

PROJECT NO.: TCS/00512/09

DSD CONTRACT NO. DC/2009/13 Construction of Sewage Treatment Works at Yung Shue Wan and Sok Kwu Wan

SOK KWU WAN PORTION AREA Quarterly Environmental Monitoring and Audit (EM&A) Summary Report No.Q5 (August to October 2011)

PREPARED FOR LEADER CIVIL ENGINEERING CORPORATION LIMITED

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Version	Date	Description
1	14 November 2011	First submission
2	23 November 2011	Amended against IEC's comments on 23 November 2011

Scott Wilson CDM Joint Venture

Chief Engineer/Harbour Area Treatment Scheme Drainage Services Department 5/F Western Magistracy 2A Pok Fu Lam Road Date: Hong Kona

Your reference:

05117/6/16/383544 Our reference:

28 November 2011

Attention: Mr Kenley C K Kwok

BY FAX ONLY

Dear Sirs.

Contract No. DC/2009/13 Construction of Sewage Treatment Works at Yung Shue Wan and Sok Kwu Wan Sok Kwu Wan Portion Area Quarterly EM&A Summary Report No. Q5 (August to October 2011)

We refer to the Environmental Permit (EP-281/2007/A) and the email from the Environmental Team, Action-United Environmental Services and Consulting (AUES), with the revised report for the captioned project, dated 24 November 2011. We have no comment and have verified the captioned report.

Yours faithfully SCOTT WILSON CDM JOINT VENTURE

Rodney Ip

ICWR/SYSL/ecwc

Leader Civil Engineering CC AUES **ER/LAMMA** CDM

(Attn: Mr Vincent Chan) (Attn: Mr T.W. Tam) (Attn: Mr Neil Wong) (Attn: Mr Mark Sin)



EXECUTIVE SUMMARY

ES.01 This is the 5th Quarterly Environmental Monitoring and Audit (EM&A) Summary Report for Sok Kwu Wan (hereinafter 'this Report') for the designated works under the Environmental Permit [EP-281/2007/A], covering the construction period from 1 August to 31 October 2011 (hereinafter 'the Reporting Period').

ENVIRONMENTAL MONITORING AND AUDIT ACTIVITIES

ES.02 Environmental monitoring activities under the EM&A programme in this Reporting Period are summarized in the following table.

Issues	Environmental Monitoring Parameters / Inspection	Occasions
Air Quality	1-hour TSP	135
All Quality	24-hour TSP	48
Construction Noise	Leq (30min) Daytime	56
Water Quality	Marine Water Sampling	39
Inspection / Audit	ET Regular Environmental Site Inspection	13

BREACH OF ACTION AND LIMIT (A/L) LEVELS

ES.03 In this Reporting Period, no exceedance in air quality, construction noise and marine water quality monitoring were recorded. The statistics of environmental exceedance, NOE issued and investigation of exceedance are summarized in the following table.

Environmental	Monitoring	Action	Limit	Event & Action		
Issues Parameter		Level Leve		NOE Issued	Investigation	Corrective Actions
Air Quality	1-hour TSP	0	0	0		
Air Quality	24-hour TSP	0	0	0		
Construction Noise	Leq _{30min} Daytime	0	0	0		
	DO	0	0	0		
Water Quality	Turbidity	0	0	0		
	SS	0	0	0		

Note: NOE – *Notification of Exceedance*

ENVIRONMENTAL COMPLAINT

ES.04 No environmental complaint was recorded or received in this Reporting Period. The statistics of environmental complaint are summarized in the following table.

Demonsting Denie d	Environmental Complaint Statistics			
Reporting Period	Frequency	Cumulative	Complaint Nature	
1–31 August 2011	0	0	NA	
1-30 September 2011	0	0	NA	
1-31 October 2011	0	0	NA	

NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

ES.05 No environmental summons or successful prosecutions were recorded in this Reporting Period. The statistics of environmental complaint are summarized in the following tables.

Depending Devied	Environmental Summons Statistics			
Reporting Period	Frequency	Cumulative	Complaint Nature	
1–31 August 2011	0	0	NA	
1-30 September 2011	0	0	NA	
1-31 October 2011	0	0	NA	



Depenting Devied	Environmental Prosecution Statistics			
Reporting Period	Frequency	Cumulative	Complaint Nature	
1-31 August 2011	0	0	NA	
1-30 September 2011	0	0	NA	
1-31 October 2011	0	0	NA	

REPORTING CHANGE

ES.06 There are no reporting changes in this Reporting Period.

SITE INSPECTION BY EXTERNAL PARTIES

ES.07 No site inspection was undertaken by external parties i.e. EPD or AFCD within the Reporting Period.

FUTURE KEY ISSUES

- ES.08 During dry season, special attention should be paid to the dust mitigation measures to avoid fugitive dust emissions from loose soil surface or haul road. Nevertheless, mitigation measures implemented for control the surface runoff including wheel wash facilities, covering of the loose soil surface or stockpile with tarpaulin sheet, etc., should fully implement.
- ES.09 Muddy water and other water quality pollutants via site surface water runoff into the sea body within Fish Culture Zone (FCZ) at Picnic Bay and the secondary recreation contact subzone at Mo Tat Wan is the key issue of the Project. Mitigation measures for water quality should be properly maintained to prevent any muddy or sandy runoff from the loose soil surface overflow on the site boundary.



TABLE OF CONTENTS

1	INTRODUCTION	1
1.1	Project Background	1
1.2	Report Structure	1
2	PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS	2
2.1	Project Organization and Management Structure	2
2.2	Construction Progress	2
2.3	Summary of Environmental Submissions	2
3 3.1 3.2 3.3 3.4 3.5 3.6 3.7 3.8	SUMMARY OF MONITORING REQUIREMENTS Environmental Aspect Monitoring Locations Monitoring Frequency and Period Monitoring Equipment Equipment Calibration Meteorological Information Data Management and Data QA/QC Control Determination of Action/Limit (A/L) Levels	3 3 4 5 6 6 6 7
4	IMPACT MONITORING RESULTS	8
4.1	Results of Air Quality Monitoring	8
4.2	Results of Construction Noise Monitoring	8
4.3	Results of Marine Water Quality of Monitoring	8
4.4	Ecological Monitoring	10
5	WASTE MANAGEMENT	11
5.1	Records of Waste Quantities	11
6	SITE INSPECTION	12
7	ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE	13
7.1	Environmental Complaint, Summons and Prosecution	13
8	IMPLEMENTATION STATUS OF MITIGATION MEASURES	14
9	CONCLUSIONS AND RECOMMENTATIONS	20
9.1	Conclusions	20
9.2	Recommendations	20



LIST OF APPENDIX

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Appendix A	Site Layout Plan – Sok Kwu wan Portion Area
Appendix B	Organization Structure and Contact Details of Relevant Parties
Appendix C	Master and Three Months Rolling Construction Programs
Appendix D	Location of Monitoring Stations (Air Quality / Construction Noise / Marine Water Quality)
Appendix E	Graphical Plots of Impact Monitoring (Air Quality/ Construction Noise /Marine Water Quality)
Appendix F	Meteorological Information
Appendix G	Monthly Summary Waste Flow Table

LIST OF TABLES

- Table 2-1Status of Environmental Licenses and Permits
- Table 3-1
 Summary of the Air and Noise monitoring parameters of EM&A Requirements
- Table 3-2Location of Air Quality Monitoring Station
- Table 3-3
 Location of Construction Noise Monitoring Station
- Table 3-4
 Location of Marine Water Quality Monitoring Station
- Table 3-5
 Action and Limit Levels for Air Quality Monitoring
- Table 3-6
 Action and Limit Levels for Construction Noise
- Table 3-7
 Action and Limit Levels for Marine Water Quality Monitoring
- Table 4-1Summary of 24-hour and 1-hour TSP Monitoring Results
- Table 4-2
 Summary of Construction Noise Monitoring Results
- Table 4-3Summary of Water Quality Exceedances
- Table 5-1Summary of Quantities of Inert C&D Materials
- Table 5-2Summary of Quantities of C&D Wastes
- Table 6-1Site Observations
- Table 7-1
 Statistical Summary of Environmental Complaints
- Table 7-2
 Statistical Summary of Environmental Summons
- Table 7-3
 Statistical Summary of Environmental Prosecution
- Table 8-1Environmental Mitigation Measures



1 INTRODUCTION

1.1 PROJECT BACKGROUND

- 1.01 The Leader Civil Engineering Corporation Limited (Leader) has been awarded the *Contract DC/2009/13 Construction of Sewage Treatment Works at Yung Shue Wan and Sok Kwu Wan* (the Project) by the Drainage Services Department (DSD) on 4 May 2010. The Project is part of an overall plan approved under a statutory EIA for Outlying Islands Sewerage Stage 1 Phase 2 Package J Sok Kwu Wan Sewage Collection and Treatment (Register No. AEIAR-075/2003) and Disposal Facilities and Outlying Islands Sewerage Stage 1 Phase 1 Package C Yung Shue Wan Sewage Treatment Works and Outfall (Register No. EIA-124/BC). The Environmental Permit (EP) No. EP-281/2007 and EP-282/2007 for the Project have been obtained by the DSD on 29 June 2007 for the relevant works. After July 2009, EP-281/2007/A stead EP-281/2007 is EP for Sok Kwu Wan relevant Works.
- 1.02 The Project involves construction of sewage treatment works at Sok Kwu Wan and Yung Shue Wan with a capacity of $1,430m^3/day$ and $2,850m^3/day$ respectively to provide secondary treatment, construction of 2 pumping stations at Sok Kwu Wan and 1 pumping station at Yung Shue Wan, construction of submarine outfall from the coastline and lying of underground sewerage pipeline. The site layout plan for the captioned work under the Project is showing in *Appendix A*.
- 1.03 According to the Particular Specification (PS) and *Appendix 25* of the Project, Leader should establish an Environmental Team to implement the environmental monitoring and auditing works to fulfill the requirements as stipulated in the Environmental Monitoring and Audit (EM&A) Manuals. This EM&A Manual is referred to the Appendix B of the Review Report on EIA Study Sok Kwu Wan (Final) in January 2007 (Agreement No. CE 20/2005(DS)).
- 1.04 Action-United Environmental Services and Consulting (AUES) has been commissioned by Leader as the ET to implement the relevant EM&A program. Organization chart of the Environmental Team for the Project is shown in *Appendix B*. For ease of reporting, the proposed EM&A programme for baseline and impact monitoring is spilt to following two stand-alone parts:
 - (a) Proposed EM&A Programme for Baseline and Impact Monitoring Sok Kwu Wan (under EP No. 281/2007/A varied on 23 September 2009)
 - (b) Proposed EM&A Programme for Baseline and Impact Monitoring Yung Shue Wan (under EP No. 282/2007)
- 1.05 This is the 5th Quarterly EM&A Summary Report for Sok Kwu Wan Portion Area presenting the monitoring results and inspection findings for the reporting period from 1 August to 31 October 2011.

1.2 REPORT STRUCTURE

The Quarterly Environmental Monitoring and Audit (EM&A) Report is structured into the following sections:-

- SECTION 1 INTRODUCTION
- SECTION 2 SUMMARY OF IMPACT ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENTS
- SECTION 3 MONITORING RESULTS AND BREACHES OF ENVIRONMENTAL QUALITY CRITERIA
- SECTION 4 NON-COMPLIANCE, COMPLAINTS, NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTIONS
- SECTION 5 CONCLUSION



2 PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS

2.1 PROJECT ORGANIZATION AND MANAGEMENT STRUCTURE

2.01 Organization structure and contact details of relevant parties with respect to on-site environmental management are shown in *Appendix B*.

2.2 CONSTRUCTION PROGRESS

2.02 The master and three month rolling construction programs are enclosed in *Appendix C* and the major construction activities undertaken in this quarter are listed below:-

1 to 31 August 2011

- Construction for pumping station no.1 & 2
- Construction of the rising main
- Rock slope cutting works

1 to 30 September 2011

- Construction for pumping station no.1 & 2
- Construction of the rising main
- Rock slope cutting works

1 to 31 October 2011

- Construction of Pumping Station No. 1& 2
- Construction of Rising Main
- Rock Slope Cutting Works
- Construction of HDD Platform

2.3 SUMMARY OF ENVIRONMENTAL SUBMISSIONS

2.03 Summary of the relevant permits, licences, and/or notifications on environmental protection for this Project in this Reporting Month is presented in *Table 2-1*.

Table 2-1 Status of Environmental Licenses and Permits

Item	Description	License/Permit Status
1	Air pollution Control (Construction Dust) Regulation	Notified EPD on 19 May 2010
		Ref.: 317486
2	Chemical Waste Producer Registration	Issued on 8/6/2010
		WPN 5213-912-L2720-01
3	Water Pollution Control Ordinance	Approved on 29/9/2010
		Valid to: 30/09/2015
		Licence no.: WT00007567-2010
4	Billing Account for Disposal of Construction Waste	Issued on 26 May 2010
		A/C No: 7010815
5	Construction Noise Permit	Permit no. GW-RS044-11
		Valid from: 7 Feb 2011
		Until: 6 Aug 2011
6	Construction Noise Permit	Permit no. GW-RS0771-11
		Valid from: 2 Sep 2011
		Until: 1 Mar 2012



3 SUMMARY OF MONITORING REQUIREMENTS

3.1 ENVIRONMENTAL ASPECT

- 3.01 The EM&A baseline monitoring program cover the following environmental issues:
 - Air quality;
 - Construction noise; and
 - Marine water quality
- 3.02 The ET implements the EM&A programme in accordance with the aforementioned requirements. Detailed air quality, construction noise and water quality of the EM&A programme are presented in the following sub-sections.
- 3.03 A summary monitoring parameters for the air quality, noise and marine water monitoring is presented in *Table 3-1*:

Table 3-1Summary of the Air and Noise monitoring parameters of EM&ARequirements

Environmental Issue	Parameters
Air Quality	1-hour TSP Monitoring by Real-Time Portable Dust Meter; and
7 in Quanty	• 24-hour TSP Monitoring by High Volume Air Sampler.
Noise	• Leq (30min) during normal working hours; and
Noise	• Leq (15min) during Restricted Hours.
	In-situ Measurements
	• Dissolved Oxygen Concentration (DO) (mg/L);
	• Dissolved Oxygen Saturation (%);
	• Turbidity (NTU);
Marine Water Quality	• pH unit;
Marine water Quanty	• Salinity (ppt);
	• Water depth (m); and
	• Temperature (°C).
	Laboratory Analysis
	• Suspended Solids (SS) (mg/L)

3.2 MONITORING LOCATIONS

Air Quality

3.04 Three air monitoring stations: AM1, AM2 and AM3 were designated in the *EM&A Manual Section 2.5.* The detailed air monitoring stations is described in *Table 3-2* and graphical is shown in *Appendix D*.

Table 3-2Location of Air Quality Monitoring Station

Sensitive Receiver	Location
AM1	Squatter house in Chung Mei Village
AM2	Squatter house in Chung Mei Village
AM3	Football court

Construction Noise

3.05 According to *EM&A Manual Section 3.4* stipulations, there were four noise sensitive receivers (NM1-NM4) designated for the construction noise monitoring. NM1, NM2 and NM4 of the three designated monitoring stations were identified and are monitored by the current DSD contract DC/2007/18. However, the premises monitoring station NM3 was rejected by the owner of 1B Sok Kwu Wan and an alternative noise monitoring station RNM3 replacement was proposed by the contract DC/2007/18 ET and accepted by the IEC and EPD before the baseline monitoring commencement in April 2008. The location RNM3 is located at Sok Kwu Wan Sitting-out area which just 3m width footpath away from the original location house 1B. The detailed construction noise monitoring stations to also under the Project is described in *Table 3-3*



and graphical is shown in *Appendix D*.

Table 3-3 Location of Construction Noise Monitoring Station

Sensitive Receiver	Location
NM1	1, Chung Mei Village
NM2	20, Sok Kwu Wan
RNM3	Sok Kwu Wan Sitting-out Area
NM4	2-storey village house at Ta Shui Wan

Water Quality

3.06 Three control stations (C1-C3) and three impact stations (W1-W3) were recommended in the *EM&A Manual Section 4.5*. Impact stations W1-W3 identified at the sensitive receivers (FCZ and secondary contact recreation subzone) to monitor the impacts from the construction of the submarine outfall as well as the effluent discharge from the proposed STW on water quality. Three control stations: C1, C2 & C3 were specified at locations representative of the project site in its undisturbed condition and located at upstream and downstream of the works area. Detailed and co-ordnance of marine water quality monitoring stations is described in *Table 3-4* and the graphical is shown in *Appendix D* and would be performed for EM&A programme.

Table 3-4	Location of Marine	Water Quality	y Monitoring Station
	Location of Marine	mater Quant	monitoring Station

Station	Description		dnance
Station	Description	Easting	Northing
W1	Secondary recreation contact subzone at Mo Tat Wan	832 968	807 732
W2	Fish culture zone at Picnic Bay	832 670	807 985
W3	Fish culture zone at Picnic Bay	832 045	807 893
C1 (flood)	Control Station	833 703	808 172
C2	Control Station	831 467	807 747
C3 (ebb)	Control Station	832 220	808 862

3.3 MONITORING FREQUENCY AND PERIOD

3.07 The Impact monitoring carried out in the EM&A programme is basically in accordance with the requirements in *EM&A Manual Sections* 2.7, 3.6, 4.7 and 4.8. The monitoring requirements are listed as follows:

Air Quality Monitoring

Parameters:	1-hour TSP and 24-hour TSP.
Frequency:	Once in every six days for 24-hour TSP and three times in every six days for 1-hour TSP.
Duration:	Throughout the construction period.

Noise Monitoring

Parameters:	Leq (30min) & Leq (5min), L10 and L90.
	Leq (15min) & Leq (5min), L10 and L90 during the construction undertaken during Restricted Hours (19:00 to 07:00 hours next of normal working day and full day of public holiday and Sunday)
Frequency:	Once per week during 0700-1900 hours on normal weekdays. Restricted Hour monitoring should depend on conditions stipulated in Construction Noise Permit.
Duration:	Throughout the construction period.

Marine Water Quality Monitoring

Parameters: Duplicate in-situ measurements: water depth, temperature, Dissolved Oxygen,



pH, turbidity and salinity; HOKLAS-accredited laboratory analysis: Suspended Solids

- <u>Frequency</u>: Three days a week, at mid ebb and mid flood tides. The interval between 2 sets of monitoring will be more than 36 hours.
 <u>Sampling</u> (i.) Three depths: 1m below water surface, 1m above sea bottom and at mid-depth when the water depth exceeds 6m.
 - (ii.) If the water depth is between 3m and 6m, two depths: 1m below water surface and 1m above sea bottom.
 - (iii.) If the water depth is less than 3m, 1 sample at mid-depth is taken
- <u>Duration</u>: During the course of marine works

Post-Construction Monitoring – Marine Water

3.08 Upon the marine works (dredging and HDD pipe installation) completion, 4 weeks of post-construction monitoring would be undertaken in accordance with the *Section 4.8 of EM&A Manual*. The requirements of post-construction monitoring such as the parameter, frequency, location and sampling depth is same as the impact monitoring.

3.4 MONITORING EQUIPMENT

Air Quality Monitoring

3.09 The 24-hour and 1-hour TSP levels shall be measured by following the standard high volume sampling method as set out in the *Title 40 of the Code of Federal Regulations, Chapter 1 (Part 50), Appendix B.* If the ET proposes to use a direct reading dust meter to measure 1-hour TSP levels, it shall submit sufficient information to the IEC to approve. The filter paper of 24-hour TSP measurement shall be determined by HOKLAS accredited laboratory.

Noise Monitoring

3.10 Sound level meter in compliance with the *International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1)* specifications shall be used for carrying out the noise monitoring. The sound level meter shall be checked using an acoustic calibrator. The wind speed shall be checked with a portable wind speed meter capable of measuring the wind speed in m s-1.

Water Quality Monitoring

- 3.11 **Dissolved Oxygen and Temperature Measuring Equipment** The instrument should be a portable and weatherproof dissolved oxygen (DO) measuring instrument complete with cable and sensor, and use a DC power source. The equipment should be capable of measuring as included a DO level in the range of 0 20mg L-1 and 0 200% saturation; and a temperature of 0 45 degree Celsius.
- 3.12 *pH Meter* The instrument shall consist of a potentiometer, a glass electrode, a reference electrode and a temperature-compensating device. It shall be readable to 0.1 pH in arrange of 0 to 14.
- 3.13 **Turbidity** (NTU) Measuring Equipment The instrument should be a portable and weatherproof turbidity measuring instrument using a DC power source. It should have a photoelectric sensor capable of measuring turbidity between 0 1000 NTU.
- 3.14 *Water Sampling Equipment* A water sampler should comprise a transparent PVC cylinder, with a capacity of not less than 2 litres, which can be effectively sealed with latex cups at both ends. The sampler should have a positive latching system to keep it open and prevent premature closure until released by a messenger when the sampler is at the selected water depth.



- 3.15 *Water Depth Detector* A portable, battery-operated echo sounder should be used for the determination of water depth at each designated monitoring station. This unit can either be hand held or affixed to the bottom of the work boat.
- 3.16 *Salinity Measuring Equipment* A portable salinometer capable of measuring salinity in the range of 0 40 parts per thousand (ppt) should be provided for measuring salinity of the water at each monitoring location.
- 3.17 *Sample Containers and Storage* Water samples for SS should be stored in high density polythene bottles with no preservative added, packed in ice (cooled to 4°C without being frozen).
- 3.18 *Monitoring Position Equipment* A hand-held or boat-fixed type digital Differential Global Positioning System (DGPS) with way point bearing indication and Radio Technical Commission for maritime (RTCM) Type 16 error message 'screen pop-up' facilities (for real-time auto-display of error messages and DGPS corrections from the Hong Kong Hydrographic Office), or other equipment instrument of similar accuracy, should be provided and used during marine water monitoring to ensure the monitoring vessel is at the correct location before taking measurements.
- 3.19 **Suspended Solids Analysis** Analysis of suspended solids shall be carried out in a HOKLAS or other international accredited laboratory.

3.5 EQUIPMENT CALIBRATION

- 3.20 Calibration of the HVS is performed upon installation in accordance with the manufacturer's instruction using the NIST-certified standard calibrator (Tisch Calibration Kit Model TE-5025A). The calibration data are properly documented and the records are maintained by ET for future reference.
- 3.21 The 1-hour TSP meter was calibrated by the supplier prior to purchase. Zero response of the equipment was checked before and after each monitoring event. In-house calibration with the High Volume Sampler (HVS) in same condition was undertaken in yearly basis.
- 3.22 The sound level meter and calibrator are calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme at yearly basis.
- 3.23 The Water Quality Monitoring equipments such as Dissolved Oxygen meter, pH meter, Turbidity Measuring Instrument and Salinometer, are calibrated by HOKLAS accredited laboratory of three month intervals.
- 3.24 All updated calibration certificates of the monitoring equipment used for the impact monitoring program in the relevant Monthly EM&A Report.

3.6 METEOROLOGICAL INFORMATION

3.25 The meteorological information during the construction phase is obtained from the Wong Chuk Hang Station of the Hong Kong Observatory (HKO) which near the Project site. The meteorological information in this Reporting Period is presented in Appendix F.

3.7 DATA MANAGEMENT AND DATA QA/QC CONTROL

- 3.26 The impact monitoring data are handled by the ET's systematic data recording and management, which complies with in-house Quality Management System. Standard Field Data Sheets (FDS) are used in the impact monitoring program.
- 3.27 The monitoring data recorded in the equipment e.g. 1-hour TSP meter, sound level meter and Multi-parameter Water Quality Monitoring System, are downloaded directly from the



equipments at the end of each monitoring day. The downloaded monitoring data are input into a computerized database properly maintained by the ET. The laboratory results are input directly into the computerized database and QA/QC checked by personnel other than those who input the data. For monitoring activities require laboratory analysis, the local laboratory follows the QA/QC requirements as set out under the HOKLAS scheme for all laboratory testing.

3.8 DETERMINATION OF ACTION/LIMIT (A/L) LEVELS

3.28 According to the Sok Kwu Wan Environmental Monitoring and Audit Manual, the air quality, construction noise and marine water quality were set up, namely Action and Limit levels are listed in *Tables 3-5* and *3-7* as below.

Table 3-5Action and Limit Levels for Air Quality Monitoring

Monitoring Station	Action Lev	Action Level (µg/m ³)		rel ($\mu g/m^3$)
Monitoring Station	1-hour	24-hour	1-hour	24-hour
AM1	343	173	500	260
AM2	331	175	500	260
AM3	353	191	500	260

Table 3-6Action and Limit Levels for Construction Noise

Monitoring	Action Level	Limit Level
Location	0700-190	0 hours on normal weekdays
NM1 NM2 RNM3 NM4	When one or more documented complaints are received	75 dB(A) of Leq(30min) during normal hours from 0700 to 1900 hours on normal weekdays, reduced to 70 dB(A) of Leq(30min) for schools and 65 dB(A) during school examination periods

Table 3-7 Action and Limit Levels for Marine Water Quality Monitoring

Demonster	Performance		Impact Station		
Parameter	Criteria	W1	W2	W3	
DO Concentration (Surface and Middle)	Action Level	5.39	4.64	4.71	
(mg/L)	Limit Level	5.29	4.56	4.54	
DO Concentration (Bottom)	Action Level	N/A	3.60	3.37	
(mg/L)	Limit Level	N/A	3.06	3.18	
Turbidity (Depth-Average)	Action Level	4.39	4.84	6.48	
(NTU)	Limit Level	6.06	5.99	6.71	
Suspended Solids (Depth-Average)	Action Level	12.41	9.24	10.79	
(mg/L)	Limit Level	12.68	11.28	12.25	



4 IMPACT MONITORING RESULTS

4.01 The environmental monitoring results will be compared against the Action and Limit Levels established based on the baseline monitoring results and statutory criteria. In case the measured data exceed the environmental quality criteria, remedial actions will be triggered according to the Event and Action Plan. In the Reporting Period, the graphical plots of the trends of monitored parameter over the past three months are presented in *Appendix E*.

4.1 **RESULTS OF AIR QUALITY MONITORING**

4.02 Results of air quality monitoring at the identified locations during the Reporting Period are summarized in *Tables 4-1*. In this Reporting Period, a total of 135 events of 1-hour TSP and 48 events of 24-hour TSP measurements were conducted at designated Location AM1, AM2 and AM3. 24-hour and 1-hour TSP results fluctuated below the Action Level during the Reporting Period. No Notification of Exceedance (NOE) of 24-hour and 1-hour TSP air quality criteria or corrective action was therefore required.

Station	1-hour TSP (μg/m ³)			tion 1-hou		24-h	our TSP (µg	$/m^3$)
Station	Max	Min	Mean	Max	Min	Mean		
AM1	91	46	64	124	11	49		
Record Date	4-Oct-11	3-Aug-11	45 events	21-Oct-11	2-Aug-11	16 events		
AM2	87	47	63	116	21	56		
Record Date	4-Oct-11	15-Aug-11	45 events	21-Oct-11	2-Aug-11	16 events		
AM3	120	46	68	176	25	73		
Record Date	9-Aug-11	22-Sep-11	45 events	6-Sep-11	2-Aug-11	16 events		

 Table 4-1
 Summary of 1-hour and 24-hour TSP Results

4.2 **RESULTS OF CONSTRUCTION NOISE MONITORING**

4.03 Summary of construction noise monitoring at the identified locations during the Reporting Period are summarized in *Table 4-2* below. In this Reporting Period, a total of 56 events of construction noise measurement were conducted while no documented construction complaint was received and all the construction noise results were below the Limit level. No NOE or corrective action was recommended for this parameter.

Table 4-2 Summary of Construction Noise Monitoring Result	Table 4-2	Summary of Construction Noise Monitoring Results
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Station	Leq(30min) (dB(A))		
Station	Max	Min	
NM1	67.5	51.8	
Record Date	4-Oct-11	15-Aug-11 and 10-Oct-11	
NM2	68.4	55.4	
Record Date	4-Oct-11	26-Oct-11	
RNM3	65.2	57.2	
Record Date	20-Oct-11	15-Aug-11	
NM4	65.9	46.4	
Record Date	9-Aug-11	20-Oct-11	

4.3 **RESULTS OF MARINE WATER QUALITY OF MONITORING**

- 4.01 The construction of marine outfall works was commenced on 19 July 2011 and therefore the marine water quality monitoring is required in this Reporting Period.
- 4.02 In this Reporting Period, **39** monitoring events have been carried out at the designated locations. The statistical analysis result for the parameters of DO, turbidity and suspended solids in this



reporting quarter are shown in Tables 4-3 to 4-6.

 Table 4-3
 Statistic of Monitoring Result for DO concentration (mg/L) (Surface & Mid-layers)

Station	WY1	WY2	WY3	CY1	CY2	СҮЗ
Average	6.24	6.14	6.08	6.38	6.27	6.28
Min	5.42	4.82	4.82	4.93	4.40	4.86
Max	8.24	8.81	7.90	9.35	8.90	7.92

Table 4-4	Statistic of Monitoring Result for DO concentration (mg/L) (Bottom layers)
	Statistic of Monitoring Result for DO concentration (ing/L) (Dottoin layers)

Station	WY1	WY2	WY3	CY1	CY2	СҮЗ
Average	N.A	5.57	5.58	5.57	5.52	5.51
Min	N.A	3.58	3.96	3.58	3.80	3.46
Max	N.A	6.81	6.76	6.92	7.05	6.96

 Table 4-5
 Statistic of Monitoring Result for Turbidity (NTU)

Station	WY1	WY2	WY3	CY1	CY2	CY3
Average	3.68	3.96	4.14	4.39	4.41	4.60
Min	2.75	2.71	2.57	2.62	2.92	2.92
Max	4.35	5.48	5.88	6.18	6.33	6.72

Table 4-6Statistic of Monitoring Result for Suspended Solids (mg/L)

Station	WY1	WY2	WY3	CY1	CY2	СҮЗ
Average	4.70	4.59	4.45	4.91	4.80	4.98
Min	1.20	1.23	1.27	2.00	2.23	1.67
Max	11.00	9.07	10.37	12.40	9.77	12.10

4.03 A summary of exceedances for the three parameters: dissolved oxygen (DO), turbidity and suspended solids are shown in *Table 4-7*.

Table 4-7Summary of Exceedances in Marine Water Quality

Station	D (Ave of & mid-	f Surf.	DO (A Bottom		Turbi (Depth		Ss (Depth		Tot Excee	
	Action	Limit	Action	Limit	Action	Limit	Action	Limit	Action	Limit
Mid-Ebb										
WY1	0	0	0	0	0	0	0	0	0	0
WY2	0	0	0	0	0	0	0	0	0	0
WY3	0	0	0	0	0	0	0	0	0	0
				Mid	l-Flood					
WY1	0	0	0	0	0	0	0	0	0	0
WY2	0	0	0	0	0	0	0	0	0	0
WY3	0	0	0	0	0	0	0	0	0	0
No of Exceedance	0	0	0	0	0	0	0	0	0	0

4.04 For marine water monitoring, no exceedance of Action/Limit level was recorded in this Reporting Period. Therefore, no associated corrective actions were then required.

4.4 ECOLOGICAL MONITORING

- 4.05 According to Clause 3.7 and Figure 4 in the Environmental Permit No. EP-281/2007/A, a total of 12 numbers *Celtis Timorensis* (uncommon species) in Chung Mei at Sok Kwu Wan, are identified to require labeling, fencing and protection. Out of these, four numbers located in the Pumping Station No.1 area are required to be transplanted in advance of pumping station construction and the transplantation proposal has been submitted to EPD previously.
- 4.06 Since the health condition of CT7 to CT10 are poor, as a contingency measure in case that CT7 to CT10 can no longer be recovered, additional 7 no. of *Celtis Timorensis* were planted adjacent to the under-monitoring *Celtis Timorensis* CT7 to CT10 on 30 April 2011. A full review of the uncommon species was carried out on 19 May 2011 by the landscaping sub-Contractor (Melofield Nursery and Landscape Contractor Limited) and inspection work was suspended in June 2011. Since health condition for the transplanted and newly planted *Celtis Timorensis* were still unsatisfactory, regular inspection was carried out on 9, 26 August, 5, 23 September and 10, 24 October 2011 2011. The copies of the inspection reports are attached in relevant Monthly EM&A Report (August, September and October 2011).



5 WASTE MANAGEMENT

5.01 Waste management was carried out by an on-site Environmental Officer or an Environmental Supervisor from time to time.

5.1 **RECORDS OF WASTE QUANTITIES**

- 5.02 All types of waste arising from the construction work are classified into the following:
 - Construction & Demolition (C&D) Material;
 - Chemical waste;
 - General refuse; and
 - Excavated soil.
- 5.03 The quantities of waste for disposal in this Reporting Period are summarized in *Table 5-1* and *5-2* and the Monthly Summary Waste Flow Table is shown in *Appendix G*. Whenever possible, materials were reused on-site as far as practicable.

 Table 5-1
 Summary of Quantities of Inert C&D Materials

Type of Waste		Quantity	Disposal Location	
Type of Waste	Aug 11	Sep 11	Oct 11	Disposal Location
C&D Materials (Inert) ('000m ³)	0.006	0.004	0.007	Sok Kwu Wan Transfer Facility
Reused in the Contract (Inert) ('000m ³)	0	0	0	-
Reused in other Projects (Inert) ('000m ³)	3.519	1.473	1.674	-
Disposal as Public Fill (Inert) ('000m ³)	0	0	0	Sok Kwu Wan Transfer Facility

Table 5-2Summary of Quantities of C&D Wastes

Type of Weste		Quantity	Disposal Location	
Type of Waste	Aug 11	Sep 11	Oct 11	Disposal Location
Metal (kg)	0	0	0	-
Paper / Cardboard Packing (kg)	0	0	0	-
Plastic (kg)	0	0	0	-
Chemical Wastes (kg)	0	0	0	
General Refuses (tonne)	1.83	2.42	6.85	Sok Kwu Wan Transfer Facility

5.04 There was no site effluent discharged but the estimated volume of surface runoff was less than 50m^3 in this reporting quarter.

6 SITE INSPECTION

- 6.01 According to the Final Report Environmental Monitoring and Audit Manual [2095/13.3], the environmental site inspection should been formulation by ET Leader. Regular environmental site inspections had been carried out by the ET to confirm the environmental performance. In this Reporting Period, site inspection was carried out on 2, 9, 17, 23, 30 August 2011, 6, 14, 20, 27 September 2011 and 4, 11, 18, 25 October 2011. Besides, routine joint-site visit by IEC, RE, Leader and ET was carried out on 9 August, 20 September and 11 October 2011
- 6.02 Observations for the site inspections and monthly audit within this Reporting Month are summarized in *Table 6-1*.

Date	Findings / Deficiencies	Follow-Up Status
2 August 2011	• The silt curtain was not completely enclosed the sea bank. The Contractor should modify the curtain to ensure its de-silting effectiveness.	The silt curtain was modified on 9 August 2011.
9 August 2011	• No environmental issue was observed during the site inspection.	N.A
17 August 2011	• No environmental issue was observed during the site inspection.	N.A
23 August 2011	• The Contractor should provide enough drip trays or covering for the chemical containers.	• Drip trays were provided for the containers on 30 August 2011.
30 August 2011	• Oil leakage was observed. The Contractor should provide repairing and avoid further leakage for water or soil contamination.	To be followed
6 September 2011	• The Contractor should clear the accumulated sediment in the tank to restore its desilting effectiveness.	The tank has been cleared on 14 September 2011.
14 September 2011	• The Contractor should remove the scattered general refuse on the hill to minimize dust nuisance and improve site tidiness.	The general refuse was found to be removed.
20 September 2011	• Gaps were observed along the silt curtain. The contractor should regularly check and repair as appropriate.	The silt curtain was found to be repaired.
27 September 2011	• The Contractor should provide drip tray for the oil drum.	Drip tray was found to be provided on 3 Oct 2011.
4 October 2011	 Drip tray should be provided for all chemical containers. Silt curtain should be reinstated after storm as appropriate. 	Drip tray was found to be provided on 11 October 2011. Silt curtain was found to be reinstated on 11 October 2011.
11 October 2011	• No environmental issue was observed during site inspection.	N.A.
18 October 2011	• Sedimentation tank under concrete plant at Portion L2 has to be cleaned up to restore its de-silting function.	To be followed.
25 October 2011	• Sedimentation tank under concrete plant at Portion L2 has to be cleaned up to restore its de-silting function.	To be followed.

Table 6-1Site Observations



7 ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

7.1 Environmental Complaint, Summons and Prosecution

7.01 No environmental complaint, summons and prosecution was received in this Reporting Period. The statistical summary table of environmental complaint is presented in *Tables 7-1*, *7-2* and *7-3*.

Table 7-1 Statistical Summary of Environmental Complaints

Depenting Devied	Environmental Complaint Statistics					
Reporting Period	Frequency	Cumulative	Complaint Nature			
1-31 August 2011	0	0	NA			
1-30 September 2011	0	0	NA			
1-31 October 2011	0	0	NA			

Table 7-2 Statistical Summary of Environmental Summons

Depenting Devied	Environmental Summons Statistics					
Reporting Period	Frequency	Cumulative	Complaint Nature			
1-31 August 2011	0	0	NA			
1- 30 September 2011	0	0	NA			
1-31 October 2011	0	0	NA			

Table 7-3 Statistical Summary of Environmental Prosecution

Departing Deviad	Environmental Prosecution Statistics					
Reporting Period	Frequency	Cumulative	Complaint Nature			
1–31 August 2011	0	0	NA			
1- 30 September 2011	0	0	NA			
1-31 October 2011	0	0	NA			

8 IMPLEMENTATION STATUS OF MITIGATION MEASURES

8.01 The environmental mitigation measures that recommended in the Sok Kwu Wan Environmental Monitoring and Audit Manual covered the issues of dust, noise, water and waste and they are summarized as following:

Dust Mitigation Measure

- 8.02 Installation of 2m high solid fences around the construction site of Pumping Station P2 is recommended. Implementation of the requirements stipulated in the Air Pollution Control (Construction Dust) Regulation and the following good site practices are recommended to control dust emission from the site:
 - (a) Stockpiles of imported material kept on site should be contained within hoardings, dampened and / or covered during dry and windy weather;
 - (b) Material stockpiled alongside trenches should be covered with tarpaulins whenever works are close to village houses;
 - (c) Water sprays should be used during the delivery and handling of cement, sands, aggregates and the like.
 - (d) Any vehicle used for moving sands, aggregates and construction waste shall have properly fitting side and tail boards. Materials should not be loaded to a level higher than the side and tail boards, and should be covered by a clean tarpaulin.

Noise Mitigation Measure

- 8.03 As detailed in the EIA report, concreting work of the Pumping Station P1a and sewer alignment construction activities would likely cause adverse noise impacts on some of the noise sensitive receivers. Appropriate mitigation measures have therefore been recommended. The mitigation measures recommended in the EIA report are summarised below:
 - (a) Use of quiet equipment for the construction activities of the Pumping Stations and sewer alignment;
 - (b) Use of temporary noise barrier around the site boundary of Pumping Station P1a;
 - (c) Use of kick ripper (saw and lift) method to replace the breaker for pavement removal during sewer alignment construction;
 - (d) Restriction on the number of plant during sewer alignment construction;
 - (e) Use of noise screening structures in the form of acoustic shed or movable barrier wherever practicable and feasible in areas with sufficient clearance and headroom during the construction of sewer alignment;
 - (f) Adoption of manual working method wherever practicable and feasible in areas where the worksites of the proposed sewer alignment are located less than 20m from the residential noise sensitive receivers and less than 30m from the temple and the public library; and
 - (g) Implementation of the following good site practices:
 - Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program.
 - Mobile plant, if any, should be sited as far away 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.
 - Material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities.

Water Quality Mitigation Measure

8.04 No-dig method using Horizontal Directional Drilling (HDD) would be used for the installation of outfall pipe of about 480 m from shore to minimize the potential water quality impacts arising from the dredging works required for the submarine outfall construction. For the remaining outfall pipe of about 240m and the diffuser section, open trench dredging would still be required.

- 8.05 During the dredging works, the Contractor should be responsible for the design and implementation of the following mitigation measures.
 - Dredging should be undertaken using closed grab dredgers with a total production rate of 55m³/hr;
 - Deployment of 2-layer silt curtains with first layer enclosing the grab and the second layer at around 50, from the dredging area while dredging works are in progress;
 - all vessels should be sized such that adequate clearance (i.e. minimum clearance of 0.6m) is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash;
 - all pipe leakages should be repaired promptly and plant shall not be operated with leaking pipes;
 - excess material should be cleaned from the decks and exposed fittings of barges before the vessel is moved;
 - adequate freeboard (i.e. minimum of 200m) should be maintained on barges to ensure that decks are not washed by wave action;
 - all barges should be fitted with tight fitting seals to their bottom openings to prevent leakage of material; and
 - loading of barges and hoppers should be controlled to prevent splashing of dredged material to the surrounding water, and barges and hoppers should not be filled to a level which would cause the overflow of materials or sediment laden water during loading or transportation; and
 - the decks of all vessels should be kept tidy and free of oil or other substances that might be accidentally or otherwise washed overboard.

Construction Run-off and Drainage

- 8.06 The Contractor should observe and comply with the Water Pollution Control Ordinance and the subsidiary regulations. The Contractor should follow the practices, and be responsible for the design, construction, operation and maintenance of all the mitigation measures as specified in ProPECC PN 1/94 "Construction Site Drainage". The design of the mitigation measures should be submitted by the Contractor to the Engineer for approval. These mitigation measures should include the following practices to minimise site surface runoff and the chance of erosion, and also to retain and reduce any suspended solids prior to discharge:
 - Provision of perimeter channels to intercept storm-runoff from outside the site. These should be constructed in advance of site formation works and earthworks.
 - Works programmes should be designed to minimize works areas at any one time, thus minimising exposed soil areas and reducing the potential for increased siltation and runoff.
 - Sand/silt removal facilities such as sand traps, silt traps and sediment basins should be provided to remove the sand/silt particles from run-off. These facilities should be properly and regularly maintained. These facilities shall be carefully planned to ensure that they would be installed at appropriate locations to capture all surface water generated on site.
 - Careful programming of the works to minimise soil excavation works during rainy seasons.
 - Exposed soil surface should be protected by paving or hydroseeding as soon as possible to reduce the potential of soil erosion.
 - Trench excavation should be avoided in the wet season, and if necessary, these should be excavated and backfilled in short sections.
 - Open stockpiles of construction materials on site should be covered with tarpaulin or similar fabric.

General Construction Activities

8.07 Debris and rubbish generated on-site should be collected, handled and disposed of properly to avoid entering the nearby coastal waters and stormwater drains. All fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. Open drainage channels and culverts near the works areas should be covered to block the entrance of large debris and refuse.



Wastewater Arising from Workforce

8.08 Portable toilets shall be provided by the Contractors, where necessary, to handle sewage from the workforce. The Contractor shall also be responsible for waste disposal and maintenance practices

Sediment Contamination Mitigation Measure

- 8.09 The basic requirements and procedures for dredged mud disposal are specified under the WBTC No. 34/2002. The management of the dredging, use and disposal of marine mud is monitored by the MFC, while the licensing of marine dumping is the responsibility of the Director of Environmental Protection (DEP).
- 8.10 The uncontaminated dredged sediment will be loaded onto barges and transported to the designated marine disposal site. Appropriate dredging methods have been incorporated into the recommended water quality mitigation measures including the use of closed-grab dredgers and silt curtains. Category L sediment would be suitable for disposal at a gazetted open sea disposal ground.
- 8.11 During transportation and disposal of the dredged marine sediments, the following measures should be taken to minimize potential impacts on water quality:
 - Bottom opening of barges should be fitted with tight fitting seals to prevent leakage of material. Excess material should be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved.
 - Monitoring of the barge loading should be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels should be equipped with automatic self-monitoring devices as specified by the DEP.

Construction Waste Mitigation Measure

Good Site Practices and Waste Reduction Measures

- 8.12 It is not anticipated that adverse waste management related impacts would arise, provided that good site practices are strictly followed. Recommendations for good site practices for the construction waste arising include:
 - Nomination of an approved person, such as a site manager, to be responsible for the implementation of good site practices, arranging for collection and effective disposal to an appropriate facility, of all wastes generated at the site.
 - Training of site personnel in proper waste management and chemical handling procedures.
 - Appropriate measures to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers.
 - Provision of sufficient waste disposal points and regular collection for disposal.
 - 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.
 - Maintain records of the quantities of wastes generated, recycled and disposed.
- 8.13 In order to monitor the disposal of C&D waste at landfills and to control fly tipping, a trip-ticket system should be included as one of the contractual requirements and implemented by an Environmental Team undertaking the Environmental Monitoring and Audit work. An Independent Environmental Checker should be responsible for auditing the results of the system.
- 8.14 Good management and control can prevent the generation of significant amount of waste. 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 aluminium cans by individual collectors, separate labelled bins should be provided to segregate this waste from other general refuse generated by the work force;
- any unused chemicals or those with remaining functional capacity should be recycled;
- use of reusable non-timber 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 should be separated for re-use and / or recycling to minimise the quantity of waste to be disposed of to landfill;
- proper storage and site practices to minimise the potential for damage or contamination of construction materials; and
- plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.

General Site Wastes

8.15 A collection area should be provided where waste can be stored prior to removal from site. An enclosed and covered area is preferred for the collection of the waste to reduce 'wind blow' of light material.

Chemical Wastes

- 8.16 After use, chemical waste (eg. cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Any unused chemicals or those with remaining functional capacity should be recycled. Spent chemicals should be properly stored on site within suitably designed containers, and should be collected by an approved operator for disposal at the Chemical Waste Treatment Facility or other licenced facility in accordance with the Waste Disposal (Chemical Waste) (General) Regulation under the Waste Disposal Ordinance.
- 8.17 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 leakages and spillage should only be undertaken with the areas appropriately equipped to control these discharges.

Construction and Demolition Material

- 8.18 The C&D material should be separated on-site into three categories: (i) public fill, the inert portion of the C&D material (e.g. concrete and rubble), which should be re-used on-site or disposed of at a public filling area; (ii) C&D waste for re-use and/or recycling, the non-inert portion of the C&D material, (e.g. steel and other metals, wood, glass and plastic); (iii) C&D waste which cannot be re-used and/or recycled. The waste producers are responsible for its disposal at strategic landfills.
- 8.19 In order to minimise the impact resulting from collection and transportation of material for off-site disposal, it was recommended that inert material should be re-used on-site where possible. Prior to disposal of C&D material, it was also recommended that steel and other metals should be separated for re-use and/or recycling where practicable to minimise the quantity of waste to be disposed of to landfill.

Ecology Mitigation Measure

<u>Terrestrial Ecology</u>

- 8.20 The uncommon tree species should be labelled and probably fenced to avoid direct or indirect disturbance during construction. Works areas should avoid woodland habitats, in particular where these trees are located.
- 8.21 Construction and maintenance of site runoff control measures would be required at all work sites



during construction. These should include barriers to direct runoff to sand/silt removal facilities (sand/silt/traps and/or sediment basins); minimisation of earthworks during rainy season (May to September); and coverage of sand/fill piles and exposed earth during storms.

8.22 Special attention should be paid during the breeding season of Romer's Tree Frog (March to September) to ensure their habitat landward to Pumping Station P2 site is well protected from site runoff. Barriers should be deployed completely along the landward side of the pumping station site boundary to prevent any site runoff from entering the tree frog habitat. Intactness of the barriers should be frequently inspected.

Intertidal and Subtidal Ecology

- 8.23 Construction and maintenance of site runoff control measures would be required at all work sites during construction. These should include barriers to direct runoff to sand/silt removal facilities (sand/silt/traps and/or sediment basins); use of silt curtains along coastline; minimisation of earthworks during rainy season (May to September); and coverage of sand/fill piles and exposed earth during storms.
- 8.24 To reduce impacts of sediment resuspension upon nearby habitats and organisms during dredging, all dredging should be done using a closed-grab dredger, and silt curtains should be deployed around the dredger during all dredging activity

Fisheries Mitigation Measure

8.25 Closed grab dredger, deployment of silt curtains around the immediate dredging area and low dredging rate have been recommended in Water Quality of the EIA report in order to minimise sediment release into the water column.

Landscape & Visual Mitigation Measure

- 8.26 Mitigation measures recommended in the EIA Report for landscape and visual impacts during the construction stage are summarised below.
 - Screening of site construction works by use of hoarding that is appropriate to its site context;
 - Retaining existing trees and minimising damage to vegetation where possible by close co-ordination and on site alignment adjusted of rising main and gravity sewer pipelines. Tree protective measures should be implemented to ensure trees identified as to be retained are satisfactorily protected during the construction phase;
 - Careful and efficient transplanting of affected trees (1 no.) to temporary or final transplant location (the proposed tree to be transported is a semi-mature *Macaranga tanarius* and is located at the proposed Pumping Station P2 location);
 - Short excavation and immediate backfilling of sections upon completion of works to reduce active site area;
 - Conservation of top-soil for reuse.
 - Night-time light source from marine fleets should be directed away from the residential units
- 8.27 Leader had been implementing the required environmental mitigation measures according to the Sok Kwu Wan Environmental Monitoring and Audit Manual subject to the site condition. Environmental mitigation measures generally implemented by Leader in this Reporting Month are summarized in *Table 8-1*.



Table 8-1	Environmental Mitigation Measures
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Issues	Environmental Mitigation Measures
Water	• Drainage channels were provided to convey run-off into the treatment facilities;
Quality	and
	 Drainage systems were regularly and adequately maintained.
Air Quality	• Cover all excavated or stockpile of dusty material by impervious sheeting or
	sprayed with water to maintain the entire surface wet;
	• Public roads around the site entrance/exit had been kept clean and free from dust;
	and
	 Tarpaulin covering of any dusty materials on a vehicle leaving the site.
Noise	 Good site practices to limit noise emissions at the sources;
	 Use of quite plant and working methods;
	• Use of site hoarding or other mass materials as noise barrier to screen noise at
	ground level of NSRs; and
	• To minimize plant number use at the worksite.
Waste and	• Excavated material should be reused on site as far as possible to minimize off-site
Chemical	disposal. Scrap metals or abandoned equipment should be recycled if possible;
Management	• Waste arising should be kept to a minimum and be handled, transported and
ivianagement	disposed of in a suitable mainer,
	• The Contractor should adopt a trip ticket system for the disposal of C&D
	materials to any designed public filling facility and/or landfill; and
	• Chemical waste shall be handled in accordance with the Code of Practice on the
	Packaging, Handling and Storage of Chemical Wastes.
General	The site was generally kept tidy and clean.



9 CONCLUSIONS AND RECOMMENTATIONS

9.1 CONCLUSIONS

- 9.01 This is the 5th Quarterly EM&A Summary Report for Sok Kwu Wan Portion Area under the Project covering the construction period from 1 August to 31 October 2011.
- 9.02 No noise complaint (which is an Action Level exceedance) was received and no construction noise measurement results that exceeded the Limit Level were recorded in this Reporting Period. No NOE or the associated corrective actions were therefore issued.
- 9.03 In this Reporting Period, no 1-hour TSP or 24-hr TSP monitoring results was found to be triggered the Action or Limit Level.
- 9.04 As informed by the Contractor, the marine work of outfall construction has been commenced on 19 July 2011 and therefore water quality was undertaken in this Reporting Period. The monitoring result demonstrated no exceedance of Action or Limit Level in this Reporting Period
- 9.05 No documented complaint, notification of summons or successful prosecution was received in this Reporting Period.
- 9.06 **13** events of site inspection were carried out by ET in this Reporting Period and no non-compliance was observed during the inspection. In general, all the observation has been rectified during the next week site inspection. The environmental performance of the Project was therefore considered as satisfactory.
- 9.07 No site inspection was undertaken by external parties i.e. EPD or AFCD within the Reporting Period.

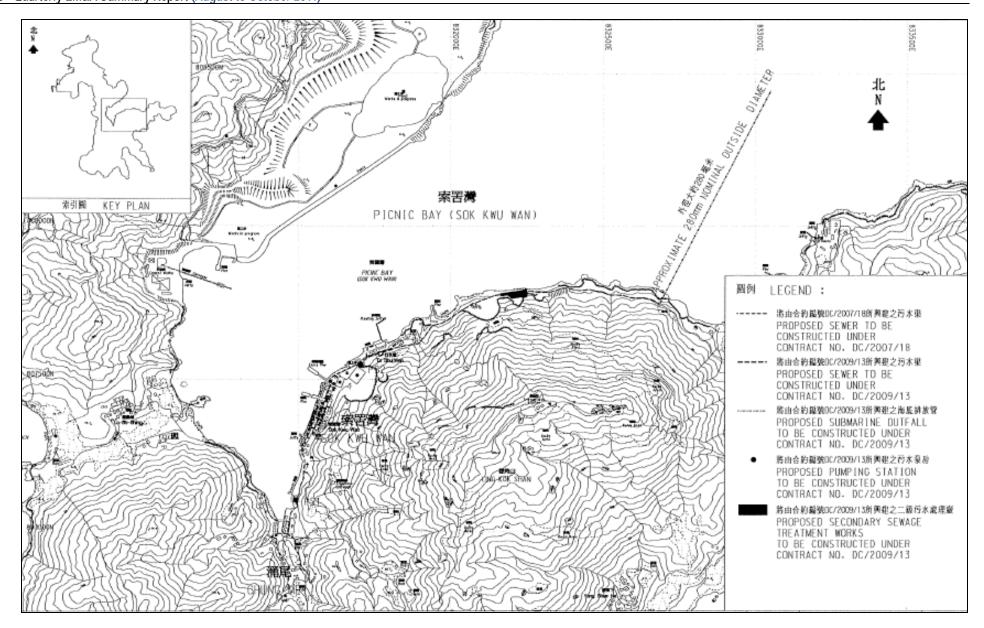
9.2 **RECOMMENDATIONS**

- 9.08 During dry season, special attention should be paid to the dust mitigation measures to avoid fugitive dust emissions from loose soil surface or haul road. Nevertheless, mitigation measures implemented for control the surface runoff including wheel wash facilities, covering of the loose soil surface or stockpile with tarpaulin sheet, etc., should fully implement.
- 9.09 Muddy water and other water quality pollutants via site surface water runoff into the sea body within Fish culture zone at Picnic Bay and the Secondary recreation contact subzone at Mo Tat Wan is the key issue of the Project. Mitigation measures for water quality should be properly maintained to prevent any muddy or sandy runoff from the loose soil surface overflow on the site boundary.



Appendix A

Site Layout Plan – Sok Kwu Wan Portion Area





Appendix B

Organization Structure and Contact Details of Relevant Parties



Contact Details of Key Personnel

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
DSD	Employer	Mr. AU Chi Kwong	-	-
SCJV	Engineer's Representative	Mr. Neil Wong	2982 0240	2982 4129
SCJV	Resident Engineer	Mr. Alfred Cheung	2982 0240	2982 4129
Scott Wilson	Independent Environmental Checker	Mr. Rodney Ip	2410 3750	2428 9922
Leader	Project Manager	Mr. Vincent Chan	2982 1750	2982 1163
Leader	Site Agent	Mr. Stephen Leung	2982 1750	2982 1163
Leader	Environmental Officer	Mr. K.Y. So	2982 8652	2982 8650
Leader	Section Engineer	Mr. Burgess Yip	2982 1750	2982 1163
Leader	Safety Officer	Mr. Edwin Leung	2982 1750	2982 1163
AUES	Environmental Team Leader	Mr. T. W. Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Ms. Nicola Hon	2959 6059	2959 6079
AUES	Assistance Environmental Consultant	Mr. Ray Cheung	2959 6059	2959 6079
AUES	Team Supervisor	Mr. Ben Tam	2959 6059	2959 6079

Legend:

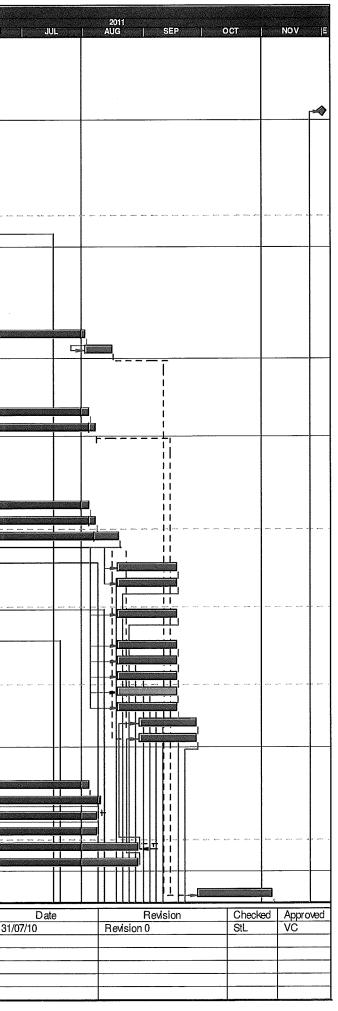
DSD (Employer) – Drainage Services Department CDM (Engineer) – Scott Wilson CDM Joint Venture Leader (Main Contractor) – Leader Civil Engineering Corporation Limited Scott Wilson (IEC) – Scott Wilson Limited AUES (ET) – Action-United Environmental Services & Consulting



Appendix C

Master and Three Months Rolling Construction Programs

Activity		Original	Percent	Early	Early	Late	Late	Total			
ID	Description		Complete	Start	Finish	Start	Finish	Float	Predecessors	Successors	MAY JUN
Project Key D	ate										
KD0010	Receive Letter of Acceptance	0	100		05/05/10 A		05/05/10 A			KD0125]
KD 0020	Project Commencement Date	0	100		17/05/10 A		17/05/10 A			E&M0010, E&M0070, E&M1001,	
KD 0050	Section W3 - Footpath Diversion in Ptn G (273d)	0	100		24/03/11 A		24/03/11 A	1	SKW0551	KD0125	1
KD0115	Start Operate Temp Sewage Treatment in Port. A&H	0	0		01/12/11		30/06/11 *	-154d *	E&M0510	KD0125]
Preliminary (C	Biv II)										
PRE0020	Pre-condition Survey	60	100	17/05/10 A	15/07/10 A	17/05/10 A	15/07/10 A]	KD0020		20
PRE0040	Erection of Engineer's Site Accommodation at YSW	60				17/05/10 A	15/07/10 A		KD0020]
PRE0050	Taking over the Secondary Engineer's Site Accomm	75			30/07/10 A	17/05/10 A	30/07/10 A		KD0020		1
PRE0060	Application of Consent from Marine Department	60	100	17/05/10 A	15/07/10 A	17/05/10 A	15/07/10 A		KD0020		
PRE0090	Working Group Meeting for Outfall Construction	120	100	17/05/10 A	23/11/10 A	17/05/10 A	23/11/10 A		KD0020	SKW1151	the group game and stars show while there seems before
PRE0100	Application & Consent of XP from HyD (Mo Tat Rd)	120	100	17/05/10 A	13/10/10 A	17/05/10 A	13/10/10 A	1	KD0020	SKW1491, SKW1501	_
PRE0130	Setup Web-site for EM&A Reporting	90	100	17/05/10 A	31/08/10 A	17/05/10 A	31/08/10 A		KD0020		
Preliminary (E	&M)										
Technical Submi											
	of SKWSTW & YSWSTW				1				Liz.	1	- Sector - S
E&M0010	Submission	38	1		23/06/10 A	17/05/10 A	23/06/10 A	ļ	KD0020	E&M0020, E&M0040, E&M0235	4
E&M0020	Vetting and Comment by ER	21			14/07/10 A	24/06/10 A	14/07/10 A	ļ	E&M0010	E&M0030, E&M0040	
E&M0030	Revision and Resubmission	125		17/05/10 A	1	17/05/10 A	16/06/11	-47d	E&M0020	E&M0080	-
E&M0080	Approval from the Engineer	14	0	02/08/11	16/08/11	17/06/11	30/06/11	-47d	E&M0030	E&M0295	
Hydraulic Desig		1	1		I	1	1	1	E&M0010, E&M0020	E&M0050, E&M0101, E&M0240,	
E&M0040	Submission	21		17/05/10 A		17/05/10 A	16/09/10 A		E&M0010, E&M0020	E&M0060	-
E&M0050	Vetting and Comment by ER	14	*		09/11/10 A	17/09/10 A	09/11/10 A		E&M0050	E&M0430	
E&M0060	Revision and Resubmission	97		19/08/10 A		19/08/10 A	28/06/11	-38d	E&M0060	E&M0295	-
E&M0430	Approval from the Engineer	7	60	29/03/11 A	07/08/11	29/03/11 A	30/06/11	-38d	Lawood		
	nission & Approval	L 50	100		05/07/40 4	47/05/40 4	05/07/10 4	T	KD0020	E&M0090	<u> </u>
E&M0070	Submission of Membrane Module	50 14			05/07/10 A	17/05/10 A	05/07/10 A 19/07/10 A		E&M0070	E&M0100	-
E&M0090	Vetting and Comment by ER				19/07/10 A	06/07/10 A			E&M0090	E&M0160	-
E&M0100 E&M0101	Revision and Resubmission Submission of Equipment	14 90		20/07/10 A 04/08/10 A	24/02/11 A	20/07/10 A 04/08/10 A	24/02/11 A 15/02/11	-170d	E&M0040	E&M0102	
E&M0102	Vetting and Comment by ER	60		18/11/10 A		18/11/10 A	18/02/11	-1700	E&M0101	E&M0103	
E&M0103	Revision and Resubmission	60		01/02/11 A	19/08/11	01/02/11 A	02/03/11	-1700	E&M0102	E&M0110, E&M0120, E&M0130,	
E&M0100	Approval on Coarse Screens	30		25/05/11 A	25/05/11 A	25/05/11 A	25/05/11 A	-1700	E&M0103	E&M0390	
E&M0120	Approval on Fine Screens	30		19/08/11	18/09/11	29/04/11	28/05/11	-113d	E&M0103	E&M0400, E&M3060	╡ └┼──
E&M0130	Approval on Pumps	30		19/08/11	18/09/11	03/03/11	01/04/11	-170d	E&M0103	E&M0410, E&M3070	1
E&M0140	Approval on Submersible Mixers	30			23/03/11 A	23/03/11 A	23/03/11 A		E&M0103	E&M0420, E&M3080	1
E&M0150	Approval on Grit Removal Equipment	30	0	19/08/11	18/09/11	29/04/11	28/05/11	-113d	E&M0103	E&M0380, E&M3030	- and the second design decome mercan while the second definition of th
E&M0160	Approval on MBR Membrane Modules (M.M.)	105	100		24/02/11 A	02/08/10 A	24/02/11 A	1	E&M0100	E&M0360, E&M0370, E&M3010	1
E&M0170	Approval on Sludge Dewatering Equipment	30	0	19/08/11	18/09/11	03/03/11	01/04/11	-170d	E&M0103	E&M0440, E&M3090	1
E&M0180	Approval on Valves, Pipes & Fittings	30	0	19/08/11	18/09/11	28/06/11	27/07/11	-53d	E&M0103	E&M0450, E&M3100	1
E&M0190	Approval on Penstocks	30	0	19/08/11	18/09/11	11/06/11	10/07/11	-70d	E&M0103	E&M0460, E&M3110	
E&M0200	Approval on Instrumentation	30	0	19/08/11	18/09/11	09/10/11	07/11/11	51d	E&M0103	E&M0470, E&M3130]
E&M0210	Approval on MCC & LVSB	30	0	19/08/11	18/09/11	03/03/11	01/04/11	-170d	E&M0103	E&M0480, E&M3140	
E&M0220	Approval on BS Equipment	30	0	30/08/11	28/09/11	31/07/11	29/08/11	-30d	E&M0103, E&M0280	E&M0490, E&M3150	1 1
E&M0230	Approval on FS Equipment	30	0	30/08/11	28/09/11	01/06/11	30/06/11	-90d	E&M0103, E&M0290	E&M0295, E&M0320, E&M0500,	
	Ission & Approval				1	1	1		La	1	
E&M0235	Sub. P&ID Drawings	100			22/08/10 A	24/06/10 A	22/08/10 A	<u> </u>	E&M0010		4
E&M0240	Sub. Plant GA Drawings	45		04/08/10 A		04/08/10 A	30/06/11	-35d		E&M0250, E&M0280, E&M0290	
E&M0250	Sub. Builder's Works Requirements Drawings	15		04/08/10 A	10/08/11	04/08/10 A	01/07/11	-40d	E&M0240, E&M0260, E&M0270	E&M0280, E&M0290	()
E&M0260	Sub. Mechanical Installation Drawings	60		27/09/10 A	08/08/11	27/09/10 A	30/06/11	-40d	E&M0040	E&M0250	-
E&M0270	Sub. Electrical Installation Drawings	60		27/09/10 A	08/08/11	27/09/10 A	30/06/11	-40d	E&M0040 E&M0240, E&M0250, E&M0270	E&M0250, E&M0280 E&M0220	
E&M0280	Sub. BS Installation Drawings	120		27/09/10 A		27/09/10 A	30/07/11	-30d	E&M0240, E&M0250, E&M0270 E&M0240, E&M0250	E&M0220	
E&M0290	Sub. FS Installation Drawings	120	<u> </u>	13/11/10 A	29/08/11	13/11/10 A	31/05/11	-90d			
Statutory Submis		1 00		20/00/11 1	06/11/11	01/07/14	00/00/114	001	E&M0080, E&M0230, E&M0430	E&M0300	
E&M0295	Preparation of Submission to HEC	39	<u> </u>	29/09/11	06/11/11	01/07/11	08/08/11	-90d			
Start date 05/05											-
Finish date 13/00 Data date 31/07	7/11 Critical bar				L		ngineering Co				3
Run date 08/08	Summary bar				0 au chui - 17		t No. DC/2009				
Page number 1A	Critical point						Freatment W o ramme (Aug 2				
a Drimer mu - Or - t	Summary point				- month				···/		(Marked on 31 Jul 2011)
c Primavera Systen	S, IIIU. A Einish milostono mint										



Activity ID	Description	Original	Percent Complete	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors				2011 AUG			I NOV IE
E&M0300	Application & Approval from HEC	150	Contraction of the second	07/11/11	04/04/12	09/08/11	05/01/12		E&M0295	E&M0305	MAY	JUN JUL			SEF	<u> ОСТ</u>	
E&M0320	Form 314 Submission to FSD	14		29/09/11	12/10/11	15/04/12	28/04/12	199d		E&M0325, E&M0670							
E&M0325	Submission to WSD	14		13/10/11	26/10/11	29/04/12	12/05/12	199d		E&M0670, E&M0680							
E&M0350	Form 501 Submission to FSD (PS1 & PS2)	28		27/11/11	25/12/11	04/02/15	13/03/15		E&M2016								│ ┌╼┼
Yung Shue V				L	1	1	<u> </u>						Î				
Preliminary																	
YSW0020	Approval of Environmental Team	16	100	17/05/10 A	01/06/10 A	17/05/10 A	01/06/10 A		KD0020	YSW0030, YSW0040							
YSW0030	Baseline monitoring (Air & Nolse)	14		31/07/10 A		31/07/10 A	22/08/10 A		YSW0020	YSW0035							
YSW0035	Baseline Monitoring Report Submission (A & N)	14	100	23/08/10 A	07/09/10 A	23/08/10 A	07/09/10 A		YSW0030	YSW0120, YSW0152, YSW0500,							
YSW0040	Baseline monitoring (Water)	213	100	30/07/10 A	31/12/10 A	30/07/10 A	31/12/10 A		YSW0020	YSW0350			r - t - -		† † - -		
YSW0050	Erect Hoarding and Fencing	60	100	17/05/10 A	15/07/10 A	17/05/10 A	15/07/10 A							╺ <u></u> ╋╋	┝┝┼╿┝╸╸		
100 1	lope W orks in Portion A & C				<u></u>												
YSW0075	Mobilization	30		·	<u>.</u>	17/05/10 A	15/06/10 A		KD0020	YSW0100						1	
YSW0080	Site Clearance	30		17/05/10 A	1	17/05/10 A	15/06/10 A		YSW0080	YSW0085, YSW0120 YSW0120							
YSW0085	Initial Survey	14		02/06/10 A		02/06/10 A	15/06/10 A		13440000	YSW0100, YSW0110							
YSW0090	Verify the Rock Boulder required Stablization Wk	30		19/07/10 A	1	19/07/10 A	21/03/11 A		YSW0075, YSW0090	YSW0150						i	
YSW0100 YSW0110	Removal of Rock Boulder Stablizing work for rock boulder	280 280		20/09/10 A 16/07/11 A		20/09/10 A 16/07/11 A	03/06/11 A 15/08/11	-124d		YSW0150		Ang 6.52 (Ave 62) (6.01 (7.52 (6.1))	» en en ma r	400 143 145	<u>, , , , , , , , , , , , , , , , , , , </u>		<u>na kao mon kao kao kao kao kao</u>
YSW0120	Cut the slope to design profile	100	100		1	13/09/10 A	14/09/10 A	-1240	YSW0035, YSW0080, YSW0085	YSW0131, YSW0165							
YSW0131	Mobilization of Plant and Material of Soil Nails	20		01/09/10 A	14/09/10 A	01/09/10 A	14/09/10 A		YSW0120	YSW0132							
YSW0132	Erect Scaffold and Working Platform	20		15/09/10 A		15/09/10 A	16/09/10 A		YSW0131	YSW0133							
YSW0133	Setting out and Verify Locations of Soil Nails	10		14/09/10 A		14/09/10 A	31/10/10 A		YSW0132	YSW0134						i	
YSW0134	Drilling and Soil Nails Installation	20		08/10/10 A		08/10/10 A	19/11/10 A		YSW0133	YSW0135	10. 614 615 KIS KIS KIT 67 517	416 15.0 55.0 turi cun ant tur				Pad by RED IED GEO REE A	
YSW0135	Construction of Nail Heads	10	100	24/11/10 A	01/12/10 A	24/11/10 A	01/12/10 A		YSW0134	YSW0136						!	
YSW0136	Mesh Installation on Cut Slope	10	100	04/12/10 A	04/12/10 A	04/12/10 A	04/12/10 A		YSW0135	YSW0137							
YSW0137	Hydroseeding	30	0	31/07/11	29/08/11	27/06/11	27/07/11	-33d	YSW0136	YSW0140							
YSW0140	Construct U-channels & Step Channel on Cut Slope	116	90	02/04/11 A	10/09/11	02/04/11 A	08/08/11	-33d	YSW0137	YSW0150		112 2010 ED 400 ET 2010 11				3 (S 167) 2(3) (003 5(3) 503 1	
YSW0150	Construction of access, u-channels and catch pit	76	90	10/01/11 A	17/12/11	10/01/11 A	15/08/11	-124d	YSW0100, YSW0110, YSW0140,	KD0030							1 11
YSW0165	Construction of Barrier Wall (below Ground Lev)	226	92	10/09/10 A	18/08/11	10/09/10 A	08/08/11	-10d	YSW0120	YSW0150, YSW0154, YSW0155					┟╢┟╴		
	SW STW & Submarine Outfall															I	
Civil & Structu									KD0020	YSW0422						L L	
YSW0412	Mobilization	30		1	15/06/10 A	17/05/10 A	15/06/10 A		KD0020, YSW0412	YSW0432, YSW0500, YSW0610,						i	i
YSW0422 YSW0432	Site Clearance	30		•	15/06/10 A 15/06/10 A	17/05/10 A	15/06/10 A 15/06/10 A		YSW0422	YSW0510			┝╺┝╢╸	╵-╎┾╎-╎	┝╽┥┝╴╴		
YSW STP -		4	100	102/06/10 A	15/00/10 A	102/00/10 A	115/00/10 A]		L					─┼┼┼	╆╊╊┝──		
	ELS & Excavation for Inlet Pumping Station	62	100	17/09/10 A	16/12/10 A	17/09/10 A	16/12/10 A		YSW0035, YSW0422	YSW0510						I I	i
YSW0510	Sub-structure construction (Inlet Pumping Stn)	30			04/04/11 A	17/12/10 A	04/04/11 A		YSW0432, YSW0500	YSW0520							
YSW0520	Backfill & Remove ELS (Inlet Pumping Stn)	30		03/01/11 A		03/01/11 A	05/05/11 A		YSW0510	YSW0530, YSW0610						11	
YSW0530	ELS & Excavation for Equalization Tank	40		11/01/11 A	1	11/01/11 A	08/06/11 A		YSW0520	YSW0540							
YSW0540	Sub-structure construction (Equalization Tank)	40	85	13/06/11 A	05/08/11	13/06/11 A	13/02/11	-173d	YSW0530	YSW0550	4						
YSW0550	Backfilling & Remove ELS (Equalization Tank)	40	0	06/08/11	14/09/11	14/02/11	25/03/11	-173d	YSW0540	YSW0570							
YSW0570	Excavate to formation by open cut	30	80	02/07/11 A	20/09/11	02/07/11 A	31/03/11	-173d	YSW0550	YSW0580			I I II				
YSW0580	Base slab construction	30		06/07/11 A		06/07/11 A	27/04/11	-173d	YSW0570	YSW0590				1111			i
YSW0590	G/F to 1/F construction	50	0	18/10/11	06/12/11	28/04/11	16/06/11	-173d	YSW0580	YSW0600	···		┞──┼╴╟	┝╾┠╊┠┠	┼╫┼┝━		
YSW STP -		1!	·						YSW0035, YSW0422, YSW0520	L XSW0620							
YSW0610	Excavate to formation	50			17/09/10 A	08/09/10 A	17/09/10 A		YSW0610	YSW0620						11	
YSW0620 YSW0630	Base slab construction	60 95		18/09/10 A 27/12/10 A	23/05/11 A	18/09/10 A 27/12/10 A	23/05/11 A		YSW0620	YSW0640							
YSW0630 YSW0640	G/F to 1/F construction 1/F to Roof Construction	95		20/07/11 A		27/12/10 A 20/07/11 A	19/07/11 A 21/08/11	-60d		YSW0810, YSW0840		L					
YSW0840 YSW0810	ABWF installation	86			24/11/11	02/07/11	25/09/11	000	YSW0640	E&M0610, E&M0620, E&M0630,		1					
	GLF-H&DN Tanks		U					-000	1	L				┝╼╂╊╊╊			
YSW0650	ELS & Excavation for DN Tanks	70	100	21/08/10 A	14/10/10 A	21/08/10 A	14/10/10 A		YSW0035, YSW0422	YSW0660						11	
YSW0660	Sub-struction construction (DN Tanks)	40			31/12/10 A		31/12/10 A		YSW0650	YSW0670							
YSW0670	Backfill & Remove ELS (DN Tanks)	32			15/03/11 A	08/01/11 A	15/03/11 A		YSW0660	YSW0680						11	
YSW0680	Base slab construction	30			28/03/11 A		28/03/11 A		YSW0670	YSW0690							
Finish date 13, Data date 31,	Summary point				Construction	Contract n of Sewage T	ngineering Co t No. DC/2009/1 Treatment W or ramme (Aug 20	I3 ′ks at YS			(Marked on 31 Jul 201	Date 31/07/10		Revision	Revision 0	n Ch StL	ecked Approved
U Frimavera Syste	TIN, IIIU. A Finish milostono point								<u></u>								

Start date	05/05/10		Early bar
Finish date	13/03/15		Progress bar
Data date	31/07/11		Critical bar Summary bar
Run date	08/08/11		Progress point
Page number	2A		Critical point
		Ī 😨 -	Summary poir
c Primavera	Svstems, Inc.	1 (Start mileston
Contraction of the local data			Finish milasta



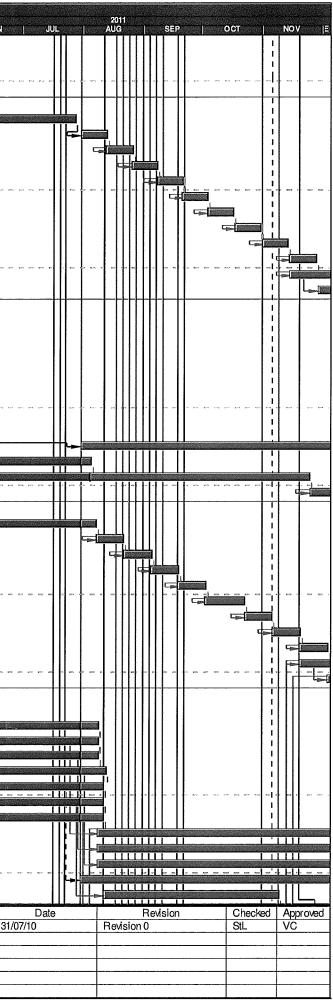
	Activity	Description	Original	Percent	Early	Early	Late	Late	Total	Predecessors	Successors				2011			
	ID					Finish	Start	Finish	Float	Velwassa		MAY	JUN	JUL	AUG	SEP	ОСТ	NOV
	165 BB								<u> </u>			ny film but the city the st	· 632 6430 9 4131 9234 6640	eo es 1 es es	» 400 M 199			1004 000 1000 17 1000 1007 -
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				<u>i</u>														1
			34	0 31/0	07/11	02/09/11	27/02/11	01/04/11	-154d	YSW0690	E&M0510, E&M0630, E&M0640			┈┈┥┥				<u> </u>
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			0	0 20/1	10/11		01/07/11	1	-112d									
Number Partial issues of Logical activity All All and the same of Logical activity All and and the same of Logical acti	YSW0740	ELS & excavate for Outfall Shaft	22	0 20/1	10/11	11/11/11	01/07/11	22/07/11	-112d		YSW0750						transferration of the second second	
Bit Mark Link Link Link Link Link Link Link Lin	YSW0750	Sub-structure construction (outfall shaft)	22	0 11/1	11/11	03/12/11	23/07/11	13/08/11	-112d									┱
No. Mode: Lot: Control Control <th< td=""><td>YSW0760</td><td>Backfill & remove ELS (outfall shaft)</td><td>24</td><td>0 03/1</td><td>12/11</td><td>27/12/11</td><td>14/08/11</td><td>06/09/11</td><td>-112d</td><td>YSW0750</td><td>YSW0770, YSW1470</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>	YSW0760	Backfill & remove ELS (outfall shaft)	24	0 03/1	12/11	27/12/11	14/08/11	06/09/11	-112d	YSW0750	YSW0770, YSW1470							
Unit Unit <th< td=""><td>Fire Hose Re</td><td>el / Sprinkler Pump Rm</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>11</td><td>i </td></th<>	Fire Hose Re	el / Sprinkler Pump Rm															11	i
Image: Sector and res	YSW0840	ELS & excavate to formation (+0 mPD approx)	30	0 20/1	10/11	19/11/11	01/09/11	30/09/11			YSW0860						╽╹╨╨┼╾╟══	
No.2 Torue 7. Besize d'Annaez Fel De Santos Annaez Fel De Santos Annaez<	YSW0860	Sub-structure construction	30	0 19/1	11/11	19/12/11	01/10/11	30/10/11	-50d	YSW0840	YSW0880							
11 11<	Road, Drain, C	Cable Draw Pits & Ducting																
University Description Description <thdescription< th=""> <thdescription< th=""></thdescription<></thdescription<>	YSW0152	Temporary Diversion of Drainage	92	100 02/1	12/10 A	09/05/11 A	02/12/10 A	09/05/11 A	1	YSW0035	YSW0153							, i
Non-bit Conversities (Local Level Use Address Address Address Non-bit Conversities (Local Level Obstantial Local Level Obstantial	YSW0153	Removal of ExU-Channel where clash with B. Wall	50	100 20/1	11/10 A	20/04/11 A	20/11/10 A	20/04/11 A	Ì	YSW0152	YSW0154							
Market Policies The Councel clause in clause i	YSW0154	Construction of Subsoil Drain	90					1	51d	YSW0153, YSW0165	YSW0155				·- ╢┥ ╾╠ <u></u>			
Schelling Schelling <t< td=""><td>YSW0155</td><td>RC Concrete Barrier (above Ground Level)</td><td>120</td><td></td><td></td><td></td><td></td><td></td><td>51d</td><td>YSW0154, YSW0165</td><td>YSW1640, YSW1660</td><td></td><td></td><td></td><td></td><td></td><td></td><td>╵└┎╤╸╠╤╤╧</td></t<>	YSW0155	RC Concrete Barrier (above Ground Level)	120						51d	YSW0154, YSW0165	YSW1640, YSW1660							╵└┎╤╸╠╤╤╧
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University Status Control Contro Control <thcontrol< th=""> <t< td=""><td>YSW0180</td><td>Coordination of HEC</td><td>53</td><td>100 17/0</td><td>05/10 A I</td><td>08/07/10 A</td><td>17/05/10 A</td><td>08/07/10 A</td><td></td><td></td><td>YSW0350</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<></thcontrol<>	YSW0180	Coordination of HEC	53	100 17/0	05/10 A I	08/07/10 A	17/05/10 A	08/07/10 A			YSW0350							
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EAMAGE0 Delivery of Fline Screens 100 0 100/12 280/511 41/111 -11/20 EAMAGE0 EAMAGE0 Delivery of Studge Develoring Equipment 162 0 100/911 200/212 0/20/11 100/911 -17/20 EAMISD	E&M0390	Delivery of Coarse Screens	162						-140d	E&M0110	E&M0540				└┼╼┟╝			
E&M040 Delivery of Pumps 162 0 1809/11 2702/12 020/11 1009/11 1-170d E&M050 EAM050 E&M0420 Delivery of Submersible Mars 162 0 1900/11 2800/12 01/07/11 06/07/21 E&M050 E&M050 E&M0450 Delivery of Submersible Mars 160 1900/11 1600/31 2800/11 2700/12 -500 E&M050 E&M050 E&M0450 Delivery of Natromersible Mars 180 0 1800/11 1603/12 28007/11 2300/12 -500 E&M050 E				1							E&M0550							
EAM0420 Delivery of Submersible Mixers 162 0 1908/11 280/1/2 01/07/11 09/12/11 -50d EAM040 EAM050 EAM050 <td>205</td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>E&M0560</td> <td>x 514 CT 001 273 COL CT</td> <td>500 FT NO 5.3 FY FX</td> <td>1779 Tas 1 1 1 1 1 1 1 1</td> <td>1 1144</td> <td>┝┥┥┥┝╼╸╎╝</td> <td></td> <td>100 804 EUE 1 . 80 EEE</td>	205		1								E&M0560	x 514 CT 001 273 COL CT	500 FT NO 5.3 FY FX	1779 Tas 1 1 1 1 1 1 1 1	1 1144	┝┥┥┥┝╼╸╎╝		100 804 EUE 1 . 80 EEE
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	c Primavera System	15, Inc. Start milestone point										(marked on at Jul)						

Start date	05/05/10		Early bar
Finish date	13/03/15		Progress bar
Data date	31/07/11		Critical bar
Run date	08/08/11		Summary bar Progress point
Page number	ЗА	7 🖗 🛛	Critical point
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c Primavera	Systems, Inc.	1 🔶	Start milestone



Activity	-	Original	Percent E	arly	Early	Late	Late	Total										
ID	Description	Duration		art	Finish	Start	Finish	Float	Predecessors	Successors	MAY	JUN JL	IL I	2011 AUG		SEP (OCT	NOV [
SKW0250	Approval of Environmental Team	16	100 17/0	5/10 A 0	1/06/10 A	17/05/10 A	01/06/10 A		KD0020	SKW0260				ТПП	ΠΠΠ			and a second sec
SKW0260	Baseline monitoring (Air & Noise)	14	100 02/0		5/06/10 A	02/06/10 A	15/06/10 A		SKW0250	SKW0242, SKW0265, SKW0592,								
SKW0265	Baseline Monitoring Submission (A & N)	14			8/07/10 A	16/06/10 A	08/07/10 A		SKW0260	SKW0242, SKW0592, SKW0681,								
Section W3 - Fo	ootpath Diversion in Portion G		······															
Civil & Geotech	nnical Works																	
SKW0240	Site Clearance	21	100 17/0	5/10 A 0	6/06/10 A	17/05/10 A	06/06/10 A			SKW0241								E
SKW0241	Initial Survey	9	100 07/0	5/10 A 1	5/06/10 A	07/06/10 A	15/06/10 A	1	SKW0240	SKW0242								·
SKW0242	Excavation to formation for Bay 1 to 5	50	100 16/0	5/10 A 1	1/08/10 A	16/06/10 A	11/08/10 A		SKW0241, SKW0260, SKW0265	5 SKW0251	1							
SKW0251	Drill & Install Dowel Bar for Bay 1 & 3	20	100 02/0	3/10 A 0	1/09/10 A	02/08/10 A	01/09/10 A		SKW0242	SKW0301								
SKW0301	Erect Formwork, mesh & weephole for Bay 1 & 3	12	100 02/0)/10 A 1	5/09/10 A	02/09/10 A	15/09/10 A		SKW0251	SKW0311								
SKW0311	Concreting for Bay 1 & 3	12	100 19/0	6/10 A 2	9/09/10 A	19/06/10 A	29/09/10 A		SKW0301	SKW0321	79° 623 603 609 633 639 6	ena lava ken ken den ken ken ken	a na co m		A 18 5 61	F ROL B IN FMI BID RIN M	.79 KOR KEP 275. BEP KEP	
SKW0321	Drilling & install Dowel Bar for Bay 2 & 5	6	100 30/0	9/10 A 0	6/10/10 A	30/09/10 A	06/10/10 A		SKW0311	SKW0331								
SKW0331	Erect Formwork, mesh & weephole for Bay 2 & 5	7	100 07/10		3/10/10 A	07/10/10 A	13/10/10 A		SKW0321	SKW0341								
SKW0341	Concreting for Bay 2 & 5	7	100 14/1			14/10/10 A	20/10/10 A		SKW0331	SKW0351								
SKW0351	Excavation to formation for Bay 6 to 9	20	100 21/10			21/10/10 A	10/11/10 A	1	SKW0341	SKW0361								
SKW0361	Drill & install dowel Bar for Bay 4 & 7	6	100 11/1			11/11/10 A	16/11/10 A		SKW0351	SKW0371	ad has dad brok karn has he	nno kana kara kon tana mad kina' ko	••••••••••••••••••••••••••••••••••••••	* ** ** *		y 45. 10 peo p.0 45. 42	177 par par em em em	
SKW0371	Erect formwork, mesh & weephole for Bay 4 & 7	7	100 11/1	/10 A 1	6/11/10 A	11/11/10 A	16/11/10 A		SKW0361	SKW0381	1							
SKW0381	Concreting for Bay 4 & 7	7	100 17/1			17/11/10 A	23/11/10 A	l	SKW0371	SKW0391	1							
SKW0391	Drill & install dowel Bar for Bay 6 & 9	3	100 24/1			24/11/10 A	27/11/10 A	ĺ	SKW0381	SKW0401	1							
SKW0401	Erect formwork, mesh & weephole for Bay 6 & 9	7	100 28/1			28/11/10 A	05/12/10 A		SKW0391	SKW0411	1							
SKW0411	Concreting for Bay 6 & 9	7	100 06/12			06/12/10 A	12/12/10 A		SKW0401	SKW0421		175 ATTE ATTY 100 YELD ALTE ATTE 100			1 1 1 1	• er T kik kir kir e	to bis for any ers ers	1 mm 1 mm ann
SKW0421	Drill & install dowel Bar for Bay 8	1	100 13/12			13/12/10 A	13/12/10 A		SKW0411	SKW0431	1							
SKW0431	Erect formwork, mesh & weephole for Bay 8	4	100 15/12			15/12/10 A	21/12/10 A		SKW0421	SKW0441								
SKW0441	Concreting for Bay8	4	100 22/12			22/12/10 A	27/12/10 A		SKW0431	SKW0461								
SKW0461	Excavation for no fine concrete Bay (1-9)	3	100 26/07			26/07/11 A	28/07/11 A		SKW0441	SKW0471			┶╾┓					
SKW0471	Concreting for no-fine concrete	7	100 01/02			01/02/11 A	07/02/11 A		SKW0461	SKW0481			╞╼┛╞╺	с 🖂 -(3 л	3 33 5 5	, e		1 812 11: 623 63
SKW0481	Installation of Wall tie & stone facing	14	100 08/02			08/02/11 A	11/02/11 A		SKW0471	SKW0491	1 1							
SKW0491	Construction of Gabion Wall	7	100 08/02			08/02/11 A	14/02/11 A		SKW0481	SKW0501	1 1							
SKW0501	Place Geotextile	3	100 08/0			08/01/11 A	28/02/11 A		SKW0491	SKW0511	1 1							
SKW0511	Backfill behide the retaining wall to approx +4	7	100 11/0			11/01/11 A	28/02/11 A		SKW0501	SKW0521	1							
SKW0521	Watermain Laying and Diversion	14	100 01/04			01/04/11 A	10/05/11 A		SKW0511	SKW0531	1.00 MOA 201 MOV MOV 201 A	11. 11. 11. 11. 11. 11. 11. 11. 11. 11.			1111	2 800 1 W 1000 100 102 W	era Rija poli disa Not Bala	· 202 2 100 600
SKW0531	Concreting for Pavement	7	100 02/06			02/06/11 A	30/07/11 A		SKW0521	SKW0541	┤─ [┖] ─── _┶ ┟							
SKW0541	Installation of Flower Pot	7	0 31/07		6/08/11	15/02/11	22/02/11	-166d	SKW0531	SKW0551	1 T							
SKW0551	Permanent Footpath Diversion		100 30/07			30/07/11 A	30/07/11 A	1000	SKW0541	KD0050, SKW1261, SKW1311			╘┹╴					
202	ope W orks in Portions H & I	<u> </u>	100 00/01	/11//10		100/07/11/1	00/01/11/1		I				╎┍╧┦╾╸	-†=∤‡ŀ	┇╞╏╡ ╞	• + + •		
Geotechnical W																		
SKW0588	Construct scaffolding access	30	100 15/06		4/07/10 A	15/06/10 A	14/07/10 A		KD0020	SKW0590							li	
SKW0590	Site Clearance for Slope	100			2/10/10 A	15/07/10 A	22/10/10 A		SKW0588	SKW 0591								
SKW0591	Initial Survey for Slope	28	100 21/09			21/09/10 A	18/10/10 A		SKW0590	SKW 0592							l i	
SKW0592	Temporary Rockfall fence at ex. Footpath	43			5/01/11 A	19/10/10 A	06/01/11 A		SKW0260, SKW0265, SKW0591	1 SKW 05931								
SKW05931	Construction of Haul Road (To +21mPD)	50	100 28/11			28/11/10 A	30/12/10 A		SKW0592	SKW05932							l i	
SKW05932	Construction of Haul Road (To +42mPD)	60			1/01/11 A	15/12/10 A	31/01/11 A		SKW05931	SKW 05933, SKW 05940, SKW 0595	10 679 619 618 Kill 61 ⁴ 5	170 Not 1977 NO 277 458 1975 N	a ya wa yar	N 100 - 101 🕨		2 200 112 002 003 00		2 1000 105 1000 1000
SKW05933	Excavation of Rock Berm (+50mPD to +42.5mPD)	30				01/03/11 A	03/05/11 A		SKW05932	SKW 05934	l						i	
SKW05934	Excavation of Rock Berm (+42.5mPD to +35mPD)	30				04/05/11 A	31/05/11 A		SKW05933	SKW05935, SKW05941								
SKW05935	Excavation of Rock Berm (+35mPD to +27.5mPD)	30		/11 A 2			21/03/11	-155d	SKW05934	SKW 05936	┟─────┖┼╸						i	
SKW05936	Excavation of Rock Berm (+27,5mPD to +20mPD)	30	0 24/08		2/09/11	22/03/11	20/04/11	-155d		SKW05937, SKW05942	1			I III			!	
SKW05937	Excavation of Rock Berm (+20mPD to +12.5mPD)	30	0 23/05			21/04/11	20/04/11	-155d		SKW 05938	the well first file part had	and from the star from from the	the state of the second	1111			20 Prof 101 Prof 200	- es po es es
SKW05938	Excavation of Rock Berm (+12.5mPD to +5mPD)	28	0 23/10			21/04/11	17/06/11	-155d		SKW05943, SKW1311, SKW1371	1 1							
SKW05940	Slope Drainage & Misc. at 50mPD	60	100 01/04			01/04/11 A	03/05/11 A		SKW05932	SKW05941	h I						lir	
SKW05941	Slope Drainage & Misc. (+50 to +35mPD)	60	40 04/05			04/05/11 A	20/04/11		SKW05934, SKW05940	SKW05942							!	
SKW05942	Slope Drainage & Misc. (+35 to +20mPD)	58	0 23/09			21/04/11	17/06/11	-137d -155d		SKW05943					ΠH		!!	
SKW0595	RockMeshing & Rockfall Fence	260	0 23/05			21/04/11 29/11/10	15/08/11	0001-	SKW05932	KD0060	1 - 100 - 100 - 100 - 100 - 10	na den pre pre der en des de		<u></u>			en por por en en en de	- bre 2 - bres bres
· · · · · · · · · · · · · · · · · · ·	S. No. 1 in Portion D	200	0 31/0/		JI (171/12	<u></u> 3/11/10	13/00/11	-2440						THE	HHH			
CIVI & Geotech																		
SKW0651	Site Clearance	J -1	100 17/05	/10 A L 0		17/05/10 A	23/05/10 A		KD0020	SKW0652								
SKW0652	Initial Survey		100 17/05			24/05/10 A	30/05/10 A		SKW0651	SKW0661, SKW0681							!	
1004	05/10 Early bar	1 /	100 24/05			24/00/10 A	10 A 11 CO10C					Date		┍┻┻╘╘╘┕	Revis	lon	Checked	Approved
Finish date 13/0	03/15 Progress bar							•				31/07/10	,	Revisio				VC
Data date 31/0					Le		Igineering Co											
Run date 08/0	18/11 A Progress point			Ge	nstruction		No. DC/2009/ reatment Wo		W&SKW									
age number 4A	Critical point						ramme (Aug 2										ļĪ	
c Primavera Syster	A Start milestane point					J - J					(Marked on 31 Jul 2	011)		<u> </u>			<u>├</u>	
	Einich millostono point													L				

ID .	Description	Original Duration	Percent Complete	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors		
SKW0661								FIORI	SKW0652	SKW0681	MAY	JUN
SKW0681	Transplantation for uncommon vegatation Excavate to lower the working platform to +3mPD	30		31/05/10 A	29/06/10 A 17/08/10 A	31/05/10 A	29/06/10 A 17/08/10 A	ļ	SKW0260, SKW0265, SKW0652,	SKW0691	-	
SKW0691	ELS to +2.2mPD	40	1		26/09/10 A	30/06/10 A 18/08/10 A	26/09/10 A		SKW0681	SKW0721		
SKW0721	Excavate to formation	92			31/03/11 A	17/09/10 A	31/03/11 A		SKW0691	SKW0741		. kin kny 858 st
Structural Works								1	L	I		
SKW0741	Base Slab (BSD2 & BSD3)	15	100	20/04/11 A	28/07/11 A	20/04/11 A	28/07/11 A	Γ	SKW0721	SKW0751		
SKW0751	Wall & Column (CA1-3,CB1-3,CC1-3, CD1-2) Approx.	14		31/07/11	13/08/11	01/01/11	14/01/11	-211d	SKW0741	SKW0761	1	
SKW0761	Base Slab (BSD1) to +3.98	14	0	13/08/11	26/08/11	14/01/11	27/01/11	-211d	SKW0751	SKW0771		
SKW0771	Wall & Column (CA1-3,CB1-3,CC1-3, CD1-2) to +6.3	14	0	26/08/11	08/09/11	27/01/11	09/02/11	-211d	SKW0761	SKW0781	_	
SKW0781	Base Slab (GSB1-3,GSC1-5,GSD1-2)	14	0	08/09/11	21/09/11	09/02/11	22/02/11	-211d	SKW0771	SKW0791		
SKW0791	Base Slab (GSE1 & GSF1)	14	0	21/09/11	04/10/11	22/02/11	07/03/11	-211d	SKW0781	SKW0801		
SKW0801	Wall & Column (CE1-3, CF1-3)	14	1	04/10/11	17/10/11	07/03/11	20/03/11	-211d	SKW0791	SKW0811	_	
SKW0811	Ground Beam (GB1-1,2 GB2-1,2 GB3-1, GBA-1,GBB1-4	14		18/10/11	31/10/11	21/03/11	03/04/11	-211d	SKW0801	SKW0821		
SKW0821	Wall & Column (CA1-3,CB1-3,CC1-3, CD1-2) to +10.	14		01/11/11	14/11/11	04/04/11	17/04/11	-211d	SKW0811	SKW0831		
SKW0831	Roof Beams & Parapet	14	1	15/11/11	28/11/11	18/04/11	01/05/11	-211d	SKW0821	E&M1101, E&M1102, E&M1103,		- 1000 1-101 2004 ES
SKW0841	ABWF installation	45		15/11/11	29/12/11	18/04/11	01/06/11	-211d	SKW0831	E&M1101, E&M1102, E&M1103,	4	
SKW0861	300mm U-channel & 675mm Step Channel wer and PS No.2 in Portions E&H	168	0	29/11/11	14/05/12	01/06/11	15/11/11	-181d	SKW0831, SKW0841	KD0070	-	
Civil & Geotechr												
SKW0881	Site Clearance	1 7	1 100			17/0E/10 A		I	KD0020	SKW0891		
SKW0881	Plant mobilization	7			23/05/10 A 23/05/10 A	17/05/10 A 17/05/10 A	23/05/10 A 23/05/10 A		SKW0881	SKW0892	-	
SKW0892	Initial Survey	30		24/05/10 A		24/05/10 A	22/06/10 A		SKW0891	SKW0901	-	
SKW0901	Tree Transplantation	30		23/06/10 A		23/06/10 A	22/07/10 A		SKW0892	SKW0921	-	
SKW0921	Cut Slope & U-Channel	14		23/07/10 A		23/07/10 A	31/01/11 A		SKW0260, SKW0265, SKW0901	SKW0931, SKW0951	-	
SKW0931	Hoarding & Fencing	14			07/10/10 A	15/09/10 A	07/10/10 A		SKW0921	SKW0951		ana pole Rod Co
SKW0951	Excavate to formation	106		04/10/10 A		04/10/10 A	13/06/11 A		SKW0921, SKW0931	SKW0961, SKW0971		
SKW0961	Mass Conc. Retaining Wall	257		31/07/11	12/04/12	04/03/11	15/11/11	-149d	SKW0951	KD0080		
SKW1491	Concrete Trough (ChA0+45 - ChA1+75)	180		01/03/11 A	05/08/11	01/03/11 A	19/04/11	-108d	PRE0100	SKW15111		[
SKW15111	Twin DN150 DI Rising Main (ChA0+45 - ChA5+79)	150	25	16/05/11 A	25/11/11	16/05/11 A	09/08/11	-108d	SKW1491	SKW1531		1
SKW1531	Extent village sewers S163.1 & S164.1	34	0	25/11/11	29/12/11	10/08/11	12/09/11	-108d	SKW15111	SKW1581	a wat too too too too to	the first set the
Structural Works												
SKW0971	Base Slab to -3.2mPD	14	1	02/05/11 A	F	02/05/11 A	17/12/10	-233d	SKW0951	SKW0981	-	1
SKW0981	Basement Beam (BBB-1,BBC-1,BBD-1)	14		08/08/11	22/08/11	18/12/10	31/12/10	-233d	SKW0971	SKW0991	_	
SKW0991	Wall & Column to +1.5mPD	14		22/08/11	05/09/11	01/01/11	14/01/11	-233d	SKW0981	SKW1001	-	
SKW1001	Base Slab (BSC-4) to +3mPD	14	0	05/09/11	19/09/11	15/01/11	28/01/11	-233d	SKW0991	SKW1011 SKW1021		
C C C C C C C C C C C C C C C C C C C		1	-		03/10/11	29/01/11	11/02/11	-233d	SKW1001			586 878 809 PT
SKW1011	Wall & Column to +5.35mPD	14								CK/MH021		
SKW1021	Ground Slab	20	0	03/10/11	23/10/11	12/02/11	03/03/11	-233d	SKW1011	SKW1031	-	
SKW1021 SKW1031	Ground Slab Ground Beam	20 14	0	03/10/11 23/10/11	23/10/11 06/11/11	12/02/11 04/03/11	17/03/11	-233d	SKW1021	SKW1041	-	
SKW1021 SKW1031 SKW1041	Ground Slab Ground Beam Wall & Column to +9.35mPD	20 14 14	0 0 0	03/10/11 23/10/11 06/11/11	23/10/11 06/11/11 20/11/11	12/02/11 04/03/11 18/03/11	17/03/11 31/03/11	-233d -233d	SKW1021 SKW1031	SKW1041 SKW1051		
SKW1021 SKW1031 SKW1041 SKW1051	Ground Slab Ground Beam Wall & Column to +9.35mPD Roof Beams & Parapet	20 14 14 14	0 0 0	03/10/11 23/10/11 06/11/11 20/11/11	23/10/11 06/11/11 20/11/11 04/12/11	12/02/11 04/03/11 18/03/11 01/04/11	17/03/11 31/03/11 14/04/11	-233d -233d -233d	SKW1021 SKW1031 SKW1041	SKW1041 SKW1051 E&M2101, E&M2102, E&M2103,		
SKW1021 SKW1031 SKW1041 SKW1051 SKW1061	Ground Slab Ground Beam Wall & Column to +9.35mPD Roof Beams & Parapet ABWF installation (wet tray/dry tray)	20 14 14 14 14 90	0 0 0 0	03/10/11 23/10/11 06/11/11 20/11/11 20/11/11	23/10/11 06/11/11 20/11/11 04/12/11 18/02/12	12/02/11 04/03/11 18/03/11 01/04/11 18/04/11	17/03/11 31/03/11 14/04/11 16/07/11	-233d -233d -233d -216d	SKW1021 SKW1031 SKW1041 SKW1051	SKW1041 SKW1051		
SKW1021 SKW1031 SKW1041 SKW1051 SKW1061 SKW1081	Ground Slab Ground Beam Wall & Column to +9.35mPD Roof Beams & Parapet ABWF installation (wet tray/dry tray) 375mm U-channel with catchpits	20 14 14 14	0 0 0 0	03/10/11 23/10/11 06/11/11 20/11/11 20/11/11	23/10/11 06/11/11 20/11/11 04/12/11	12/02/11 04/03/11 18/03/11 01/04/11	17/03/11 31/03/11 14/04/11	-233d -233d -233d	SKW1021 SKW1031 SKW1041	SKW1041 SKW1051 E&M2101, E&M2102, E&M2103, E&M2101, E&M2102, E&M2103,		
SKW1021 SKW1031 SKW1041 SKW1051 SKW1061	Ground Slab Ground Beam Wall & Column to +9.35mPD Roof Beams & Parapet ABWF installation (wet tray/dry tray) 375mm U-channel with catchpits 2)	20 14 14 14 14 90	0 0 0 0	03/10/11 23/10/11 06/11/11 20/11/11 20/11/11	23/10/11 06/11/11 20/11/11 04/12/11 18/02/12	12/02/11 04/03/11 18/03/11 01/04/11 18/04/11	17/03/11 31/03/11 14/04/11 16/07/11	-233d -233d -233d -216d	SKW1021 SKW1031 SKW1041 SKW1051	SKW1041 SKW1051 E&M2101, E&M2102, E&M2103, E&M2101, E&M2102, E&M2103,		
SKW1021 SKW1031 SKW1041 SKW1051 SKW1061 SKW1081 E&M Works (PS)	Ground Slab Ground Beam Wall & Column to +9.35mPD Roof Beams & Parapet ABWF Installation (wet tray/dry tray) 375mm U-channel with catchpits 2) Dellvery	20 14 14 14 14 90 215	0 0 0 0 0	03/10/11 23/10/11 06/11/11 20/11/11 20/11/11 04/12/11	23/10/11 06/11/11 20/11/11 04/12/11 18/02/12 06/07/12	12/02/11 04/03/11 18/03/11 01/04/11 18/04/11 15/04/11	17/03/11 31/03/11 14/04/11 16/07/11 15/11/11	-233d -233d -233d -216d	SKW1021 SKW1031 SKW1041 SKW1051	SKW1041 SKW1051 E&M2101, E&M2102, E&M2103, E&M2101, E&M2102, E&M2103,		
SKW1021 SKW1031 SKW1041 SKW1051 SKW1061 SKW1081 E&M Works (PS Submission &	Ground Slab Ground Beam Wall & Column to +9.35mPD Roof Beams & Parapet ABWF installation (wet tray/dry tray) 375mm U-channel with catchpits 2)	20 14 14 14 14 90	0 0 0 0 0 0 95	03/10/11 23/10/11 06/11/11 20/11/11 20/11/11 04/12/11 04/12/11 17/05/10 A	23/10/11 06/11/11 20/11/11 04/12/11 18/02/12 06/07/12 09/08/11	12/02/11 04/03/11 18/03/11 01/04/11 18/04/11 15/04/11 17/05/10 A	17/03/11 31/03/11 14/04/11 16/07/11	-233d -233d -233d -216d -233d	SKW1021 SKW1031 SKW1041 SKW1051 SKW1051	SKW1041 SKW1051 E&M2101, E&M2102, E&M2103, E&M2101, E&M2102, E&M2103, KD0080		
SKW1021 SKW1031 SKW1041 SKW1051 SKW1061 SKW1081 E&M Works (PS Submission & E&M2001	Ground Slab Ground Beam Wall & Column to +9.35mPD Roof Beams & Parapet ABWF installation (wet tray/dry tray) 375mm U-channel with catchpits 2) Delivery Submission of Pumps	20 14 14 14 14 90 215	0 0 0 0 0 0 0 95 95	03/10/11 23/10/11 06/11/11 20/11/11 20/11/11 04/12/11	23/10/11 06/11/11 20/11/11 04/12/11 18/02/12 06/07/12 09/08/11 09/08/11	12/02/11 04/03/11 18/03/11 01/04/11 18/04/11 15/04/11	17/03/11 31/03/11 14/04/11 16/07/11 15/11/11	-233d -233d -233d -216d -233d	SKW1021 SKW1031 SKW1041 SKW1051 SKW1051	SKW1041 SKW1051 E&M2101, E&M2102, E&M2103, E&M2101, E&M2102, E&M2103, KD0080 E&M2011		
SKW1021 SKW1031 SKW1041 SKW1051 SKW1061 SKW1081 E&M Works (PS) Submission & E&M2001 E&M2002	Ground Slab Ground Beam Wall & Column to +9.35mPD Roof Beams & Parapet ABWF installation (wet tray/dry tray) 375mm U-channel with catchpits 2) Delivery Submission of Pumps Submission of Gen-Set	20 14 14 14 14 14 215 215 198 198	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	03/10/11 23/10/11 06/11/11 20/11/11 20/11/11 04/12/11 04/12/11 17/05/10 A 17/05/10 A	23/10/11 06/11/11 20/11/11 04/12/11 18/02/12 06/07/12 09/08/11 09/08/11 09/08/11	12/02/11 04/03/11 18/03/11 01/04/11 18/04/11 15/04/11 17/05/10 A 17/05/10 A	17/03/11 31/03/11 14/04/11 16/07/11 15/11/11 02/02/11 02/02/11	-233d -233d -233d -216d -233d -188d -188d	SKW1021 SKW1031 SKW1041 SKW1051 SKW1051	SKW1041 SKW1051 E&M2101, E&M2102, E&M2103, E&M2101, E&M2102, E&M2103, KD0080 E&M2010 E&M2011 E&M2012 E&M2013 E&M2014		
SKW1021 SKW1031 SKW1041 SKW1051 SKW1061 SKW1081 E&M Works (PS Submission & E&M2001 E&M2003	Ground Slab Ground Beam Wall & Column to +9.35mPD Roof Beams & Parapet ABWF installation (wet tray/dry tray) 375mm U-channel with catchpits 2) Delivery Submission of Pumps Submission of Pumps Submission of Gen-Set Submission of DeO System	20 14 14 14 90 215 198 198 198	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	03/10/11 23/10/11 06/11/11 20/11/11 20/11/11 04/12/11 04/12/11 17/05/10 A 17/05/10 A 17/05/10 A	23/10/11 06/11/11 20/11/11 04/12/11 18/02/12 06/07/12 06/07/12 09/08/11 09/08/11 09/08/11 13/08/11	12/02/11 04/03/11 18/03/11 01/04/11 18/04/11 15/04/11 17/05/10 A 17/05/10 A 17/05/10 A	17/03/11 31/03/11 14/04/11 16/07/11 15/11/11 02/02/11 02/02/11 02/02/11	-233d -233d -233d -216d -233d -233d -188d -188d -188d -188d	SKW1021 SKW1031 SKW1041 SKW1051 SKW1051	SKW1041 SKW1051 E&M2101, E&M2102, E&M2103, E&M2101, E&M2102, E&M2103, KD0080 E&M2011 E&M2011 E&M2012 E&M2013		
SKW1021 SKW1031 SKW1041 SKW1051 SKW1061 SKW1081 E&M Works (PS) Submission & I E&M2001 E&M2002 E&M2004 E&M2005 E&M2006	Ground Slab Ground Beam Wall & Column to +9.35mPD Roof Beams & Parapet ABWF Installation (wet tray/dry tray) 375mm U-channel with catchpits 2) Dellvery Submission of Pumps Submission of Gen-Set Submission of Gen-Set Submission of LV SB & MCC Submission of Instrumentation Submission of FS System	20 14 14 14 90 215 198 198 198 198 271 243 243	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	03/10/11 23/10/11 20/11/11 20/11/11 04/12/11 04/12/11 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A	23/10/11 06/11/11 20/11/11 18/02/12 06/07/12 06/07/12 09/08/11 09/08/11 09/08/11 13/08/11 12/08/11 12/08/11	12/02/11 04/03/11 18/03/11 18/03/11 18/04/11 15/04/11 15/04/11 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A	17/03/11 31/03/11 14/04/11 16/07/11 15/11/11 02/02/11 02/02/11 02/02/11 31/01/11 14/01/11	-233d -233d -233d -216d -233d -216d -233d -188d -188d -188d -188d -188d -188d -181d -192d -209d	SKW1021 SKW1031 SKW1041 SKW1051 SKW1051	SKW1041 SKW1051 E&M2101, E&M2102, E&M2103, E&M2101, E&M2102, E&M2103, KD0060 E&M2011 E&M2012 E&M2012 E&M2013 E&M2014 E&M2015 E&M2016		
SKW1021 SKW1031 SKW1041 SKW1051 SKW1061 SKW1081 E&M Works (PS) Submission & I E&M2001 E&M2003 E&M2004 E&M2006 E&M2007	Ground Slab Ground Beam Wall & Column to +9.35mPD Roof Beams & Parapet ABWF Installation (wet tray/dry tray) 375mm U-channel with catchpits 2) Delivery Submission of Pumps Submission of Gen-Set Submission of Gen-Set Submission of DeO System Submission of LV SB & MCC Submission of Instrumentation Submission of FS System Submission of BS System	20 14 14 14 90 215 198 198 198 198 198 271 243 243 243	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	03/10/11 23/10/11 20/11/11 20/11/11 04/12/11 04/12/11 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A	23/10/11 06/11/11 20/11/11 18/02/12 06/07/12 06/07/12 09/08/11 09/08/11 09/08/11 13/08/11 12/08/11 12/08/11	12/02/11 04/03/11 18/03/11 01/04/11 15/04/11 15/04/11 15/04/11 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A	17/03/11 31/03/11 14/04/11 16/07/11 15/11/11 02/02/11 02/02/11 02/02/11 13/02/11 31/01/11 14/01/11	-233d -233d -233d -216d -233d -216d -233d -188d -188d -188d -188d -188d -181d -192d -209d -209d	SKW1021 SKW1031 SKW1041 SKW1051 SKW1051 KD0020	SKW1041 SKW1051 E&M2101, E&M2102, E&M2103, E&M2101, E&M2102, E&M2103, KD0080 E&M2011 E&M2012 E&M2013 E&M2014 E&M2015 E&M2016 E&M2017		
SKW1021 SKW1021 SKW1031 SKW1041 SKW1051 SKW1061 SKW1081 E&M Works (PS) Submission & I E&M2001 E&M2003 E&M2004 E&M2005 E&M2007 E&M2011	Ground Slab Ground Beam Wall & Column to +9.35mPD Roof Beams & Parapet ABWF Installation (wet tray/dry tray) 375mm U-channel with catchpits 2) Delivery Submission of Pumps Submission of Gen-Set Submission of Gen-Set Submission of LV SB & MCC Submission of Instrumentation Submission of FS System Submission of FS System Submission of BS System	200 14 14 14 90 215 198 198 198 198 198 271 243 243 243 150	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	03/10/11 23/10/11 20/11/11 20/11/11 04/12/11 04/12/11 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A	23/10/11 06/11/11 20/11/11 18/02/12 06/07/12 09/08/11 09/08/11 13/08/11 12/08/11 12/08/11 12/08/11 06/01/12	12/02/11 04/03/11 18/03/11 01/04/11 18/04/11 15/04/11 15/04/11 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A	17/03/11 31/03/11 14/04/11 16/07/11 15/11/11 02/02/11 02/02/11 02/02/11 13/02/11 31/01/11 14/01/11 14/01/11 02/07/11	-233d -233d -233d -216d -233d -216d -233d -188d -188d -188d -188d -181d -192d -209d -209d -188d	SKW1021 SKW1031 SKW1041 SKW1051 SKW1051 KD0020 E&M2001	SKW 1041 SKW 1051 E&M2101, E&M2102, E&M2103, E&M2101, E&M2102, E&M2103, KD0080 E&M2011 E&M2012 E&M2013 E&M2014 E&M2015 E&M2016 E&M2017 E&M2101		
SKW1021 SKW1021 SKW1031 SKW1041 SKW1051 SKW1061 SKW1081 E&M Works (PS Submission & E&M2001 E&M2003 E&M2004 E&M2005 E&M2007 E&M2011 E&M2012	Ground Slab Ground Beam Wall & Column to +9.35mPD Roof Beams & Parapet ABWF installation (wet tray/dry tray) 375mm U-channel with catchpits 2) Delivery Submission of Pumps Submission of Gen-Set Submission of Gen-Set Submission of LV SB & MCC Submission of INStrumentation Submission of FS System Submission of BS System Delivery of Pumps Delivery of Gen-Set	200 144 14 900 215 198 198 198 198 198 271 243 243 243 243 150 150	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	03/10/11 23/10/11 20/11/11 20/11/11 20/11/11 04/12/11 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 09/08/11 09/08/11	23/10/11 06/11/11 20/11/11 04/12/11 18/02/12 06/07/12 06/07/12 09/08/11 09/08/11 09/08/11 13/08/11 12/08/11 12/08/11 12/08/11 06/01/12 06/01/12	12/02/11 04/03/11 18/03/11 01/04/11 18/04/11 15/04/11 15/04/11 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A	17/03/11 31/03/11 14/04/11 16/07/11 15/11/11 02/02/11 02/02/11 02/02/11 13/02/11 31/01/11 14/01/11 14/01/11 02/07/11 02/07/11	-233d -233d -233d -216d -233d -188d -188d -188d -188d -188d -209d -209d -209d -188d -188d	SKW1021 SKW1031 SKW1041 SKW1051 SKW1051 KD0020 E&W2001 E&M2001 E&M2002	SKW 1041 SKW 1051 E&M2101, E&M2102, E&M2103, E&M2101, E&M2102, E&M2103, KD0080 E&M2011 E&M2011 E&M2012 E&M2013 E&M2014 E&M2015 E&M2015 E&M2016 E&M2017 E&M2011 E&M2012		
SKW1021 SKW1021 SKW1031 SKW1041 SKW1051 SKW1061 SKW1081 E&M Works (PS) Submission & E&M2001 E&M2003 E&M2004 E&M2005 E&M2006 E&M2007 E&M2012 E&M2013	Ground Slab Ground Beam Wall & Column to +9.35mPD Roof Beams & Parapet ABWF installation (wet tray/dry tray) 375mm U-channel with catchpits 2) Dellvery Submission of Pumps Submission of Gen-Set Submission of DeO System Submission of LV SB & MCC Submission of Instrumentation Submission of FS System Submission of BS System Delivery of Pumps Delivery of Gen-Set Delivery of DeO System	20 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 190 215 198 198 198 198 2215 2215 2215 198 198 198 198 2271 243 243 150 150	0 0 0 0 0 0 0 0 0 95 95 95 95 95 95 95 95 95 0 0 0 0	03/10/11 23/10/11 20/11/11 20/11/11 04/12/11 04/12/11 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 09/08/11 09/08/11	23/10/11 06/11/11 20/11/11 18/02/12 06/07/12 06/07/12 09/08/11 09/08/11 19/08/11 12/08/11 12/08/11 12/08/11 12/08/11 06/01/12 06/01/12	12/02/11 04/03/11 18/03/11 01/04/11 18/04/11 15/04/11 15/04/11 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 03/02/11 03/02/11	17/03/11 31/03/11 14/04/11 16/07/11 15/11/11 02/02/11 02/02/11 31/01/11 14/01/11 14/01/11 02/07/11 02/07/11 02/07/11	-233d -233d -233d -216d -233d -188d -188d -188d -188d -181d -192d -209d -209d -209d -188d -188d -188d -188d	SKW1021 SKW1031 SKW1041 SKW1051 SKW1051 KD0020 E&W2001 E&M2001 E&M2002 E&M2003	SKW1041 SKW1051 E&M2101, E&M2102, E&M2103, E&M2101, E&M2102, E&M2103, KD0080 E&M2011 E&M2012 E&M2012 E&M2013 E&M2014 E&M2015 E&M2016 E&M2017 E&M2101 E&M2101 E&M2102 E&M2103		
SKW1021 SKW1021 SKW1031 SKW1041 SKW1051 SKW1061 SKW1081 E&M Works (PS) Submission & E&M2001 E&M2002 E&M2003 E&M2004 E&M2005 E&M2006 E&M2007 E&M2011 E&M2013 E&M2014	Ground Slab Ground Beam Wall & Column to +9.35mPD Roof Beams & Parapet ABWF installation (wet tray/dry tray) 375mm U-channel with catchpits 2) Dellvery Submission of Pumps Submission of Gen-Set Submission of Gen-Set Submission of DeO System Submission of ILV SB & MCC Submission of FS System Submission of FS System Submission of BS System Delivery of Pumps Delivery of Gen-Set Delivery of DeO System Delivery of DeO System	20 14 198 198 198 198 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2243 243 150 150 150	0 0 0 0 0 0 0 0 0 95 95 95 95 95 95 95 95 95 0 0 0 0	03/10/11 23/10/11 20/11/11 20/11/11 20/11/11 04/12/11 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 09/08/11 09/08/11 31/07/11	23/10/11 06/11/11 20/11/11 18/02/12 06/07/12 06/07/12 09/08/11 09/08/11 19/08/11 12/08/11 12/08/11 12/08/11 12/08/11 06/01/12 06/01/12 27/12/11	12/02/11 04/03/11 18/03/11 01/04/11 18/04/11 15/04/11 15/04/11 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 03/02/11 03/02/11 03/02/11 03/02/11	17/03/11 31/03/11 14/04/11 16/07/11 15/11/11 02/02/11 02/02/11 02/02/11 31/01/11 14/01/11 14/01/11 02/07/11 02/07/11 02/07/11 01/05/11	-233d -233d -233d -216d -233d -188d -188d -188d -188d -192d -209d -188d -192d	SKW1021 SKW1031 SKW1041 SKW1051 SKW1051 KD0020 E&W2001 E&M2001 E&M2002 E&M2002 E&M2003 E&M2004	SKW1041 SKW1051 E&M2101, E&M2102, E&M2103, E&M2101, E&M2102, E&M2103, KD0080 E&M2011 E&M2012 E&M2012 E&M2013 E&M2014 E&M2015 E&M2016 E&M2016 E&M2101 E&M2101 E&M2102 E&M2102 E&M2103 E&M2104		
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SKW1021 SKW1021 SKW1031 SKW1041 SKW1051 SKW1061 SKW1081 E&M Works (PS) Submission & I E&M2002 E&M2003 E&M2004 E&M2005 E&M2006 E&M2007 E&M2007 E&M2012 E&M2013 E&M2014 E&M2015 Start date 05/05	Ground Slab Ground Beam Wall & Column to +9.35mPD Roof Beams & Parapet ABWF installation (wet tray/dry tray) 375mm U-channel with catchpits 2) Delivery Submission of Pumps Submission of Gen-Set Submission of DeO System Submission of ILV SB & MCC Submission of FS System Submission of FS System Submission of BS System Delivery of Gen-Set Delivery of Gen-Set Delivery of Gen-Set Delivery of Gen-Set Delivery of LV SB & MCC Delivery of Instrumentation X10	20 14 198 198 198 198 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2243 243 150 150 150	0 0 0 0 0 0 0 0 0 95 95 95 95 95 95 95 95 95 0 0 0 0	03/10/11 23/10/11 20/11/11 20/11/11 20/11/11 04/12/11 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 09/08/11 09/08/11 31/07/11	23/10/11 06/11/11 20/11/11 18/02/12 06/07/12 09/08/11 09/08/11 13/08/11 12/08/11 12/08/11 12/08/11 12/08/11 06/01/12 06/01/12 06/01/12 27/12/11 10/11/11	12/02/11 04/03/11 18/03/11 01/04/11 15/04/11 15/04/11 15/04/11 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 03/02/11 03/02/11 03/02/11 03/12/10 01/02/11	17/03/11 31/03/11 14/04/11 16/07/11 15/11/11 02/02/11 02/02/11 02/02/11 13/02/11 31/01/11 14/01/11 14/01/11 02/07/11 02/07/11 02/07/11 01/05/11	-233d -233d -233d -216d -233d -188d -188d -188d -188d -181d -192d -209d -209d -209d -188d -188d -188d -188d -188d -188d -188d -188d -188d -188d -188d -188d -188d -188d -188d -188d -192d -192d	SKW1021 SKW1031 SKW1041 SKW1051 SKW1051 KD0020 E&W2001 E&M2001 E&M2002 E&M2002 E&M2003 E&M2004	SKW1041 SKW1051 E&M2101, E&M2102, E&M2103, E&M2101, E&M2102, E&M2103, KD0080 E&M2011 E&M2012 E&M2012 E&M2013 E&M2014 E&M2015 E&M2016 E&M2016 E&M2101 E&M2101 E&M2102 E&M2102 E&M2103 E&M2104		
SKW1021 SKW1021 SKW1031 SKW1041 SKW1051 SKW1061 SKW1081 E&M Works (PS) Submission & E&M2001 E&M2003 E&M2004 E&M2005 E&M2006 E&M2007 E&M2012 E&M2013 E&M2014 E&M2015 Start date 05/05	Ground Slab Ground Beam Wall & Column to +9.35mPD Roof Beams & Parapet ABWF Installation (wet tray/dry tray) 375mm U-channel with catchpits 2) Delivery Submission of Pumps Submission of Gen-Set Submission of Gen-Set Submission of Instrumentation Submission of INS System Submission of FS System Submission of BS System Delivery of Pumps Delivery of Gen-Set Delivery of Gen-Set Delivery of DeO System Delivery of LV SB & MCC Delivery of Instrumentation S/10 Early bar S/15 Progress bar Z/11 Submission Submission Submission Submission S/10 Submission Submission Submission Submission S/10 Submission Submis	20 14 198 198 198 198 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2243 243 150 150 150	0 0 0 0 0 0 0 0 0 95 95 95 95 95 95 95 95 95 0 0 0 0	03/10/11 23/10/11 20/11/11 20/11/11 20/11/11 04/12/11 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 09/08/11 09/08/11 31/07/11	23/10/11 06/11/11 20/11/11 18/02/12 06/07/12 09/08/11 09/08/11 13/08/11 12/08/11 12/08/11 12/08/11 12/08/11 06/01/12 06/01/12 06/01/12 27/12/11 10/11/11	12/02/11 04/03/11 18/03/11 18/03/11 18/04/11 15/04/11 15/04/11 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 03/02/11 03/02/11 03/02/11 03/12/10 01/02/11	17/03/11 31/03/11 14/04/11 16/07/11 15/11/11 02/02/11 02/02/11 02/02/11 13/02/11 31/01/11 14/01/11 02/07/11 02/07/11 02/07/11 01/05/11 01/05/11	-233d -233d -233d -216d -233d -216d -233d -188d -188d -188d -188d -188d -188d -209d -209d -209d -188d -188d -188d -188d -188d -188d -188d -192d -192d	SKW1021 SKW1031 SKW1041 SKW1051 SKW1051 KD0020 E&W2001 E&M2001 E&M2002 E&M2002 E&M2003 E&M2004	SKW1041 SKW1051 E&M2101, E&M2102, E&M2103, E&M2101, E&M2102, E&M2103, KD0080 E&M2011 E&M2012 E&M2012 E&M2013 E&M2014 E&M2015 E&M2016 E&M2016 E&M2101 E&M2101 E&M2102 E&M2102 E&M2103 E&M2104		
SKW1021 SKW1021 SKW1031 SKW1041 SKW1051 SKW1061 SKW1081 E&M Works (PS) Submission & E&M2001 E&M2003 E&M2004 E&M2005 E&M2006 E&M2011 E&M2012 E&M2013 E&M2014 E&M2015 Start date 05/05 Finish date 13/03 Data date 31/07	Ground Slab Ground Beam Wall & Column to +9.35mPD Roof Beams & Parapet ABWF installation (wet tray/dry tray) 375mm U-channel with catchpits 2) Dellvery Submission of Pumps Submission of Gen-Set Submission of DeO System Submission of LV SB & MCC Submission of Instrumentation Submission of FS System Submission of BS System Delivery of Gen-Set Delivery of Gen-Set Delivery of Gen-Set Delivery of DeO System Delivery of LV SB & MCC Delivery of Instrumentation S/10 Early bar Progress bar 7/11 Critical bar	20 14 198 198 198 198 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2243 243 150 150 150	0 0 0 0 0 0 0 0 0 95 95 95 95 95 95 95 95 95 0 0 0 0	03/10/11 23/10/11 20/11/11 20/11/11 20/11/11 04/12/11 17/05/10 A 17/05/10 A	23/10/11 06/11/11 20/11/11 18/02/12 06/07/12 06/07/12 09/08/11 09/08/11 12/08/11 12/08/11 12/08/11 12/08/11 12/08/11 06/01/12 06/01/12 06/01/12 06/01/12 10/11/11	12/02/11 04/03/11 18/03/11 18/03/11 18/04/11 15/04/11 15/04/11 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 03/02/11 03/02/11 03/02/11 03/12/10 01/02/11 eader Civil Er Contract	17/03/11 31/03/11 14/04/11 16/07/11 15/11/11 15/11/11 02/02/11 02/02/11 02/02/11 31/01/11 14/01/11 14/01/11 02/07/11 02/07/11 02/07/11 01/05/11 01/05/11 01/05/11	-233d -233d -233d -216d -233d -216d -233d -188d -188d -188d -188d -188d -188d -209d -209d -188d -188d -188d -188d -188d -188d -192d 700 -192d	SKW1021 SKW1031 SKW1041 SKW1051 SKW1051 KD0020 E&W2002 E&M2001 E&M2002 E&M2003 E&M2004 E&M2005	SKW1041 SKW1051 E&M2101, E&M2102, E&M2103, E&M2101, E&M2102, E&M2103, KD0080 E&M2011 E&M2012 E&M2012 E&M2013 E&M2014 E&M2015 E&M2016 E&M2016 E&M2101 E&M2101 E&M2102 E&M2102 E&M2103 E&M2104		
SKW1021 SKW1021 SKW1031 SKW1041 SKW1051 SKW1061 SKW1081 E&M Works (PS) Submission & E&M2001 E&M2003 E&M2004 E&M2005 E&M2006 E&M2007 E&M2011 E&M2013 E&M2014 E&M2015 Start date 05/05 Finish date 13/03 Data date 31/07 Run date 08/08	Ground Slab Ground Beam Wall & Column to +9.35mPD Roof Beams & Parapet ABWF installation (wet tray/dry tray) 375mm U-channel with catchpits 2) Delivery Submission of Pumps Submission of Gen-Set Submission of DeO System Submission of ILV SB & MCC Submission of Instrumentation Submission of FS System Submission of BS System Delivery of Pumps Delivery of Gen-Set Delivery of Gen-Set Delivery of DeO System Delivery of DeO System Delivery of DeO System Delivery of ILV SB & MCC Delivery of Instrumentation \$\frac{10}{10}{10}{10}{10}{10}{10}{10}{10}{10}	20 14 198 198 198 198 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2243 243 150 150 150	0 0 0 0 0 0 0 0 0 95 95 95 95 95 95 95 95 95 0 0 0 0	03/10/11 23/10/11 20/11/11 20/11/11 20/11/11 04/12/11 17/05/10 A 17/05/10 A	23/10/11 06/11/11 20/11/11 18/02/12 06/07/12 09/08/11 09/08/11 12/08/11 12/08/11 12/08/11 12/08/11 12/08/11 06/01/12 00/12 00/12 00/12 00/12 00/12 00/12 00/12 00/12	12/02/11 04/03/11 18/03/11 18/03/11 18/04/11 15/04/11 15/04/11 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 03/02/11 03/02/11 03/02/11 03/12/10 01/02/11 eader Civil Er Contract	17/03/11 31/03/11 14/04/11 16/07/11 15/11/11 15/11/11 02/02/11 02/02/11 02/02/11 13/02/11 31/01/11 14/01/11 14/01/11 02/07/11 02/07/11 02/07/11 01/05/11 01/05/11 01/05/11 01/05/11	-233d -233d -233d -216d -233d -216d -233d -188d -188d -188d -188d -188d -188d -188d -209d -209d -209d -188d -188d -188d -188d -188d -192d -192d -192d -192d -192d -192d -192d -192d -192d	SKW1021 SKW1031 SKW1041 SKW1051 SKW1051 KD0020 E&W2002 E&M2001 E&M2002 E&M2003 E&M2004 E&M2005 W & SKW	SKW1041 SKW1051 E&M2101, E&M2102, E&M2103, E&M2101, E&M2102, E&M2103, KD0080 E&M2011 E&M2012 E&M2012 E&M2013 E&M2014 E&M2015 E&M2016 E&M2016 E&M2101 E&M2101 E&M2102 E&M2102 E&M2103 E&M2104		
SKW1021 SKW1021 SKW1031 SKW1041 SKW1051 SKW1061 SKW1081 E&M Works (PS) Submission & E&M2001 E&M2003 E&M2004 E&M2005 E&M2006 E&M2011 E&M2012 E&M2013 E&M2014 E&M2015 Start date 05/05 Finish date 13/03 Data date 31/07 Run date 08/08	Ground Slab Ground Beam Wall & Column to +9.35mPD Roof Beams & Parapet ABWF installation (wet tray/dry tray) 375mm U-channel with catchpits 2) Delivery Submission of Pumps Submission of Gen-Set Submission of Gen-Set Submission of Instrumentation Submission of Instrumentation Submission of S System Delivery of Gen-Set Delivery of Gen-Set Delivery of Gen-Set Delivery of Gen-Set Delivery of LV SB & MCC Delivery of LV SB & MCC Delivery of Instrumentation 5/10 Early bar 3/15 Progress bar 7/11 Progress point Critical point Summary point	20 14 198 198 198 198 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2215 2243 243 150 150 150	0 0 0 0 0 0 0 0 0 95 95 95 95 95 95 95 95 95 0 0 0 0	03/10/11 23/10/11 20/11/11 20/11/11 20/11/11 04/12/11 17/05/10 A 17/05/10 A	23/10/11 06/11/11 20/11/11 18/02/12 06/07/12 09/08/11 09/08/11 12/08/11 12/08/11 12/08/11 12/08/11 12/08/11 06/01/12 00/12 00/12 00/12 00/12 00/12 00/12 00/12 00/12	12/02/11 04/03/11 18/03/11 18/03/11 18/04/11 15/04/11 15/04/11 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 17/05/10 A 03/02/11 03/02/11 03/02/11 03/12/10 01/02/11 eader Civil Er Contract	17/03/11 31/03/11 14/04/11 16/07/11 15/11/11 15/11/11 02/02/11 02/02/11 02/02/11 31/01/11 14/01/11 14/01/11 02/07/11 02/07/11 02/07/11 01/05/11 01/05/11 01/05/11	-233d -233d -233d -216d -233d -216d -233d -188d -188d -188d -188d -188d -188d -188d -209d -209d -209d -188d -188d -188d -188d -188d -192d -192d -192d -192d -192d -192d -192d -192d -192d	SKW1021 SKW1031 SKW1041 SKW1051 SKW1051 KD0020 E&W2002 E&M2001 E&M2002 E&M2003 E&M2004 E&M2005 W & SKW	SKW1041 SKW1051 E&M2101, E&M2102, E&M2103, E&M2101, E&M2102, E&M2103, KD0080 E&M2011 E&M2012 E&M2012 E&M2013 E&M2014 E&M2015 E&M2016 E&M2016 E&M2101 E&M2101 E&M2102 E&M2102 E&M2103 E&M2104	(Markod on 31 Jul	31/



Activity ID	Description	Original Duration	Percent Early Complete Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	MAY	I JUN
E&M2016	Delivery of FS Equipment	107	0 12/08/11	27/11/11	15/01/11	01/05/11	-209d	E&M2006	E&M0350, E&M2106	- CULAN	
E&M2017	Delivery of BS Equipment	107	0 12/08/11	27/11/11	15/01/11	01/05/11	-209d	E&M2007	E&M2107		
Installation, T	&C										
E&M2105	Install Instrumentation	55	0 04/12/11	28/01/12	02/05/11	25/06/11	-216d	E&M2015, SKW1051, SKW1061	E&M2140		
E&M2106	Install FS Equipment	55	0 04/12/11	28/01/12	02/05/11	25/06/11		E&M2016, SKW1051, SKW1061	E&M2140		
E&M2107	Install BS Equipment	55	0 04/12/11	28/01/12	02/05/11	25/06/11	-216d	E&M2017, SKW1051, SKW1061	E&M2110, E&M2140		
Section W7 - Secti	(W STW, Sewer and Submarine Outfall								••••••		
Submarine Out	fall										
SKW1130	Approval of IHS Consultant	180	100 17/05/10 A	27/08/10 A	17/05/10 A	27/08/10 A			SKW1131		
SKW1131	Hydrographical Survey (SKW)	300	100 01/02/11 A	28/02/11 A	01/02/11 A	28/02/11 A		KD0020, SKW1130	SKW1231		
SKW1141	Baseline Monitoring (Water)	213	100 27/07/10 A	31/12/10 A	27/07/10 A	31/12/10 A	1	SKW0260, SKW0265	SKW1151		
SKW1151	Set up Temporary Working Platform	185	80 15/06/11 A	05/09/11	15/06/11 A	15/09/11	10d	PRE0090, SKW1141	SKW1171		─└╍┍══
SKWSTW									•		
Submission 8	Dellvery (E&M)										
E&M3010	Delivery of MBR M.M 1st shipment for Temp STP	150	0 31/07/11	27/12/11	10/03/14	20/08/14	953d	E&M0160	E&M3170		
E&M3030	Delivery of Grit Removal Equipment	180	0 18/09/11	16/03/12	31/08/11	26/02/12	-19d	E&M0150	E&M3190		
E&M3060	Delivery of Fine Screens	136	0 18/09/11	01/02/12	15/08/11	28/12/11	-35d	E&M0120	E&M3210		
E&M3070	Delivery of Pumps	136	0 18/09/11	01/02/12	15/08/11	28/12/11	-35d	E&M0130	E&M3220		
E&M3080	Delivery of Submersible Mixers	180	0 19/08/11	15/02/12	15/09/11	12/03/12		E&M0140	E&M3230		
E&M3090	Delivery of Sludge Dewatering Equipment	210	0 18/09/11	15/04/12	18/07/11	12/02/12	-63d	E&M0170	E&M3240		
E&M3100	Delivery of Valves, Pipes & Fittings	180	0 18/09/11	16/03/12	22/12/13	19/06/14	826d	E&M0180	E&M3250		
E&M3110	Delivery of Penstocks	180	0 18/09/11	16/03/12	04/01/14	02/07/14	839d	E&M0190	E&M3260	_	
E&M3130	Delivery of instruments	180	0 18/09/11	16/03/12	20/03/14	15/10/14	914d	E&M0200	E&M3270		
E&M3140	Delivery of MCC LVSB	180	0 18/09/11	16/03/12	09/05/11	04/11/11	-133d	E&M0210	E&M3261		
E&M3150	Delivery of BS Equipment	180	0 29/09/11	26/03/12	06/01/14	04/07/14	830d	E&M0220	E&M3291		. III III III III III III
E&M3160	Delivery of FS Equipment	180	0 29/09/11	26/03/12	14/01/12	11/07/12	107d	E&M0230	E&M0340, E&M3300	—	
Construction	of Grld A-G										
SKW1261	Excavate for SKW STW Structure (Grid A - G)	164	5 30/07/11 A	09/01/12	30/07/11 A	27/07/11	-166d	SKW0551	SKW1271, SKW1371		
Construction	of Grld G-N										
SKW1311	Excavate for SKW STW Structure (Grid G-N)	36	0 20/11/11	25/12/11	29/06/11	03/08/11	-144d	SKW0551, SKW05938	SKW1321		
Rising Main											
SKW1481	Subm, Approval & Delivery of DI pipes	120	100 17/05/10 A	28/02/11 A	17/05/10 A	28/02/11 A		KD0020	SKW 1501		
SKW1501	Concrete Trough (ChB0+00 - ChB1+20)	300	0 31/07/11	25/05/12	14/09/10	10/07/11	-320d	PRE0100, SKW1481	SKW1521		
Section W8 - La	ndscape Softworks in All Portions							•	-		
SKW1591	Tree Survey	21	100 17/05/10 A	06/06/10 A	17/05/10 A	06/06/10 A		KD0020	SKW1621		
SKW1611	Preservation & Protection of Trees	822	55 17/05/10 A	03/08/12	17/05/10 A	03/08/12	0	KD0020	KD0100, SKW1631		
SKW1621	Transplantation at SKW	60	100 07/06/10 A	05/10/10 A	07/06/10 A	05/10/10 A		SKW1591	1		

Start date	05/05/10		1	Early bar
Finish date	13/03/15			Progress bar
Data date	31/07/11			Critical bar
Run date	08/08/11			Summary bar Progress point
Page number	6A		◙	Critical point
			¢	Summary point
c Primavera	Systems, Inc.	<u>ې</u>	Start milestone point	
Design of the second			6.	Finish milestone point

Leader Civil Engineering Corp. Ltd. Contract No. DC/2009/13 Construction of Sewage Treatment Works at YSW & SKW 3-month Rolling Programme (Aug 2011 - Oct 2011)

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Activity Description	Original Pe Duration Cor	rcent Early mplete Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	MAY JUN JUL
+Project Key Date	451	0 05/05/10 A	01/12/11	05/05/10 A	30/06/11	-154d			
+Preliminary (CivII)	191	100 17/05/10 A	23/11/10 A	17/05/10 A	23/11/10 A	к	20020		
Preliminary (E&M) Technical Submission	- h h				1	1			
+Process Design of SKWSTW & YSWSTW	457	92 17/05/10 A	16/09/11	17/05/10 A	30/06/11	-47d		1	
+Hydraulic Design	448	95 17/05/10 A		17/05/10 A	30/06/11	-38d		1	
+Equipment Submission & Approval	500	58 17/05/10 A		17/05/10 A		380 40d		1	
+Drawings Submission & Approval	432	84 24/06/10 A		24/06/10 A	30/07/11	-30d		1	
+Statutory Submission	189		04/04/12			1001d			
Yung Shue Wan +Preliminary	169	0 29/09/11	04/04/12	01/07/11	13/03/15				
+ Preiminary + Section W 1 - Slope W orks in Portion A & C	229	100 17/05/10 A	31/12/10 A	17/05/10 A	31/12/10 A		*******	1	
Section W 2 - YSW STW & Submarine Outfall	580	84 17/05/10 A	17/12/11	17/05/10 A	15/08/11	-124d			
+Civil & Structural Work	1			1	1	11		T	
+Submarine Outfall	668	56 17/05/10 A			04/05/12	510			
+E&M Works - YSW STP	612	83 17/05/10 A		17/05/10 A	17/10/13	638d			
Sok Kwu Wan	283	6 18/06/11 A	26/03/12	02/04/11 A	05/05/12	40d			
+Preliminary	53	100 17/05/10 A	08/07/10 A	17/05/10 A	08/07/10 A				
+Civil & Geotechnical Works				1	1			1	
Section W 4 - Slope W orks in Portions H & I	447	98 17/05/10 A	06/08/11	17/05/10 A	30/07/11	-166d		1	
+Geotechnical Works	671	50 15/06/10 A	15/04/12	15/06/10 A	15/08/11	-244d		1	
Section W 5 - P.S. No. 1 in Portion D +CIVI & Geotechnical Works	l evel	T +		1	1				
+Structural Works	319	100 17/05/10 A				I I		1	
Section W 6 - Sewer and PS No.2 in Portions E&H + Civil & Geotechnical Works	391	4 20/04/11 A	14/05/12	01/01/11 A	15/11/11	-181d		-1	
+Structural Works	697	51 17/05/10 A	12/04/12	17/05/10 A	15/11/11	-149d		<u> </u>	
E&M Works (PS2)	431	1 02/05/11 A	06/07/12	18/12/10 A	15/11/11	-233d			
+Submission & Delivery			00/01/10					T	
+Installation, T&C	600	61 17/05/10 A		17/05/10 A	02/07/11	-188d		1	
Section W7 - SKW STW, Sewer and Submarine Outfall +Submarine Outfall	55	0 04/12/11	28/01/12	02/05/11	25/06/11	-216d			
	477	96 17/05/10 A	05/09/11	17/05/10 A	15/09/11	10d			
Start date 05/05/10 Early bar Finish date 13/03/15 Progress bar Data date 31/07/11 Critical bar			L	.eader Civil E	ngineering C	orp. Ltd.			Date 31/07/10
Run date 08/08/11 Page number 1A Vortical point		с	onstruction	n of Sewage]	t No. DC/2009 Freatment Wo ramme (Aug :	orks at YSW	& SKW		
c Primavera Systems, Inc.		The first state of the state of			the pa		•		(Marked on 31 Jul 2011)

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Activity ID	Description	Original Percent Duration Complet	e Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	MAY JUN	2011 JUL AUG SEP	OCT NOV
SKWSTW												
+Submission & Delivery (E8	BM)											
		260	0 31/07/11	15/04/12	09/05/11	15/10/14	884d					1
+Construction of Grid A-G		and the second									····	
		164	5 30/07/11 A	09/01/12	30/07/11 A	27/07/11	-166d			2		
+Construction of Grid G-N					-	1	1					
		36	0 20/11/11	25/12/11	29/06/11	03/08/11	-144d					
+Rising Main					-		See. 1					
		740 2	29 17/05/10 A	25/05/12	17/05/10 A	10/07/11	-320d					
Section W 8 - Landscape So	ftworks in All Portions											
	· · · · · · · · · · · · · · · · · · ·	810 5	9 17/05/10 A	03/08/12	17/05/10 A	03/08/12	0					l

Start date Finish date Data date Run date Page number	05/05/10 13/03/15 31/07/11 08/08/11 2A	Early bar Progress bar Gritcal bar Summary bar Progress point Critical point Critical point	Leader Civil Engineering Corp. Ltd. Contract No. DC/2009/13 Construction of Sewage Treatment W orks at YSW & SKW 3-month Rolling Programme (Aug 2011 - Oct 2011)	31/0
c Primavera	Systems, Inc.	Start milestone point	(Outline pape 2012)	(Marked on 31 Jul 2011)

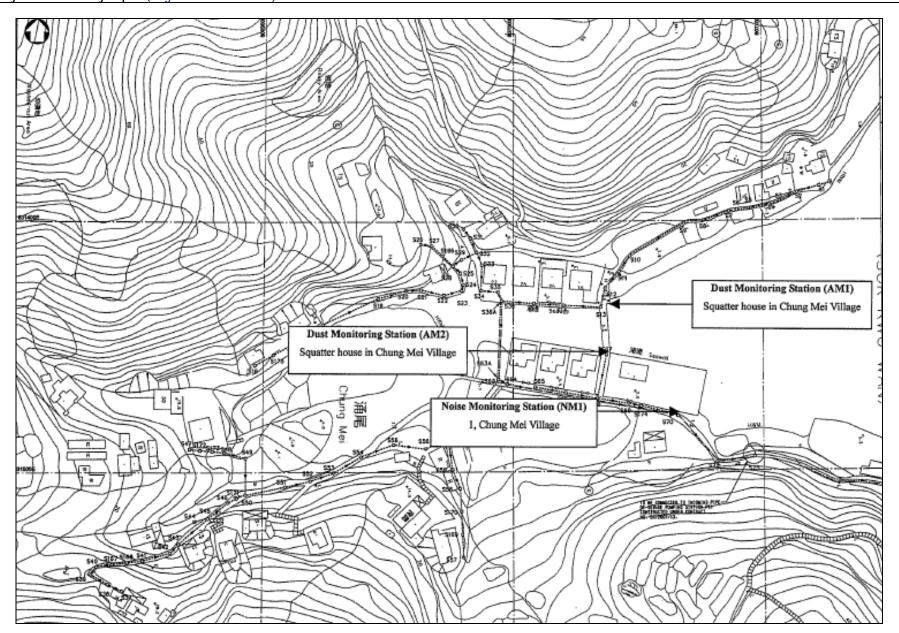
Date	Revision	Checked	Approved
31/07/10	Revision 0	StL	VC



Appendix D

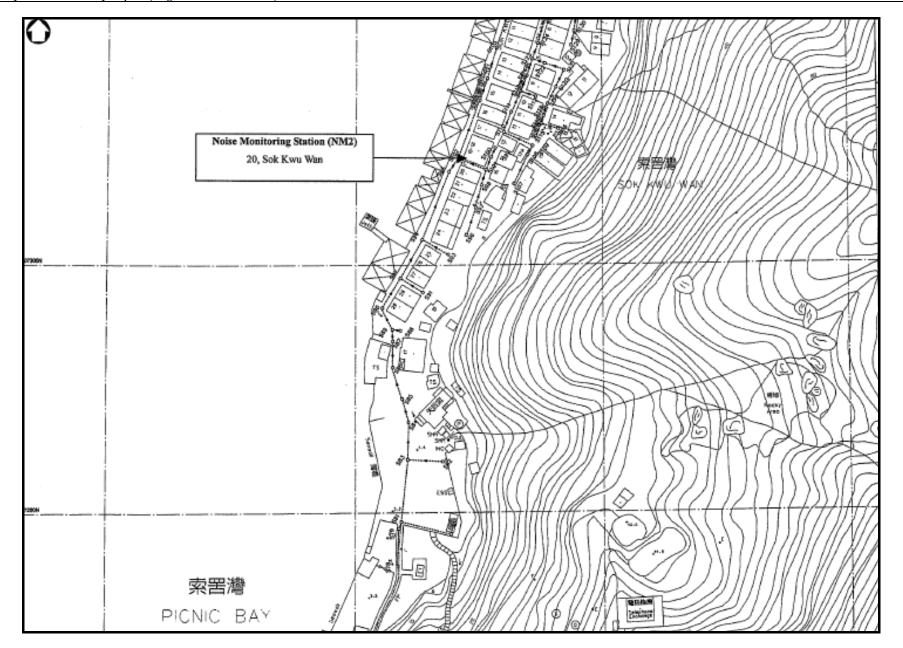
Location of Monitoring Stations (Air Quality / Construction Noise / Marine Water Quality)





Contract No. DC/2009/13 – Construction of Sewage Treatment Works at Yung Shue Wan and Sok Kwu Wan Sok Kwu Wan Portion Area 5th Quarterly EM&A Summary Report (August to October 2011)

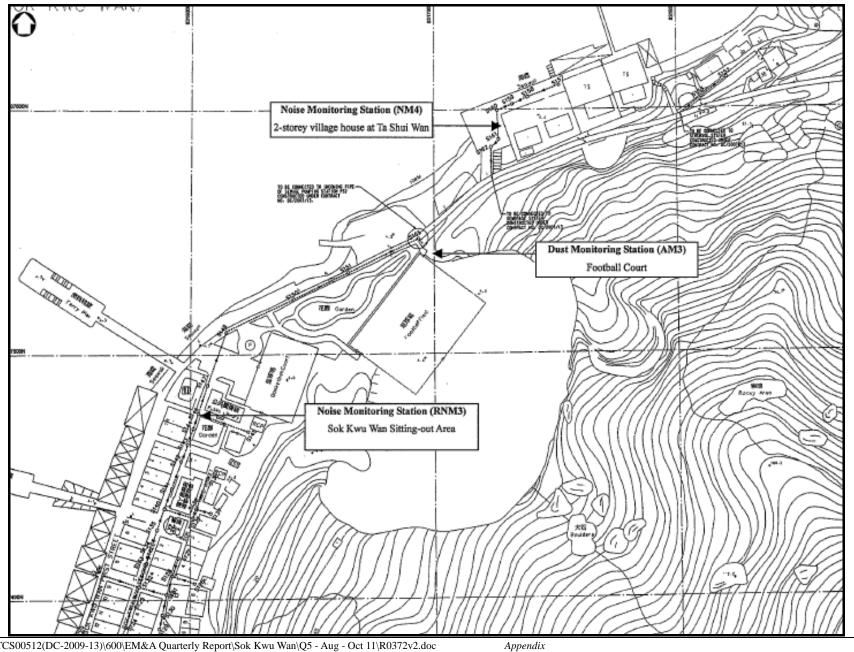




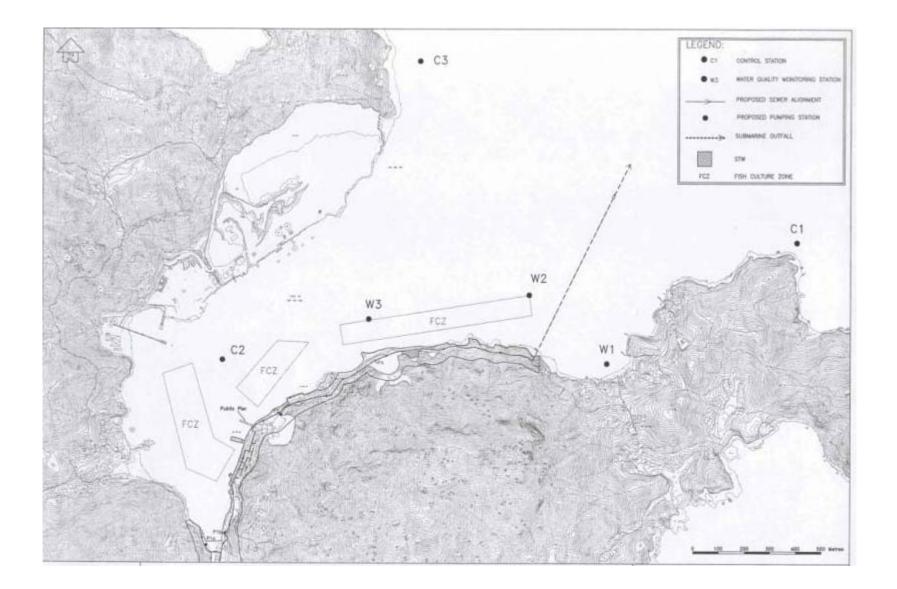
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Appendix





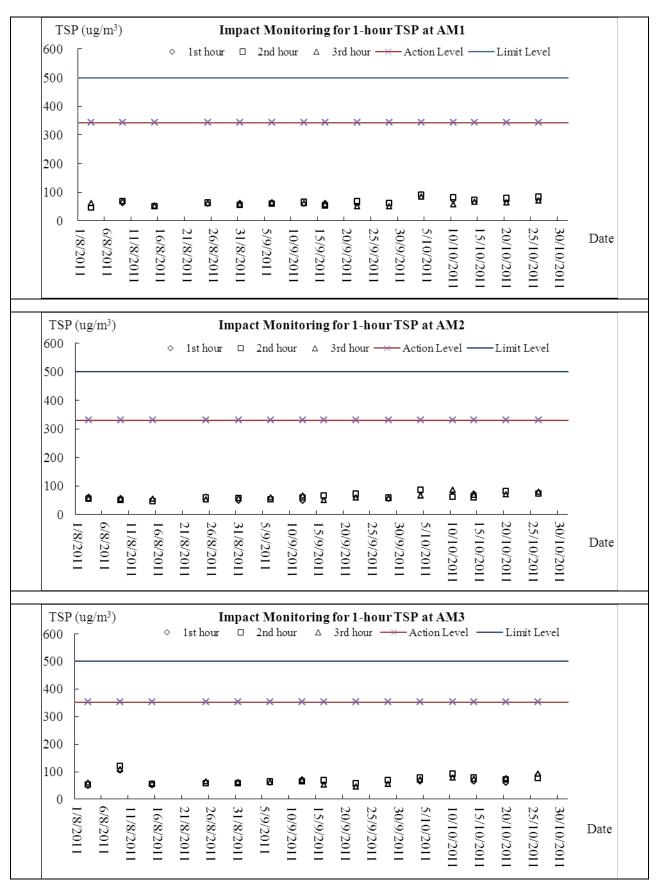
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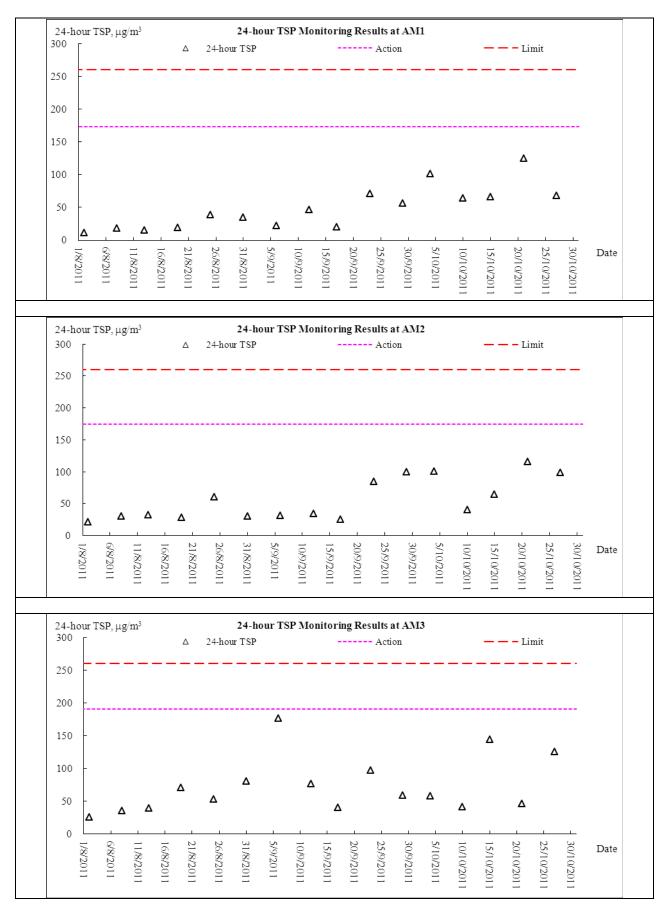
Appendix E

Graphical Plots of Impact Monitoring

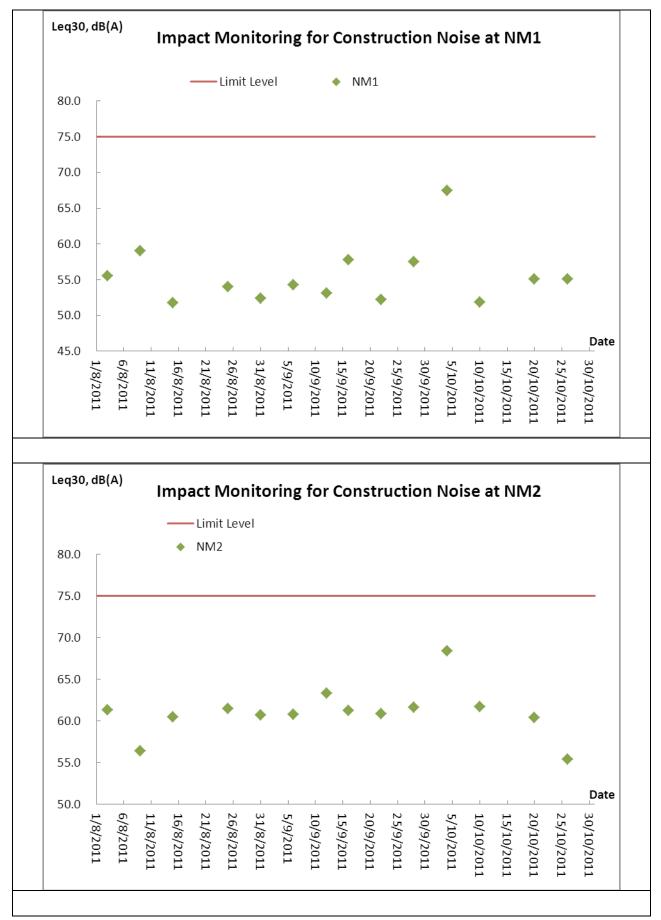
- 1. Air Quality
- 2. Construction Noise
- 3. Marine Water Quality



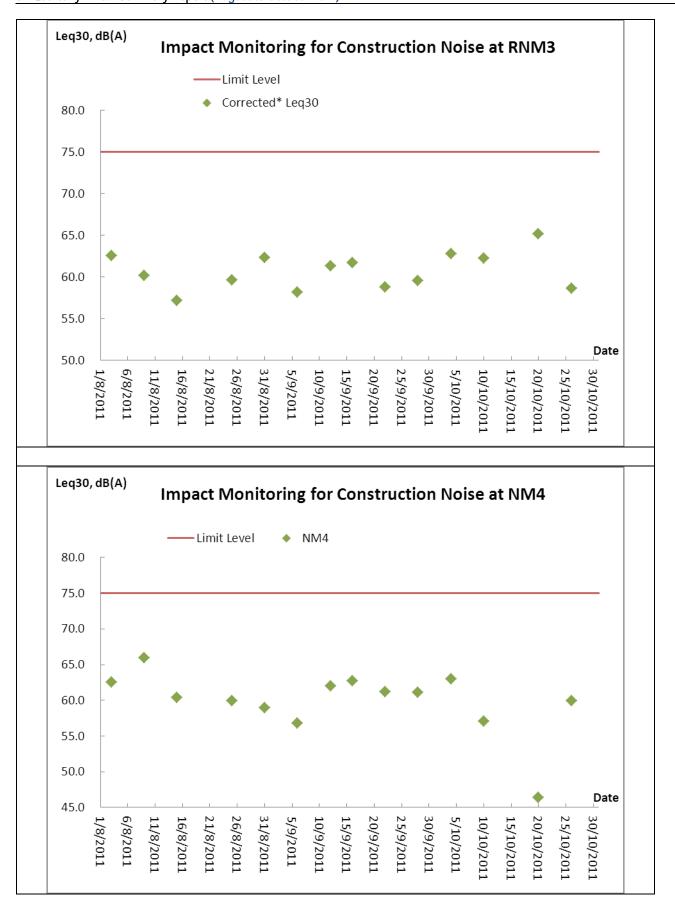
Air Quality Monitoring – 1 hour TSP Monitoring

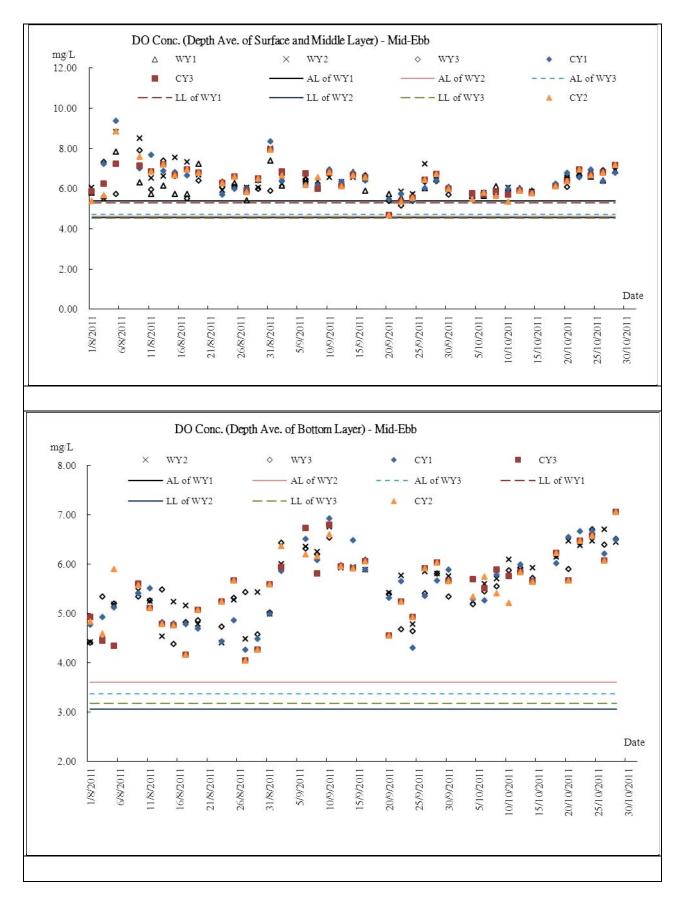


Air Quality Monitoring – 24 hour TSP Monitoring



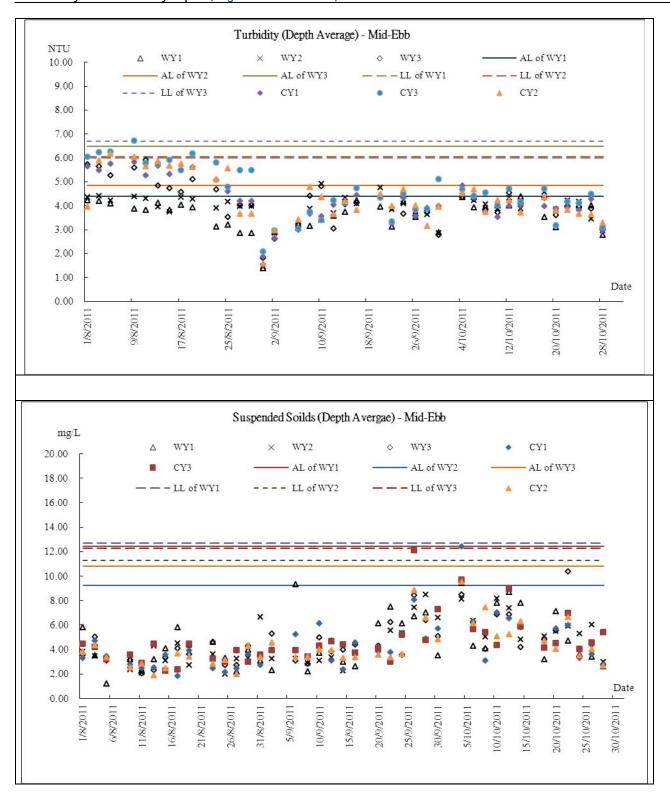
Construction Noise Monitoring

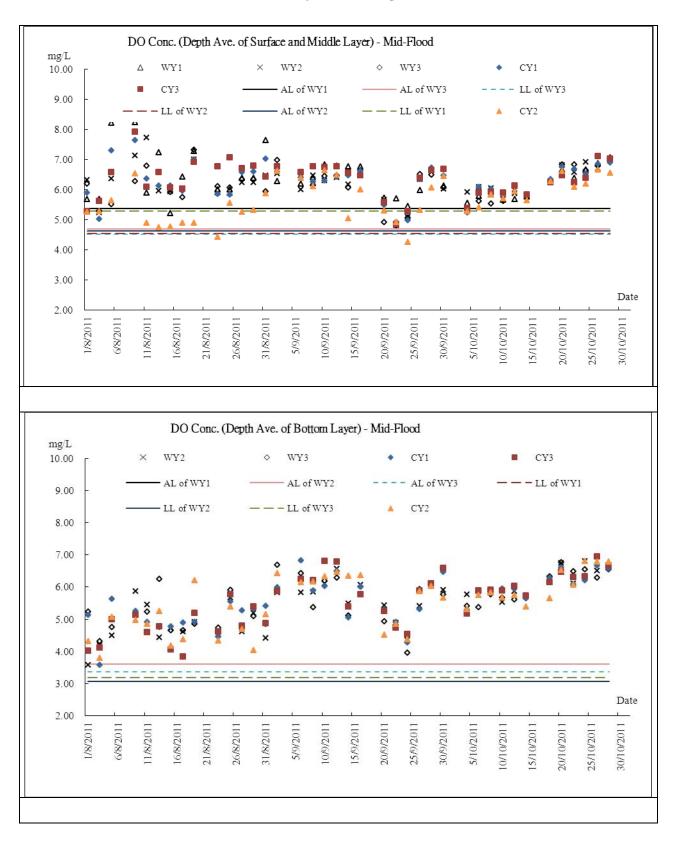




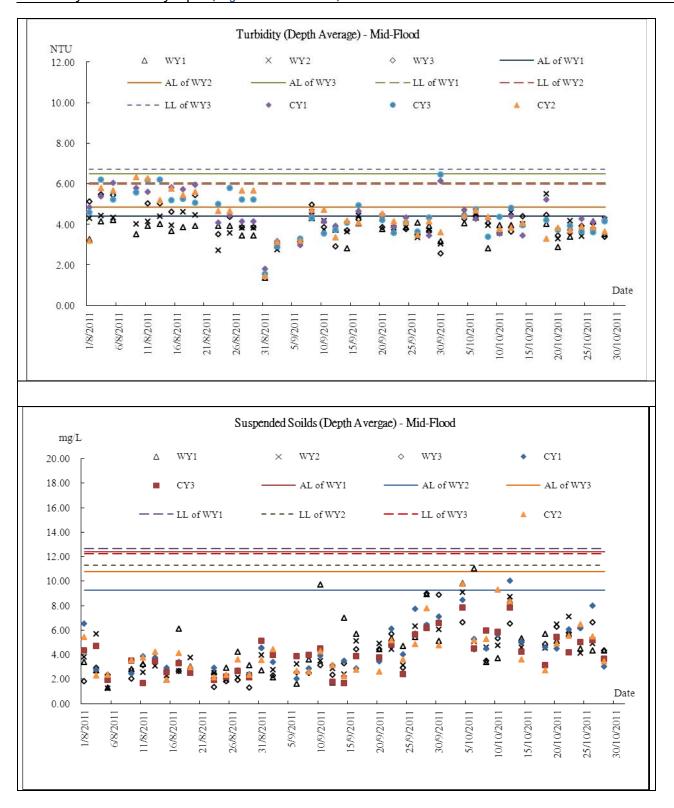
Marine Water Quality Monitoring - Mid-Ebb Tide

Contract No. DC/2009/13 – Construction of Sewage Treatment Works at Yung Shue Wan and Sok Kwu Wan Sok Kwu Wan Portion Area 5th Quarterly EM&A Summary Report (August to October 2011)





Marine Water Quality Monitoring - Mid-Flood Tide



Appendix F

Meteorological Information

Weather Condition – August 2011

Under the prolonged dominance of the sub-tropical ridge, Hong Kong experienced one of the hottest August since records began in 1884. The monthly mean temperature soared to 29.5 degrees, equaling the record set in 1990 and 1998 and was 1.1 degrees above normal. The month was sunnier than usual. The monthly total duration of bright sunshine was 242.0 hours, 52.3 hours higher than normal. The month was also dry with a total rainfall of 157.6 millimetres, only 35 percent of the normal figure and the accumulated rainfall since 1 January of 1092.3 millimetres suffered a deficit of 42 percent compared to the normal figure of 1873.7 millimetres for the same period

Weather Condition – September 2011

In spite of a major tropical cyclone affecting Hong Kong during September 2011, the total rainfall recorded for the month was only 123.1 millimetres or 43 percent of the normal figure. The accumulated rainfall since 1 January of 1215.4 millimetres still suffers a deficit of 44 percent compared to the normal figure of 2161.2 millimetres for the same period. The month was also warmer than usual with a monthly mean temperature of 28.0 degrees which was 0.4 degrees above normal.

Weather Condition-October 2011

October 2011 started off gloomy and wet with mostly fine and dry weather prevailing in the latter half of the month. On the whole, the month was cooler and wetter than usual. The mean temperature of the month of 24.8 degree was 0.5 degrees below the normal figure of 25.3 degrees. The total rainfall recorded in the month was 172.4 millimetres, about 13 percent above normal. However, the accumulated rainfall since 1 January of 1387.8 millimetres still suffered a deficit of 40 percent compared to the normal figure of 2313.1 millimetres for the same period.

The details meteorological data for each successive day could be referred to the Monthly EM&A Report (August, September and October 2011).

Appendix G

Monthly Summary Waste Flow Table

Monthly Summary Waste Flow Table for October 2011

			Actu	al Quant	ities of In	ert C&D	Material	s Genera	ted Mont	hly				A	ctual Qu	uantities	of C&D	Wastes	Generate	ed Montł	nly	
Month	Total Quantity Generated $(a) = (c)+(d)+(e)$ Hard Rock and Large Broken Concrete (b)		Reused in the Contract (c)		Reused in other Projects (d)		Disposed as Public Fill (e)		Imported Fill (f)		Metals		Paper/ cardboard packaging		Plastics		Chemical Waste		Others, e.g. rubbish			
	(in '000m ³)		(in '00	00m ³)	(in '00)0m ³)	(in '00	$00m^{3})$	(in '00	$00m^{3})$	(in '00	$00m^{3}$)	(in '0	00kg)	(in '0	00kg)	(in '0	00kg)	(in '0	00kg)	(in to	onne)
	YSW	SKW	YSW	SKW	YSW	SKW	YSW	SKW	YSW	SKW	YSW	SKW	YSW	SKW	YSW	SKW	YSW	SKW	YSW	SKW	YSW	SKW
2010	4.522	0.030	0.068	0.104	0.488	0.000	0.000	0.000	4.033	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	18.460
Jan	0.985	3.045	0.003	0.013	0.120	0.419	0.000	2.626	0.865	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.240
Feb	0.377	0.000	0.000	0.043	0.000	0.000	0.000	0.000	0.377	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.350
Mar	0.758	1.175	0.002	0.106	0.006	0.000	0.000	1.175	0.752	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.360
Apr	1.135	1.339	0.017	0.025	0.112	0.180	0.000	1.159	1.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.830	5.160
May	0.614	1.362	0.030	0.036	0.014	0.400	0.000	0.962	0.600	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.150	0.860
Jun	0.505	1.014	0.000	0.022	0.000	0.060	0.000	0.954	0.505	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	9.610	1.510
Sub-total	8.8954	7.9653	0.1184	0.3497	0.7397	1.0590	0.0000	6.8760	8.1558	0.0303	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	15.5900	28.9400
Jul	0.824	1.077	0.000	0.004	0.000	0.000	0.000	1.077	0.824	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.000	0.510
Aug	0.491	3.519	0.004	0.006	0.000	0.000	0.000	3.519	0.491	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.990	1.830
Sep	0.074	1.473	0.037	0.004	0.000	0.000	0.000	1.473	0.074	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	23.030	2.420
Oct	0.145	1.674	0.000	0.007	0.000	0.000	0.000	1.674	0.145	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.330	6.850
Nov																						
Dec																						
Total	10.4296	15.7083	0.1596	0.3710	0.740	1.059	0.000	14.619	9.6899	0.0303	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	67.94	40.55
10141	26.1	138	0.5	31	1.7	99	14.6	519	9.7	20	0.0	00	0.0	00	0.0	00	0.0	00	0.0	00	108	.49

Remark: Assume 1.0 m^3 vehicle dump load = 1.6 tonnes C&D materials

YSW: Yung Shue Wan SKW: Sok Kwu Wan