	(µg/m³)	Observations / Remarks	(°°)	(m/s)	ID	ID
3-Mar-11	13:00	14:00	Sunny	209	383	500	Construction work in progress	20	*	1252	8284
	14:00	15:00	Sunny	259	383	500	Construction work in progress	21	*	1252	8285
	15:00	16:00	Sunny	254	383	500	Construction work in progress	22	*	1252	8286
9-Mar-11	13:00	14:00	Cloudy	123	343	500	Construction work in progress	16	*	1252	8406
	14:00	15:00	Cloudy	148	343	500	Construction work in progress	17	*	1252	8407
	15:00	16:00	Cloudy	141	343	500	Construction work in progress	17	*	1252	8408
15-Mar-11	13:00	14:00	Cloudy	254	383	500	Construction work in progress	21	*	1252	8417
	14:00	15:00	Cloudy	198	383	500	Construction work in progress	21	*	1252	8432
	15:00	16:00	Cloudy	192	383	500	Construction work in progress	22	*	1252	8433
21-Mar-11	13:00	14:00	Sunny	231	383	500	Construction work in progress	25	*	1252	8447
	14:00	15:00	Sunny	189	383	500	Construction work in progress	26	*	1252	8448
	15:00	16:00	Sunny	177	383	500	Construction work in progress	27	*	1252	8449
26-Mar-11	13:00	14:00	Fine	164	383	500	Construction work in progress	20	*	1252	8463
	14:00	15:00	Fine	131	383	500	Construction work in progress	21	*	1252	8464
	15:00	16:00	Fine	123	383	500	Construction work in progress	22	*	1252	8465
			Min.	123							

Min.	123
Max.	259
Average	186

Wind Speed data is presented in the Meteorological Data table

Annex F - 24-hour and 1-hour TSP Monitoring Results

24-hour TSP Monitoring Results

Station AM1

Start		Finisl	h	Weather	Filter V	Veight (g)		d Time ding	Sampling Time		/ Rate (m	ı ³ /min)	TSP Conc.	Action Level	Limit Level	Observations / Remarks	Sampler	Filter
Date	Time	Date	Time		Initial	Final	Initial	Final	(hrs)	Initial	Final	Average	(µg/m ³)	(µg/m ³)	(µg/m ³)		ID	ID
3-Mar-11	16:10	4-Mar-11	16:10	Sunny	2.8634	2.9927	10735.18	10759.18	24.00	1.28	1.28	1.28	70	183	260	Construction work in progress	7580	8291
9-Mar-11	16:10	10-Mar-11	16:10	Cloudy	2.8477	2.9611	10763.18	10787.18	24.00	1.28	1.28	1.28	62	183	260	Construction work in progress	7580	8413
15-Mar-11	16:10	16-Mar-11	16:10	Cloudy	2.8334	2.9901	10790.18	10814.18	24.00	1.20	1.20	1.20	91	183	260	Construction work in progress	7580	8437
21-Mar-11	16:10	22-Mar-11	16:10	Sunny	2.8406	2.9874	10817.18	10841.18	24.00	1.20	1.20	1.20	85	183	260	Construction work in progress	7580	8454
26-Mar-11	16:10	27-Mar-11	16:10	Fine	2.8774	2.9988	10844.18	10868.18	24.00	1.20	1.20	1.20	70	183	260	Construction work in progress	7580	8470
												Min.	62					
												Max.	91					
												Average	76					

24-hour TSP Monitoring Results

Station AM2

Start		Finis	h	Weather	Filter V	Veight (g)		d Time ding	Sampling Time	Flow	Rate (m	n ³ /min)	TSP Conc.	Action Level	Limit Level	Observations / Remarks	Sampler	Filter
Date	Time	Date	Time		Initial	Final	Initial	Final	(hrs)	Initial	Final	Average	(µg/m ³)	(µg/m ³)	(µg/m ³)		ID	ID
3-Mar-11	16:00	4-Mar-11	16:00	Sunny	2.8813	3.0400	18729.20	18753.20	24.00	1.19	1.19	1.19	93	192	260	Construction work in progress	1252	8287
9-Mar-11	16:00	10-Mar-11	16:00	Cloudy	2.8763	2.9959	18756.20	18780.20	24.00	1.19	1.19	1.19	70	192	260	Construction work in progress	1252	8409
15-Mar-11	16:00	16-Mar-11	16:00	Cloudy	2.8562	3.0124	18783.20	18807.20	24.00	1.17	1.17	1.17	93	192	260	Construction work in progress	1252	8434
21-Mar-11	16:00	22-Mar-11	16:00	Sunny	2.8341	2.9929	18810.20	18834.20	24.00	1.17	1.17	1.17	94	192	260	Construction work in progress	1252	8450
26-Mar-11	16:00	27-Mar-11	16:00	Fine	2.8400	2.9841	18837.20	18861.20	24.00	1.17	1.17	1.17	86	192	260	Construction work in progress	1252	8466



Meteorological Data Extracted from the Hong Kong Observatory

			Т	uen Mun Station	•	
Date	Weather	Average Air Temperature (°C)	Average Relative Humiditiy (%)	Total Rainfall (mm)	Average Wind Speed (km/h)	Wind Direction
03-03-2011	Sunny	18.8	69	0.0	7.0	SE
04-03-2011	Sunny	17.0	63	0.0	12.0	NE
09-03-2011	Cloudy	15.6	62	3.5	8.2	NE
10-03-2011	Cloudy	16.5	68	0.0	8.8	NE
15-03-2011	Cloudy	18.5	78	4.5	10.4	NE
16-03-2011	Cloudy	15.9	43	0.0	13.9	NE
21-03-2011	Sunny	23.6	85	0.0	7.5	SE
22-03-2011	Sunny	****#	***#	0.0#	10.5	NE
26-03-2011	Fine	17.8	59	0.0	7.9	NE
27-03-2011	Fine	14.8	66	0.0	9.0	NE

**** data is unavailable for the day from the Tuen Mun Weather Station # data is missing (less than 24 hourly observations a day) from the Turn Mun Weather Station

Annex G

Calibration Reports for HVSs

TSP Monitoring Equipment

Monitoring	Location	Monitoring Equipment		Last Calibration Date	Next Calibration Date
Station ID					
24-hr and 1-hr TSP		HVS	Calibrator		
AM1	Tuen Mun EMSD Vehicle Servicing Station	GMW GS-2310 (S/N 7580)	CM-AIR-43 (S/N 9833620)	14 March 2011	14 May 2011
AM2	River Trade Terminal Office	GMW GS-2310 (S/N 1252)	CM-AIR-43 (S/N 9833620)	14 March 2011	14 May 2011

Location : Calibrated by Date	EMSD : :	P.F.Yeung 14/01/2011
Sampler		
Model	:	GMWS-2310 ACCU-VOL
Serial Number	:	S/N 7580
Calibration Orfice and Standard C	alibration	Relationship
Serial Number	:	1785
Service Date	:	10 May 2010
Slope (m)	:	2.01637
Intercept (b)	:	-0.02316
Correlation Coefficient(r) :	0.99996	5
Standard Condition		1012
Pstd (hpa)	:	1013
Tstd (K)	:	298.18
Calibration Condition		1020
Pa (hpa)	:	1020
Ta(K)	:	289

Resi	istance Plate	dH [green liquid]	Ζ	X=Qstd	IC	Y
		(inch water)		(cubic meter/min)		
1	18 holes	10.8	3.349	1.672	52	53.0
2	13 holes	8.6	2.988	1.493	46	46.9
3	10 holes	6.5	2.598	1.300	40	40.8
4	7 holes	4.1	2.063	1.035	31	31.6
5	5 holes	2.5	1.611	0.811	24	24.5

Sampler Calibration Relationship

Slope(m):<u>33.162</u> Intercept(b): <u>-2.523</u>

Correlation Coefficient(r): 0.9999

Checked by: <u>Magnum Fan</u>

Date: 23/01/2011

Location : Calibrated by Date	River T : :	rade K.T.Ho 14/01/2011
<u>Sampler</u> Model Serial Number	:	GMWS-2310 ACCU-VOL S/N 1247
Calibration Orfice and Standard Ca	alibration	Relationship
Serial Number	:	1785
Service Date	:	10 May 2010
Slope (m)	:	2.01637
Intercept (b)	:	-0.02316
Correlation Coefficient(r) :	0.99996	5
<u>Standard Condition</u> Pstd (hpa) Tstd (K)	:	1013 298.18
Calibration Condition Pa (hpa) Ta(K)	:	1020 289

Resi	istance Plate	dH [green liquid]	Z	X=Qstd	IC	Y
		(inch water)		(cubic meter/min)		
1	18 holes	11.4	3.440	1.718	66	67.3
2	13 holes	9.4	3.124	1.561	58	59.1
3	10 holes	7.6	2.809	1.405	50	50.9
4	7 holes	4.7	2.209	1.107	35	35.7
5	5 holes	2.7	1.674	0.842	22	22.4

Sampler Calibration Relationship

Slope(m):<u>51.232</u> Intercept(b): <u>20.879</u> Correlation Coefficient(r): <u>0.9999</u>

Checked by: <u>Magnum Fan</u>

Date: 23/01/2011

Location Calibrated by Date	: : :	EMSD P.F.Yeung 14/03/2011
<u>Sampler</u> Model Serial Number	:	GMWS-2310 ACCU-VOL S/N 7580
Calibration Orfice and Standa	rd Calibratic	on Relationship
Serial Number	:	1785
Service Date	:	10 May 2010
Slope (m)	:	2.01637
Intercept (b)	:	-0.02316
Correlation Coefficient(r)	:	0.99996
Standard Condition		
Pstd (hpa)	:	1013
Tstd (K)	:	298.18
Calibration Condition		
Pa (hpa)	:	1016
Ta(K)	:	293

Resi	stance Plate	dH [green liquid]	Ζ	X=Qstd	IC	Y
		(inch water)		(cubic meter/min)		
1	18 holes	11.0	3.333	1.665	51	51.3
2	13 holes	9.2	3.048	1.523	46	46.2
3	10 holes	8.0	2.843	1.421	42	42.2
4	7 holes	4.2	2.060	1.033	28	28.1
5	5 holes	2.3	1.524	0.767	18	18.1

Sampler Calibration Relationship

Slope(m):<u>36.934</u> Intercept(b):<u>-10.160</u>

Correlation Coefficient(r): 0.9999

Checked by: <u>Magnum Fan</u>

Date: 20/03/2011

Location Calibrated by Date	: :	River Trade K.T.Ho 14/03/2011
<u>Sampler</u> Model	:	GMWS-2310 ACCU-VOL
Serial Number	:	S/N 1252
<u>Calibration Orfice and Standar</u> Serial Number Service Date Slope (m)	rd Calibrat : :	<u>ion Relationship</u> 1785 10 May 2010 2.01637
Intercept (b)	:	-0.02316
Correlation Coefficient(r)	:	0.99996
Standard Condition Pstd (hpa)		1013
Tstd (K)	:	298.18
Calibration Condition		

Calibration Condition		
Pa (hpa)	:	1016
Ta(K)	:	293

Resi	stance Plate	dH [green liquid]	Z	X=Qstd	IC	Y
		(inch water)		(cubic meter/min)		
1	18 holes	11.0	3.333	1.665	64	64.3
2	13 holes	9.3	3.015	1.507	56	56.3
3	10 holes	7.2	2.697	1.349	48	48.3
4	7 holes	4.3	2.084	1.045	34	34.2
5	5 holes	2.3	1.524	0.767	20	20.1

Sampler Calibration Relationship

Slope(m):<u>48.921</u> Intercept(b):<u>-17.338</u> Correlation Coefficient(r):<u>0.9999</u>

Checked by: <u>Magnum Fan</u> Date: <u>20/03/2011</u>

Annex H

Event/Action Plan for Air Quality Monitoring

Action Level/Limit Level	Environmental Team Leader (ETL)	Independent Environmental Checker (IEC)	Supervising Officer Representative (SOR)	Contractor
Action Level				
Exceedance for one sample	 Identify source, investigate the causes of complaint and propose remedial measures; Inform IEC and SOR; Repeat measurement to confirm findings; Increase monitoring frequency to daily. 	 Check monitoring data submitted by ET; Check Contractor's working method. 	• Notify Contractor and DSD.	 Rectify any unacceptable practice; Amend working methods if appropriate.
Exceedance for two or more consecutive samples	 Identify source; Inform IEC and SOR; Advise the SOR on the effectiveness of the proposed remedial measures; Repeat measurements to confirm findings; Increase monitoring frequency to daily; Discuss with IEC and Contractor on remedial actions required; If exceedance continues, arrange meeting with IEC and SOR; If exceedance stops, cease additional monitoring. 	 Check monitoring data submitted by ET; Check Contractor's working method; Discuss with ET and Contractor on possible remedial measures; Advise the ET on the effectiveness of the proposed remedial measures; Supervise Implementation of remedial measures. 	 Confirm receipt of notification of exceedance in writing; Notify Contractor and DSD; Ensure remedial measures properly implemented. 	 Submit proposals for remedial actions to IEC within three working days of notification; Implement the agreed proposals; Amend proposal if appropriate.

Table H1Event Action Plan for Air Quality Monitoring

ENVIRONMENTAL RESOURCES MANAGEMENT

Action Level/Limit Level	Environmental Team Leader (ETL)	Independent Environmental Checker (IEC)	Supervising Officer Representative (SOR)	Contractor
Limit Level				
Exceedance for one sample	 Identify source, investigate the causes of exceedance and propose remedial measures; Inform IEC, SOR, DSD and EPD; Repeat measurement to confirm finding; Increase monitoring frequency to daily; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD, DSD and SOR informed of the results. 	on possible remedial measures;	 Confirm receipt of notification of exceedance in writing; Notify Contractor; Ensure remedial measures properly implemented. 	 Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC within three working days of notification; Implement the agreed proposals; Amend proposal if appropriate.
Exceedance for two or more consecutive samples	 Notify IEC, SOR, DSD and EPD; Identify source; Repeat measurement to confirm findings; Increase monitoring frequency to daily; Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; Arrange meeting with IEC and SOR to discuss the remedial actions to be taken; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD, DSD and SOR informed of the results; If exceedance stops, cease additional monitoring. 	 Discuss amongst SOR, ET, and Contractor on the potential remedial actions; Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the SOR accordingly; Supervise the implementation of remedial measures. 	 Confirm receipt of notification of exceedance in writing; Notify Contractor; In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; Ensure remedial measures properly implemented; 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. 	 Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC within three working days of notification; Implement the agreed proposals; Resubmit proposals if problem still not under control; Stop the relevant portion of works as determined by the SOR until the exceedance is abated.

ENVIRONMENTAL RESOURCES MANAGEMENT

Annex I

Implementation Schedule of Mitigation Measures

Annex I Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	ironmental Mitigation Measures in the EIA and EM&A Manual		
Construction Pha	5		
Air Quality	Dust mitigation measures stipulated in <i>the Air Pollution Control</i> (<i>Construction Dust</i>) <i>Regulation</i> shall be incorporated to control Post emission. Notice shall be given to authority prior to commencing of work.	Work sites / during construction period	Δ. Notice of works commencement was submitted to EPD on 3 August 2010.
Water Quality	The practices outlined in ProPECC PN 1/94 Construction Site Drainage should be adopted. It is recommended to install perimeter channels in the works areas to intercept runoff as site boundary prior to the commencement of any earthwork. To prevent storm runoff from washing across exposed soil surfaces, intercepting channels should be provided. Drainage channels are also required to convey site runoff to sand/silt traps and oil interceptors. Provision of regular cleaning and maintenance can ensure the normal operation of these facilities throughout the construction period. Any practical options for the diversion and re-alignment of drainage should comply with both engineering and environmental requirements in order to ensure adequate hydraulic capacity of all drains.	Work site/During the construction period	
Water Quality	There is a need to apply to EPD for a discharge license under the WPCO for discharging effluent from the construction site. The discharge quality is required to meet the requirements specified in the discharge license. All the runoff and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the TM-DSS. Reuse and recycling of the treated effluent can minimize water consumption and reduce the effluent discharge volume. The beneficial uses of the treated effluent may include dust suppression, wheel washing and general cleaning. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the WPCO license which is under the ambit of regional office (RO) of EPD.	Work site/During the construction period	Δ. Discharge licence was awarded by EPD on 7 December 2010.
Water Quality	The construction programme should be properly planned to minimize soil excavation, if any, in rainy seasons. This prevents soil erosion from	Work site/During the construction period	Δ

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	exposed soil surfaces. Any exposed soil surfaces should also be properly protected to minimize dust emission. In areas where a large amount of exposed soil exists, earth bunds or sand bags should be provided. Exposed stockpiles should be covered with tarpaulin or impervious sheets at all times. The stockpiles of materials should be placed at locations away from any stream course so as to avoid releasing materials into the water bodies. Final surfaces of earthworks should be compacted and protected by permanent work. It is suggested that haul roads should be paved with concrete and the temporary access roads protected using crashed stone or gravel, wherever practicable. Wheel washing facilities should be provided at all site exists to ensure that earth, mud and debris would not be carried out of the works areas by vehicles.		
Water Quality	Good sites practices should be adopted to clean the rubbish and litter on the construction sites so as to prevent the rubbish and litter from spreading from the site area. It is recommended to clean the construction sites on a regular basis.	Work site/During the construction period	√
Water Quality	The presence of construction workers generates sewage. It is recommended to provide sufficient chemical toilets in the works areas. The toilet facilities should be more than 30m from any watercourse. A licensed water collector should be deployed to clean the chemical toilets on a regular basis. The construction workers can also make use of the existing toilet facilities within the PPSTW as necessary.	Work site/During the construction period	√
Water Quality	Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction phase of the project. Regular environmental audit on the construction phase of the project. Regular environmental audit on the construction site can provide an effective control of any malpractices and can achieve continual improvement of environmental performance on site.	Work site/During the construction period	√
Waste Management	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	Work site/During the construction period	\checkmark

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	should be observed and complied with for control of chemical wastes.		
Waste Management	Any service shop and maintenance facilities should be located on hard standings within a bunded area, and stumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.	Work site/During the construction period	√
Waste Management	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 the chemical wastes. General requirements are given as follows:	Work site/During the construction period	Δ
	 Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport. Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents. 		
	• Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.		
Waste Management	<i>Good Site Practices</i> Recommendations for good site practices during the construction activities include:	Work site/During the construction period	\checkmark
	• Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site		
	• Training of site personnel in proper waste management and chemical handling procedures		
	Provision of sufficient waste disposal points and regular collection of waste		
	• Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers		

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	• Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.		
	• Separation of chemical wastes for special handling and appropriate treatment at the Chemical Waste Treatment Facility.		
Waste Management	Waste Reduction Measures Waste reduction is best achieved at the planning and design stage, as	Work site/During planning & design stage, and construction stage	Δ
	well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include:		
	• Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal.		
	• Encourage collection of aluminium cans by providing separate labelled bins to enable this waste to be segregated from other general refuse generated by the work force		
	• Proper storage and site practices to minimise the potential for damage or contamination of construction materials.		
	• Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.		
Waste Management	General Refuse	Work site / During the construction period	Δ
	General refuse should be stored in enclosed bins or compaction units separate from C&D material. A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.		
Waste Management	Construction and Demolition Material In order to minimise the impact resulting from collection and transportation of C&D material for off-site disposal, the excavated	Work site / During design stage & construction period	\checkmark

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	material generated from site formation works for the proposed new facilities and units at the STW should be reused on-site as far as practicable. The surplus excavated material should be disposed of at the designated public fill reception facility, as agreed with the Secretary of the Public Fill Committee, for other beneficial uses.		
Waste Management	 Mitigation measures and good site practices should be followed to control potential environmental impact from handling and transportation of C&D material. The mitigation measures include: Where it is unavoidable to have transient stockpiles of C&D material pending collection for disposal, the transient stockpiles shall be located away from waterfront or storm drains as far as possible. Open stockpiles of construction materials or construction wastes onsite should be covered with tarpaulin or similar fabric. Skip hoist for material transport should be totally enclosed by impervious sheeting. Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site 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 hardcores. The load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure dust materials do not leak from the vehicle. All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet. The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading. 	Work site / During design stage & construction period	
Waste Management	When disposing C&D material at a public filling facility, it shall be noted that the material shall only consist of earth, building debris and broken rock and concrete. The material shall be free from marine mud, household refuse, plastic, metals, industrial and chemical waste, animal	Work site/During design stage & construction period	\checkmark

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	and vegetable matter, and other material considered to be unsuitable by the Filling Supervisor. In order to monitor the disposal of the surplus C&D material at the designed public fill reception facility and to control fly tipping, a trip-ticket system should be included as one of the contractual requirements and implemented by an Environmental Team undertaking the Environmental Monitoring and Audit work with reference to the ETWB TCW No. 31/2004 "Trip Ticket System for Disposal of Construction and Demolition Materials" as attached in Appendix 7-1. An Independent Environmental Checker should be responsible for auditing the results of the system.		
Waste Management	Chemical Waste If chemical wastes are produced at the construction site, the Contractor would be required to register with the EPD as a Chemical Waste Producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the Chemical Waste Treatment Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	Work site / During the construction period	
Landscape & Visual	Temporary Tree NurseriesTemporary tree nurseries may be set up for the transplanted tree and proposed trees at an early stage to allow small trees to grow during the construction periods. By the time when planting area becomes available, trees mature and increase in trunk & spread size. They will require minimal pruning and suffer much less damage during transplanting when comparing the travel distance from an on-site nursery to an off- site nursery.Besides, these trees may also be positioned as visual mitigation during	Work site/During design stage & construction period	√. A tree nursery has been set up off-site near the site office.

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	the construction period.		
Landscape & Visual	No-intrusion Zone To maximize protection to existing trees and ground vegetation, construction contracts may designate "No-intrusion Zone" to various areas within the site boundary with rigid and durable fencing for each individual no-intrusion zone. The contractor should close monitor and restrict the site working staff not to enter the "no-intrusion zone", even for non-direct construction activities and storage of equipment.	Work site/During design stage & construction period	Δ
Landscape & Visual	<u>Hoarding</u> Hoarding or boundary fencing for construction shall be considered. It should be sensitively designed, subtle, camouflaged and more 'permeable' so that they fit into the existing environment when looking from outside.	Work site/During design stage & construction period	\checkmark
Landscape & Visual	Dust and Erosion Control for Exposed Soil Excavation works and demolition of existing building blocks and which will be highly visible form surrounding areas should be well planned and with precautions to suppress dust. Exposed soil shall be covered or 'camouflaged' and watered often. Areas that are expected to be left with bare soil for a long period of time after excavation shall be properly covered with suitable protective fabric. Silt and erosion shall be controlled by ground barriers around the slope cutting area	Work site/During design stage & construction period	√
Landscape & Visual	Existing Tree Record Inventory All retained trees should be record photographically at the commencement of the Contract, and carefully protected during the construction period. Detailed tree protection specification shall be allowed and included in the Contract Specification, which specifying the tree protection requirement, submission and approval system, and the tree monitoring system.	Work site/During design stage & construction period	V

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Landscape & Visual	Construction Light All security floodlights for construction sites shall be equipped with adjustable shield, frosted diffusers and reflective covers, and be carefully controlled to minimize light pollution and night-time glare to nearby residences and GIC users. The Contractor shall consider other security measures which shall minimize the visual impacts.	Work site / During design stage & construction period	√
Landscape & Visual	<u>Tree Transplanting</u> Apart from the 18 numbers of " <i>Leucaena leucocephala</i> ", which are proposed to be felled in accordance with ETWB TCW No. 3/2006, all the affected trees shall be transplanted. Where practicable, trees shall be directly transplanted to permanent on-site locations. The location of the transplanted tree is shown in Figure 8.9.1 .	Work site / During design stage & construction period	Δ . Tree transplantation in progress.
Landscape & Visual	<u>Tree Compensation Ratio</u> The total number of compensatory trees planted in the project area shall not be less than 1:1 ratios by new trees. Required numbers and locations of compensatory trees shall be determined and agreed with Government during the tree felling application process under ETWCTC 3/2006. Compensatory trees shall be at least heavy standard size to create "immediate" greening effect. 81 numbers of " <i>Cassia surattensis</i> " will be provided as the additional compensatory planting for loss of greenery in the area due to removal of the affected trees. The location of the additional compensatory planting is shown in Figure 8.9.1 .	Work site / During design stage & construction period	N/A
Landscape & Visual	Re-use of Existing Soil and Advance formation of Planting Area Existing topsoil shall be re-used where possible for new planting areas within the project. Advance formation of planting area and early implementation of the plating works can minimize adverse impact on trees. The construction program shall consider using the soil removed from one phase for backfilling another. Suitable storage ground, gathering ground and mixing ground may be set up on-site as necessary.	Work site / During design stage & construction period	\checkmark

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Landscape & Visual	Establishment Period 12 month establishment period for the soft landscape works will be allowed in the main contract. Most construction contracts in Hong Kong require the Contractor to carry out routine horticultural operations, including watering, pruning, weeding, pest control, replacement of dead plants etc. to ensure healthy establishment of new planting during a 12 month establishment period. This period also serves as a kind of warranty / guarantee on the quality of the plants supplied and installed by the Contractor. Monthly monitoring during the first year of establishment period is recommended.	Work site/During operation period	N/A. To be implemented during operation phase of Project.
Landscape & Visual	Re-instatement of excavated Area All excavated area and disturbed area for utilities diversion, temporary road diversion, and pipeline woks will be reinstated to former conditions, subject to applicable Government Standards.	Work site / During design stage & operation period	N/A. To be implemented during operation phase of Project.
Landscape & Visual	Appearance and Greening for the proposed structures Compatible design, construction materials and surface finishes of the proposed structure should match with the nearby existing external appearance of PPSTW buildings for achieving visual uniformity. Finishing materials shall have due consideration to form, basic color, color/tone variation, micro-and macro-texture, and reflectivity/light absorbance to avoid glare. Planting, such as turf, low groundcovers and climbers, may also be planted on top of these elements to provide greening and aesthetic effect.	Work site / During design stage & operation period	N/A. To be implemented during operation phase of Project.
Summary of Key	Environmental Mitigation Measures in Contract Requirements	1	1
Air Quality	Only Ultra-low-sulphur diesel (ULSD) should be used for all diesel- operated plants and equipments on site	Work sites / during construction period	\checkmark
Air Quality and Noise	Plants and equipments of good operation conditions should be used on site.	Work sites / during construction period	\checkmark
Noise	No diesel hammers should be used for piling works	Work sites / during construction period	
Noise	Construction Noise Permits (CNP) should be applied for works conducted outside non-restricted hours.	Work sites / during construction period	\checkmark
Noise	Quiet construction equipments and the quietest practicable working	Work sites / during construction period	Δ

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	methodologies should be adopted for works whenever feasible. Noise labels should be provided for air compressors. Hoods and cover panels of generators and air compressors should be closed during operation. Noise labels should be provided for air compressors and hand-held percussive breakers.		
Waste Management	Temporary works construction on site should minimize the use of timber to reduce the quantity of C&D waste generated during works period.	Work sites / during construction period	\checkmark
Landscape and Visual	Retained or to-be-transplanted trees on site should be properly protected from physical damages and soil compacts with temporary fencing or hessian armouring whenever feasible.	Work sites / during construction period	Δ

Remark:

 $\sqrt{}$ Compliance of Mitigation Measures

<> Compliance of Mitigation but need improvement

- x Non-compliance of Mitigation Measures
- ▲ Non-compliance of Mitigation Measures but rectified by ATAL-Degrémont-China State JV

Δ Deficiency of Mitigation Measures but rectified by ATAL-Degrémont-China State JV

N/A Not Applicable in Reporting Period

Annex J

Waste Flow Table

Monthly Summary Waste Flow Table

	Ac	ctual Quantities of Ind	ert C&D Materials	(Public Fill) Generat	ted	Actua	al Quantities of Non-	inert C&D Materials	(Construction Wast	e) Generated
Month	Total Quantity Generated	Rocks & Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Metals (see Note 1)	Paper/ cardboard packaging (see Note 1)	Plastics (see Note 2)	Chemical Waste	Others, e.g. general refuse (see Note 3)
	tonne	tonne	tonne	tonne	tonne	kilogram	kilogram	kilogram	kilogram	tonne
Nov 2010	2,248	0	0	0	2,248	60	100	0	0	18.05 (see Note 4)
Dec 2010	11,314 (see Note 4)	0	0	0	11,314	100	120	20	0	28.4 (see Note 4)
Jan 2011	58,383 (see Note 4)	0	0	0	58,383	250	280	60	0	4.59 (see Note 4)
Feb 2011	12,855	0	0	0	12,855	100	150	50	0	2.43 (see Note 4)
Mar 2011	22,859	0	0	0	22,859	150	180	55	0	9.02
Total	107,659	0	0	0	107,659	660	830	185	0	62.49

Notes: (1) Metal and paper/cardboard packaging were collected by recycler for recycling.

(2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material collected by recycler for recycling.

(3) General refuse was disposed of at WENT by subcontractors.

(4) The waste flow data for November and December 2010, January and February 2011 was updated in March 2011based on SOR's comments and has been confirmed by the Contractor.

Annex K

Environmental Complaint, Environmental Summons and Persecution Log

Reporting Month	Number of Complaints in Reporting Month	Number of Summons/Prosecutions in Reporting Month
November 2010	0	0
December 2010	0	0
January 2011	0	0
February 2011	0	0
March 2011	0	0
Overall Total	0	0

Annex K Cumulative Complaint and Summons/Prosecutions Log

ENVIRONMENTAL RESOURCES MANAGEMENT

Annex L

Construction Programme of the Project

Activity ID	Description	Original Duration	Early Start	Early Finish	Total Float JAN	N FEB	MAR		APR	2011 MAY	JUN
Preliminaries											
General Requirem											
PLW001590	Conditional Survey - Bypass Pipe works	14	22NOV2010 A	10APR2011	586d	1			PLW001590		
PLW001700	Tree Transplant According to Ref Drg	150	05NOV2010 A	16APR2011	113d				PLW001700		
PLW001710	Other Tree Transplant (not Included in Ref Drg)	35	10FEB2011 A	28MAR2011	53d			PLW001710			
PLW004910	XP Application for Temp Access to P2	120	29NOV2010 A	14APR2011	101d				PLW004910	1	
PLW004920	Apply Roadwork Advice	6	15APR2011	21APR2011	101d				PLW00492	Ó	
PLW004930	Construct Site Access to P2	36	22APR2011	04JUN2011	101d						PLW004930
PLW005240	Commissioning Plan - Approved	0		01APR2011	71d			♦ PLW00524	.0	 	
Design and Design (Survey	Checking of Permanent Works										
Submission and	Approval										
DPS003370	Remaining Ground Investigation	10	28MAR2011	12APR2011	74d				DPS003370		
DPS003380	Report for Remaining Ground Investigation	10	13APR2011	23APR2011	74d				DPS003	380	
Submission and C											
DPD001030	Approval Design Plan SO Review and Approval	50	11AUG2010 A	28MAR2011				DPD001030			
DPD010160	AIP1: Design Memorandum - SO review & Appr	28	06DEC2010 A	28MAR2011	6d			DPD010160			
DPD010310	DDA1: Design Memorandum- prep. Submission	40	17DEC2010 A	11APR2011	78d				DPD010310		
DPD010330	DDA1: Design Memorandum - DC Checking	30	12APR2011	25MAY2011	53d					DPD01	0330
DPD010360	DDA1: Design Memorandum - SO review & Appr	56	29MAY2011	23JUL2011	77d						
DPD020160	AIP2: Process Design - SO review & Appr	28	06DEC2010 A	28MAR2011	6d		· · · · · · · · · · · · · · · · · · ·	DPD020160			
DPD020310	DDA2: Process Design- prep. Submission	40	25JAN2011 A	11APR2011	78d				DPD020310		
DPD020330	DDA2: Process Design- DC Checking	30	12APR2011	25MAY2011	53d					DPD02	20330
DPD020360	DDA2: Process Design- SO review	56	29MAY2011	23JUL2011	77d						
DPD030160	AIP3: Hydraulic Design - SO review	28	11JAN2011 A	30MAR2011	7d	<u></u>		DPD030160		¦ /	' '
DPD030310	DDA3: Hydraulic Design- prep. Submission	60	28FEB2011 A	30MAY2011	10d						DPD030310
DPD030330	DDA3: Hydraulic Design- DC Checking	30	31MAY2011	13JUL2011	42d			DPD040160		L	
DPD040160 DPD040310	AIP4: Plant Layout Drawing- SO Review DDA4: Plant Layout Drawing- prep. Submission	28 40	15NOV2010 A 14JAN2011 A	28MAR2011 10APR2011	6d 11d			DFD040180	DPD040310		
DPD040310 DPD040330	DDA4: Plant Layout Drawing- Diep. Submission DDA4: Plant Layout Drawing- DC Checking	30	12APR2011	25MAY2011	8d				DI 2040310	DPD04	0330
DPD040360	DDA4: Plant Layout Drawing- DO Criecking	56	29MAY2011	23JUL2011	13d	<u>+</u>	·				
DPD061110	AIP6: Comm. sys design- prep. Submission	60	03JAN2011 A	28MAR2011	147d			DPD061110			
DPD061130	AIP6: Comm. sys design- DC Checking	14	29MAR2011	20APR2011	98d				DPD061130		
DPD061160	AIP6: Comm. sys design- SO review	28	24APR2011	21MAY2011	143d					DPD061160	
DPD063140	DDA6: HAZOP Report- DC check	30	29NOV2010 A	19APR2011	35d				DPD063140		
DPD063170	DDA6: HAZOP Report- SO Review	56	20APR2011	14JUN2011	52d					· · · · · · · · · · · · · · · · · · ·	DPD0
DPD070160	AIP7: Control System: - SO review	28	06DEC2010 A	01APR2011	26d			DPD070160			
DPD071330	DDA7A: P&ID- DC Checking	30	300CT2010 A	06APR2011	75d	1		DPD	071330		
DPD071360	DDA7A: P&ID SO review	56	07APR2011	01JUN2011	113d				DPD072330	1	DPD071360
DPD072330 DPD072360	DDA7B: Control Philosophy- DC Checking DDA7B: Control Philosophy SO review	30 56	07FEB2011 A 24APR2011	18JUN2011	5d 96d				DPD072330	1	
DPD072380	DDA7C-G: SCADA system design- prep. Submission	60	28JAN2011 A	20APR2011	7d	1			DPD073310	1	
DPD073330	DDA7C-G: SCADA system design- DC Checking	30	21APR2011	03JUN2011	5d						DPD073330
DPD073360	DDA7C-G: SCADA system design- SO review	56	07JUN2011	01AUG2011	22d						
DPD074310	DDA7H-N-: SCADA Detail design- prep. Submission	120	04JUN2011	01OCT2011	10d						
DPD077110	DDA8A: Pump sys design- prep. Submission	60	03JAN2011 A	23APR2011	54d		· · · · · · · · · · · · · · · · · · ·		DPD077	110	
DPD077130	DDA8A: Pump sys design- DC Checking	30	25APR2011	08JUN2011	36d					1	DPD077130
DPD077160	DDA8A: Pump sys design- SO review	56	12JUN2011	06AUG2011	52d						
DPD077310	DDA8B: Odour Duct design- prep. Submission	60		09MAY2011	97d					DPD077310	
DPD077330	DDA8B: Odour Duct design- DC Checking	30	11MAY2011	22JUN2011	66d						
DPD077360 DPD077510	DDA8B: Odour Duct design- SO review DDA8C: Pipe Sizing design- prep. Submission	56 60	26JUN2011 30MAY2011	20AUG2011 28JUL2011	96d 171d					1 1 1	
DPD077310 DPD077710	DDA8C: Pipe Sizing design- piep. Submission DDA8D: Pipe/Duct Supp. design- prep. Submission	60	24APR2011	28JUL2011 22JUN2011	251d						1
DPD077730	DDA8D: Pipe/Duct Supp. design- DC Checking	30	23JUN2011	04AUG2011	175d						
DPD077910	DDA8E: Mech Typ Inst Dwg- Submission	60	24APR2011	22JUN2011	250d						
DPD077930	DDA8E: Mech Typ Inst Dwg- DC Checking	30	23JUN2011	04AUG2011	174d					/ 	
DPD081130	DDA9A-E,L: Elect. sys design- DC Checking	30	20JAN2011 A	13APR2011	57d				DPD081130	 	
DPD081160	DDA9A-E,L: Elect. sys design- SO review	56	17APR2011	11JUN2011	85d					1 	DPD08116
DPD083310	DDA9F-I: ELV System- prep. Submission	60	28FEB2011 A	10MAY2011	2d					DPD083310	
DPD083330	DDA9F-I: ELV System- DC Checking	30	11MAY2011	22JUN2011	2d	 					
DPD083360	DDA9F-I: ELV System- SO review	56	26JUN2011	20AUG2011	3d						
DPD084130	DDA9J: Hazardous Zone Report- DC Checking	30	04NOV2010 A	30MAR2011	122d			DPD084130			
DPD084140	DDA9J: Hazardous Zone Report- DC Cert	0	024 DD0014	30MAR2011	182d			♦ DPD084140			2D084160
DPD084160 DPD084310	DDA9J: Hazardous Zone Report- SO review DDA9K: Renewable Energy Design- prep. Submission	56 90	03APR2011 13JUN2011	28MAY2011 10SEP2011	182d 87d						0004100
DPD084310 DPD085110	DDA9K: Renewable Energy Design- prep. Submission DDA10A~E B.S. design- prep. Submission	90 60	13JUN2011 15OCT2010 A		0/0			i			085110



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	JUL	AUG
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DPD08333	30	
		DPD083360
		Early bar
		Progress bar Critical bar
		Summary bar Start milestone point
		Finish milestone point

Activity ID	Description	Original Duration	Early Start	Early Finish	Total Float JAN FEB	MAR	APR	2011 MAY JUN
DPD085130	DDA10A~E B.S. design- DC Checking	30	15FEB2011 A	25MAY2011	110d	WEAK	AFR	DPD085130
DPD085160	DDA10A~E B.S. design- SO review	56	29MAY2011	23JUL2011	160d			
DPD090130	AIP21 Commissioning Plan - SO Rew & Appr	28	06DEC2010 A	01APR2011	71d		DPD090130	
DPD090310	DDA11: T&C Plan- prep. Submission	90	12APR2011	10JUL2011	71d			
DPD091050	AIP 8: SO Approval on GI Plan	28		26APR2011	19d	1	DPD09	91050
DPD091070	DDA 12: Checker Cert on Final GI Plan	40	03JAN2011 A	06APR2011	13d		DPD091070	DDD001000
DPD091080	DDA 12: Cert on Final GI Plan	56	07APR2011	01JUN2011	13d		DPD100060	DPD091080
DPD100060 DPD100420	PTW: AIP 9B SO Approval on Civil PTW: DDA 13E Foundation Checking and Approval	65 56	13NOV2010 A 17JAN2011 A	29MAR2011 28MAR2011	5d 6d		DPD10060	
DPD100420 DPD101025	PTW: DDA 13E Foundation Checking and Approval PTW: DDA 13F Checker Certificate on Structure	28	12FEB2011 A	01APR2011	18d	J	DPD101025	
DPD101020	PTW: DDA 13F SO Approval on Structure	56	02APR2011	27MAY2011	18d			DPD101030
DPD101210	PTW: DDA 13G Mis Civil Submission	23	04APR2011	11MAY2011	7d			DPD101210
DPD101215	PTW: DDA 13G Mis Civil Checking and Approval	28	12MAY2011	08JUN2011	9d			DPD101215
DPD101220	PTW: DDA 13G Mis Civil Checking and Approval	56	09JUN2011	03AUG2011	9d			
DPD103110	PTW: DDA 13A Elect Dwg - Submission	60	150CT2010 A	30MAR2011	21d	· · · · · · · · · · · · · · · · · · ·	DPD103110	
DPD103130	PTW: DDA 13A Elect Dwg - DC Checking	30	31MAR2011	18MAY2011	12d			DPD103130
DPD103150	PTW: DDA 13A Elect Dwg - SO review and Approval	56	19MAY2011	13JUL2011	16d			
DPD103230	PTW: DDA 13B Mech Dwg - DC Checking	30	10FEB2011 A	05MAY2011	20d			DPD103230
DPD103250	PTW: DDA 13B Mech Dwg - SO review and Approval	56	19MAY2011	13JUL2011	16d		DPD103310	
DPD103310 DPD103330	PTW: DDA 13C BS Dwg - Submission PTW: DDA 13C BS Dwg - DC Checking	60 30	15OCT2010 A 07APR2011	06APR2011 24MAY2011	266d 181d	1	DFD103310	DPD103330
DPD103350	PTW: DDA 13C BS Dwg - DC Checking PTW: DDA 13C BS Dwg - SO review and Approval	56	25MAY2011	19JUL2011	260d			DI D103330
DPD103530	PTW: DDA 13D E&MCR Dwg - DC Checking	30	12MAR2011 A	12APR2011	8d		DPD103530	
DPD103550	PTW: DDA 13D E&MCR Dwg - SO rew & Appr	56	13APR2011	07JUN2011	8d			DPD103550
DPD113200	PTW: Coarse Screen: E&M Equipment Approval	70	21DEC2010 A	15APR2011	50d	· · · · · · · · · · · · · · · · · · ·	DPD113200	
DPD123200	PTW: Inlet Pump St: E&M Equipment Approval	70	01FEB2011 A	10MAY2011	140d			DPD123200
DPD133200	PTW: Fine Screen: E&M Equipment Approval	70	21DEC2010 A	15APR2011	72d		DPD133200	
DPD143100	PTW: Grit Chamber: E&M Equipment Submission	90		01APR2011	16d		DPD143100	
DPD143200	PTW: Grit Chamber: E&M Equipment Approval	70	02APR2011	10JUN2011	16d			DPD143200
DPD150070	Septic: AIP 10B Checker Certificate on Civil	28	07FEB2011 A	28MAR2011	133d		DPD150070	2000
DPD150080 DPD150740	Septic: AIP 10B SO Approval on Civil Submission Septic: DDA 14 E&F Fdn / Structural Submission	28 48	29MAR2011 31MAR2011	25APR2011 14JUN2011	133d 68d		DPD150	DPD1
DPD150740 DPD150750	Septic: DDA 14 E&F Checker Cert on Structure	28	15JUN2011	12JUL2011	214d			
DPD151810	Septic: DDA 14 Ear Onecker Cert on Orderate	25	15JUN2011	20JUL2011	68d			
DPD153060	Septic: AIP 10A E&M GA Drg - SO Rew. & Appr	28	01DEC2010 A	30MAR2011	81d		DPD153060	
DPD153110	Septic: DDA14A Elect Dwg - Submission	60	24JAN2011 A	21MAY2011	332d			DPD153110
DPD153130	Septic: DDA14A Elect Dwg - DC Checking	30	23MAY2011	05JUL2011	232d			
DPD153210	Septic: DDA 14B Mech Dwg - Submission	60	17JAN2011 A	16MAY2011	337d			DPD153210
DPD153230	Septic: DDA 14B Mech Dwg - DC Checking	30	17MAY2011	28JUN2011	236d			
DPD153250	Septic: DDA14B Mech Dwg - SO review and Appr.	56	29JUN2011	23AUG2011	336d			
								DDD150010
DPD153310	Septic: DDA14C BS Dwg - Submission	60	24JAN2011 A		332d			DPD153310
DPD153330	Septic: DDA14C BS Dwg - DC Checking	30	24JAN2011 A 23MAY2011	05JUL2011	232d			
DPD153330 DPD153510	Septic: DDA14C BS Dwg - DC Checking Septic: DDA14D EMCR Dwg - Submission	30 60	24JAN2011 A 23MAY2011 31JAN2011 A	05JUL2011 21MAY2011	232d 238d			DPD153310 DPD153510
DPD153330 DPD153510 DPD153530	Septic: DDA14C BS Dwg - DC Checking Septic: DDA14D EMCR Dwg - Submission Septic: DDA14D EMCR Dwg - DC Checking	30 60 30	24JAN2011 A 23MAY2011 31JAN2011 A 23MAY2011	05JUL2011 21MAY2011 05JUL2011	232d 238d 210d			
DPD153330 DPD153510	Septic: DDA14C BS Dwg - DC Checking Septic: DDA14D EMCR Dwg - Submission	30 60	24JAN2011 A 23MAY2011 31JAN2011 A	05JUL2011 21MAY2011	232d 238d			DPD153510
DPD153330 DPD153510 DPD153530 DPD170050	Septic: DDA14C BS Dwg - DC Checking Septic: DDA14D EMCR Dwg - Submission Septic: DDA14D EMCR Dwg - DC Checking WB & Access: AIP 24B Civil GA Drg Submission	30 60 30 21	24JAN2011 A 23MAY2011 31JAN2011 A 23MAY2011 20APR2011	05JUL2011 21MAY2011 05JUL2011 20MAY2011	232d 238d 210d 5d			DPD153510
DPD153330 DPD153510 DPD153530 DPD170050 DPD170055	Septic: DDA14C BS Dwg - DC Checking Septic: DDA14D EMCR Dwg - Submission Septic: DDA14D EMCR Dwg - DC Checking WB & Access: AIP 24B Civil GA Drg Submission WB & Access: AIP 24B Checker Cert on Civil	30 60 30 21 21 21	24JAN2011 A 23MAY2011 31JAN2011 A 23MAY2011 20APR2011 21MAY2011	05JUL2011 21MAY2011 05JUL2011 20MAY2011 10JUN2011	232d 238d 210d 5d 9d		DPD173020	DPD153510
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DPD153330 DPD153510 DPD153530 DPD170050 DPD170055 DPD170060 DPD173020	Septic: DDA14C BS Dwg - DC Checking Septic: DDA14D EMCR Dwg - Submission Septic: DDA14D EMCR Dwg - DC Checking WB & Access: AIP 24B Civil GA Drg Submission WB & Access: AIP 24B Checker Cert on Civil WB & Access: AIP 24B SO Approval on Civil WB & Access: AIP 24A E&M GA Drg Submission	30 60 30 21 21 21 28 30	24JAN2011 A 23MAY2011 31JAN2011 A 23MAY2011 20APR2011 21MAY2011 11JUN2011 01SEP2010 A	05JUL2011 21MAY2011 05JUL2011 20MAY2011 10JUN2011 08JUL2011 01APR2011 19APR2011 17MAY2011	232d 238d 210d 5d 9d 9d 0			DPD153510
DPD153330 DPD153510 DPD153530 DPD170050 DPD170055 DPD170060 DPD173020 DPD173040 DPD173060 DPD173610	Septic: DDA14C BS Dwg - DC Checking Septic: DDA14D EMCR Dwg - Submission Septic: DDA14D EMCR Dwg - DC Checking WB & Access: AIP 24B Civil GA Drg Submission WB & Access: AIP 24B Checker Cert on Civil WB & Access: AIP 24B Checker Cert on Civil WB & Access: AIP 24B SO Approval on Civil WB & Access: AIP 24A E&M GA Drg Submission WB & Access: AIP 24A E&M GA Drg Submission WB & Access: AIP 24A E&M DC Checking WB & Access: AIP 24A E&M SO Rew. & Approval WB & Access: DDA27 E&M Submission	30 60 30 21 21 28 30 14 28 50	24JAN2011 A 23MAY2011 31JAN2011 A 23MAY2011 20APR2011 21MAY2011 11JUN2011 01SEP2010 A 28MAR2011 20APR2011 03JUN2011	05JUL2011 21MAY2011 05JUL2011 20MAY2011 10JUN2011 08JUL2011 01APR2011 19APR2011 17MAY2011 22JUL2011	232d 238d 210d 5d 9d 9d 0 5d		DPD173040	DPD153510 DPD170050 DPD170050
DPD153330 DPD153510 DPD153530 DPD170050 DPD170055 DPD170060 DPD173020 DPD173040 DPD173060 DPD173610 DPD200060	Septic: DDA14C BS Dwg - DC Checking Septic: DDA14D EMCR Dwg - Submission Septic: DDA14D EMCR Dwg - DC Checking WB & Access: AIP 24B Civil GA Drg Submission WB & Access: AIP 24B Checker Cert on Civil WB & Access: AIP 24B Checker Cert on Civil WB & Access: AIP 24B SO Approval on Civil WB & Access: AIP 24A E&M GA Drg Submission WB & Access: AIP 24A E&M GA Drg Submission WB & Access: AIP 24A E&M DC Checking WB & Access: AIP 24A E&M SO Rew. & Approval WB & Access: DDA27 E&M Submission CEPT Tank: AIP 11B SO Approval on Civil	30 60 30 21 21 28 30 14 28 50 99	24JAN2011 A 23MAY2011 31JAN2011 A 23MAY2011 20APR2011 21MAY2011 11JUN2011 01SEP2010 A 28MAR2011 20APR2011 03JUN2011 13NOV2010 A	05JUL2011 21MAY2011 05JUL2011 20MAY2011 10JUN2011 08JUL2011 01APR2011 19APR2011 17MAY2011 22JUL2011 02APR2011	232d 238d 210d 5d 9d 9d 0 5d 7d 105d 0		DPD173040	DPD153510 DPD170050 DPD170050
DPD153330 DPD153510 DPD153530 DPD170050 DPD170055 DPD170060 DPD173020 DPD173040 DPD173060 DPD173610 DPD200060 DPD200740	Septic: DDA14C BS Dwg - DC Checking Septic: DDA14D EMCR Dwg - Submission Septic: DDA14D EMCR Dwg - DC Checking WB & Access: AIP 24B Civil GA Drg Submission WB & Access: AIP 24B Checker Cert on Civil WB & Access: AIP 24B Checker Cert on Civil WB & Access: AIP 24B SO Approval on Civil WB & Access: AIP 24A E&M GA Drg Submission WB & Access: AIP 24A E&M GA Drg Submission WB & Access: AIP 24A E&M DC Checking WB & Access: AIP 24A E&M SO Rew. & Approval WB & Access: DDA27 E&M Submission CEPT Tank: AIP 11B SO Approval on Civil CEPT Tank: DDA 15E Fdn Checking and Approval	30 60 30 21 21 28 30 14 28 50 99 38	24JAN2011 A 23MAY2011 31JAN2011 A 23MAY2011 20APR2011 21MAY2011 11JUN2011 01SEP2010 A 28MAR2011 20APR2011 03JUN2011 13NOV2010 A 19JAN2011 A	05JUL2011 21MAY2011 05JUL2011 20MAY2011 10JUN2011 08JUL2011 01APR2011 17MAY2011 22JUL2011 02APR2011 01APR2011	232d 238d 210d 5d 9d 9d 0 5d 7d 105d 0 70d		DPD173040 DPD200060 DPD200740	DPD153510 DPD170050 DPD170050
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DPD153330 DPD153510 DPD153530 DPD170050 DPD170055 DPD170060 DPD173020 DPD173040 DPD173060 DPD173610 DPD20060 DPD200740 DPD201430 DPD201440	Septic: DDA14C BS Dwg - DC Checking Septic: DDA14D EMCR Dwg - Submission Septic: DDA14D EMCR Dwg - DC Checking WB & Access: AIP 24B Civil GA Drg Submission WB & Access: AIP 24B Checker Cert on Civil WB & Access: AIP 24B Checker Cert on Civil WB & Access: AIP 24B SO Approval on Civil WB & Access: AIP 24A E&M GA Drg Submission WB & Access: AIP 24A E&M GA Drg Submission WB & Access: AIP 24A E&M DC Checking WB & Access: AIP 24A E&M SO Rew. & Approval WB & Access: DDA27 E&M Submission CEPT Tank: AIP 11B SO Approval on Civil CEPT Tank: DDA 15E Fdn Checking and Approval CEPT Tank: DDA 15F Checker Cert Structure CEPT Tank: DDA 15F SO Approval Structure	30 60 30 21 21 28 30 14 28 50 99 38 28 56	24JAN2011 A 23MAY2011 31JAN2011 A 20APR2011 21MAY2011 11JUN2011 01SEP2010 A 28MAR2011 20APR2011 03JUN2011 13NOV2010 A 19JAN2011 A 07FEB2011 A 31MAR2011	05JUL2011 21MAY2011 05JUL2011 20MAY2011 10JUN2011 08JUL2011 01APR2011 17MAY2011 22JUL2011 02APR2011 01APR2011 30MAR2011 25MAY2011	232d 238d 210d 5d 9d 9d 0 5d 7d 105d 0 70d 22d 22d		DPD173040 DPD200060 DPD200740	DPD153510 DPD170050 DPD170050 DPD173060 DPD201440
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DPD153330 DPD153510 DPD153530 DPD170050 DPD170055 DPD170060 DPD173020 DPD173040 DPD173060 DPD173060 DPD173610 DPD20060 DPD201400 DPD201430 DPD201440 DPD201700 DPD201705 DPD201710 DPD203060	Septic: DDA14C BS Dwg - DC Checking Septic: DDA14D EMCR Dwg - Submission Septic: DDA14D EMCR Dwg - DC Checking WB & Access: AIP 24B Civil GA Drg Submission WB & Access: AIP 24B Civil GA Drg Submission WB & Access: AIP 24B Checker Cert on Civil WB & Access: AIP 24B SO Approval on Civil WB & Access: AIP 24A E&M GA Drg Submission WB & Access: AIP 24A E&M OC Checking WB & Access: AIP 24A E&M OC Checking WB & Access: AIP 24A E&M SO Rew. & Approval WB & Access: DDA27 E&M Submission CEPT Tank: AIP 11B SO Approval on Civil CEPT Tank: DDA 15F Checker Cert Structure CEPT Tank: DDA 15F SO Approval Structure CEPT Tank: DDA 15G Mis Civil Submission CEPT Tank: DDA 15G SO Approval on Mis Civil CEPT Tank: DDA 15G SO Approval on Mis Civil CEPT Tank: DDA 15G SO Approval on Mis Civil CEPT Tank: DDA 15G SO Approval on Mis Civil CEPT: AIP 11A E&M GA - SO rev. & Appr	30 60 30 21 21 28 30 14 28 50 99 38 28 56 30 28 56 30 28 56 30 28 56 28 56 28 56 28	24JAN2011 A 23MAY2011 31JAN2011 A 23MAY2011 20APR2011 21MAY2011 11JUN2011 01SEP2010 A 28MAR2011 23MAR2011 13NOV2010 A 19JAN2011 A 07FEB2011 A 31MAR2011 14MAR2011 03JUN2011 03JUN2011 01DEC2010 A	05JUL2011 21MAY2011 05JUL2011 20MAY2011 10JUN2011 08JUL2011 01APR2011 17MAY2011 22JUL2011 02APR2011 01APR2011 30MAR2011 25MAY2011 05MAY2011 02JUN2011 28JUL2011 06APR2011	232d 238d 210d 5d 9d 9d 9d 0 5d 7d 105d 0 70d 22d 22d 14d 21d 0 0		DPD173040 DPD200060 DPD200740 DPD201430 DPD201430	DPD153510 DPD170050 DPD170050 DPD173060 DPD201440 DPD201440
DPD153330 DPD153510 DPD153510 DPD170050 DPD170055 DPD170060 DPD173020 DPD173020 DPD173040 DPD173060 DPD173610 DPD20060 DPD200740 DPD201430 DPD201430 DPD201705 DPD201705 DPD201710 DPD203160 DPD203130 DPD203150	Septic: DDA14C BS Dwg - DC Checking Septic: DDA14D EMCR Dwg - Submission Septic: DDA14D EMCR Dwg - DC Checking WB & Access: AIP 24B Civil GA Drg Submission WB & Access: AIP 24B Civil GA Drg Submission WB & Access: AIP 24B Checker Cert on Civil WB & Access: AIP 24B SO Approval on Civil WB & Access: AIP 24A E&M GA Drg Submission WB & Access: AIP 24A E&M OC Checking WB & Access: AIP 24A E&M OC Checking WB & Access: AIP 24A E&M SO Rew. & Approval WB & Access: DDA27 E&M Submission CEPT Tank: AIP 11B SO Approval on Civil CEPT Tank: DDA 15F Checker Cert Structure CEPT Tank: DDA 15F SO Approval Structure CEPT Tank: DDA 15F SO Approval Structure CEPT Tank: DDA 15G Checker Cert on Mis Civil CEPT Tank: DDA 15G SO Approval on Mis Civil CEPT Tank: DDA 15G SO Approval on Mis Civil CEPT: AIP 11A E&M GA - SO rev. & Appr CEPT: DDA 15A Elect Dwg - Submission	30 60 30 21 21 28 30 14 28 50 99 38 28 56 30 28 56 28 56 28 56 28 56 28 56 28 56 28 56 28 56 28 56 28 56	24JAN2011 A 23MAY2011 31JAN2011 A 23MAY2011 20APR2011 21MAY2011 11JUN2011 01SEP2010 A 28MAR2011 20APR2011 03JUN2011 13NOV2010 A 19JAN2011 A 07FEB2011 A 31MAR2011 14MAR2011 03JUN2011 03JUN2011 01DEC2010 A 29NOV2010 A 07APR2011 25MAY2011	05JUL2011 21MAY2011 05JUL2011 20MAY2011 10JUN2011 08JUL2011 19APR2011 17MAY2011 22JUL2011 02APR2011 01APR2011 03MAR2011 25MAY2011 05MAY2011 03APR2011 03APR2011 24MAY2011 19JUL2011	232d 238d 210d 5d 9d 9d 9d 0 5d 7d 105d 0 70d 22d 14d 21d 21d 0 0 35d 19d 28d		DPD200060 DPD200740 DPD201430 DPD201430 DPD203060	DPD153510 DPD170050 DPD170050 DPD173060 DPD201440 DPD201700 DPD201705
DPD153330 DPD153510 DPD153510 DPD170050 DPD170055 DPD170060 DPD173020 DPD173020 DPD173040 DPD173060 DPD173060 DPD20060 DPD200740 DPD201400 DPD201400 DPD201705 DPD201710 DPD203100 DPD203150 DPD203210	Septic: DDA14C BS Dwg - DC Checking Septic: DDA14D EMCR Dwg - Submission Septic: DDA14D EMCR Dwg - DC Checking WB & Access: AIP 24B Civil GA Drg Submission WB & Access: AIP 24B Civil GA Drg Submission WB & Access: AIP 24B Checker Cert on Civil WB & Access: AIP 24B SO Approval on Civil WB & Access: AIP 24A E&M GA Drg Submission WB & Access: AIP 24A E&M OC Checking WB & Access: AIP 24A E&M DC Checking WB & Access: AIP 24A E&M SO Rew. & Approval WB & Access: DDA27 E&M Submission CEPT Tank: DDA 15E Fdn Checking and Approval CEPT Tank: DDA 15F Checker Cert Structure CEPT Tank: DDA 15F SO Approval Structure CEPT Tank: DDA 15G Ne Scivil Submission CEPT Tank: DDA 15G SO Approval on Mis Civil CEPT Tank: DDA 15G SO Approval on Mis Civil CEPT Tank: DDA 15G SO Approval on Mis Civil CEPT Tank: DDA 15G SO Approval on Mis Civil CEPT: AIP 11A E&M GA - SO rev. & Appr CEPT: DDA 15A Elect Dwg - DC Checking CEPT: DDA 15A Elect Dwg - SO review and Approval CEPT: DDA 15B Mech Dwg - Submission	30 60 30 21 21 28 30 14 28 50 99 38 28 56 30 28 56 30 28 56 30 28 56 30 56 60 30 56 60 30 56 60	24JAN2011 A 23MAY2011 31JAN2011 A 23MAY2011 20APR2011 21MAY2011 11JUN2011 01SEP2010 A 28MAR2011 20APR2011 03JUN2011 13NOV2010 A 19JAN2011 A 07FEB2011 A 31MAR2011 14MAR2011 03JUN2011 01DEC2010 A 29NOV2010 A 07APR2011 25MAY2011 30NOV2010 A	05JUL2011 21MAY2011 05JUL2011 20MAY2011 10JUN2011 08JUL2011 19APR2011 17MAY2011 22JUL2011 02APR2011 01APR2011 03MAR2011 25MAY2011 05MAY2011 03APR2011 24MAY2011 19JUL2011 08APR2011	232d 238d 210d 5d 9d 9d 9d 0 5d 7d 105d 0 70d 22d 14d 21d 21d 0 0 35d 19d 28d 30d		DPD173040 DPD200060 DPD200740 DPD201430 DPD201430	DPD153510 DPD170050 DPD170050 DPD173060 DPD201440 DPD201700 DPD201705 DPD201705
DPD153330 DPD153510 DPD153510 DPD170050 DPD170055 DPD170060 DPD173020 DPD173020 DPD173040 DPD173060 DPD173060 DPD20060 DPD200740 DPD201400 DPD201400 DPD201705 DPD201710 DPD203100 DPD203150 DPD203210 DPD203230	Septic: DDA14C BS Dwg - DC Checking Septic: DDA14D EMCR Dwg - Submission Septic: DDA14D EMCR Dwg - DC Checking WB & Access: AIP 24B Civil GA Drg Submission WB & Access: AIP 24B Checker Cert on Civil WB & Access: AIP 24B SO Approval on Civil WB & Access: AIP 24A E&M GA Drg Submission WB & Access: AIP 24A E&M GA Drg Submission WB & Access: AIP 24A E&M OC Checking WB & Access: AIP 24A E&M DC Checking WB & Access: AIP 24A E&M SO Rew. & Approval WB & Access: DDA27 E&M Submission CEPT Tank: DDA 15E Fdn Checking and Approval CEPT Tank: DDA 15F Checker Cert Structure CEPT Tank: DDA 15F Checker Cert on Mis Civil CEPT Tank: DDA 15G Mis Civil Submission CEPT Tank: DDA 15G Checker Cert on Mis Civil CEPT Tank: DDA 15G SO Approval on Mis Civil CEPT Tank: DDA 15G SO Approval on Mis Civil CEPT: AIP 11A E&M GA - SO rev. & Appr CEPT: DDA 15A Elect Dwg - So review and Approval CEPT: DDA 15B Mech Dwg - Submission CEPT: DDA 15B Mech Dwg - DC Checking	30 60 30 21 21 28 30 14 28 50 99 38 28 56 30 28 56 28 60 30 56 28 60 30 56 60 30 56 60 30	24JAN2011 A 23MAY2011 31JAN2011 A 23MAY2011 20APR2011 21MAY2011 11JUN2011 01SEP2010 A 28MAR2011 20APR2011 03JUN2010 A 19JAN2011 A 07FEB2011 A 31MAR2011 14MAR2011 03JUN2011 03JUN2011 01DEC2010 A 29NOV2010 A 07APR2011 25MAY2011 30NOV2010 A 12APR2011	05JUL2011 21MAY2011 05JUL2011 20MAY2011 10JUN2011 08JUL2011 19APR2011 17MAY2011 22JUL2011 02APR2011 01APR2011 03MAR2011 25MAY2011 05MAY2011 03APR2011 24MAY2011 19JUL2011 08APR2011 25MAY2011	232d 238d 210d 5d 9d 9d 9d 9d 9d 7d 105d 0 70d 22d 22d 14d 21d 35d 19d 28d 30d 18d		DPD200060 DPD200740 DPD201430 DPD201430 DPD203060	DPD153510 DPD170050 DPD170050 DPD173060 DPD201440 DPD201700 DPD201705
DPD153330 DPD153510 DPD153510 DPD170050 DPD170055 DPD170060 DPD173020 DPD173020 DPD173040 DPD173060 DPD173060 DPD20060 DPD200740 DPD201400 DPD201400 DPD201705 DPD201705 DPD201710 DPD203100 DPD203150 DPD203230 DPD203250	Septic: DDA14C BS Dwg - DC Checking Septic: DDA14D EMCR Dwg - Submission Septic: DDA14D EMCR Dwg - DC Checking WB & Access: AIP 24B Civil GA Drg Submission WB & Access: AIP 24B Checker Cert on Civil WB & Access: AIP 24B Checker Cert on Civil WB & Access: AIP 24B SO Approval on Civil WB & Access: AIP 24A E&M GA Drg Submission WB & Access: AIP 24A E&M OC Checking WB & Access: AIP 24A E&M DC Checking WB & Access: AIP 24A E&M SO Rew. & Approval WB & Access: DDA27 E&M Submission CEPT Tank: AIP 11B SO Approval on Civil CEPT Tank: DDA 15F Checker Cert Structure CEPT Tank: DDA 15F Checker Cert Structure CEPT Tank: DDA 15G SO Approval Structure CEPT Tank: DDA 15G Checker Cert on Mis Civil CEPT Tank: DDA 15G SO Approval on Mis Civil CEPT Tank: DDA 15G SO Approval on Mis Civil CEPT: AIP 11A E&M GA - SO rev. & Appr CEPT: DDA 15A Elect Dwg - Sc review and Approval CEPT: DDA 15A Elect Dwg - Sc review and Approval CEPT: DDA 15B Mech Dwg - SC review and Approval	30 60 30 21 21 28 30 14 28 50 99 38 28 56 30 28 56 30 28 56 30 56 60 30 56 60 30 56 60 30 56 60 30 56	24JAN2011 A 23MAY2011 31JAN2011 A 23MAY2011 20APR2011 21MAY2011 11JUN2011 01SEP2010 A 28MAR2011 20APR2011 03JUN2010 A 19JAN2011 A 07FEB2011 A 31MAR2011 14MAR2011 03JUN2011 01DEC2010 A 29NOV2010 A 07APR2011 25MAY2011 30NOV2010 A 12APR2011 26MAY2011	05JUL2011 21MAY2011 05JUL2011 20MAY2011 10JUN2011 08JUL2011 19APR2011 17MAY2011 22JUL2011 02APR2011 01APR2011 03MAR2011 25MAY2011 05MAY2011 03APR2011 24MAY2011 19JUL2011 08APR2011 25MAY2011 25MAY2011 25MAY2011 25MAY2011 25MAY2011 25MAY2011 25MAY2011 25MAY2011 25MAY2011 25MAY2011 25MAY2011 20JUL2011	232d 238d 210d 5d 9d 9d 9d 9d 9d 7d 105d 7d 22d 22d 14d 21d 35d 19d 28d 30d 18d 27d		DPD200060 DPD200740 DPD201430 DPD203060 DPD203110 DPD203210	DPD153510 DPD170050 DPD170050 DPD173060 DPD201440 DPD201700 DPD201705 DPD201705
DPD153330 DPD153510 DPD153510 DPD170050 DPD170055 DPD170060 DPD173020 DPD173020 DPD173040 DPD173060 DPD173060 DPD20060 DPD200740 DPD201400 DPD201400 DPD201705 DPD201710 DPD203100 DPD203150 DPD203210 DPD203230	Septic: DDA14C BS Dwg - DC Checking Septic: DDA14D EMCR Dwg - Submission Septic: DDA14D EMCR Dwg - DC Checking WB & Access: AIP 24B Civil GA Drg Submission WB & Access: AIP 24B Checker Cert on Civil WB & Access: AIP 24B SO Approval on Civil WB & Access: AIP 24A E&M GA Drg Submission WB & Access: AIP 24A E&M GA Drg Submission WB & Access: AIP 24A E&M OC Checking WB & Access: AIP 24A E&M DC Checking WB & Access: AIP 24A E&M SO Rew. & Approval WB & Access: DDA27 E&M Submission CEPT Tank: DDA 15E Fdn Checking and Approval CEPT Tank: DDA 15F Checker Cert Structure CEPT Tank: DDA 15F Checker Cert on Mis Civil CEPT Tank: DDA 15G Mis Civil Submission CEPT Tank: DDA 15G Checker Cert on Mis Civil CEPT Tank: DDA 15G SO Approval on Mis Civil CEPT Tank: DDA 15G SO Approval on Mis Civil CEPT: AIP 11A E&M GA - SO rev. & Appr CEPT: DDA 15A Elect Dwg - So review and Approval CEPT: DDA 15B Mech Dwg - Submission CEPT: DDA 15B Mech Dwg - DC Checking	30 60 30 21 21 28 30 14 28 50 99 38 28 56 30 28 56 28 60 30 56 28 60 30 56 60 30 56 60 30	24JAN2011 A 23MAY2011 31JAN2011 A 23MAY2011 20APR2011 21MAY2011 11JUN2011 01SEP2010 A 28MAR2011 20APR2011 03JUN2011 13NOV2010 A 19JAN2011 A 07FEB2011 A 31MAR2011 03JUN2011 01DEC2010 A 29NOV2010 A 07APR2011 25MAY2011 30NOV2010 A 12APR2011 26MAY2011 26MAY2011 29NOV2010 A	05JUL2011 21MAY2011 05JUL2011 20MAY2011 10JUN2011 08JUL2011 19APR2011 17MAY2011 22JUL2011 02APR2011 01APR2011 03MAR2011 25MAY2011 05MAY2011 03APR2011 24MAY2011 19JUL2011 08APR2011 25MAY2011	232d 238d 210d 5d 9d 9d 9d 9d 9d 7d 105d 0 70d 22d 22d 14d 21d 35d 19d 28d 30d 18d		DPD200060 DPD200740 DPD201430 DPD201430 DPD203060	DPD153510 DPD170050 DPD170050 DPD173060 DPD201440 DPD201700 DPD201705 DPD201705



JUL AUG DPD085160 DPD090310 DPD101220 DPD103150 DPD103250 DPD103350 3200 PD150740 DPD150750 DPD151810 DPD153130 DPD153230 DPD1532 DPD153330 DPD153530 055 DPD170060 DPD173610 DPD201710 DPD203150 DPD203250 Early bar Progress bar Critical bar Summary bar Start milestone point Finish milestone point

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Activity ID	Description	Original	Early Start	Early Finish	Total Float				2011		
DPD203350	CEPT: DDA 15C BS Dwg - SO review and Approval	56	25MAY2011	19JUL2011	28d	JAN	FEB MAR	APR	MAY		JUN
DPD203510	CEPT: DDA 15D E&MCR Dwg - Submission	60	30NOV2010 A	03APR2011	8d			DPD203510			
DPD203530	CEPT: DDA 15D E&MCR Dwg - DC Checking	30	07APR2011	24MAY2011	1d					DPD203530	
DPD203550	CEPT: DDA 15D E&MCR Dwg - SO rew & Appr	56	25MAY2011	19JUL2011	1d						
DPD213100	CEPT: E&M Equipment Submission	50	15DEC2010 A	30APR2011	0				DPD213100		
DPD213200	CEPT: E&M Equipment Checking and Appr	70	31JAN2011 A	20MAY2011	88d	l			D	PD213200	
DPD300060	UV: AIP 13B Civil Checking and Approval	28	01MAR2011 A	06APR2011	56d			DPD300060	 		
DPD300740	UV: DDA 17E&F Fdn / Structural Submission	60		27MAY2011	13d					DPD300740	
DPD300750	UV: DDA 17E&F Checker Cert on Structure	28	28MAY2011	24JUN2011	20d						
DPD300780	UV: DDA 17E&F SO Approval on Structure	56 25	25JUN2011	19AUG2011	20d						
DPD301810 DPD303060	UV: DDA 17G Mis Civil Submission UV: AIP 13A E&M GA - SO rev. & appr	25	02JUN2011 01NOV2010 A	08JUL2011 03APR2011	26d 44d			DPD303060			
DPD303110	UV: DDA 17A Elect Dwg - Submission	60	30DEC2010 A	30APR2011	75d				DPD303110		
DPD303130	UV: DDA 17A Elect Dwg - DC Checking	30	03MAY2011	15JUN2011	50d						DPC
DPD303150	UV: DDA 17A Elect Dwg - SO review and Approval	56	16JUN2011	10AUG2011	71d						
DPD303210	UV: DDA 17B Mech Dwg - Submission	60	17DEC2010 A	30APR2011	75d				DPD303210		
DPD303230	UV: DDA 17B Mech Dwg - DC Checking	30	03MAY2011	15JUN2011	50d						DPD
DPD303250	UV: DDA 17B Mech Dwg - SO review and Approval	56	16JUN2011	10AUG2011	71d						
DPD303310	UV: DDA 17C BS Dwg - Submission	60	30DEC2010 A	30APR2011	103d				DPD303310		
DPD303330	UV: DDA 17C BS Dwg - DC Checking	30	03MAY2011	15JUN2011	70d						DPD
DPD303350	UV: DDA 17C BS Dwg - SO review and Approval	56	16JUN2011	10AUG2011	101d				DDD202540		
DPD303510 DPD303530	UV: DDA 17D E&MCR Dwg - Submission UV: DDA 17D E&MCR Dwg - DC Checking	60 30	30DEC2010 A 05MAY2011	04MAY2011 17JUN2011	35d 140d				DPD303510		
DPD303550	UV: DDA 17D E&MCR Dwg - SO review and Approval	56	18JUN2011	12AUG2011	202d						
DPD320070	RWPS: AIP 17B Civil Checking and Approval	28	11FEB2011 A	02APR2011	185d			DPD320070			
DPD320080	RWPS: AIP 17B SO Approval on Civil	28	03APR2011	30APR2011	185d				DPD320080		
DPD320740	RWPS: DDA 21E&F Fdn / Structural Submission	45	17MAY2011	20JUL2011	82d						
DPD323060	RWPS: AIP 17A E&M GA Drg - SO Rew. & Appr	28	01DEC2010 A	16MAY2011	64d				DPD32	3060	
DPD323110	RWPS: DDA 21A Elect Dwg - Submission	60	28MAR2011	26MAY2011	104d					DPD323110	
DPD323130	RWPS: DDA 21A Elect Dwg - DC Checking	30	27MAY2011	11JUL2011	72d						
DPD323210	RWPS: DDA 21B Mech Dwg - Submission	60	28MAR2011	26MAY2011	104d					DPD323210	
DPD323230	RWPS: DDA 21B Mech Dwg - DC Checking	30	27MAY2011	11JUL2011	72d		1		I 	DPD323310	
DPD323310 DPD323330	RWPS: DDA 21C BS Dwg - Submission RWPS: DDA 21C BS Dwg - DC Checking	60 30	28MAR2011 27MAY2011	26MAY2011 11JUL2011	104d 72d					DFD323310	
DPD323530 DPD323510	RWPS: DDA 21D E&MCR Dwg - Submission	60	07APR2011	05JUN2011	153d					DPD3	323510
DPD323530	RWPS: DDA 21D E&MCR Dwg - DC Checking	30	07JUN2011	19JUL2011	249d						
DPD333100	RWPS: DAF Equipment Submission	60	17MAY2011	15JUL2011	64d						
DPD500055	Chemical : AIP 18B Checker Cert on Civil	28	25FEB2011 A	02APR2011	118d			DPD500055			
DPD500060	Chemical: AIP 18B SO Approval on Civil	28	03APR2011	30APR2011	118d				DPD500060		
DPD500305	Chemical: AIP 18C Checker Cert on Architectural	28	22FEB2011 A	04APR2011	171d			DPD500305			
DPD500310	Chemical: AIP 18C SO Approval on Architectural	28	05APR2011	02MAY2011	171d				DPD500310		
DPD500740	Chemical: DDA 22E&F Structural /Fdn Submission	62		20JUN2011	58d		· · · · · · · · · · · · · · · · · · ·				
DPD500750	Chemical: DDA 22E&F Checker Cert on Structural	28	21JUN2011	18JUL2011	83d						
DPD501300 DPD501305	Chemical: DDA 22G Mis Civil Submission Chemical: DDA 22G Checker Cert on Mis Civil	30 28	16MAY2011 28JUN2011	27JUN2011 25JUL2011	91d 130d						
DPD501500	Chemical: DDA 22B Onecker Certon Mis Own	30	13JUN2011	25JUL2011	75d						
DPD501700	Chemical: DDA 22J Mis Architectural Submission	25	27JUN2011	01AUG2011	97d						
DPD503060	Chemical: AIP 18A E&M GA Drg - SO Rev & Appr	83	01DEC2010 A	06MAY2011	107d		· · · · · · · · · · · · · · · · · · ·		DPD503060		
DPD503110	Chemical: DDA 22A Elect Dwg - Submission	60	01FEB2011 A	26MAY2011	87d					DPD503110	
DPD503130	Chemical: DDA 22A Elect Dwg - DC Checking	30	27MAY2011	11JUL2011	59d						
DPD503210	Chemical: DDA 22B Mech Dwg - Submission	60	25JAN2011 A	26MAY2011	87d					DPD503210	
DPD503230	Chemical: DDA 22B Mech Dwg - DC Checking	30	27MAY2011	11JUL2011	59d						
DPD503310	Chemical: DDA 22C BS Dwg - Submission	60	01FEB2011 A	26MAY2011	87d				1	DPD503310	
DPD503330 DPD503510	Chemical: DDA 22C BS Dwg - DC Checking	30 60	27MAY2011 01FEB2011 A	11JUL2011 26MAY2011	59d 108d					DPD503510	
DPD503530	Chemical: DDA 22D E&MCR Dwg - Submission Chemical: DDA 22D E&MCR Dwg - DC Checking	30	27MAY2011	11JUL2011	153d					DF D303310	
DPD513100	Chemical: Chemical Dosing Equipment Submission	60	14MAR2011 A	14MAY2011	5d				DPD5131	00	
DPD513200	Chemical: Chemical Dosing Equipment Outmosion	150	15MAY2011	110CT2011	48d		1 T				
DPD600060	Sludge: AIP 12B Civil Checking and Approval	28	02FEB2011 A	01APR2011	96d			DPD600060			
DPD600420	Sludge: AIP 12C SO Approval on Architectural	28	02FEB2011 A	06APR2011	72d			DPD600420			
DPD600720	Sludge: DDA 16E Foundation Submission	45	07FEB2011 A	27APR2011	15d				PD600720		
DPD600730	Sludge: DDA 16E Checker Cert on Foundation	28	28APR2011	25MAY2011	23d					DPD600730	
DPD600740	Sludge: DDA 16E SO Approval on Foundation	56	26MAY2011	20JUL2011	23d						Doococc
DPD600960	Sludge: DDA 16F Structural Submission	45		07JUN2011	9d					DPI	D600960
DPD600970 DPD601200	Sludge: DDA 16F Checker Cert on Structural Sludge: DDA 16G Mis Civil Submission	28 35	07JUN2011 29JUN2011	05JUL2011 17AUG2011	13d 40d						
DPD601200 DPD603060	Sludge: AIP 12A E&M GA Drg -SO Rew & Appr	28		01MAY2011	40d 29d				DPD603060		
2. 200000			3.5202010A		200						





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Activity ID	Description	Original Duration	Early Start	Early Finish	Total –	JAN FEB	MAR	APR	2011 MAY	JUN
DPD603110	Sludge: DDA 16A Elect Dwg - Submission	60	08FEB2011 A	21MAY2011	89d				DPD603110	
DPD603130	Sludge: DDA 16A Elect Dwg - DC Checking	30	23MAY2011	05JUL2011	62d					
DPD603210	Sludge: DDA 16B Mech Dwg - Submission	60	31JAN2011 A	21MAY2011	89d				DPD603210	0
DPD603230	Sludge: DDA 16B Mech Dwg - DC Checking	30	23MAY2011	05JUL2011	62d					
DPD603310	Sludge: DDA 16C BS Dwg - Submission	60	08FEB2011 A	21MAY2011	9d		· [!]		DPD603310)
DPD603330	Sludge: DDA 16C BS Dwg - DC Checking	30	23MAY2011	05JUL2011	6d					
DPD603510	Sludge: DDA 16D E&MCR Dwg - Submission	60	08FEB2011 A	21MAY2011	13d		i i		DPD603510)
DPD603530	Sludge: DDA 16D E&MCR Dwg - DC Checking	30	23MAY2011	05JUL2011	157d					DPD61310
DPD613100	Sludge: Sludge Dewatering System Submission	75	28MAR2011	10JUN2011 19AUG2011	2d					DFD81310
DPD613200 DPD700055	Sludge: Sludge Dewatering sys Check & Appr DOU : AIP 14B Checker Cert on Civil	28	11JUN2011 08MAR2011 A	11APR2011	99d 161d	 +		DPD700055		
DPD700060	DOU: AIP 14B Civil Checking and Approval	28	12APR2011	09MAY2011	161d			21 21 21 00000	DPD700060	
DPD700740	DOU: DDA 18E&F Structural / Fdn Submission	48	03MAY2011	12JUL2011	77d					
DPD703060	DOU: AIP 14A E&M GA Drg - SO rew & Appr	28	01DEC2010 A	11APR2011	24d		i i i i i i i i i i i i i i i i i i i	DPD703060		
DPD703110	DOU: DDA 18A Elect Dwg - Submission	70	19APR2011	27JUN2011	51d					
DPD703130	DOU: DDA 18A Elect Dwg - DC Checking	30	28JUN2011	09AUG2011	36d					
DPD703210	DOU: DDA 18B Mech Dwg - Submission	70	12APR2011	20JUN2011	31d					
DPD703230	DOU: DDA 18B Mech Dwg - DC Checking	30	21JUN2011	02AUG2011	22d					
DPD703310	DOU: DDA 18C BS Dwg - Submission	70	17APR2011	25JUN2011	24d					
DPD703330	DOU: DDA 18C BS Dwg - DC Checking	30	27JUN2011	08AUG2011	16d					
DPD703510	DOU: DDA 18D E&MCR Dwg - Submission	70	19APR2011	27JUN2011	109d					
DPD703511	DOU: DDA 18D E&MCR Dwg - Submission	25	19APR2011	25MAY2011	83d				DPD7	03511
DPD703530	DOU: DDA 18D E&MCR Dwg - DC Checking	30	28JUN2011	09AUG2011	179d					
DPD713100	DOU: DOU sys Submission	65	28MAR2011	31MAY2011	44d					DPD713100
DPD713200	DOU: DOU Sys Approval	70	01JUN2011	09AUG2011	77d	 +		 	 	
DPD800070	Admin Bldg: AIP 19B Checker Cert on Civil	42	03DEC2010 A	31MAR2011	27d			DPD800070		
DPD800080	Admin Bldg: AIP 19B SO Approval on Civil	28	01APR2011	28APR2011	27d				DPD800080	
DPD800305	Admin Bldg: AIP 19C Checker Cert on Architecture	54	01DEC2010 A	11APR2011	0			DPD800305		
DPD800310	Admin Bldg: AIP 19C SO Approval Architecture	28	12APR2011	09MAY2011	0			DDD00745	DPD800310	
DPD800745	Admin Bldg: DDA 23D&E Fdn/ Structural Submission	21	25FEB2011 A	07APR2011	21d			DPD800745		DPD800750
DPD800750	Admin Bldg: DDA 23D&E Fdn/Struct Check/ Approval	56	08APR2011	02JUN2011	27d				DPD801700	DPD800750
DPD801700 DPD801705	Admin Bldg: DDA 23F Mis Civil Submission Admin Bldg: DDA 23F Checker Cert on Mis Civil	25 28	28MAR2011 06MAY2011	05MAY2011 02JUN2011	12d 19d				DFD801700	DPD801705
DPD801703	Admin Bldg: DDA 23F SO Approval on Mis Civil	56	03JUN2011	28JUL2011	19d					Di Doomoo
DPD801905	Admin Bldg: DDA 23G Checker Cert on Architecture	28	08MAR2011 A	16APR2011	158d			DPD801905		
DPD801910	Admin Bldg: DDA 23G SO Approval on Architecture	56	17APR2011	11JUN2011	158d					DPD8019
DPD802100	Admin Bldg: DDA 23H Mis Architectural Submission	25	28MAR2011	05MAY2011	76d				DPD802100	
DPD802105	Admin Bldg: DDA23H Checker Cert Mis Architecture	28	06MAY2011	02JUN2011	111d					DPD802105
DPD802110	Admin Bldg: DDA 23H SO Approval on Mis Archit	56	03JUN2011	28JUL2011	111d					
DPD803060	Admin Bldg: AIP 19A E&M GA Drg - SO Rew. & Appr.	28	01DEC2010 A	01MAY2011	22d				DPD803060	
DPD803110	Admin Bldg: DDA 23A Elect Dwg - Submission	60	01NOV2010 A	18APR2011	178d			DPD803110		
DPD803130	Admin Bldg: DDA 23A Elect Dwg - DC Checking	30	19APR2011	01JUN2011	122d					DPD803130
DPD803150	Admin Bldg: DDA 23A Elect Dwg - SO rew and Appr	56	02JUN2011	27JUL2011	176d					
DPD803310	Admin Bldg: DDA 23C BS Dwg - Submission	60	01NOV2010 A	18APR2011	28d			DPD803310		
DPD803330	Admin Bldg: DDA 23C BS Dwg - DC Checking	30	19APR2011	01JUN2011	18d					DPD803330
DPD803350	Admin Bldg: DDA 23C BS Dwg - SO review and Appr	56	02JUN2011	27JUL2011	29d					
DPD803510	Admin Bldg: DDA 23D E&MCR Dwg - Submission	60	15DEC2010 A	04APR2011	1d			DPD803510		500
DPD803530	Admin Bldg: DDA 23D E&MCR Dwg - DC Checking	30	06APR2011	23MAY2011	0				DPD803	530
DPD803550	Admin Bldg: DDA 23D E&MCR Dwg - SO rew and App		24MAY2011	18JUL2011	024					DPD814000
DPD814000 DPD814050	Admin Bldg: B.S. Equipment Submission	65 120	28MAR2011 01JUN2011	31MAY2011 28SEP2011	93d 93d					
DPD814050 DPD902040	Admin Bldg: B.S. Equipment Check&Approval Elect Bldg 1: AIP 15B SQ Approval on Civil	28	01JUN2011 01FEB2011 A	06APR2011	93d 18d			DPD902040		
DPD902040 DPD902140	Elect Bldg 1: AIP 15B SO Approval on Civil Elect Bldg 1: AIP15C SO Approval Architecture	28	01FEB2011 A	11APR2011	44d			DPD902140		
DPD902140	Elect Bldg 1: DDA 19E&F Fdn/Structure Submission	60	17JAN2011 A	16MAY2011	21d				DPD902250	
DPD902255	Elect Bldg 1: DDA 19E&F Checker Cert Fdn/Struct	28	17MAY2011	13JUN2011	30d					DPD90
DPD902260	Elect Bldg 1: DDA19E&F SO Approval Fdn/Struct	56	14JUN2011	08AUG2011	30d					
DPD902400	Elect Bldg 1: DDA 19G Mis Civil Submission	20	06MAY2011	03JUN2011	10d					DPD902400
DPD902405	Elect Bldg 1: DDA 19G Checker Cert Mis Civil	28	04JUN2011	01JUL2011	17d					
DPD902500	Elect Bldg 1: DDA 19H Architectural Submission	25	03MAY2011	08JUN2011	16d					DPD902500
DPD902505	Elect Bldg 1: DDA 19H Checker Cert Architectural	28	09JUN2011	06JUL2011	52d					
DPD902600	Elect Bldg 1: DDA 19J Mis Archit Submission	25	01JUN2011	07JUL2011	16d	·				
DPD902820	Elect Bldg 1: AIP 15A GA Drg - SO Rew & Appr	28	01DEC2010 A	01MAY2011	24d				DPD902820	
DPD902830	Elect Bldg 1: DDA 19A Elect Dwg - Submission	60	12JAN2011 A	14MAY2011	11d				DPD902830	
DPD902840	Elect Bldg 1: DDA 19A Elect Dwg - DC Checking	30	16MAY2011	27JUN2011	8d					
DPD902850	Elect Bldg 1: DDA 19A Elect Dwg - SO rew &Appr	56	28JUN2011	22AUG2011	13d			i 		
DPD902860	Elect Bldg 1: DDA 19C BS Dwg - Submission	60	12JAN2011 A	14MAY2011	11d				DPD902860	
DPD902870	Elect Bldg 1: DDA 19C BS Dwg - DC Checking	30	16MAY2011	27JUN2011	8d					

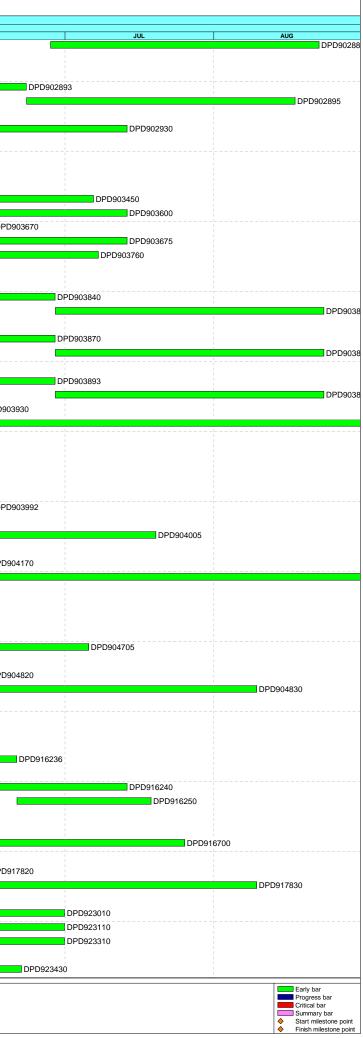




ATAL - Degremont - China State Joint Venture

	Activity ID	Description	Original Duration	Early Start	Early Finish	Total Float	JAN	FEB MAR	APR	2011 MAY	JUN
DP	D902880	Elect Bldg 1: DDA 19C BS Dwg - SO rew & Appr	56	28JUN2011	22AUG2011	13d	JAN	reb imax		mai	304
DP	D902890	Elect Bldg 1: DDA 19D E&M CR Dwg - Submission	60	12JAN2011 A	09MAY2011	8d				DPD902890	
DP	D902891	Elect Bldg 1: DDA 19D E&M CR Dwg - Draft	25	18JAN2011 A	07APR2011	4d			DPD902891		
DP	D902893	Elect Bldg 1: DDA 19D E&M CR Dwg - DC Checking	30	11MAY2011	22JUN2011	34d					
DP	D902895	Elect Bldg 1: DDA 19D E&M CR Dwg - SO rew & Appr	56	23JUN2011	17AUG2011	49d					
	D902920	Elect Bldg 1: Elect. Equipment Submission	60	28JAN2011 A	24APR2011	3d			DPD90	2920	
	D902930	Elect Bldg 1: Elec Equipment SO Rew. & Appr	80	25APR2011	13JUL2011	3d					
	D903235	Elect Bldg 2/3: AIP 16B Checker Cert on Civil	28	11FEB2011 A	04APR2011	104d		· · · · · · · · · · · · · · · · · · ·	DPD903235		
	D903240	Elect Bldg 2/3: AIP 16B SO Approval on Civil	28	05APR2011	02MAY2011	104d	_		DPD903355	DPD903240	
	D903355	Elect Bldg 2/3: AIP 16C Checker Cert Architect	40	27JAN2011 A 13APR2011	12APR2011 10MAY2011	106d			DFD903355	DPD903360	
	D903360 D903450	Elect Bldg 2/3: AIP 16C SO Approval Architecture Elect Bldg 2/3: DDA 20D&E Fdn/ Struct Submission	28 55	15APR2011	06JUL2011	106d 46d				DFD903300	
	D903450	Elect Bldg 2/3: DDA 20D&E Fdil/ Struct Submission	20	15JUN2011	13JUL2011	46d			-		
	D903670	Elect Bldg 2/3: DDA 20H Architectural Submission	25	11MAY2011	15JUN2011	74d					DPDS
	D903675	Elect Bldg 2/3: DDA20H Checker Cert Architecture	28	16JUN2011	13JUL2011	129d					
	D903760	Elect Bldg 2/3: DDA 20G Mis Archit Submission	20	09JUN2011	07JUL2011	74d					
	D903820	Elect Bldg 2/3: AIP 16A E&M GA Drg-SO Rev & Appr	28	01DEC2010 A	14APR2011	7d			DPD903820		
DP	D903830	Elect Bldg 2/3: DDA 20A Elect Dwg - Submission	60	17JAN2011 A	16MAY2011	126d				DPD903830	
DP	D903840	Elect Bldg 2/3: DDA 20A Elect Dwg - DC Checking	30	17MAY2011	28JUN2011	87d					
DP	D903850	Elect Bldg 2/3: DDA 20A Elect Dwg - SO rew &Appr	56	29JUN2011	23AUG2011	126d					
DP	D903860	Elect Bldg 2/3: DDA 20B BS Dwg - Submission	60	17JAN2011 A	16MAY2011	126d				DPD903860	
DP	D903870	Elect Bldg 2/3: DDA 20B BS Dwg - DC Checking	30	17MAY2011	28JUN2011	87d					
DP	D903880	Elect Bldg 2/3: DDA 20B BS Dwg - SO rew & Appr	56	29JUN2011	23AUG2011	126d					
DP	D903890	Elect Bldg 2/3: DDA 20C E&M CR Dwg - Submission	60	17JAN2011 A	16MAY2011	74d				DPD903890	
DP	D903893	Elect Bldg 2/3: DDA 20C E&M CR Dwg - DC Checking	30	17MAY2011	28JUN2011	113d					
	D903895	Elect Bldg 2/3: DDA 20C E&M CR Dg - SO R&A	56	29JUN2011	23AUG2011	162d					
	D903930	Elect Bldg 2/3: Elec Equipment Submission	60	15APR2011	13JUN2011	7d					DPD903
	D903940	Elect Bldg 2/3: ElecEquip't Checking & Appr	90	14JUN2011	11SEP2011	7d					
	D903954	Refurbish: AIP 22A E&M GA Drg - SO Rew & Appr.	28	07FEB2011 A	21APR2011	253d			DPD903954		
	D903976	Refurbish: AIP 22B Checker Cert Modification SHB	21	08MAR2011 A	08APR2011	44d			DPD903976	DPD903978	
	D903978	Refurbish: AIP 22B SO Approval Modification SHB	28	09APR2011	06MAY2011	44d				0903990	
	D903990	Refurbish: AIP 22C Modification Other Bldgs Subm	20	28MAR2011	27APR2011 18MAY2011	11d			DF	DPD903991	
	D903991 D903992	Refurbish: AIP 22C Checker Cert Modif Other Bldg Refurbish: AIP 22C SO Approval Modif Other Bldg	21 28	28APR2011 19MAY2011	15JUN2011	19d 19d				DF D903991	DPDS
	D904001	Refurbish: DDA 25 EF&G Renewal Work Submission	30	15APR2011	30MAY2011	23d				DPD90	
	D904001	Refurbish: DDA 25 EF&G Checker Cert Renewal Work	28	16JUN2011	19JUL2011	15d					
	D904160	Refurbish: DDA 25A~D E&M Dwg - Submission	60	17JAN2011 A	28APR2011	123d			DI	PD904160	
	D904170	Refurbish: DDA 25A~D E&M Dwg - DC Checking	30	29APR2011	14JUN2011	83d					DPD90
DP	D904180	Refurbish: DDA 25A~D E&M Dwg - SO rew & Appr	56	15JUN2011	01SEP2011	83d					
DP	D904207	Flowmeter C: AIP 20A E&M SO Rew & Appr	28	30NOV2010 A	16APR2011	103d			DPD904207		
DP	D904515	Flowmeter C: AIP 20B Checker Cert on Fdn/Struct	21	15MAR2011 A	12APR2011	76d			DPD904515		
DP	D904520	Flowmeter C: AIP 20B SO Approval on Fdn/ Struct	28	13APR2011	10MAY2011	76d				DPD904520	
DP	D904700	Flowmeter C: DDA 24EF&G Fdn/Struct Submission	25	28APR2011	07JUN2011	53d					DPD904700
DP	D904705	Flowmeter C: DDA 24EF&G Checker Cert Fdn/Struct	28	07JUN2011	05JUL2011	76d					
DP	D904810	Flowmeter C: DDA 24A~D E&M Dwg - Submission	60	17JAN2011 A	28APR2011	48d			D	PD904810	
	D904820	Flowmeter C: DDA 24A~D E&M Dwg - DC Checking	30	29APR2011	14JUN2011	31d					DPD90
	D904830	Flowmeter C: DDA 24A~D E&M Dwg - SO rew &Appr	56	15JUN2011	09AUG2011	44d					
	D916106	Mis: AIP 25B Checker Cert on Civil & External	40	11JAN2011 A	06APR2011	195d			DPD916106	DDD040400	
	D916108	Mis: AIP 25B SO Approval on Civil & External	28	14APR2011	11MAY2011	188d			DPD916122	DPD916108	
	D916122 D916124	Mis: AIP 25C Checker Cert on Mis Submission Mis: AIP 25C SO Approval on Mis Submission	28 28	09MAR2011 A 15APR2011	14APR2011 12MAY2011	195d 195d			DFD910122	DPD916124	
	D916236	Mis: DDA 28A~B Civil Works Submission	75	24JAN2011 A	20JUN2011	125d				Di Di 10124	
	D916237	Mis: DDA 28A Checker Cert Civil Works	28	21APR2011	18MAY2011	123u				DPD916237	
	D916240	Mis: DDA 28A SO Approval on Civil Works	56	19MAY2011	13JUL2011	1d					
	D916250	Mis: DDA 28B Checker Cert Civil Works	28	21JUN2011	18JUL2011	72d					
	D916615	Mis: AIP 23 Checker Cert on Landscape	35	13JAN2011 A	12APR2011	30d			DPD916615		
	D916620	Mis: AIP 23 SO Approval on Landscape	28	13APR2011	10MAY2011	30d				DPD916620	
	D916700	Mis: DDA 26 Landscape Submission	40	26MAY2011	25JUL2011	10d					
DP	D917810	Mis: DDA 26A E&M Dwg - Submission	60	17JAN2011 A	28APR2011	147d		· · · · · · · · · · · · · · · · · · ·	D	PD917810	
DP	D917820	Mis: DDA 26A E&M Dwg - DC Checking	30	29APR2011	14JUN2011	100d					DPD91
DP	D917830	Mis: DDA 26A E&M Dwg - SO rew &Appr	56	15JUN2011	09AUG2011	143d					
DP	D922835	Mis: AIP 25A E&M GA Drg - SO Rew & Appr.	28	01DEC2010 A	01MAY2011	84d				DPD922835	
DP	D923010	Mis: DDA 28C - Submission	60	02MAY2011	30JUN2011	84d			 		
	D923110	Mis: DDA 28D - Submission	60	02MAY2011	30JUN2011	84d					
	D923310	Mis: DDA 28E - Submission	60	02MAY2011	30JUN2011	84d					
	D923410	Mis: DDA 28F - Submission	60	08APR2011 A	06MAY2011	188d				DPD923410	
DP	D923430	Mis: DDA 28F - DC Checking	30	09MAY2011	21JUN2011	134d					





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Activity	Description	Original	Early	Early	Total			2011
ID	•	Duration		Finish	Float	JAN	FEB MAR	APR MAY JUN
DPD923450	Mis: DDA 28F - SO rew & Appr	56	22JUN2011	16AUG2011	192d		· · · · · · · · · · · · · · · · · · ·	
DPD923510	Mis: DDA 28E E&M Elect Dwg - Submission	60	08APR2011 A	06MAY2011	293d			DPD923510
DPD923530	Mis: DDA 28E E&M Elect Dwg - DC Checking	30	09MAY2011	21JUN2011	203d			
DPD923550	Mis: DDA 28E E&M Elect Dwg - SO rew & Appr	56	22JUN2011	16AUG2011	289d			
DPD926810	Mis: Solid Handling Bldg Eq. Submission	60	18JAN2011 A	29APR2011	62d			DPD926810
DPD926820	Mis: Flow-meter Submission	60	18JAN2011 A	29APR2011	62d			DPD926820
DPD926830	Mis: Guard House Equipment Submission	60	18JAN2011 A	29APR2011	62d			DPD926830
DPD926840	Mis: E&M Equipment Checking and Approval	120	30APR2011	27AUG2011	62d			
Statutory Submis								
Submission an		00	001010040		244d			SS0100050
SS0100050	DSD &ASD - GBP Submission and Approval	60	29NOV2010 A					330100030
SS0100400	EPD - Sewage Discharge License Approval	90	26MAY2011	23AUG2011	278d			200400700
SS0100700	WSD & ASD- Approve Water Supply /Plumbing issue	80	29NOV2010 A	16MAY2011	621d			SS0100700
SS0100800	FSD - Approve Fire Safety / Services Aspects	80	29NOV2010 A	16MAY2011	742d		i i i i i i i i i i i i i i i i i i i	SS0100800
SS0100810	EPD - Register of Changes under Environ. Permit	100	13SEP2010 A	31MAY2011	105d			SS0100810
Civil and Structural								
Building and St	nced Primary Treatement System							
CCC200112	CEPT Tank: Excavation	120	08NOV2010 A	06APR2011	0			CCC200112
CCC200113	CEPT Tank: Ground Investigation and Report	30	20JAN2011 A	29MAR2011	0			
CCC200120	CEPT Tank: Mini-pile and Testing	85	14FEB2011 A	14MAY2011	0			CCC200120
CCC200122	CEPT Tank: Formation and Pipework	60	07APR2011	22JUN2011	0			
CCC200130	CEPT Tank: Trimming and Blinding Layer	78	05MAY2011	06AUG2011	0			
CCC200140	CEPT Tank: Raft Foundation	97	11JUN2011	060CT2011	0			
	Treatment Works	51	1130142011	000012011	0			
Building and St								
CCC100112	PTW : Excavation (Phase A1) and GI	36	24JAN2011 A	02APR2011	0			CC100112
CCC100120	PTW: Mini-pile Construction and Testing	31	04APR2011	16MAY2011	0			CCC100120
CCC110130	PTW: Excavation (Phase A2)	10	01MAR2011 A	28MAR2011	36d			130
CCC110140	PTW: Raft foundation - 1000 ~ 1500mm thk.	24	17MAY2011	14JUN2011	0			CCC1
CCC110150	PTW: Substructure - Walls and Columns	57	15JUN2011	20AUG2011	0			
Auxiliary Building					-			
Building and St								
CCC800110	Admin Bldg: Excavation	10	11MAY2011	21MAY2011	22d			CCC800110
CCC800120	Admin Bldg: Raft Foundation - 800mm thk	12	23MAY2011	04JUN2011	22d			CCC800120
CCC800130	Admin Bldg: Substructure - Walls & Columns	12	07JUN2011	20JUN2011	22d			
CCC800140	Admin Bldg: Underground Drainage Work	18	21JUN2011	12JUL2011	22d			
Miscellaneous W			<u> </u>					
Miscellaneous	Works							
CCM102110	Divert existing LV Cable at Fdn of Admin Bldg	32	28MAR2011	09MAY2011	22d			CCM102110
Statutory Works								
Submission and								
Submission an		1	0.40070040.4					DPD050130
DPD050130	AIP5: General Building Plan- DC Checking	14	04OCT2010 A		0			
DPD050135	AIP5: General Building Plan- DC Cert	0		08APR2011	0			◆ DPD050135
DPD050140	AIP5: General Building Plan- FSD review	150	04OCT2010 A		0			DPD050140
DPD050145	AIP5: General Building Plan- FSD endorse	0		08APR2011	0			♦ DPD050145
DPD050150	AIP5: General Building Plan - submit to SO	0		08APR2011	0			♦ DPD050150
DPD050160	AIP5: General Building Plan - SO review	28	12APR2011	10JUN2011	0			DPD050160
DPD050170	AIP5: General Building Plan- SO Grant Consent	0		10JUN2011	0			◆ DPD05017
DPD050310	DDA5: General Building Plan- prep. Submission	60	12MAY2011	10JUL2011	84d			
E&M Works								
Procurement and Building and St								
	Fine Screen: E&M Equipment Procurement	210	18JUN2011	13JAN2012	72d			
2		210			120		I I	



