Jardine Engineering Corporation Limited

Contract No. DE/2009/09 Supply and Installation of Electrical and Mechanical Equipment for Tai Po Sewage Treatment Works Stage 5 Phase 2B

Monthly Environmental Monitoring and Audit Report for **June 2012**

(Version 2.0)

Certified By	Chup (Environmental Team Leader)
DEMARKO.	

REMARKS:

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

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

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

TABLE OF CONTENTS

		Page
EX	XECUTIVE SUMMARY	1
	troduction	
	nvironmental Monitoring and Audit Works	
	ey Information in the Reporting Month	
	iture Key Issues	
1	INTRODUCTION	
Ba	ackground	
	onstruction Programme	
Su	Immary of EM&A Requirements	5
2	AIR QUALITY MONITORING	6
Mc	onitoring Requirements	6
	onitoring Locations	
	onitoring Equipment	
	onitoring Parameters, Frequency and Duration	
Mo	onitoring Methodology and QA/QC Procedure	7
Re	esults and Observations	
3	NOISE MONITORING	10
	onitoring Requirements	
	onitoring Locations	
	onitoring Equipment	
	onitoring Parameters, Frequency and Duration	
	onitoring Methodology and QA/QC Procedures	
4	ENVIRONMENTAL AUDIT	
	te Audits	
	eview of Environmental Monitoring Procedures	
	atus of Environmental Licensing and Permitting atus of Waste Management	
	plementation Status of Environmental Mitigation Measures	
	Immary of Exceedances	
	plementation Status of Event Action Plans	
Su	Immary of Complaint and Prosecution	
5	FUTURE KEY ISSUES	16
	onitoring Schedule for the Next Month	
Co	onstruction Program for the Next Month	
6	CONCLUSIONS AND RECOMMENDATIONS	17
	onclusions	
Re	ecommendations	17

LIST OF TABLES

- Table I
 Summary Table for Events Recorded in the Reporting Month
- Table IISummary Table for Key Information in the Reporting Month
- Table 1.1Key Project Contacts
- Table 2.1Locations for Air Quality Monitoring
- Table 2.2Air Quality Monitoring Equipment
- Table 2.3
 Impact Dust Monitoring Parameters, Frequency and Duration
- Table 2.4
 Summary Table of Air Quality Monitoring Results during the reporting month
- Table 3.1Location of Noise Monitoring Station
- Table 3.2Noise Monitoring Equipment
- Table 3.3Noise Monitoring Parameters, Frequency and Duration
- Table 3.4
 Summary Table of Noise Monitoring Results during the Reporting Month
- Table 4.1
 Summary of Environmental Licensing and Permit Status
- Table 4.2Observations and Recommendations of Site Audit

LIST OF FIGURE

- Figure 1.1 Site Layout Plan
- Figure 1.2 Locations of Air Quality and Noise Monitoring Stations

LIST OF APPENDICES

- Appendix A Action and Limit Levels
- Appendix B Copies of Calibration Certificates
- Appendix C Environmental Monitoring Schedules
- Appendix D 1-hour TSP Monitoring Results and Graphical Presentations
- Appendix E 24-hour TSP Monitoring Results and Graphical Presentations
- Appendix F Noise Monitoring Results and Graphical Presentations
- Appendix G Summary of Exceedance
- Appendix H Site Audit Summary
- Appendix I Event Action Plans
- Appendix J Updated Environmental Mitigation Implementation Schedule
- Appendix K Waste Generation in the Reporting Month
- Appendix L Complaint Log
- Appendix M Construction Programme

EXECUTIVE SUMMARY

Introduction

- 1. This is the 12th monthly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Limited for DSD Contract no. DE/2009/09 "Supply and Installation of Electrical and Mechanical Equipment for Tai Po Sewage Treatment Works Stage 5 Phase 2B". This report documents the findings of EM&A Works conducted in June 2012.
- 2. The major site activities undertaken in the reporting month included:
 - Dismantling Air Blower No. 5 at CBC G/F;
 - Dismantling existing waste bio-gas burner at Stage and modification of SCADA system at SAS thickening house for ferric chloride dosing system;
 - Fabrication of new bio-gas holder on site;
 - Installation of penstocks at Flow Distribution Chamber No. 2;
 - Load diversion to the temporary genset at Inlet Works G/F;
 - Load test for the bridges of FC No. 11B & 12B;
 - Site survey at the screw pump chamber of inlet works; and
 - Trial running for the bridge of FC No. 11B.

Environmental Monitoring and Audit Works

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

Table I

I Summary Table for Events Recorded in the Reporting Month

Davamatar	No. of Exceedance		No. of Events	Action Taken
Parameter	Action Level	Limit Level	Due to this Project	Action Taken
1-hr TSP	0	0	0	N/A
24-hr TSP	0	0	0	N/A
Noise	0	0	0	N/A

Environmental Licenses and Permits

5. Environmental related licenses/permits granted to the Project include the Environmental Permit (EP) for the Project.

Key Information in the Reporting Month

6. Summary of key information in this reporting month is tabulated in **Table II**.

Event	Event Details		Action Taken	Status	Domouly	
Event	Number	Nature	Action Taken	Status	Remark	
Complaint received	0		N/A	N/A		
Changes to the assumptions and key construction / operation activities recorded	0		N/A	N/A		
Status of submissions under EP	1	Monthly EM&A Report (May 2012)	Submitted to EPD on 19 th June (EP condition 6.6)	N/A		
Notifications of any summons & prosecutions	0		N/A	N/A		

 Table II
 Summary Table for Key Information in the Reporting Month

Future Key Issues

- 7. Major site activities for the coming two months will include:
 - Dismantling the existing temporary genset at Inlet Works G/F;
 - Fabrication of bio-gas holder on site;
 - Installation of bio-gas pipework in pipe gallery;
 - Installation of new MCC4 at Chemical House;
 - Installation of new sludge dewatering system in Sludge Dewatering House Extension and modification of SCADA system at SAS thickening house;
 - Screeding for the bottoms of FC No. 11B & 12B; and
 - Site survey at the screw pump chamber of inlet works.
- 8. The future environmental concerns are air quality, noise impacts and waste management from construction works.

1 INTRODUCTION

Background

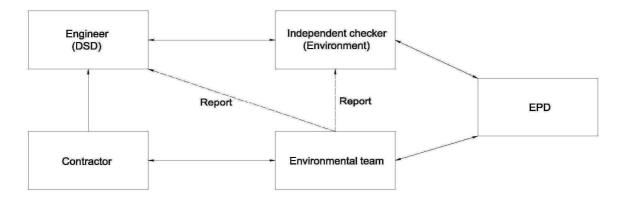
- 1.1 Tai Po Sewage Treatment Works (TPSTW) is located within the Tai Po Industrial Estate. It currently comprises four Stages: I, II, IVA and IVB works. The TPSTW Stage V aims to upgrade the existing STW to provide additional sewage treatment capacity from the present design flow of 88,000 m³/day to 130,000 m³/day to meet the demands of both the existing and future developments, and to meet the revised discharge license requirements.
- 1.2 The TPSTW Stage V, Phase I and Phase II are Designated Projects under the Environmental Impact Assessment Ordinance (Cap. 449) with the same EIAO Register No. AEIAR 081/2004. A study of environmental impact assessment (EIA) was undertaken to evaluate various environmental impacts associated with the works within these two Designed Projects. An EIA Report as well as an Environmental Monitoring and Audit (EM&A) Manual were approved by the Environmental Protection Department (EPD) on 28 October 2004.
- 1.3 The Stage V works will be implemented in 2 phases. The design capacities of Phase I and Phase II works are 100,000 m³/d and 130,000 m³/d respectively. An Environmental Permit (EP) No. EP-265/2007 was issued on 22 March 2007 for the TPSTW Stage V Phase II to the Drainage Services Department (DSD) as the Permit Holder. The project "Tai Po Sewage Treatment Works Stage V Phase IIB" formed part of the Phase II works, includes additional secondary treatment process units (1 primary clarifier; 3 bioreactors and 2 final clarifiers) in TPSTW for its future extended plant design capacity of 120,000 m³/day. A master construction programme of the Project is provided in **Appendix M**. A site layout plan is provided in **Figure 1.1**. The construction activities of the Project commenced on 16 May 2011.
- 1.4 Cinotech Consultants Ltd. was commissioned by the Contractor as the Environmental Team (ET) to undertake the EM&A works for the Project. Dr. Priscilla CHOY of Cinotech Consultants Ltd. was appointed as the ET Leader as per the Condition 2.1 of the EP. Ove Arup and Partners Hong Kong Limited. was appointed as the IEC under Condition 2.2 of the EP. This is the 12th monthly EM&A report summarizing the EM&A works for the Project in June 2012.

Project Organizations

- 1.5 Different parties with different levels of involvement in the project organization include:
 - Project Proponent / Engineer's Representative (ER) Drainage Services Department
 - Environmental Team (ET) Cinotech Consultants Ltd.
 - Independent Environmental Checker (IEC) Ove Arup and Partners Hong Kong Limited
 - Contractor Jardine Engineering Corporation Ltd.
- 1.6 The responsibilities of respective parties are detailed in Section 1.10 of the Final

EM&A Manual of the Project.

1.7 The Project Organization during Construction Phase



1.8 The key contacts of the Project are shown in **Table 1.1**.

Party	Role	Name	Position	Phone No.	Fax No.
DSD	SD E&M Branch Mr. TONG Sau Kit Sen		Senior Engineer	2594 7304	2827 8532
050	EXIVI DIalicii	Mr. TSE Ho	Engineer	2660 7638	2027 0332
		Dr. Priscilla CHOY	ET Leader	2151 2089	
Cinotech	Environmental Team	Mr. Ken CHENG	Project Coordinator and Audit Team Leader	2151 2077	3107 1388
		Mr. Henry LEUNG	y LEUNG Monitoring Team Leader		
Amun	Independent Environmental	Mr. Coleman NG	Independent Environmental Checker	2268 3097	2865 6493
Arup	Checker	Mr. Lawrence KAN	Assistant to Independent Environmental Checker	2268 3212	2803 0493
	E&M	Mr. Alex LAW	Project Manager	9312 8659	
JEC	Contractor	Mr. Dexter CHAN	Site Agent	6391 2499	2887 9090
	Contractor	Mr. Brendan CHAN	Environmental Officer	6892 0956	

Table 1.1Key Project Contacts

Construction Programme

- 1.9 The site activities undertaken in the reporting month were:
 - Dismantling Air Blower No. 5 at CBC G/F;
 - Dismantling existing waste bio-gas burner at Stage and modification of SCADA system at SAS thickening house for ferric chloride dosing system;
 - Fabrication of new bio-gas holder on site;
 - Installation of penstocks at Flow Distribution Chamber No. 2;
 - Load diversion to the temporary genset at Inlet Works G/F;
 - Load test for the bridges of FC No. 11B & 12B;
 - Site survey at the screw pump chamber of inlet works; and
 - Trial running for the bridge of FC No. 11B.

Summary of EM&A Requirements

- 1.10 The EM&A programme requires construction phase air quality and noise monitoring as well as environmental site audits. The EM&A requirements are described in the following sections, including:
 - All monitoring parameters;
 - Action and Limit levels for all environmental parameters;
 - Event / Action Plans;
 - Environmental mitigation measures, as recommended in the project EIA study final report; and
 - Environmental requirements in contract documents.
- 1.11 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in Section 5 of this report.
- 1.12 This report presents the monitoring results, observations, locations, equipment, period, methodology and QA/QC procedures of the required monitoring parameters, namely air quality and noise as well as audit works for the Project in the reporting month.

2 AIR QUALITY MONITORING

Monitoring Requirements

- 2.1 Monitoring of 1-hour and 24-hour Total Suspended Particulates (TSP) was conducted to monitor the air quality during construction phase. **Appendix A** shows the established Action/Limit Levels for the environmental monitoring works.
- 2.2 In accordance with Section 2.30 of the EM&A Manual, a baseline checking of ambient TSP levels shall be carried out every six months at each monitoring station, when no dusty works activities are in operation. The number and location of monitoring stations and parameters shall be reviewed by ET Leader every three months according to section 8.8 of EM&A Manual.

Monitoring Locations

2.3 Impact air quality monitoring was conducted at the 3 monitoring stations, as shown in **Figure 1.2**. **Table 2.1** describes the locations of the air quality monitoring stations.

Monitoring Stations	Description	Location of Measurement
CAM1	Government Staff Quarters	Rooftop
CAM2	Hung Hing Printing Centre	On the site boundary just next to the Hung Hing Printing Centre
CAM3	Talcon Industrial Ltd.	On the site boundary just next to Talcon Industrial Ltd.

Table 2.1Locations for Air Quality Monitoring

Monitoring Equipment

2.4 **Table 2.2** summarizes the equipment used for the air quality monitoring.

Table 2.2Air Quality Monitoring Equipment

Equipment	Model and Make	Qty.
	Graseby GMW 2310 HVS, Model GS-2310105-1, Serial no. 10239 and 0810	2
HVS	Tisch Environmental, Inc.; Model no. TE-5170, Serial no. 1704	1
Calibrator	Thermo Andersen.; Model no. G25A Serial no. 1536	1

Monitoring Parameters, Frequency and Duration

2.5 **Table 2.3** summarizes the monitoring parameters and frequencies of impact dust monitoring for the whole construction period.

Monitoring Stations	Parameter	Duration	Period	Frequency
CAM1, CAM2 and	1-hour TSP	1 hour	During daytime period	3 times / 6-day
CAM3	24-hour TSP	24 hours	24 hours	Once / 6-day

Table 2.3Impact Dust Monitoring Parameters, Frequency and Duration

Monitoring Methodology and QA/QC Procedure

Instrumentation

2.6 High Volume Samplers (HVS) connected with appropriate sampling inlets were employed for air quality monitoring. Each sampler was composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complies with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50).

HVS Installation

- 2.7 The following guidelines were adopted during the installation of HVS:
 - Sufficient support was provided to secure the samplers against gusty wind.
 - No two samplers were placed less than 2 meters apart.
 - The distance between the sampler and an obstacle, such as buildings, was at least twice the height that the obstacle protrudes above the sampler.
 - A minimum of 2 meters of separation from walls, parapets and penthouses was required for rooftop samples.
 - A minimum of 2 meters separation from any supporting structure, measured horizontally was required.
 - No furnaces or incineration flues were nearby.
 - Airflow around the sampler was unrestricted.
 - The samplers were more than 20 meters from the drip line.
 - Any wire fence and gate, to protect the sampler, should not cause any obstruction during monitoring.

Filters Preparation

- 2.8 Fiberglass filters were used which have a collection efficiency of larger than 99% for particles of 0.3 μm diameter. A HOKLAS accredited laboratory, Wellab Ltd., was responsible for the preparation of pre-weighed filter papers for Cinotech's monitoring team.
- 2.9 All filters, which were prepared by Wellab Ltd., 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 < 50% and not variable by more than $\pm 5\%$. A convenient working RH was 40%.
- 2.10 Wellab Ltd. has a comprehensive quality assurance and quality control programmes.

Operating/Analytical Procedures

- 2.11 Operating/analytical procedures for the TSP monitoring were highlighted as follows:
 - Prior to the commencement of the dust sampling, the flow rate of the HVS was properly set (between 1.1 and 1.4 m³/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard.
 - The power supply was checked to ensure the sampler worked properly.
 - On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the air quality monitoring station.
 - The filter holding frame was then removed by loosening the four nuts and carefully a weighted and conditioned filter was centered with the stamped number upwards, on a supporting screen.
 - The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts to avoid air leakage at the edges.
 - The shelter lid was closed and secured with the aluminum strip.
 - The timer was then programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number).
 - The flow rate of the HVS sampler would be verified to be constant and recorded on the data sheet after sampling.
 - After sampling, the filter was removed and sent to the Wellab Ltd. for weighing. The elapsed time was also recorded.
 - Before weighing, all filters were equilibrated in a conditioning environment for 24 hours. The conditioning environment should be between 25°C and 30°C and not vary by more than $\pm 3^{\circ}$ C; the relative humidity (RH) should be < 50% and not vary by more than $\pm 5\%$. A convenient working RH is 40%. Weighing results were returned to Cinotech for further analysis of TSP concentrations collected by each filter.

Maintenance/Calibration

- 2.12 The following maintenance/calibration was required for the HVS:
 - The high volume motors and their accessories were properly maintained. Appropriate maintenance such as routine motor brushes replacement and electrical wiring checking were made to ensure that the equipment and necessary power supply are in good working condition.
 - Calibration of the HVS (five point calibration) using Calibration Kit was carried out every two months. Copies of calibration certificates are attached in **Appendix B**.
 - The HVS calibration orifice will be calibrated annually.

Results and Observations

- 2.13 In the reporting month, 1-hr TSP monitoring was carried out as schedule at each designated monitoring station on 13 occasions. 24-hr TSP monitoring was carried out as scheduled at each designated monitoring station on 5 occasions. The monitoring schedule was updated and is shown in **Appendix C**. The weather during the monitoring sessions was mainly sunny, cloudy and rainy.
- 2.14 All measured 1-hr and 24-hr TSP levels were below the Action/Limit Levels. No exceedance was recorded in the reporting month.

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

Table 2.4	Summary Table of Air Quality Monitoring Results during the
	reporting month

Paramete r	Minimum µg/m ³	Maximum μg/m ³	Average μg/m³	Action Level, μg/m ³	Limit Level, µg/m ³
1-hr TSP (CAM1)	32	126	80	315	500
24-hr TSP (CAM1)	27	47	37	171	260
1-hr TSP (CAM2)	56	159	108	336	500
24-hr TSP (CAM2)	35	85	60	177	260
1-hr TSP (CAM3)	70	190	119	344	500
24-hr TSP (CAM3)	41	92	57	192	260

2.16 According to our field observations, the major dust source identified at the designated air quality monitoring stations are as follows:

Station	Major Pollution Source
CAM1 – Government Staff Quarters	Road Traffic Dust
CAM2 – Hung Hing Printing Centre	Road Traffic Dust and Excavation
CAM3 – Talcon Industrial Ltd.	Road Traffic Dust and Excavation

3 NOISE MONITORING

Monitoring Requirements

- 3.1 Noise monitoring was conducted in accordance with the EM&A Manual. Appendix A shows the established Action and Limit Levels for the environmental monitoring works.
- 3.2 The number and location of monitoring stations and parameters shall be reviewed by ET Leader every three months according to section 8.8 of EM&A Manual.

Monitoring Locations

3.3 Noise monitoring was conducted at one designated monitoring station as presented in **Table 3.1**. Figure 1.2 shows the locations of the monitoring station.

Table 3.1Location of Noise Monitoring Station

Monitoring Station	Description	Location of Measurement
NM1	Government Staff Quarters	The corridor at the first floor.

Monitoring Equipment

3.4 **Table 3.2** summarizes the noise monitoring equipment model being used.

Table 3.2Noise Monitoring Equipment

Equipment	Model and Make	Quantity
Integrating Sound Level Meter	SVAN 955 (Serial No. 14303)	1
Calibrator	B&K (Serial No. 2412367)	1
Wind Speed Anemometer	Vane Anemometer, Model AZ8904 (Serial no. 974835)	1

Monitoring Parameters, Frequency and Duration

3.5 **Table 3.3** summarizes the monitoring parameters, frequency and total duration of monitoring.

Table 3.3Noise Monitoring Parameters, Frequency and Duration

Station	Parameter	Period	Frequency
NM1	$L_{eq}(30 \text{ min.})$ (L ₁₀ and L ₉₀ were also recorded as supplementary information)	0700-1900 hrs. on normal weekdays	Once a week

3.6 If construction works are extended to include works during the hours of 1900 - 0700, additional weekly impact monitoring would be carried out during evening and night-time works. Applicable permits under NCO have been obtained by the Contractor. The details of the Construction Noise Permit can be referred to **Table 5.1**.

Monitoring Methodology and QA/QC Procedures

Field Monitoring

- 3.7 The monitoring procedures are as follows:
 - The microphone head of the sound level meter was positioned 1m exterior of the noise sensitive facade and lowered sufficiently so that the building's external wall acts as a reflecting surface.
 - The battery condition was checked to ensure good functioning of the meter.
 - Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
 - frequency weighting : A
 - time weighting : Fast
 - measurement time : 30 minutes
 - Prior to and after noise measurement, the meter was calibrated using the calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement is more than 1.0 dB, the measurement was considered invalid and repeat of noise measurement was required after re-calibration or repair of the equipment.
 - The wind speed at the monitoring station was checked with the portable wind meter. Noise monitoring was cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s.
 - Noise measurement was paused during periods of high intrusive noise if possible and observation was recorded when intrusive noise was not avoided.
 - At the end of the monitoring period, the L_{eq} , L_{10} and L_{90} were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.

Maintenance and Calibration

- 3.8 Maintenance and Calibration procedures were as follows:
 - The microphone head of the sound level meter and calibrator were cleaned with a soft cloth at quarterly intervals.
 - The sound level meter and calibrator were checked and calibrated at yearly intervals. Copies of calibration certificates are attached in **Appendix B**.

Results and Observations

- 3.9 In the reporting month, noise monitoring during non-restricted hours was conducted as scheduled at the designated location on 5 occasions. As advised by the Contractor, no construction activities will be undertaken during restricted hours as such noise monitoring during restricted hours was omitted. The noise monitoring schedule is provided in **Appendix C**.
- 3.10 The details of the monitoring results and graphical presentations are shown in **Appendix F**. The weather during the monitoring sessions was mainly sunny and fine.
- 3.11 No Action/Limit Level exceedance for construction noise monitoring was recorded in the reporting month.

 Table 3.4
 Summary Table of Noise Monitoring Results during the Reporting Month

Parameter	Minimum Leq(30min) dB(A)	Maximum Leq(30min) dB(A)	0min) Leq(30min) dB Action Level		Limit Level
NM1	55.2	74.8	68.0	When one documented complaint is received	75dB(A)

3.12 According to our field observations, the major noise source identified at the designated air quality monitoring stations are as follows:

Station	Major Noise Source
NM1 – Government Staff Quarters	Road Traffic
	Construction of Main Site

4 ENVIRONMENTAL AUDIT

Site Audits

- 4.1 Site audits were carried out by ET on weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. The summaries of site audits are attached in **Appendix H**.
- 4.2 Site audits were conducted on 8th, 14th, 21st and 28th June 2012 by ET. A joint site audit with the representative with IEC, ER, the Contractor and the ET was carried out on 8th June 2012. No site inspection was conducted by EPD during the reporting month. The details of observations during site audit can refer to **Table 4.2**.

Review of Environmental Monitoring Procedures

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

Air Quality Monitoring

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

Noise Monitoring

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

Status of Environmental Licensing and Permitting

4.4 All permits/licenses obtained for the Project are summarized in **Table 4.1**.

Table 4.1	Summary of Environmental Licensing and Permit Status
-----------	--

R 1. / T 1	Valid PeriodFromTo			
Permit / License No.			Details	Status
Environmental Permi	it (EP)	•	·	
EP-265/2007	22/3/2007	N/A	 <u>Expansion and upgrading of existing</u> <u>Tai Po Sewage Treatment Works from</u> <u>100,000 m³/day to 130,000 m³/day</u>: (a) additional secondary treatment process units(1 primary clarified; 3 bioreactors and 2 final clarifiers); (b) reconstruction of 4 existing final clarified; (c) provision of ultraviolet disinfection facilities; (d) additional sludge treatment facilities; and (e) ancillary works to existing treatment facilities. 	Valid
Registration of Chem	ical Waste Pi	roducer	·	
5517-727-T327-01		N/A	Major chemical waste types: Spent lubricating oil, spend hydraulic oil, spend cooling oil, surplus paint, spent alkaline electrolyte, spent battery and battery parts containing heavy metals, scrap battery cell containing heavy metals, Nickel and its compounds, spent flammable liquid, spent copper etchant (Ferric chloride), Sodium hypochlorite, polymer, electric and torch bulbs and tubes, alkaline cleaner (spent alkaline solution)	

Status of Waste Management

4.5 The Construction and Demolition (C&D) materials generated in the reporting month were mainly inert C&D waste and C&D waste. The quantities of waste generated in this reporting month are summarized in **Appendix K**. No chemical waste was generated in the reporting month.

Implementation Status of Environmental Mitigation Measures

- 4.6 According to the EIA Study Report, Environmental Permit and the EM&A Manual of the Project, the mitigation measures detailed in the documents are recommended to be implemented during the construction phase. An updated summary of the EMIS is provided in **Appendix J**.
- 4.7 During site inspections in the reporting month, non-conformance were identified. In addition, there was no major environmental deficiency being identified on 8th and 21st

June 2012. The observations and recommendations made during the audit sessions are summarized in **Table 4.2**.

Parameters	Date	Observations and Recommendations	Follow-up
Waste/ Chemical Management	14 Jun 2012	Reminder: - Clear the empty chemical containers near the site office as chemical waste properly.	The situation was observed rectified during the audit session on 21 Jun 2012.
	28 Jun 2012	<u>Reminder:</u> - Water/Plastic bottle should be properly disposed at the designated area with recycle bins.	The situation was rectified by the Contractor after the audit session on 28 Jun 2012.

Table 4.2Observations and Recommendations of Site Audit

Summary of Exceedances

4.8 No exceedance of monitoring results was recorded in the reporting month. Summary of exceedance is provided in **Appendix G**.

Implementation Status of Event Action Plans

4.9 The Event Action Plans for air quality and construction noise monitoring are presented in **Appendix I**. No exceedance was recorded and thus no action was required to be implemented.

Summary of Complaint and Prosecution

- 4.10 No environmental related complaint, prosecution or notification of summons was received in the reporting month.
- 4.11 There was no environmental complaint, prosecution or notification of summons received since the Project commencement. The Complaint Log is attached in **Appendix** L.

5 FUTURE KEY ISSUES

- 5.1 Key issues to be considered in the coming month include:
 - Effluent discharge generated from surface runoff;
 - Dust generated from excavation works, backfilling works and stockpile of dusty materials;
 - Maintenance of de-silting facilities and drainage system, such as U-channels;
 - Accumulation of stagnant water in the site areas; and
 - Accumulation of C&D waste and general waste on site.

Monitoring Schedule for the Next Month

5.2 The tentative environmental monitoring schedule for the next month is shown in **Appendix C**.

Construction Program for the Next Month

- 5.3 A tentative construction programme is provided in **Appendix M**. The major construction activities in the coming month will include:
 - Dismantling the existing temporary genset at Inlet Works G/F;
 - Fabrication of bio-gas holder on site;
 - Installation of bio-gas pipework in pipe gallery;
 - Installation of new MCC4 at Chemical House;
 - Installation of new sludge dewatering system in Sludge Dewatering House Extension and modification of SCADA system at SAS thickening house;
 - Screeding for the bottoms of FC No. 11B & 12B; and
 - Site survey at the screw pump chamber of inlet works.

6 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

- 6.1 Environmental monitoring and audit works were conducted in the reporting month. Site inspections were conducted on a weekly basis. The results were reviewed and checked.
- 6.2 No exceedance of monitoring results was recorded in the reporting month.
- 6.3 There was no environmental complaint, prosecution or notification of summons received.

Recommendations

6.4 According to the environmental audit performed in the reporting month, the following recommendations were made:

Water Impact

• Avoid accumulation of stagnant water on site.

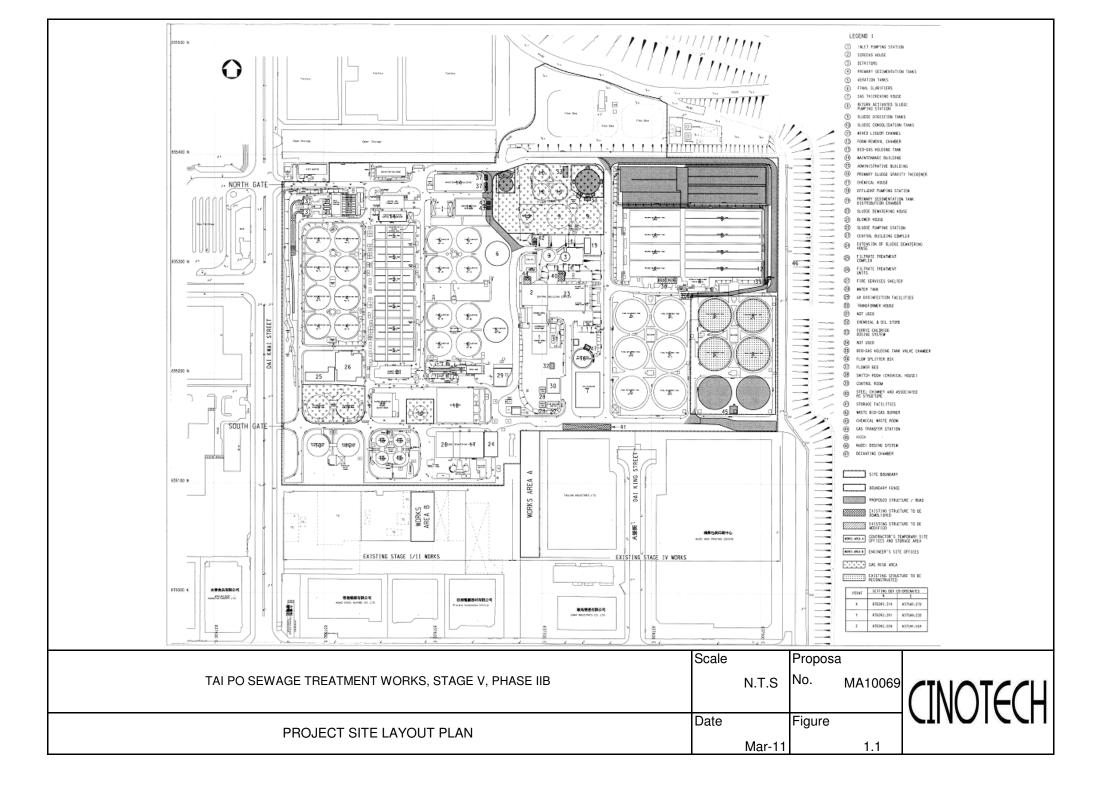
Dust Impact

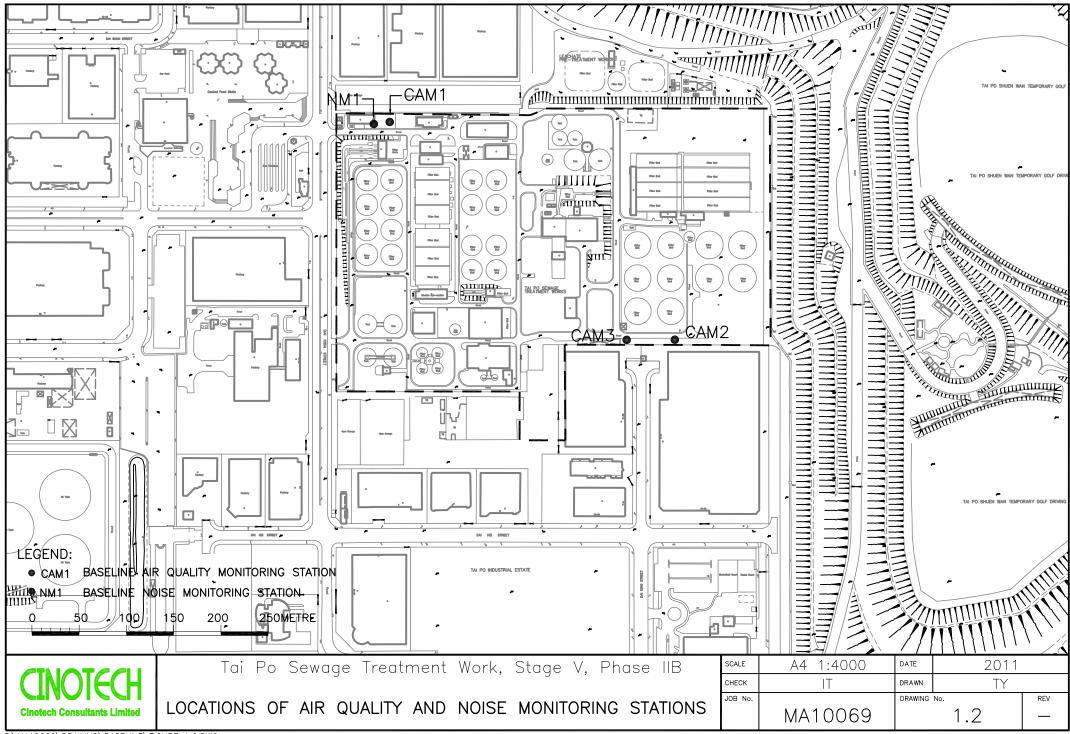
- Remove fugitive dusty material on the haul road periodically.
- Spray with water on dry dust haul road.

Waste / Chemical Management

- Avoid and check for any accumulation of waste materials on site and dispose waste materials at designated areas.
- Provide bunded containers for the storage of chemical wastes at the waste storage area.

FIGURES





F:\MA10069\DRAWING\BASELINE\FIGURE 1.2.DWG

APPENDIX A ACTION AND LIMIT LEVELS

APPENDIX A – Action and Limit Levels

1-Hour TSP

Location	Action Level, μg/m ³	Limit Level, µg/m ³
CAM1	315	
CAM2	336	500
CAM3	344	

24-Hour TSP

Location Action Level, μg/m ³		Limit Level, µg/m ³
CAM1	171	
CAM2	177	260
CAM3	192	

Construction Noise

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

Notes:

* The Area Sensitivity Rating for Station NM1 is taken as C, due to the nearby industrial area, according to Table 1 of EPD's Technical Memorandum on Noise from Construction Work other than Percussive Piling.

APPENDIX B COPIES OF CALIBRATION CERTIFCATES

High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET

CINOTECH

11 May 2012

i

File No. MA0010/37/0044

Station CAM1 - Government Staff Quarter Operator:	WK	
Date: 11-May-12 Next Due Date: 10)-Jul-12	
Equipment No.: A-01-37 Serial No.	1704	
Ambient Condition		
Temperature, Ta (K) 298.1 Pressure, Pa (mmHg)	759.6	
Orifice Transfer Standard Information		
	ercept, bc -0.0432	
Last Calibration Date:9-Oct-11 $me x Qstd + bc = [\Delta H x (H)]$		
Next Calibration Date:8-Oct-12Qstd = {[$\Delta H \ge 0.760$] x	(298/Ta)] ²² -bc} / mc	
	n frageliko gili (ja rec	
Calibration of TSP Sampler	· .	
Calibration Orfice Point ΔH (orifice), $L H = (P_{c}/P_{c})^{2}$ (200 T $2t^{2}$)	HVS [ΔW x (Pa/760) x (298/Ta)] ^{1/2} Y-	
Point ΔH (or line), $[\Delta H x (Pa/760) x (298/Ta)]^{1/2}$ $Var (CFM) \Delta W$ in. of water $[\Delta H x (Pa/760) x (298/Ta)]^{1/2}$ $Var (CFM) \Delta W$	of oil axis	
1 11.9 3.45 61.47 8.3	2.88	
2 9.8 3.13 55.85 6.7	2.59	
3 7.7 2.77 49.59 5.3	2.30	
4 5.2 2.28 40.89 3.2	1.79	
5 3.3 1.82 32.73 2.0	1.41	
By Linear Regression of Y on X		
).2872	
Correlation coefficient* = 0.9992		
*If Correlation Coefficient < 0.990, check and recalibrate.		
Set Point Calculation		
From the TSP Field Calibration Curve, take Qstd = 43 CFM		
From the Regression Equation, the "Y" value according to		
mw x Qstd + bw = $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$		
Therefore, Set Point; $W = (mw x Qstd + bw)^2 x (760 / Pa) x (Ta / 298) =$	3.73	
Remarks:		
Conducted by: 1.K. Jane Signature: //waw	Date: $\mu(S _{1})$	
Checked by: (4) Signature:	Date: 1(May deld	

J

÷

High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET

CINOTECH

÷

File No. __MA0010/A40/0044

Station	Station CAM2 - Hung Hing Printing Centre		Operator:	WK			
Date:	11-May-12			Next Due Date:	10-Jul	10-Jul-12	
Equipment No.:	A-01-40				10239		
			Ambient	Condition	1 juli 1 4 4		
Temperatu	re, Ta (K)	298.1	Pressure, Pa	a (mmHg)		759.6	
	n farfar far en	0	ifice Transfer St	andard Inform	nation		linger of a
Equipm		A-04-01	Slope, mc	0.0568	Intercep		-0.0432
Last Calibr	ation Date:	9-Oct-11			be = [∆H x (Pa/76		
Next Calibr	ation Date:	8-Oct-12		Qstd = {[∆H	x (Pa/760) x (298	/Ta)] ^{1/2} -bc} /	/ mc
		•					
		· · · · · · · · ·	Calibration of	TSP Sampler			and the left of the
Calibration		Or	fice			HVS	
Point	ΔH (orifice),	[ΔH x (Pa/76	0) x (298/Га)] ^{1/2}	Qstd (CFM)	ΔW	[∆W x (Pa/7	'60) x (298/Ta)] ^{1/2} Y-
	in. of water			X - axis	(HVS), in. of oil		axis
1	11.7		.42	60.96	8.1		2.84
2	9.8		.13	55.85	6.6		2.57
3	7.4	2.72		48.63	5.1		2.26
4	5.1	2.26		40.50	3.2		1.79
5	3.3	1	.82	32.73	1.9		1.38
	ession of Y on X						
Slope , mw =				Intercept, bw :	-0.305	3	
Correlation c		0.9		-			
*If Correlation C	Coefficient < 0.99), check and reca	librate.				
			Set Point C	Calculation			
	eld Calibration C	-					
From the Regres	sion Equation, the	e "Y" value accor	ding to				
		mw x C	std + bw ≕ [ΔW :	x (Pa/760) x (2	98/Ta)1 ^{1/2}		
				. (1 / 00) (2	50, 1 M/J		
Therefore, Se	Therefore, Set Point; $W = (mw x Qstd + bw)^2 x (760 / Pa) x (Ta / 298) = 3.70$						
Remarks:							

Conducted by: WK. JANK	Signature:	Muran	Date:	ulshir
Checked by: 4- J	Signature:		Date:	11 May Deld

k

,

High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET

CINOTECH

File No. MA0010/35/0044

Station	CAM3 - Talcon	Industrial Ltd		Operator	: WK			
Date:	11-May-12	Next Due Date:				-		
Equipment No.:	A-01-35			Serial No			-	
							-	
	· · · ·		Ambient	Condition				
Temperatu	re, Ta (K)	298.1	Pressure, P	a (mmHg)		759.6		
					<u> </u>			
			ifice Transfer St	- T	1ation ···		n standarg na start. I	
Equipme		A-04-01	Slope, mc	0.0568	Intercep		-0.0432	?
Last Calibra		9-Oct-11			bc ≕ [ΔH x (Pa/7)			
Next Calibr	ation Date:	8-Oct-12		Qstd = {[ΔH	x (Pa/760) x (298	/Ta)]" [*] -bc}	/ mc	
	:	•	Callbuddan	f TSP Sampler		Teretar		14 - 4 - <u>4 -</u>
		Orf		i for sampler	Į	HVS	· · ·	
Calibration Point	ΔH (orifice), in. of water) x (298/Ta)] ^{1/2}	Qstd (CFM) X - axis	ΔW (HVS), in. of oil		760) x (298/Ta) axis] ^{1/2} Y-
1	11.3	3	.36	59.92	7.9		2.81	
2	9.8	3	.13	55.85	6.7		2.59	
3	7.3	2	.70	48.31	5.1		2.26	
4	5.1	2	.26	40.50	3.1		1.76	
5	3.2	1.	.79	32.24	1.9		1.38	
By Linear Regr Slope , mw = Correlation co *If Correlation C	0.0522	0.99	84	Intercept, bw [.]	-0.315	57		
From the TSP Fi	eld Calibration Cu	urue, take Octd ==	Set Point C	alculation				
From the Regress								
		mw x Q	std + bw = $[\Delta W]$	x (Pa/760) x (2	98/Ta)] ^{1/2}			
Therefore, Se	t Point; W = (mv	v x Qstd + bw) ² :	x (760 / Pa) x (7	Γa / 298) =	3.73			
Remarks:								
Conducted by: Checked by:		Signature:	- Hwa	· · · · · · · · · · · · · · · · · · ·		Date: Date:	115/12 11 May	2012-

;

ŧ



2013-05-01

1 of 1

TEST RÉPORT

APPLICANT:	Cinotech Consultants Limited Room 1710, Technology Park,	Test Report No.: Date of Issue:	C/12/120501 2012-05-02
		Date Received:	2012-05-01
		Date Tested:	2012-05-01
		Date Completed:	2012-05-02

Next Due Date:

Page:

ATTN:

Mr. W.K Tang

Certificate of Calibration

Item for calibration:

I	Description	: RS232 Integral Vane Digital Anemometer
Ν	Manufacturer	: AZ Instrument
N	Model No.	: AZ8904
S	Serial No.	: 974835
E	Equipment No.	: A-03-03
nditio	ns:	
F	Room Temperature	: 23 degree Celsius
		

Test conditions:

Room Temperature	: 23 degree Celsi
Relative Humidity	: 67%
Pressure	: 101.2 kPa

Methodology:

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

Results:

	Reference Set Point	Instrument Readings
Measuring Air Velocity, m/s	2.00	2.00
Temperature, °C	21.0	21.0

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

PATRICK TSE Laboratory Manager

This report may not be reproduced except with prior written approval from WELLAB LIMITED and the results relate only to the items calibrated or tested.



TEST REPORT

DescriptionCalibration OrificeSerial No.1536Model No.G25ADate9 October 2011

Manufacturer Temperature,Ta (K) Pressure, Pa (mmHg) Thermo Andersen 298 762.3

Plate	Diff.Vol (m ³)	Diff.Time (min)	Diff.Hg (mm)	Diff.H ₂ O (in.)
1	1.00	1.3760	3.4	2.00
2	1.00	0.9740	6.4	4.00
3	1.00	0.8730	7.9	5.00
4	1.00	0.8320	8.6	5.50
5	1.00	0.6890	12.8	8.00

DATA TABULATION

Vstd	(X axis) Qstd	(Y axis)
0.9985	0.7257	1.4163
0.9946	1.0211	2.0030
0.9926	1.1370	2.2394
0.9917	1.1919	2.3487
0.9861	1.4313	2.8326
Y axis= SQR	T[H ₂ O(Pa/760))(298/Ta)]

Qstd Slope (m) = <u>2.00766</u> Intercept (b) = <u>-0.04318</u>

Coefficient(r) = 0.99999

Va	(X axis) Qa	(Y axis)	
0.9955	0.7235	0.8842	
0.9916	1.0181	1.2505	
0.9896	1.1336	1.3981	
0.9887	1.1884	1.4664	
0.9832	1.4270	1.7685	
Y axis= SQRT[H ₂ O(Ta/Pa)]			

 $AXIS = SQRT[H_2O(Ta/Pa)]$ Oa Slope (m) = 1.25716

va Siope (m)	= <u>1.25716</u>
Intercept(b)	= <u>-0.02696</u>
Coefficient (r)	= <u>0.99999</u>

CALCULATIONS

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

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

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

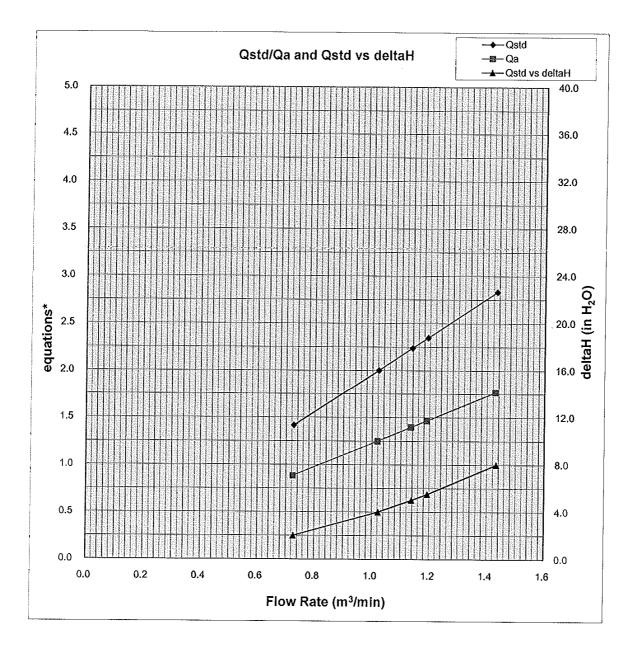
atick (le

PATRICK TSE Laboratory Manager

This report may not be reproduced except with prior written approval from WELLAB LIMITED and the results relate only to the items calibrat or tested.



TEST REPORT



Y-axis equations:

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

Qa series: SQRT[Δ H(Ta/Pa)]

This report may not be reproduced except with prior written approval from WELLAB LIMITED and the results relate only to the items calibrat or tested.



2013-01-20

1 of 1

TEST REPORT

APPLICANT:Cinotech Consultants Limited
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong KongTest Report No.:C/N/120120/v1
Date of Issue:
2012-05-21Date Received:2012-05-21Date Received:2012-01-20Date Completed:2012-01-20

ATTN:

Mr. W. K. Tang

Certificate of Calibration

Item for calibration:

Description	: 'SVANTEK' Integrating Sound Level Meter
Manufacturer	: SVANTEK
Model No.	: SVAN 955
Serial No.	: 14303
Microphone No.	: 35222
Equipment No.	: N-08-05
s:	

Next Due Date:

Page:

Test conditions:

Room Temperatre Relative Humidity

: 21 degree Celsius : 52%

Test Specifications:

Performance checking at 94 and 114 dB

Methodology:

In-house method, according to manufacturer instruction manual

Results:

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

Remark: 1)This report supersedes the one dated 2012/01/21 with certificate number C/N/120120/1.

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

PATRICK TSE Laboratory Manager

This report may not be reproduced except with prior written approval from WELLAB LIMITED and the results relate only to the items calibrated or tested.



TEST REPORT APPLICANT: Cinotech Consultants Limited Test Report No.: C/N/111010/2 Room 1710, Technology Park, Date of Issue: 2011-10-11 18 On Lai Street, Date Received: 2011-10-10 Shatin, NT, Hong Kong Date Tested: 2011-10-10 Date Completed: 2011-10-11 Next Due Date: 2012-10-10 ATTN: Mr. Henry Leung Page: 1 of 1 **Certificate of Calibration** Item for calibration: Description : 'SVANTEK' Integrating Sound Level Meter Manufacturer : SVANTEK Model No. : SVAN 957 Serial No. : 23851 Microphone No. : 48532 Equipment No. : N-08-12 **Test conditions: Room Temperatre** : 25 degree Celsius **Relative Humidity** : 59% **Test Specifications:** Performance checking at 94 and 114 dB Methodology: In-house method, according to manufacturer instruction manual **Results:** Reference Set Point, dB Instrument Readings, dB 94 94.0 114 114.0

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

PATRICK TSE Laboratory Manager



TEST REPORT					
APPLICANT	: Cinotech Consultants L Room 1710, Technology 18 On Lai Street,		Test Report No.: Date of Issue: Date Received:	C/N/111008/1 2011-10-10 2011-10-08	
	Shatin, NT, Hong Kong		Date Tested: Date Completed: Next Due Date:	2011-10-08 2011-10-08 2011-10-10 2012-10-09	
ATTN:	Mr. Henry Leung		Page:	1 of 1	
Item for calibration:					
	Description Manufacturer Model No. Serial No. Equipment No.	: Acoustica : SVANTE : SV30A : 24803 : N-09-03	al Calibrator EK		
Test conditions:					
	Room Temperatre Relative Humidity	: 22 degree : 62%	Celsius		
Methodology:					
	The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.				

Results:

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

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

atizk /le

PATRICK TSE Laboratory Manager

This report may not be reproduced except with prior written approval from WELLAB LIMITED and the results relate only to the items calibrated or tested.

APPENDIX C ENVIRONMENTAL MONITORING SCHEDULE

Contract No. DE/2009/09 - Supply and Installation of Electrical and Mechanical Equipment for Tai Po Sewage Treatment Works Stage 5 Phase 2B Impact Air Quality and Noise Monitoring Schedule for June 2012

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

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

Contract No. DE/2009/09 - Supply and Installation of Electrical and Mechanical Equipment for Tai Po Sewage Treatment Works Stage 5 Phase 2B Tentative Impact Air Quality and Noise Monitoring Schedule for July 2012

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

APPENDIX D 1-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATION

Appendix D - 1-hour TSP Monitoring Results

Station CAM1 Government Staff Quarters

Date	Sampling	Weather	Air	Atmospheric	Filter W	eight (g)	Particulate	Elaps	e Time	Sampling	Flow Rate	e (m ³ /min.)	Av. flow	Total vol.	Conc.
Dale	Time	Condition	Temp. (K)	Pressure (Pa)	Initial	Final	weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m ³ /min)	(m ³)	(µg/m ³)
1-Jun-12	09:00	Cloudy	299.7	759.3	3.1834	3.1869	0.0035	17604.1	17605.1	1.0	1.21	1.21	1.21	72.5	48
4-Jun-12	09:30	Sunny	299.0	757.0	3.1964	3.1987	0.0023	17629.1	17630.1	1.0	1.21	1.21	1.21	72.5	32
6-Jun-12	09:00	Sunny	301.3	756.2	3.1729	3.1807	0.0078	17630.1	17631.1	1.0	1.20	1.20	1.20	72.2	108
8-Jun-12	13:30	Sunny	302.6	754.8	3.1908	3.1984	0.0076	17655.1	17656.1	1.0	1.20	1.20	1.20	72.1	105
11-Jun-12	09:00	Cloudy	304.2	752.5	3.0909	3.0932	0.0023	17656.1	17657.1	1.0	1.20	1.20	1.20	71.8	32
13-Jun-12	09:00	Cloudy	298.1	753.6	3.1098	3.1189	0.0091	17657.1	17658.1	1.0	1.21	1.21	1.21	72.5	126
15-Jun-12	09:00	Cloudy	301.3	752.2	3.2587	3.2674	0.0087	17682.1	17683.1	1.0	1.20	1.20	1.20	72.1	121
18-Jun-12	09:00	Cloudy	300.6	752.6	3.1494	3.1523	0.0029	17683.1	17684.1	1.0	1.20	1.20	1.20	72.2	40
20-Jun-12	09:30	Cloudy	302.8	750.0	3.1171	3.1257	0.0086	17708.1	17709.1	1.0	1.20	1.20	1.20	71.8	120
22-Jun-12	09:00	Cloudy	299.4	755.8	3.0946	3.0991	0.0045	17709.1	17710.1	1.0	1.21	1.21	1.21	72.4	62
25-Jun-12	09:00	Sunny	302.5	755.2	3.1122	3.1184	0.0062	17710.1	17711.1	1.0	1.20	1.20	1.20	72.1	86
27-Jun-12	09:00	Sunny	302.7	756.2	3.1041	3.1123	0.0082	17735.1	17736.1	1.0	1.20	1.20	1.20	72.1	114
29-Jun-12	13:00	Sunny	302.6	753.7	3.1232	3.1266	0.0034	17736.1	17737.1	1.0	1.20	1.20	1.20	72.0	47
														Min	32
														Max	126

Max 126 Average 80

Station CAM2

Heng Hing Printing Centre

Date	Sampling	Weather	Air	Atmospheric	Filter W	eight (g)	Particulate	Elapse	e Time	Sampling	Flow Rate	e (m ³ /min.)	Av. flow	Total vol.	Conc.
Dale	Time	Condition	Temp. (K)	Pressure (Pa)	Initial	Final	weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m ³ /min)	(m ³)	$(\mu g/m^3)$
1-Jun-12	09:00	Cloudy	299.7	759.3	3.0590	3.0643	0.0053	26778.2	26779.2	1.0	1.21	1.21	1.21	72.9	73
4-Jun-12	09:30	Sunny	299.0	757.0	3.1965	3.2006	0.0041	26803.2	26804.2	1.0	1.21	1.21	1.21	72.8	56
6-Jun-12	09:00	Sunny	301.3	756.2	3.1815	3.1884	0.0069	26804.2	26805.2	1.0	1.21	1.21	1.21	72.6	95
8-Jun-12	13:30	Sunny	302.6	754.8	3.1430	3.1533	0.0103	26829.2	26830.2	1.0	1.21	1.21	1.21	72.4	142
11-Jun-12	09:00	Cloudy	304.2	752.5	3.1638	3.1707	0.0069	26830.2	26831.2	1.0	1.20	1.20	1.20	72.1	96
13-Jun-12	09:00	Cloudy	298.1	753.6	3.1159	3.1263	0.0104	26831.2	26832.2	1.0	1.21	1.21	1.21	72.8	143
15-Jun-12	09:00	Cloudy	301.3	752.2	3.1205	3.1320	0.0115	26856.2	26857.2	1.0	1.21	1.21	1.21	72.4	159
18-Jun-12	09:00	Cloudy	300.6	752.6	3.1064	3.1143	0.0079	26857.2	26858.2	1.0	1.21	1.21	1.21	72.5	109
20-Jun-12	09:30	Cloudy	302.8	750.0	3.0703	3.0798	0.0095	26882.2	26883.2	1.0	1.20	1.20	1.20	72.1	132
22-Jun-12	09:00	Cloudy	299.4	755.8	3.1315	3.1393	0.0078	26883.2	26884.2	1.0	1.21	1.21	1.21	72.7	107
25-Jun-12	09:00	Sunny	302.5	755.2	3.1180	3.1262	0.0082	26884.2	26885.2	1.0	1.21	1.21	1.21	72.4	113
27-Jun-12	09:00	Sunny	302.7	756.2	3.1115	3.1200	0.0085	26909.2	26910.2	1.0	1.21	1.21	1.21	72.4	117
29-Jun-12	13:00	Sunny	302.6	753.7	3.0949	3.0998	0.0049	26910.2	26911.2	1.0	1.21	1.21	1.21	72.3	68
														Min	56

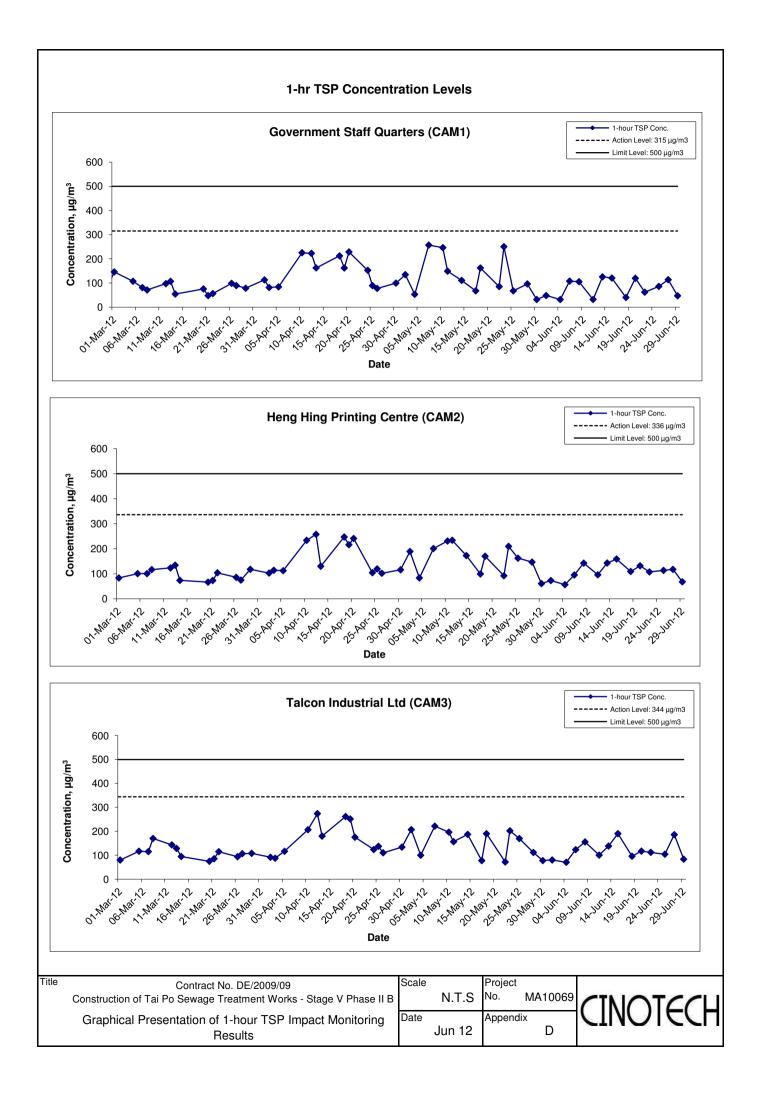
Appendix D - 1-hour TSP Monitoring Results

Station CAM3

Talcon Industrial Ltd

Date	Sampling	Weather	Air	Atmospheric	Filter W	eight (g)	Particulate	Elapse	e Time	Sampling	Flow Rate	e (m ³ /min.)	Av. flow	Total vol.	Conc.
Dale	Time	Condition	Temp. (K)	Pressure (Pa)	Initial	Final	weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m ³ /min)	(m ³)	(µg/m ³)
1-Jun-12	09:00	Cloudy	299.7	759.3	3.0601	3.0659	0.0058	20019.9	20020.9	1.0	1.21	1.21	1.21	72.6	80
4-Jun-12	09:30	Sunny	299.0	757.0	3.2007	3.2058	0.0051	20044.9	20045.9	1.0	1.21	1.21	1.21	72.6	70
6-Jun-12	09:00	Sunny	301.3	756.2	3.1897	3.1986	0.0089	20045.9	20046.9	1.0	1.21	1.21	1.21	72.3	123
8-Jun-12	13:30	Sunny	302.6	754.8	3.1505	3.1617	0.0112	20070.9	20071.9	1.0	1.20	1.20	1.20	72.1	155
11-Jun-12	09:00	Cloudy	304.2	752.5	3.1641	3.1713	0.0072	20071.9	20072.9	1.0	1.20	1.20	1.20	71.9	100
13-Jun-12	09:00	Cloudy	298.1	753.6	3.1044	3.1144	0.0100	20072.9	20073.9	1.0	1.21	1.21	1.21	72.6	138
15-Jun-12	09:00	Cloudy	301.3	752.2	3.1034	3.1171	0.0137	20097.9	20098.9	1.0	1.20	1.20	1.20	72.2	190
18-Jun-12	09:00	Cloudy	300.6	752.6	3.1090	3.1159	0.0069	20098.9	20099.9	1.0	1.20	1.20	1.20	72.3	95
20-Jun-12	09:30	Cloudy	302.8	750.0	3.0821	3.0905	0.0084	20123.9	20124.9	1.0	1.20	1.20	1.20	71.9	117
22-Jun-12	09:00	Cloudy	299.4	755.8	3.1326	3.1407	0.0081	20124.9	20125.9	1.0	1.21	1.21	1.21	72.5	112
25-Jun-12	09:00	Sunny	302.5	755.2	3.1129	3.1204	0.0075	20125.9	20126.9	1.0	1.20	1.20	1.20	72.2	104
27-Jun-12	09:00	Sunny	302.7	756.2	3.0835	3.0969	0.0134	20150.9	20151.9	1.0	1.20	1.20	1.20	72.2	186
29-Jun-12	13:00	Sunny	302.6	753.7	3.1134	3.1194	0.0060	20151.9	20152.9	1.0	1.20	1.20	1.20	72.1	83
														Min	70

Max 190 Average 119



APPENDIX E 24-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATION

Appendix E - 24-hour TSP Monitoring Results

Station CAM1 Government Staff Quarters

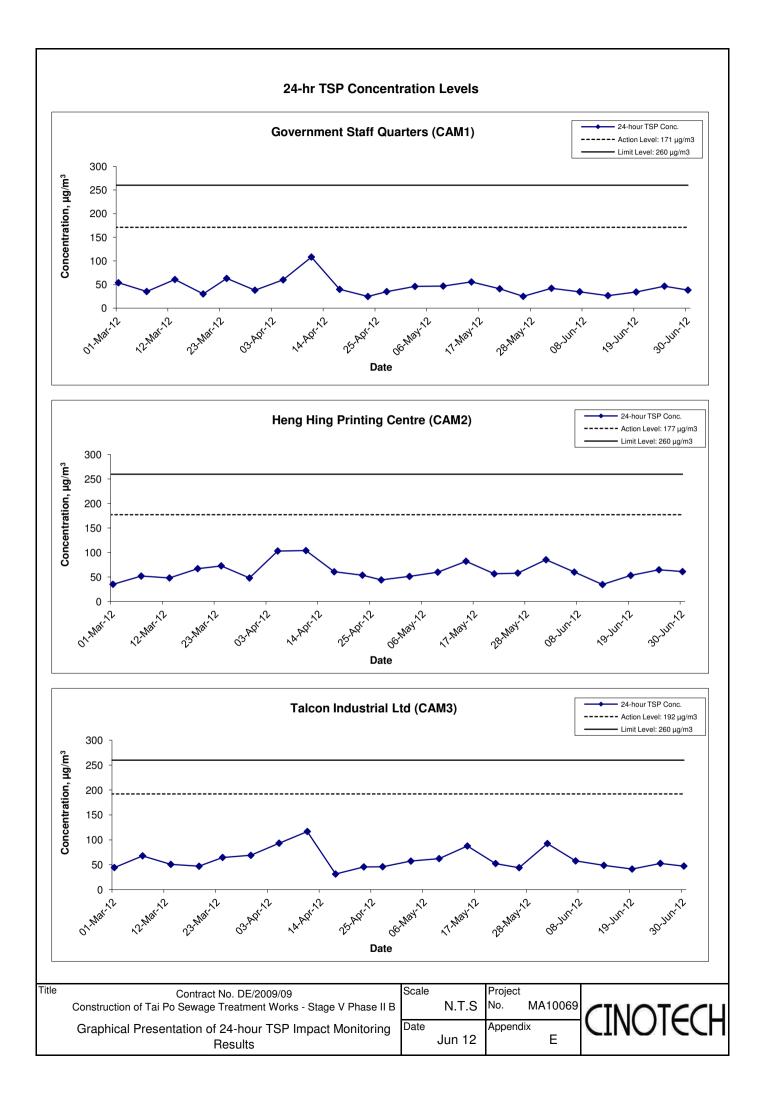
Start Date	Weather	Air	Atmospheric	Filter W	eight (g)	Particulate	Elapse	e Time	Sampling	Flow Rate	e (m ³ /min.)	Av. flow	Total vol.	Conc.
Start Date	Condition	Temp. (K)	Pressure (Pa)	Initial	Final	weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m ³ /min)	(m ³)	(µg/m ³)
1-Jun-12	Sunny	300.2	759.0	3.1766	3.2500	0.0734	17605.1	17629.1	24.0	1.21	1.21	1.21	1739.5	42
7-Jun-12	Sunny	300.3	755.8	3.1768	3.2372	0.0604	17631.1	17655.1	24.0	1.21	1.21	1.21	1736.0	35
13-Jun-12	Cloudy	299.7	752.7	3.0871	3.1334	0.0463	17658.1	17682.1	24.0	1.20	1.20	1.20	1734.4	27
19-Jun-12	Cloudy	300.5	749.4	3.1368	3.1961	0.0593	17684.1	17708.1	24.0	1.20	1.20	1.20	1729.0	34
25-Jun-12	Cloudy	302.9	754.8	3.1049	3.1855	0.0806	17711.1	17735.1	24.0	1.20	1.20	1.20	1728.5	47
30-Jun-12	Sunny	299.1	755.5	3.1256	3.1923	0.0667	17737.1	17761.1	24.0	1.21	1.21	1.21	1738.7	38
													Min	27
													Max	47
													Average	37

Station CAM2 Heng Hing Printing Centre

Start Date	Weather	Air	Atmospheric	Filter W	eight (g)	Particulate	Elapse	e Time	Sampling	Flow Rate	e (m ³ /min.)	Av. flow	Total vol.	Conc.
Start Date	Condition	Temp. (K)	Pressure (Pa)	Initial	Final	weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m ³ /min)	(m ³)	(µg/m ³)
1-Jun-12	Sunny	300.2	759.0	3.1284	3.2772	0.1488	26779.2	26803.2	24.0	1.21	1.21	1.21	1747.0	85
7-Jun-12	Sunny	300.3	755.8	3.1988	3.3033	0.1045	26805.2	26829.2	24.0	1.21	1.21	1.21	1743.5	60
13-Jun-12	Cloudy	299.7	752.7	3.1162	3.1764	0.0602	26832.2	26856.2	24.0	1.21	1.21	1.21	1741.9	35
19-Jun-12	Cloudy	300.5	749.4	3.1098	3.2021	0.0923	26858.2	26882.2	24.0	1.21	1.21	1.21	1736.6	53
25-Jun-12	Cloudy	302.9	754.8	3.0995	3.2117	0.1122	26885.2	26909.2	24.0	1.21	1.21	1.21	1736.0	65
30-Jun-12	Sunny	299.1	755.5	3.1257	3.2322	0.1065	26911.2	26935.2	24.0	1.21	1.21	1.21	1746.2	61
													Min	35
													Max	85
													Average	60

Station CAM3 Talcon Industrial Ltd

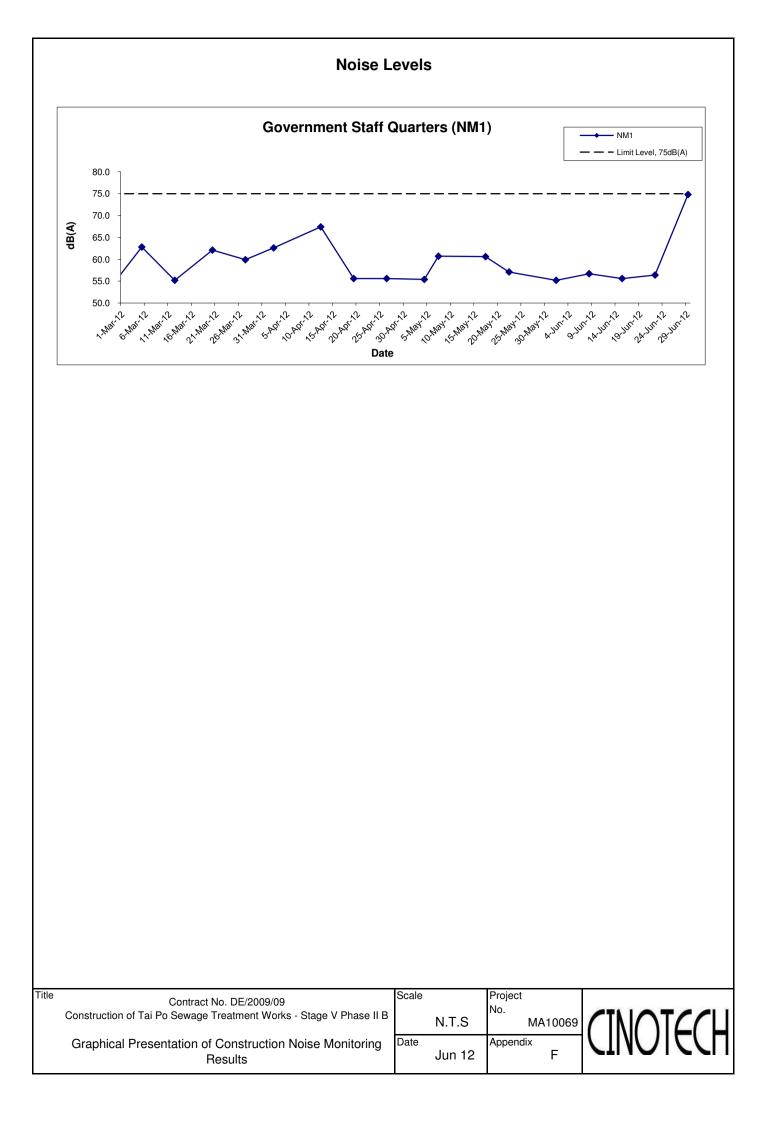
Start Date	Weather	Air	Atmospheric	Filter W	eight (g)	Particulate	Elapse	e Time	Sampling	Flow Rate	e (m ³ /min.)	Av. flow	Total vol.	Conc.
Start Date	Condition	Temp. (K)	Pressure (Pa)	Initial	Final	weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m ³ /min)	(m ³)	(µg/m ³)
1-Jun-12	Sunny	300.2	759.0	3.1220	3.2831	0.1611	20020.9	20044.9	24.0	1.21	1.21	1.21	1741.8	92
7-Jun-12	Sunny	300.3	755.8	3.1780	3.2782	0.1002	20046.9	20070.9	24.0	1.21	1.21	1.21	1738.2	58
13-Jun-12	Cloudy	299.7	752.7	3.1041	3.1887	0.0846	20073.9	20097.9	24.0	1.21	1.21	1.21	1736.7	49
19-Jun-12	Cloudy	300.5	749.4	3.1048	3.1763	0.0715	20099.9	20123.9	24.0	1.20	1.20	1.20	1731.4	41
25-Jun-12	Cloudy	302.9	754.8	3.0956	3.1868	0.0912	20126.9	20150.9	24.0	1.20	1.20	1.20	1730.9	53
30-Jun-12	Sunny	299.1	755.5	3.1260	3.2083	0.0823	20152.9	20176.9	24.0	1.21	1.21	1.21	1740.9	47
													Min	41
													Max	92
													Average	57



APPENDIX F NOISE MONITORING RESULTS AND GRAPHICAL PRESENTATION

Appendix F - Noise Monitoring Results

Location NM1	- Governme	ent Staff Quar	ters		
Dete	Time	\A/a ath ar	dE	8 (A) (30-min)	
Date	Time	Weather	L _{eq}	L ₁₀	L ₉₀
1-Jun-12	09:00	Cloudy	55.2	56.4	53.2
8-Jun-12	13:30	Sunny	56.7	57.8	55.1
15-Jun-12	09:00	Fine	55.6	57.2	53.2
22-Jun-12	11:00	Cloudy	56.4	57.7	54.2
29-Jun-12	13:00	Sunny	74.8	75.3	71.4
		Average	68.0	60.9	57.4
		Minimum	55.2	56.4	53.2
		Maximum	74.8	75.3	71.4



APPENDIX G SUMMARY OF EXCEEDANCE

APPENIDX G – SUMMARY OF EXCEEDANCE

Reporting Month: June 2012

- a) Exceedance Report for 1-hr TSP (NIL)
- b) Exceedance Report for 24-hr TSP (NIL)
- c) Exceedance Report for Construction Noise (NIL)

APPENDIX H SITE AUDIT SUMMARY

Inspection Information

Checklist Reference Number	120608
Date	08 th June 2012 (Friday)
Time	9:30 - 10:00

Ref. No.	Non-Compliance	Related Item No.
	None identified	
Ref. No.	Remarks/Observations	Related Item No.
	Part C - Water Quality	
	• No environmental deficiency was identified during the site inspection.	
	Part D - Air Quality	
	• No environmental deficiency was identified during the site inspection.	
	Part E – Noise	
	• No environmental deficiency was identified during the site inspection.	
	<i>Part F - Waste / Chemical Management</i>No environmental deficiency was identified during the site inspection.	
	Part G - Permit / Licenses	
	• No environmental deficiency was identified during the site inspection.	
	Part H - Remark	
	• No environmental deficiency was identified during the site inspection.	
	Others	
	• Follow-up on the previous audit sessions (Ref. No.120531), no major environmental deficiency was observed by the Contractor.	

	Name	Signature	Date
Recorded by	Charles Ma	Anna	08 June 2012
Checked by	Dr. Priscilla Choy	WI	08 June 2012

Inspection Information

Checklist Reference Number	120614
Date	14 th June 2012 (Thursday)
Time	11:00 - 11:30

Ref. No.	Non-Compliance			Relat	ed Item No.
(E)	None identified	 Service La	· · · · · · · · · · · · · · · · · · ·		

Ref. No. Remarks/Observations

Related Item No.

	Part C - Water Quality
	• No environmental deficiency was identified during the site inspection.
	Part D - Air Quality
	• No environmental deficiency was identified during the site inspection.
	Part E – Noise
90 	 No environmental deficiency was identified during the site inspection.
	Part F - Waste / Chemical Management
120614-R01	Clear the empty chemical containers near the site office as chemical waste F2ii properly.
	Part G - Permit / Licenses
	No environmental deficiency was identified during the site inspection.
	• No environmental deficiency was identified during the site inspection.
	Part H - Remark
	 No environmental deficiency was identified during the site inspection.
	Others
	 Follow-up on the previous audit sessions (Ref. No.120608), no major environmental deficiency was observed by the Contractor.

-bunde et trainin	Name	Signature	Date
Recorded by	Johnny Fung	Ju-	14 June 2012
Checked by	Dr. Priscilla Choy	WI	14 June 2012

120614_audit120614

Inspection Information

Checklist Reference Number	120621	
Date	21 th June 2012 (Thursday)	
Time	15:00 - 15:30	

Ref. No.		Related Item No.
_	None identified	-

Ref. No. Remarks/Observations

Part C - Water Quality
• No environmental deficiency was identified during the site inspection.
Part D - Air Quality
• No environmental deficiency was identified during the site inspection.
Part E – Noise
• No environmental deficiency was identified during the site inspection.
 Part F - Waste / Chemical Management No environmental deficiency was identified during the site inspection.
Part G - Permit / Licenses
• No environmental deficiency was identified during the site inspection.
Part H - Remark
• No environmental deficiency was identified during the site inspection.
Others
 • Follow-up on the previous audit sessions (Ref. No.120614), all environmental deficiency was rectified by the Contractor.

	Name	Signature	Date
Recorded by	Ken Cheng	Cen	21 June 2012
Checked by	Dr. Priscilla Choy	M	21 June 2012

Related Item No.

Inspection Information

Checklist Reference Number	120628
Date	28 June 2012 (Thursday)
Time	09:30-10:00

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

Ref. No. Remarks/Observations

Related Item No.

120628-R01	 Part C - Water Quality No environmental deficiency was identified during the site inspection. Part D - Air Quality No environmental deficiency was identified during the site inspection. Part E - Nolse No environmental deficiency was identified during the site inspection. Part F - Waste / Chemical Management Water/Plastic bottle should be properly disposed at the designated area with recycle bins. Part G - Permit / Licenses No environmental deficiency was identified during the site inspection. 	F1iii
	 Others Follow-up on the previous audit sessions (Ref. No.120621), no major environmental deficiency was observed by the Contractor. 	

Şignature	Date
g Ken	28 June 2012
	28 June 2012
	1.

APPENDIX I EVENT ACTION PLANS

APPENDIX I (1) – Event Action Plan for Air Quality Monitoring (Construction Phase)

EVENT		ACTIO	N	
EVENI	ET	IEC	ER	CONTRACTOR
ACTION LEVEL				
1. Exceedance for one sample	 Identify source, investigate the causes of exceedance and propose remedial measures; Inform IEC and ER; Repeat measurement to confirm finding; Increase monitoring frequency to daily. 	 Check monitoring data submitted by ET; Check Contractor's working method. 	1. Notify Contractor.	 Rectify any unacceptable practice; Amend working methods if appropriate.
2. Exceedance for two or more consecutive samples	 Identify source; Inform IC(E) and ER; Advise the ER 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 ER; 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; 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.
LIMIT LEVEL				
1. Exceedance for one sample	 Identify source, investigate the causes of exceedance and propose remedial measures; Inform Contractor, IEC, ER, and EPD; Repeat measurement to confirm finding; Increase monitoring frequency to daily; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results. 	 Check monitoring data submitted by ET; Check Contractor's working method; Discuss with ET and Contractor on possible remedial measures; Advise the ER on the effectiveness of the proposed remedial measures; Supervise implementation of 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; 4. Amend proposal if appropriate.
2. Exceedance for two or more consecutive samples	 Notify IEC, ER, Contractor 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 ER to discuss the remedial actions to be taken; Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results; If exceedance stops, cease additional monitoring. 	 Discuss amongst ER, ET, and Contractor on the potential remedial actions; Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER 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 ER until the exceedance is abated.

APPENDIX I (2) – Event Action Plan for Construction Noise Monitoring (Construction Phase)

EVENT		ACT	ION	
EVENI	ET	IEC	ER	CONTRACTOR
ACTION LEVEL	 Notify IEC and Contractor; Carry out investigation; Report the results of investigation to the IEC, ER and Contractor; Discuss with the Contractor and formulate remedial measures; Increase monitoring frequency to check mitigation effectiveness. 	 Review the analyzed results submitted by the ET; Review the propose d remedial measures by the Contractor and advise the ER accordingly; Supervise the implementation of remedial measures. 	 Confirm receipt of notification of failure in writing; Notify Contractor; Require Contractor to propose remedial measures for the analyzed noise problem; Ensure remedial measures are properly implemented. 	 Submit noise mitigation proposals to IEC; Implement noise mitigation proposals.
LIMIT LEVEL	 Identify source; Inform IEC, ER, EPD and Contractor; Repeat measurements to confirm findings; Increase monitoring frequency; Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; Inform IEC, ER and EPD the causes and actions taken for the exceedances; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; If exceedance stops, cease additional monitoring. 	 Discuss amongst ER, ET, and Contractor on the potential remedial actions; Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; Supervise the implementation of remedial measures. 	 Confirm receipt of notification of failure in writing; Notify Contractor; Require Contractor to propose remedial measures for the analysed noise problem; 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 3 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 ER until the exceedance is abated.

APPENDIX J UPDATED ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE

Type of Impact	Recommended Mitigation Measures	Status
Air Quality	Dust mitigation measures stipulated in <i>the Air Pollution Control (Construction Dust) Regulation</i> shall be incorporated to control dust emission. Notice shall be given to authority prior to commencing of work	\checkmark
Noise	Use of quiet PME	N/A
	 Good Site Practice Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program; Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program; Mobile plant, if any, should be sited as far from NSRs as possible; Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs; and Material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities. 	~
Water Quality	The practices outlined in ProPECC PN 1/94 Construction Site Drainage should be adopted to minimize the potential water quality impacts from construction site runoff and various construction activities. The recommendation to install perimeter drains to collect site runoff and to properly treat the runoff by settlement tank/treatment system shall apply to all sites including those for mainlaying works. Minimum distances of 100 m should be maintained between the discharge points of construction site runoff and the existing WSD saltwater intake at Tai Po.	V
	A discharge licence needs to be applied from EPD for discharging effluent from the construction site. The discharge quality is required to meet the requirements specified in the discharge licence. All the runoff and wastewater generated from the works areas should be treated so that it satisfies with all the standards listed in the TM. 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. Monitoring of the discharge quality of treated effluent should be part of the Environmental Monitoring and Audit (EM&A) programme. Detailed effluent sampling programme for water quality control during construction phase should be submitted to EPD, AFCD and WSD for approval prior to commencement of the construction works.	1
	The construction programme should be properly planned to minimize soil excavation, if any, in rainy seasons. This prevents soil erosion from exposed soil surfaces. Any exposed soil surfaces should also be properly protected to minimize dust emission. In areas where a large amount of exposed soils exist, earth bunds or sand bags should be provided. Exposed stockpiles should be covered with tarpaulin or impervious sheets at all time. The stockpiles of materials should be placed in the locations away from any stream courses so as to avoid releasing materials into the water bodies. Final surfaces of earthworks should be compacted and protected by permanent work. It is suggested that haul roads should be paved with concrete and the temporary access roads are protected using crushed stone or gravel, wherever practicable. Wheel washing facilities should be provided at all site exits to ensure that earth, mud and debris would not be carried out of the works areas by vehicles.	1
	Good site practices should be adopted to clean the rubbish and litter on the construction sites so as to prevent the rubbish and litter from dropping into the nearby environment. It is recommended to clean the construction sites on a regular basis.	V

APPENDIX J – Updated Environmental Mitigation Implementation Schedule (During Construction Phase)

Type of Impact	Recommended Mitigation Measures	Status
	It is recommended to provide sufficient chemical toilets in the works areas. The toilet facilities should not be less than 30 m from any watercourse. A licensed waste 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 TPSTW as necessary.	V
	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. Implementation of environmental audit on the construction site can provide an effective control of any malpractices and can achieve continual improvement of environmental performance on site.	V
	It is required to register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.	\checkmark
	Any service shop and minor maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken with the areas appropriately equipped to control these discharges.	\checkmark
	 Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows: Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport Chemical waste containers should be suitably labelled to notify and warn the personnel who are handling the wastes to avoid accidents. Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area. 	V
	Marine water quality monitoring should be carried out under emergency condition or during maintenance of the THEES tunnel to verify the findings of the water quality modelling. It is recommended that the maintenance of the THEES tunnel, if unavoidable, should be conducted during winter season or low flow periods and to avoid the "blooming" season of algae (normally from April to June) if practicable. Details of the monitoring requirements are specified in the EM&A Manual.	N/A

Type of Impact	Recommended Mitigation Measures	Statu
Waste	Good site practices during the construction activities include:	
Management	• Nomination of approved personnel, such as a site manager, to be responsible for good site	
	practices, arrangements for collection and effective disposal to an appropriate facility, of all	
	wastes generated at the site.	
	• Training of site personnel in proper waste management and chemical waste handling procedures.	
	Provision of sufficient waste disposal points and regular collection for disposal.	
	• Appropriate measures to minimise windblown litter and dust during transportation of waste by	
	either covering trucks or by transporting wastes in enclosed containers.	
	Separation of chemical wastes for special handling and appropriate treatment at the Chemical	
	Waste Treatment Facility.	
	• Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.	
	• A Waste Management Plan shall be prepared and this WMP shall be submitted to the Engineer	
	for approval. One may make reference to ETWB TCW No. 15/2003 for details.	
	• In order to monitor the disposal of C&D materials at landfills and public filling areas, and to	
	control fly tipping, a trip-ticket system shall be included as one of the contractual requirements	
	and implemented by an Environmental Team undertaking the Environmental Monitoring and	
	Audit work. One may make reference to WBTC No. 21/2002 for details.	
	 A recording system for the amount of wastes generated, recycled and disposed (including the 	
	disposal sites) shall be proposed.	
	Waste reduction is best achieved at the planning and design stage, as 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.	
	 To encourage collection of aluminum cans by individual collectors, separate labelled bins shall be 	
	provided to segregate this waste from other general refuse generated by the work force.	
	 Any unused chemicals or those with remaining functional capacity shall be recycled. 	
	 Maximize the use of reusable steel formwork to reduce the amount of C&D material. 	
	 Prior to disposal of C&D waste, it is recommended that wood, steel and other metals shall be 	
	separated for re-use and / or recycling to minimize the quantity of waste to be disposed of to	
	landfill.	
	 Proper storage and site practices to minimize the potential for damage or contamination of 	
	construction materials.	
	 Plan and stock construction materials carefully to minimize amount of waste generated and avoid 	
	unnecessary generation of waste.Minimize over ordering of concrete, mortars and cement grout by doing careful check before	
	ordering	
	General Refuse	
	General refuse shall be stored in enclosed bins or compaction units separate from C&D material. A	v
	reputable waste collector shall be employed by the contractor to remove general refuse from the site,	
	separately from C&D material. An enclosed and covered area is preferred to reduce the occurrence	
	of 'wind blown' light material.	
	or white orown light material.	
	Construction & Demolition (C&D) Material	J
	C&D material generated from the site formation and demolition works shall be sorted on-site into	v
	inert C&D material (i.e. public fill) and C&D waste. In order to minimise the impact resulting from	
	collection and transportation of C&D material for off-site disposal, the excavated material	
	comprising fill material shall be reused on-site as backfilling material as far as practicable. C&D	
	waste, such as wood, plastic, steel and other metals shall be reused or recycled and, as a last resort, disposed of to londfill. A guitable area shall be designated within the site for temperary stealeniling of	
	disposed of to landfill. A suitable area shall be designated within the site for temporary stockpiling of	
	C&D material and to facilitate the sorting process.	

Type of Impact	Recommended Mitigation Measures	Status
	<i>Bentonite Slurry</i> Bentonite slurries used in construction works should be reconditioned and reused wherever practicable. Residual used bentonite slurry should be disposed of from the site as soon as possible. The Contractor should explore alternative disposal outlets for the residual used bentonite slurry and disposal at landfill should be the last resort.	N/A

Note: $\sqrt{-}$

 $\sqrt[n]{-}$ Compliance of mitigation measures X - Non-compliance of mitigation measures N/A - Not applicable

APPENDIX K WASTE GENERATION IN THE REPORTING MONTH Name of Department: Drainage Services Department

Contract No. : DE/2009/09

Monthly Summary - Waste Flow Table for June 2012

		Annual Quar	ntities of Inert C	&D Materials Ge	enerated Monthly		An	nual Quantities o	f C&D Materials	Generated Mont	hly
Month Tan Feb Mar	Total Quantity Generated	Hard Rock & Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemicals Waste	Others, e.g. general refuse
	$(\text{in } \text{m}^3)$	$(in m^3)$	$(in m^3)$	$(in m^3)$	$(in m^3)$	$(in m^3)$	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in tonne)
Jan	0	0	0	0	0	0	0	0	0	0	3.9
Feb	0	0	0	0	0	0	0	0	0	0	0
Mar	0	0	0	0	0	0	1.5	0.20	0	0	6.4
Apr	0	0	0	0	0	0	0	0.07	0	0	1.3
May	0	0	0	0	0	0	0	0.15	0	0	4.9
June	0	0	0	0	0	0	17.8	0	0	1030(L)	1.93
Subtotal	0	0	0	0	0	0	19.3	0.42	0	1030(L)	18.4
July											
Aug											
Sept											
Oct											
Nov											
Dec											
Total											

			Forecast of Te	otal Quantities of	C&D Materials to	o be Generated fro	om the Contractor	ſ		
Total Quantity Generated	Hard Rock & Large Broken Concrete		Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemicals Waste	Others, e.g. general refuse
$(in m^3)$	$(in m^3)$	$(in m^3)$	$(in m^3)$	$(in m^3)$	$(\text{in } \text{m}^3)$	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in tonne)
0	Nil	0	0	0	0	100	100	50	10	500

(1)(2) (3) (4)

The performance targets are given in PS Clause 1.40.8(14). The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site. Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material. The Contractor shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the Works, together with a breakdown of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000 m³. (PS Clause 1.40.7(4)(b) refers.

Notes:

APPENDIX L COMPLAINT LOG

APPENDIX L – COMPLAINT LOG

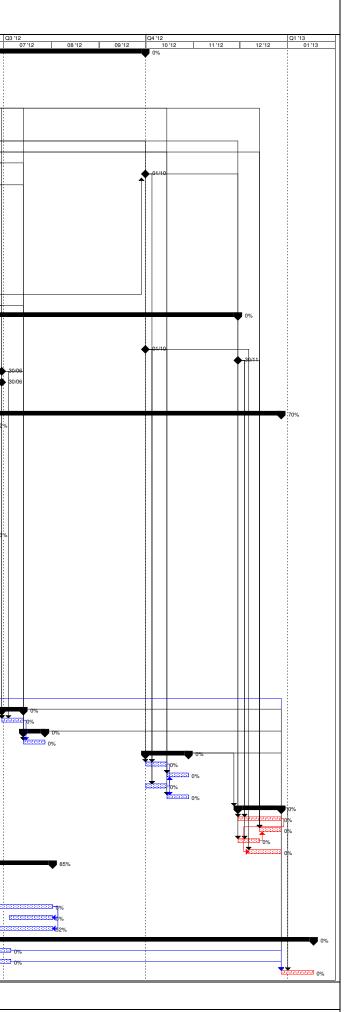
Reporting Month: June 2012

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

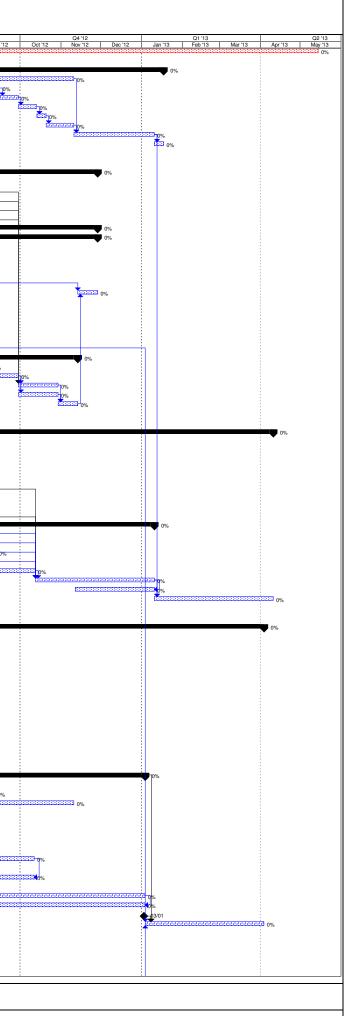
Remarks: No environmental complaint was received in the reporting month.

APPENDIX M CONSTRUCTION PROGRAMME

						Supply and Installation of Electri	Contract No. DE/2009/09 ical and Mechanical Equipment for Tai Po Sewage Treatment Section I of the Works	Works Stage 5 Phase 2B		
					03 '11 04 '11 05 '11 06 '11	Q3 '11 07 '11 08 '11		Q1 '12 12 '11 01 '12 02 '12	Q2 '12 03 '12 04 '12	06 '12
	1 2									
	3									
	4	Density Current Baffles		22/03/11 Tue 22/03/11	♦ 22/03					
	5					♦ 31/07				
	6				◆ 03/05					
	8						31/10			
	9								27/03	
	10	Submersible Drain Pumps (V.O.)	0 days Wed	28/12/11 Wed 28/12/11	-			♦ 28/12		
	11					♦ 31/07				
	12 13		· · ·		A 0004					
	13				-			28/11		
	15						÷ 30/09			
	16						▲ 13/11			
	17		,		♦ 13/04					+
	18 19				_		<u>♦ 30/09</u>			
	20		-			;	100%			
	21					100%				
	22	Contractual Completion Date	0 days Tue	19/07/11 Tue 19/07/11	1	•				
	23]		↓ ↓ 30/09 ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓			
	24						30/00			
	25 26				4					
	26 27				4 - 1					
	27 28					▼ ^{15/0}				
	29									
	30		0 days Sat	30/06/12 Sat 30/06/12						
	31									
	32					♦ 15/0				
	33 34								◆ 06/04	
	34 35				· · · · · · · · · · · · · · · · · · ·					
	36				1 1					
	37						+		━┿━┿┿╋╋━━━	99%
	38	Weir Plates	6 days Sat	27/08/11 Thu 01/09/11	1	1	100%			- : '
	39		· · ·				100%			
	40						100%			
	41 42				4				100	J%
	42 43								100%	10000000hnov
	44		· · ·							
	45							: 1		
Image: market interaction Image: market interactin Image: market interaction Im	46		,]					
	47						↓!			93%
P P	48				4		100%			
□ 0 mode discriticationalization 94.00 7.690.40	49 50				4 - 1					
Important Home	51						- 100%		10	0%
□ Tange for the current of the current o	52								100%	
Image: state	53	Final Screeding	14 days Fri	01/06/12 Thu 14/06/12						0%
Image: marked biologic microscope Take microscope	54	Painting of Civil Structure (by Civil Contractor)	7 days Fri	15/06/12 Thu 21/06/12						
2 Decord instation 44 deg Weitowice Aus 100000 2 Existing Optimize Chaptions 34 deg No. 100000 3 Marcia Lindendo 34 deg No. 100000 3 Marcia Lindendo 34 deg No. 100000 4 Marcia Lindendo 14 deg No. 100000 5 Marcia Lindendo 14 deg 14 deg 6 Marcia Lindendo 14 deg 14 deg 7 Marcia Lindendo 14 deg 14 deg 7 Marcia Lindendo 14 deg 14 deg 8 Marcia Lindendo 14 deg 14 deg 9 Marcia Lindendo 14 deg 14 deg 9 Marcia Lindendo 14 deg 14 deg 10 Marcia Lindendo 14 deg 14 deg 10 Marcia Lindendo 14 deg 14 deg 10 Marcia Lindendo 14 deg 16 deg 10 Marcia Lindendo 14 deg 16 de 201000 10 Marcia Lindendo 14 deg	55								1	00%
Image: Building Databalism Space Mart 1687 The 16800 0 Process Instalism 700 Mart 1000 7000 Mart 1000 0 Process Instalism 700 Mart 1000 7000 Mart 1000 7000 Mart 1000 0 Process Instalism 700 Mart 1000 70000 70000 700000	56							100%	•	
■ Precks installation 93 day Mon 140012 Total State ■ Precks installation 71 day Total State Total State ■ Precks installation 11 day State Total State Total State ■ Precks installation 11 day State Total State Total State ■ Precks installation 11 day State Total State Total State ■ Precks installation 11 day State Total State Total State ■ Precks installation 11 day State Total State Total State ■ Precks installation 11 day State Total State Total State ■ Precks installation 11 day State Total State Total State ■ Example 11 day State Total State Total State ■ Example 11 day State Total State Total State ■ Example 11 day State Total State	57 58								100	
bit Burear installator 7 reg Ward/Ward Net Votar, 19 Port 7 reg	59		-							2 2 2 2 3 3 750%
2 Predv Valk EM Preve Meddalom 144 apr 54 14007 F1 130712 3 Predv Valk EM Preve Meddalom 144 apr 54 140372 F1 230712 3 Sodge Draved Chamber Machalom 144 apr 54 140372 F1 230712 4 Preve Valk EM Preve Valke EM	60									1
PHCD PHCD <td>61</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	61									
Image: Subject Diversion & Approved hundlation 944 dorp 10 944 dorp 10 <td>62</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	62									
Bits Subprove of Chamber No.3 (Bit-construction) Bits of No.100 Signal	63 64	·								
0 Persode finalizion 14 dage Mon 1200 South 2000 1 Subset Dira Murga and Popoxic 14 dage Mon 150012 South 20012 2 Subset Dira Murga and Popoxic 14 dage Mon 150012 South 20012 2 Ling Agénco 14 dage Mon 150102 South 20012 South 20012 2 Ling Agénco 14 dage Mon 150102 South 20012 South 200	64 65									
2 Submedia Dan Popusok 11 4day Moti 101/012 Sub. 101/012 3 Liling Agelano 11 4day Moti 101/012 Sub. 101/012 Sub. 101/012 4 Liling Agelano 11 4day Moti 101/012 Sub. 101/012	66									
0 Lifting Appliance 14 day Mon 01/0012 Sun 4/00/12 0 Sundge Draw off Damber Ko. (Re-constructed) 26 day Fill 30/11/2 Sundge Draw off Damber Ko. (Re-constructed) 26 day Fill 30/11/2 The 27/12/2 Sundge Draw off Damber Ko. (Re-constructed) 26 day Fill 30/11/2 The 27/12/2 The 27/12/2 </td <td>67</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	67									
0 Sludge Draw-Off Combine Mo. (Re-constructed) 28 days Fin 301112 Thu 271212 0 Submet Mo. (Indiation 28 days Fin 301112 Thu 271212 0 Submet Mo. (Indiation 16 days Fin 301112 Thu 271212 0 Lifting Applance 14 days Fin 301112 Thu 271212 0 Lifting Applance 14 days Fin 301112 Thu 271212 0 Upgrade of LV. Stelliobard (MCC4) at Natibian 14 days Fin 301112 Thu 271212 0 Upgrade of LV. Stelliobard (MCC4) at Natibian 14 days Fin 301112 Thu 271212 1 Num Stelliobard MCC1 14 days Mon 165011 Mon 165011 Mon 165011 2 Upgrade of LV. Stelliobard MCC4 at Natibian on Testing 25 days Mon 165011 Mon 165011 3 LV. Stelliobard MCC4 instalian on Testing MCC4 26 days Fin 060712 Word 106912 4 LV. Stelliobard MCC4 instalian on Testing MCC4 135 days Thu 060712 Word 106912 5 Modification of Existing SCADAPIC System E at Aenation Tank Control Kook 2	68									
1 Pendock Installation 28 days Pfi 301 11/2 Thu 27/1212 2 Submissibe Dran Purps and Pepeork 14 days Pfi 14/12/2 Thu 27/1212 4 Instrumentation and Electrical Installation 21 days Pfi 14/12/2 Thu 27/1212 4 Instrumentation and Electrical Installation 21 days Pfi 07/12/2 Thu 27/1212 5 Opgrade of LV. Switchboard (MCC4) at Chemical Notae 21 days Pfi 07/12/2 Thu 27/1212 6 Instrumentation and Electrical Installation 21 days Pfi 07/12/2 Thu 27/1212 6 Temporay Relocation MixOci Doxing System 1 days Pfi 07/12/2 Thu 27/1212 7 Temporay Relocation of NixOci Doxing System 1 days Pfi 07/16/12 Thu 08/0011 7 Temporay Relocation of NixOci Doxing System 1 days Pfi 02/0612 Pedio1/0612 0 Modification of Existing SCAD/PLC System E at Aration Tark Control Klosk 28 days Thu 08/07/12 Pedio1/0612 1 0.5.4 Fi 12/2 Pfi 12/20012 Thu 05/07/12 Pedio1/0612 2 Textdowall Test of FC18 1 days Pfi 22/0012 Thu 05/07/12 <td>69</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	69									
2 Submarable Drain Pumps and Ppeneork 14 day Fi 14/1212 Thu 27/1212 3 Lilling Applance 14 day Fi 14/1212 Thu 27/1212 4 Internetation and Excincial Installation 21 day Fi 07/0727 Thu 27/1272 5 Upgrade of LV. Switchboard (MCC4) at Chemical House 44 day Mon 160511 Wed 010811 6 Temporary Control Panels for Skitting DACD Daving System 1 day Mon 160511 Mon 050511 7 Temporary Control Panels for Skitting DACD Daving System 1 day Mon 160511 Mon 050511 8 Modification of Chemical House (by Chil Contractor) 29 day Wed 010811 Thu 310512 9 L.V. Switchboard (MCC4) Instalation and Testing 62 day Fi 1005712 Wed 010812 10 Modification of Chemical House (by Chil Contractor) 29 day Wed 010812 Wed 010812 10 Modification of Existing SCADA/PLC System E at Amation Tark Control Koak 28 day Fi 10057712 Wed 010812 10 Modification of Existing SCADA/PLC System E at Amation Tark Control Koak 28 day Fi 220612 Thu 507012 10 Fi seting 4 Fi day 57712 Fi 2	70									
a Lifting Applancie 14 day Fri 30/11/2 Thu 13/12/2 instrumentation and Electical Installation 21 day Fri 30/12/2 Thu 27/12/12 Thu 27/12/12 <t< td=""><td>71 72</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	71 72									
4 Instrumentation and Electrical Installation 21 days F107/12/12 Thu 27/12/12 5 Upgrade of LV. Switchboard (MCC4) at Chemical House 444 days Mon 1605/11 Wed 0106/11 6 Temporary Relocation of NaCC Dosing System 1 day To ue 900/811 To ue 900/812 To ue 900/811 To ue 900/812 To ue 900/812 <td< td=""><td>72 73</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	72 73									
5 Upgrade of LV. Switchboard (MCC4) at Chemical House 444 day Mon 1605/11 Wed 01/08/12 6 Temporary Relocation of NaCCI Dising System 1 day Mon 1605/11 Mon 2507/11 7 Temporary Relocation of NaCCI Dising System 1 day Wed 01/08/12 Wed 01/08/12 8 Modification of Chemical House (by CVC Instant) 286 days Wed 01/08/12 Wed 01/08/12 9 L.V. Switchboard (MCC4) Instaliation and Testing 62 days Fit 01/08/12 Wed 01/08/12 10 Modification of Chemical Wase (by CVC Instaliation and Testing 62 days Fit 01/08/12 Wed 01/08/12 11 Essential Stating SCADA/PLC System E at Aeration Tank Control Klosk 28 days Thu 05/07/12 Wed 01/08/12 12 Testing & Controls / Mays Fit 2206/12 Thu 05/07/12 Wed 01/08/12 13 Functional Test of FC118 14 days Fit 2206/12 Thu 05/07/12 14 Fit 2206/12 Thu 05/07/12 Fit 2206/12 Thu 05/07/12 14 Fit 2206/12 Thu 05/07/12 System Commissioning System Commissioning System Commissioning System Commissioning Fit 2206/12 Thu 05/07/12 <t< td=""><td>74</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	74									
8 Temporary Control Panels for Existing MCC 71 day Mon 1605/11 Mon 2507/11 7 Temporary Relocation of NACC Dooing System 1 day Tue 0908/11	75					:	;	:	;	 .
Image: Second secon	76									
9 L.V. Switchboard (MCC4) Installation and Testing 62 day Fi 010.6/12 Wed 010.8/12 0 Modification of Existing SCADA/PLC System E at Aeration Tank Control Kiosk 28 days Thu 0507/12 Wed 010.0/12 1 B.S. & F.S. Installation 135 days Tue 2003/12 Wed 010.0/12 Wed 010.0/12 2 Testing & Commissioning 210 days Fri 22.06/12 Thu 170.01/3 Fri 22.06/12 Thu 170.01/3 3 Functional Test of FC118 14 days Fri 22.06/12 Thu 05.07/12 Thu 05.07/12 4 Functional Test of FC128 14 days Fri 22.06/12 Thu 05.07/12 Thu 05.07/12 5 System Commissioning 21 days Fri 22.06/12 Thu 05.07/12 Thu 05.07/12 6 System Commissioning 14 days Fri 22.06/12 Thu 05.07/12 Thu 05.07/12 6 System Commissioning 21 days Fri 28.12 Thu 170.01/3 Fri 28.12 1sion: Critical Spitem Commissioning Spitem Commissioning Spitem Commissioning Spitem Commissioning Spitem Commissioning 1sion: Critical Meteore Contexet on texet on texe on texet on texe on texe on texe	77					100%				
0 Modification of Existing SCADAPLC System E at Aration Tank Control Klosk 28 days Thu 0507/12 Wed 01/08/12 1 B.S. & F.S. Installation 135 days Tue 2003/12 Wed 01/08/12 2 Testing & Commissioning 21 0 days Fri 2206/12 Thu 17/01/3 3 Functional Test of FC11B 14 days Fri 2206/12 Thu 05/07/12 4 Functional Test of FC12B 21 days Fri 2206/12 Thu 05/07/12 5 System Commissioning 21 days Fri 2206/12 Thu 05/07/12	78					1				99%
1 B.S. & F.S. Installation 135 day Tue 2003/12 Wed 01/08/12 2 Testing & Commissioning 210 days Fri 2206/12 Thu 17/01/13 3 Functional Test of FC11B 14 days Fri 2206/12 Thu 05/07/12 4 Functional Test of FC12B 14 days Fri 2206/12 Thu 05/07/12 5 System Commissioning 21 days Fri 2206/12 Thu 17/01/13 rsion: Critical Progress Split Tur 17/01/13 Silon: Critical Progress Split Split Baseline Milestone ◊ Summary Progress Project Summary External Milestone ◊	79 80				4					10000000000000000000000000000000000000
2 Testing 4 Commissioning 210 day Fri 2206/12 Thu 17/01/13 3 Functional Test of FC11B 14 days Fri 2206/12 Thu 05/07/12 4 Functional Test of FC12B 14 days Fri 2206/12 Thu 05/07/12 5 System Commissioning 21 days Fri 2206/12 Thu 05/07/12 tisi):: L Critical Progress Spit Spit Fri 2206/12 Thu 17/01/13	80 81								↓ : 	
3 Functional Test of FC11B 14 days Fn 2206/12 Thu 0507/12 4 Functional Test of FC12B 14 days Fn 2206/12 Thu 0507/12 5 System Commissioning 21 days Fn 28/12/12 Thu 17/01/13 Critical Progress Spit Spit Spit Spit Spit Spit Spit Spit External Miestone Spit Spit Spit Spit Spit Spit Spit Spit External Miestone Spit Spit Spit Spit Spit Spit Spit Spit Spit Spit Spit Spit Spit Spit Spit Spit Spit Spit Spit Spit Spit Spit										ľ
5 System Commissioning 21 days Fri 28/12/12 Thu 17/01/13 rsion: D Critical Critical Progress Split rsion: D Split Split	83									1
ision: D	84	Functional Test of FC12B	14 days Fri	22/06/12 Thu 05/07/12						
	85	System Commissioning	21 days Fri	28/12/12 Thu 17/01/13	1 1					
		Critical Critical Progress	Sr	olit	Baseline Baseline Baseline Mileste	one 🚫 Summ	nary Progress	External Milestone		
		D						* * *		
Marce I							Page 1			

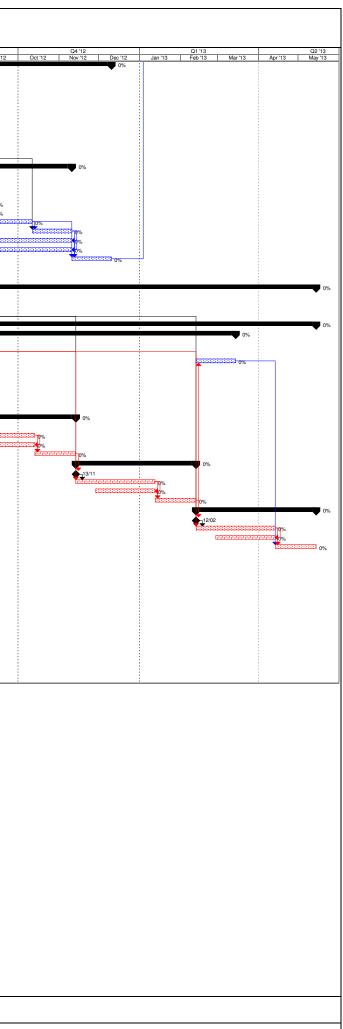


Note: Note: <th< th=""><th>Tai Po Sewage Treatment Works Stage 5 Phase 28 rogramme</th></th<>	Tai Po Sewage Treatment Works Stage 5 Phase 28 rogramme
Autor of the set	O1'12 O2'12 O3'12 Dec'11 Jan'12 Feb'12 Mar'12 Apr'12 May'12 Jul'12 Aug '12 Aug '12 Mar'12 Mar'12 May'12 Jul'12 Aug '12 Aug '12
However, Source and Construct Source And Constru Source And Construct Source And Construct Source And Construct	
Piper number of starting is sta	
A face 160 1610 1610 Resch 160 16100 Resch 1600 16000 Resch 1600 16000 Resch 16000 16000 Resch 16000 16000 Resch 16000 16000 Resch 16000 16000 Collateria 16100 16000 16000 Collateria 16100 16000 16000 16000 Collateria 16100 16000 16000 16000 16000 Collateria 16100 16000 16000 16000 16000 Collateria 16000 16000 16000 16000 16000 Collateria 16000 16000 16000 16000 16000 Collateria	
	01(12)
Numerican bandy gam64007000070000Marken bandy70007000070000Construction of bandy by border and70007000070000Construction of bandy by border and70007000070000Construction of bandy by border and70007000070000Construction of bandy by border and700070000700000Construction of bandy by border and7000700000700000Target of construction of bandy by border and700070000007000000Target of construction of bandy by border and70007000000070000000Target of construction of bandy by border and7000070000000000700000000000Target of construction of bandy by border and700007000000000000000000000000000000000000	► 5012
MotionBit doFirstWalking0ConstructConstru	4 16/03
HenceHenceHenceHenceHenceSecond and formal function formal formal formal formal formalNoNoNoNotation formal formal formal formal formalNoNoNoSecond and formal formal formalNoNoNoNoSecond and formal formal formalNoNoNoNoSecond and formal formalNoNoNoNoSecond and formal formalNoNoNoNoSecond and formal formalNoNoNoNoSecond and formal for for for formalNoNoNoSecond and formal for for formalNoNoNoNotation for for formalNo <td< td=""><td>♠ -1603;</td></td<>	♠ -1603;
	ų su
Nuccess of war all how of anomaly in all how of a service of	2220223 _{10%}
	10000000000000000000000000000000000000
Tanky and conversions 0.100 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Conversional Shore Accession 0.000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 10000 Mu 100000 Mu 10000 Mu 1	0% 0%
Image: Notice States Notice States Note: A classesImage: Note: A classesNote: States Note: A classe Note: A classes250010.4000Note: States Note: Note	tesseship%
Incrementary & Summing a Summ	
De Absinizat. 4 Kein Ruby régi unknike ny régi unkny régi ny régi unknike ny régi unknike ny régi unkni	
Bestick instants Bisso Wint 100/2 Wint 100/2 Wint 100/2 Wint 100/2 Description Description Description Description Description Description Description Description Description Description Description Description Reader of Name A Second Seco	D%
Tarling al Connectoring 61 600 61 600 61 600 None of the Sectoring 61 600 61 600 61 600 Description (Connectoring) 61 600 61 6000 61 600 Descr	11111111111111111111111111111111111111
Webser har Bester har Besterh	
Decomission 2. Bound Schart Petron 4. Decome 11 600 32.0502 100 10011 Of decome 12 400 100 10011 100 10011 100 10011 Petron 1. Decome 12 400 100 10011 100 10011 100 10011 Petron 1. Decome 10 400 100 2001 100 10011 100 10011 Petron 1. Decome 1. Decome 10 400 100 10011 100 10011 100 10011 Petron 1. Decome 1. De	
i valaktio fu ku k / Bas A Locazavia Bab Aug San 2000 //// San 2000 /////////////////////////////////	
Betract mitigation with with City With Delay 100 (11 mit 1100) Tarding and constructure F. C. No. 100 (12 mit 1100) Phatep fedinaciation has 4.2 F. C. F. F. B.	
Internationality Internationality Internationality Internationality Internationality Internationality <td></td>	
Princip deministriko Tak Nu2 Princip deministriko Tak Nu2 <th< td=""><td></td></th<>	
Prince Prince Prince Prince Sequest and Marker Sale Garge Prince Prince Prince Sequest And Marker Sale Garge Prince Prince Prince Prince Secure And Sale Garge Prince	
Operation of Marcine Distance 9 - 4yrs 71 100 00 7 71 100 00 7 Bady & Konzelin System 6 - 4yr 71 100 00 7 71 100 00 7 71 100 00 7 Bady & Konzelin System 6 - 4yr 71 100 00 7 71 100 00 7 71 100 00 7 Bady & Konzelin System 6 - 4yr 71 100 00 7 71 100 00 7 71 100 00 7 Bady & Konzelin System 6 - 4yr 71 100 00 7 71 100 00 7 71 100 00 7 Bady & Konzelin System 6 - 4yr 71 100 00 7 71 100 00 7 71 100 00 7 Bady & Konzelin System 6 - 4yr 71 100 00 7 71 100 00 7 71 100 00 7 Bady & Konzelin System 6 - 4yr 71 100 00 7 71 100 00 7 71 100 00 7 Bady & Konzelin System 6 - 4yr 71 100 00 7 71 100 00 7 71 100 00 7 Bady & Konzelin System 71 100 00 7 71 100 00 7 71 100 00 7 71 100 00 7 Bady & Konzelin System 71 100 00 7 71 100 00 7 71 100 00 7 71 100 00 7 Bady & Konzelin System 71 100 00 7 71 100 00 7 71 100 00 7 71 100 00 7	
Product Transp 944 Pri 168072 Pri 168072 Pri 168072 Burn Ango 944 Pri 168072 Pri 168072 Pri 168072 Pri 16807 Pri 168072 Pri 168072 Pri 168072 Pri 16807 Pri 168072 Pri 168072 Pri 168072 Pri 16807 Pri 168072 Pri 168072 Pri 168072 Pri 1680 Pri 168072 Pri 168072 Pri 168072 Calk Donge Bod Pri 168072 Pri 168072 Pri 168072 Pri 1681 Pri 168072 Pri 168072 Pri 168072 Pri 168072 Pr	16/03
Sun Parip 0.940 Fri 1000/2 Fri 1000/2 Hopes A Voise 0.940 Fri 1000/2 Fri 1000/2 Load Creat Paral for Italy & Kun Toketon Spann 0.940 Fri 1000/2 Fri 1000/2 Bir Research Tokatabi 0.940 Fri 1000/2 Fri 1000/2 Open Danys A Det 0.940 Fri 1000/2 Fri 1000/2 Handbalton 0.940 Fri 1000/2 <td< td=""><td>6/16/03</td></td<>	6 /16/03
Person A Yorkin 0 dag Fri 100012 Loss Carlor Procession Arabah 0 dag Fri 100012 Pill Procession Arabah 0 d	
Use Construction 0 day Fit 100012 Fit 100012 Bit Procession Natabia 0 day Fit 100012 Fit 100012 No Think S 0 day Fit 100012 Fit 100012 Cabb Durpit Ib Cit 0 day Fit 100012 Fit 100012 Debutty Ib Cit 387 day Fit 100012 Fit 100012 Debutty Ib Cit 387 day Fit 100012 Fit 100012 Debutty Ib Cit 387 day Fit 100012 Fit 100012 Debutty Ib Cit 387 day Fit 100012 Fit 100012 Debutty Ib Cit 66 day Fit 100012 Fit 100012 Ver Us City Werk Scient Transport S	↓ 16/03
Pri No.5 0.000 Pri 100.12 Pri 100.12 Pri 100.12 Odde Dong & Dut 0.000 Pri 100.12 Pri 100.12 Pri 100.12 Bubulation 30 dogs Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Bubu P Donoth - Pac Goldon 0.000 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12 Pri 100.12	€ 1603
Outse Dange & Duct 00 days Fri 100012 Fri 100012 Fri 100012 Unterfailtoon 00 days Fri 100017 This 100017 This 100017 Unterfailtoon 00 days Fri 100017 This 100017 This 100017 Unterfailtoon 00 days Fri 100017 This 100017 This 100017 Virial Scale This 100017 This 100017 This 100017 This 100017 Scale This 100017 This 100017 This 100017 This 100017 Scale Fri 100017 This 100017 This 100017 This 100017 Scale Fri 100017 This 100017 This 100017 This 100017 Virial Scale Fri 100017 This 100017 This 100017 This 100017 Virial Scale Scale Fri 100017 This 100017 This 100017 Virial Scale Scale Fri 100017 This 100017 This 100017 Virial Scale Scale Fri 100017 This 100017 This 100017 Virial Scale Scale Fri 100017 This 100017	
Budya 5 Boun Bougen 90 dage Fri 40012 Wei 10012 Hinter Tyoponi Ting Callany 61 dage Thi 40012 Wei 10012 PST Dam-Of Purp A Account Pyonovi Ting Callany 51 dage Thi 40012 Thi 20012 Sum Purp A Account Pyonovi Ting Callany 60 dage Thi 100113 Thi 100113 Luce Carbon Paper A Exocute Installation 60 dage Not 100113 Thi 100113 Testing and Commissioning 60 dage Fri 100113 Thi 100113 Rec Aradio Ting Callany 60 dage Fri 100113 Thi 100113 More Aradio System Fundation 60 dage Fri 100113 Thi 100113 More Aradio Ting Callany 60 dage Fri 100113 Thi 100113 More Aradio Delevey to Site 22 dage Fri 100113 Fri 100113 More Aradio Delevey to Site 22 dage Fri 100113 Fri 100113 More Stars Aradio 60 dage Fri 100113 Fri 100113 More Stars Aradio 60 dage Fri 100113 Fri 100113 More Stars Aradio 60 dage Fri 100113 Fri 100113 P	1603
Intert Pysoch in Pysoch Mary 01 days The 1300/12 197 Diamosh in Pysoch Mary 30 days The 1300/12 Ward Styp Pysoch In Cysoch Trough 10 days The 1300/12 Som Trays Associated Pysoch 00 days The 1300/12 Loud Control Parel & Electrical Instation 00 days Shi 1510/12 The 1000/13 1620 Exectrical Instation 00 days Shi 1510/12 The 1000/13 1620 Exectrical Instation 00 days Fhi 1600/12 The 1000/13 1620 Exectrical Instation 00 days Fhi 1600/12 The 1000/13 1620 Exectrical Instation 00 days Fhi 1600/12 The 1000/13 1620 Exectrical Instation 00 days Fhi 1600/12 Fhi 1600/12 1620 Exectrical Instation 00 days Fhi 1600/12 Fhi 1600/12 1660 Factrical Instation 00 days Fhi 1600/12 Fhi 1600/12 1670 Exectrical Instation 00 days Fhi 1600/12 Fhi 1600/12 1680 Exectrical Instation 00 days Fhi 1600/12 Fhi 1600/12 1680 Exectrical Instatin Cole 10 00 days Fhi 1	Ŭ.
PPT Dam of Purpe A Associate Prewok 90 days Tot 100012 Tot 100012 Tot 100012 Tot 100012 Sonn Purpe A Associate Prewok 60 days Tot 100012 Tot 100012 Tot 100012 Tot 100012 Used Sonn Purpe A Associate Prewok 60 days Tot 100012 Tot 1000112	
Weir Spay Prevent Kosum Tongh 11 5 dang Thu 140012 F11 20012 Som Prup & Asociated Production 00 dang Sat 131012 Thu 140012 F11 201013 Local Control Prod & Exocical Installation 00 dang Sat 131012 Thu 100012 Thu 100012 LNES Detectical Installation 00 dang F11 10113 Wei 100013 Wei 100013 LNES Detectical Installation 00 dang F11 100112 Thu 1000173 LNES Detectical Installation 00 dang F11 100112 Thu 1000173 LNES Detectical Installation 00 dang F11 100112 Thu 1000173 LNE Drives 11 100017 Thu 1000172 F11 1000172 F11 1000172 Ari Drives 00 dang F11 1000172 F11 1000172 F11 1000172 Maria Drives Dista 00 dang F11 1000172 F11 1000172 F11 1000172 Maria Drives Dista 00 dang F11 1000172 F11 1000172 F11 1000172 Maria Drives Dista 00 dang F11 1000172 F11 1000172 F11 1000172 Maria Drives Dang Pangenta 00 dang F11 10	
Lexal Control Pares & Edencian Installation 90 days Set 100/13 The 100/13 H850 Bactonic System Installation 90 days Fri 110/13 Ward 100/13 Teating and Commissioning 90 days Fri 110/13 Ward 100/13 New Auration Taris No. 5 to 7 Fri 50/031 Fri 50/031 Fri 50/031 Ward Auration Taris No. 5 to 7 Fri 50/031 Fri 50/031 Fri 50/031 Mon Martinia 0 days Fri 100/13 Fri 50/031 Body Manne Stoge 0 days Fri 100/13 Fri 50/031 Body Manne Stoge 0 days Fri 100/13 Fri 100/12 Mc Dhanne 0 days Fri 100/12 Fri 100/12 Mc Shape Name 0 days Fri 100/12 Fri 100/12 Mar Shape Name 0 days Fri 100/12 Fri 100/12 Mar Shape Name 0 days Fri 100/12 Fri 100/12 Mar Shape Name 0 days Fri 100/12 Fri 100/12 Mar Shape Name 0 days Fri 100/12 Fri 100/12 Mar Shape Name 0 days Fri 100/12 Fri 10	Esserer 0%
HSD Datación System Installation 66 daya Mon 121/117 The 100/173 Testing and Commissioning 66 daya Fil 110/173 Wa 100/173 New Acadion Tankin No.5 to 7 706 daya Fil 206/111 Fil 160/172 Revisione Minista Delivery to Sile 22 daya Fil 206/111 Fil 160/122 GRF Marcin Tankin No.5 to 7 0 daya Fil 100/12 Fil 160/12 GRF Marcin Tankin Montal Delivery to Sile 0 daya Fil 100/12 Fil 160/12 GRF Marcin Tankin Montal Delivery to Sile 0 daya Fil 100/12 Fil 160/12 GRF Marcin Tankin Montal Delivery to Sile 0 daya Fil 100/12 Fil 160/12 GRF Marcin Marcin Marcin Delivery to Sile 0 daya Fil 100/12 Fil 160/12 Stomarabio Marcin Marcin Delivery to Sile 0 daya Fil 100/12 Fil 160/12 Marcin Agrin Pompan 0 daya Fil 100/12 Fil 160/12 Penatock A Acluaron 0 daya Fil 160/12 Fil 160/12 Ottoward Marcin	
Instrument 99 days F11 10/13 Wed 1004/3 Kenk Austion Tarks No.5 to 7 706 days F1200411 Wed 1004/3 Bedgement and Material Delivery to Sile 922 days F1200411 Wed 1004/3 Ar. D Mises 0 days F1160072 F1160072 F1160072 Bidge Moute Bidges 0 days F1160072 F1160072 F1160072 Bidge Moute Bidges 0 days F1160072 F1160072 F1160072 Bidge Moute Bidges 0 days F1160072 F1160072 F1160072 Bidge Moute Mute Bidges 0 days F1160072 F1160072 F1160072 Bidge Moute Mute Bidges 0 days F1160072 F1160072 F1160072 D Penceck Actuators 0 days F1160072 F1160072 F1160072 D Penceck Actuators 0 days F1160072 F1160072 F1160072 Bidge Actuators 0 days F1160072 F1160072 F1160072 Bidge Actuators 0 days F1160072 F1160072 F1160072 Bidge Actuators	
New Arction Tanks No.5 to 7 Y06 days Pri 28.411 Wed 62.0413 Equipment and Material Delivery to Site 0.03 pp Pri 28.0411 Pri 16.0312	
New Action Tarks No.5 to 7 770 days Explorment Multich Diving Dile 776 days Pri 200411 776 days Pri 200411 <t< td=""><td></td></t<>	
A Drithuers 0 days Fri 160312 Fri 160312 GRP Mounda Vartical Mens 0 days Fri 160312 Fri 160312 Bridge Mounda Vartical Mens 0 days Fri 160312 Fri 160312 MLR Pumps 0 days Fri 160312 Fri 160312 Vatars Spray Pumps 0 days Fri 160312 Fri 160312 Persock A Actuators 0 days Fri 160312 Fri 160312 Persock A Actuators 0 days Fri 160312 Fri 160312 Persock A Actuators 0 days Fri 160312 Fri 160312 OutSar Mains EPE Somenters, A Plowenters, A Ploweters, A Ploweters, A Plowenters, A Ploweters, A Plowenters, A Plow	
GRP More Bridgen 0 days Fri 1603/12 Fri 1603/12 Fri 1603/12 Bridge Mounted Verical Mixers 0 days Fri 1603/12 Fri 1603/12 Fri 1603/12 M.R. Purnge 0 days Two Dri 11/11 Two Dri 11/11 <td>U 0%</td>	U 0%
Bridge Mounted Worked Moures Bridge Mounted Worked Moures O days Fit 1603012	
MLR Pumps 0 digs Tu 01/11/1 Tu 00/11/11 Submersible Mixers 0 digs Tu 01/11/11 Tu 00/11/11 Water Spray Pumps 0 digs Fri 160312 Fri 160312 Perstock & Actuators 0 digs Fri 160312 Fri 160312 Instruments (LM Powmetes, & Powmetes & Online Sensors) 0 digs Fri 160312 Fri 160312 Lifting Appliance 0 digs Fri 160312 Fri 160312 Fri 160312 GMSA Mains 0 digs Fri 160312 Fri 160312 Fri 160312 Minst Possesion / Anallabic 0 digs Fri 160312 Fri 160312 New Actuation Tarks No 50 7 0 digs Fri 160312 Fri 160312 Minstain Stores Fri 160312 Fri 160312 Arr Drituers 60 digs Fri 160312 Tri 160312 GMSA Mains & FIPS Starcate 60 digs Fri 160312 Mon 140512 GMSA Mains & AFIPS Starcate 60 digs Fri 160312 Mon 140512 GMSA Mains & AFIPS Starcate 60 digs Fri 160312 Mon 140512 GMS Air Mains & AFIPD S	
Water Spray Purge 0 days Fr 1603/12 Fi 1	
Penstock & Actuators 0 days Fn 1600/12 Fn 1600/12 Fn 1600/12 Instruments (EM Flowmaters, Air Flowmaters & Online Sensors) 0 days Fn 1600/12	
Instruments (EM Flowmeters & Orline Sensors) 0 days Fil 2904/11 Fil 2904/11 Fil 2904/11 Pipework & Valves 0 days Fil 1603/12 Fil 1603/12 Fil 1603/12 Ulting Applance 0 days Fil 1603/12 Fil 1603/12 Fil 1603/12 Site Possession / Available 0 days Fil 1603/12 Fil 1603/12 Fil 1603/12 New Actin Tarks No.5 to 7 0 days Fil 1603/12 Fil 1603/12 Fil 1603/12 Installation 284 days Fil 1603/12 Fil 1603/12 Fil 1603/12 Akr Diffusers 284 days Fil 1603/12 Fil 1603/12 Fil 1603/12 GRP Marine & Fildpesork, Buttrfly Valves & Air Flowmeters 60 days Fil 1603/12 Turu 10/161/2 GRP More Bidges 66 days Ked says Fil 1603/12 Sau 10/17/2 GRP More Bidges 66 days Ked says Ked says Ked says Julting Applance Ged says Fil 1603/12 Sau 10/17/2 GRP More Bidges 66 days Ked says Fil 1603/12 Sau 20/17/2 Ulting Applance Ged	
Litting Appliance O days Fri 1603/12 Fri 1603/12 GMS Air Mains O days Fri 1603/12 Fri 1603/12 Site Oressesion / Available O days Fri 1603/12 Fri 1603/12 New Aeration Tarks No.5 to 7 O days Fri 1603/12 Fri 1603/12 Installation O days Fri 1603/12 Fri 1603/12 Installation O days Fri 1603/12 Fri 1603/12 Air Diffusers O days Fri 1603/12 Fri 1603/12 Air Diffusers O days Fri 1603/12 Mon 1405/12 Air Diffusers O days Fri 1603/12 Mon 1405/12 Air Diffusers O days Fri 1603/12 Mon 1405/12 O Air Diffusers O days Fri 1603/12 Mon 1405/12 O Air Diffusers O days Fri 1603/12 Mon 1405/12 O Air Diffusers O days Fri 1603/12 Sun 1011/12 O Air Diffusers O days Fri 1603/12 Sun 2004/12 O Air Diffusers O days Fri 1603/12 Sun 2004/12 O	
GMS Air Mains 0 days Fit 1803/12 Fit 1803/12 Ste Possession / Available 0 days Fit 1603/12 Fit 1803/12 New Aeration Tarks No.5 to 7 0 days Fit 1603/12 Fit 1603/12 Pipe Gallery Extension 0 days Fit 1603/12 Fit 1603/12 Installation 294 days Fit 1603/12 Thu 030/13 GMS Air Mains & FRP Staincase 60 days Fit 1603/12 Tuu 030/13 GMS Air Mains & FRP Staincase 60 days Fit 1603/12 Tuu 030/13 GMS Air Mains & FRP Staincase 60 days Fit 1603/12 Tuu 030/13 GMS Air Mains & FRP Staincase 60 days Fit 1603/12 Tuu 030/13 GMS Mutted/ Varical Mixers 60 days Veit 1209/12 Stat 10/11/12 GIF Mixer Bridges 45 days Fit 1603/12 Mon 300/412 Utifing Appliance 60 days Fit 1603/12 Mon 1405/12 Submersible Moars 30 days Veit 1209/12 Mon 1405/12 Submersible Moars 30 days Veit 1209/12 Fit 1307/12 Water Sible Moars	16/03
Site Possession / Available O days Fri 1603/12 Fri 1603/12 New Aeration Tarks No.5 to 7 0 days Fri 1603/12 Fri 1603/12 Pipe Galery Extension 0 days Fri 1603/12 Fri 1603/12 Installation 294 days Fri 1603/12 Thu 03/01/13 GMS Air Mains & FIP Staincase 60 days Fri 1603/12 Mon 1405/12 Air Diffusers 120 days Wei 1209/12 Sati 101/112 GRP Mixer Bridges 60 days Wei 1209/12 Sati 101/112 Bridge Mounted Vertical Mixers 60 days Wei 1209/12 Sati 101/112 Bridge Mounted Vertical Mixers 60 days Fri 1603/12 Wei 1306/12 Utting Appliance 60 days Fri 1603/12 Sub 101/112 Submersible Mixers 30 days Sati 101/112 Wei 1306/12 Utting Appliance 60 days Fri 1603/12 Wei 1306/12 Submersible Mixers 30 days Sati 140/17 Sub 120/17 Water Spary Pumps & Associated Pipework 80 days Fri 1603/12 Mon 1405/12 Water Spary Pumps & Associ	16/03 16/03
Pipe Gallery Extension 0 days Fri 1603/12 Fri 1603/12 Installation 294 days Fri 1603/12 Thu 0301/13 GMS Air Mains & FRP Staircase 600 days Fri 1603/12 Mon 1405/12 Air Difusers 120 days Tue 1505/12 Tue 1509/12 Air Difusers 600 days Wei 1200/12 Sat 10/11/12 GRP Mixer Bridges 600 days Wei 1200/12 Sat 10/11/12 Bridge Mounted Verical Mixers 600 days Fri 1603/12 Sun 29/04/12 Bridge Mounted Verical Mixers 600 days Fri 1603/12 Sun 14/05/12 Bridge Mounted Verical Mixers 600 days Fri 1603/12 Mon 14/05/12 Bridge Mounted Verical Mixers 600 days Fri 1603/12 Mon 14/05/12 Submersible Mixers 300 days Vei 12/05/12 Fri 113/07/12 Submersible Mixers 300 days Wei 12/05/12 Fri 11/01/12 Penstock & Actuators 300 days Wei 12/05/12 Sun 29/04/12 Instruments 300 days Wei 12/05/12 Thu 11/10/12 RAS Pipework in Pipe Gallery	16/03
Installation 284 days Fri 1603/12 Thu 0301/13 GMS Air Mains & FRP Starcase 60 days Fri 1603/12 Mon 1405/12 Air Difusers 120 days Tue 1505/12 Tue 1505/12 Air Dipwork, Butterfly Valves & Air Flowmeters 60 days Wed 1209/12 Sat10/11/12 GRP Mixer Bindges 60 days Ved 1209/12 Sat10/11/12 GRP Mixer Bindges 60 days Fri 1603/12 Suz 100/11/2 Bridge Mounted Vertical Mixers 60 days Fri 1603/12 Suz 100/11/2 Bridge Mounted Vertical Mixers 60 days Fri 1603/12 Sub 300/41/2 Utting Appliance 60 days Fri 1603/12 Mon 1406/12 Submersible Mixers 30 days Ved 1209/12 Fri 1307/12 Submersible Mixers 30 days Ved 1209/12 Thu 11/10/12 Water Spray Pumps & Associated Pipework 30 days Ved 1209/12 Thu 11/10/12 Instruments Associated Pipework 30 days Ved 1209/12 Thu 11/10/12 Instruments RAS Pipework in Pipe Gallery Extension 120 days Sun 200/112 </td <td>ф <u>1603</u></td>	ф <u>1603</u>
GMS Air Mains & FRP Staircase 60 days Fri 1603/12 Mon 14/05/12 Air Diffusers 120 days Tue 1505/12 Tue 1109/12 Air Diffusers 60 days Wei 1209/12 Sat 10/11/12 GRP Mixer Bridges 60 days Wei 1209/12 Sat 10/11/12 GRP Mixer Bridges 45 days Fri 1603/12 Sat 10/11/12 Bridge Mounted Vertical Mixers 45 days Fri 1603/12 Sun 29/04/12 Ulffing Apliance 60 days Fri 1603/12 Wei 13/06/12 Ulffing Apliance 60 days Fri 1603/12 Mon 14/05/12 Submersible Mixers 80 days Tue 15/05/12 Fri 13/07/12 Submersible Mixers 30 days Sat 14/07/12 Sun 12/08/12 Water Spray Pumps & Associated Pipework 30 days Fri 16/03/12 Sun 29/04/12 Penetock & Actuators 45 days Fri 16/03/12 Sun 29/04/12 Sun 29/04/12 Instruments 30 days Fri 16/03/12 Sun 29/04/12 Sun 29/04/12 Instruments Associated Pipework 30 days Wei 1209/12 Thue 11/	₩ 1603
Air Diffusers 120 days Tue 1505/12 Tue 1109/12 Air Pipework, Butterfly Valves & Air Flowmeters 60 days Wed 1209/12 Sat 10/11/12 GRP Mixer Bridges 45 days Fri 1803/12 Sat 10/11/12 Bridge Mounted Verical Mixers 45 days Mon 300/412 Wed 1306/12 Lifting Appliance 60 days Fri 1603/12 Mon 1405/12 MLR Pumps & Associated Pipework 60 days Fri 1603/12 Mon 1405/12 Submersible Mixers 30 days Wed 1209/12 Fri 110/01/12 Water Spray Pumps & Associated Pipework 30 days Wed 1209/12 Thu 11/10/12 Penstock & Actuators 45 days Fri 1603/12 Sun 290/412 Instruments 30 days Wed 1209/12 Thu 11/10/12 RAS Pipework in Pipe Gallery Extension 120 days Fue 10/05/12 Sun 290/412 RAS Pipework in Pipe Gallery Extension 120 days Sun 0807/12 Tue 0308/12	
GRP Mixer Bridges 45 days Fri 1803/12 Sun 29/04/12 Bridge Mounted Vertical Mixers 45 days Mon 3004/12 Wed 1306/12 Lifting Apoliance 60 days Fri 1803/12 Mon 1406/12 MLR Pumps & Associated Pipework 60 days Tue 1505/12 Fri 1303/12 Submersible Mixers 30 days Sat 1407/12 Sun 1208/12 Water Spray Pumps & Associated Pipework 30 days Fri 1603/12 Tue 11/01/12 Penetock & Actuators 45 days Fri 1603/12 Sun 29/04/12 Instruments 30 days Fri 1603/12 Sun 29/04/12 Instruments 30 days Wed 1209/12 Thue 11/10/12 RAS Pipework in Pipe Galery Extension 120 days Tue 01/05/12 Thue 20/01/12 Electrical Works Sun 800/11 Thue 03/01/13 Sun 98/01/12 Thue 01/01/13	
Bridge Mounted Vertical Mixers 445 days Mon 3004/12 Wed 1306/12 Ltfing Appliance 60 days Fri 1603/12 Mon 1405/12 MLR Pumps & Associated Pipework 60 days Submersible Mixers Southers Submersible Mixers 30 days Sat 1407/12 Sun 1208/12 Penstock & Actuators 30 days Wed 1209/12 Thu 11/10/12 Instruments 300 days Fri 1603/12 Sun 2208/12 RAS Pipework In Pipe Gallery Extension 30 days Wed 1209/12 Thu 11/10/12 Bridge Mounted Vertical Mixers 120 days Fri 1030/12 Sun 2208/12 Bridge Mounted Vertical Mixers 120 days Thu 01/10/12 Thu 01/10/12	
Lifting Appliance 60 days Fit 1603/12 Mon 14/06/12 MLR Pumps & Associated Pipework 60 days Tue 15/05/12 Fit 13/07/12 Submersible Mixers 30 days Sat 14/07/12 Sun 12/08/12 Water Spray Pumps & Associated Pipework 30 days Wet 12/09/12 Thu 11/10/12 Penstock & Actuators 45 days Fit 16/03/12 Sun 29/04/12 Instruments 30 days Wet 12/09/12 Thu 11/10/12 RAS Pipework InPipe Gallery Extension 120 days Tue 01/05/12 Thu 28/08/12 Electrical Works 180 days Sun 08/07/12 Thu 03/01/13	
Submersible Mixers 30 days Sat 14/07/12 Sun 12/08/12 Water Spray Pumpe & Associated Pipework 30 days Wed 12/09/12 Thu 11/10/12 Penstock & Actuators 45 days Fri 16/3/12 Sun 29/04/12 Instruments 30 days Wed 12/09/12 Thu 11/10/12 RAS Pipework in Pipe Gallery Extension 120 days Tue 10/5/12 Tue 28/08/12 Electrical Works 180 days Sun 08/07/12 Thu 03/01/13	22 23 23 23 23 23 23 23 23 23 23 20%
Water Spray Pumps & Associated Pipework 30 days Wed 1209/12 Thu 11/10/12 Penstock & Actuators 45 days Fri 1603/12 Sur 23/04/12 Instruments 30 days Wed 1209/12 Thu 11/10/12 RAS Pipework in Pipe Gallery Extension 120 days Tu 001/05/12 Tu 001/05/12 Electrical Works 180 days Sun 08/07/12 Thu 03/01/13	0%
Penstock & Actuators 445 days Fri 18/03/12 Sun 29/04/12 Instruments 30 days Wed 1209/12 Thu 11/10/12 RAS Pipework in Pipe Gallery Extension 120 days Tu 00 10/5/12 Thu 03/01/12 Electrical Works 180 days Sun 08/07/12 Thu 03/01/13	Essesses ov
Instruments 30 days Wed 12/09/12 Thu 11/10/12 RAS Pipework in Pipe Gallery Extension 120 days Tue 01/05/12 Tue 28/08/12 Electrical Works 180 days Sun 08/07/12 Thu 03/01/13	0%
Electrical Works 180 days Sun 08/07/12 Thu 03/01/13	
1 120 dava 1 ma 00/0/121 110 00/0/121 110 00/0/121 110 00/0/121	
SCADAPEC System 120 days Introduct / 2 Introduct / 3 MCC3 Ready 0 days Thu 03/01/13 Thu 03/01/13	
Testing and Commissioning 90 days Fri 04/01/13 Wed 03/04/13	
Critical Critical Progress Split	Summary External Milestone
	Jaks Deadline



				Supply and Installation of Electric	DSD Contract : DE/2009/09 cal and Mechanical Equipment for Tai Po Se	wage Treatment Works Stage 5 Phase 2B		
					Section III Works Program	nme		
D Task Name	Duration Start	Finish Apr '11	Q2 '11 May '11 Jun '11	Q3 '11 Jul '11 Aug '11 Sep '11	Q4 '11 Oct '11 Nov '11 Dec	Q1 '12 '11 Jan '12 Feb '12 Mar '12	Q2 '12 Apr '12 May '12	Q3 '12 Jun '12 Jul '12 Aug '12
1 New Mixed Liquor Channels		n 10/12/12	May II Jun II	Juili Augil Septi	Get II Nov II Dec	11 Jan 12 Feb 12 Mar 12	Apriz Mayiz	Jun 12 Jul 12 Aug 12
2 Equipment and Material Delivery to Site	136 days Tue 01/11/11	ri 16/03/12			· •	0%		
3 Foam Removal Collector	0 days Fri 16/03/12	ri 16/03/12			•	4-16/0		
4 Submersible Mixers		ue 01/11/11			♦ 01/11			_
5 Penstock & Actuator		ri 16/03/12				1 6/0		
6 Lifting Appliance		ri 16/03/12			-		÷	
7 Pipework & Valves	-	ri 16/03/12			1		÷	
8 Local Control Panel		ri 16/03/12						
9 Site Possession / Available		ri 16/03/12				16/0:		
0 Mixed Liquor Channel, Foam Channel & Pillar Box		ri 16/03/12 ri 16/03/12						
Bunded Area & Shelter for NaOCI Dosing System Installation		at 10/11/12			1	16/0		
Installation Penstock & Actuactor in Flow Splitter Box		at 10/11/12 on 14/05/12				¥ <u>+</u>		
14 Lifting Appliance		ad 13/06/12					U%	223m0%
15 Submersible Mixers		ri 13/07/12						10%
16 Foam Removal Collector		ue 11/09/12						10 70 10 10 10 10 10 10 10 10 10 10 10 10 10 1
17 Water Spray System		Je 11/09/12						
18 Relocation of Foam Transfer Pumps		u 11/10/12						
19 Relocation of NaOCI Dosing System		at 10/11/12						
20 Local Control Panel & Electrical Installation		at 10/11/12						Tests
21 SCADA/PLC System		at 10/11/12						
22 Testing and Commissioning		on 10/12/12						
23								
24								
25 Existing Aeration Tanks No.1 to 4		ie 14/05/13				ý –	;	
26 Equipment and Material Delivery to Site		ri 16/03/12				16/0:		
27 GMS Air Mains		ri 16/03/12				16/0:		
28 Pipework & Valves		ri 16/03/12			1	÷ 16/0		
29 Modification Works		ie 14/05/13				U U	•	
30 New Air Mains		u 14/03/13				ų –		
31 Steel Bridges (By Civil Contractor) Available for Air Mains		ri 16/03/12				€		
32 GMS Air Mains Installation 33 Connection Existing Air Mains beside RAS Pumping Station (By Civil Contractor)	,	ue 15/05/12 uu 14/03/13					0%	
Connection Existing Air Mains beside RAS Pumping Station (By Civil Contractor) Aeration Tank No.4		nu 14/03/13						
34 Aeration Tank No.4 35 Tank Available for Modification (Drained Down by DSD/ST1)		ue 15/05/12					15/05	• •
Air Pipework, Butterfly Valves & Air Flowmeters		at 14/07/12					15/05	
37 Electrical Installation		at 14/07/12					12222	0%
38 Testing and Commissioning		ue 14/08/12						10 70 To 10
39 Aeration Tank No.3		ie 13/11/12			1			
40 Tank Available for Modification (Drained Down by DSD/ST1)		ue 14/08/12						X .
41 Air Pipework, Butterfly Valves & Air Flowmeters		at 13/10/12						
42 Electrical Installation		at 13/10/12						
Testing and Commissioning		ue 13/11/12			1			
Aeration Tank No.2		ie 12/02/13						
45 Tank Available for Modification (Drained Down by DSD/ST1)		Je 13/11/12						
46 Air Pipework, Butterfly Valves, & Air Flowmeters	-	at 12/01/13						
47 Electrical Installation		at 12/01/13						
48 Testing and Commissioning	,	ue 12/02/13			1			
49 Aeration Tank No.1		ie 14/05/13						
50 Tank Available for Modification (Drained Down by DSD/ST1)		Je 12/02/13						
51 Air Pipework, Butterfly Valves & Air Flowmeters	,	at 13/04/13						
52 Electrical Installation		at 13/04/13						
53 Testing and Commissioning	31 days Sun 14/04/13	ue 14/05/13						
55								
6 Filtrate Pumping System (Stage I/II Modification)	135 days Fri 16/03/12	at 28/07/12						001
Filtrate Pumping System (Stage //II Modification) Equipment and Material Delivery to Site		ri 16/03/12				16/0:		0%
Equipment and waterial belivery to Site Submersible Pump		ri 16/03/12				16/0: 16/0:		
9 Pipework & Valves		ri 16/03/12			1	16/0.		
Si Possession / Available		ri 16/03/12				• 16/0. • 16/0:		
Underground Pipework to Stage IV Aeration Tanks (By Civil Contractor)		ri 16/03/12				16/0.		
62 Installation		u 28/06/12				• •		10%
63 Pump Replacement & Pipework Modification at Existing Pump Chamber		in 29/04/12				¥+	10%	
Filtrate Pipework Installation at Aeration Tanks		nu 28/06/12						0%
65 Existing L.V. Switchboard Modification		at 14/04/12						
66 Electrical Installation		Je 29/05/12					0%	
								0%

Rev. 1 Date: 15 Mar 2012		Critical Progress					• 🛇				External Milestone	-		
Date: 15 Mar 2012	Critical Split	 Task	800000000000000000000000000000000000000	Task Progress	Baseline Split	 Milestone	•	Summary		External Tasks	Deadline	\mathcal{A}		
									P	age 2				

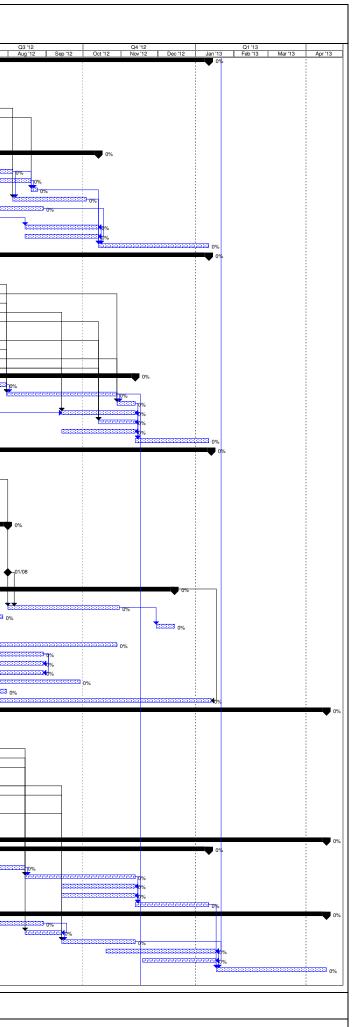


Vane Vane Vane Vane Vane Vane Vane Vane	821 days Sat 2201/11 Sur 771 days Sat 2201/11 Sat 771 days Sat 2201/11 Wed 530 days Sat 2201/11 Wed 287 days Sat 2201/11 Wed 297 days Mat 2201/12 Sat 76 days Man 16/01/12 Wed 21 days Man 02/04/12 Wed 21 days Thu 07/06/12 Wed 45 days Thu 07/06/12 Wed 45 days Thu 07/06/12 Wed 14 days Thu 21/06/12 Wed 14 days Thu 21/06/12 Wed 120 days San 01/04/12 Sat 61 days Thu 17/05/12 Mor 31 days Tei 17/07/12 Thu 31 days Tei 17/08/12 Sat	102(03/13) 102(03/13) 104(17/12) 104(17/12) 104(105/12) 10(06/12) 10(06/12) 10(06/12) 10(06/12) 10(06/12) 10(06/12) 10(06/12) 10(06/12) 10(06/12)		Q3'11 Q4'11 Jul'11 Aug'11 Sep'11 Oct'11 Nov'11 Dec'11	
BC &F MCC Drawing Submission for CLP & DSD Approval Switchboard Marufacture & Delivery to Site Temporary Works Preparation Site Setup of Temporary Backup Facilities & Removal of Existing Switchboard Civil Modification Works (By Civil Contractor) New Switchboard Installation & SAT CLPS Tx Upgrading Works & Cable Connection to New Switchboard Removal of Existing Cables & Installation of New Cables Connect Permanent Power Supply for Existing Small Power D/B VIFMCC1 Switchboard Marufacture & Delivery to Site Temporary Works Preparation Temporary Works Preparation Temporary Works Preparation Removal of Existing Reader (Io Panel Removal of Existing Remote I/O Panel Removal of Existing Remote I/O Panel Removal of Existing Regulter Panels Relocation of Existing Regulter Panels Relocation of Existing Regulter Panels Removal of By Civil Contractor) Modification Works (By Civil Contractor)	530 days Sat 2201/11 Wed 287 days Sat 2201/11 Fr 90 days Mon 2201/12 Sat 76 days Mon 16/01/12 Sat 45 days Mon 02/04/12 Wee 21 days Thu 17/05/12 Wee 44 days Thu 07/06/12 Wee 45 days Thu 07/06/12 Wee 44 days Thu 07/06/12 Wee 14 days Thu 21/06/12 Wee 120 days San 01/04/12 Wee 120 days San 01/04/12 Wee 130 days Thu 17/05/12 Mer 131 days Fri 17/08/12 Sat	d 04/07/12 i 04/17/11 ii 31/03/12 ii 31/03/12 ii 31/03/12 ii 31/03/12 ii 31/03/12 ii 06/06/12 ii 06/06/12 ii 06/06/12 ii 04/07/12 ii 06/06/12 ii 04/07/12 ii 04/07/12 ii 06/06/12 ii 06/06/12 ii 06/06/12 ii 06/07/12 ii 06/07/12			67%
Drawing Submission for CLP & DSD Approval Switchboard Manufacture & Delivery to Site Temporary Works Preparation Site Setup of Temporary Backup Facilities & Removal of Existing Switchboard Civil Modification Works (By Civil Contractor) New Switchboard Installation & SAT CLP's Tx Upgrading Works & Cable Connection to New Switchboard Removal of Existing Cables & Installation of New Cables Connect Permanent Power Supply for Existing Small Power D/B V1F MCC1 Switchboard Manufacture & Delivery to Site Temporary Works Preparation Temporary Works Preparation Temporary Works Installation Migration of Existing Remote I/O Panel Removal of Existing Remote I/O Remo	287 days Sat 2201/11 Fr 90 days Mon 0201/12 Sat 76 days Mon 0201/12 Sat 45 days Mon 0201/12 Wax 21 days Thu 1705/12 Wax 14 days Thu 0305/12 Sat 45 days Thu 0305/12 Wax 445 days Thu 2106/12 Wax 14 days Thu 2106/12 Wax 14 days Thu 2106/12 Wax 14 days Thu 2106/12 Wax 120 days Sun 0104/12 Wax 130 days Sun 0104/12 Sur 131 days Fri 1708/12 Sur 31 days Fri 1708/12 Sur	d d d d d d d d d d d d d d d d d d d			67%
Switchboard Manufacture & Delivery to Site Temporary Works Preparation Site Setup of Temporary Backup Facilities & Removal of Existing Switchboard Civil Modification Works (BC Viul Contractor) New Switchboard Installation & SAT CLP'S TX Uggrading Works & Cable Connection to New Switchboard Removal of Existing Cables & Installation of New Cables Connect Permanent Power Supply for Existing Small Power D/B W1/F MCC1 Switchboard Manufacture & Delivery to Site Temporary Works Preparation Temporary Works Installation Mingration of Power/Control for Existing E&M Equipment to Temporary Panels Relocation of Existing Remote I/O Panel Removal of Existing Remote I/O Panel Removal of Existing Remote I/O Panel Removal of Existing Switchboard Civil Modification of Existing Kehroom Partition	90 days Mon 0201/12 Sa 76 days Mon 1601/12 Sa 45 days Mon 200/12 Wac 21 days Thu 17/05/12 Wac 14 days Thu 07/06/12 Wac 45 days Thu 07/06/12 Wac 14 days Thu 21/06/12 Wac 14 days Thu 21/06/12 Wac 12 days Thu 17/05/12 Wac 12 days Thu 17/05/12 Wac 13 days Thu 17/05/12 Mor 13 days Tri 17/07/12 Thu 31 days Tri 17/08/12 Sur	a 31/03/12 a 31/03/12 a 16/05/12 d 06/06/12 d 20/06/12 d 20/06/12 d 04/07/12 d 04/07/12 d 04/07/12 d 04/07/12 a 03/07/12 n 16/06/12 b 16/06/12			
Site Satup of Temporary Backup Facilities & Removal of Existing Switchboard Civil Modification Works (By Civil Contractor) New Switchboard Installation & SAT CLP's Tx Upgrading Works & Cable Connection to New Switchboard Removal of Existing Cables & Installation of New Cables Connect Permanent Power Supply for Existing Small Power D/B W JF MCC1 Switchboard Manufacture & Delivery to Site Temporary Works Preparation Temporary Works Preparation Relocation of Existing Remote I/O Panel Removal of Existing Remote I/O Panel	45 days Mon 02:04:12 Wex 21 days Thu 17:05:12 Wex 14 days Thu 27:06:12 Wex 45 days Thu 03:05:12 Sa 14 days Thu 21:06:12 Wex 14 days Thu 21:06:12 Wex 14 days Thu 21:06:12 Wex 263 days Sun 01:04:12 Wex 120 days Sun 01:04:12 Sur 130 days Tu 17:05:12 Mor 31 days Fri 17:08:12 Sur 31 days Fri 17:08:12 Sur	d 16/05/12 d 06/06/12 d 20/06/12 t 16/06/12 d 04/07/12 d 04/07/12 d 04/07/12 d 04/07/12 n 16/07/12 n 16/07/12 u 16/06/12			2000000000 109% 2000000000000000000000000000000000000
Civil Modification Works (By Civil Contractor) New Switchboard Installation & SAT CLP's Tx Upgrading Works & Cable Connection to New Switchboard Removal of Existing Cables & Installation of New Cables Connect Permanent Power Supply for Existing Small Power D/B Y 1/F MCC1 Switchboard Manufacture & Delivery to Site Temporary Works Installation Migration of Power/Control for Existing E&M Equipment to Temporary Panels Relocation of Existing Remote I/O Panel Removal of Existing Remote I/O Panel Removal of Existing Remote I/O Panel Removal of Existing Remote I/O Contractor) Modification of Existing Switchboard Civil Modification of Existing Switchboard	21 days Thu 17/05/12 Wec 14 days Thu 07/06/12 Wec 45 days Thu 07/06/12 Sa 14 days Thu 21/06/12 Sa 14 days Thu 21/06/12 Wec 14 days Thu 21/06/12 Wec 263 days Sun 01/04/12 Wec 120 days Sun 01/04/12 Wec 61 days Thu 17/05/12 Mec 31 days Trin 17/07/12 Thu 31 days Fri 17/08/12 Sur	d 06/06/12 d 20/06/12 d 20/06/12 d 04/07/12 d 04/07/12 d 04/07/12 d 04/07/12 n 25/07/12 n 16/06/12 d 16/06/12			
CLP's Tx Upgrading Works & Cable Connection to New Switchboard Removal of Existing Cables & Installation of New Cables Connect Permanent Power Supply for Existing Small Power D/B YIF MCC1 Switchboard Manufacture & Delivery to Site Temporary Works Preparation Temporary Works Installation Migration of Existing Remote I/O Panel Removal of Exis	45 days Thu 03/05/12 Sa 14 days Thu 21/06/12 Wec 14 days Thu 21/06/12 Wec 263 days Sun 01/04/12 Wec 120 days Sun 01/04/12 Wec 130 days Sun 01/04/12 Sun 31 days Tu 17/07/12 Thu 31 days Fri 17/08/12 Sun 31 days Fri 17/08/12 Sun	ut 16/06/12 d 04/07/12 d 04/07/12 d 19/12/12 n 29/07/12 ut 16/08/12			
Pernoval of Existing Cables & Installation of New Cables Connect Permanent Power Supply for Existing Small Power D/B W1/F MCC1 Switchboard Manufacture & Delivery to Site Temporary Works Installation Migration of Power/Control for Existing E&M Equipment to Temporary Panels Relocation of Existing Remote I/O Panel Removal of Existing Remote I/O Panel Civil Modification Works (By Civil Contractor) Modification of Existing Switchboard Civil Modification of Existing Switchboard	14 days Thu 21.06/12 Wec 14 days Thu 21.06/12 Wec 263 days Sun 01.04/12 Wec 120 days Sun 01.04/12 Wec 61 days Thu 17.05/12 Mor 31 days Tu 17.07/12 Thu 31 days Fri 17.08/12 Sur	d 04/07/12 d 04/07/12 d 19/12/12 n 29/07/12 n 16/07/12 u 16/08/12			15353 0% 25353 0%
VIF MCC1 Svitchbaard Marufacture & Delivery to Site Temporary Works Preparation Temporary Works Installation Migration of Power/Control for Existing E&M Equipment to Temporary Panels Relocation of Existing Remote I/O Panel Removal of Existing Switchboard Civil Modification of Existing SWitchboard Modification of Existing Switchboard	263 days Sun 01/04/12 Wee 120 days Sun 01/04/12 Sun 61 days Thu 17/05/12 Mor 31 days Tue 17/07/12 Thu 31 days Fri 17/08/12 Sun 31 days Fri 17/08/12 Sun	4 19/12/12 n 29/07/12 n 15/07/12 u 16/08/12			<u>E5553</u> 0%
Switchboard Manufacture & Delivery to Site Temporary Works Preparation Temporary Works Installation Migration of Power/Control for Existing E&M Equipment to Temporary Panels Relocation of Existing Remote I/O Panel Removal of Existing Switchboard Civil Modification of Existing Switchboard Modification of Existing Switchboard Nodification of Existing Switchboard	120 days Sun 01/04/12 Sur 61 days Thu 17/05/12 Mor 31 days Tue 17/07/12 Thu 31 days Fri 17/08/12 Sur 31 days Fri 17/08/12 Sur	n 29/07/12 n 16/07/12 u 16/08/12			
Temporary Works Preparation Temporary Works Installation Migration of Power/Control for Existing E&M Equipment to Temporary Panels Relocation of Existing Remote I/O Panel Removal of Existing Switchboard Civil Modification Verks (By Civil Contractor) Modification of Existing Switchboorn Partition	61 days Thu 17/05/12 Mor 31 days Tue 17/07/12 Thu 31 days Fri 17/08/12 Sur 31 days Fri 17/08/12 Sur	n 16/07/12 u 16/08/12		i i i i i i i i i i i i i i i i i i i	
Temporary Works Installation Migration of Power/Control for Existing E&M Equipment to Temporary Panels Relocation of Existing Remote I/O Panel Removal of Existing Switchboard Civil Modification Works (By Civil Contractor) Modification of Existing Switchroom Partition	31 days Tue 17/07/12 Thu 31 days Fri 17/08/12 Sur 31 days Fri 17/08/12 Sur	u 16/08/12			104
Relocation of Existing Remote I/O Panel Removal of Existing Switchboard Civil Modification Works (By Civil Contractor) Modification of Existing Switchroom Partition	31 days Fri 17/08/12 Sur				i i i i i i i i i i i i i i i i i i i
Removal of Existing Switchboard Civil Modification Works (By Civil Contractor) Modification of Exisiting Switchroom Partition		n 16/09/12 n 16/09/12			
Modification of Exisiting Switchroom Partition		n 23/09/12			
		n 14/10/12 n 14/10/12			
New Switchboard Installation & SAT	21 days Mon 15/10/12 Sur	n 04/11/12			
Migration of Power/Control of Existing E&M Equipment to New Switchboard Removal of Existing Cables & Installation of New Cables		d 05/12/12 d 19/12/12			
V G/F MCC Drawing Submission for CLP & DSD Approval		u 11/10/12 ri 15/07/11			
Switchboard Manufacture & Delivery to Site	90 days Sat 21/04/12 Thu	u 19/07/12		10078	
Completion of Genset Replacement Temporary Works Preparation		u 09/08/12 u 09/08/12			
Site Setup of Temporary Backup Facilities & Removal of Existing Switchboard	14 days Fri 10/08/12 Thu	u 23/08/12			
Civil Modification Works (By Civil Contractor) New Switchboard Installation & SAT		u 13/09/12 u 04/10/12			
CLP's Tx Upgrading Works & Cable Connection to New Switchboard	45 days Fri 17/08/12 Sur	n 30/09/12			
Removal of Existing Cables & Installation of New Cables Connect Power Supply for Existing Lighting & Small Power D/B		u 11/10/12 u 11/10/12			
BC 1/F MCC2A Switchboard Manufacture & Delivery to Site		n 26/08/12 u 28/06/12			
Relocate Existing Workstation to Existing Polymer Pump Room		at 31/03/12			E3323 10%
Relocate Existing CH4 & H2S Sensors Panels (if required) Temporary Works Preparation		at 31/03/12 n 04/06/12			
Temporary Works Installation	-	n 25/06/12			
Installation of Permanent Marshalling Boxes & Cable Trays		n 02/07/12			
Migration of Power/Control for Existing E&M Equipment to Temporary Panels (future from MCC2) Civil Modification Works (By Civil Contractor)		n 02/07/12 tt 21/04/12			BEEEBER -0%
New Switchboard Installation & SAT		n 29/07/12			Terrere
Migration of Power/Control for Existing E&M Equipment to New Switchbaord Removal of Existing Switchboard		n 19/08/12 n 26/08/12			
Removal of Existing Cables & Installation of New Cables	14 days Mon 30/07/12 Sur	n 12/08/12			
BC 1/F MCC2	284 days Wed 23/05/12 Sat	t 02/03/13			
MCC2 Manufacture & Delivery to Site	150 days Mon 18/06/12 Wee	d 14/11/12			
MCC2 Extension Manufacture & Delivery to Site Demolition of MCC8 at CBC 1/F		n 20/08/12 u 04/10/12			
Temporary Works Preparation	,	n 13/08/12			
Temporary Works Installation Installation of Permanent Mashalling Boxes & Cable Trays		n 03/09/12 n 03/09/12			
Civil Modification Works for MCC2 Extension (By Civil Contractor)	21 days Mon 27/08/12 Sur	n 16/09/12			
MCC2 Extension Installation & SAT Migration of Power/Control for Existing E&M Equipment to New MCC2 Extension & Temp. MCC		n 30/09/12 d 31/10/12			
Removal of Existing Switchboard MCC2	21 days Thu 01/11/12 Web	d 21/11/12			
Civil Modification Works for MCC2 (By Civil Contractor) MCC2 Installation & SAT		d 12/12/12 d 02/01/13			
Migration of Power/Control for Existing E&M Equipment to New MCC2	45 days Thu 03/01/13 Sa	at 16/02/13			
Installation of New Cables Removal of Temporary Panels		at 16/02/13 at 02/03/13			
cement of Emergency Genset for IW G/F MCC lew 1500kVA Genset & Accessories Delivery to Site		u 09/08/12 tt 09/06/12			▲ 4 99/06
ite Setup of Power Backup Facilities by Tempoary Genset	31 days Mon 02/04/12 Wee	d 02/05/12			
temoval of Existing 750kVA Genset ivil Modification Works (By Civil Contractor)		d 09/05/12 tt 09/06/12			
stallation of New Genset & SAT		u 09/08/12			
	647 days Fri 29/04/11 Sun	n 03/02/13	-		
Vorks	399 days Fri 29/04/11 Fr	1 01/06/12	Ų		0%
quipment and Material Deliver to Site	0 down Eri 01/06/12 Er				◆ 01/06 ◆ 01/06
			1		↓ 01/06
quipment and Material Deliver to Site Screw Pumps Machanica Bar Screen Screw Conveyor	0 days Fri 01/06/12 Fr 0 days Fri 01/06/12 Fr	ri 01/06/12			♦ -02/04
guipment and Material Deliver to Site Screw Pumps Mechanical Bar Screen	0 days Fri 01/06/12 Fri 0 days Fri 01/06/12 Fri 0 days Mon 02/04/12 Mon	ri 01/06/12 n 02/04/12	-28/04		
quipment and Material Deliver to Site Screw Pumps Machanical Bar Screen Screw Conveyor Actuator for Existing Penstocks Uttrasonic Level Sensors stallation	0 days Fri 01/06/12 Fri 0 days Fri 01/06/12 Fri 0 days Fri 01/06/12 Mon 0 days Mon 02/04/12 Mon 0 days Fri 20/04/11 Fri 0 days Wed 16/05/12 Wed	ñ 01/06/12 n 02/04/12 ñ 29/04/11 d 05/12/12	◆ -29/04		
quipment and Material Deliver to Site Screw Pumps Machanical Bar Screen Screw Conveyor Actuator for Existing Penstocks Ultrasonic Level Sensors stallation Temporary Flow Diversion	0 days Fri 01/06/12 Fri 0 days Fri 01/06/12 Fri 0 days Mon 02/04/12 Mor 0 days Fri 29/04/11 Fri 204 days Wed 16/05/12 Wed	ii 01/06/12 1 02/04/12 ii 29/04/11 1 05/12/12 ui 14/06/12	◆ - 29/04		
quipment and Material Deliver to Site Screw Pumps Machanical Bar Screen Screw Conveyor Actuator for Existing Penstocks Uttrasonic Level Sensors stallation Temporary Flow Diversion Construction / Modification of Existing Concrete Plinths for Screw Pumps Screw Pump Installation & Screeding Works	0 days Fri 01.06/12 Fri 0 days Fri 01.06/12 Fri 0 days Fri 0 days Mon 02.04/12 Mon 02.04/12 Mon 04.05/12 Mon 04.05/12 Mon 04.05/12 Thu 04.05/12 Thu 04.05/12 Thu 04.05/12 Thu 04.05/12 Thu 05.05/12 Thu 05.05/12 Thu 05.05/12 Thu 05.05/12	n 01/06/12 n 02/04/12 i 32/04/11 i 05/12/12 u 14/06/12 n 29/07/12 u 27/09/12	◆ 29/04		
quipment and Material Deliver to Site Screw Pumps Machanical Bar Screen Screw Conveyor Actuator for Existing Penstocks Ultrasonic Level Sensors stallation Temporary Flow Diversion Construction / Modification of Existing Concrete Plinths for Screw Pumps Screw Pump Installation & Screeding Works Installation of Mechanical Bar Screen, Screw Conveyor & Ultrasonic Level Sensors	0 days Fri 01.06/12 Fri 0 days Fri 01.06/12 Fri 0 days Fri 0 days Fri 01.06/12 Fri Mor 0 days Man 02.04/12 Mar Mar </td <td>n 01/06/12 n 02/04/12 n 29/04/11 u 14/06/12 n 29/07/12 u 27/09/12 n 27/09/12</td> <td>◆ 29/04</td> <td></td> <td></td>	n 01/06/12 n 02/04/12 n 29/04/11 u 14/06/12 n 29/07/12 u 27/09/12 n 27/09/12	◆ 29/04		
quipment and Material Deliver to Site Screw Pumps Screw Conveyor Screw Conveyor Actuator for Existing Penstocks Ultrasonic Level Sensors stallation Temporary Flow Diversion Construction / Mudilication of Existing Concrete Plinths for Screw Pumps Screw Pump Installation & Screeding Works Installation of Mechanical Bar Screen, Screw Conveyor & Ultrasonic Level Sensors Installation of For Existing Penstocks Electrical Installation	0 days Fri 01.06/12 Fri 0 days Fri 01.06/12 Fri 0 days Fri 0 days Mon 2004/12 Mon 0 days Mon 12.04/12 Mon 0 days Mon 12.04/12 Mon 0 days Mon 0 days Mon 0 days Wed 16.05/12 Wed 0 days Mon 0 days Mon 0 days Mon 0 days Mon 0 days Mon 0 days Fri 15.06/12 Wed 0 fa 0 fa 0 days Mon 0 days Fri 0 days Fri 0 days Fri 0 days Sun 0 fa Mon 0 fa	n 01106/12 n 02104/12 1 3204/11 1 4106/12 1 4106/12 1 2907/12 1 277/09/12 1 277/09/12 1 03/11/12 1 03/12/12	◆ 29/04		
quipment and Material Deliver to Site Screw Pumps Machanical Bar Screen Screw Conveyor Actuator for Existing Penstocks Ultrasonic Level Sensors stallation Temporary Flow Diversion Construction / Modification of Existing Concrete Plinths for Screw Pumps Screw Conveyor Installation of Mechanical Bar Screen, Screw Conveyor & Ultrasonic Level Sensors Installation of Actuators for Existing Penstocks Electrical Installations ScADA/PLC System	0 days Fri 01.06/12 Fri 0 days Fri 01.06/12 Fri 01.06/12 Fri 0.0204/12 Mor 0 days Fri 204/01 Fri 0.0204/11 Fri 0.0204/11 Mor Mor 204 days Wed 16.05/12 Wed 0.0204/11 Th Mor Mor 30 days Wed 16.05/12 Th Mor Mor Mor 45 days Fri 15/06/12 Sur Sur Mor Mor Mor 30 days Fri 28/09/12 Sur Sur </td <td>n 01/06/12 n 02/04/12 n 29/04/11 0 05/12/12 n 29/07/12 n 29/07/12 n 29/07/12 n 02/11/12 n 03/11/12 n 03/11/12 n 05/12/12</td> <td>◆ 29/04</td> <td></td> <td></td>	n 01/06/12 n 02/04/12 n 29/04/11 0 05/12/12 n 29/07/12 n 29/07/12 n 29/07/12 n 02/11/12 n 03/11/12 n 03/11/12 n 05/12/12	◆ 29/04		
quipment and Material Deliver to Site Screw Pumps Screw Conveyor Screw Conveyor Actuator for Existing Penstocks Ultrasonic Level Sensors stallation Temporary Flow Diversion Construction / Mudilication of Existing Concrete Plinths for Screw Pumps Screw Pump Installation & Screeding Works Installation of Mechanical Bar Screen, Screw Conveyor & Ultrasonic Level Sensors Installation of For Existing Penstocks Electrical Installation	0 days Fri 01.06/12 Fri 0 days Fri 01.06/12 Fri 01.06/12 Fri 0.0204/12 Mor 0 days Fri 204/01 Fri 0.0204/11 Fri 0.0204/11 Mor Mor 204 days Wed 16.05/12 Wed 0.0204/11 Th Mor Mor 30 days Wed 16.05/12 Th Mor Mor Mor 45 days Fri 15/06/12 Sur Sur Mor Mor Mor 30 days Fri 28/09/12 Sur Sur </td <td>n 01106/12 n 02104/12 1 3204/11 1 4106/12 1 4106/12 1 2907/12 1 277/09/12 1 277/09/12 1 03/11/12 1 03/12/12</td> <td>◆ 28/04</td> <td></td> <td></td>	n 01106/12 n 02104/12 1 3204/11 1 4106/12 1 4106/12 1 2907/12 1 277/09/12 1 277/09/12 1 03/11/12 1 03/12/12	◆ 28/04		
quipment and Material Deliver to Site Screw Pumps Machanical Bar Screen Screw Conveyor Actuator for Existing Penstocks Ultrasonic Level Sensors stallation Temporary Flow Diversion Construction / Modification of Existing Concrete Plinths for Screw Pumps Screw Conveyor Installation of Mechanical Bar Screen, Screw Conveyor & Ultrasonic Level Sensors Installation of Actuators for Existing Penstocks Electrical Installations ScADA/PLC System	0 days Fri 01.06/12 Fri 0 days Fri 01.06/12 Fri 01.06/12 Fri 0.0204/12 Mor 0 days Fri 204/01 Fri 0.0204/11 Fri 0.0204/11 Mor Mor 204 days Wed 16.05/12 Wed 0.0204/11 Th Mor Mor 30 days Wed 16.05/12 Th Mor Mor Mor 45 days Fri 15/06/12 Sur Sur Mor Mor Mor 30 days Fri 28/09/12 Sur Sur </td <td>n 01/06/12 n 02/04/12 n 29/04/11 0 05/12/12 n 29/07/12 n 29/07/12 n 29/07/12 n 02/11/12 n 03/11/12 n 03/11/12 n 05/12/12</td> <td>◆ 28/04</td> <td></td> <td></td>	n 01/06/12 n 02/04/12 n 29/04/11 0 05/12/12 n 29/07/12 n 29/07/12 n 29/07/12 n 02/11/12 n 03/11/12 n 03/11/12 n 05/12/12	◆ 28/04		
quipment and Material Deliver to Site Screw Pumps Machanical Bar Screen Screw Conveyor Actuator for Existing Penstocks Ultrasonic Level Sensors stallation Temporary Flow Diversion Construction / Modification of Existing Concrete Plinths for Screw Pumps Screw Conveyor Installation of Mechanical Bar Screen, Screw Conveyor & Ultrasonic Level Sensors Installation of Actuators for Existing Penstocks Electrical Installations ScADA/PLC System	0 days Fri 01.06/12 Fri 0 days Fri 01.06/12 Fri 01.06/12 Fri 0.0204/12 Mor 0 days Fri 204/01 Fri 0.0204/11 Fri 0.0204/11 Mor Mor 204 days Wed 16.05/12 Wed 0.0204/11 Th Mor Mor 30 days Wed 16.05/12 Th Mor Mor Mor 45 days Fri 15/06/12 Sur Sur Mor Mor Mor 30 days Fri 28/09/12 Sur Sur </td <td>n 01/06/12 n 02/04/12 n 29/04/11 0 05/12/12 n 29/07/12 n 29/07/12 n 29/07/12 n 02/11/12 n 03/11/12 n 03/11/12 n 05/12/12</td> <td>◆ 28/04</td> <td></td> <td></td>	n 01/06/12 n 02/04/12 n 29/04/11 0 05/12/12 n 29/07/12 n 29/07/12 n 29/07/12 n 02/11/12 n 03/11/12 n 03/11/12 n 05/12/12	◆ 28/04		
quipment and Material Deliver to Site Screw Pumps Machanical Bar Screen Screw Conveyor Actuator for Existing Penstocks Ultrasonic Level Sensors stallation Temporary Flow Diversion Construction / Modification of Existing Concrete Plinths for Screw Pumps Screw Conveyor Installation of Mechanical Bar Screen, Screw Conveyor & Ultrasonic Level Sensors Installation of Actuators for Existing Penstocks Electrical Installations ScADA/PLC System	0 days Fri 01.06/12 Fri 0 days Fri 01.06/12 Fri 01.06/12 Fri 0.0204/12 Mor 0 days Fri 204/01 Fri 0.0204/11 Fri 0.0204/11 Mor Mor 204 days Wed 16.05/12 Wed 0.0204/11 Th Mor Mor 30 days Wed 16.05/12 Th Mor Mor Mor 45 days Fri 15/06/12 Sur Sur Mor Mor Mor 30 days Fri 28/09/12 Sur Sur </td <td>n 01/06/12 n 02/04/12 n 29/04/11 0 05/12/12 n 29/07/12 n 29/07/12 n 29/07/12 n 02/11/12 n 03/11/12 n 03/11/12 n 05/12/12</td> <td>◆ 28/04</td> <td></td> <td></td>	n 01/06/12 n 02/04/12 n 29/04/11 0 05/12/12 n 29/07/12 n 29/07/12 n 29/07/12 n 02/11/12 n 03/11/12 n 03/11/12 n 05/12/12	◆ 28/04		
quipment and Material Deliver to Site Screw Pumps Machanical Bar Screen Screw Conveyor Actuator for Existing Penstocks Ultrasonic Level Sensors stallation Temporary Flow Diversion Construction / Modification of Existing Concrete Plinths for Screw Pumps Screw Conveyor Installation of Mechanical Bar Screen, Screw Conveyor & Ultrasonic Level Sensors Installation of Actuators for Existing Penstocks Electrical Installations ScADA/PLC System	0 days Fri 01.06/12 Fri 0 days Fri 01.06/12 Fri 01.06/12 Fri 0.0204/12 Mor 0 days Fri 204/01 Fri 0.0204/11 Fri 0.0204/11 Mor Mor 204 days Wed 16.05/12 Wed 0.0204/11 Th Mor Mor 30 days Wed 16.05/12 Th Mor Mor Mor 45 days Fri 15/06/12 Sur Sur Mor Mor Mor 30 days Fri 28/09/12 Sur Sur </td <td>n 01/06/12 n 02/04/12 n 29/04/11 0 05/12/12 n 29/07/12 n 29/07/12 n 29/07/12 n 02/11/12 n 03/11/12 n 03/11/12 n 05/12/12</td> <td>◆ 28/04</td> <td></td> <td></td>	n 01/06/12 n 02/04/12 n 29/04/11 0 05/12/12 n 29/07/12 n 29/07/12 n 29/07/12 n 02/11/12 n 03/11/12 n 03/11/12 n 05/12/12	◆ 28/04		
quipment and Material Deliver to Site Screw Pumps Machanical Bar Screen Screw Conveyor Actuator for Existing Penstocks Ultrasonic Level Sensors stallation Temporary Flow Diversion Construction / Modification of Existing Concrete Plinths for Screw Pumps Screw Pump Installation & Screeding Works Installation of Actuators for Existing Penstocks Electrical Installation SCADA/PLC System esting and Commissioning	0 days Fri 01.06/12 Fri 0 days Fri 01.06/12 Fri 0 days Fri 101.06/12 Fri 0 days Fri 204/12 Mor 0 days Fri 204/12 Wed 204 days Wed 1605/12 Wed 46 days Fri 1506/12 Wed 60 days Fri 1506/12 Sa 7 days Sa 28/01/12 Sa 60 days Fri 1506/12 Sa 60 days Fri 1506/12 Sa 60 days Sun 07/10/12 Wet 60 days Sun 07/10/12 Wet 60 days Sun 07/10/12 Wet 60 days Thu 06/12/12 Sa 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	n 01/06/12 n 02/04/12 i 03/04/11 i 05/12/12 u 14/06/12 n 29/07/12 u 27/09/12 u 27/10/12 u 03/11/12 d 05/12/12 d 05/12/12	• 20/04		
quipment and Material Deliver to Site Screw Pumps Machanical Bar Screen Screw Conveyor Actuator for Existing Penstocks Ultrasonic Level Sensors Stabilition Construction / Modification of Existing Concrete Plinths for Screw Pumps Screw Conveyor Installation of Mechanical Bar Screening Works Installation of Actuators for Existing Penstocks Electrical Installation SCADAPLC System esting and Commissioning	0 days Fri 01.06/12 Fri 0 days Fri 01.06/12 Fri 01.06/12 Fri 0.0204/12 Mor 0 days Fri 204/01 Fri 0.0204/11 Fri 0.0204/11 Mor Mor 204 days Wed 16.05/12 Wed 0.0204/11 Th Mor Mor 30 days Wed 16.05/12 Th Mor Mor Mor 45 days Fri 15/06/12 Sur Sur Mor Mor Mor 30 days Fri 28/09/12 Sur Sur </td <td>h 01/06/12 h 02/04/12 i 32/04/11 i 05/12/12 l 14/06/12 h 29/07/12 l 27/09/12 l 02/10/12 d 05/12/12 d 05/12/12 d 05/12/12 d 05/12/12 d 05/12/12 d 05/12/12 b 03/02/13 b 03/0</td> <td></td> <td>Progress External Miles Deadline</td> <td></td>	h 01/06/12 h 02/04/12 i 32/04/11 i 05/12/12 l 14/06/12 h 29/07/12 l 27/09/12 l 02/10/12 d 05/12/12 d 05/12/12 d 05/12/12 d 05/12/12 d 05/12/12 d 05/12/12 b 03/02/13 b 03/0		Progress External Miles Deadline	
	uipment and Material Deliver to Site	uipment and Material Deliver to Site 399 days Fri 29104/11 Fri Screw Pumps 0 days Fri 01.06/12 Fri	uipment and Material Deliver to Site 399 days Fri 29.04/11 Fri 01.06/12 Screw Pumps 0 days Fri 01.06/12 Fri 01.06/12 Mechanical Bar Screen 0 days Fri 01.06/12 Fri 01.06/12	uipment and Material Deliver to Site 399 days Fri 29/04/11 Fri 01/06/12 Screw Pumps 0 days Fri 01/06/12 Fri 01/06/12 Michanical BerSrein 0 days Fri 01/06/12 Fri 01/06/12 Screw Conveyor 0 days Fri 01/06/12 Fri 01/06/12	upment and Material Deliver to Site 399 days Fri 21/06/12 Fri 01/06/12 Screw Dumps 0 days Fri 01/06/12 Fri 01/06/12 Mechanical Bar Screen 0 days Fri 01/06/12 Fri 01/06/12 Screw Ourveyor 0 days Fri 01/06/12 Fri 01/06/12 Actuator for Existing Penstocks 0 days Mon 02/04/12 Mon 02/04/12

DSD Contract : DE/2009/09



							on of Electrical and Mechanical Equipment for Tai Po Section V Works Progr				
ID	Task Name Filtrate Treatment Plant (SBR)	Duration	Start	Finish	Q1 '11 Jan '11 Feb '11 Mar '11	Q2 '11 Apr '11 May '11 Jun '1	Q3 '11 1 Jul '11 Aug '11 Sep '11	Q4 '11 Oct '11 Nov '11 Dec	Q1 '12 c '11 Jan '12 Feb '12	Mar '12 Apr '12	Q2 '12 May '12 Jun '12 Jul '12
102	Equipment and Material Delivery to Site	438 days 182 days	Tue 01/11/11 Tue 01/11/11	Tue 01/05/12				¥			0%
103 104	Air Blower Filtrate Transfer Pump	0 days 0 days	Tue 01/05/12 Wed 01/02/12		2				▲ 01/02	•	-01/05
105		0 days	Tue 01/11/11					♦ 01/11			
106 107	Air Diffusers Pipework & Valves	0 days	Sun 01/04/12		2			•		01/04	
108		0 days 0 days	Tue 01/11/11 Sun 01/07/12		2			• 01/11			01/07
109	SBR Tank	0 days	Sun 01/07/12		2						01/07
110 111	Civil Works Provision (By Civil Contractor) Installation	0 days 195 days	Sun 01/07/12 Mon 02/04/12		2						01/07
112	Take Down of Existing Decanter	5 days	Sun 01/07/12	Thu 05/07/1	2						
113 114		30 days 45 days	Fri 06/07/12 Fri 06/07/12								
115		5 days	Mon 20/08/12								
116 117		60 days			2						¥.
117	Installation of Air Blower, Filtrate Transfer Pump, Filtrate Inlet Sump Pump & Associated Pipework Existing L.V. Switchboard Modification	60 days 90 days	Sun 01/07/12 Mon 02/04/12		2						0%
119	Electrical Installation	60 days			2						
120 121	SCADA/PLC System Testing and Commissioning	60 days 90 days	Wed 15/08/12 Sun 14/10/12		2						
122	Primary Sludge Gravity Thickener	620 days	Tue 03/05/11								
123 124		395 days	Tue 03/05/11 Tue 03/05/11		2	00/05					0%
125	Rnite Gate Valves & Actuators Deodorizing Unit, Extraction Fan & Accessories	0 days 0 days	Fri 01/06/12		2						♦ 01/06
126	Pipework & Valves	0 days	Fri 01/06/12		2						01/06
127 128	Air Ductwork & Accessories Local Control Panel for DO Unit	0 days 0 days	Fri 01/06/12 Fri 01/06/12								 ◆ 01/06 ◆ 01/06
129	CCTV System	0 days	Fri 01/06/12	Fri 01/06/1	2						01/06
130 131	Site Possession / Available Decanting Chamber	0 days	Sun 01/07/12		2						01/07
131 132	Concrete Plinth for DO System	0 days 0 days	Sun 01/07/12 Sun 01/07/12		2						01/07
133	Civil Works Provision at Existing Valve Chamber (By Civil Contractor)	0 days	Sun 01/07/12	Sun 01/07/1							↓ 01/07
134 135		0 days 135 days	Sun 01/07/12 Sun 01/07/12								01/07
136	Knife Gate Valves & Actuators	30 days	Sun 01/07/12		2						L
137 138	Deodorizing Unit, Air Ductwork & Associated Accessories Pipework Installation at Existing Valve Chamber	90 days 15 days	Tue 31/07/12 Mon 29/10/12		2						
138	Pipework installation Electrical Installation	15 days 60 days	Fri 14/09/12		2						
140	CCTV Installation	30 days	Sun 14/10/12	Mon 12/11/1	2						
141 142	SCADA/PLC System Testing and Commissioning	60 days 60 days	Fri 14/09/12 Tue 13/11/12		2						
143		440 days	Tue 01/11/11		5 1						
144		151 days	Tue 01/11/11		2			ý		0%	
145 146	Waste Gas Burner for Stage I/I Waste Gas Burner for Stage IV	0 days 0 days	Tue 03/01/12 Sat 31/03/12		2				♥ 03/01	\$31/03	
147	Biogas Holding Tank Materials	0 days	Mon 19/12/11	Mon 19/12/1					♦ 19/12		
148 149		0 days 0 days	Thu 01/12/11 Tue 03/01/12		2			♦ 01/12	2 03/01		
150	Pipework & Valves	0 days	Tue 01/11/11		-			♦ 01/11			
151 152	Site Possession / Available	139 days	Thu 15/03/12		2			·		•	
152 153	Biogas Holding Tank Concrete Slab Biogas Holding Tank Valve Chamber	0 days 0 days	Fri 01/06/12 Fri 01/06/12		2						01/06
154	Gas Transfer Station	0 days	Fri 01/06/12	Fri 01/06/1	2						01/06
155 156	Concrete Plinth for Waste Gas Burner in Stage I/II Concrete Plinth for Waste Gas Burner in Stage IV	0 days 0 days	Thu 15/03/12 Wed 01/08/12							15/03	
157	Concrete Plinth for Relocated DO in Stage I/II	0 days 0 days	Thu 15/03/12		2					15/03	
158		275 days			2					¥.	
159 160	Waste Gas Burner Installation in Stage I/II Waste Gas Burner Installation in Stage IV	90 days 91 days	Thu 15/03/12 Wed 01/08/12		2						0%
161	Dismantle of Existing Waste Gas Burner in Stage I/II	15 days	Fri 13/07/12		2						
162 163		15 days 60 days	Fri 30/11/12 Thu 15/03/12								STETER 0%
164	Biogas Holding Tank Installation	150 days	Fri 01/06/12								0%
165		90 days	Fri 01/06/12								
166 167		60 days 60 days			2						
168	Installation in Gas Transfer Station	120 days	Fri 01/06/12	Fri 28/09/1							**
169 170	Methane Gas Detection System Installation Testing and Commissioning	60 days 180 days	Fri 01/06/12 Wed 18/07/12		2						
171	Sludge Digestion Tank No.3 and Hot Water Circulation System	534 days	Tue 01/11/11	Wed 17/04/13							
172 173		213 days	Tue 01/11/11					Ų.		-	0%
173 174		0 days 0 days	Fri 01/06/12 Mon 02/04/12							• 02/04	♦ 01/06
175	GRP Platform for Sludge Mixers	0 days	Fri 01/06/12	Fri 01/06/1	2					•	01/06
176 177	Hot Water Boiler Hot Water Recirculation Pump	0 days	Fri 01/06/12								♦ 01/06 ● 01/06
177	Hot Water Recirculation Pump Heat Exchanger	0 days 0 days	Fri 01/06/12 Fri 01/06/12								◆ 01/06 ◆ 01/06
179	Pipework & Valves	0 days	Fri 01/06/12	Fri 01/06/1							01/06
180 181	Flame Arrestor & Condensation Pot Inspection Window	0 days 0 days	Tue 01/11/11 Tue 01/11/11					◆ 01/11 ◆ 01/11			
182	Pressure Vacuum Relief Valve c/w Flame Arrestor	0 days	Tue 01/11/11		1			01/11			
183 184		0 days	Sun 01/07/12								01/07
184 185	Sludge Digestion Tank No.3 Site Works	0 days 381 days	Sun 01/07/12 Mon 02/04/12								01/07
186	Hot Water Circulation System	285 days	Mon 02/04/12	Fri 11/01/1							
187 188	Temporary Works to Facilitate Civil Modification Works Civil Modification Works (By Civil Contractor)	90 days 45 days	Mon 02/04/12 Sun 01/07/12								<u></u>
189	Installation of Hot Water Boiler, Recirculation Pump & Associated Pipework	90 days			2						
190 191		60 days	Fri 14/09/12								
	SCADA/PLC System Testing and Commissioning	60 days 60 days			5						
191	Sludge Digestion Tank No.3	291 days	Sun 01/07/12	Wed 17/04/13							
192 193	Installation of Draft Tubes, Sludge Mixers, Heat Exchangers & Inspection Window	60 days	Sun 01/07/12								T. San
192 193 194	Installation of GRP Platform Installation of Sludge, Biogas, Hot Water Recirculation, FeCl3 Dosing Pipework & Instruments	30 days 60 days	Wed 15/08/12 Fri 14/09/12								
192 193		90 days	Sat 20/10/12								
192 193 194 195 196 197	Electrical Installation									i i	
192 193 194 195 196 197 198	Electrical Installation SCADA/PLC System	60 days	Mon 19/11/12								
192 193 194 195 196 197	Electrical Installation SCADA/PLC System		Mon 19/11/12	Thu 17/01/1: Wed 17/04/1:							
192 193 194 195 196 197 198 199	Electrical Installation SCADA/PLC System Testing and Commissioning	60 days 90 days	Mon 19/11/12 Fri 18/01/13	Wed 17/04/1	8						
192 193 194 195 196 197 198 199 200	Electrical Installation SCADA/PLC System Testing and Commissioning Critical	60 days	Mon 19/11/12 Fri 18/01/13	Wed 17/04/1	8		nary Progress great Summ		I Milestone 🔶		



								Supply and Installation of	Electrical and M	DSD Contract : DE/2009/ Mechanical Equipment for Tai F		ge Treatme	ent Works S	Stage 5 Phase 2	8								
									Se	ction V Works Prog	gramm	ne											
ID	Task Name	Duration	Start	Finish	Jan '11	Q1 '11 Feb '11 Mar '11	Apr '11	Q2 '11 May '11 Jun '11	Jul '11	Q3 '11 Aug '11 Sep '11	00	ct '11	Q4 '11 Nov '11	Dec '11	Jan '12	Q1 '12	Mar '12		Apr'12	Q2 '12 May '12	Jun '12	Jul 'f	12
201	SAS Thickening System	275 days	Mon 02/04/12	Tue 01/01/13					1		1							- V-	· · ·				
202	Equipment & Material Delivery to Site	34 days	Fri 01/06/12	Thu 05/07/12														- E					
203	Centrifuge	0 days	Thu 05/07/12	Thu 05/07/12																	•	05/07	.7
204	SAS Feed Pump	0 days	Fri 01/06/12	Fri 01/06/12	-																01/06		
205	Polyelectrolyte Feed Pump	0 days	Fri 01/06/12	Fri 01/06/12	1																01/06		
206	Thickened Sludge Storage Tank	0 days	Fri 01/06/12	Fri 01/06/12																	01/06		
207	Pipework & Valves	0 days	Fri 01/06/12	Fri 01/06/12	-																01/06		
208	Vibration Monitoring System	0 days	Fri 01/06/12	Fri 01/06/12	1		1														01/06	<u></u>	
209	PLC System M Panel	0 days	Fri 01/06/12	Fri 01/06/12														1			01/06		
210	Site Possession / Available	0 days	Tue 01/05/12															1	•	01/05			
211	Civil Works Provision (By Civil Contractor)	0 days	Tue 01/05/12															1	•	01/05			
212	Installation	185 days	Mon 02/04/12																				
213	Centrifuge, Vibration Monitoring System & Associated Accessories	30 days	Thu 05/07/12	Fri 03/08/12	1																	E COLORE	
214	SAS Feed Pump & Associated Pipework	30 days	Sat 04/08/12																			1	
215	Polyelectrolyte Feed Pump & Associated Pipework	16 days	Mon 03/09/12																				
216	Thickened Sludge Storage Tank & Associated Accessories	30 days	Sat 04/08/12	Sun 02/09/12																			
217	Centrate Pipework	16 days	Mon 03/09/12																				
218	Existing L.V. Switchboard Modification	90 days	Mon 02/04/12	Sat 30/06/12	1													6					-+
219	Electrical Installation	90 days	Fri 06/07/12		-																	Lass.	
220	SCADA/PLC System	60 days	Sun 05/08/12		-		1																tee
221	Testing & Commissioning	90 days	Thu 04/10/12	Tue 01/01/13	1		1											1				1	
222																							
223	Sludge Dewatering System	386 days					1								.,								
224	Equipment & Material Delivery to Site	115 days															-	09	%			1	
225	Membrane Filter Press	0 days	Mon 20/02/12		1											•	20/02						
226	Sludge Feed Pump	0 days	Thu 08/12/11	Thu 08/12/11	_									08/12				i				1	
227	Polyelectrolyte Dosing Pump	0 days	Sun 01/04/12		1													-01	1/04			1	
228	Floctronic Sensor c/w Inline Mixer	0 days	Fri 20/01/12		1										•	20/01		_					
229	Pipework & Valves	0 days	Sun 01/04/12		-													• • •	1/04		7		
230	PLC System K Panel	0 days			-													• • •	1/04		-	<u> </u>	
231	Site Possession / Available	0 days																01	1/04				
232	Civil Works Provision (By Civil Contractor)	0 days	Sun 01/04/12		-													0 1	1/04				
233	Installation	215 days		Fri 28/09/12			1									I							
234	Membrane Filter Press	30 days	Mon 27/02/12														<u>1998</u>	33%					
235	Sludge Feed Pump & Associated Pipework	30 days	Sun 01/04/12				1													0%			
236	Polyelectrolyte Dosing Pump & Associated Pipework	30 days	Tue 01/05/12				1										3		E		0%		
237	Filtrate Pipework	15 days	Thu 31/05/12				1														0%		
238	Existing L.V. Switchboard Modification & Electrical Installation	90 days					1											<u></u>				0%	
239	Electrical Installation	90 days		Fri 28/09/12	-		1											1				para ang	
240	SCADA/PLC System	60 days	Tue 31/07/12				1											1					10000
241	Testing and Commissioning	90 days	Sat 29/09/12	Thu 27/12/12														1				1	
242					_		1											1					
	Miscellaneous	90 days																					
244	Hybrid Street Light Installation, Testing & Commissioning	90 days	Fri 01/06/12																		63333333		
245	Automatic Weather Station Installation, Testing & Commissioning	90 days	Fri 01/06/12	Wed 29/08/12			<u> </u>				1										Received	<u></u>	44000000

F	Rev. 2 Date: 7 Mar 2012						Summary Progress			
-				-				Page	.2	

