



PROJECT NO.: TCS/00512/09

**DSD CONTRACT NO. DC/2009/13
CONSTRUCTION OF SEWAGE TREATMENT WORKS AT
YUNG SHUE WAN AND SOK KWU WAN**

**YUNG SHUE WAN PORTION AREA
MONTHLY ENVIRONMENTAL MONITORING AND AUDIT
(EM&A) REPORT (No.48) – AUGUST 2014**

PREPARED FOR
LEADER CIVIL ENGINEERING CORPORATION LIMITED

Quality Index

| Date | Reference No. | Prepared By | Approved By |
|------------------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| 8 September 2014 | TCS00512/09/600/R0811v1 |  Martin Li Assistant Environmental Consultant |  T.W. Tam Environmental Team Leader |

| Version | Date | Description |
|----------------|------------------|--------------------|
| 1 | 8 September 2014 | First Submission |
| | | |
| | | |

URS CDM Joint Venture

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

Your reference:

Our reference:

05117/6/16/432246

Date:

15 September 2014

Attention: Mr F.K. Pong

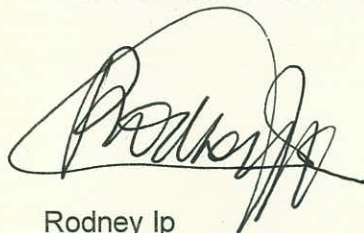
BY FAX

Dear Sir,

Contract No. DC/2009/13
Construction of Sewage Treatment Works at Yung Shue Wan and Sok Kwu Wan
Yung Shue Wan Portion Area
Monthly Environmental Monitoring and Audit (EM&A) Report No. 48 (August 2014)

We refer to the Monthly EM&A Monitoring Report No. 48 for August 2014 received under cover of the email from the Environmental Team, Action-United Environmental Services and Consulting (AUES), dated on 10 September 2014. We have no comment and have verified the captioned report.

Yours faithfully
URS CDM JOINT VENTURE



Rodney Ip
Independent Environmental Checker

ICWR/CKCH/wwsc

Encl

| | | |
|----|--------------------------|--------------------------|
| cc | Leader Civil Engineering | (Attn: Mr Ron Hung) |
| | AUES | (Attn: Mr T.W. Tam) |
| | ER/LAMMA | (Attn: Mr Kenneth Kwong) |
| | CDM | (Attn: Mr Sylvester Hsu) |

EXECUTIVE SUMMARY

ES.01. This is the 48th monthly Environmental Monitoring and Audit (EM&A) for Yung Shue Wan (hereinafter ‘this Report’) for the designated works under Environmental Permit [EP-282/2007], covering a period from 26 July 2014 to 25 August 2014 (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 | 30 |
| | 24-hour TSP | 10 |
| Construction Noise | L _{eq} (30min) Daytime | 4 |
| Inspection / Audit | ET Regular Environmental Site Inspection | 4 |

ES.03. According to the construction information provided by the Contractor, the marine works in Yung Shue Wan has been completed on 22 April 2013. As agreed by the Contractor, IEC and RE, the ecology was ceased in May 2013 due to no ecological impact and concern since the completion of marine work, whereas impact marine water quality monitoring was terminated in July 2013. In this regards, an associated letter ref. TCS00512/10/300/L0656 dated 28 June 2013 has been issued to EPD for approval and no comment was received.

BREACH OF ACTION AND LIMIT (A/L) LEVELS

ES.04. No exceedance in air quality and construction noise monitoring was recorded in this Reporting Period. The statistics of environmental exceedance, NOE issued and investigation of exceedance are summarized in the following table.

| Environmental Issues | Monitoring Parameters | Action Level | Limit Level | Event & Action | | |
|----------------------|---------------------------------|--------------|-------------|----------------|---------------|--------------------|
| | | | | NOE Issued | Investigation | Corrective Actions |
| Air Quality | 1-hour TSP | 0 | 0 | 0 | -- | -- |
| | 24-hour TSP | 0 | 0 | 0 | -- | -- |
| Construction Noise | L _{eq} (30min) Daytime | 0 | 0 | 0 | -- | -- |

Note: NOE – Notification of Exceedance

SITE INSPECTION

ES.05. In this Reporting Period, 4 events of weekly joint inspection by the RE, the Contractor and ET were carried out on 29 July 2014; 5, 12 and 19 August 2014.

ENVIRONMENTAL COMPLAINT, NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

ES.06. No written or verbal complaint, environmental summons or successful prosecutions were recorded in this Reporting Period.

REPORTING CHANGE

ES.07. In this Reporting Period, no reporting changes were made.

FUTURE KEY ISSUES

ES.08. During wet season, the Contractor shall pay attention on the potential water impact as the construction site is adjacent to the coastline. Muddy water and other water quality pollutants via site surface water runoff into the coral zones of Yung Shue Wan seawall, Shek Kok Tsui and O Tsai should be avoided. Mitigation measures for water quality should be fully implemented.

ES.09. Nevertheless, the Contractor shall keep paying attention on the potential water impact as the construction site is adjacent to the coastline. 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 should be avoided. Therefore, mitigation measures for water quality should be fully implemented.

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1. INTRODUCTION

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 instead 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 1,430m³/day and 2,850m³/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 laying 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 (ET) to implement the environmental monitoring and auditing works to fulfill the requirements as stipulated in the EM&A Manual. This EM&A Manual is referred to the Appendix D of the Review Report on EIA Study – Yung Shue 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 programme. 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 split 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 **48th** monthly EM&A Report for Yung Shue Wan Portion Area which presenting the monitoring results and inspection findings in the Reporting Period from **26 July 2014** to **25 August 2014**.

REPORT STRUCTURE

- 1.06 The Monthly Environmental Monitoring and Audit (EM&A) Report – Yung Shue Wan is structured into the following sections:-

| | |
|-------------------|-------------------------------------------------------|
| SECTION 1 | INTRODUCTION |
| SECTION 2 | PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS |
| SECTION 3 | SUMMARY OF MONITORING REQUIREMENTS |
| SECTION 4 | AIR QUALITY MONITORING RESULTS |
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| SECTION 10 | ENVIRONMENTAL COMPLAINTS AND NON-COMPLIANCE |
| SECTION 11 | IMPLEMENTATION STATUES OF MITIGATION MEASURES |
| SECTION 12 | IMPACT FORECAST |
| SECTION 13 | CONCLUSIONS AND RECOMMENDATION |

2. PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS

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](#).

CONSTRUCTION PROGRESS

- 2.02 The three month rolling construction programme are enclosed in [Appendix C](#) and the major construction activities undertaken in this Reporting Period are listed below:-
- Excavation,
 - Pipe laying,
 - Concreting,
 - Installation of equipment and finishing works

SUMMARY OF ENVIRONMENTAL SUBMISSIONS

- 2.03 Summary of the relevant permits, licences, and/or notifications on environmental protection for this Project in this Reporting Period 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 19/5/2010 Case No: 317486 |
| 2 | Chemical Waste Producer Registration | Issued on 8/6/2010 WPN 5213-912-L2720-01 |
| 3 | Water Pollution Control Ordinance | Issued on 22/9/2010 WT00007566-2010 |
| 4 | Billing Account for Disposal of Construction Waste | Issued on 26 May 2010 A/C No: 7010815 |

- 2.04 Summary of the report submission for EM&A Programme is presented in [Table 2-2](#).

Table 2-2 Status of EM&A Programme Submission

| Item | EM&A Programme Submission | Status |
|------|-------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| 1 | Proposed EM&A Programme for Baseline / Impact Monitoring – Yung Shue Wan (TCS00512/09/600/R0011Ver.5) | Verified by IEC and submitted to EPD on 8 July 2010 |
| 2 | Method Statement for Coral Monitoring – Yung Shue Wan (TCS00512/09/600/R0071Ver.3) | Verified by IEC and submitted to EPD on 25 November 2010 |
| 3 | Baseline Air and Noise Monitoring Report - Volume 1 (TCS00512/09/600/R0061Ver.3) | Verified by IEC and submitted to EPD on 31 August 2010 |
| 4 | Baseline Monitoring Report Volume 2 - Water Quality (TCS00512/09/600/R0158Ver.2) | Verified by IEC and submitted to EPD on 10 March 2011 |
| 5 | Baseline Survey for Coral Monitoring – Yung Shue Wan (TCS00512/09/600/R0132Ver.3) | Verified by IEC and submitted to EPD on 17 February 2011 |
| 6 | Methodology of Coral Tagging for Impact Monitoring – Yung Shue Wan | Verified by IEC and submitted to EPD on 28 March 2011 |
| 7 | Coral Tagging Report (TCS00512/09/600/R0214Ver.4) | Verified by IEC and submitted to EPD on 3 August 2011 |

3. SUMMARY OF BASELINE MONITORING REQUIREMENTS

ENVIRONMENTAL ASPECT

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

Table 3-1 Summary of the EM&A Requirements

| Environmental Issue | Parameters |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Air Quality | <ul style="list-style-type: none"> • 1-hour TSP Monitoring by Real-Time Portable Dust Meter; and • 24-hour TSP Monitoring by High Volume Air Sampler. |
| Noise | <ul style="list-style-type: none"> • $L_{eq(30min)}$ during normal working hours; and • $L_{eq(15min)}$ during Restricted Hours. |
| Marine Water Quality | <p><i>In-situ Measurements</i></p> <ul style="list-style-type: none"> • Dissolved Oxygen Concentration (DO) (mg/L); • Dissolved Oxygen Saturation (%); • Turbidity (NTU); • pH unit; • Salinity (ppt); • Water depth (m); and • Temperature (°C). <p><i>Laboratory Analysis</i></p> <ul style="list-style-type: none"> • Suspended Solids (SS) (mg/L) |
| Ecology | <ul style="list-style-type: none"> • Coral Monitoring |

MONITORING LOCATIONS

Air Quality

- 3.04 Two designated monitoring stations, AC02a located at Yung Shue Wan Refuse Transfer Station and AC04 located at residential area nearby Yung Shue Wan football pitch, were recommended in the *EM&A Manual Section 2.5*. In order to identify and seek for the access of the air monitoring locations designated in the EM&A Manual, site visit was conducted by Leader and ET.
- 3.05 At the site visit, all designated monitoring locations were identified however the premises for high volume sampler installation were objected by the owner or the residents of nearby. So, alternative air monitoring locations were proposed in accordance with the criteria set out in *EM&A manual Section 2.5.2 and 2.5.3*. The proposed alternative air monitoring stations were accepted by the Engineer Representative (ER) and Independent Environmental Checker (IEC) and EPD for endorsement. Details of renewed air monitoring stations are described in **Table 3-2**. The graphical of air monitoring stations is shown in **Appendix D**.

Table 3-2 Location of Air Quality Monitoring Station

| Sensitive Receiver | Location |
|--------------------|------------------------------------------------------------------------------------------------------------------|
| AC02b | The entrance of RE's site office |
| AC04c | Next to a power transformer station TP208 Yung Shue Wan and adjacent to the road direct to the construction site |

Construction Noise

- 3.06 According to *EM&A Manual Section 3.4*, one noise sensitive receivers (NC05) designated for the construction noise monitoring was recommended at Yung Shue Wan Portion Area of the Project. The designated monitoring station is identified and successfully granted the premises. The detailed construction noise monitoring station 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 |
|--------------------|--------------------|
| NC05 | North Lamma Clinic |

Marine Water Quality

- 3.07 Two control stations (CY1 and CY2) and three impact stations (WY1-WY3) were recommended in the *EM&A Manual Section 4.5*. Impact stations WY1-WY3 were identified close to the sensitive receivers (the coral colonies in the vicinity of Yung Shue Wan, and secondary contact recreation subzone). It is proposed to monitor the impacts from the construction of the submarine outfall as well as the effluent discharge from the proposed STW on water quality. Two control stations: CY1 and CY2 were recommended at locations representative of the project site in its undisturbed condition and located at upstream and downstream of the works area. The marine water quality monitoring stations to be performed under the Project is described in **Table 3-4** and shown in **Appendix D**.

Table 3-4 Location of Marine Water Quality Monitoring Station

| Station | Description | Coordinates | |
|-------------|--------------------------------------------------------|-------------|----------|
| | | Easting | Northing |
| WY1 | Coral colonies on seawall at STW site | 829 170 | 809 550 |
| WY2 | Coral colonies at Shek kok Tsui | 829 000 | 810 400 |
| WY3 | Coral colonies at O Tsai (headland N at SW ferry pier) | 829 200 | 809 850 |
| CY1 (flood) | Control Station | 828 400 | 810 800 |
| CY2 (ebb) | Control Station | 828 000 | 808 800 |

Coral Monitoring

- 3.08 The coral monitoring stations to be performed under the Project is show in **Appendix D**. The ecology monitoring was ceased since the completion of marine work on 22 April 2013.

MONITORING FREQUENCY AND PERIOD

- 3.09 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, 4.8, 7.3 and 7.4*. 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: $L_{eq(30min)}$ & $L_{eq(5min)}$, L_{10} and L_{90} .
 $L_{eq(15min)}$ & $L_{eq(5min)}$, L_{10} and L_{90} 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

Frequency: Three days a week, at mid ebb and mid flood tides. The interval between 2 sets of monitoring will be more than 36 hours

Sampling Depth (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

Duration: During the course of marine works

Coral Monitoring

Parameters: Presence and coverage of hard and soft corals such as diversity, abundance and health status of the corals in the general area, plus other physical and biological condition at the underwater environment

Frequency: One per week for the first three months of the marine works. If no exceedances are reported during the first three months, the frequency may be reduced to twice every month

Duration: During the course of marine works

Post-Construction Monitoring – Marine Water

- 3.10 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.

Post-Construction Monitoring – Ecology Monitoring

- 3.11 Following completion of the marine works, post project monitoring should be carried out within two weeks of completion of the marine works (HDD and dredging), and should comprise the same two-tier Rapid Assessment Ecological Assessment (REA) method adopted for the baseline survey.

MONITORING EQUIPMENT

Air Quality Monitoring

- 3.12 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.

1-hour TSP

- 3.13 The 1-hour TSP monitor, a TSI Dust Track Aerosol Monitor Model 8520 or Sibata LD-3 Laser Dust Meter is a portable, battery-operated laser photometer. The 1-hour TSP meter provides a real time 1-hour TSP measurement based on 90° light scattering. The 1-hour TSP monitor consisted of the following:
- A pump to draw sample aerosol through the optic chamber where TSP is measured;
 - A sheath air system to isolate the aerosol in the chamber to keep the optics clean for

- maximum reliability; and
- c. A built-in data logger compatible with Windows based program to facilitate data collection, analysis and reporting.

24-hour TSP

- 3.14 The equipment used for 24-hour TSP measurement will be a TISCH High Volume Air Sampler, HVS Model TE-5170, which complied with EPA Code of Federal Regulation, Appendix B to Part 50. The HVS consists of the following:
- a. An anodized aluminum shelter;
 - b. A 8"x10" stainless steel filter holder;
 - c. A blower motor assembly;
 - d. A continuous flow/pressure recorder;
 - e. A motor speed-voltage control/elapsed time indicator;
 - f. A 7-day mechanical timer, and
 - g. A power supply of 220v/50 hz
- 3.15 For HVS for 24-hour TSP monitoring, the HVS is mounted in a metallic cage with a top for protection and also it is sat on the existing ground. The flow rate of the HVS between 0.63m³/min and 1.7m³/min will be properly set in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50. Glass Fiber Filter 8" x 10" of TE-653 will be used for 24-hour TSP monitoring and would be supplied by laboratory. The general procedures of sampling are described as below:-
- A horizontal platform with appropriate support to secure the samples against gusty wind should be provided;
 - No two samplers should be placed less than 2 meters apart;
 - The distance between the sampler and an obstacle, such as building, must be at least twice the height that the obstacle protrudes above the sample;
 - A minimum of 2 meters of separation from any supporting structure, measured horizontally is required;
 - Before placing any filter media at the HVS, the power supply will be checked to ensure the sampler work properly;
 - The filter paper will be set to align on the screen of HVS to ensure that the gasket formed an air tight seal on the outer edges of the filter. Then filter holder frame will be tightened to the filter hold with swing bolts. The holding pressure should be sufficient to avoid air leakage at the edge.
 - The mechanical timer will be set for a sampling period of 24 hours (00:00 mid-night to 00:00 mid-night next day). Information will be recorded on the field data sheet, which would be included the sampling data, starting time, the weather condition at current and the filter paper ID with the initial weight;
 - After sampling, the filter paper will be collected to transfer from the filter holder of the HVS to a sealed in the envelope and sent to a local HOKLAS accredited laboratory for quantifying.
- 3.16 All the sampled 24-hour TSP filters will be kept in normal air conditioned room conditions, i.e. 70% HR (Relative Humidity) and 25°C, for six months prior to disposal.
- 3.17 The HVS used for 24-hour TSP monitoring will be calibrated before the commencement for sampling, and after in two months interval for 1 point checking of maintenance and six months interval for five points calibrate in accordance with the manufacturer's instruction using the NIST-certified standard calibrator (Tisch Calibration Kit Model TE-5028A) to establish a relationship between the follow recorder meter reading in cfm (cubic feet per minute) and the standard flow rate, Qstd, in m³/min.

Noise Monitoring

- 3.18 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.
- 3.19 All noise measurements will be performed with the meter set to FAST response and on the A-weighted equivalent continuous sound pressure level (Leq). Leq(30 min) in six consecutive Leq(5 min) measurements will be used as the monitoring parameter for the time period between 0700-1900 hours on weekdays throughout the construction period. Leq(15 min) in three consecutive Leq(5 min) measurements for other time periods (e.g. during restricted hours) will only be conducted for monitoring the construction noise during restricted hours as necessary.
- 3.20 The sound level meter will be mounted on a tripod at a height of 1.2 m and placed at the assessment point and oriented such that the microphone is pointed to the site with the microphone facing perpendicular to the line of sight. The windshield will be fitted for all measurements. Where a measurement is to be carried out at a building, the assessment point would normally be at a position 1 m from the exterior of the building façade. Where a measurement is to be made for noise being received at a place other than a building, the assessment point would be at a position 1.2 m above the ground in a free-field situation, i.e. at least 3.5 m away from reflective surfaces such as adjacent buildings or walls.
- 3.21 Immediately prior to and following each noise measurement the accuracy of the sound level meter will be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements will be accepted as valid only if the calibration level from before and after the noise measurement agrees to within 1.0dB.
- 3.22 Noise measurements will not be made in fog, rain, wind with a steady speed exceeding 5m/s or wind with gusts exceeding 10m/s. The wind speed will be checked with a portable wind speed meter capable of measuring the wind speed in m/s. An acoustic calibrator and sound level meter will be calibrated yearly. A valid of Calibration certificates will be shown in the Environmental Monitoring Report accordingly.

Water Quality Monitoring

- 3.23 Marine water quality monitoring will be conducted at the designated locations in accordance with EM&A Manual. The operating and analytical of sampling procedures are described as below:
- A Global Positioning System (GPS) will be used to ensure that the correct location was selected prior to sample collection. A portable, battery-operated echo sounder will be used for the determination of water depth at each designated monitoring station.
 - The marine water sampler will be lowered into the water body at a predetermined depth. The trigger system of the sampler is activated with a messenger and opening ends of the sampler are closed accordingly then the sample of water is collected.
 - During the sampling, the sampling container will be rinsed to use a portion of the marine water sample before the water sample is transferred to the container. Upon sampling completion, the container is sealed with a screw cap.
 - Before the sampling process, general information such as the date and time of sampling, weather condition and tidal condition as well as the personnel responsible for the monitoring will be recorded on the monitoring field data sheet.
 - In-situ measurement including water temperature, turbidity, dissolved oxygen, salinity, pH and water depth undertake at the identified monitoring point. At each station, marine water samples are collected at three depths: 1m below water surface, 1m above sea bottom and at mid-depth when the water depth exceeds 6m. Samples at 1m below water surface and 1m above sea bottom are collected when the water depth is between 3m and 6m. Only 1 sample at mid-depth is taken when the water depth is below 3m.

- For the in-situ measurement, two consecutive measurements of sampling depth, temperature, dissolved oxygen, salinity, turbidity and pH concentration will be measured at the sea. The YSI Model 6820 Multi-parameter Water Quality Sonde is retrieved out of the water after the first measurement and then re-deployed for the second measurement. Where the difference in the value between the first and second readings of each set is more than 25% of the value of the first reading, the reading is discarded and further readings is taken.
 - Water sample collection would be used the water sampler. During the water sample collected from the sea, it is fill in high-density polythene bottles. Before the water sample storage, the sampling bottles will be pre-rinsed with the same water sample. The sample bottles then is packed in cool-boxes (cooled at 4°C without being frozen), and delivered to HOKLAS accredited laboratory for the chemical analysis as followed APHA *Standard Methods for the Examination of Water and Wastewater* 19ed 2540D, unless otherwise specified.
 - The laboratory has be comprehensive quality assurance and quality control programmes. For QA/QC procedures, one duplicate samples of every batch of 20 samples is analyzed as followed the HOKLAS accredited requirement.
- 3.24 For the marine water sampling period, the Multi-parameter Water Quality Monitoring System will be calibrated by three month interval accordingly. The available calibration certificate will be issued to ensure the performance of Multi-parameter Water Quality Monitoring System to use for in-situ measurement.
- 3.25 All water samples will be analyzed with various chemical tests as specified in the EM&A Manual by a local HOKLAS-accredited testing laboratory (ALS Technichem (HK) Pty Ltd HOKLAS registration no. 66). Duplicate samples from each independent sampling event are required for all parameters and the samples will be mixed and analyzed in one set of laboratory analysis. The mixed process would be carried by the laboratory. The determination works should start within 24 hours after collection of the water samples or within the holding time as advised by the laboratory. The laboratory analysis result will be input in our computer database upon received from the laboratory.

Coral Monitoring

- 3.26 The monitoring equipments used for the coral monitoring could be referred to ***Impact Coral Monitoring report***.

EQUIPMENT CALIBRATION

- 3.27 Calibration of the High Volume Sampler (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.
- 3.28 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.
- 3.29 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.
- 3.30 The Multi-parameter Water Quality Monitoring System will be calibrated by HOKLAS accredited laboratory of three month intervals. The available calibration certificate will be issued to ensure the performance of Multi-parameter Water Quality Monitoring System to use for in-situ measurement.
- 3.31 All updated calibration certificates of the monitoring equipment used for the impact monitoring programme in the Reporting Period would be attached in ***Appendix E***.

METEOROLOGICAL INFORMATION

- 3.32 The meteorological information during the construction phase is obtained from the Wong Chuk Hang Station of the Hong Kong Observatory (HKO) due to it nearly the Project site.

DATA MANAGEMENT AND DATA QA/QC CONTROL

- 3.33 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 programme.
- 3.34 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.

REPORTING

- 3.35 It was agreed among the ER, IEC, Contractor and ET that, in order to streamline the EM&A report submission and to cater for the occasional delay in obtaining laboratory analysis results, the cutoff day for each month is the 25th i.e. the first day of each report is the 26th of the last month and the end day, the 25th of that month.

DETERMINATION OF ACTION/LIMIT (A/L) LEVELS

- 3.36 According to the Yung Shue Wan Environmental Monitoring and Audit Manual, the air quality, construction noise, marine water quality and coral monitoring were established, namely Action and Limit levels are listed in *Tables 3-5 to 3-8* as below.

Table 3-5 Action and Limit Levels for Air Quality

| Monitoring Station | Action Level ($\mu\text{g}/\text{m}^3$) | | Limit Level ($\mu\text{g}/\text{m}^3$) | |
|--------------------|-------------------------------------------|-------------|------------------------------------------|-------------|
| | 1-hour TSP | 24-hour TSP | 1-hour TSP | 24-hour TSP |
| AC02b | 288 | 161 | 500 | 260 |
| AC04c | 290 | 176 | 500 | 260 |

Table 3-6 Action and Limit Levels for Construction Noise

| Recommended Action & Limit Levels of Construction Noise | | |
|---------------------------------------------------------|-----------------------------------------------------|-------------|
| Monitoring Location | Action Level | Limit Level |
| | 0700-1900 hours on normal weekdays | |
| NC05 | When one or more documented complaints are received | 75 dB(A) * |

Note: * Reduces to 70dB(A) for schools and 65dB(A) during the school examination periods.

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

| Parameter | Performance Criteria | Impact Station | | |
|----------------------------------------------|----------------------|----------------|-------|-------|
| | | WY1 | WY2 | WY3 |
| DO Concentration (Surface and Middle) (mg/L) | Action Level | 3.63 | 3.53 | 3.61 |
| | Limit Level | 3.32 | 3.47 | 3.42 |
| DO Concentration (Bottom) (mg/L) | Action Level | 3.33 | 2.92 | 3.36 |
| | Limit Level | 3.23 | 2.63 | 3.14 |
| Turbidity (Depth-Average) (NTU) | Action Level | 10.94 | 14.16 | 14.99 |
| | Limit Level | 17.35 | 15.20 | 16.21 |

| Parameter | Performance Criteria | Impact Station | | |
|--------------------------------------------|----------------------|----------------|-------|-------|
| | | WY1 | WY2 | WY3 |
| Suspended Solids (Depth-Average) (mg/L) | Action Level | 17.52 | 14.04 | 14.52 |
| | Limit Level | 25.62 | 16.51 | 16.88 |

Table 3-8 Action and Limit Levels for Coral Monitoring

| Step | Action |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Commence tagged coral monitoring at the impact site. If no increase in sedimentation cover/bleaching/partial mortality is observed on the hard corals or partial mortality on the soft/black corals, no action is required. If an increase in sedimentation cover/bleaching/partial mortality is observed on the hard corals or partial mortality on the soft/black corals at one or more impact monitoring stations Step 3 should be enacted, if not, Step 2. |
| 2 | If non actions are triggered a formal report should be issued along with evidentiary photographs following completion of the survey. Meanwhile monitoring work and construction works should continue uninterrupted. |
| 3 | If during the impact monitoring a 15% increase in the percentage of sedimentation on the hard corals occurs at more than 20% of the tagged coral colonies at the Impact Monitoring Station that is not reported at the Control Monitoring Station, then the Action Level is exceeded (Step 4). |
| 4 | If the Action Level is exceeded the IC(E) should inform all parties. The data from the water quality monitoring should also be reviewed. If the water quality monitoring shows no attributable effects of the installation works, then the Action Level is not triggered. If the water quality data indicate exceedances (for SS and/or turbidity) the IC(E) should discuss with the Contractor the most appropriate method of reducing suspended solids during construction (e.g. reduce rate of dredging). The water quality data reviewed should then be enacted on the next working day. |
| 5 | Monitoring should proceed the following day as per Step 1. If during the Impact Monitoring a 25% increase in the percentage of sedimentation on the hard corals at more than 20% of the tagged coral colonies at the Impact Monitoring Station that is not reported at the Control Monitoring Station, then the Limit Level is exceeded (Step 6). If the Limit Level is not exceeded Step 2 is enacted and work continues according to the mitigated method. |
| 6 | If the Limit Level is exceeded the Inspector Officer should inform all parties immediately. Should the Limit Level be exceeded, the Contractor should stop works immediately and work out a solution to the satisfaction of the IC(E), EPD and AFCD. The IC(E) should inform the Contractor to suspend marine construction works until an effective solution is identified. Once the solution has identified and agreed with all parties, backfilling works may re-commence. |

- 3.37 Should non-compliance of the environmental quality criteria occurs, remedial actions will be triggered according to the Event and Action Plan enclosed in [Appendix F](#).

4. IMPACT MONITORING RESULTS - AIR QUALITY

4.01 As informed by the Contractor, the construction of relevant land works at Yung Shue Wan was commenced on 14 September 2010. The impact EM&A programme was begun as compliance with the contract Particular Specification, Yung Shue Wan EM&A Manual and the EP. The impact monitoring schedule for the Reporting Period and next Reporting Period are presented in [Appendix G](#)

Result

4.02 In this Reporting Period, the results for 24-hour and 1-hour TSP monitoring are tabulated in [Tables 4-1 and 4-2](#). The 24-hour TSP monitoring data are shown in [Appendix H](#) and the graphical plots are shown in [Appendix I](#).

Table 4-1 Summary of 24-hour and 1-hour TSP Monitoring Results at AC02b

| Date | 24-hour TSP ($\mu\text{g}/\text{m}^3$) | 1-hour TSP ($\mu\text{g}/\text{m}^3$) | | | | |
|--------------------|---------------------------------------------|-----------------------------------------|------------|-------------------------------|-------------------------------|-------------------------------|
| | | Date | Start Time | 1 st hour measured | 2 nd hour measured | 3 rd hour measured |
| 29-Jul-14 | 32 | 28-Jul-14 | 10:05 | 25 | 23 | 16 |
| 4-Aug-14 | 44 | 2-Aug-14 | 11:05 | 29 | 33 | 35 |
| 9-Aug-14 | 26 | 8-Aug-14 | 12:43 | 35 | 28 | 27 |
| 15-Aug-14 | 37 | 14-Aug-14 | 11:06 | 50 | 64 | 48 |
| 21-Aug-14 | 21 | 20-Aug-14 | 13:34 | 48 | 64 | 49 |
| Average (Range) | 32 (21–44) | Average (Range) | | 38 (16 – 64) | | |

Table 4-2 Summary of 24-hour and 1-hour TSP Monitoring Results at AC04c

| Date | 24-hour TSP ($\mu\text{g}/\text{m}^3$) | 1-hour TSP ($\mu\text{g}/\text{m}^3$) | | | | |
|--------------------|---------------------------------------------|-----------------------------------------|------------|-------------------------------|-------------------------------|-------------------------------|
| | | Date | Start Time | 1 st hour measured | 2 nd hour measured | 3 rd hour measured |
| 29-Jul-14 | 35 | 28-Jul-14 | 10:08 | 26 | 22 | 12 |
| 4-Aug-14 | 56 | 2-Aug-14 | 11:00 | 21 | 27 | 29 |
| 9-Aug-14 | 38 | 8-Aug-14 | 12:30 | 40 | 32 | 31 |
| 15-Aug-14 | 32 | 14-Aug-14 | 10:47 | 52 | 59 | 52 |
| 21-Aug-14 | 34 | 20-Aug-14 | 13:32 | 32 | 63 | 47 |
| Average (Range) | 39 (32-56) | Average (Range) | | 36 (12 – 63) | | |

4.03 As shown in [Tables 4-1 and 4-2](#), the 1-hour and 24-hour TSP monitoring results fluctuated below the Action Level during this Reporting Period. No Notification of Exceedance (NOE) of air quality criteria or corrective action was therefore required.

4.04 The meteorological information during the impact monitoring days are summarized in [Appendix J](#).

5. IMPACT MONITORING RESULTS – CONSTRUCTION NOISE

5.01 The noise monitoring results are presented in the following sub-sections. The impact monitoring schedule for the Reporting Period and next Reporting Period are presented in [Appendix G](#)

Result

5.02 In this report period, 4 construction noise monitoring events were undertaken at designated location NC05. The results for $L_{eq(30min)}$ are tabulated in [Tables 5-1](#) and the graphical plots are shown in [Appendix I](#).

Table 5-1 Summarized of Construction Noise Monitoring Results at NC05

| Date | Start Time | End Time | 1 st set L_{eq5} | 2 nd set L_{eq5} | 3 rd set L_{eq5} | 4 th set L_{eq5} | 5 th set L_{eq5} | 6 th set L_{eq5} | L_{eq30} | Corrected L_{eq30}^* |
|--------------------|------------|----------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|------------|---------------------------|
| 28-Jul-14 | 10:21 | 10:51 | 55.8 | 54.4 | 55.9 | 54.2 | 55.3 | 56.5 | 55.4 | 58.4 |
| 8-Aug-14 | 15:19 | 15:49 | 55.4 | 55.5 | 54.9 | 56.0 | 57.5 | 56.5 | 56.1 | 59.1 |
| 14-Aug-14 | 11:22 | 11:52 | 60.3 | 64.2 | 64.4 | 58.9 | 59.6 | 51.7 | 61.4 | 64.4 |
| 20-Aug-14 | 17:11 | 17:41 | 53.4 | 54.1 | 53.5 | 55.7 | 56.4 | 55.9 | 55.0 | 58.0 |
| Limit Level | | | | | | | | | - | 75 dB(A) |

* A façade correction of +3dB(A) has been added according to acoustical principles and EPD guidelines.

5.03 It was noted that no noise complaint (which is an Action Level exceedance) was received. In view of the results shown in [Table 5-1](#), all the values are well below 75dB(A), therefore, no Action or Limit Level exceedance was triggered during this Reporting Period.

6. IMPACT MONITORING RESULTS – WATER QUALITY

- 6.01 According to the EM&A Manual of Yung Shue Wan, water quality monitoring should be carried out during the course of marine work. As informed by the Contractor in June 2013, the marine works in Yung Shue Wan has been completed on 22 April 2013. Marine water quality monitoring was therefore terminated in July 2013 after consent was obtained with IEC. In this regards, an associated letter ref. TCS00512/10/300/L0656 dated 28 June 2013 has been issued to EPD for approval and no comment was received.

7. IMPACT MONITORING RESULTS – ECOLOGY MONITORING

- 7.01 According to the EM&A Manual of Yung Shue Wan, ecology monitoring should be carried out during the course of marine work. As informed by the Contractor in June 2013, the marine works in Yung Shue Wan has been completed on 22 April 2013. Ecology monitoring was therefore terminated in June 2013 after consent was obtained with IEC. In this regards, an associated letter ref. TCS00512/10/300/L0656 dated 28 June 2013 has been issued to EPD for approval and no comment was received.

8. WASTE MANAGEMENT

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

Records of Waste Quantities

8.02 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.

8.03 The quantities of waste for disposal in this Reporting Period are summarized in *Tables 8-1* and *8-2* and the Monthly Summary Waste Flow Table is shown in *Appendix K*. Whenever possible, materials were reused on-site as far as practicable.

Table 8-1 Summary of Quantities of Inert C&D Materials

| Type of Waste | Quantity | Disposal Location |
|--------------------------------------------------------|----------|-------------------|
| C&D Materials (Inert) ('000m ³) | 0 | - |
| Reused in this Contract (Inert) ('000m ³) | 0 | - |
| Reused in other Projects (Inert) ('000m ³) | 0 | - |
| Disposal as Public Fill (Inert) ('000m ³) | 0 | - |

Table 8-2 Summary of Quantities of C&D Wastes

| Type of Waste | Quantity | Disposal Location |
|--------------------------------|----------|-------------------|
| Metals (kg) | 0 | - |
| Paper / Cardboard Packing (kg) | 0 | - |
| Plastics (kg) | 0 | - |
| Chemical Wastes (kg) | 0 | - |
| General Refuses (tonne) | 22.250 | Yung Shue Wan RTS |

8.04 There was no site effluent discharged but the estimated volume of surface runoff was less than 50m³ in this monthly period.

9. SITE INSPECTION

- 9.01 According to the Environmental Monitoring and Audit Manual, the environmental site inspection should be formulation by ET Leader. Regular environmental site inspections had been carried out by the ET to confirm the environmental performance. In this Reporting Period, weekly joint-site visit by RE, the Contractor and ET was carried out on **29 July 2014; 5, 12 and 19 August 2014**.
- 9.02 The findings/ deficiencies that observed during the weekly site inspection are listed in *Table 9-1* and the relevant checklists are attached in *Appendix L*.

Table 9-1 Site Observations

| Date | Findings / Deficiencies | Follow-Up Status |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| 29 July 2014 | <ul style="list-style-type: none">No environmental issue was observed during the site inspection | NA |
| 5 August 2014 | <ul style="list-style-type: none">The Contractor was reminded to cover the stockpile with tarpaulin sheet to reduce dust generation. | Stockpile has been backfilled. |
| 12 August 2014 | <ul style="list-style-type: none">No environmental issue was observed during the site inspection | NA |
| 19 August 2014 | <ul style="list-style-type: none">No environmental issue was observed during the site inspection | NA |

10. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

10.01 No environmental complaint, summons and prosecution was received in this reporting period. The statistical summary table of environmental complaint is presented in *Tables 10-1, 10-2* and *10-3*.

Table 10-1 Statistical Summary of Environmental Complaints

| Reporting Period | Environmental Complaint Statistics | | |
|----------------------------|------------------------------------|------------|------------------|
| | Frequency | Cumulative | Complaint Nature |
| 14 Sep – 30 September 2011 | 0 | 0 | NA |
| October – December 2011 | 0 | 0 | NA |
| January –December 2012 | 0 | 0 | NA |
| January - December 2013 | 0 | 0 | NA |
| January – July 2014 | 0 | 0 | NA |
| August 2014 | 0 | 0 | NA |

Table 10-2 Statistical Summary of Environmental Summons

| Reporting Period | Environmental Summons Statistics | | |
|----------------------------|----------------------------------|------------|------------------|
| | Frequency | Cumulative | Complaint Nature |
| 14 Sep – 30 September 2011 | 0 | 0 | NA |
| October – December 2011 | 0 | 0 | NA |
| January –December 2012 | 0 | 0 | NA |
| January - December 2013 | 0 | 0 | NA |
| January – July 2014 | 0 | 0 | NA |
| August 2014 | 0 | 0 | NA |

Table 10-3 Statistical Summary of Environmental Prosecution

| Reporting Period | Environmental Prosecution Statistics | | |
|----------------------------|--------------------------------------|------------|------------------|
| | Frequency | Cumulative | Complaint Nature |
| 14 Sep – 30 September 2011 | 0 | 0 | NA |
| October – December 2011 | 0 | 0 | NA |
| January –December 2012 | 0 | 0 | NA |
| January – December 2013 | 0 | 0 | NA |
| January – July 2014 | 0 | 0 | NA |
| August 2014 | 0 | 0 | NA |

11. IMPLEMENTATION STATUS OF MITIGATION MEASURES

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

Dust Mitigation Measure

11.02 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:

- Stockpiles of imported material kept on site should be contained within hoardings, dampened and / or covered during dry and windy weather;
- Material stockpiled alongside trenches should be covered with tarpaulins whenever works are close to village houses;
- Water sprays should be used during the delivery and handling of cement, sands, aggregates and the like.
- 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

11.03 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 programme.
 - 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

11.04 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.

- 11.05 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;
 - 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

- 11.06 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

- 11.07 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

- 11.08 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

- 11.09 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).
- 11.10 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.
- 11.11 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

- 11.12 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.
- 11.13 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.
- 11.14 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

- 11.15 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

- 11.16 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.
- 11.17 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

- 11.18 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.
- 11.19 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

- 11.20 The following general good practice measures should be adopted to mitigate ecological impacts during marine works (including dredging and HOD);
- Excess material from vessel loading should be cleaned from the decks and exposed fittings before vessels are moved to the backfilling location;
 - Dredging should cause no foam, oil, grease, scum, litter or other objectionable matter to be present on the water;
 - Adequate freeboard should be maintained to ensure that decks are not washed by wave action;

- All pie leakages should be repaired promptly and plant Should not be operated with leaking pipes; and
- All banges and other vessels should maintain adequate clearance between vessels and the seabed at all stats of the tide and reduce operational speeds to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash.

11.21 In the event of exceedances of ecological action or limit level, the Contractor will be required to revise his operations as a further mitigation measure. Revisions to the operation method may include (but not be limited to):

- Reduction in dredging rate
- Restriction of dredging in particular areas to specific periods in the tidal cycle

11.22 Should repeated non-compliances with limit level(s) occur the Contractor shall modify his working method until he is able to achieve the required compliances with the limit levels to the satisfaction of the IC(E)

Fisheries Mitigation Measure

11.23 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

11.24 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;
- 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

11.25 The implementation schedule of mitigation measures is presented in [Appendix M](#).

11.26 Leader had been implementing the required environmental mitigation measures according to the Yung Shue Wan Environmental Monitoring and Audit Manual subject to the site condition. Environmental mitigation measures generally implemented by Leader in this Reporting Period are summarized in [Table 11-1](#).

Table 11-1 Environmental Mitigation Measures

| Issues | Environmental Mitigation Measures |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Water Quality | <ul style="list-style-type: none"> • Drainage channels were provided to convey run-off into the treatment facilities; and • Drainage systems were regularly and adequately maintained. |
| Air Quality | <ul style="list-style-type: none"> • 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. |

| Issues | Environmental Mitigation Measures |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Noise | <ul style="list-style-type: none"> • Good site practices to limit noise emissions at the sources; • Use of quiet 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 Chemical Management | <ul style="list-style-type: none"> • Excavated material should be reused on site as far as possible to minimize off-site disposal. Scrap metals or abandoned equipment should be recycled if possible; • Waste arising should be kept to a minimum and be handled, transported and disposed of in a suitable manner; • 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 | <ul style="list-style-type: none"> • The site was generally kept tidy and clean. |

12. IMPACT FORECAST

12.01 Key issues to be considered in the coming month include:

Water Quality

- Erect of sand bag in proper area to avoid any muddy surface runoff from the loose soil surface or haul road during the rainy days; and
- The accumulated stagnant water should be drained away.

Air Quality

- Vehicles shall be cleaned of mud and debris before leaving the site;
- Stockpile and loose soil surface shall be covered with tarpaulin sheet or other means to eliminate the fugitive dust;
- Water spaying on the dry haul road and exit/entrance of the site in regular basis is reminded; and
- Public roads around the site entrance/exit had been kept clean and free from dust.

Noise

- Works and equipment should be located to minimize noise nuisance from the nearest sensitive receiver; and
- Idle equipments should be either turned off or throttled down;

Waste and Chemical Management

- Housekeeping on site shall be improved;
- The Contractor is advised to fence off the construction waste at a designated area in order to maintain the tidiness of the site;
- Drip tray and proper label should be provided for all chemical containers.
- C&D waste should be disposed in regular basis.

13. CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

- 13.01 This is the 48th Monthly EM&A Report covering the construction period from 26 July 2014 to 25 August 2014.
- 13.01 No 1-hour and 24-hour TSP result was found to be triggered the Action or Limit Level in this Reporting Period.
- 13.02 No noise complaint (an Action Level exceedance) was received and no construction noise measurement results that exceeded the Limit Level were recorded in this Reporting Period.
- 13.03 According to the construction information provided by the Contractor, the marine works in Yung Shue Wan has been completed on 22 April 2013. As agreed by the Contractor, IEC and RE, the ecology was ceased in May 2013 due to no ecological impact and concern since the completion of marine work, whereas impact marine water quality monitoring was terminated in July 2013.
- 13.04 No documented complaint, notification of summons or successful prosecution was received.
- 13.05 In this Reporting Period, joint-site visit by RE, the Contractor and ET was carried out on 29 July 2014; 5, 12 and 19 August 2014. The environmental performance of the Project was considered as satisfactory.

RECOMMENDATIONS

- 13.06 During wet season, the Contractor shall pay attention on the potential water impact as the construction site is adjacent to the coastline. Muddy water and other water quality pollutants via site surface water runoff into the coral zones of Yung Shue Wan seawall, Shek Kok Tsui and O Tsai should be avoided. Mitigation measures for water quality should be fully implemented.
- 13.07 Nevertheless, the Contractor shall keep paying attention on the potential water impact as the construction site is adjacent to the coastline. 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 should be avoided. Therefore, mitigation measures for water quality should be fully implemented.

Appendix A

Site Layout Plan – Yung Shue 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. F K Pong | 2159-3550 | 2833-9162 |
| UCJV | Engineer's Representative | Mr. Kenneth W K Kwong | 2982 0240 | 2982 4129 |
| URS | Independent Environmental Checker | Mr. Rodney Ip | 2410 3750 | 2428 9922 |
| Leader | Director | Mr. Wilfred So | 2982 1750 | 2982 1163 |
| Leader | Contracts Manager | Mr. Vincent Chan | 2982 1750 | 2982 1163 |
| Leader | Site Agent | Mr. Ron Hung | 2982 1750 | 2982 1163 |
| Leader | Environmental Officer | Mr. Leung Man Kin | 2982 8652 | 2982 8650 |
| Leader | Sub-Agent | Mr. Leung Man Kin | 2982 1750 | 2982 1163 |
| Leader | Senior Safety Officer | Mr. Andy Lau | 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 | Team Supervisor | Mr. Ben Tam | 2959 6059 | 2959 6079 |
| AUES | Coral Specialist | Mr. Keith Kei | 2959 6059 | 2959 6079 |

Legend:

DSD (Employer) – Drainage Services Department

UCJV (Engineer) – URS CDM Joint Venture

Leader (Main Contractor) – Leader Civil Engineering Corporation Limited

URS (IEC) – URS Hong Kong Limited

AUES (ET) – Action-United Environmental Services & Consulting

Appendix C

Three Months Rolling Construction Programme

| Activity ID | Description | Original Duration | Percent Complete | Early Start | Early Finish | Late Start | Late Finish | 2014 | | | | | |
|----------------------------------------------|--------------------------------------------------|-------------------|------------------|-------------|--------------|------------|-------------|--------------------------------------|-----|-----|-----|-----|-----|
| | | | | | | | | MAY | JUN | JUL | AUG | SEP | OCT |
| Project Key Date | | | | | | | | | | | | | |
| KD0040 | Section W2 - YSW STW & Submarine Outfall (1370d) | 0 | 0 | | 31/07/14 * | | 16/06/14 * | ◆ Section W2 - YSW STW & Subma | | | | | |
| KD0050 | Section W3 - Footpath Diversion in Ptn G | 0 | 0 | | 31/07/14 * | | 31/07/14 | ◆ Section W3 - Footpath Diversion in | | | | | |
| KD0060 | Section W4 - Slope Works in Portios H & I | 0 | 0 | | 31/07/14 * | | 27/03/12 | ◆ Section W4 - Slope Works in Portic | | | | | |
| KD0070 | Section W5 - P.S. No. 1 in Portion D | 0 | 0 | | 31/07/14 * | | 31/07/14 | ◆ Section W5 - P.S. No. 1 in Portion | | | | | |
| KD0080 | Section W6 - Sewer & PS No2 in Ptn. E & F | 0 | 0 | | 31/07/14 * | | 31/07/14 | ◆ Section W6 - Sewer & PS No2 in P | | | | | |
| KD0090 | Section W7 - SKW STW, RM & Sm. Outfall | 0 | 0 | | 07/10/14 * | | 07/10/14 * | ◆ Section | | | | | |
| KD0100 | Section W8 - Landscape Softworks | 0 | 0 | | 11/08/14 * | | 11/08/14 | ◆ Section W8 - Landscape Softw | | | | | |
| KD0110 | Section W9 - Establishment Works | 0 | 0 | | 21/02/15 * | | 21/02/15 | | | | | | |
| KD0125 | Project Completion | 0 | 0 | | 12/09/15 * | | 12/09/15 * | | | | | | |
| KD0130 | Completion of Maintenance Period of W1 | 1 | 0 | 01/08/14 * | 01/08/14 * | 13/10/12 | 13/10/12 * | ▶ Completion of Maintenance Period c | | | | | |
| KD0132 | Completion of Maintenance Period of W2 | 1 | 0 | 15/06/15 | 15/06/15 * | 15/06/15 | 15/06/15 * | | | | | | |
| KD0135 | Completion of Maintenance Period of W4 | 1 | 0 | 01/08/14 | 01/08/14 * | 27/03/13 | 27/03/13 * | ▶ Completion of Maintenance Period c | | | | | |
| KD0145 | Completion of Maintenance Period of W5 | 1 | 0 | 01/08/14 | 01/08/14 * | 10/02/13 | 10/02/13 * | ▶ Completion of Maintenance Period c | | | | | |
| KD0155 | Completion of Maintenance Period of W6 | 1 | 0 | 01/08/14 | 01/08/14 * | 10/02/13 | 10/02/13 * | ▶ Completion of Maintenance Period c | | | | | |
| KD0165 | Completion of Maintenance period of W7 | 1 | 0 | 06/10/15 | 06/10/15 * | 06/10/15 | 06/10/15 * | | | | | | |
| Preliminary (Civil) | | | | | | | | | | | | | |
| PRE0020 | Pre-condition Survey | 60 | 100 | 17/05/10 A | 15/07/10 A | 17/05/10 A | 15/07/10 A | | | | | | |
| PRE0040 | Erection of Engineer's Site Accommodation at YSW | 60 | 100 | 17/05/10 A | 15/07/10 A | 17/05/10 A | 15/07/10 A | | | | | | |
| PRE0050 | Taking over the Secondary Engineer's Site Accom | 75 | 100 | 17/05/10 A | 30/07/10 A | 17/05/10 A | 30/07/10 A | | | | | | |
| 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 | | | | | | |
| PRE0090 | Working Group Meeting for Outfall Construction | 120 | 100 | 17/05/10 A | 13/09/10 A | 17/05/10 A | 13/09/10 A | | | | | | |
| PRE0100 | Application & Consent of XP from HyD (Mo Tat Rd) | 120 | 100 | 17/05/10 A | 13/09/10 A | 17/05/10 A | 13/09/10 A | | | | | | |
| PRE0130 | Setup Web-site for EM&A Reporting | 90 | 100 | 17/05/10 A | 14/08/10 A | 17/05/10 A | 14/08/10 A | | | | | | |
| Preliminary (E&M) | | | | | | | | | | | | | |
| Technical Submission | | | | | | | | | | | | | |
| YSW0820 | ABWF installation | 90 | 95 | 15/01/13 A | 05/08/14 | 15/01/13 A | 05/06/13 | ■ ABWF installation | | | | | |
| Process Design of SKWSTW & YSWSTW | | | | | | | | | | | | | |
| E&M0010 | Submission | 38 | 100 | 17/05/10 A | 23/06/10 A | 17/05/10 A | 23/06/10 A | | | | | | |
| E&M0020 | Vetting and Comment by ER | 21 | 100 | 24/06/10 A | 14/07/10 A | 24/06/10 A | 14/07/10 A | | | | | | |

| | | | | | | | |
|---------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------|---------|----------|
| Start date | 05/05/10 | <ul style="list-style-type: none"> ■ Early bar ■ Progress bar ■ Critical bar — Summary bar ▲ Progress point ▼ Critical point ◆ Summary point ◆ Start milestone point ◆ 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 2014 - Oct 2014) | Date | Revision | Checked | Approved |
| Finish date | 30/11/16 | | | 31/07/14 | Revision 0 | RH | VC |
| Data date | 01/08/14 | | | | | | |
| Run date | 05/08/14 | | | | | | |
| Page number | 1A | | | | | | |
| c Primavera Systems, Inc. | | | | | | | |

| Activity ID | Description | Original Duration | Percent Complete | Early Start | Early Finish | Late Start | Late Finish | 2014 | | | | | |
|--------------------------------------------|--------------------------------------------|-------------------|------------------|-------------|--------------|------------|-------------|------|-----|-----|-----|-----|-----|
| | | | | | | | | MAY | JUN | JUL | AUG | SEP | OCT |
| E&M0030 | Revision and Resubmission | 125 | 100 | 15/07/10 A | 16/11/10 A | 15/07/10 A | 16/11/10 A | | | | | | |
| E&M0080 | Approval from the Engineer | 14 | 100 | 17/11/10 A | 30/11/10 A | 17/11/10 A | 30/11/10 A | | | | | | |
| Hydraulic Design | | | | | | | | | | | | | |
| E&M0040 | Submission | 21 | 100 | 15/07/10 A | 04/08/10 A | 15/07/10 A | 04/08/10 A | | | | | | |
| E&M0050 | Vetting and Comment by ER | 14 | 100 | 05/08/10 A | 18/08/10 A | 05/08/10 A | 18/08/10 A | | | | | | |
| E&M0060 | Revision and Resubmission | 97 | 100 | 19/08/10 A | 10/10/10 A | 19/08/10 A | 10/10/10 A | | | | | | |
| E&M0430 | Approval from the Engineer | 7 | 100 | 24/11/10 A | 30/11/10 A | 24/11/10 A | 30/11/10 A | | | | | | |
| YSW1536 | Water tightness test | 40 | 100 | 12/08/13 A | 26/08/13 A | 12/08/13 A | 26/08/13 A | | | | | | |
| Equipment Submission & Approval | | | | | | | | | | | | | |
| E&M0070 | Submission of Membrane Module | 50 | 100 | 17/05/10 A | 05/07/10 A | 17/05/10 A | 05/07/10 A | | | | | | |
| E&M0090 | Vetting and Comment by ER | 14 | 100 | 06/07/10 A | 19/07/10 A | 06/07/10 A | 19/07/10 A | | | | | | |
| E&M0100 | Revision and Resubmission | 14 | 100 | 20/07/10 A | 24/02/11 A | 20/07/10 A | 24/02/11 A | | | | | | |
| E&M0101 | Submission of Equipment | 90 | 100 | 05/08/10 A | 30/11/11 A | 05/08/10 A | 30/11/11 A | | | | | | |
| E&M0102 | Vetting and Comment by ER | 60 | 100 | 03/11/10 A | 30/11/11 A | 03/11/10 A | 30/11/11 A | | | | | | |
| E&M0103 | Revision and Resubmission | 60 | 100 | 01/02/11 A | 30/11/11 A | 01/02/11 A | 30/11/11 A | | | | | | |
| E&M0110 | Approval on Coarse Screens | 30 | 100 | 25/05/11 A | 25/05/11 A | 25/05/11 A | 25/05/11 A | | | | | | |
| E&M0120 | Approval on Fine Screens | 30 | 100 | 12/09/11 A | 12/09/11 A | 12/09/11 A | 12/09/11 A | | | | | | |
| E&M0130 | Approval on Pumps | 30 | 100 | 23/06/11 A | 23/06/11 A | 23/06/11 A | 23/06/11 A | | | | | | |
| E&M0140 | Approval on Submersible Mixers | 30 | 100 | 23/03/11 A | 23/03/11 A | 23/03/11 A | 23/03/11 A | | | | | | |
| E&M0150 | Approval on Grit Removal Equipment | 30 | 100 | 10/10/11 A | 10/10/11 A | 10/10/11 A | 10/10/11 A | | | | | | |
| E&M0160 | Approval on MBR Membrane Modules (M.M.) | 105 | 100 | 03/08/10 A | 24/02/11 A | 03/08/10 A | 24/02/11 A | | | | | | |
| E&M0170 | Approval on Sludge Dewatering Equipment | 30 | 100 | 01/09/11 A | 01/09/11 A | 01/09/11 A | 01/09/11 A | | | | | | |
| E&M0180 | Approval on Valves, Pipes & Fittings | 30 | 100 | 19/11/11 A | 04/08/13 A | 19/11/11 A | 04/08/13 A | | | | | | |
| E&M0190 | Approval on Penstocks | 30 | 100 | 15/11/11 A | 15/11/11 A | 15/11/11 A | 15/11/11 A | | | | | | |
| E&M0200 | Approval on Instrumentation | 30 | 100 | 21/06/11 A | 08/03/12 A | 21/06/11 A | 08/03/12 A | | | | | | |
| E&M0210 | Approval on MCC & LVSB | 30 | 100 | 19/11/11 A | 01/01/14 A | 19/11/11 A | 01/01/14 A | | | | | | |
| E&M0220 | Approval on BS Equipment | 30 | 95 | 30/11/11 A | 15/08/14 | 30/11/11 A | 31/10/12 | | | | | | |
| E&M0230 | Approval on FS Equipment | 30 | 95 | 30/11/11 A | 15/08/14 | 30/11/11 A | 30/12/12 | | | | | | |
| Drawings Submission & Approval | | | | | | | | | | | | | |
| E&M0235 | Sub. P&ID Drawings | 100 | 95 | 24/06/10 A | 05/08/14 | 24/06/10 A | 23/10/12 | | | | | | |
| E&M0240 | Sub. Plant GA Drawings | 45 | 85 | 04/08/10 A | 07/08/14 | 04/08/10 A | 23/10/12 | | | | | | |
| E&M0250 | Sub. Builder's Works Requirements Drawings | 15 | 100 | 04/08/10 A | 31/01/13 A | 04/08/10 A | 31/01/13 A | | | | | | |
| E&M0260 | Sub. Mechanical Installation Drawings | 60 | 95 | 27/09/10 A | 03/08/14 | 27/09/10 A | 23/10/12 | | | | | | |
| E&M0270 | Sub. Electrical Installation Drawings | 60 | 95 | 27/09/10 A | 03/08/14 | 27/09/10 A | 23/10/12 | | | | | | |
| E&M0280 | Sub. BS Installation Drawings | 120 | 95 | 27/09/10 A | 13/08/14 | 27/09/10 A | 29/10/12 | | | | | | |

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| c Primavera Systems, Inc. | |

- Early bar
- Progress bar
- Critical bar
- Summary bar
- ▲ Progress point
- ▼ Critical point
- ◆ Summary point
- ◆ Start milestone point
- ◆ 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 2014 - Oct 2014)

| Date | Revision | Checked | Approved |
|----------|------------|---------|----------|
| 31/07/14 | Revision 0 | RH | VC |
| | | | |
| | | | |
| | | | |

| Activity ID | Description | Original Duration | Percent Complete | Early Start | Early Finish | Late Start | Late Finish | 2014 | | | | | |
|------------------------------------------------------|---------------------------------------------------|-------------------|------------------|-------------|--------------|------------|-------------|-------------------------------|-----|-----|-----|-----|-----|
| | | | | | | | | MAY | JUN | JUL | AUG | SEP | OCT |
| E&M0290 | Sub. FS Installation Drawings | 120 | 95 | 13/11/11 A | 13/08/14 | 13/11/11 A | 28/12/12 | Sub. FS Installation Drawings | | | | | |
| Statutory Submission | | | | | | | | | | | | | |
| E&M0295 | Preparation of Submission to HEC | 39 | 100 | 01/11/11 A | 30/11/11 A | 01/11/11 A | 30/11/11 A | from HEC | | | | | |
| E&M0300 | Application & Approval from HEC | 150 | 100 | 01/11/11 A | 03/03/14 A | 01/11/11 A | 03/03/14 A | from HEC | | | | | |
| E&M0305 | Provision of Cables to the STWs | 180 | 100 | 03/03/14 A | 30/08/14 A | 03/03/14 A | 30/08/14 A | Provision of Cables to the | | | | | |
| E&M0320 | Form 314 Submission to FSD | 14 | 0 | 16/08/14 | 29/08/14 | 08/06/13 | 22/06/13 | Form 314 Submission to | | | | | |
| E&M0325 | Submission to WSD | 14 | 100 | 01/11/11 A | 29/02/12 A | 01/11/11 A | 29/02/12 A | | | | | | |
| E&M0330 | Form 501 Submission to FSD (YSW) | 28 | 0 | 21/05/15 | 17/06/15 | 17/03/14 | 13/04/14 | | | | | | |
| E&M0340 | Form 501 Submission to FSD (SKW) | 28 | 0 | 16/08/14 | 12/09/14 | 11/06/14 | 08/07/14 | Form 501 Submiss | | | | | |
| E&M0350 | Form 501 Submission to FSD (PS1 & PS2) | 28 | 0 | 01/08/14 | 28/08/14 | 14/11/12 | 11/12/12 | Form 501 Submission to | | | | | |
| Yung Shue Wan | | | | | | | | | | | | | |
| Preliminary | | | | | | | | | | | | | |
| KD0020 | Project Commencement Date | 0 | 100 | | 17/05/10 A | | 17/05/10 A | | | | | | |
| KD0030 | Section W1 - Slope Works in Portion A & C | 0 | 100 | | 14/10/11 A | | 14/10/11 A | | | | | | |
| YSW0020 | Approval of Environmental Team | 16 | 100 | 17/05/10 A | 01/06/10 A | 17/05/10 A | 01/06/10 A | | | | | | |
| YSW00201 | Change Baseline Monitoring Location (Air&Noise) | 59 | 100 | 02/06/10 A | 30/07/10 A | 02/06/10 A | 30/07/10 A | | | | | | |
| YSW0030 | Baseline monitoring (Air & Noise) | 23 | 100 | 31/07/10 A | 22/08/10 A | 31/07/10 A | 22/08/10 A | | | | | | |
| YSW0035 | Baseline Monitoring Report Submission (A & N) | 16 | 100 | 23/08/10 A | 07/09/10 A | 23/08/10 A | 07/09/10 A | | | | | | |
| YSW00351 | Submission & Approval for Monitoring Method (W) | 58 | 100 | 02/06/10 A | 29/07/10 A | 02/06/10 A | 29/07/10 A | | | | | | |
| YSW0040 | Baseline monitoring (Water) | 155 | 100 | 30/07/10 A | 31/12/10 A | 30/07/10 A | 31/12/10 A | | | | | | |
| YSW0050 | Erect Hoarding and Fencing | 60 | 100 | 19/05/10 A | 17/07/10 A | 19/05/10 A | 17/07/10 A | | | | | | |
| Section W1 - Slope Works in Portion A & C | | | | | | | | | | | | | |
| YSW0075 | Mobilization | 30 | 100 | 17/05/10 A | 15/06/10 A | 17/05/10 A | 15/06/10 A | | | | | | |
| YSW0080 | Site Clearance | 30 | 100 | 16/06/10 A | 15/07/10 A | 16/06/10 A | 15/07/10 A | | | | | | |
| YSW0085 | Initial Survey | 14 | 100 | 02/07/10 A | 15/07/10 A | 02/07/10 A | 15/07/10 A | | | | | | |
| YSW0090 | Verify the Rock Boulder required Stabilization Wk | 249 | 100 | 16/07/10 A | 21/03/11 A | 16/07/10 A | 21/03/11 A | | | | | | |
| YSW0100 | Removal of Rock Boulder | 257 | 100 | 20/09/10 A | 03/06/11 A | 20/09/10 A | 03/06/11 A | | | | | | |
| YSW0110 | Stablizing work for rock boulder | 35 | 100 | 16/07/11 A | 19/08/11 A | 16/07/11 A | 19/08/11 A | | | | | | |
| YSW0120 | Cut the slope to design profile | 2 | 100 | 24/09/10 A | 25/09/10 A | 24/09/10 A | 25/09/10 A | | | | | | |
| YSW0131 | Mobilization of Plant and Material of Soil Nails | 14 | 100 | 12/09/10 A | 25/09/10 A | 12/09/10 A | 25/09/10 A | | | | | | |
| YSW0132 | Erect Scaffold and Working Platform | 2 | 100 | 26/09/10 A | 27/09/10 A | 26/09/10 A | 27/09/10 A | | | | | | |

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| c Primavera Systems, Inc. | |

- Early bar
- Progress bar
- Critical bar
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Leader Civil Engineering Corp. Ltd.
Contract No. DC/2009/13
Construction of Sewage Treatment Works at YSW & SKW
3-month Rolling Programme (Aug 2014 - Oct 2014)

| | | | |
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| Date | Revision | Checked | Approved |
| 31/07/14 | Revision 0 | RH | VC |
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| Activity ID | Description | Original Duration | Percent Complete | Early Start | Early Finish | Late Start | Late Finish | 2014 | | | | | | |
|-----------------------------------------------------|--------------------------------------------------|-------------------|------------------|-------------|--------------|------------|-------------|------|-----|-----|-----|-----|-----|-----------------------------|
| | | | | | | | | MAY | JUN | JUL | AUG | SEP | OCT | |
| YSW0133 | Setting out and Verify Locations of Soil Nails | 45 | 100 | 28/09/10 A | 11/11/10 A | 28/09/10 A | 11/11/10 A | | | | | | | |
| YSW0134 | Drilling and Soil Nails Installation | 43 | 100 | 19/10/10 A | 30/11/10 A | 19/10/10 A | 30/11/10 A | | | | | | | |
| YSW0135 | Construction of Nail Heads | 12 | 100 | 01/12/10 A | 12/12/10 A | 01/12/10 A | 12/12/10 A | | | | | | | |
| YSW0136 | Mesh Installation on Cut Slope | 3 | 100 | 13/12/10 A | 15/12/10 A | 13/12/10 A | 15/12/10 A | | | | | | | |
| YSW01361 | Verify alignment of access & channels on slope | 118 | 100 | 16/12/10 A | 12/04/11 A | 16/12/10 A | 12/04/11 A | | | | | | | |
| YSW0140 | Construct U-channels & Step Channel on Cut Slope | 182 | 100 | 13/04/11 A | 11/10/11 A | 13/04/11 A | 11/10/11 A | | | | | | | |
| YSW0153 | Removal of Ex U-Channel where clash with B. Wall | 151 | 100 | 10/05/11 A | 07/10/11 A | 10/05/11 A | 07/10/11 A | | | | | | | |
| YSW01545 | Temporary Diversion of Drainage | 244 | 100 | 08/09/10 A | 09/05/11 A | 08/09/10 A | 09/05/11 A | | | | | | | |
| YSW0155 | RC Barrier Wall Bay 1-13 (below Ground Level) | 256 | 100 | 26/09/10 A | 08/06/11 A | 26/09/10 A | 08/06/11 A | | | | | | | |
| YSW0170 | RC Barrier Wall Bay 1-13 (above Ground Level) | 125 | 100 | 09/06/11 A | 11/10/11 A | 09/06/11 A | 11/10/11 A | | | | | | | |
| YSW0175 | Construct U-channels and Catchpits (Phase 1) | 76 | 100 | 09/06/11 A | 23/08/11 A | 09/06/11 A | 23/08/11 A | | | | | | | |
| YSW01750 | Construction of subsoil drain (phase 1) | 7 | 100 | 12/10/11 A | 08/02/12 A | 12/10/11 A | 08/02/12 A | | | | | | | |
| YSW01755 | Construct subsoil drain (phase 2) | 14 | 100 | 06/12/12 A | 31/12/12 A | 06/12/12 A | 31/12/12 A | | | | | | | |
| YSW01800 | RC Barrier Wall Bay 14 (below & above Ground) | 87 | 100 | 03/09/12 A | 28/11/12 A | 03/09/12 A | 28/11/12 A | | | | | | | |
| YSW01805 | Hydroseeding | 14 | 100 | 02/03/13 A | 02/03/13 A | 02/03/13 A | 02/03/13 A | | | | | | | |
| YSW01810 | Construct U-channels and Catchpits (Phase 2) | 30 | 100 | 29/11/12 A | 22/12/12 A | 29/11/12 A | 22/12/12 A | | | | | | | |
| Section W2 - YSW STW & Submarine Outfall | | | | | | | | | | | | | | |
| Civil & Structural Work | | | | | | | | | | | | | | |
| E&M1120 | Hydraulic Test of Pipeworks | 7 | 95 | 09/05/13 A | 31/07/14 | 09/05/13 A | 04/05/14 | | | | | | | Hydraulic Test of Pipeworks |
| KD0010 | Receive Letter of Acceptance | 0 | 100 | | 05/05/10 A | | 05/05/10 A | | | | | | | |
| YSW0412 | Mobilization | 30 | 100 | 17/05/10 A | 15/06/10 A | 17/05/10 A | 15/06/10 A | | | | | | | |
| YSW0422 | Site Clearance | 30 | 100 | 17/05/10 A | 15/06/10 A | 17/05/10 A | 15/06/10 A | | | | | | | |
| YSW0432 | Initial Survey | 14 | 100 | 02/06/10 A | 15/06/10 A | 02/06/10 A | 15/06/10 A | | | | | | | |
| YSW STW - GL H - T | | | | | | | | | | | | | | |
| YSW0500 | ELS & Excavation for Inlet Pumping Station | 105 | 100 | 08/09/10 A | 21/12/10 A | 08/09/10 A | 21/12/10 A | | | | | | | |
| YSW0510 | Sub-structure construction (Inlet Pumping Stn) | 129 | 100 | 22/12/10 A | 29/04/11 A | 22/12/10 A | 29/04/11 A | | | | | | | |
| YSW0520 | Backfill & Remove ELS (Inlet Pumping Stn) | 40 | 100 | 30/04/11 A | 08/06/11 A | 30/04/11 A | 08/06/11 A | | | | | | | |
| YSW0530 | ELS & Excavation for Equalization Tank | 159 | 100 | 01/01/11 A | 08/06/11 A | 01/01/11 A | 08/06/11 A | | | | | | | |
| YSW0540 | Sub-structure construction (Equalization Tank) | 112 | 100 | 09/06/11 A | 28/09/11 A | 09/06/11 A | 28/09/11 A | | | | | | | |
| YSW0550 | Backfilling & Remove ELS (Equalization Tank) | 20 | 100 | 29/09/11 A | 18/10/11 A | 29/09/11 A | 18/10/11 A | | | | | | | |
| YSW05701 | ELS & Excavation for Grit Chambers | 28 | 100 | 09/06/11 A | 06/07/11 A | 09/06/11 A | 06/07/11 A | | | | | | | |
| YSW05711 | Construct sub-structure for Grit Chambers | 106 | 100 | 07/07/11 A | 20/10/11 A | 07/07/11 A | 20/10/11 A | | | | | | | |
| YSW05721 | Backfill & Remove ELS for Grit Chambers | 12 | 100 | 21/10/11 A | 01/11/11 A | 21/10/11 A | 01/11/11 A | | | | | | | |
| YSW05731 | ELS & Excavation for Grease Separators (GS) | 34 | 100 | 07/07/11 A | 09/08/11 A | 07/07/11 A | 09/08/11 A | | | | | | | |
| YSW05741 | Construct sub-structure for Grease Separators | 52 | 100 | 10/08/11 A | 30/09/11 A | 10/08/11 A | 30/09/11 A | | | | | | | |


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| Start date | 05/05/10 |
| Finish date | 30/11/16 |
| Data date | 01/08/14 |
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| c Primavera Systems, Inc. | |

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Leader Civil Engineering Corp. Ltd.
Contract No. DC/2009/13
Construction of Sewage Treatment Works at YSW & SKW
3-month Rolling Programme (Aug 2014 - Oct 2014)

| | | | |
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| Date | Revision | Checked | Approved |
| 31/07/14 | Revision 0 | RH | VC |
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| Activity ID | Description | Original Duration | Percent Complete | Early Start | Early Finish | Late Start | Late Finish | 2014 | | | | | | |
|------------------------------------------|------------------------------------------------|-------------------|------------------|-------------|--------------|------------|-------------|------|-----|-----|-----|-----|-----|--|
| | | | | | | | | MAY | JUN | JUL | AUG | SEP | OCT | |
| YSW05751 | Install Dia.400 Puddles in Grease Separators | 27 | 100 | 01/10/11 A | 27/10/11 A | 01/10/11 A | 27/10/11 A | | | | | | | |
| YSW05752 | Construct sub-structure for GS (above puddles) | 48 | 100 | 28/10/11 A | 14/12/11 A | 28/10/11 A | 14/12/11 A | | | | | | | |
| YSW05761 | Backfill & remove ELS for Grease Separators | 10 | 100 | 15/12/11 A | 24/12/11 A | 15/12/11 A | 24/12/11 A | | | | | | | |
| YSW0580 | Excavate to Formation for Deodorizer Room | 10 | 100 | 25/12/11 A | 03/01/12 A | 25/12/11 A | 03/01/12 A | | | | | | | |
| YSW05801 | Excavate to formation - Grid J-N/5-7 | 40 | 100 | 04/01/12 A | 12/02/12 A | 04/01/12 A | 12/02/12 A | | | | | | | |
| YSW05802 | Excavate to formation - Grid GA-H/5-7 | 10 | 100 | 13/02/12 A | 22/02/12 A | 13/02/12 A | 22/02/12 A | | | | | | | |
| YSW05901 | G/F to 1/F Construction Grid GA-K/1-5 | 90 | 100 | 29/09/11 A | 27/12/11 A | 29/09/11 A | 27/12/11 A | | | | | | | |
| YSW05911 | G/F to 1/F Construction Grid N-S/1-5 | 80 | 100 | 21/10/11 A | 08/01/12 A | 21/10/11 A | 08/01/12 A | | | | | | | |
| YSW05921 | G/F to 1/F Construction Grid K-N/1-5 | 45 | 100 | 25/12/11 A | 07/02/12 A | 25/12/11 A | 07/02/12 A | | | | | | | |
| YSW05922 | G/F to 1/F Construction for Deodorizer Room | 80 | 100 | 04/01/12 A | 23/03/12 A | 04/01/12 A | 23/03/12 A | | | | | | | |
| YSW05923 | G/F to 1/F Construction for Grid J-N/5-7 | 60 | 100 | 13/02/12 A | 12/04/12 A | 13/02/12 A | 12/04/12 A | | | | | | | |
| YSW05924 | G/F to 1/F Construction for Grid GA-H/5-7 | 50 | 100 | 28/05/12 A | 16/07/12 A | 28/05/12 A | 16/07/12 A | | | | | | | |
| YSW06001 | 1/F to Roof Constuction for Grid GA-K/1-5 | 87 | 100 | 28/12/11 A | 23/03/12 A | 28/12/11 A | 23/03/12 A | | | | | | | |
| YSW06011 | 1/F to Roof Constuction for Grid N-S/1-5 | 75 | 100 | 09/01/12 A | 23/03/12 A | 09/01/12 A | 23/03/12 A | | | | | | | |
| YSW06021 | 1/F to Roof Constuction for Grid K-N/1-5 | 44 | 100 | 08/02/12 A | 22/03/12 A | 08/02/12 A | 22/03/12 A | | | | | | | |
| YSW06022 | 1/F to Roof Constuction for Deodorizer Room | 60 | 100 | 24/03/12 A | 22/05/12 A | 24/03/12 A | 22/05/12 A | | | | | | | |
| YSW06023 | 1/F to Roof Constuction for Grid J-N/5-7 | 45 | 100 | 13/04/12 A | 27/05/12 A | 13/04/12 A | 27/05/12 A | | | | | | | |
| YSW06034 | 1/F to Roof Constuction for Grid GA-H/5-7 | 28 | 100 | 27/07/12 A | 13/08/12 A | 27/07/12 A | 13/08/12 A | | | | | | | |
| YSW06035 | Construct baffle walls in Grease Separators | 90 | 100 | 18/04/12 A | 16/07/12 A | 18/04/12 A | 16/07/12 A | | | | | | | |
| YSW07201 | Water tightness test for Inlet Pumping Station | 60 | 100 | 23/03/12 A | 21/05/12 A | 23/03/12 A | 21/05/12 A | | | | | | | |
| YSW07202 | Water tightness test for Equalization Tanks | 42 | 100 | 22/05/12 A | 02/07/12 A | 22/05/12 A | 02/07/12 A | | | | | | | |
| YSW07203 | Water tightness test for Grit Chambers | 42 | 100 | 17/09/12 A | 29/09/12 A | 17/09/12 A | 29/09/12 A | | | | | | | |
| YSW07204 | Water tightness test for Grease Separators | 32 | 100 | 03/10/12 A | 31/10/12 A | 03/10/12 A | 31/10/12 A | | | | | | | |
| YSW07205 | Water tightness test for water channels | 21 | 100 | 31/08/13 A | 23/09/13 A | 31/08/13 A | 23/09/13 A | | | | | | | |
| YSW0800 | ABWF installation | 271 | 100 | 03/07/12 A | 03/07/14 A | 03/07/12 A | 03/07/14 A | | | | | | | |
| YSW STW - GL T - X | | | | | | | | | | | | | | |
| YSW0610 | Excavate to formation | 10 | 100 | 08/09/10 A | 17/09/10 A | 08/09/10 A | 17/09/10 A | | | | | | | |
| YSW0620 | Base slab construction | 248 | 100 | 18/09/10 A | 23/05/11 A | 18/09/10 A | 23/05/11 A | | | | | | | |
| YSW0630 | G/F to 1/F construction | 205 | 100 | 24/05/11 A | 14/12/11 A | 24/05/11 A | 14/12/11 A | | | | | | | |
| YSW0640 | 1/F to Roof Construction | 64 | 100 | 15/12/11 A | 16/02/12 A | 15/12/11 A | 16/02/12 A | | | | | | | |
| YSW0810 | ABWF installation | 80 | 100 | 28/12/11 A | 16/03/12 A | 28/12/11 A | 16/03/12 A | | | | | | | |
| YSW STW - GL F - H & DN Tanks | | | | | | | | | | | | | | |
| YSW0650 | ELS & Excavation for DN Tanks | 37 | 100 | 08/09/10 A | 14/10/10 A | 08/09/10 A | 14/10/10 A | | | | | | | |
| YSW0660 | Sub-struction construction (DN Tanks) | 78 | 100 | 15/10/10 A | 31/12/10 A | 15/10/10 A | 31/12/10 A | | | | | | | |
| YSW0670 | Backfill & Remove ELS (DN Tanks) | 70 | 100 | 01/01/11 A | 11/03/11 A | 01/01/11 A | 11/03/11 A | | | | | | | |

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| Start date | 05/05/10 |  | Leader Civil Engineering Corp. Ltd. Contract No. DC/2009/13 Construction of Sewage Treatment Works at YSW & SKW 3-month Rolling Programme (Aug 2014 - Oct 2014) | Date | Revision | Checked | Approved |
| Finish date | 30/11/16 | | | 31/07/14 | Revision 0 | RH | VC |
| Data date | 01/08/14 | | | | | | |
| Run date | 05/08/14 | | | | | | |
| Page number | 5A | | | | | | |
| c Primavera Systems, Inc. | | | | | | | |

| Activity ID | Description | Original Duration | Percent Complete | Early Start | Early Finish | Late Start | Late Finish | 2014 | | | | | | |
|-------------------------------------------|--------------------------------------------------|-------------------|------------------|-------------|--------------|------------|-------------|------|-----|-----|-----|-----|-----|--|
| | | | | | | | | MAY | JUN | JUL | AUG | SEP | OCT | |
| YSW0680 | Base slab construction (SD1, SD2 & MBR4) | 17 | 100 | 12/03/11 A | 28/03/11 A | 12/03/11 A | 28/03/11 A | | | | | | | |
| YSW0690 | Construct Superstructure SD1, SD2 & MBR4 | 82 | 100 | 29/03/11 A | 18/06/11 A | 29/03/11 A | 18/06/11 A | | | | | | | |
| YSW06901 | Construct Superstructure of DN Tanks | 28 | 100 | 15/05/12 A | 11/06/12 A | 15/05/12 A | 11/06/12 A | | | | | | | |
| YSW0705 | Water test for MBR 4 | 47 | 100 | 01/10/12 A | 16/11/12 A | 01/10/12 A | 16/11/12 A | | | | | | | |
| YSW07055 | Water test for SD1 & SD2 | 54 | 100 | 17/11/12 A | 10/01/13 A | 17/11/12 A | 10/01/13 A | | | | | | | |
| YSW0710 | Apply protective paint for MBR 4 | 7 | 100 | 24/09/12 A | 30/09/12 A | 24/09/12 A | 30/09/12 A | | | | | | | |
| YSW07105 | Apply protective paint for SD1 & SD2 | 7 | 100 | 01/10/12 A | 07/10/12 A | 01/10/12 A | 07/10/12 A | | | | | | | |
| YSW0830 | Water test for DN Tanks | 28 | 100 | 14/07/13 A | 13/09/13 A | 14/07/13 A | 13/09/13 A | | | | | | | |
| YSW0850 | Apply protective paint for DN Tanks | 6 | 100 | 27/04/13 A | 11/07/13 A | 27/04/13 A | 11/07/13 A | | | | | | | |
| YSW STW - GL A - F | | | | | | | | | | | | | | |
| YSW0730 | Completion of HDD | 0 | 100 | 21/01/12 A | | 21/01/12 A | | | | | | | | |
| YSW0732 | Excavate for MBR 2 & 3 | 20 | 100 | 21/01/12 A | 09/02/12 A | 21/01/12 A | 09/02/12 A | | | | | | | |
| YSW0733 | Construct basement of MBR 2 & 3 | 20 | 100 | 10/02/12 A | 29/02/12 A | 10/02/12 A | 29/02/12 A | | | | | | | |
| YSW0735 | Construct superstructure of MBR 2 | 75 | 100 | 01/03/12 A | 14/05/12 A | 01/03/12 A | 14/05/12 A | | | | | | | |
| YSW0736 | Construct superstructure of MBR 3 | 100 | 100 | 15/05/12 A | 14/05/12 A | 15/05/12 A | 14/05/12 A | | | | | | | |
| YSW0740 | ELS & excavate for Outfall Shaft | 75 | 100 | 01/03/12 A | 14/05/12 A | 01/03/12 A | 14/05/12 A | | | | | | | |
| YSW0750 | Construct basement of Outfall Shaft | 19 | 100 | 15/05/12 A | 02/06/12 A | 15/05/12 A | 02/06/12 A | | | | | | | |
| YSW07501 | Connect additional flange to HDPE pipe (VO 042) | 5 | 100 | 03/06/12 A | 07/06/12 A | 03/06/12 A | 07/06/12 A | | | | | | | |
| YSW07502 | Construct sub-structure of Outfall Shaft | 16 | 100 | 08/06/12 A | 23/06/12 A | 08/06/12 A | 23/06/12 A | | | | | | | |
| YSW0760 | Backfill & remove ELS (outfall shaft) | 8 | 100 | 24/06/12 A | 01/07/12 A | 24/06/12 A | 01/07/12 A | | | | | | | |
| YSW07601 | Construct superstructure for Outfall Shaft | 30 | 100 | 03/07/12 A | 31/07/12 A | 03/07/12 A | 31/07/12 A | | | | | | | |
| YSW07603 | ELS & excavate for FSH Water Supply Tank | 25 | 100 | 01/06/12 A | 25/06/12 A | 01/06/12 A | 25/06/12 A | | | | | | | |
| YSW07604 | Construct substructure for FSH Water Supply Tank | 24 | 100 | 26/06/12 A | 19/07/12 A | 26/06/12 A | 19/07/12 A | | | | | | | |
| YSW07605 | Backfill & remove ELS for FSH Water Supply Tank | 12 | 100 | 20/07/12 A | 31/07/12 A | 20/07/12 A | 31/07/12 A | | | | | | | |
| YSW07607 | Construct basement of MBR 1 & Workshop | 24 | 100 | 01/08/12 A | 24/08/12 A | 01/08/12 A | 24/08/12 A | | | | | | | |
| YSW07608 | Construct superstructure for FSH Water Supply Tk | 37 | 100 | 25/08/12 A | 30/09/12 A | 25/08/12 A | 30/09/12 A | | | | | | | |
| YSW07609 | Construct superstructure for MBR 1 | 37 | 100 | 25/08/12 A | 30/09/12 A | 25/08/12 A | 30/09/12 A | | | | | | | |
| YSW07610 | Construct Workshop, FSSH Pump Rm, PW Pump Rm | 31 | 100 | 03/10/12 A | 31/10/12 A | 03/10/12 A | 31/10/12 A | | | | | | | |
| YSW08301 | Water tightness test for Outfall Shaft | 42 | 100 | 03/04/13 A | 18/04/13 A | 03/04/13 A | 18/04/13 A | | | | | | | |
| YSW08302 | Water tightness test for MBR 2 & 3 | 95 | 100 | 10/08/13 A | 24/08/13 A | 10/08/13 A | 24/08/13 A | | | | | | | |
| YSW08303 | Water tightness test for MBR 1 | 19 | 100 | 30/11/12 A | 18/12/12 A | 30/11/12 A | 18/12/12 A | | | | | | | |
| YSW08304 | Water tightness test for FSH Water Supply Tank | 32 | 100 | 31/08/13 A | 01/10/13 A | 31/08/13 A | 01/10/13 A | | | | | | | |
| Fire Hose Reel / Sprinkler Pump Rm | | | | | | | | | | | | | | |
| YSW08305 | Apply protective paint | 120 | 100 | 02/10/12 A | 15/08/13 A | 02/10/12 A | 15/08/13 A | | | | | | | |
| YSW0840 | ELS & excavate to formation (+0 mPD approx.) | 40 | 100 | 25/02/13 A | 18/04/13 A | 25/02/13 A | 18/04/13 A | | | | | | | |

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| Date | Revision | Checked | Approved |
| 31/07/14 | Revision 0 | RH | VC |
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| Activity ID | Description | Original Duration | Percent Complete | Early Start | Early Finish | Late Start | Late Finish | 2014 | | | | | |
|---------------------------------------------------|--------------------------------------------------|-------------------|------------------|-------------|--------------|------------|-------------|-------------------------|-----|-----|-----|-----|-----|
| | | | | | | | | MAY | JUN | JUL | AUG | SEP | OCT |
| YSW0860 | Sub-structure construction | 40 | 100 | 19/04/13 A | 12/06/13 A | 19/04/13 A | 12/06/13 A | | | | | | |
| YSW0880 | Backfill & remove ELS | 35 | 100 | 21/06/13 A | 26/08/13 A | 21/06/13 A | 26/08/13 A | | | | | | |
| YSW0890 | Construction Ground Slab at +5.2mPD | 40 | 100 | 04/06/13 A | 14/07/13 A | 04/06/13 A | 14/07/13 A | | | | | | |
| YSW0900 | Superstructure construction upto +9.2mPD | 35 | 100 | 04/06/13 A | 01/08/13 A | 04/06/13 A | 01/08/13 A | | | | | | |
| YSW0910 | Water test | 28 | 100 | 31/12/13 A | 27/01/14 A | 31/12/13 A | 27/01/14 A | | | | | | |
| YSW0915 | Apply protective paint | 14 | 100 | 31/12/13 A | 13/01/14 A | 31/12/13 A | 13/01/14 A | | | | | | |
| YSW0925 | ABWF installation | 30 | 100 | 16/07/13 A | 19/01/14 A | 16/07/13 A | 19/01/14 A | | | | | | |
| Emergency Storage Tank | | | | | | | | | | | | | |
| YSW1470 | ELS & excavate to formation (-1.5mPD Approx.) | 16 | 100 | 17/09/12 A | 02/10/12 A | 17/09/12 A | 02/10/12 A | | | | | | |
| YSW1480 | Sub-structure construction | 14 | 100 | 03/10/12 A | 16/10/12 A | 03/10/12 A | 16/10/12 A | | | | | | |
| YSW1490 | Backfill & extract sheetpile | 3 | 100 | 17/10/12 A | 19/10/12 A | 17/10/12 A | 19/10/12 A | | | | | | |
| YSW1500 | Superstructure construction upto +10.5mPD | 41 | 100 | 20/10/12 A | 29/11/12 A | 20/10/12 A | 29/11/12 A | | | | | | |
| YSW1530 | Underground pipeline works | 40 | 100 | 20/07/13 A | 01/10/13 A | 20/07/13 A | 01/10/13 A | | | | | | |
| YSW1538 | Apply protective paint | 30 | 100 | 04/03/13 A | 05/03/13 A | 04/03/13 A | 05/03/13 A | | | | | | |
| YSW1540 | ABWF installation | 40 | 100 | 03/04/13 A | 01/10/13 A | 03/04/13 A | 01/10/13 A | | | | | | |
| Road, Drain, Cable Draw Pits & Ducting | | | | | | | | | | | | | |
| YSW16601 | ELS & excavate 6m deep sewer (FM1 - YFMH13) | 90 | 100 | 04/08/13 A | 15/01/14 A | 04/08/13 A | 15/01/14 A | FMH13 | | | | | |
| YSW16602 | Lay pipe & backfill 6m deep sewer (FM1 - YFMH13) | 45 | 100 | 20/01/14 A | 10/02/14 A | 20/01/14 A | 10/02/14 A | ver (FM1 - YFMH13) | | | | | |
| YSW16603 | Construct UU & pipes along sea side (Grid Q-X) | 60 | 100 | 04/03/14 A | 29/01/14 A | 04/03/14 A | 29/01/14 A | e (Grid Q-X) | | | | | |
| YSW16604 | Construct UU & pipes along sea side (Grid XA-D) | 60 | 100 | 22/07/13 A | 06/02/14 A | 22/07/13 A | 06/02/14 A | side (Grid XA-D) | | | | | |
| YSW16606 | Construct UU & pipes along hill side (Grid D-Q) | 90 | 100 | 10/10/12 A | 01/09/13 A | 10/10/12 A | 01/09/13 A | | | | | | |
| YSW16607 | Construct UU & pipes along hill side (Grid Q-X) | 72 | 100 | 20/08/12 A | 01/09/13 A | 20/08/12 A | 01/09/13 A | | | | | | |
| YSW16608 | Construct UU & pipes along hill side (Grid XA-D) | 72 | 100 | 30/11/12 A | 01/09/13 A | 30/11/12 A | 01/09/13 A | | | | | | |
| YSW16701 | Construct Boundary Wall (Grid XA-D) | 80 | 100 | 10/01/13 A | 15/12/13 A | 10/01/13 A | 15/12/13 A | | | | | | |
| YSW16702 | Construct Boundary Wall (Grid D-Q) | 80 | 100 | 01/01/14 A | 31/01/14 A | 01/01/14 A | 31/01/14 A | | | | | | |
| YSW16703 | Construct Boundary Wall (Grid Q-X) | 80 | 100 | 21/02/14 A | 26/03/14 A | 21/02/14 A | 26/03/14 A | oundary Wall (Grid Q-X) | | | | | |
| YSW16704 | ABWF installation for Boundary Wall | 240 | 0 | 31/12/13 A | 28/03/15 | 31/12/13 A | 16/06/14 | | | | | | |
| YSW16705 | Painting for Boundary Wall (V.O. No. 108) | 90 | 0 | 01/08/14 * | 29/10/14 | 19/03/14 | 16/06/14 | | | | | | |
| YSW1680 | Fire Hydrant & pipeline installation | 120 | 95 | 26/01/13 A | 06/08/14 | 26/01/13 A | 05/06/14 | | | | | | |
| YSW1690 | Construction of Road Kerbs, Downpipes, U-channel | 180 | 100 | 02/01/13 A | 11/08/14 A | 02/01/13 A | 11/08/14 A | | | | | | |
| YSW1700 | Road Paving | 110 | 90 | 23/05/14 A | 17/08/14 | 23/05/14 A | 16/06/14 | | | | | | |
| Submarine Outfall | | | | | | | | | | | | | |
| YSW0180 | Coordination of HEC | 53 | 100 | 17/05/10 A | 08/07/10 A | 17/05/10 A | 08/07/10 A | | | | | | |
| YSW0200 | Submission and Approval of Ecologist | 60 | 100 | 17/05/10 A | 15/07/10 A | 17/05/10 A | 15/07/10 A | | | | | | |
| YSW0210 | Ecology Survey | 211 | 100 | 16/07/10 A | 11/02/11 A | 16/07/10 A | 11/02/11 A | | | | | | |

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|---------------------------|----------|
| Start date | 05/05/10 |
| Finish date | 30/11/16 |
| Data date | 01/08/14 |
| Run date | 05/08/14 |
| Page number | 7A |
| c Primavera Systems, Inc. | |

- Early bar
- Progress bar
- Critical bar
- Summary bar
- ▲ Progress point
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- ◆ Summary point
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Leader Civil Engineering Corp. Ltd.
Contract No. DC/2009/13
Construction of Sewage Treatment Works at YSW & SKW
3-month Rolling Programme (Aug 2014 - Oct 2014)

| Date | Revision | Checked | Approved |
|----------|------------|---------|----------|
| 31/07/14 | Revision 0 | RH | VC |
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| Activity ID | Description | Original Duration | Percent Complete | Early Start | Early Finish | Late Start | Late Finish | 2014 | | | | | |
|--------------------------------|--------------------------------------------------|-------------------|------------------|-------------|--------------|------------|-------------|------|-----|-----|-----|-----|-----|
| | | | | | | | | MAY | JUN | JUL | AUG | SEP | OCT |
| YSW0220 | Submission and Approval of In. Hydro Survey | 103 | 100 | 17/05/10 A | 27/08/10 A | 17/05/10 A | 27/08/10 A | | | | | | |
| YSW0230 | Hydrographical Survey (YSW) | 157 | 100 | 28/08/10 A | 31/01/11 A | 28/08/10 A | 31/01/11 A | | | | | | |
| YSW0240 | Material Submission, Approval of HDPE pipe | 319 | 100 | 17/05/10 A | 31/03/11 A | 17/05/10 A | 31/03/11 A | | | | | | |
| YSW02401 | Clarify Coordinate of Point Y (Reply of RFI 010) | 83 | 100 | 28/06/10 A | 18/09/10 A | 28/06/10 A | 18/09/10 A | | | | | | |
| YSW0250 | Submit and Approval of Method Statement for HDD | 188 | 100 | 19/09/10 A | 25/03/11 A | 19/09/10 A | 25/03/11 A | | | | | | |
| YSW0260 | Submission of HDD Method Statement to HEC | 14 | 100 | 26/03/11 A | 08/04/11 A | 26/03/11 A | 08/04/11 A | | | | | | |
| YSW0270 | Additional G.I. Boreholes (YSW) | 123 | 100 | 19/09/10 A | 19/01/11 A | 19/09/10 A | 19/01/11 A | | | | | | |
| YSW0280 | Submission of propose alignment | 44 | 100 | 20/01/11 A | 04/03/11 A | 20/01/11 A | 04/03/11 A | | | | | | |
| YSW0290 | Submission of Marine Notice | 69 | 100 | 20/01/11 A | 29/03/11 A | 20/01/11 A | 29/03/11 A | | | | | | |
| YSW0310 | Construction of Entry Pit and Preparation Work | 27 | 100 | 05/03/11 A | 31/03/11 A | 05/03/11 A | 31/03/11 A | | | | | | |
| YSW0320 | Prepare of HDD Drill Rig Set-up (YSW) | 28 | 100 | 01/04/11 A | 28/04/11 A | 01/04/11 A | 28/04/11 A | | | | | | |
| YSW0330 | Establishment of HDD plant & equipment | 6 | 100 | 09/04/11 A | 14/04/11 A | 09/04/11 A | 14/04/11 A | | | | | | |
| YSW0340 | Setting up at drillhole location | 14 | 100 | 15/04/11 A | 28/04/11 A | 15/04/11 A | 28/04/11 A | | | | | | |
| YSW0350 | Drill pilot hole and reaming hole - NS400 - 530m | 229 | 100 | 29/04/11 A | 13/12/11 A | 29/04/11 A | 13/12/11 A | | | | | | |
| YSW0360 | Installation of NS400 HDPE 530m | 17 | 100 | 14/12/11 A | 30/12/11 A | 14/12/11 A | 30/12/11 A | | | | | | |
| YSW03601 | Demobilization of HDD plant & equipment | 7 | 100 | 31/12/11 A | 06/01/12 A | 31/12/11 A | 06/01/12 A | | | | | | |
| YSW03605 | Remove Entry pit of HDD | 14 | 100 | 07/01/12 A | 20/01/12 A | 07/01/12 A | 20/01/12 A | | | | | | |
| YSW03620 | Removal of Receiving Pit | 14 | 100 | 31/12/11 A | 13/01/12 A | 31/12/11 A | 13/01/12 A | | | | | | |
| YSW03641 | Prepare backfilling material under VO 046A | 120 | 100 | 07/01/12 A | 05/05/12 A | 07/01/12 A | 05/05/12 A | | | | | | |
| YSW0365 | Set up of Silt Curtain as per EP | 2 | 100 | 23/11/12 A | 24/11/12 A | 23/11/12 A | 24/11/12 A | | | | | | |
| YSW0370 | Dredging of Marine Deposit for Diffuser (YSW) | 5 | 100 | 24/11/12 A | 29/11/12 A | 24/11/12 A | 29/11/12 A | | | | | | |
| YSW0380 | Diffuser Construction (YSW) | 60 | 100 | 30/11/12 A | 20/06/13 A | 30/11/12 A | 20/06/13 A | | | | | | |
| YSW0400 | Removal of silt curtain | 30 | 100 | 30/04/13 A | 31/05/13 A | 30/04/13 A | 31/05/13 A | | | | | | |
| E&M Works - YSW STW | | | | | | | | | | | | | |
| E&M0360 | Delivery of MBR Memb. Mod. (MBR Tk 4) | 118 | 100 | 24/02/11 A | 21/06/11 A | 24/02/11 A | 21/06/11 A | | | | | | |
| E&M0370 | Delivery of MBR Membrane Modules - 2nd Shipment | 236 | 100 | 24/02/11 A | 17/10/11 A | 24/02/11 A | 17/10/11 A | | | | | | |
| E&M0380 | Delivery of Grit Removal Equipment | 81 | 100 | 10/10/11 A | 29/12/11 A | 10/10/11 A | 29/12/11 A | | | | | | |
| E&M0390 | Delivery of Coarse Screens | 129 | 100 | 06/09/11 A | 12/01/12 A | 06/09/11 A | 12/01/12 A | | | | | | |
| E&M0400 | Delivery of Fine Screens | 80 | 100 | 12/09/11 A | 30/11/11 A | 12/09/11 A | 30/11/11 A | | | | | | |
| E&M0410 | Delivery of Pumps | 75 | 100 | 23/06/11 A | 05/09/11 A | 23/06/11 A | 05/09/11 A | | | | | | |
| E&M0420 | Delivery of Submersible Mixers | 230 | 100 | 26/02/11 A | 26/02/11 A | 26/02/11 A | 26/02/11 A | | | | | | |
| E&M0440 | Delivery of Sludge Dewatering Equipment | 558 | 100 | 31/08/11 A | 16/06/14 A | 31/08/11 A | 16/06/14 A | | | | | | |
| E&M0450 | Delivery of Valves, Pipes & Fittings | 560 | 100 | 30/08/11 A | 26/02/14 A | 30/08/11 A | 26/02/14 A | | | | | | |
| E&M0460 | Delivery of Penstocks | 135 | 100 | 12/08/11 A | 24/12/11 A | 12/08/11 A | 24/12/11 A | | | | | | |
| E&M0470 | Delivery of Instruments | 232 | 100 | 03/11/11 A | 21/06/11 A | 03/11/11 A | 21/06/11 A | | | | | | |

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 Primavera Systems, Inc.

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Leader Civil Engineering Corp. Ltd.
Contract No. DC/2009/13
Construction of Sewage Treatment Works at YSW & SKW
3-month Rolling Programme (Aug 2014 - Oct 2014)

| Date | Revision | Checked | Approved |
|----------|------------|---------|----------|
| 31/07/14 | Revision 0 | RH | VC |
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| Activity ID | Description | Original Duration | Percent Complete | Early Start | Early Finish | Late Start | Late Finish | 2014 | | | | | |
|-----------------------------------------------------|--------------------------------------------------|-------------------|------------------|-------------|--------------|------------|-------------|------|-----|-----|-----|-----|-----|
| | | | | | | | | MAY | JUN | JUL | AUG | SEP | OCT |
| E&M0480 | Delivery of MCC LVSB | 90 | 100 | 03/12/12 A | 04/03/13 A | 03/12/12 A | 04/03/13 A | | | | | | |
| E&M0490 | Delivery of BS Equipment | 446 | 100 | 10/12/11 A | 15/04/15 A | 10/12/11 A | 15/04/15 A | | | | | | |
| E&M0500 | Delivery FS Equipment | 507 | 95 | 11/12/11 A | 20/05/15 | 11/12/11 A | 04/10/13 | | | | | | |
| E&M0510 | Install Membrane Modules in MBR Tank no. 4 | 89 | 100 | 03/11/12 A | 28/02/13 A | 03/11/12 A | 28/02/13 A | | | | | | |
| E&M0520 | Install Membrane Modules in MBR Tank No. 1 to 3 | 57 | 100 | 03/12/12 A | 28/02/13 A | 03/12/12 A | 28/02/13 A | | | | | | |
| E&M0530 | Install Grit Removal Equipment | 122 | 100 | 01/06/12 A | 30/09/12 A | 01/06/12 A | 30/09/12 A | | | | | | |
| E&M0540 | Install Coarse Screens | 240 | 100 | 23/04/12 A | 23/08/13 A | 23/04/12 A | 23/08/13 A | | | | | | |
| E&M0550 | Install Fine Screens | 122 | 100 | 01/06/12 A | 12/08/13 A | 01/06/12 A | 12/08/13 A | | | | | | |
| E&M0560 | Install Pumps | 355 | 100 | 23/04/12 A | 04/02/14 A | 23/04/12 A | 04/02/14 A | | | | | | |
| E&M0570 | Install Submersible Mixers | 163 | 100 | 15/01/13 A | 16/01/14 A | 15/01/13 A | 16/01/14 A | | | | | | |
| E&M0580 | Install Sludge Dewatering Equipment | 361 | 95 | 29/05/12 A | 18/08/14 | 29/05/12 A | 24/06/13 | | | | | | |
| E&M0590 | Install Valves, Pipes & Fittings | 232 | 95 | 15/01/13 A | 12/08/14 | 15/01/13 A | 25/06/13 | | | | | | |
| E&M0600 | Install Penstocks (Batch 1, GL H - T) | 213 | 100 | 23/04/12 A | 21/05/13 A | 23/04/12 A | 21/05/13 A | | | | | | |
| E&M0610 | Install Instruments | 74 | 95 | 02/01/13 A | 04/08/14 | 02/01/13 A | 25/06/13 | | | | | | |
| E&M0620 | Install SAT, MCC & LVSB | 8 | 100 | 02/01/13 A | 02/01/15 A | 02/01/13 A | 02/01/15 A | | | | | | |
| E&M0630 | Install BS Equipment | 180 | 90 | 02/01/13 A | 13/05/15 | 02/01/13 A | 29/07/13 | | | | | | |
| E&M0640 | Install FS Equipment | 180 | 70 | 02/01/13 A | 14/03/15 | 02/01/13 A | 29/07/13 | | | | | | |
| E&M0650 | Hydraulic Tests of Pipeworks | 153 | 95 | 02/01/13 A | 08/08/14 | 02/01/13 A | 30/06/13 | | | | | | |
| E&M0660 | Cabling Works | 15 | 95 | 04/02/15 A | 01/08/14 | 04/02/15 A | 22/06/13 | | | | | | |
| E&M0670 | Insulation Tests of Cables and Cable Termination | 26 | 95 | 11/04/15 A | 31/08/14 | 11/04/15 A | 23/06/13 | | | | | | |
| E&M0680 | Energization | 1 | 100 | 02/04/15 A | 03/04/15 A | 02/04/15 A | 03/04/15 A | | | | | | |
| E&M0690 | Functional and Performance Tests of Equipment | 35 | 90 | 25/03/15 A | 11/04/15 | 25/03/15 A | 27/06/13 * | | | | | | |
| E&M0700 | T&C Period | 137 | 90 | 09/12/15 A | 01/07/15 | 09/12/15 A | 27/04/14 | | | | | | |
| E&M0730 | Trial Operation Period | 413 | 0 | 02/07/15 | 12/10/16 | 28/04/14 | 14/06/15 | | | | | | |
| Sok Kwu Wan | | | | | | | | | | | | | |
| Preliminary | | | | | | | | | | | | | |
| E&M0605 | Install Penstocks (Batch 2, GL A - F) | 131 | 100 | 02/01/13 A | 19/01/14 A | 02/01/13 A | 19/01/14 A | | | | | | |
| SKW0250 | Approval of Environmental Team | 16 | 100 | 17/05/10 A | 01/06/10 A | 17/05/10 A | 01/06/10 A | | | | | | |
| SKW0260 | Baseline monitoring (Air & Noise) | 14 | 100 | 02/06/10 A | 15/06/10 A | 02/06/10 A | 15/06/10 A | | | | | | |
| SKW0265 | Baseline Monitoring Submission (A & N) | 14 | 100 | 16/06/10 A | 08/07/10 A | 16/06/10 A | 08/07/10 A | | | | | | |
| Section W3 - Footpath Diversion in Portion G | | | | | | | | | | | | | |
| Civil & Geotechnical Works | | | | | | | | | | | | | |
| SKW0240 | Site Clearance | 21 | 100 | 17/05/10 A | 06/06/10 A | 17/05/10 A | 06/06/10 A | | | | | | |
| SKW0241 | Initial Survey | 9 | 100 | 07/06/10 A | 15/06/10 A | 07/06/10 A | 15/06/10 A | | | | | | |

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- Early bar
- Progress bar
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- Summary bar
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Leader Civil Engineering Corp. Ltd.
Contract No. DC/2009/13
Construction of Sewage Treatment Works at YSW & SKW
3-month Rolling Programme (Aug 2014 - Oct 2014)

| Date | Revision | Checked | Approved |
|----------|------------|---------|----------|
| 31/07/14 | Revision 0 | RH | VC |
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| Activity ID | Description | Original Duration | Percent Complete | Early Start | Early Finish | Late Start | Late Finish | 2014 | | | | | |
|-------------|--------------------------------------------------|-------------------|------------------|-------------|--------------|------------|-------------|------|-----|-----|-----|-----|-----|
| | | | | | | | | MAY | JUN | JUL | AUG | SEP | OCT |
| SKW0242 | Retaining Wall Bay 0-10 (Incl. VO. 001A) | 177 | 100 | 30/06/10 A | 23/12/10 A | 30/06/10 A | 23/12/10 A | | | | | | |
| SKW0461 | Utilities Laying and Diversion | 70 | 100 | 24/12/10 A | 03/03/11 A | 24/12/10 A | 03/03/11 A | | | | | | |
| SKW0471 | Concreting for Pavement | 7 | 100 | 04/03/11 A | 10/03/11 A | 04/03/11 A | 10/03/11 A | | | | | | |
| SKW0481 | Footpath Diversion - Stage 1 | 14 | 100 | 11/03/11 A | 24/03/11 A | 11/03/11 A | 24/03/11 A | | | | | | |
| SKW04811 | Excavate for FP transition at CH0-35 & CH130-141 | 37 | 100 | 25/03/11 A | 30/04/11 A | 25/03/11 A | 30/04/11 A | | | | | | |
| SKW04821 | Construction of Drainage outfall near bay 10 | 3 | 100 | 01/05/11 A | 03/05/11 A | 01/05/11 A | 03/05/11 A | | | | | | |
| SKW04831 | Cable diversion by HEC | 26 | 100 | 04/05/11 A | 29/05/11 A | 04/05/11 A | 29/05/11 A | | | | | | |
| SKW04841 | Diversion of Ducting and Drawpit by PCCW | 12 | 100 | 20/05/11 A | 31/05/11 A | 20/05/11 A | 31/05/11 A | | | | | | |
| SKW04851 | Soil backfilling behind FP retaining wall | 14 | 100 | 01/06/11 A | 14/06/11 A | 01/06/11 A | 14/06/11 A | | | | | | |
| SKW04861 | Concreting for footpath pavement | 7 | 100 | 15/06/11 A | 21/06/11 A | 15/06/11 A | 21/06/11 A | | | | | | |
| SKW04871 | Relocation of Temp Safety Fence at SKW STW A-G | 57 | 100 | 22/06/11 A | 17/08/11 A | 22/06/11 A | 17/08/11 A | | | | | | |
| SKW04881 | Disposal of excavation material at A-G SKW STW | 138 | 100 | 18/08/11 A | 02/01/12 A | 18/08/11 A | 02/01/12 A | | | | | | |
| SKW04885 | Footpath Diversion - Stage 2 | 7 | 100 | 03/01/12 A | 09/01/12 A | 03/01/12 A | 09/01/12 A | | | | | | |
| SKW0491 | Removal of Haul Road after SKW STW | 7 | 0 | 08/10/14 | 14/10/14 | 29/05/15 | 04/06/15 | | | | | | |
| SKW0501 | Concreting for no-fine concrete | 14 | 0 | 08/10/14 | 21/10/14 | 29/05/15 | 11/06/15 | | | | | | |
| SKW0511 | Wall Tie & Stone Facing | 14 | 0 | 22/10/14 | 04/11/14 | 12/06/15 | 25/06/15 | | | | | | |
| SKW0521 | Gabion Wall & Geotextile | 30 | 0 | 05/11/14 | 04/12/14 | 26/06/15 | 25/07/15 | | | | | | |
| SKW0531 | Installation of Flower Pot | 7 | 0 | 05/12/14 | 11/12/14 | 26/07/15 | 01/08/15 | | | | | | |
| SKW0541 | Completion of Outstanding Works | 42 | 0 | 12/12/14 | 22/01/15 | 02/08/15 | 12/09/15 | | | | | | |

Section W4 - Slope Works in Portions H & I

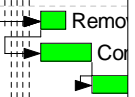
| Geotechnical Works | | Original Duration | Percent Complete | Early Start | Early Finish | Late Start | Late Finish |
|--------------------|-------------------------------------------------|-------------------|------------------|-------------|--------------|------------|-------------|
| SKW0588 | Construct scaffolding access | 30 | 100 | 15/06/10 A | 14/07/10 A | 15/06/10 A | 14/07/10 A |
| SKW0590 | Site Clearance for Slope | 100 | 100 | 15/07/10 A | 22/10/10 A | 15/07/10 A | 22/10/10 A |
| SKW0591 | Initial Survey for Slope | 28 | 100 | 21/09/10 A | 18/10/10 A | 21/09/10 A | 18/10/10 A |
| SKW0592 | Temporary Rockfall fence at ex. Footpath | 43 | 100 | 31/08/10 A | 12/10/10 A | 31/08/10 A | 12/10/10 A |
| SKW05931 | Construction of Haul Road (To +30mPD) | 50 | 100 | 03/09/10 A | 22/10/10 A | 03/09/10 A | 22/10/10 A |
| SKW05932 | Construction of Haul Road (To +42.5mPD) | 68 | 100 | 23/10/10 A | 29/12/10 A | 23/10/10 A | 29/12/10 A |
| SKW059321 | Removal of Boulders (IBG 1 - 119, SI No. 11B) | 121 | 100 | 03/11/10 A | 03/03/11 A | 03/11/10 A | 03/03/11 A |
| SKW059322 | Add. Site Invest. Works (VO. No. 9,12 &16) | 174 | 100 | 11/01/11 A | 03/07/11 A | 11/01/11 A | 03/07/11 A |
| SKW059323 | Revised Profile at West Slope (+56 to +42.5mPD) | 1 | 100 | 17/03/11 A | 17/03/11 A | 17/03/11 A | 17/03/11 A |
| SKW059324 | Construction of Haul Road (+42.5 to +56mPD) | 12 | 100 | 18/03/11 A | 29/03/11 A | 18/03/11 A | 29/03/11 A |
| SKW059325 | Removal of Boulders (IBG 120-139, SI No. 11C) | 17 | 100 | 30/03/11 A | 15/04/11 A | 30/03/11 A | 15/04/11 A |
| SKW05933 | West Slope Cutting (+56mPD to +42.5mPD) | 2 | 100 | 16/04/11 A | 17/04/11 A | 16/04/11 A | 17/04/11 A |
| SKW059331 | Removal of Boulders (IBG 140-189, SI No. 11D) | 45 | 100 | 18/04/11 A | 01/06/11 A | 18/04/11 A | 01/06/11 A |
| SKW05934 | West Slope Cutting (+42.5mPD to +35mPD) | 32 | 100 | 02/06/11 A | 03/07/11 A | 02/06/11 A | 03/07/11 A |

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|---------------------------|----------|
| Start date | 05/05/10 |
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| Page number | 10A |
| c Primavera Systems, Inc. | |

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Leader Civil Engineering Corp. Ltd.
Contract No. DC/2009/13
Construction of Sewage Treatment Works at YSW & SKW
3-month Rolling Programme (Aug 2014 - Oct 2014)

| | | | |
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| Date | Revision | Checked | Approved |
| 31/07/14 | Revision 0 | RH | VC |
| | | | |
| | | | |
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| Activity ID | Description | Original Duration | Percent Complete | Early Start | Early Finish | Late Start | Late Finish | 2014 | | | | | |
|---------------------------------------------|-------------------------------------------------|-------------------|------------------|-------------|--------------|------------|-------------|------|-----|-----|-----|-----|-----|
| | | | | | | | | MAY | JUN | JUL | AUG | SEP | OCT |
| SKW059341 | Revised Profile at West Slope (+20 to +4.8mPD) | 1 | 100 | 04/07/11 A | 04/07/11 A | 04/07/11 A | 04/07/11 A | | | | | | |
| SKW05935 | West Slope Cutting (+35mPD to +27.5mPD) | 83 | 100 | 08/07/11 A | 28/09/11 A | 08/07/11 A | 28/09/11 A | | | | | | |
| SKW05936 | West Slope Cutting (+27.5mPD to +20mPD) | 61 | 100 | 29/09/11 A | 28/11/11 A | 29/09/11 A | 28/11/11 A | | | | | | |
| SKW05937 | West Slope Cutting (+20mPD to +12.5mPD) | 39 | 100 | 29/11/11 A | 06/01/12 A | 29/11/11 A | 06/01/12 A | | | | | | |
| SKW05938 | West Slope Cutting (+12.5mPD to +4.8mPD) | 90 | 100 | 07/01/12 A | 27/03/12 A | 07/01/12 A | 27/03/12 A | | | | | | |
| SKW05941 | Slope Stormwater Drainage | 300 | 100 | 28/03/12 A | 25/05/12 A | 28/03/12 A | 25/05/12 A | | | | | | |
| SKW059411 | East Slope Cutting (+50mPD to +42.5mPD) | 72 | 100 | 04/03/11 A | 14/05/11 A | 04/03/11 A | 14/05/11 A | | | | | | |
| SKW059412 | East Slope Cutting (+42.5mPD to +35mPD) | 82 | 100 | 15/05/11 A | 04/08/11 A | 15/05/11 A | 04/08/11 A | | | | | | |
| SKW059413 | East Slope Cutting (+35mPD to +27.5mPD) | 55 | 100 | 05/08/11 A | 28/09/11 A | 05/08/11 A | 28/09/11 A | | | | | | |
| SKW059414 | East Slope Cutting (+27.5mPD to +20mPD) | 61 | 100 | 29/09/11 A | 28/11/11 A | 29/09/11 A | 28/11/11 A | | | | | | |
| SKW059415 | East Slope Cutting (+20mPD to +12.5mPD) | 39 | 100 | 29/11/11 A | 06/01/12 A | 29/11/11 A | 06/01/12 A | | | | | | |
| SKW059416 | East Slope Cutting (+12.5mPD to +4.8mPD) | 81 | 100 | 07/01/12 A | 27/03/12 A | 07/01/12 A | 27/03/12 A | | | | | | |
| SKW05942 | Slope Miscellaneous Works | 61 | 100 | 26/05/12 A | 31/07/12 A | 26/05/12 A | 31/07/12 A | | | | | | |
| SKW05943 | Buttress & surface Protection (SI No. 31) | 60 | 100 | 03/07/12 A | 31/07/12 A | 03/07/12 A | 31/07/12 A | | | | | | |
| SKW05944 | Slope Treatment (SI. No. 36) | 60 | 100 | 03/07/12 A | 31/07/12 A | 03/07/12 A | 31/07/12 A | | | | | | |
| SKW05945 | Rock Slope Treatment (SI. No. 68) | 60 | 100 | 01/08/12 A | 30/09/12 A | 01/08/12 A | 30/09/12 A | | | | | | |
| SKW05946 | Rock Slope Treatment (SI. No. 98) | 60 | 100 | 10/09/12 A | 28/02/13 A | 10/09/12 A | 28/02/13 A | | | | | | |
| SKW05947 | Rock Slope Treatment (SI. No. 115) | 60 | 100 | 01/11/12 A | 28/02/13 A | 01/11/12 A | 28/02/13 A | | | | | | |
| SKW05948 | Soil Nailing Works (VO. No. 52) | 300 | 100 | 10/02/12 A | 28/02/13 A | 10/02/12 A | 28/02/13 A | | | | | | |
| SKW0595 | Rock Meshing | 60 | 30 | 01/07/14 A | 11/09/14 A | 01/07/14 A | 05/10/15 A | | | | | | |
| SKW05963 | Determine Alignment & Foundation Design of RFB | 120 | 100 | 10/02/12 A | 08/06/12 A | 10/02/12 A | 08/06/12 A | | | | | | |
| SKW059631 | GEO Approval of Foundation Design | 70 | 100 | 09/06/12 A | 31/07/12 A | 09/06/12 A | 31/07/12 A | | | | | | |
| SKW05964 | Fabrication & Shipping of RFB Material | 180 | 100 | 09/06/12 A | 30/11/12 A | 09/06/12 A | 30/11/12 A | | | | | | |
| SKW05965 | Site clearance & Formation of access | 62 | 100 | 09/06/12 A | 31/07/12 A | 09/06/12 A | 31/07/12 A | | | | | | |
| SKW05967 | Plant mobilization | 14 | 100 | 02/01/13 A | 15/01/13 A | 02/01/13 A | 15/01/13 A | | | | | | |
| SKW05968 | Construction of anchors & pull out test | 180 | 100 | 16/01/13 A | 17/08/13 A | 16/01/13 A | 17/08/13 A | | | | | | |
| SKW05969 | Construction of Foundation | 120 | 100 | 11/07/13 A | 23/08/13 A | 11/07/13 A | 23/08/13 A | | | | | | |
| SKW05970 | Proof Load Test | 60 | 100 | 31/07/13 A | 28/09/13 A | 31/07/13 A | 28/09/13 A | | | | | | |
| SKW05971 | Transportation of Material (To the slope crest) | 30 | 100 | 31/07/13 A | 29/08/13 A | 31/07/13 A | 29/08/13 A | | | | | | |
| SKW05972 | Installation of Flexible barrier | 90 | 100 | 31/07/13 A | 28/10/13 A | 31/07/13 A | 28/10/13 A | | | | | | |
| Section W5 - P.S. No. 1 in Portion D | | | | | | | | | | | | | |
| YSW16605 | Construct UU & pipes along sea side (Grid D-Q) | 60 | 100 | 20/11/13 A | 11/01/14 A | 20/11/13 A | 11/01/14 A | D-Q) | | | | | |
| Civil & Geotechnical Works | | | | | | | | | | | | | |
| SKW0651 | Site Clearance | 7 | 100 | 17/05/10 A | 23/05/10 A | 17/05/10 A | 23/05/10 A | | | | | | |
| SKW0652 | Initial Survey | 7 | 100 | 24/05/10 A | 30/05/10 A | 24/05/10 A | 30/05/10 A | | | | | | |

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|---------------------------|----------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------|---------|----------|
| Start date | 05/05/10 | | Leader Civil Engineering Corp. Ltd. Contract No. DC/2009/13 Construction of Sewage Treatment Works at YSW & SKW 3-month Rolling Programme (Aug 2014 - Oct 2014) | Date | Revision | Checked | Approved |
| Finish date | 30/11/16 | | | 31/07/14 | Revision 0 | RH | VC |
| Data date | 01/08/14 | | | | | | |
| Run date | 05/08/14 | | | | | | |
| Page number | 11A | | | | | | |
| c Primavera Systems, Inc. | | | | | | | |

| Activity ID | Description | Original Duration | Percent Complete | Early Start | Early Finish | Late Start | Late Finish | 2014 | | | | | |
|----------------------------------|-------------------------------------------------|-------------------|------------------|-------------|--------------|------------|-------------|------|-----|-----|-----|-----|-----|
| | | | | | | | | MAY | JUN | JUL | AUG | SEP | OCT |
| SKW0661 | Transplantation for uncommon vegetation | 30 | 100 | 31/05/10 A | 29/06/10 A | 31/05/10 A | 29/06/10 A | | | | | | |
| SKW0681 | Excavate to lower the working platform to +3mPD | 49 | 100 | 30/06/10 A | 17/08/10 A | 30/06/10 A | 17/08/10 A | | | | | | |
| SKW0691 | ELS to +2.2mPD | 40 | 100 | 18/08/10 A | 26/09/10 A | 18/08/10 A | 26/09/10 A | | | | | | |
| SKW0721 | Excavate to formation | 270 | 100 | 17/09/10 A | 13/06/11 A | 17/09/10 A | 13/06/11 A | | | | | | |
| SKW0722 | Construction of Manholes (VO. No. 21A) | 107 | 95 | 28/10/13 A | 01/11/14 | 28/10/13 A | 08/07/14 | | | | | | |
| Structural Works | | | | | | | | | | | | | |
| SKW0741 | RC Works for Structure | 240 | 100 | 14/06/11 A | 08/02/12 A | 14/06/11 A | 08/02/12 A | | | | | | |
| SKW0841 | ABWF works | 60 | 100 | 09/02/12 A | 08/04/12 A | 09/02/12 A | 08/04/12 A | | | | | | |
| SKW0861 | 300mm U-channel & 675mm Step Channel | 30 | 95 | 26/01/14 A | 29/10/14 | 26/01/14 A | 05/10/15 | | | | | | |
| E&M Works (PS1) | | | | | | | | | | | | | |
| Submission & Delivery | | | | | | | | | | | | | |
| E&M1001 | Submission of Pumps | 198 | 100 | 17/05/10 A | 24/02/11 A | 17/05/10 A | 24/02/11 A | | | | | | |
| E&M1002 | Submission of Gen-Set | 198 | 100 | 17/05/10 A | 24/02/11 A | 17/05/10 A | 24/02/11 A | | | | | | |
| E&M1003 | Submission of DeO System | 198 | 100 | 17/05/10 A | 16/07/13 A | 17/05/10 A | 16/07/13 A | | | | | | |
| E&M1004 | Submission of LV SB & MCC | 180 | 100 | 17/05/10 A | 09/01/12 A | 17/05/10 A | 09/01/12 A | | | | | | |
| E&M1005 | Submission of Instrumentation | 243 | 100 | 17/05/10 A | 12/03/12 A | 17/05/10 A | 12/03/12 A | | | | | | |
| E&M1006 | Submission of FS System | 243 | 100 | 17/05/10 A | 30/09/12 A | 17/05/10 A | 30/09/12 A | | | | | | |
| E&M1007 | Submission of BS System | 243 | 100 | 17/05/10 A | 07/01/14 A | 17/05/10 A | 07/01/14 A | | | | | | |
| E&M1011 | Delivery of Pumps | 150 | 100 | 24/02/11 A | 21/07/11 A | 24/02/11 A | 21/07/11 A | | | | | | |
| E&M1012 | Delivery of Gen-Set | 150 | 100 | 24/02/11 A | 23/09/11 A | 24/02/11 A | 23/09/11 A | | | | | | |
| E&M1013 | Delivery of DeO System | 150 | 100 | 11/07/11 A | 28/10/11 A | 11/07/11 A | 28/10/11 A | | | | | | |
| E&M1014 | Delivery of LV SB & MCC | 150 | 100 | 01/06/12 A | 31/07/12 A | 01/06/12 A | 31/07/12 A | | | | | | |
| E&M1015 | Delivery of Instrumentation | 90 | 100 | 01/11/11 A | 03/11/11 A | 01/11/11 A | 03/11/11 A | | | | | | |
| E&M1016 | Delivery of FS Equipment | 107 | 100 | 01/12/11 A | 21/01/14 A | 01/12/11 A | 21/01/14 A | | | | | | |
| E&M1017 | Delivery of BS Equipment | 107 | 100 | 15/11/11 A | 28/01/14 A | 15/11/11 A | 28/01/14 A | | | | | | |
| Installation, T&C | | | | | | | | | | | | | |
| E&M1101 | Install Pumps | 55 | 100 | 02/10/12 A | 05/01/14 A | 02/10/12 A | 05/01/14 A | | | | | | |
| E&M1102 | Install Gen Set | 55 | 100 | 02/10/12 A | 05/05/13 A | 02/10/12 A | 05/05/13 A | | | | | | |
| E&M1103 | Install DeO System | 55 | 100 | 03/12/12 A | 02/01/14 A | 03/12/12 A | 02/01/14 A | | | | | | |
| E&M1104 | Install LV SB & MCC | 55 | 100 | 02/01/13 A | 26/03/13 A | 02/01/13 A | 26/03/13 A | | | | | | |
| E&M1105 | Install Instrumentation | 55 | 100 | 01/11/12 A | 28/01/14 A | 01/11/12 A | 28/01/14 A | | | | | | |
| E&M1106 | Install FS Equipment | 55 | 100 | 02/10/12 A | 30/01/14 A | 02/10/12 A | 30/01/14 A | | | | | | |
| E&M1107 | Install BS Equipment | 55 | 100 | 02/10/12 A | 08/01/14 A | 02/10/12 A | 08/01/14 A | | | | | | |
| E&M1110 | Install Valves, Pipes & Fittings | 46 | 100 | 02/01/13 A | 27/03/13 A | 02/01/13 A | 27/03/13 A | | | | | | |
| E&M1130 | Form 501 Submission to FSD | 28 | 0 | 01/08/14 | 28/08/14 | 07/04/14 | 04/05/14 | | | | | | |

Form 501 Submission to

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| Finish date | 30/11/16 |
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| Page number | 12A |
| c Primavera Systems, Inc. | |

- Early bar
- Progress bar
- Critical bar
- Summary bar
- ▲ Progress point
- ▼ Critical point
- ◆ Summary point
- ◆ Start milestone point
- ◆ 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 2014 - Oct 2014)

| | | | |
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| Date | Revision | Checked | Approved |
| 31/07/14 | Revision 0 | RH | VC |
| | | | |
| | | | |
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| Activity ID | Description | Original Duration | Percent Complete | Early Start | Early Finish | Late Start | Late Finish | 2014 | | | | | |
|-----------------------------------------------------------|--------------------------------------------------|-------------------|------------------|-------------|--------------|------------|-------------|----------------------------------|-----|-----|-----|-----|-----|
| | | | | | | | | MAY | JUN | JUL | AUG | SEP | OCT |
| E&M1140 | Cabling Works | 43 | 100 | 21/05/13 A | 07/02/14 A | 21/05/13 A | 07/02/14 A | | | | | | |
| E&M1150 | Insulation Tests of Cables and Cable Termination | 7 | 100 | 25/06/13 A | 09/02/14 A | 25/06/13 A | 09/02/14 A | Cable Termination | | | | | |
| E&M1160 | Engergization | 3 | 100 | 01/07/13 A | 02/08/13 A | 01/07/13 A | 02/08/13 A | | | | | | |
| E&M1170 | Functional and Performance Tests of Equipment | 30 | 70 | 02/01/13 A | 09/08/14 | 02/01/13 A | 04/05/14 | Functional and Performance Tests | | | | | |
| E&M11800 | Commissioning Test | 60 | 0 | 29/08/14 | 27/10/14 | 05/05/14 | 03/07/14 | | | | | | |
| Section W6 - Sewer and PS No.2 in Portions E&H | | | | | | | | | | | | | |
| Civil & Geotechnical Works | | | | | | | | | | | | | |
| SKW0881 | Site Clearance | 7 | 100 | 17/05/10 A | 23/05/10 A | 17/05/10 A | 23/05/10 A | | | | | | |
| SKW0891 | Plant mobilization | 7 | 100 | 17/05/10 A | 23/05/10 A | 17/05/10 A | 23/05/10 A | | | | | | |
| SKW0892 | Initial Survey | 30 | 100 | 24/05/10 A | 22/06/10 A | 24/05/10 A | 22/06/10 A | | | | | | |
| SKW0901 | Tree Transplantation | 90 | 100 | 23/06/10 A | 20/09/10 A | 23/06/10 A | 20/09/10 A | | | | | | |
| SKW0921 | Cut Slope & U-Channel | 14 | 100 | 21/09/10 A | 04/10/10 A | 21/09/10 A | 04/10/10 A | | | | | | |
| SKW0931 | Hoarding & Fencing | 14 | 100 | 05/10/10 A | 18/10/10 A | 05/10/10 A | 18/10/10 A | | | | | | |
| SKW0950 | Removal of Rock Boulders before ELS | 66 | 100 | 19/10/10 A | 23/12/10 A | 19/10/10 A | 23/12/10 A | | | | | | |
| SKW0951 | ELS & Excavate to formation | 169 | 100 | 24/12/10 A | 10/06/11 A | 24/12/10 A | 10/06/11 A | | | | | | |
| SKW0961 | Mass Conc. Retaining Wall | 90 | 100 | 16/01/13 A | 06/01/14 A | 16/01/13 A | 06/01/14 A | | | | | | |
| SKW1491 | LCS (ChA0+45 to 1+75) VO.7 | 90 | 100 | 24/03/12 A | 21/06/12 A | 24/03/12 A | 21/06/12 A | | | | | | |
| SKW15111 | Twin DN150 DI Rising Main (ChA1+75 - ChA5+79) | 180 | 100 | 22/06/12 A | 30/11/12 A | 22/06/12 A | 30/11/12 A | | | | | | |
| SKW15112 | Twin DN150 DI Rising Main (ChA0+00 - ChA0+45) | 30 | 100 | 01/02/13 A | 03/01/14 A | 01/02/13 A | 03/01/14 A | +45) | | | | | |
| SKW1531 | Extent village sewers S163.1 & S164.1 | 34 | 100 | 30/11/12 A | 10/01/13 A | 30/11/12 A | 10/01/13 A | | | | | | |
| SKW1581 | Construct Manhole no. S163 & S164 | 34 | 100 | 11/01/13 A | 28/02/13 A | 11/01/13 A | 28/02/13 A | | | | | | |
| Structural Works | | | | | | | | | | | | | |
| SKW0971 | Structural Works (Phase 1) | 245 | 100 | 11/06/11 A | 10/02/12 A | 11/06/11 A | 10/02/12 A | | | | | | |
| SKW1021 | Structural Works (Phase 2) | 42 | 100 | 11/02/12 A | 23/03/12 A | 11/02/12 A | 23/03/12 A | | | | | | |
| SKW1061 | ABWF Works | 90 | 100 | 24/03/12 A | 21/06/12 A | 24/03/12 A | 21/06/12 A | | | | | | |
| SKW1081 | 375mm U-channel/catchpits/outfall | 30 | 100 | 22/06/12 A | 31/01/13 A | 22/06/12 A | 31/01/13 A | | | | | | |
| E&M Works (PS2) | | | | | | | | | | | | | |
| Submission & Delivery | | | | | | | | | | | | | |
| E&M2001 | Submission of Pumps | 198 | 100 | 17/05/10 A | 24/02/11 A | 17/05/10 A | 24/02/11 A | | | | | | |
| E&M2002 | Submission of Gen-Set | 198 | 100 | 17/05/10 A | 24/02/11 A | 17/05/10 A | 24/02/11 A | | | | | | |
| E&M2003 | Submission of DeO System | 198 | 100 | 17/05/10 A | 11/07/11 A | 17/05/10 A | 11/07/11 A | | | | | | |
| E&M2004 | Submission of LV SB & MCC | 271 | 100 | 17/05/10 A | 30/06/12 A | 17/05/10 A | 30/06/12 A | | | | | | |
| E&M2005 | Submission of Instrumentation | 243 | 100 | 17/05/10 A | 30/06/12 A | 17/05/10 A | 30/06/12 A | | | | | | |
| E&M2006 | Submission of FS System | 243 | 100 | 17/05/10 A | 07/01/14 A | 17/05/10 A | 07/01/14 A | | | | | | |
| E&M2007 | Submission of BS System | 243 | 100 | 17/05/10 A | 07/01/14 A | 17/05/10 A | 07/01/14 A | | | | | | |

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| Start date | 05/05/10 |
| Finish date | 30/11/16 |
| Data date | 01/08/14 |
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| Page number | 13A |
| c Primavera Systems, Inc. | |

- Early bar
- Progress bar
- Critical bar
- Summary bar
- ▲ Progress point
- ▼ Critical point
- ◆ Summary point
- ◆ Start milestone point
- ◆ 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 2014 - Oct 2014)

| | | | |
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| Date | Revision | Checked | Approved |
| 31/07/14 | Revision 0 | RH | VC |
| | | | |
| | | | |
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| Activity ID | Description | Original Duration | Percent Complete | Early Start | Early Finish | Late Start | Late Finish | 2014 | | | | | |
|----------------------------------------------------------|--------------------------------------------------|-------------------|------------------|-------------|--------------|------------|-------------|------|-----|-----|-----|-----|-----|
| | | | | | | | | MAY | JUN | JUL | AUG | SEP | OCT |
| E&M2011 | Delivery of Pumps | 150 | 100 | 24/02/11 A | 21/07/11 A | 24/02/11 A | 21/07/11 A | | | | | | |
| E&M2012 | Delivery of Gen-Set | 150 | 100 | 24/02/11 A | 23/09/11 A | 24/02/11 A | 23/09/11 A | | | | | | |
| E&M2013 | Delivery of DeO System | 150 | 100 | 11/07/11 A | 28/10/11 A | 11/07/11 A | 28/10/11 A | | | | | | |
| E&M2014 | Delivery of LV SB & MCC | 150 | 100 | 29/02/12 A | 31/07/12 A | 29/02/12 A | 31/07/12 A | | | | | | |
| E&M2015 | Delivery of Instrumentation | 90 | 100 | 21/06/11 A | 03/11/11 A | 21/06/11 A | 03/11/11 A | | | | | | |
| E&M2016 | Delivery of FS Equipment | 107 | 100 | 01/12/11 A | 28/01/14 A | 01/12/11 A | 28/01/14 A | | | | | | |
| E&M2017 | Delivery of BS Equipment | 107 | 100 | 15/01/11 A | 28/01/14 A | 15/01/11 A | 28/01/14 A | | | | | | |
| Installation, T&C | | | | | | | | | | | | | |
| E&M2101 | Install Pumps | 55 | 100 | 02/10/12 A | 10/01/14 A | 02/10/12 A | 10/01/14 A | | | | | | |
| E&M2102 | Install Gen Set | 55 | 100 | 01/09/12 A | 05/05/13 A | 01/09/12 A | 05/05/13 A | | | | | | |
| E&M2103 | Install DeO System | 55 | 100 | 03/12/12 A | 05/01/14 A | 03/12/12 A | 05/01/14 A | | | | | | |
| E&M2104 | Install LV SB & MCC | 55 | 100 | 02/01/13 A | 31/01/13 A | 02/01/13 A | 31/01/13 A | | | | | | |
| E&M2105 | Install Instrumentation | 55 | 100 | 31/05/13 A | 01/02/14 A | 31/05/13 A | 01/02/14 A | | | | | | |
| E&M2106 | Install FS Equipment | 55 | 100 | 02/10/12 A | 27/02/14 A | 02/10/12 A | 27/02/14 A | | | | | | |
| E&M2107 | Install BS Equipment | 55 | 100 | 01/09/12 A | 05/02/14 A | 01/09/12 A | 05/02/14 A | | | | | | |
| E&M2110 | Install Valves, Pipes & Fittings | 46 | 100 | 02/01/13 A | 31/01/13 A | 02/01/13 A | 31/01/13 A | | | | | | |
| E&M2120 | Hydraulic Test of Pipeworks | 7 | 100 | 02/01/13 A | 31/01/13 A | 02/01/13 A | 31/01/13 A | | | | | | |
| E&M2130 | Form 501 Submission to FSD | 28 | 0 | 01/08/14 | 28/08/14 | 13/01/13 | 09/02/13 | | | | | | |
| E&M2140 | Cabling Works | 43 | 100 | 01/02/13 A | 08/03/14 A | 01/02/13 A | 08/03/14 A | | | | | | |
| E&M2150 | Insulation Tests of Cables and Cable Termination | 7 | 100 | 01/02/13 A | 11/03/14 A | 01/02/13 A | 11/03/14 A | | | | | | |
| E&M2160 | Engergization | 3 | 100 | 01/02/13 A | 25/03/13 A | 01/02/13 A | 25/03/13 A | | | | | | |
| E&M2170 | Functional and Performance Tests of Equipment | 30 | 85 | 15/01/13 A | 05/08/14 | 15/01/13 A | 11/12/12 | | | | | | |
| E&M2180 | Commissioning Test | 60 | 0 | 29/08/14 | 27/10/14 | 12/12/12 | 09/02/13 | | | | | | |
| Section W7 - SKW STW, Sewer and Submarine Outfall | | | | | | | | | | | | | |
| Submarine Outfall | | | | | | | | | | | | | |
| SKW1130 | Approval of IHS Consultant | 180 | 100 | 17/05/10 A | 27/08/10 A | 17/05/10 A | 27/08/10 A | | | | | | |
| SKW1131 | Hydrographical Survey (SKW) | 300 | 100 | 01/02/11 A | 28/02/11 A | 01/02/11 A | 28/02/11 A | | | | | | |
| SKW1141 | Baseline Monitoring (Water) | 213 | 100 | 27/07/10 A | 31/12/10 A | 27/07/10 A | 31/12/10 A | | | | | | |
| SKW1151 | Set up Temporary Working Platform | 90 | 100 | 15/06/11 A | 30/09/11 A | 15/06/11 A | 30/09/11 A | | | | | | |
| SKW1171 | ELS for HDD Set-up (SKW) | 90 | 100 | 01/09/11 A | 30/09/11 A | 01/09/11 A | 30/09/11 A | | | | | | |
| SKW1181 | Mobilization of HDD plant & equipment to SKW | 8 | 100 | 06/01/12 A | 07/01/12 A | 06/01/12 A | 07/01/12 A | | | | | | |
| SKW1191 | Setting up at drillhole location | 7 | 100 | 09/01/12 A | 14/01/12 A | 09/01/12 A | 14/01/12 A | | | | | | |
| SKW1201 | Drill pilot hole and reaming hole - NS280 - 750m | 33 | 100 | 16/01/12 A | 16/02/12 A | 16/01/12 A | 16/02/12 A | | | | | | |
| SKW1211 | Receiving Pit for HDD (SKW) | 13 | 100 | 16/01/12 A | 29/02/12 A | 16/01/12 A | 29/02/12 A | | | | | | |
| SKW1221 | Installaiton of NS280 HDPE 450mm dia. pipe | 61 | 100 | 31/03/12 A | 30/04/12 A | 31/03/12 A | 30/04/12 A | | | | | | |

| | |
|---------------------------|----------|
| Start date | 05/05/10 |
| Finish date | 30/11/16 |
| Data date | 01/08/14 |
| Run date | 05/08/14 |
| Page number | 14A |
| c Primavera Systems, Inc. | |

- Early bar
- Progress bar
- Critical bar
- Summary bar
- ▲ Progress point
- ▼ Critical point
- ◆ Summary point
- ◆ Start milestone point
- ◆ 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 2014 - Oct 2014)

| | | | |
|----------|------------|---------|----------|
| Date | Revision | Checked | Approved |
| 31/07/14 | Revision 0 | RH | VC |
| | | | |
| | | | |
| | | | |

| Activity ID | Description | Original Duration | Percent Complete | Early Start | Early Finish | Late Start | Late Finish | 2014 | | | | | |
|--------------------------------------------|--------------------------------------------------|-------------------|------------------|-------------|--------------|------------|-------------|------|-----|-----|-----|-----|-----|
| | | | | | | | | MAY | JUN | JUL | AUG | SEP | OCT |
| SKW1231 | Removal of Receiving Platform | 50 | 100 | 01/05/12 A | 19/06/12 A | 01/05/12 A | 19/06/12 A | | | | | | |
| SKW1241 | Dredging of MD for Diffuser (PS CL 1.122(3)) | 16 | 100 | 20/06/12 A | 05/07/12 A | 20/06/12 A | 05/07/12 A | | | | | | |
| SKW1251 | Diffuser Construction | 77 | 100 | 01/09/12 A | 16/11/12 A | 01/09/12 A | 16/11/12 A | | | | | | |
| SKW1431 | Removal of silt curtain | 1 | 100 | 17/11/12 A | 17/11/12 A | 17/11/12 A | 17/11/12 A | | | | | | |
| SKW1440 | Sewer of Outfall Chamber to connection pit VO37A | 90 | 100 | 31/12/12 A | 04/01/14 A | 31/12/12 A | 04/01/14 A | | | | | | |
| SKW1441 | Sewer of Connection Pit to Outfall VO45 | 177 | 100 | 05/06/13 A | 30/01/14 A | 05/06/13 A | 30/01/14 A | | | | | | |
| SKW STW | | | | | | | | | | | | | |
| Submission & Delivery (E&M) | | | | | | | | | | | | | |
| E&M3010 | Delivery of MBR M.M. - 1st shipment for Temp STP | 150 | 100 | 24/02/11 A | 17/10/11 A | 24/02/11 A | 17/10/11 A | | | | | | |
| E&M3030 | Delivery of Grit Removal Equipment | 180 | 100 | 10/10/11 A | 29/12/11 A | 10/10/11 A | 29/12/11 A | | | | | | |
| E&M3060 | Delivery of Fine Screens | 136 | 100 | 12/09/11 A | 30/11/11 A | 12/09/11 A | 30/11/11 A | | | | | | |
| E&M3070 | Delivery of Pumps | 136 | 100 | 23/06/11 A | 05/09/11 A | 23/06/11 A | 05/09/11 A | | | | | | |
| E&M3080 | Delivery of Submersible Mixers | 180 | 100 | 26/07/11 A | 17/11/11 A | 26/07/11 A | 17/11/11 A | | | | | | |
| E&M3090 | Delivery of Sludge Dewatering Equipment | 210 | 100 | 01/09/11 A | 03/03/14 A | 01/09/11 A | 03/03/14 A | | | | | | |
| E&M3100 | Delivery of Valves, Pipes & Fittings | 180 | 100 | 30/08/11 A | 06/07/14 A | 30/08/11 A | 06/07/14 A | | | | | | |
| E&M3110 | Delivery of Penstocks | 180 | 100 | 12/08/11 A | 24/12/11 A | 12/08/11 A | 24/12/11 A | | | | | | |
| E&M3130 | Delivery of instruments | 180 | 100 | 21/06/11 A | 03/11/11 A | 21/06/11 A | 03/11/11 A | | | | | | |
| E&M3140 | Delivery of MCC LVSB | 180 | 100 | 01/01/14 A | 30/06/14 A | 01/01/14 A | 30/06/14 A | | | | | | |
| E&M3150 | Delivery of BS Equipment | 180 | 100 | 03/07/12 A | 20/07/14 A | 03/07/12 A | 20/07/14 A | | | | | | |
| E&M3160 | Delivery of FS Equipment | 180 | 100 | 30/06/12 A | 06/08/14 A | 30/06/12 A | 06/08/14 A | | | | | | |
| Construction of Grid A-G | | | | | | | | | | | | | |
| SKW1261 | Excavate for SKW STW Structure (Grid A -G) | 164 | 100 | 28/03/12 A | 31/08/12 A | 28/03/12 A | 31/08/12 A | | | | | | |
| SKW1271 | 55 M3 Fire Sprinkle Water Tank (FL +0.9 mPD) | 36 | 100 | 03/07/12 A | 31/07/12 A | 03/07/12 A | 31/07/12 A | | | | | | |
| SKW1281 | Ground Floor Slab (Grid A-G) | 46 | 100 | 03/07/12 A | 31/07/12 A | 03/07/12 A | 31/07/12 A | | | | | | |
| SKW1291 | Columns & Walls to 1/F & 1/F Slab (Grid A-G) | 50 | 100 | 03/07/12 A | 31/07/12 A | 03/07/12 A | 31/07/12 A | | | | | | |
| SKW1301 | Columns & Walls to R/F & R/F Slab (Grid A-G) | 50 | 100 | 01/09/12 A | 31/01/13 A | 01/09/12 A | 31/01/13 A | | | | | | |
| SKW1411 | ABWF Works | 105 | 95 | 01/02/13 A | 05/08/14 | 01/02/13 A | 20/11/13 | | | | | | |
| Construction of Grid G-N | | | | | | | | | | | | | |
| SKW1311 | Excavate for SKW STW Structure (Grid G-N) | 90 | 100 | 28/03/12 A | 25/06/12 A | 28/03/12 A | 25/06/12 A | | | | | | |
| SKW1321 | Equalization Tank no.1 & 2 with base slabs (-2.1 | 42 | 100 | 26/06/12 A | 30/09/12 A | 26/06/12 A | 30/09/12 A | | | | | | |
| SKW1331 | Columns & Walls from B/S to G/F Slab (Grid G-N) | 35 | 100 | 01/09/12 A | 30/09/12 A | 01/09/12 A | 30/09/12 A | | | | | | |
| SKW1341 | Ground Floor Slab (Grid G-N) | 35 | 100 | 01/09/12 A | 17/12/12 A | 01/09/12 A | 17/12/12 A | | | | | | |
| SKW1351 | Columns & Walls to 1/F & 1/F Slab (Grid G-N) | 28 | 100 | 01/11/12 A | 15/01/13 A | 01/11/12 A | 15/01/13 A | | | | | | |
| SKW1361 | Columns & Walls to R/F & R/F Slab (Grid G-N) | 35 | 100 | 01/11/12 A | 03/08/13 A | 01/11/12 A | 03/08/13 A | | | | | | |
| SKW1451 | ABWF Works | 54 | 90 | 05/06/13 A | 05/08/14 | 05/06/13 A | 02/11/13 | | | | | | |

| | |
|---------------------------|----------|
| Start date | 05/05/10 |
| Finish date | 30/11/16 |
| Data date | 01/08/14 |
| Run date | 05/08/14 |
| Page number | 15A |
| c Primavera Systems, Inc. | |

- Early bar
- Progress bar
- Critical bar
- Summary bar
- ▲ Progress point
- ▼ Critical point
- ◆ Summary point
- ◆ Start milestone point
- ◆ 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 2014 - Oct 2014)

| | | | |
|----------|------------|---------|----------|
| Date | Revision | Checked | Approved |
| 31/07/14 | Revision 0 | RH | VC |
| | | | |
| | | | |

| Activity ID | Description | Original Duration | Percent Complete | Early Start | Early Finish | Late Start | Late Finish | 2014 | | | | | | |
|---------------------------------|--------------------------------------------------|-------------------|------------------|-------------|--------------|------------|-------------|--------------------------------------------------|-----|-----|-----|-----|-----|--|
| | | | | | | | | MAY | JUN | JUL | AUG | SEP | OCT | |
| Construction of Grid N-T | | | | | | | | | | | | | | |
| SKW1371 | Excavate for SKW STW Structure (Grid N-T) | 97 | 100 | 03/07/12 A | 25/01/13 A | 03/07/12 A | 25/01/13 A | | | | | | | |
| SKW1381 | Ground Floor Slabs include MBR Tank (Grid N-T) | 58 | 100 | 02/10/12 A | 31/01/13 A | 02/10/12 A | 31/01/13 A | | | | | | | |
| SKW1391 | Columns & Walls to 1/F & 1/F Slab (Grid N-T) | 35 | 100 | 31/05/13 A | 05/07/13 A | 31/05/13 A | 05/07/13 A | | | | | | | |
| SKW1401 | Columns & Walls to R/F & R/F Slab (Grid N-T) | 35 | 100 | 03/07/13 A | 15/09/13 A | 03/07/13 A | 15/09/13 A | | | | | | | |
| SKW1421 | ABWF Works | 60 | 70 | 06/08/13 A | 23/08/14 | 06/08/13 A | 20/11/13 | ABWF Works | | | | | | |
| SKW1551 | Drainage (SSMH1-SSMH7) | 35 | 0 | 15/07/14 A | 27/09/14 | 15/07/14 A | 25/12/13 | Drainage (SSMH1-SSMH7) | | | | | | |
| SKW1561 | Sewer (SMFH1-SMFH2, SMFH3-SMFH7) | 220 | 70 | 27/03/14 A | 02/12/14 | 27/03/14 A | 01/03/14 | Sewer (SMFH1-SMFH2, SMFH3-SMFH7) | | | | | | |
| SKW1571 | Roadwork & Drainage Channel (SKW) | 220 | 0 | 03/12/14 | 10/07/15 | 02/03/14 | 07/10/14 | Roadwork & Drainage Channel (SKW) | | | | | | |
| SKW STW - E&M Works | | | | | | | | | | | | | | |
| E&M3170 | Install Membrane Modules in MBR Tank No. 1 to 2 | 100 | 95 | 14/01/14 A | 10/08/14 | 14/01/14 A | 03/05/14 | Install Membrane Modules in MBR Tank No. 1 to 2 | | | | | | |
| E&M3190 | Install Grit Removal Equipment | 60 | 90 | 15/03/14 A | 17/08/14 | 15/03/14 A | 30/01/14 | Install Grit Removal Equipment | | | | | | |
| E&M3210 | Install Fine Screens | 60 | 90 | 14/01/14 A | 11/08/14 | 14/01/14 A | 25/11/13 | Install Fine Screens | | | | | | |
| E&M3220 | Install Pumps | 75 | 45 | 15/03/14 A | 21/09/14 | 15/03/14 A | 05/01/14 | Install Pumps | | | | | | |
| E&M3230 | Install Submersible Mixers | 45 | 45 | 29/05/14 A | 16/10/14 | 29/05/14 A | 30/01/14 | Install Submersible Mixers | | | | | | |
| E&M3240 | Install Sludge Dewatering Equipment | 74 | 35 | 04/03/14 A | 10/10/14 | 04/03/14 A | 01/04/14 | Install Sludge Dewatering Equipment | | | | | | |
| E&M3250 | Install Valves, Pipes & Fittings | 75 | 55 | 13/07/14 A | 19/11/14 | 13/07/14 A | 05/03/14 | Install Valves, Pipes & Fittings | | | | | | |
| E&M3260 | Install Penstocks | 135 | 100 | 05/03/14 A | 15/10/14 A | 05/03/14 A | 15/10/14 A | Install Penstocks | | | | | | |
| E&M3261 | Install SAT of MCC & LVSB | 174 | 100 | 30/06/14 A | 21/12/14 A | 30/06/14 A | 21/12/14 A | Install SAT of MCC & LVSB | | | | | | |
| E&M3270 | Install instruments | 60 | 25 | 26/09/14 A | 03/01/15 | 26/09/14 A | 03/05/14 | Install instruments | | | | | | |
| E&M3291 | Install BS Equipment | 180 | 55 | 28/07/14 A | 05/01/15 | 28/07/14 A | 02/06/14 | Install BS Equipment | | | | | | |
| E&M3300 | Install FS Equipment | 161 | 50 | 06/08/14 A | 05/01/15 | 06/08/14 A | 02/06/14 | Install FS Equipment | | | | | | |
| E&M3310 | Hydraulic Tests of Pipeworks | 90 | 0 | 20/11/14 | 17/02/15 | 06/03/14 | 03/06/14 | Hydraulic Tests of Pipeworks | | | | | | |
| E&M3311 | Cabling Works | 47 | 35 | 21/12/14 A | 03/02/15 | 21/12/14 A | 02/06/14 | Cabling Works | | | | | | |
| E&M3320 | Cabling Works for Dewatering Equipment | 47 | 0 | 17/10/14 | 02/12/14 | 02/04/14 | 18/05/14 | Cabling Works for Dewatering Equipment | | | | | | |
| E&M3321 | Insulation Tests of Cables and Cable Termination | 21 | 30 | 06/02/15 A | 17/12/14 | 06/02/15 A | 02/06/14 | Insulation Tests of Cables and Cable Termination | | | | | | |
| E&M3331 | Energization | 1 | 0 | 03/02/15 | 04/02/15 | 03/06/14 | 03/06/14 | Energization | | | | | | |
| E&M3359 | Functional and Performance Tests of Equipment | 35 | 0 | 18/02/15 | 24/03/15 | 04/06/14 | 08/07/14 | Functional and Performance Tests of Equipment | | | | | | |
| E&M3360 | T&C Period | 91 | 0 | 25/03/15 | 23/06/15 | 09/07/14 | 07/10/14 | T&C Period | | | | | | |
| E&M3370 | Trial Operation Period | 456 | 0 | 24/06/15 | 30/11/16 | 24/06/15 | 30/11/16 | Trial Operation Period | | | | | | |
| Rising Main | | | | | | | | | | | | | | |
| SKW1481 | Subm, Approval & Delivery of DI pipes | 120 | 100 | 17/05/10 A | 13/09/10 A | 17/05/10 A | 13/09/10 A | Subm, Approval & Delivery of DI pipes | | | | | | |
| SKW1501 | LCS (ChB0+00 - ChB1+20) | 300 | 100 | 14/09/10 A | 10/07/11 A | 14/09/10 A | 10/07/11 A | LCS (ChB0+00 - ChB1+20) | | | | | | |
| SKW1521 | Twin DN150 DI Rising Main (ChB0+00 - ChA4+55) | 250 | 90 | 11/07/11 A | 25/08/14 | 11/07/11 A | 07/10/14 | Twin DN150 DI Rising Main (ChB0+00 - ChA4+55) | | | | | | |

| | |
|---------------------------|----------|
| Start date | 05/05/10 |
| Finish date | 30/11/16 |
| Data date | 01/08/14 |
| Run date | 05/08/14 |
| Page number | 16A |
| c Primavera Systems, Inc. | |

- Early bar
- Progress bar
- Critical bar
- Summary bar
- ▲ Progress point
- ▼ Critical point
- ◆ Summary point
- ◆ Start milestone point
- ◆ 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 2014 - Oct 2014)

| | | | |
|----------|------------|---------|----------|
| Date | Revision | Checked | Approved |
| 31/07/14 | Revision 0 | RH | VC |
| | | | |
| | | | |

| Activity ID | Description | Original Duration | Percent Complete | Early Start | Early Finish | Late Start | Late Finish | 2014 | | | | | |
|---------------------------------------------------------|------------------------------------|-------------------|------------------|-------------|--------------|------------|-------------|------|-----|-----|-----|-----|----------------------------------|
| | | | | | | | | MAY | JUN | JUL | AUG | SEP | OCT |
| Section W8 - Landscape 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 | | | | | | |
| SKW1611 | Preservation & Protection of Trees | 1053 | 99 | 17/05/10 A | 11/08/14 | 17/05/10 A | 11/08/14 | | | | | | Preservation & Protection of Tre |
| SKW1621 | Transplantation at SKW | 90 | 100 | 07/06/10 A | 04/09/10 A | 07/06/10 A | 04/09/10 A | | | | | | |
| Section W9 - Establishment Works in All Portions | | | | | | | | | | | | | |
| SKW1631 | Section W9 - Establishment Works | 194 | 0 | 12/08/14 | 21/02/15 | 12/08/14 | 21/02/15 | | | | | | |

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| Start date | 05/05/10 |
| Finish date | 30/11/16 |
| Data date | 01/08/14 |
| Run date | 05/08/14 |
| Page number | 17A |
| c Primavera Systems, Inc. | |

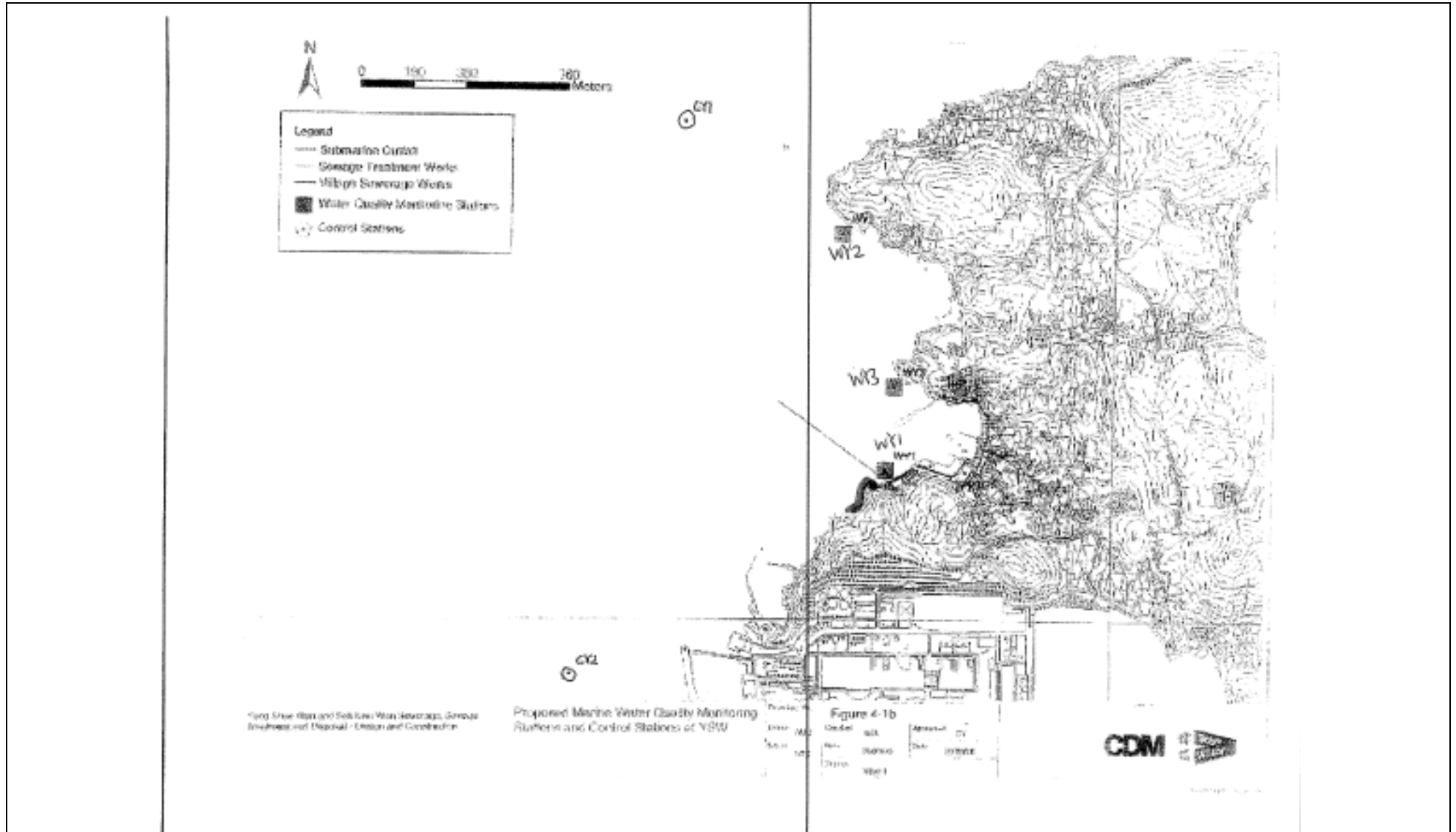
- Early bar
- Progress bar
- Critical bar
- Summary bar
- ▲ Progress point
- ▼ Critical point
- ◆ Summary point
- ◆ Start milestone point
- ◇ Finish milestone point

Leader Civil Engineering Corp. Ltd.
Contract No. DC/2009/13
Construction of Sewage Treatment Works at YSW & SKW
3-month Rolling Programme (Aug 2014 - Oct 2014)

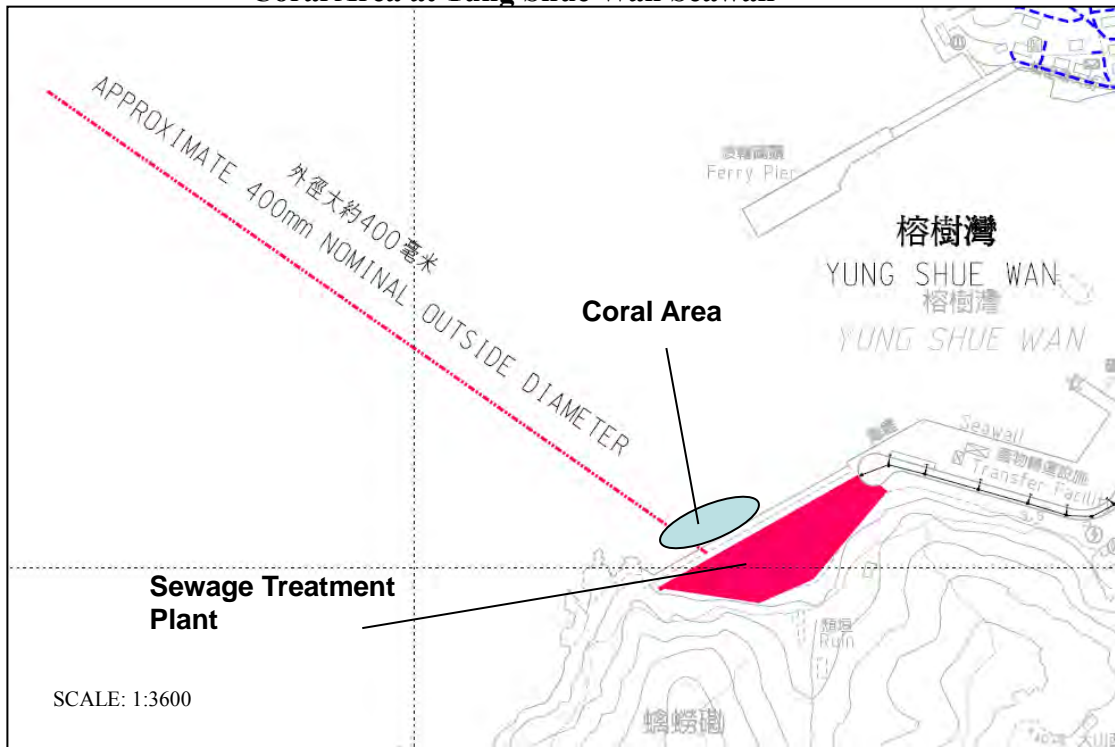
| Date | Revision | Checked | Approved |
|----------|------------|---------|----------|
| 31/07/14 | Revision 0 | RH | VC |
| | | | |
| | | | |
| | | | |

Appendix D

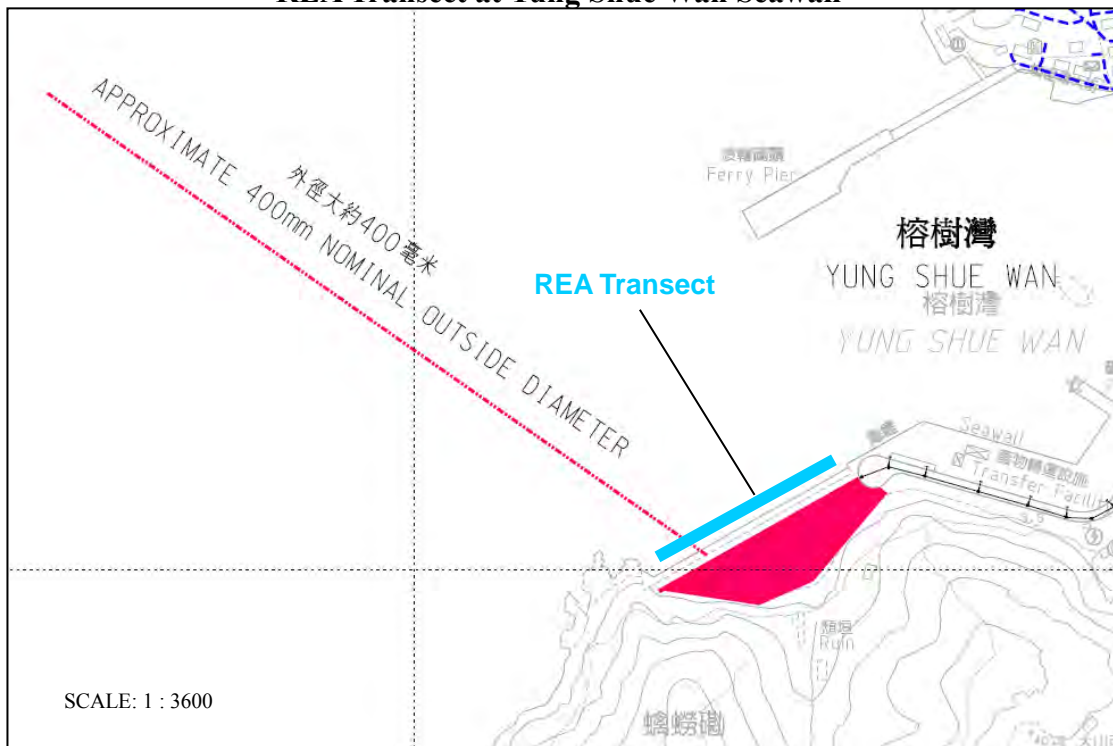
Location of Monitoring Stations (Air Quality / Construction Noise / Water Quality / Dive Surveys of Coral)



Coral Area at Yung Shue Wan Seawall



REA Transect at Yung Shue Wan Seawall



Coral Area at Sham Wan



REA Transect at Sham Wan



Appendix E

Monitoring Equipments Calibration Certificate

CALIBRATION CERTIFICATE

Date: May 30, 2014

| | |
|------------------------|-------------------------------------------|
| Equipment Name | : Laser Dust Monitor, Model LD-3B (EQ118) |
| Code No. | : 080000-42 |
| Quantity | : 1 unit |
| Serial No. | : 456662 |
| Sensitivity | : 0.001 mg/m ³ |
| Sensitivity Adjustment | : 591 CPM |
| Scale Setting | : May 24, 2014 |

We hereby certify that the avobe mentioned instrmt has been calibrated satisfactory.

Sincerely

SIBATA SCIENTIFIC TECHNOLOGY LTD.



Kentaro Togo

Overseas Sales Division

CALIBRATION CERTIFICATE

Date: May 30, 2014

| | | |
|------------------------|-----------------------------------|----------|
| Equipment Name | : Laser Dust Monitor, Model LD-3B | (EQU117) |
| Code No. | : 080000-42 | |
| Quantity | : 1 unit | |
| Serial No. | : 456660 | |
| Sensitivity | : 0.001 mg/m ³ | |
| Sensitivity Adjustment | : 598 CPM | |
| Scale Setting | : May 24, 2014 | |

We hereby certify that the avobe mentioned instrmt has been calibrated satisfactory.

Sincerely

SIBATA SCIENTIFIC TECHNOLOGY LTD.



Kentaro Togo
Overseas Sales Division

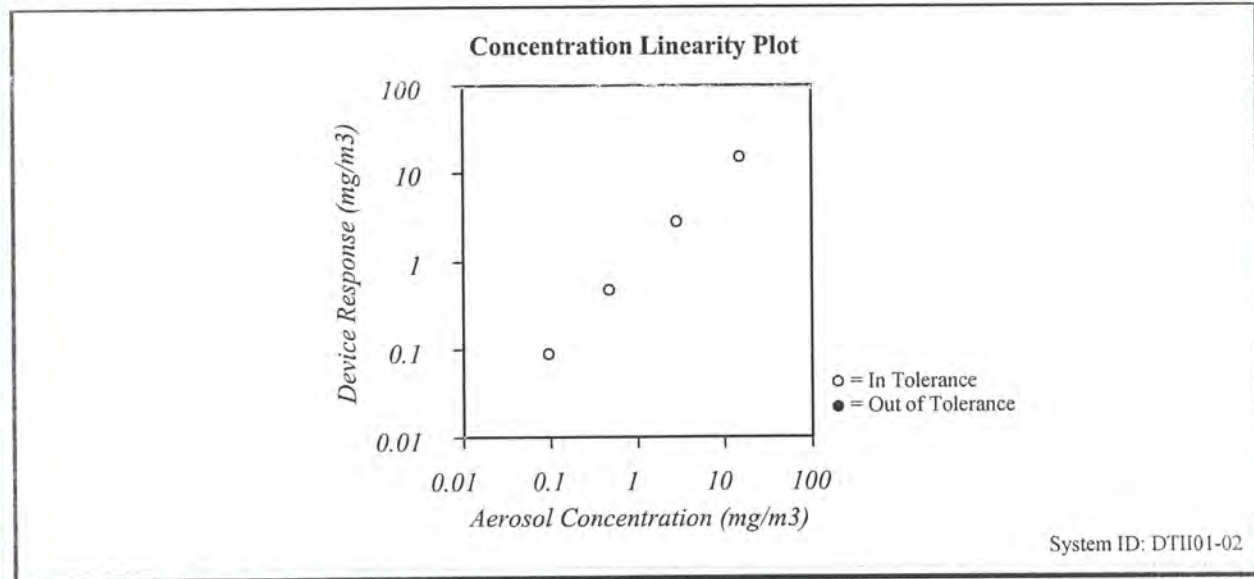


CERTIFICATE OF CALIBRATION AND TESTING

TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA
Tel: 1-800-874-2811 1-651-490-2811 Fax: 1-651-490-3824 http://www.tsi.com

| | | | | |
|-----------------------|---------------|------------|---------------|-------|
| Environment Condition | | | Model | 8520 |
| Temperature | 74.7 (23.7) | °F (°C) | Serial Number | 21060 |
| Relative Humidity | 27 | %RH | | |
| Barometric Pressure | 28.97 (981.0) | inHg (hPa) | | |

| | |
|---------------------------------------------|--------------------------------------------------|
| <input checked="" type="checkbox"/> As Left | <input checked="" type="checkbox"/> In Tolerance |
| <input type="checkbox"/> As Found | <input type="checkbox"/> Out of Tolerance |



| Zero Stability Results | | | |
|--------------------------------------------|--------------------------------------------|--------------------------------------------|----------------------------|
| Average: <i>0.00</i> :mg/m ³ | Minimum: <i>0.00</i> :mg/m ³ | Maximum: <i>0.00</i> :mg/m ³ | Time: <i>2.07</i> :hrs. |

TSI Incorporated does hereby certify that all materials, components, and workmanship used in the manufacture of this equipment are in strict accordance with the applicable specifications agreed upon by TSI and the customer and with all published specifications. All performance and acceptance tests required under this contract were successfully conducted according to required specifications. There is no NIST standard for optical mass measurements. Calibration of this instrument performed by TSI has been done using emery oil and has been nominally adjusted to respirable mass of standard ISO 12103-1, A1 test dust (Arizona dust). Our calibration ratio is greater than 1.2:1

| Measurement Variable | System ID | Last Cal. | Cal. Due | Measurement Variable | System ID | Last Cal. | Cal. Due |
|----------------------|-----------|-----------|----------|----------------------|-----------|-----------|----------|
| Barometric Pressure | E003733 | 03-12-13 | 03-12-14 | Temperature | E002873 | 11-08-12 | 11-08-13 |
| Humidity | E002873 | 11-08-12 | 11-08-13 | DC Voltage | E003314 | 01-02-13 | 01-02-14 |
| DC Voltage | E003315 | 01-02-13 | 01-02-14 | Photometer | E003319 | 08-14-13 | 02-14-14 |
| Microbalance | M001324 | 01-04-13 | 01-04-15 | Pressure | E003511 | 11-07-12 | 11-07-13 |
| Flowmeter | E002006 | 03-05-13 | 03-05-14 | | | | |

[Signature] _____ Final Function Check _____
 Calibrated Date
 October 22, 2013



CERTIFICATE OF CALIBRATION AND TESTING

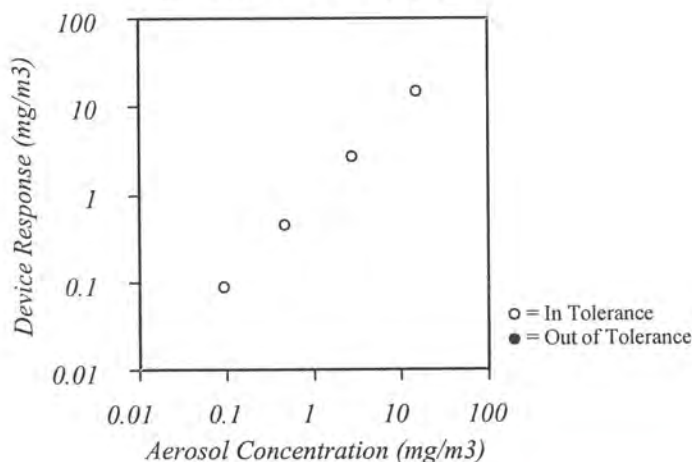
TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA
Tel: 1-800-874-2811 1-651-490-2811 Fax: 1-651-490-3824 http://www.tsi.com

| | | | | |
|-----------------------|---------------|------------|---------------|-------|
| Environment Condition | | | Model | 8520 |
| Temperature | 74.8 (23.8) | °F (°C) | | |
| Relative Humidity | 27 | %RH | Serial Number | 23080 |
| Barometric Pressure | 28.96 (980.7) | inHg (hPa) | | |

As Left
 As Found

In Tolerance
 Out of Tolerance

Concentration Linearity Plot



System ID: DTII01-02

Zero Stability Results

| | | | |
|--------------------------|--------------------------|--------------------------|-------------|
| Average: | Minimum: | Maximum: | Time: |
| 0.000 :mg/m ³ | 0.000 :mg/m ³ | 0.001 :mg/m ³ | 17:00 :hrs. |

TSI Incorporated does hereby certify that all materials, components, and workmanship used in the manufacture of this equipment are in strict accordance with the applicable specifications agreed upon by TSI and the customer and with all published specifications. All performance and acceptance tests required under this contract were successfully conducted according to required specifications. There is no NIST standard for optical mass measurements. Calibration of this instrument performed by TSI has been done using emery oil and has been nominally adjusted to respirable mass of standard ISO 12103-1, A1 test dust (Arizona dust). Our calibration ratio is greater than 1.2:1

| Measurement Variable | System ID | Last Cal. | Cal. Due | Measurement Variable | System ID | Last Cal. | Cal. Due |
|----------------------|-----------|-----------|----------|----------------------|-----------|-----------|----------|
| Barometric Pressure | E003733 | 03-12-13 | 03-12-14 | Temperature | E002873 | 11-08-12 | 11-08-13 |
| Humidity | E002873 | 11-08-12 | 11-08-13 | DC Voltage | E003314 | 01-02-13 | 01-02-14 |
| DC Voltage | E003315 | 01-02-13 | 01-02-14 | Photometer | E003319 | 08-14-13 | 02-14-14 |
| Microbalance | M001324 | 01-04-13 | 01-04-15 | Pressure | E003511 | 11-07-12 | 11-07-13 |
| Flowmeter | E002006 | 03-05-13 | 03-05-14 | | | | |

Calibrated

Final Function
Check

October 22, 2013

Date

SIBATA SCIENTIFIC TECHNOLOGY LTD.

1-1-62, Nakane, Soka, Saitama, 340-0005 Japan

TEL : 048-933-1582 FAX : 048-933-1591

CALIBRATION CERTIFICATE

Date: December 18, 2013

| | | |
|------------------------|---|---------------------------------|
| Equipment Name | : | Laser Dust Monitor, Model LD-3B |
| Code No. | : | 080000-42 |
| Quantity | : | 1 unit |
| Serial No. | : | 3Y6505 |
| Sensitivity | : | 0.001 mg/m ³ |
| Sensitivity Adjustment | : | 591 CPM |
| Calibration Date | : | November 12, 2013 |

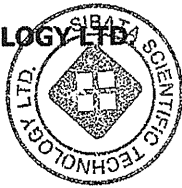
We hereby certify that the above mentioned instrument has been calibrated satisfactorily.

Sincerely

SIBATA SCIENTIFIC TECHNOLOGY LTD.
Kentaro Togo

Section Manager

Overseas Sales Division



CALIBRATION CERTIFICATE

Date: May 30, 2014

| | | | |
|------------------------|---|---------------------------------|---------|
| Equipment Name | : | Laser Dust Monitor, Model LD-3B | (EQ113) |
| Code No. | : | 080000-42 | |
| Quantity | : | 1 unit | |
| Serial No. | : | 456658 | |
| Sensitivity | : | 0.001 mg/m ³ | |
| Sensitivity Adjustment | : | 702 CPM | |
| Scale Setting | : | May 24, 2014 | |

We hereby certify that the avobe mentioned instrmt has been calibrated satisfactory.

Sincerely

SIBATA SCIENTIFIC TECHNOLOGY LTD.



Kentaro Togo

Overseas Sales Division

CALIBRATION CERTIFICATE

Date: May 30, 2014

| | | |
|------------------------|---|-----------------------------------------|
| Equipment Name | : | Laser Dust Monitor, Model LD-3B (EQ116) |
| Code No. | : | 080000-42 |
| Quantity | : | 1 unit |
| Serial No. | : | 456659 |
| Sensitivity | : | 0.001 mg/m ³ |
| Sensitivity Adjustment | : | 727 CPM |
| Scale Setting | : | May 24, 2014 |

We hereby certify that the avobe mentioned instrment has been calibrated satisfactory.

Sincerely

SIBATA SCIENTIFIC TECHNOLOGY LTD.



Kentaro Togo
Overseas Sales Division

TEST REPORT
for
PRECISION
SOUND LEVEL METER
(NX-42EX installed)

Model : N L - 5 2

Serial No. : 00142580

Microphone No. : 06011

Preamplifier No. : 32608

Condition : Temperature 25 °C

Humidity 30 %RH

Date : March, 12, 2014

Signature : *Y. Yamamoto*

1. Frequency weightings (Fig. 1)

Pass

Frequency weighting A

Frequency weighting C

Frequency weighting Z

2. Level linearity error (dB)

Reference signal level (Ref.) : 94.0 dB (at 1 kHz, 8 kHz), 74.0 dB (at 31.5 Hz)

Frequency weighting : A

| Frequency \ Indicated value | Difference with Reference signal level (dB) | | | | | | |
|-----------------------------|---------------------------------------------|------|------|------|-------|-------|-------|
| | 25.0 | 74.0 | 94.0 | 98.0 | 114.0 | 136.0 | 138.0 |
| 31.5 Hz | -0.2 | Ref. | — | -0.1 | — | — | — |
| 1 kHz | 0.0 | — | Ref. | — | 0.0 | — | 0.0 |
| 8 kHz | 0.0 | — | Ref. | — | — | 0.0 | — |
| Tolerance limit | ±0.3 | — | — | ±0.3 | ±0.2 | ±0.3 | ±0.3 |

3. Toneburst response (Time weighted sound level)

Input signal level : 127 dB

Toneburst : Frequency : 4 kHz, duration : 0.25 ms

Frequency weighting : A, Time-weighting : F

| (dB) | | | |
|-------------|-----------------|------------|-----------------|
| Design goal | Indicated value | Difference | Tolerance limit |
| 100.0 | 99.7 | -0.3 | ±1.0 |

4. Time weighting I (impulse)

Input signal level : 120 dB

Toneburst : Frequency : 4 kHz, duration : 5 ms, period : 500 ms

Frequency weighting : A

| (dB) | | | |
|-------------|-----------------|------------|-----------------|
| Design goal | Indicated value | Difference | Tolerance limit |
| 111.2 | 110.3 | -0.9 | ±2.0 |

*When the optional Extended Function Program NX-42EX is installed, time weighting I(impulse) can be selected in only sub-channel.

5. Peak sound level (dB)

Frequency weighting : C

| Frequency (Hz) | Number of cycles in test signal | (dB) | | | | |
|----------------|---------------------------------|--------------------|-------------|-----------------|------------|-----------------|
| | | Input signal level | Design goal | Indicated value | Difference | Tolerance limit |
| | | | L_c | L_{cpeak} | | |
| 31.5 | 1 cycle | 137.0 | 136.5 | 137.3 | 0.8 | ±2.0 |
| 500 | Positive half cycle | 137.0 | 139.4 | 139.2 | -0.2 | ±1.0 |
| | Negative half cycle | 137.0 | 139.4 | 139.2 | -0.2 | ±1.0 |

6. Response to repeated to toneburst

Input signal level : 130.0 dB + 8 dB

Frequency weighting : A, Time-weighting : S

Toneburst : Frequency : 2 kHz, duration : 5 ms, period : 25 ms

| (dB) | | | | |
|-------------------|-------------|-----------------|------------|-----------------|
| Peak-to-rms ratio | Design goal | Indicated value | Difference | Tolerance limit |
| 3.16 | 131.0 | 131.0 | 0.0 | ±0.5 |

7. Inherent noise level (dB)

| (dB) | | |
|---------------------|-----------------|-----------------|
| Frequency weighting | Indicated value | Tolerance limit |
| A | 10.5 | 17 or less |
| C | 15.0 | 25 or less |
| Z | 20.6 | 30 or less |

8. Instrumental error

84.0 dB ± 0.7 dB

0.0 dB

Applicable standards

JIS C 1509-1 : 2005 Class 1

IEC 61672-1 : 2002 Class 1

ANSI S1.4-1983 Type 1

ANSI S1.43-1997 Type 1

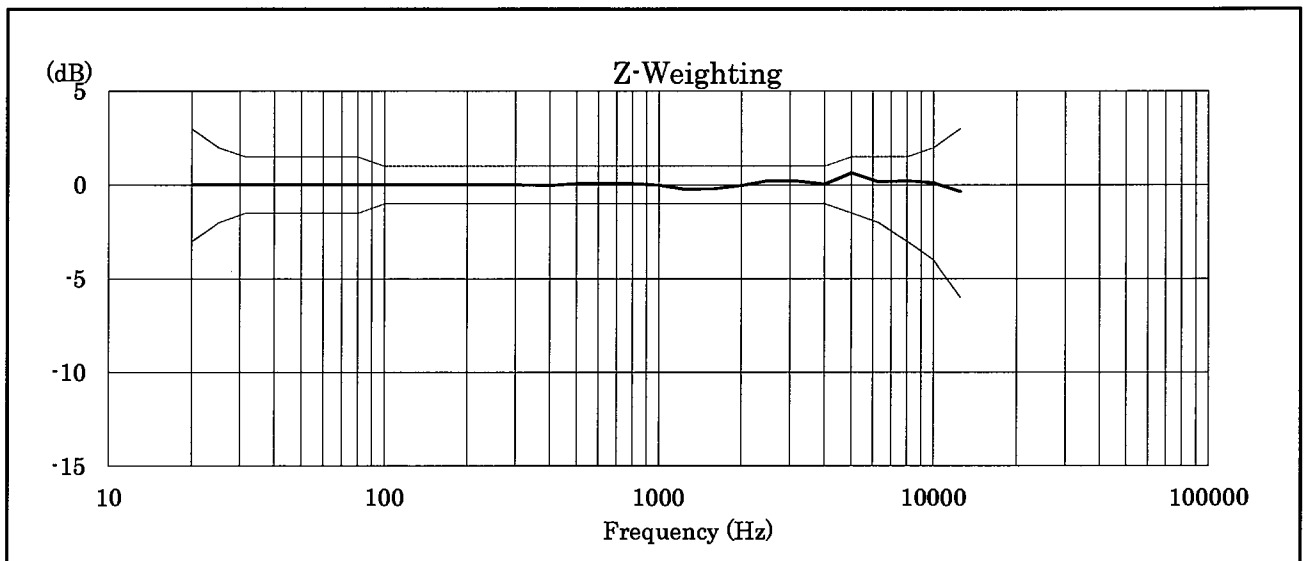
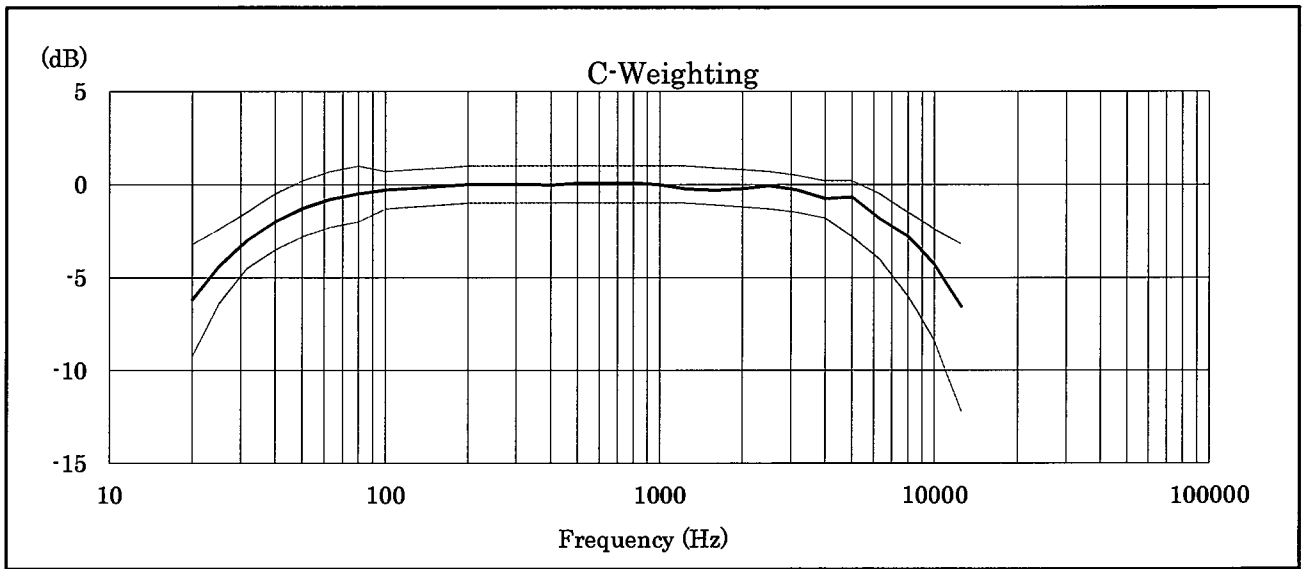
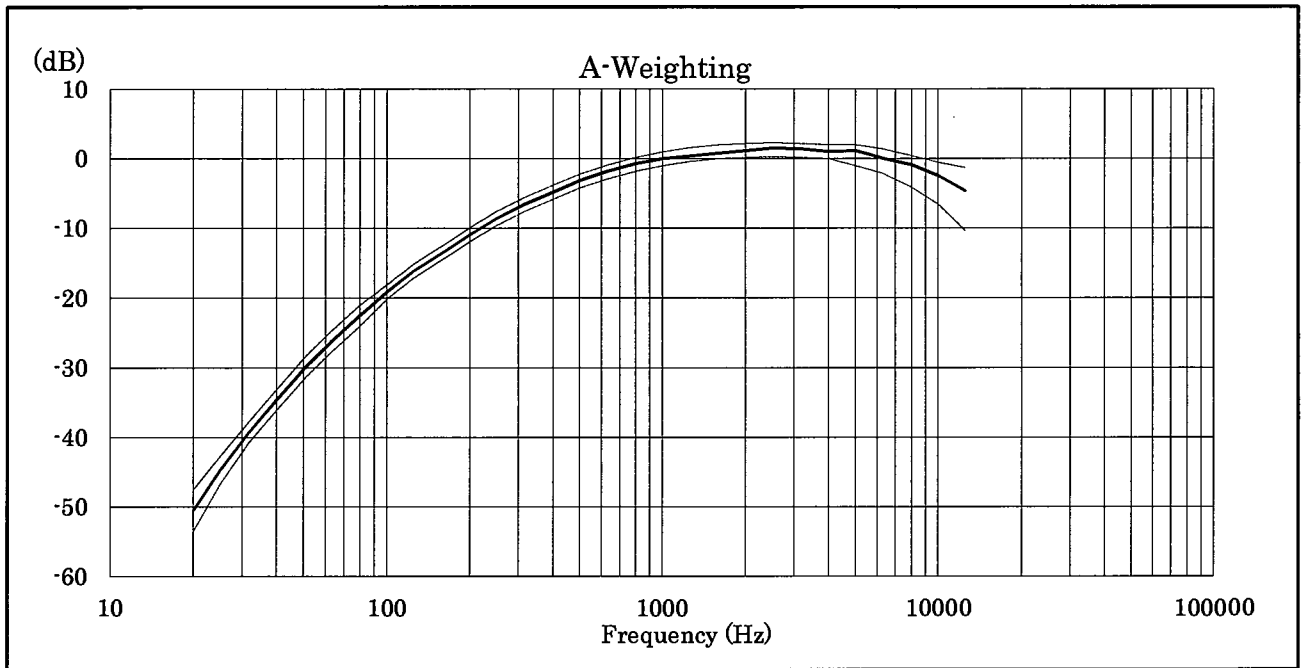
CE marking (EMC Directive 2004/108/EC, Low Voltage Directive 2006/95/EC)

WEEE Directive (2002/96/EC)

Chinese RoHS



Relative free field frequency response





輝創工程有限公司

Sun Creation Engineering Limited

Calibration and Testing Laboratory

Certificate of Calibration 校正證書

Certificate No. : C142545

證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC14-0853)

Date of Receipt / 收件日期 : 14 April 2014

Description / 儀器名稱 : Acoustical Calibrator (EQ081)

Manufacturer / 製造商 : Brüel & Kjær

Model No. / 型號 : 4231

Serial No. / 編號 : 2326408

Supplied By / 委託者 : Action-United Environmental Services and Consulting

Unit A, 20/F., Gold King Industrial Building,

35-41 Tai Lin Pai Road, Kwai Chung, N.T.

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C

Relative Humidity / 相對濕度 : (55 ± 20)%

Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 26 April 2014

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.

All results are within manufacturer's specification.


The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA
- Agilent Technologies, USA

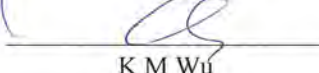
Tested By

測試

: 
K C Lee
Project Engineer

Certified By

核證

: 
K M Wu
Engineer

Date of Issue

簽發日期

:

29 April 2014

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

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗室所書面批准。

Sun Creation Engineering Limited - Calibration & Testing Laboratory

c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong

輝創工程有限公司 - 校正及檢測實驗室

c/o 香港新界屯門興安里一號青山灣機樓四樓

Tel/電話: 2927 2606

Fax/傳真: 2744 8986

E-mail/電郵: callab@suncreation.com

Website/網址: www.suncreation.com

Certificate of Calibration

校正證書

Certificate No. : C142545
證書編號

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.
- Test equipment :

| <u>Equipment ID</u> | <u>Description</u> | <u>Certificate No.</u> |
|---------------------|-----------------------------------|------------------------|
| CL130 | Universal Counter | C133632 |
| CL281 | Multifunction Acoustic Calibrator | DC130171 |
| TST150A | Measuring Amplifier | C141558 |

- Test procedure : MA100N.

- Results :

5.1 Sound Level Accuracy

| UUT Nominal Value | Measured Value (dB) | Mfr's Spec. (dB) | Uncertainty of Measured Value (dB) |
|----------------------|------------------------|---------------------|---------------------------------------|
| 94 dB, 1 kHz | 94.0 | ± 0.2 | ± 0.2 |
| 114 dB, 1 kHz | 114.0 | | |

5.2 Frequency Accuracy

| UUT Nominal Value (kHz) | Measured Value (kHz) | Mfr's Spec. | Uncertainty of Measured Value (Hz) |
|----------------------------|-------------------------|----------------|---------------------------------------|
| 1 | 1.000 0 | 1 kHz ± 0.1 % | ± 0.1 |

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

Note :

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



Certificate of Calibration 校正證書

Certificate No. : C142870
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC14-0853)

Date of Receipt / 收件日期 : 8 May 2014

Description / 儀器名稱 : Acoustical Calibrator (EQ082)
Manufacturer / 製造商 : Brüel & Kjær
Model No. / 型號 : 4231
Serial No. / 編號 : 2713428
Supplied By / 委託者 : Action-United Environmental Services and Consulting
Unit A, 20/F., Gold King Industrial Building,
35-41 Tai Lin Pai Road, Kwai Chung, N.T.

TEST CONDITIONS / 測試條件

Temperature / 溫度 : $(23 \pm 2)^{\circ}\text{C}$

Relative Humidity / 相對濕度 : $(55 \pm 20)\%$

Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 13 May 2014

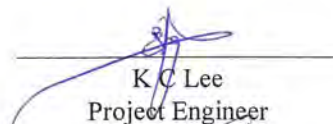
TEST RESULTS / 測試結果

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

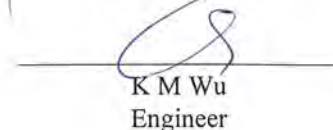
The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA
- Agilent Technologies, USA

Tested By
測試


K C Lee
Project Engineer

Certified By
核證


K M Wu
Engineer

Date of Issue
簽發日期

15 May 2014

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

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗室所書面批准。

Certificate of Calibration

校正證書

Certificate No. : C142870
證書編號

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.
- Test equipment :

| Equipment ID | Description | Certificate No. |
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| CL130 | Universal Counter | C133632 |
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- Test procedure : MA100N.
- Results :

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|----------------------|------------------------|---------------------|---------------------------------------|
| 94 dB, 1 kHz | 94.0 | ± 0.2 | ± 0.2 |
| 114 dB, 1 kHz | 114.1 | | |

5.2 Frequency Accuracy

| UUT Nominal Value (kHz) | Measured Value (kHz) | Mfr's Spec. | Uncertainty of Measured Value (Hz) |
|----------------------------|-------------------------|----------------|---------------------------------------|
| 1 | 1.000 0 | 1 kHz ± 0.1 % | ± 0.1 |

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

Note :

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

Appendix F

Event and Action Plan

Air Quality

| EVENT | ACTION ET | IC(E) | ER | CONTRACTOR |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ACTION LEVEL | | | | |
| 1. Exceedance for one sample | <ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IC(E) and ER; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily. | <ol style="list-style-type: none"> 1. Check monitoring data submitted by ET; 2. Check Contractor's working method. | <ol style="list-style-type: none"> 1. Notify Contractor. | <ol style="list-style-type: none"> 1. Rectify any unacceptable practice; 2. Amend working methods if appropriate. |
| 2. Exceedance for two or more consecutive samples | <ol style="list-style-type: none"> 1. Identify source; 2. Inform IC(E) and ER; 3. Advise the ER on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IC(E) and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IC(E) and ER; 8. If exceedance stops, cease additional monitoring. | <ol style="list-style-type: none"> 1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ET on the effectiveness of the proposed remedial measures; 5. Supervise Implementation of remedial measures. | <ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented. | <ol style="list-style-type: none"> 1. Submit proposals for remedial to ER within 3 working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate. |
| LIMIT LEVEL | | | | |
| 1. Exceedance for one sample | <ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform ER, Contractor and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results. | <ol style="list-style-type: none"> 1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures. | <ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented. | <ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IC(E) within 3 working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate. |
| 2. Exceedance for two or more consecutive samples | <ol style="list-style-type: none"> 1. Notify IC(E), ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IC(E) and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring. | <ol style="list-style-type: none"> 1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures. | <ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IC(E), agree with the Contractor on the remedial measures to be implemented; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated. | <ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IC(E) within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated. |

Construction Noise

| EVENT | ACTION | | | |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | ET | IC(E) | ER | CONTRACTOR |
| Action Level | <ol style="list-style-type: none"> 1. Notify IC(E) and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IC(E), ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures; 5. Increase monitoring frequency to check mitigation effectiveness | <ol style="list-style-type: none"> 1. Review the analysed results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Supervise the implementation of remedial measures. | <ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented. | <ol style="list-style-type: none"> 1. Submit noise mitigation proposals to IC(E); 2. Implement noise mitigation proposals. |
| Limit Level | <ol style="list-style-type: none"> 1. Identify source; 2. Inform IC(E), ER, EPD and Contractor; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IC(E), ER and EPD the causes and actions taken for the exceedances; 7. Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring. | <ol style="list-style-type: none"> 1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures. | <ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated. | <ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IC(E) within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated. |

Water Quality

| EVENT | ACTION | | | |
|---------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | ET | IC(E) | ER | CONTRACTOR |
| ACTION LEVEL | | | | |
| 1. Exceedance for one sampling day | <ol style="list-style-type: none"> Repeat in-situ measurement on the next day of exceedance to confirm findings; Identify source(s) of impact; Inform ICE, Contractor, ER, EPD and AFCD; and Check monitoring data, all plant, equipment and Contractor's working methods. | <ol style="list-style-type: none"> Check monitoring data submitted by ET and Contractor's working methods | <ol style="list-style-type: none"> Confirm receipt of notification of non-compliance in writing; and Notify Contractor | <ol style="list-style-type: none"> Information the ER and confirm notification of the non-compliance in writing; Rectify unacceptable practice; and Amend working methods if appropriate |
| 2. Exceedance for two or more consecutive sampling days | <ol style="list-style-type: none"> Same as the above; Inform ICE, Contractor, ER, EPD and AFCD; Discuss mitigation measures with IC(E), RE and Contractor; Ensure well implementation of mitigation measures; and Increase the monitoring frequency to daily until no exceedance of Action Level | <ol style="list-style-type: none"> Same as the above; Discuss with ET and Contractor on possible remedial actions; Review the proposed mitigation measures submitted by Contractor and advise the ER accordingly; and Supervise the implementation of mitigation measures. | <ol style="list-style-type: none"> Discuss with IC(E) on the proposed mitigation measures; Ensure well implementation of mitigation measures; and Assess the effectiveness of the implemented mitigation measures | <ol style="list-style-type: none"> Same as the above; Check all plant and equipment and consider changes of working methods; Submit proposal of additional mitigation measures to ER within 3 working days of notification and discuss with ET, IC(E), and ER; and Implement the agreed mitigation measures |
| LIMIT LEVEL | | | | |
| 1. Exceedance for one sampling day | <ol style="list-style-type: none"> Repeat in-situ measurement on the next day of exceedance to confirm findings; Identify source(s) of impact; Inform ICE, Contractor, ER, EPD and AFCD; Check monitoring data, all plant, equipment and Contractor's working methods; and Discuss mitigation measures with IC(E), RE and Contractor | <ol style="list-style-type: none"> Check monitoring data submitted by ET and Contractor's working method Discuss with ER and Contractor on possible remedial actions; and Review the proposed mitigation measures submitted by Contractor and advise the ER accordingly | <ol style="list-style-type: none"> Confirm receipt of notification failure in writing; and Discuss with IC(E), ET and Contractor on the proposed mitigation measures; and Request Contractor to review the working methods | <ol style="list-style-type: none"> Inform the ER and confirm notification of the failure in writing; Rectify unacceptable practice; Check all plant and equipment and consider changes of working methods; and Submit proposal of mitigation measures to ER within 3 working days of notification and discuss with ET and ER |
| 2. Exceedance for two or more consecutive sampling days | <ol style="list-style-type: none"> Same as the above; Ensure mitigation measures are implemented; and Increase the monitoring frequency to daily until no exceedance of Limit Level for two consecutive days | <ol style="list-style-type: none"> Same as the above; and Supervise the Implementation of mitigation measures | <ol style="list-style-type: none"> Same as the above; Ensure well implementation of mitigation measures Make agreement on the mitigation measures to be implemented; and Consider and instruct, if necessary, the Contractor to stow down or to stop all or part of the construction activities until no exceedance of limit level | <ol style="list-style-type: none"> Same as the above; Take immediate action to avoid further exceedance; Implement the agreed mitigation measures; Resubmit proposals of mitigation measures if problem still not under control; and As directed by the Engineer, to slow down or to stop all or part of the construction activities until to no exceedance of Limit Level. |

Coral Monitoring

| EVENT | ACTION | CONTRACTOR | ER/ IC(E) |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Action Level being exceeded</p> | <p>Inform contractor, AFCD and EPD immediately;</p> <p>Discuss mitigation measure with ER/IC(E) and Contractor;</p> <p>Ensure mitigation measures are implemented.</p> | <p>Inform the Engineer and confirm notification of the non-compliance in writing;</p> <p>Propose mitigation measure to ER/IC(E) within 1 working day and discuss with Et and ER/IC(E);</p> <p>Ensure mitigation measures are implemented.</p> | <p>Inform contractor, Review water quality monitoring data;</p> <p>Determine whether water quality monitoring data shows effects attributable to the backfilling works;</p> <p>If water quality monitoring data indicates effects attributable to backfilling works, then make agreement on mitigation measures to be implemented;</p> <p>If water quality monitoring data indicates no effects attributable to backfilling works then Action Level is not triggered;</p> <p>Assess the effectiveness of the implemented mitigation measures.</p> |
| <p>Limit Level</p> | <p>Inform contractor, AFCD and EPD immediately;</p> <p>Discuss mitigation measure with ER/IC(E) and Contractor;</p> <p>Ensure mitigation measures are implemented.</p> | <p>Inform the Engineer and confirm notification of the non-compliance in writing;</p> <p>Suspend backfilling operations;</p> <p>Propose mitigation measure to ER/IC(E) within 3 working days and discuss with Et and ER/IC(E);</p> <p>Implement the agreed mitigation measures.</p> | <p>Inform contractor to suspend backfilling operations;</p> <p>Make agreement on the mitigation measures to be implemented;</p> <p>Assess the effectiveness of the implemented mitigation measures.</p> |

Appendix G

Impact Monitoring Schedule

Impact Monitoring Schedule for the Reporting Period

| Date | | Air Quality | | Noise | Water Quality |
|------|-----------|-------------|-------------|-------------|---------------|
| | | 1-hour TSP | 24-hour TSP | Leq (30min) | |
| Sat | 26-Jul-14 | | | | |
| Sun | 27-Jul-14 | | | | |
| Mon | 28-Jul-14 | ✓ | | ✓ | |
| Tue | 29-Jul-14 | | ✓ | | |
| Wed | 30-Jul-14 | | | | |
| Thu | 31-Jul-14 | | | | |
| Fri | 1-Aug-14 | | | | |
| Sat | 2-Aug-14 | ✓ | | | |
| Sun | 3-Aug-14 | | | | |
| Mon | 4-Aug-14 | | ✓ | | |
| Tue | 5-Aug-14 | | | | |
| Wed | 6-Aug-14 | | | | |
| Thu | 7-Aug-14 | | | | |
| Fri | 8-Aug-14 | ✓ | | ✓ | |
| Sat | 9-Aug-14 | | ✓ | | |
| Sun | 10-Aug-14 | | | | |
| Mon | 11-Aug-14 | | | | |
| Tue | 12-Aug-14 | | | | |
| Wed | 13-Aug-14 | | | | |
| Thu | 14-Aug-14 | ✓ | | ✓ | |
| Fri | 15-Aug-14 | | ✓ | | |
| Sat | 16-Aug-14 | | | | |
| Sun | 17-Aug-14 | | | | |
| Mon | 18-Aug-14 | | | | |
| Tue | 19-Aug-14 | | | | |
| Wed | 20-Aug-14 | ✓ | | ✓ | |
| Thu | 21-Aug-14 | | ✓ | | |
| Fri | 22-Aug-14 | | | | |
| Sat | 23-Aug-14 | | | | |
| Sun | 24-Aug-14 | | | | |
| Mon | 25-Aug-14 | | | | |

| | |
|---|--------------------------|
| ✓ | Monitoring Day |
| | Sunday or Public Holiday |

Impact Monitoring Schedule for next Reporting Period

| Date | | Air Quality | | Noise | Water Quality |
|------|-----------|-------------|-------------|-------------|---------------|
| | | 1-hour TSP | 24-hour TSP | Leq (30min) | |
| Tue | 26-Aug-14 | ✓ | | ✓ | |
| Wed | 27-Aug-14 | | ✓ | | |
| Thu | 28-Aug-14 | | | | |
| Fri | 29-Aug-14 | | | | |
| Sat | 30-Aug-14 | | | | |
| Sun | 31-Aug-14 | | | | |
| Mon | 1-Sep-14 | ✓ | | ✓ | |
| Tue | 2-Sep-14 | | ✓ | | |
| Wed | 3-Sep-14 | | | | |
| Thu | 4-Sep-14 | | | | |
| Fri | 5-Sep-14 | | | | |
| Sat | 6-Sep-14 | ✓ | | | |
| Sun | 7-Sep-14 | | | | |
| Mon | 8-Sep-14 | | ✓ | | |
| Tue | 9-Sep-14 | | | | |
| Wed | 10-Sep-14 | | | | |
| Thu | 11-Sep-14 | | | | |
| Fri | 12-Sep-14 | ✓ | | ✓ | |
| Sat | 13-Sep-14 | | ✓ | | |
| Sun | 14-Sep-14 | | | | |
| Mon | 15-Sep-14 | | | | |
| Tue | 16-Sep-14 | | | | |
| Wed | 17-Sep-14 | | | | |
| Thu | 18-Sep-14 | ✓ | | ✓ | |
| Fri | 19-Sep-14 | | ✓ | | |
| Sat | 20-Sep-14 | | | | |
| Sun | 21-Sep-14 | | | | |
| Mon | 22-Sep-14 | | | | |
| Tue | 23-Sep-14 | | | | |
| Wed | 24-Sep-14 | ✓ | | ✓ | |
| Thu | 25-Sep-14 | | ✓ | | |

| | |
|---|--------------------------|
| ✓ | Monitoring Day |
| | Sunday or Public Holiday |

Appendix H

Monitoring Data Sheet

24-hour TSP Monitoring Data Sheet

24-hour TSP Monitoring Results

| Monitoring Location : AC02b | | | | | | | | | | | | | | | |
|-----------------------------|---------------|--------------|---------|--------------|---------------|-----|------|---------------|-----------------|--------------------|---------------------|---------------------------|-------------------------|---------------------------|----------------------------------------------|
| DATE | SAMPLE NUMBER | ELAPSED TIME | | | CHART READING | | | AVG TEMP (oC) | STANDARD | | | INITIAL FILTER WEIGHT (g) | FINAL FILTER WEIGHT (g) | WEIGHT DUST COLLECTED (g) | DUST 24-hour TSP IN AIR (ug/m ³) |
| | | INITIAL | FINAL | ACTUAL (min) | MIN | MAX | AVG | | AVG PRESS (hPa) | FLOW RATE (m3/min) | AIR VOLUME (std m3) | | | | |
| 29-Jul-14 | 207670 | 8039.96 | 8073.73 | 2026.20 | 44 | 49 | 46.5 | 28.6 | 1004.6 | 1.29 | 2605 | 2.6927 | 2.7762 | 0.0835 | 32 |
| 4-Aug-14 | 26921 | 8073.73 | 8097.74 | 1440.60 | 34 | 35 | 34.5 | 28.6 | 1004.6 | 0.85 | 1230 | 2.7477 | 2.8015 | 0.0538 | 44 |
| 9-Aug-14 | 27072 | 8097.74 | 8121.74 | 1440.00 | 42 | 43 | 42.5 | 28.8 | 1004.5 | 1.14 | 1643 | 2.7163 | 2.7599 | 0.0436 | 27 |
| 15-Aug-14 | 27094 | 8121.74 | 8145.74 | 1440.00 | 40 | 42 | 41.0 | 28.4 | 1005.5 | 1.09 | 1568 | 2.6604 | 2.7194 | 0.0590 | 38 |
| 21-Aug-14 | 27074 | 8145.78 | 8171.07 | 1517.40 | 42 | 44 | 43.0 | 26.9 | 1010.7 | 1.17 | 1774 | 2.7184 | 2.7556 | 0.0372 | 21 |

Action Level: 161µg/m³

Limit Level: 260µg/m³

| Monitoring Location : AC04c | | | | | | | | | | | | | | | |
|-----------------------------|---------------|--------------|----------|--------------|---------------|-----|------|---------------|-----------------|--------------------|---------------------|---------------------------|-------------------------|---------------------------|----------------------------------------------|
| DATE | SAMPLE NUMBER | ELAPSED TIME | | | CHART READING | | | AVG TEMP (oC) | STANDARD | | | INITIAL FILTER WEIGHT (g) | FINAL FILTER WEIGHT (g) | WEIGHT DUST COLLECTED (g) | DUST 24-hour TSP IN AIR (ug/m ³) |
| | | INITIAL | FINAL | ACTUAL (min) | MIN | MAX | AVG | | AVG PRESS (hPa) | FLOW RATE (m3/min) | AIR VOLUME (std m3) | | | | |
| 29-Jul-14 | 207672 | 13814.5 | 13838.56 | 1443.60 | 46 | 47 | 46.5 | 28.6 | 1004.6 | 1.30 | 1879 | | 2.6851 | 2.751 | 0.0659 |
| 4-Aug-14 | 27054 | 13838.56 | 13862.6 | 1442.40 | 31 | 33 | 32.0 | 28.6 | 1004.6 | 0.84 | 1215 | | 2.7702 | 2.8387 | 0.0685 |
| 9-Aug-14 | 27071 | 13862.6 | 13886.71 | 1446.60 | 40 | 41 | 40.5 | 28.8 | 1004.5 | 1.11 | 1608 | | 2.7471 | 2.8167 | 0.0696 |
| 15-Aug-14 | 27093 | 13886.71 | 13910.84 | 1447.80 | 38 | 40 | 39.0 | 28.4 | 1005.5 | 1.07 | 1542 | | 2.6733 | 2.7306 | 0.0573 |
| 21-Aug-14 | 27095 | 13910.84 | 13934.97 | 1447.80 | 38 | 39 | 38.5 | 26.9 | 1010.7 | 1.06 | 1528 | | 2.6633 | 2.7224 | 0.0591 |

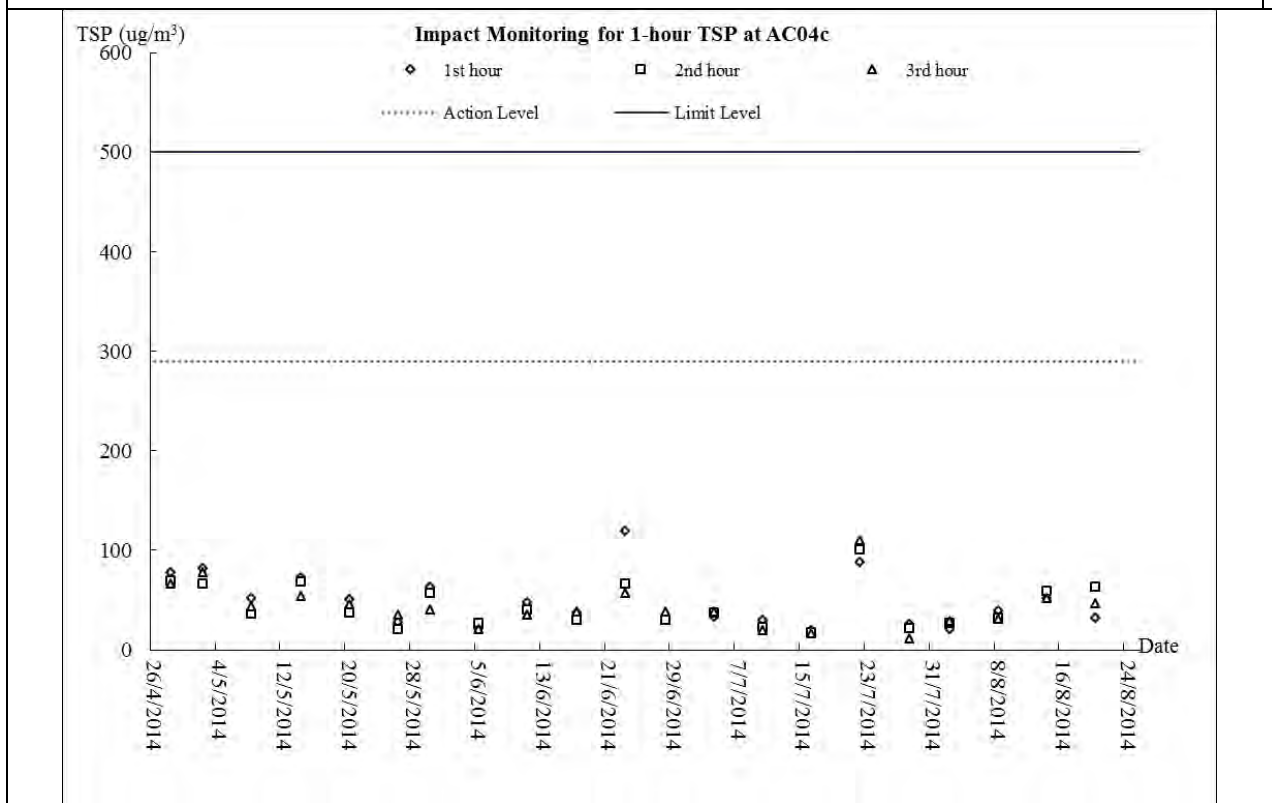
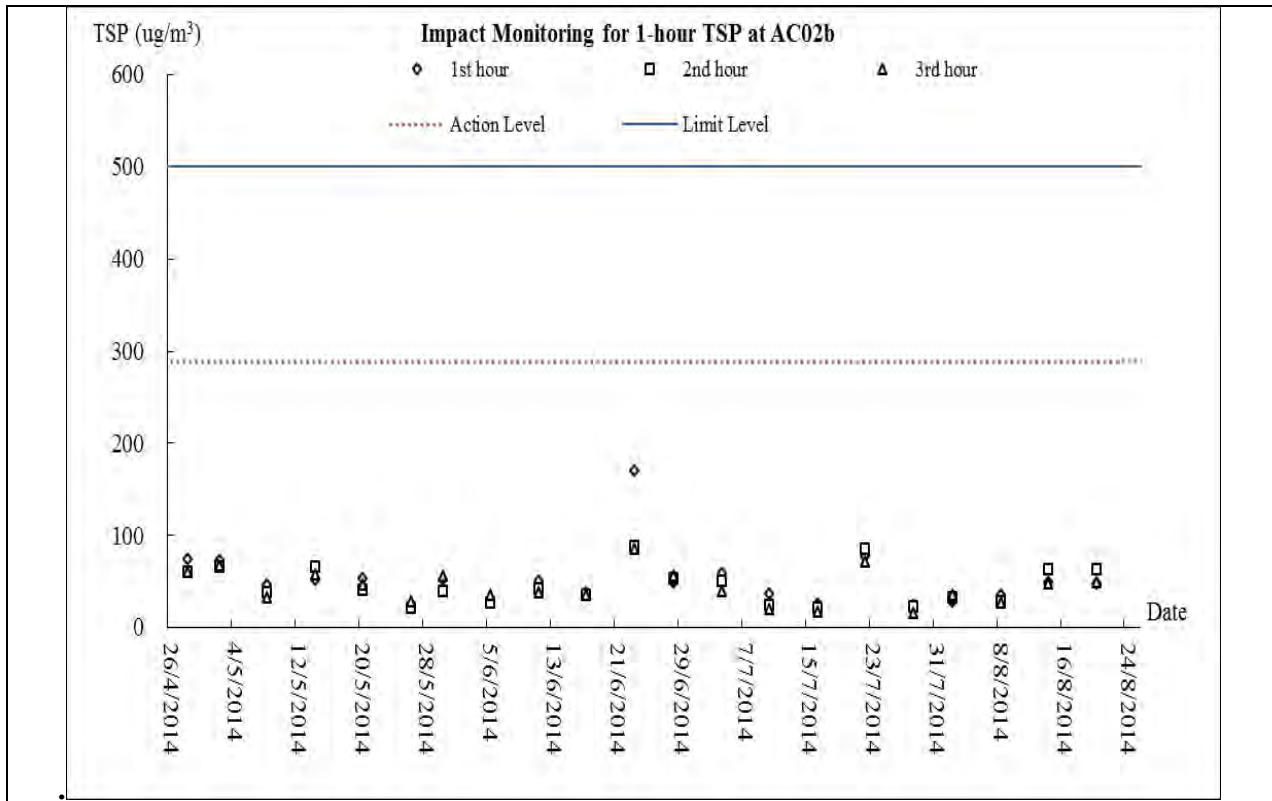
Action Level: 176µg/m³

Limit Level: 260µg/m³

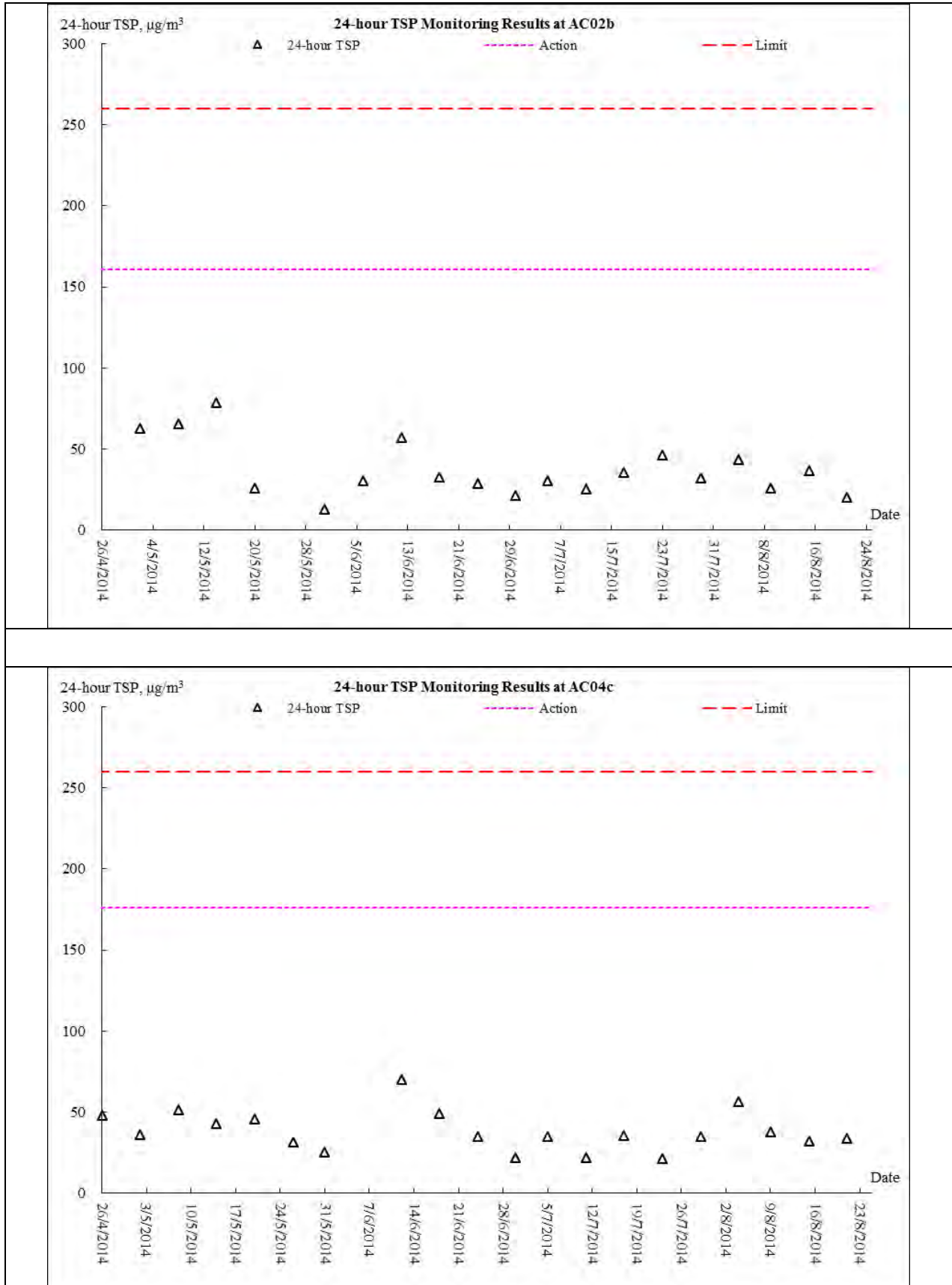
Appendix I

Graphical Plots of Monitoring Results

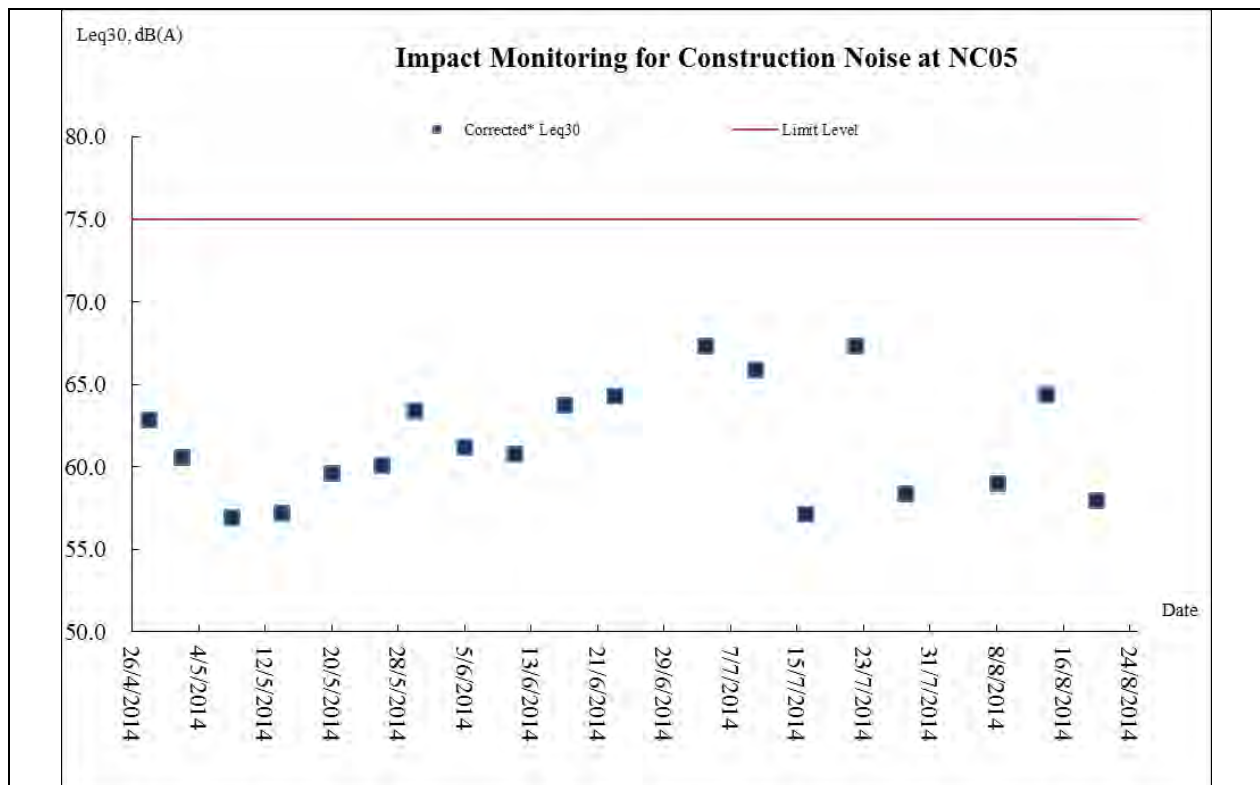
1-hour TSP Monitoring



24-hour TSP Monitoring



Noise Monitoring



Appendix J

Meteorological Information

Meteorological Data Extracted from HKO during the Reporting Period

| Date | | Weather |
|-----------|-----|------------------------------------------------------------------------------------------------------------------|
| 26-Jul-14 | Sat | Mainly fine and very hot apart from isolated showers. Moderate west to southwesterly winds. |
| 27-Jul-14 | Sun | Mainly fine and very hot apart from isolated showers. Moderate west to southwesterly winds. |
| 28-Jul-14 | Mon | Mainly fine apart from isolated showers. Very hot during the day. Light to moderate east to southeasterly winds. |
| 29-Jul-14 | Tue | Fine and very hot. Light winds. |
| 30-Jul-14 | Wed | Fine and very hot. Light winds. |
| 31-Jul-14 | Thu | Fine and very hot. There will be some haze later. Light to moderate westerly winds. |
| 1-Aug-14 | Fri | Mainly fine and very hot apart from isolated showers and thunderstorms. Moderate west to southwesterly winds. |
| 2-Aug-14 | Sat | Hot with sunny intervals and a few showers. Light to moderate southerly winds. |
| 3-Aug-14 | Sun | Hot with sunny intervals and a few showers. Light to moderate southerly winds. |
| 4-Aug-14 | Mon | Sunny periods and a few showers. There will be isolated thunderstorms at first. Moderate southwesterly winds. |
| 5-Aug-14 | Tue | Hot with sunny intervals and a few showers. Light to moderate southerly winds. |
| 6-Aug-14 | Wed | Mainly cloudy with showers and a few thunderstorms. Light to moderate southerly winds. |
| 7-Aug-14 | Thu | Cloudy with showers and a few thunderstorms. Moderate southwesterly winds. |
| 8-Aug-14 | Fri | Hot with sunny periods. There will be isolated showers. Moderate southwesterly winds. |
| 9-Aug-14 | Sat | Mainly cloudy with a few showers. Sunny intervals during the day. Moderate southwesterly winds. |
| 10-Aug-14 | Sun | Mainly cloudy with a few showers. Hot with sunny intervals. Moderate to fresh southwesterly winds. |
| 11-Aug-14 | Mon | Sunny intervals and a few showers. It will be hot. Moderate southwesterly winds, fresh occasionally. |
| 12-Aug-14 | Tue | Cloudy to overcast with showers and squally thunderstorms. Moderate southwesterly winds. |
| 13-Aug-14 | Wed | Cloudy to overcast with showers and squally thunderstorms. Moderate southwesterly winds. |
| 14-Aug-14 | Thu | Mainly fine and hot. Moderate southwesterly winds. |
| 15-Aug-14 | Fri | Mainly fine and hot. Moderate southwesterly winds. |
| 16-Aug-14 | Sat | Mainly fine and hot. Moderate southwesterly winds. |
| 17-Aug-14 | Sun | Mainly fine and hot. Moderate southwesterly winds. |
| 18-Aug-14 | Mon | Mainly fine and hot. Moderate southwesterly winds. |
| 19-Aug-14 | Tue | Mainly cloudy with showers and a few squally thunderstorms. Moderate southwesterly wind. |
| 20-Aug-14 | Wed | Mainly cloudy with showers and a few thunderstorms. Light to moderate southerly winds. |
| 21-Aug-14 | Thu | Hot with sunny periods. A few showers at first. Light to moderate southerly winds. |
| 22-Aug-14 | Fri | Hot with sunny periods. A few showers at first. Light to moderate southerly winds. |
| 23-Aug-14 | Sat | Mainly fine. Very hot. Light to moderate southeasterly winds. |
| 24-Aug-14 | Sun | Mainly fine. Very hot in the afternoon. Light to moderate southeasterly winds. |
| 25-Aug-14 | Mon | Mainly fine. Very hot in the afternoon. Light to moderate southeasterly winds. |

Appendix K

Monthly Summary Waste Flow Table

Monthly Summary Waste Flow Table for August 2014

| Month | Actual Quantities of Inert C&D Materials Generated Monthly | | | | | | | | | | | | Actual Quantities of C&D Wastes Generated Monthly | | | | | | | | | | |
|------------------|------------------------------------------------------------|--------|--------------------------------------------|-------|-------------------------------|-------|---------------------------------|-------|--------------------------------|--------|--------------------------|-------|---------------------------------------------------|-------|----------------------------------|-------|-------------|-------|----------------|-------|-------------------------|---------|--|
| | 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 '000m ³) | | (in '000m ³) | | (in '000m ³) | | (in '000m ³) | | (in '000m ³) | | (in '000kg) | | (in '000kg) | | (in '000kg) | | (in '000kg) | | (in tonne) | | |
| | YSW | SKW | YSW | SKW | YSW | SKW | YSW | SKW | YSW | SKW | YSW | SKW | YSW | SKW | YSW | SKW | YSW | SKW | YSW | SKW | YSW | SKW | |
| 2014 | 15.933 | 50.762 | 0.160 | 0.432 | 0.740 | 2.802 | 0.000 | 0.000 | 15.194 | 47.960 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 487.580 | 290.030 | |
| Jan | 0.342 | 0.325 | 0.000 | 0.005 | 0.000 | 0.000 | 0.000 | 0.000 | 0.342 | 0.325 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 4.480 | 4.820 | |
| Feb | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 18.110 | 4.300 | |
| Mar | 0.305 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.305 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 5.150 | 4.340 | |
| Apr | 0.000 | 0.000 | 0.000 | 0.005 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 4.030 | 3.900 | |
| May | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 35.810 | 4.180 | |
| Jun | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 33.060 | 5.900 | |
| Sub-total | 16.581 | 51.087 | 0.160 | 0.442 | 0.740 | 2.802 | 0.000 | 0.000 | 15.841 | 48.285 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 588.220 | 317.470 | |
| Jul | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 21.980 | 11.300 | |
| Aug | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 22.250 | 3.540 | |
| Sep | | | | | | | | | | | | | | | | | | | | | | | |
| Oct | | | | | | | | | | | | | | | | | | | | | | | |
| Nov | | | | | | | | | | | | | | | | | | | | | | | |
| Dec | | | | | | | | | | | | | | | | | | | | | | | |
| Total | 16.581 | 51.087 | 0.160 | 0.442 | 0.740 | 2.802 | 0.000 | 0.000 | 15.841 | 48.285 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 632.450 | 332.310 | |
| | 67.668 | | 0.602 | | 3.542 | | 0.000 | | 64.126 | | 0.000 | | 0.000 | | 0.000 | | 0.000 | | 0.000 | | 964.760 | | |

Remark: Assume 1.0 m³ vehicle dump load = 1.6 tonnes C&D materials

YSW: Yung Shue Wan

SKW: Sok Kwu Wan

Appendix L

Weekly Site Inspection Checklist

Project: TCS/00512/09
DC-2009-03: Construction of Sewage Treatment Works at Yung Shue Wan and Sok Kwu Wan

Inspected by
 ETL/ ET's Representative:
 RE's Representative:
 Contractor's Representative:
 IEC's Representative:

Checklist No. TCS512A-29 July 2014
 Mr. Martin Li
 Mr. Daniel Chau
 Mr. M. K. Leung
 09:30

Date: 29 July 2014

Time:

PART A: GENERAL INFORMATION

Weather: Sunny Fine Cloudy Rainy

Temperature: °C

Humidity: High Moderate Low

Wind: Strong Breeze Light Calm

Environmental Permit No.

EP- 282/2007

Area Inspected
 1 Yung Shue Wan

PART B: SITE AUDIT

| Note: | Not Obs. | Yes | No | Follow Up | N/A | Photo/Remarks |
|-----------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|---------------|
| Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-up actions N/A: Not Applicable | | | | | | |
| Section 1: Water Quality | | | | | | |
| 1.01 Is an effluent discharge license obtained for the Project? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.02 Is the effluent discharged in accordance with the discharge licence? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.03 Is the discharge of turbid water avoided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.04 Are there proper desilting facilities in the drainage systems to reduce SS levels in effluent? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.05 Are there channels, sandbags or bunds to direct surface run-off to sedimentation tanks? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.06 Are there any perimeter channels provided at site boundaries to intercept storm runoff from crossing the site? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.07 Is drainage system well maintained? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.08 As excavation proceeds, are temporary access roads protected by crushed stone or gravel? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.09 Are temporary exposed slopes properly covered? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.10 Are earthworks final surfaces well compacted or protected? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.11 Are manholes adequately covered or temporarily sealed? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.12 Are there any procedures and equipment for rainstorm protection? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.13 Are wheel washing facilities well maintained? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1.14 Is runoff from wheel washing facilities avoided? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1.15 Are there toilets provided on site? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.16 Are toilets properly maintained? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.17 Are the vehicle and plant servicing areas paved and located within roofed areas? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1.18 Is the oil/grease leakage or spillage avoided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.19 Are there any measures to prevent leaked oil from entering the drainage system? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.20 Are there any measures to collect spilt cement and concrete washings during concreting works? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.21 Are there any oil interceptors/grease traps in the drainage systems for vehicle and plant servicing areas, canteen kitchen, etc? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |

| Note: Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-up actions N/A: Not Applicable | Not Obs. | Yes | No | Follow Up | N/A | Photo/Remarks |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|----------------------|
| 1.22 Are the oil interceptors/grease traps maintained properly? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1.23 Is used bentonite recycled where appropriate? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1.24 Designated settlement area for runoff/wheel wash waste is provide and located at the streambed with 1-2m deep, 12m long and around 50m3 capacities for sedimentation. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1.25 No excavation is undertaken in the settlement area. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1.26 Concreting wastes water should be neutralized below the pH Action Levels before discharge. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1.27 Mobile toilets should provide on site and located away the stream course. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.28 License collector should be employed for handling the sewage of mobile toilet. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.29 Is ponding /stand water avoided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Section 2: Air Quality | | | | | | |
| 2.01 Are there wheel washing facilities with high pressure jets provided at every vehicle exit point? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 2.02 Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.03 Are the excavated materials sprayed with water during handling? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.04 Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.05 Is the exposed earth properly treated within six months after the last construction activities? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.06 Are the access roads sprayed with water to maintain the entire road surface wet or paved? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.07 Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 2.08 Is the load on vehicles covered entirely by clean impervious sheeting? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 2.09 Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 2.10 Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.11 Is dark smoke emission from plant/equipment avoided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.12 Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 2.13 Are site vehicles travelling within the speed limit not more than 15km/hour? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 2.14 Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.15 Is open burning avoided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.16 Excavated materials from the stream must be removed from the site on the same day. The materials shall be stored in covered impermeable skips awaiting removal from site. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.17 Is the road surface kept clear of loose material? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Section 3: Noise | | | | | | |
| 3.01 Are noisy equipment and activities positioned as far as practicable from the sensitive receivers? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.02 Is silenced equipment adopted? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.03 Is idle equipment turned off or throttled down? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.04 Are all plant and equipment well maintained and in good condition? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.05 Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3.06 Are hand held breakers fitted with valid noise emission labels during operation? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |

| Note: | Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-up actions N/A: Not Applicable | Not Obs. | Yes | No | Follow Up | N/A | Photo/Remarks |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|---------------|
| 3.07 | Are air compressors fitted with valid noise emission labels during operation? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.08 | Are flaps and panels of mechanical equipment closed during operation? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.09 | Are Construction Noise Permit(s) applied for percussive piling works? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3.10 | Are Construction Noise Permit(s) applied for general construction works during restricted hours? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3.11 | Are valid Construction Noise Permit(s) posted at site entrances? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3.12 | Use of quiet plant had been used on site to minimise the construction noise impact to the surrounding residences/dwellings (Level 1 mitigation measures). | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3.13 | Temporary/Moveable noise barrier or site hoarding are provide or erect at the site boundary to minimise the noise impact of the closest NSRs or stationary equipments shield by the noise barrier which cannot visible from NSRs (Level 2 mitigation measure) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3.14 | Temporary/Moveable noise barrier equal to or more than 3m height with 10kg/m2 are provide for noise mitigation measures (Level 2 mitigation measures). | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Section 4: Waste/Chemical Management | | | | | | | |
| 4.01 | Waste Management Plan had been submit to Engineer for approval. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.02 | Are receptacles available for general refuse collection? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.03 | Is general refuse sorting or recycling implemented? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.04 | Is general refuse disposed of properly and regularly? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.05 | Is the Contractor registered as a chemical waste producer? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.06 | Are the chemical waste containers and storage area properly labelled? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.07 | Are the chemical wastes stored in proper storage areas? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.08 | Is the chemical container or equipment provided with drip tray? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.09 | Is the chemical waste storage area used for storage of chemical waste only? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 4.10 | Are incompatible chemical wastes stored in different areas? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 4.11 | Are the chemical wastes disposed of by licensed collectors? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 4.12 | Are trip tickets for chemical wastes disposal available for inspection? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.13 | Are chemical/fuel storage areas bounded? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 4.14 | Are designated areas identified for storage and sorting of construction wastes? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.15 | Are construction wastes sorted (inert and non-inert) on site? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.16 | Are construction wastes reused? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.17 | Are construction wastes disposed of properly? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.18 | Are site hoardings and signboards made of durable materials instead of timber? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.19 | Is trip ticket system implemented for the disposal of construction wastes and records available for inspection? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.20 | Are appropriate procedures followed if contaminated material exists? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.21 | Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.22 | Site cleanliness and appropriate waste management training had provided for the site workers. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.23 | Contaminated sediments will be managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

| Note: Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-up actions N/A: Not Applicable | | Not Obs. | Yes | No | Follow Up | N/A | Photo/Remarks |
|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|---------------|
| Section 5: Landscape & Visual | | | | | | | |
| 5.01 | Are retained and transplanted trees in health condition? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5.02 | Are retained and transplanted trees properly protected? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5.03 | Are surgery works carried out for the damaged trees? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5.04 | Is damage to trees outside site boundary due to construction activities avoided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5.05 | Is the night-time lighting controlled to minimize glare to sensitive receivers? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Section 6: Others | | | | | | | |
| 6.01 | Are relevant Environmental Permits posted at all vehicle site entrances/exits? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 6.02 | Are the warning sign or larvicidal oil record shown clearly at the construction site? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

Remarks

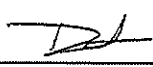
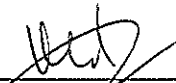
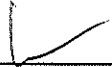
Findings of Site Inspection (29 July 2014):

Follow up (29 July 2014):

No environmental issue was observed during the site inspection

Nil.

IEC's representative RE's representative ET's representative EO's representative Contractor's representative

()  (Mr. Daniel Chau)  (Mr. Martin Li)  (Mr. M. K. Leung) ()

| Note: Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-Up actions N/A: Not Applicable | Not Obs. | Yes | No | Follow Up | N/A | Photo/Remarks |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|---------------|
| 1.22 Are the oil interceptors/grease traps maintained properly? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1.23 Is used bentonite recycled where appropriate? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1.24 Designated settlement area for runoff/wheel wash waste is provide and located at the streambed with 1-2m deep, 12m long and around 50m3 capacities for sedimentation. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1.25 No excavation is undertaken in the settlement area. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1.26 Concreting wastes water should be neutralized below the pH Action Levels before discharge. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1.27 Mobile toilets should provide on site and located away the stream course. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.28 License collector should be employed for handling the sewage of mobile toilet. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.29 Is ponding /stand water avoided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Section 2: Air Quality | | | | | | |
| 2.01 Are there wheel washing facilities with high pressure jets provided at every vehicle exit point? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 2.02 Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.03 Are the excavated materials sprayed with water during handling? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.04 Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.05 Is the exposed earth properly treated within six months after the last construction activities? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.06 Are the access roads sprayed with water to maintain the entire road surface wet or paved? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.07 Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 2.08 Is the load on vehicles covered entirely by clean impervious sheeting? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 2.09 Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 2.10 Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.11 Is dark smoke emission from plant/equipment avoided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.12 Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 2.13 Are site vehicles travelling within the speed limit not more than 15km/hour? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 2.14 Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.15 Is open burning avoided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.16 Excavated materials from the stream must be removed from the site on the same day. The materials shall be stored in covered impermeable skips awaiting removal from site. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.17 Is the road surface kept clear of loose material? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Section 3: Noise | | | | | | |
| 3.01 Are noisy equipment and activities positioned as far as practicable from the sensitive receivers? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.02 Is silenced equipment adopted? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.03 Is idle equipment turned off or throttled down? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.04 Are all plant and equipment well maintained and in good condition? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.05 Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3.06 Are hand held breakers fitted with valid noise emission labels during operation? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |

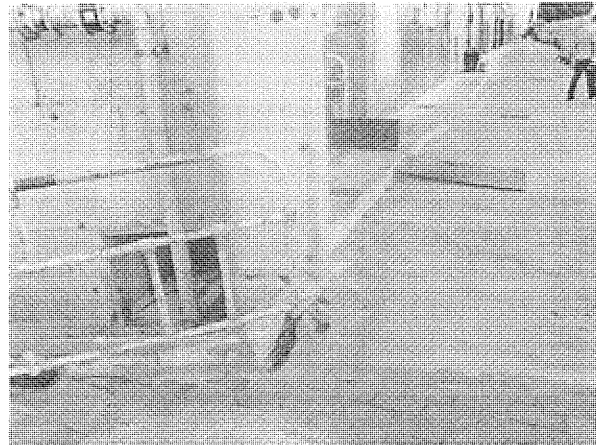
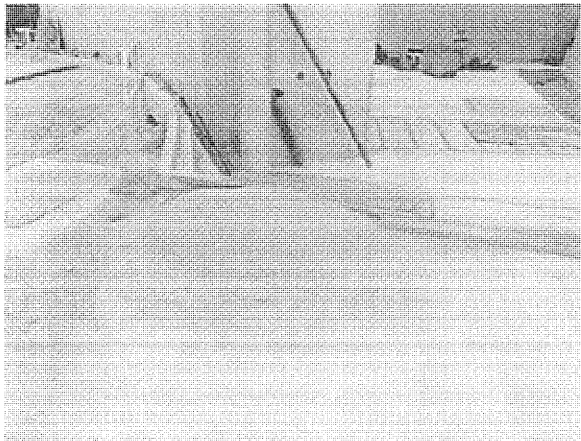
| Note: | Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-up actions N/A: Not Applicable | Not Obs. | Yes | No | Follow Up | N/A | Photo/Remarks |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|---------------|
| 3.07 | Are air compressors fitted with valid noise emission labels during operation? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.08 | Are flaps and panels of mechanical equipment closed during operation? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.09 | Are Construction Noise Permit(s) applied for percussive piling works? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3.10 | Are Construction Noise Permit(s) applied for general construction works during restricted hours? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3.11 | Are valid Construction Noise Permit(s) posted at site entrances? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3.12 | Use of quiet plant had been used on site to minimise the construction noise impact to the surrounding residences/dwellings (Level 1 mitigation measures). | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3.13 | Temporary/Moveable noise barrier or site hoarding are provide or erect at the site boundary to minimise the noise impact of the closest NSRs or stationary equipments shield by the noise barrier which cannot visible from NSRs (Level 2 mitigation measure) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3.14 | Temporary/Moveable noise barrier equal to or more than 3m height with 10kg/m2 are provide for noise mitigation measures (Level 2 mitigation measures). | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Section 4: Waste/Chemical Management | | | | | | | |
| 4.01 | Waste Management Plan had been submit to Engineer for approval. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.02 | Are receptacles available for general refuse collection? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.03 | Is general refuse sorting or recycling implemented? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.04 | Is general refuse disposed of properly and regularly? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.05 | Is the Contractor registered as a chemical waste producer? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.06 | Are the chemical waste containers and storage area properly labelled? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.07 | Are the chemical wastes stored in proper storage areas? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.08 | Is the chemical container or equipment provided with drip tray? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.09 | Is the chemical waste storage area used for storage of chemical waste only? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 4.10 | Are incompatible chemical wastes stored in different areas? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 4.11 | Are the chemical wastes disposed of by licensed collectors? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 4.12 | Are trip tickets for chemical wastes disposal available for inspection? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.13 | Are chemical/fuel storage areas bounded? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 4.14 | Are designated areas identified for storage and sorting of construction wastes? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.15 | Are construction wastes sorted (inert and non-inert) on site? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.16 | Are construction wastes reused? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.17 | Are construction wastes disposed of properly? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.18 | Are site hoardings and signboards made of durable materials instead of timber? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.19 | Is trip ticket system implemented for the disposal of construction wastes and records available for inspection? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.20 | Are appropriate procedures followed if contaminated material exists? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.21 | Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.22 | Site cleanliness and appropriate waste management training had provided for the site workers. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.23 | Contaminated sediments will be managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

| Note: | Not Obs. | Yes | No | Follow Up | N/A | Photo/Remarks |
|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|---------------|
| Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-up actions N/A: Not Applicable | | | | | | |
| Section 5: Landscape & Visual | | | | | | |
| 5.01 Are retained and transplanted trees in health condition? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5.02 Are retained and transplanted trees properly protected? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5.03 Are surgery works carried out for the damaged trees? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5.04 Is damage to trees outside site boundary due to construction activities avoided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5.05 Is the night-time lighting controlled to minimize glare to sensitive receivers? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Section 6: Others | | | | | | |
| 6.01 Are relevant Environmental Permits posted at all vehicle site entrances/exits? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 6.02 Are the warning sign or larvicidal oil record shown clearly at the construction site? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

Remarks

Findings of Site Inspection (5 August 2014):

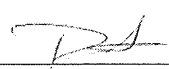
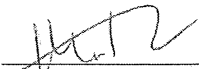
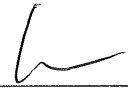
Follow up (5 August 2014):



The Contractor was reminded to cover the stockpile with tarpaulin sheet to reduce dust generation.

The stockpile has been backfilled.

IEC's representative RE's representative ET's representative EO's representative Contractor's representative

()  (Mr. Daniel Chau)  (Mr. Martin Li)  (Mr. M. K. Leung) ()

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Project: <u>TCS/00512/09</u> <u>DC-2009-03: Construction of Sewage Treatment Works at Yung Shue Wan and Sok Kwu Wan</u> | Inspected by ETL/ ET's Representative: RE's Representative: Contractor's Representative: IEC's Representative: | Checklist No. <u>TCS512A-12 August 2014</u> Mr. Martin Li Mr. Daniel Chau Mr. M. K. Leung |
| Date: <u>12 August 2014</u> | Time: | 09:30 |

| | |
|-------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| PART A: GENERAL INFORMATION | Environmental Permit No. |
| Weather: <input type="checkbox"/> Sunny <input type="checkbox"/> Fine <input checked="" type="checkbox"/> Cloudy <input type="checkbox"/> Rainy | <input checked="" type="checkbox"/> EP- 282/2007 |
| Temperature: <input type="text" value="28.9"/> °C | |
| Humidity: <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low | |
| Wind: <input type="checkbox"/> Strong <input type="checkbox"/> Breeze <input checked="" type="checkbox"/> Light <input type="checkbox"/> Calm | |
| Area Inspected 1 Yung Shue Wan | |

PART B: SITE AUDIT

| Note: | Not Obs. | Yes | No | Follow Up | N/A | Photo/Remarks |
|---------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|---------------|
| Section 1: Water Quality | | | | | | |
| 1.01 Is an effluent discharge license obtained for the Project? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.02 Is the effluent discharged in accordance with the discharge licence? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.03 Is the discharge of turbid water avoided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.04 Are there proper desilting facilities in the drainage systems to reduce SS levels in effluent? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.05 Are there channels, sandbags or bunds to direct surface run-off to sedimentation tanks? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.06 Are there any perimeter channels provided at site boundaries to intercept storm runoff from crossing the site? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.07 Is drainage system well maintained? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.08 As excavation proceeds, are temporary access roads protected by crushed stone or gravel? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.09 Are temporary exposed slopes properly covered? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.10 Are earthworks final surfaces well compacted or protected? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.11 Are manholes adequately covered or temporarily sealed? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.12 Are there any procedures and equipment for rainstorm protection? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.13 Are wheel washing facilities well maintained? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1.14 Is runoff from wheel washing facilities avoided? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1.15 Are there toilets provided on site? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.16 Are toilets properly maintained? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.17 Are the vehicle and plant servicing areas paved and located within roofed areas? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1.18 Is the oil/grease leakage or spillage avoided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.19 Are there any measures to prevent leaked oil from entering the drainage system? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.20 Are there any measures to collect spilt cement and concrete washings during concreting works? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.21 Are there any oil interceptors/grease traps in the drainage systems for vehicle and plant servicing areas, canteen kitchen, etc? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |

| Note: | Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-up actions N/A: Not Applicable | Not Obs. | Yes | No | Follow Up | N/A | Photo/Remarks |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|---------------|
| 1.22 | Are the oil interceptors/grease traps maintained properly? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1.23 | Is used bentonite recycled where appropriate? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1.24 | Designated settlement area for runoff/wheel wash waste is provide and located at the streambed with 1-2m deep, 12m long and around 50m3 capacities for sedimentation. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1.25 | No excavation is undertaken in the settlement area. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1.26 | Concreting wastes water should be neutralized below the pH Action Levels before discharge. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1.27 | Mobile toilets should provide on site and located away the stream course. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.28 | License collector should be employed for handling the sewage of mobile toilet. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.29 | Is ponding /stand water avoided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Section 2: Air Quality | | | | | | | |
| 2.01 | Are there wheel washing facilities with high pressure jets provided at every vehicle exit point? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 2.02 | Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.03 | Are the excavated materials sprayed with water during handling? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.04 | Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.05 | Is the exposed earth properly treated within six months after the last construction activities? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.06 | Are the access roads sprayed with water to maintain the entire road surface wet or paved? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.07 | Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 2.08 | Is the load on vehicles covered entirely by clean impervious sheeting? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 2.09 | Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 2.10 | Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.11 | Is dark smoke emission from plant/equipment avoided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.12 | Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 2.13 | Are site vehicles travelling within the speed limit not more than 15km/hour? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 2.14 | Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.15 | Is open burning avoided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.16 | Excavated materials from the stream must be removed from the site on the same day. The materials shall be stored in covered impermeable skips awaiting removal from site. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.17 | Is the road surface kept clear of loose material? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Section 3: Noise | | | | | | | |
| 3.01 | Are noisy equipment and activities positioned as far as practicable from the sensitive receivers? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.02 | Is silenced equipment adopted? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.03 | Is idle equipment turned off or throttled down? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.04 | Are all plant and equipment well maintained and in good condition? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.05 | Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3.06 | Are hand held breakers fitted with valid noise emission labels during operation? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |

| Note: | Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-Up actions N/A: Not Applicable | Not Obs. | Yes | No | Follow Up | N/A | Photo/Remarks |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|---------------|
| 3.07 | Are air compressors fitted with valid noise emission labels during operation? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.08 | Are flaps and panels of mechanical equipment closed during operation? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.09 | Are Construction Noise Permit(s) applied for percussive piling works? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3.10 | Are Construction Noise Permit(s) applied for general construction works during restricted hours? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3.11 | Are valid Construction Noise Permit(s) posted at site entrances? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3.12 | Use of quiet plant had been used on site to minimise the construction noise impact to the surrounding residences/dwellings (Level 1 mitigation measures). | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3.13 | Temporary/Moveable noise barrier or site hoarding are provide or erect at the site boundary to minimise the noise impact of the closest NSRs or stationary equipments shield by the noise barrier which cannot visible from NSRs (Level 2 mitigation measure) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3.14 | Temporary/Moveable noise barrier equal to or more than 3m height with 10kg/m2 are provide for noise mitigation measures (Level 2 mitigation measures). | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Section 4: Waste/Chemical Management | | | | | | | |
| 4.01 | Waste Management Plan had been submit to Engineer for approval. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.02 | Are receptacles available for general refuse collection? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.03 | Is general refuse sorting or recycling implemented? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.04 | Is general refuse disposed of properly and regularly? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.05 | Is the Contractor registered as a chemical waste producer? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.06 | Are the chemical waste containers and storage area properly labelled? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.07 | Are the chemical wastes stored in proper storage areas? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.08 | Is the chemical container or equipment provided with drip tray? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.09 | Is the chemical waste storage area used for storage of chemical waste only? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 4.10 | Are incompatible chemical wastes stored in different areas? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 4.11 | Are the chemical wastes disposed of by licensed collectors? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 4.12 | Are trip tickets for chemical wastes disposal available for inspection? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.13 | Are chemical/fuel storage areas bounded? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 4.14 | Are designated areas identified for storage and sorting of construction wastes? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.15 | Are construction wastes sorted (inert and non-inert) on site? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.16 | Are construction wastes reused? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.17 | Are construction wastes disposed of properly? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.18 | Are site hoardings and signboards made of durable materials instead of timber? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.19 | Is trip ticket system implemented for the disposal of construction wastes and records available for inspection? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.20 | Are appropriate procedures followed if contaminated material exists? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.21 | Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.22 | Site cleanliness and appropriate waste management training had provided for the site workers. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.23 | Contaminated sediments will be managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

| Note: Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-Up actions N/A: Not Applicable | | Not Obs. | Yes | No | Follow Up | N/A | Photo/Remarks |
|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|---------------|
| Section 5: Landscape & Visual | | | | | | | |
| 5.01 | Are retained and transplanted trees in health condition? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5.02 | Are retained and transplanted trees properly protected? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5.03 | Are surgery works carried out for the damaged trees? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5.04 | Is damage to trees outside site boundary due to construction activities avoided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5.05 | Is the night-time lighting controlled to minimize glare to sensitive receivers? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Section 6: Others | | | | | | | |
| 6.01 | Are relevant Environmental Permits posted at all vehicle site entrances/exits? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 6.02 | Are the warning sign or larvicidal oil record shown clearly at the construction site? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

Remarks

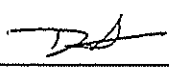
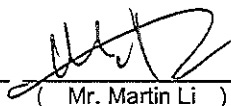

Findings of Site Inspection (12 August 2014):

No environmental issue was observed during the site inspection

Follow up (12 August 2014):

Nil.

IEC's representative RE's representative ET's representative EO's representative Contractor's representative

()  (Mr. Daniel Chau)  (Mr. Martin Li)  (Mr. M. K. Leung) ()

Project: TCS/00512/09
DC-2009-03: Construction of Sewage Treatment Works at Yung Shue Wan and Sok Kwu Wan

Inspected by _____
 ETL/ ET's Representative: Mr. Martin Li
 RE's Representative: Mr. Daniel Chau
 Contractor's Representative: Mr. M. K. Leung
 IEC's Representative: _____

Checklist No. TCS512A-19 August 2014

Date: 19 August 2014

Time: 09:30

PART A: GENERAL INFORMATION

Weather: Sunny Fine Cloudy Rainy

Temperature: °C

Humidity: High Moderate Low

Wind: Strong Breeze Light Calm

Environmental Permit No. EP- 282/2007

Area Inspected
 1 Yung Shue Wan

PART B: SITE AUDIT

| Note: | Not Obs. | Yes | No | Follow Up | N/A | Photo/Remarks |
|---------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|---------------|
| Section 1: Water Quality | | | | | | |
| 1.01 Is an effluent discharge license obtained for the Project? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.02 Is the effluent discharged in accordance with the discharge licence? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.03 Is the discharge of turbid water avoided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.04 Are there proper desilting facilities in the drainage systems to reduce SS levels in effluent? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.05 Are there channels, sandbags or bunds to direct surface run-off to sedimentation tanks? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.06 Are there any perimeter channels provided at site boundaries to intercept storm runoff from crossing the site? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.07 Is drainage system well maintained? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.08 As excavation proceeds, are temporary access roads protected by crushed stone or gravel? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.09 Are temporary exposed slopes properly covered? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.10 Are earthworks final surfaces well compacted or protected? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.11 Are manholes adequately covered or temporarily sealed? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.12 Are there any procedures and equipment for rainstorm protection? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.13 Are wheel washing facilities well maintained? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1.14 Is runoff from wheel washing facilities avoided? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1.15 Are there toilets provided on site? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.16 Are toilets properly maintained? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.17 Are the vehicle and plant servicing areas paved and located within roofed areas? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1.18 Is the oil/grease leakage or spillage avoided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.19 Are there any measures to prevent leaked oil from entering the drainage system? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.20 Are there any measures to collect spilt cement and concrete washings during concreting works? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.21 Are there any oil interceptors/grease traps in the drainage systems for vehicle and plant servicing areas, canteen kitchen, etc? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |

| Note: | Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-up actions N/A: Not Applicable | Not Obs. | Yes | No | Follow Up | N/A | Photo/Remarks |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|---------------|
| 1.22 | Are the oil interceptors/grease traps maintained properly? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1.23 | Is used bentonite recycled where appropriate? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1.24 | Designated settlement area for runoff/wheel wash waste is provide and located at the streambed with 1-2m deep, 12m long and around 50m3 capacities for sedimentation. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1.25 | No excavation is undertaken in the settlement area. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1.26 | Concreting wastes water should be neutralized below the pH Action Levels before discharge. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1.27 | Mobile toilets should provide on site and located away the stream course. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.28 | License collector should be employed for handling the sewage of mobile toilet. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.29 | Is ponding /stand water avoided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Section 2: Air Quality | | | | | | | |
| 2.01 | Are there wheel washing facilities with high pressure jets provided at every vehicle exit point? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 2.02 | Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.03 | Are the excavated materials sprayed with water during handling? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.04 | Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.05 | Is the exposed earth properly treated within six months after the last construction activities? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.06 | Are the access roads sprayed with water to maintain the entire road surface wet or paved? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.07 | Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 2.08 | Is the load on vehicles covered entirely by clean impervious sheeting? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 2.09 | Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 2.10 | Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.11 | Is dark smoke emission from plant/equipment avoided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.12 | Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 2.13 | Are site vehicles travelling within the speed limit not more than 15km/hour? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 2.14 | Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.15 | Is open burning avoided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.16 | Excavated materials from the stream must be removed from the site on the same day. The materials shall be stored in covered impermeable skips awaiting removal from site. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.17 | Is the road surface kept clear of loose material? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Section 3: Noise | | | | | | | |
| 3.01 | Are noisy equipment and activities positioned as far as practicable from the sensitive receivers? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.02 | Is silenced equipment adopted? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.03 | Is idle equipment turned off or throttled down? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.04 | Are all plant and equipment well maintained and in good condition? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.05 | Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3.06 | Are hand held breakers fitted with valid noise emission labels during operation? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |

| Note: | Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-up actions N/A: Not Applicable | Not Obs. | Yes | No | Follow Up | N/A | Photo/Remarks |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|---------------|
| 3.07 | Are air compressors fitted with valid noise emission labels during operation? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.08 | Are flaps and panels of mechanical equipment closed during operation? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.09 | Are Construction Noise Permit(s) applied for percussive piling works? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3.10 | Are Construction Noise Permit(s) applied for general construction works during restricted hours? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3.11 | Are valid Construction Noise Permit(s) posted at site entrances? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3.12 | Use of quiet plant had been used on site to minimise the construction noise impact to the surrounding residences/dwellings (Level 1 mitigation measures). | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3.13 | Temporary/Moveable noise barrier or site hoarding are provide or erect at the site boundary to minimise the noise impact of the closest NSRs or stationary equipments shield by the noise barrier which cannot visible from NSRs (Level 2 mitigation measure) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3.14 | Temporary/Moveable noise barrier equal to or more than 3m height with 10kg/m2 are provide for noise mitigation measures (Level 2 mitigation measures). | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Section 4: Waste/Chemical Management | | | | | | | |
| 4.01 | Waste Management Plan had been submit to Engineer for approval. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.02 | Are receptacles available for general refuse collection? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.03 | Is general refuse sorting or recycling implemented? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.04 | Is general refuse disposed of properly and regularly? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.05 | Is the Contractor registered as a chemical waste producer? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.06 | Are the chemical waste containers and storage area properly labelled? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.07 | Are the chemical wastes stored in proper storage areas? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.08 | Is the chemical container or equipment provided with drip tray? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.09 | Is the chemical waste storage area used for storage of chemical waste only? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 4.10 | Are incompatible chemical wastes stored in different areas? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 4.11 | Are the chemical wastes disposed of by licensed collectors? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 4.12 | Are trip tickets for chemical wastes disposal available for inspection? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.13 | Are chemical/fuel storage areas bounded? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 4.14 | Are designated areas identified for storage and sorting of construction wastes? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.15 | Are construction wastes sorted (inert and non-inert) on site? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.16 | Are construction wastes reused? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.17 | Are construction wastes disposed of properly? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.18 | Are site hoardings and signboards made of durable materials instead of timber? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.19 | Is trip ticket system implemented for the disposal of construction wastes and records available for inspection? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.20 | Are appropriate procedures followed if contaminated material exists? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.21 | Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.22 | Site cleanliness and appropriate waste management training had provided for the site workers. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.23 | Contaminated sediments will be managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

| Note: Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-up actions N/A: Not Applicable | | Not Obs. | Yes | No | Follow Up | N/A | Photo/Remarks |
|--------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|---------------|
| Section 5: Landscape & Visual | | | | | | | |
| 5.01 | Are retained and transplanted trees in health condition? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5.02 | Are retained and transplanted trees properly protected? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5.03 | Are surgery works carried out for the damaged trees? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5.04 | Is damage to trees outside site boundary due to construction activities avoided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5.05 | Is the night-time lighting controlled to minimize glare to sensitive receivers? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Section 6: Others | | | | | | | |
| 6.01 | Are relevant Environmental Permits posted at all vehicle site entrances/exits? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 6.02 | Are the warning sign or larvicidal oil record shown clearly at the construction site? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

Remarks

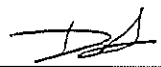
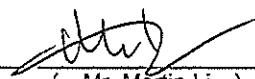
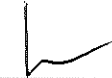
Findings of Site Inspection (19 August 2014):

Follow up (19 August 2014):

No environmental issue was observed during the site inspection

Nil.

IEC's representative RE's representative ET's representative EO's representative Contractor's representative

()  (Mr. Daniel Chau)  (Mr. Martin Li)  (Mr. M. K. Leung) ()

Appendix M

Implementation Schedule of Mitigation Measures

Implementation Schedule of Air Quality Measures

| EIA Ref | EM&A Ref | Environmental Protection Measures* | Location / Timing | Implementation Agent | Implementation Stages** | | | Relevant Legislation & Guidelines |
|---------------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|--------------------------------|-------------------------|---|---|----------------------------------------------------------------------|
| | | | | | D | C | O | |
| Construction Phase | | | | | | | | |
| 2.3.18 | 2.10.2 | Adopting the following good site practices and follow the dust control requirements of the Air Pollution Control (Construction Dust) Regulation: <ul style="list-style-type: none"> • Stockpiles of imported material kept on site should be contained within hoardings, dampened and / or covered during dry and windy weather; • Material stockpiled alongside trenches should be covered with tarpaulins whenever works are close to village houses; • Water sprays should be used during the delivery and handling of cement, sands, aggregates and the like. • Any vehicle used for moving sands, aggregates and construction waste should 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. | Work site / during construction | All contractors | | √ | | TM- EIAO, APCO, Air Pollution Control (Construction Dust) Regulation |
| 2.10.3 | Section 2 | 1 hour and 24 hour dust monitoring and site audit | Designated air monitoring locations / throughout construction period | Contractor/ Environmental Team | | √ | | EM&A Manual |

* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.

** D=Design, C=Construction, O=Operation

N/A Not applicable

Implementation Schedule of Noise Measures

| EIA Ref | EM&A Ref | Environmental Protection Measures* | Location/Timing | Implementation Agent | Implementation Stages ** | | | Relevant Legislation & Guidelines |
|---------------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|--------------------------------|--------------------------|---|---|-----------------------------------|
| | | | | | D | C | O | |
| Construction Phase | | | | | | | | |
| 2.4.16 | 3.8.2 | Implementation of following measures during the sewer construction: <ul style="list-style-type: none"> • Use of quiet PME or method; • Restriction on the number plant (1 item for each type of plant); and • Good Site Practices <ul style="list-style-type: none"> ➤ Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme. ➤ 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 utilized, wherever practicable, in screening noise from on-site construction activities. | Work site /during the construction of Sewer. | Contractor | | √ | | EIAO-TM, NCO |
| 2.10.5 to 2.10.9 | Section 35 | Noise monitoring | Designated noise monitoring locations / throughout construction period | Contractor/ Environmental Team | | √ | | EM&A Manual |

* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.

** D=Design, C=Construction, O=Operation

N/A Not applicable

Implementation Schedule of Water Quality Control Measures

| EIA Ref | EM&A Ref | Environmental Protection Measures* | Location (duration /completion of measures) | Implementation Agent | Implementation Stages** | | | Relevant Legislation and Guidelines |
|---------------------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------|-------------------------|---|---|-------------------------------------|
| | | | | | D | C | O | |
| Construction Phase | | | | | | | | |
| 2.5.23 | 4.12.1 | No-dig method using Horizontal Directional Drilling (HDD) would be used for the installation of main portion of outfall pipes | Marine works site / During construction of submarine outfall | Contractor | | √ | | |
| 4.5.38 | 4.12.3 | <p>Dredging Works</p> <p>Implementation of following measures during the dredging works:</p> <ul style="list-style-type: none"> dredging should be undertaken using closed grab dredgers with a maximum total production rate of 55m³/hr; deployment of 2-layer silt curtains with the first layer enclosing the grab and the second layer at around 50m from the dredging area while dredging works are in progress; dredging operation should be undertaken during ebb tide only; 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 should 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 200mm) 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; loading of barges should be controlled to prevent splashing of dredged material to the surrounding water, and barges should not be filled to a level which will cause the overflow of materials or polluted water during loading or transportation; and | Marine works site and at the identified water sensitive receivers/ During construction | Contractor | | √ | | |

| EIA Ref | EM&A Ref | Environmental Protection Measures* | Location (duration /completion of measures) | Implementation Agent | Implementation Stages** | | | Relevant Legislation and Guidelines |
|---------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|----------------------|-------------------------|---|---|-------------------------------------|
| | | | | | D | C | O | |
| | | <ul style="list-style-type: none"> the decks of all vessels should be kept tidy and free of oil or other substances that might be accidentally or otherwise washed overboard. | | | | | | |
| 2.5.39 | 4.12.4 | <p><u>Construction Run-off and Drainage</u></p> <p>Implementation of the following site practices outlined in ProPECC PN 1/94 for “Construction Site Drainage”</p> <ul style="list-style-type: none"> 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 minimizing 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 should 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 | Construction works sites | Contractor | | √ | | ProPECC PN 1/94 |
| 2.5.39 | 4.12.5 | <p><u>General Construction Activities</u></p> <ul style="list-style-type: none"> Debris and rubbish generated on-site should be collected, handled and disposed of properly to avoid entering the nearby coastal waters and stormwater drains. | Construction works sites | Contractor | | √ | | |

| EIA Ref | EM&A Ref | Environmental Protection Measures* | Location (duration /completion of measures) | Implementation Agent | Implementation Stages** | | | Relevant Legislation and Guidelines |
|---------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|----------------------|-------------------------|---|---|-------------------------------------|
| | | | | | D | C | O | |
| | | <ul style="list-style-type: none"> 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. | | | | | | |
| 2.5.39 | 4.12.6 | <u>Wastewater Arising from Workforce</u> Portable toilets should be provided by the Contractors, where necessary, to handle sewage from the workforce. The Contractor should also be responsible for waste disposal and maintenance practices. | Construction works sites | Contractor | | √ | | |
| 2.10.10 | Section 4 | Water quality monitoring | Designated water monitoring locations/ throughout construction period | Contractor | | √ | | EM&A Manual |

* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.

** D=Design, C=Construction, O=Operation

N/A Not applicable

Implementation Schedule of Sediment Contamination Mitigation Measures

| EIA Ref | EM&A Ref | Environmental Protection Measures* | Location / Timing | Implementation Agent | Implementation Stages** | | | Relevant Legislation & Guidelines |
|---------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|----------------------|-------------------------|---|---|-----------------------------------|
| | | | | | D | C | O | |
| 2.9.24 | 5.2.1 | Carrying out Sediment Quality Investigation | Marine works site / prior to construction | DSD | √ | | | WBTC No. 34/2002 |
| 2.9.23 | 5.2.1 | Follow the requirement and procedures for dredged mud disposal specified under the WBTC No. 34/2002. | Marine works site / during dredging works | Contractor | | √ | | WBTC No. 34/2002 |
| 2.9.23 | 5.2.2 | Implement appropriate dredging methods which have been incorporated into the recommended water quality mitigation measures. | Marine works site, during dredging works | Contractor | | √ | | |
| 2.9.23 | 5.2.3 | During the transportation and disposal of the dredged sediment, the following measures should be taken: <ul style="list-style-type: none"> • 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. | Marine works site and at the identified sensitive receivers | Contractor | | √ | | |

* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.

** D=Design, C=Construction, O=Operation

N/A Not applicable

Implementation Schedule of Solid Waste Management Measures

| EIA Ref | EM&A Ref | Environmental Protection Measures* | Location / Timing | Implementation Agent | Implementation Stages ** | | | Relevant Legislation & Guidelines |
|---------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------|--------------------------|---|---|-------------------------------------------|
| | | | | | D | C | O | |
| Construction Phase | | | | | | | | |
| 2.9.14 | 6.6.2 | <u>Good site practices</u> <ul style="list-style-type: none"> Nomination of an approved person, such as a site manager, to be responsible for implementation of good site practices, arranging for collection and effective disposal to an appropriate facility, of all wastes generated at the site Training (proper waste management and chemical handling procedure) should be provided for site staffs 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. | Work sites/During construction | Contractor | | √ | | Waste Disposal Ordinance (Cap.54) |
| 2.9.15 | 6.2.3 | The Contractor will be required to open a billing account under the Construction Waste Disposal Charging Scheme, and to pay for disposal of all construction waste. The construction waste will be sent to a designated reception facility, which in this case will be YSW RTS, where drivers must present a valid chit for disposal of each load. | Work sites/During construction | Contractor | | √ | | Waste disposal (Amendment) Ordinance 2004 |
| 2.9.16 | 6.2.4 | Recommendations to achieve waste reduction include: <ul style="list-style-type: none"> 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 | Work sites/During construction | Contractor | | √ | | WBTC No. 4/98, 5/98 |

| EIA Ref | EM&A Ref | Environmental Protection Measures* | Location / Timing | Implementation Agent | Implementation Stages ** | | | Relevant Legislation & Guidelines |
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| | | | | | D | C | O | |
| | | segregate this waste from other general refuse generated by the work force; <ul style="list-style-type: none"> 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. | | | | | | |
| 2.9.18 | 6.2.5 | <u>General Site Wastes</u> <ul style="list-style-type: none"> A collection area for construction site waste should be provided where waste can be stored prior to removal from site An enclosed and covered area for the collection of the waste is recommended to reduce 'wind blow' of light material | Work sites/During construction | Contractor | | √ | | Public Health and Municipal Services Ordinance (Cap. 132) |
| 2.9.19 | 6.2.6 and 6.2.7 | <u>Chemical Wastes</u> <ul style="list-style-type: none"> After use, chemical waste should be handled according to the Code of Practice on the Package, Labelling and Storage of Chemical Wastes Any unused chemicals or those with remaining functional capacity should be recycled Waste should be properly stored on site within suitably designed containers and should be collected by an approved licensed waste collectors 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 Ordance. | Work sites/During construction | Contractor | | √ | | Waste Disposal (Chemical Waste) (General) Regulation, Code of Practice on the Packaging Labelling and Storage of Chemical Wastes |

| EIA Ref | EM&A Ref | Environmental Protection Measures* | Location / Timing | Implementation Agent | Implementation Stages ** | | | Relevant Legislation & Guidelines |
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| | | | | | D | C | O | |
| | | <ul style="list-style-type: none"> Any service shop and minor maintenance facilities should be located on hard standing within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should be undertaken within the designated areas equipped control these discharges | | | | | | |
| 2.9.21 and 2.9.22 | 6.2.8 and 6.2.9 | <p><u>Construction and Demolition Material</u></p> <ul style="list-style-type: none"> The C&D waste should be separated on-site into three categories: <ul style="list-style-type: none"> ➤ 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; ➤ C&D waste for re-use and / or recycling, the non-inert portion of the C&D material, (e.g. steel and other metals, woods, glass and plastic); ➤ C&D waste which cannot be re-used and / or recycled (e.g. wood, glass and plastic) Where possible, inert material should be re-used on-site Where practicable, steel and other metals should be separated for re-use and/or recycling prior to disposal of C&D material | During all construction phases | Contractors | | √ | | WBTC No. 4/98, 5/98, 21/2002, 25/99, 12/2000 |

* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.
 ** D=Design, C=Construction, O=Operation
 N/A Not applicable

Implementation Schedule of Ecological Impact Measures

| EIA Ref | EM&A Ref | Environmental Protection Measures* | Location / Timing | Implementation Agent | Implementation Stages | | | Relevant Legislation & Guidelines |
|---------------------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|----------------------|-----------------------|---|---|-----------------------------------|
| | | | | | D | C | O | |
| Construction Phase | | | | | | | | |
| 2.10.11 and 2.10.12 | 7.2 and 7.3 | Carry out monitoring of corals before, during and after marine works. | Work sites / during construction phase | Contractor | | √ | | |
| 2.6.45 to 2.6.48 | 7.6.1 | Use horizontal directional drilling to avoid direct disturbance to corals | Marine works site / during dredging works | Contractor | | √ | | |
| 2.6.57 to 2.6.58 | 4.12.3 | Deploying of 2-layer silt curtains with the first layer enclosing the grab and the second layer at around 50m from the dredging area while dredging works are in progress | All work sites / during construction phase | Contractor | | √ | | |
| 2.6.51 | 7.6.1 | Fence off the slope stabilisation works area from surrounding shrubland and/ woodland, to prevent access to or disturbance of adjacent habitats. The works area should be as small as is possible, consistent with the requirements of the works. | STW/ During construction | Contractor | | √ | | |

* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.

** D=Design, C=Construction, O=Operation

N/A Not applicable

Implementation Schedule of Fisheries Impact Measures

| EIA Ref | EM&A Ref | Environmental Protection Measures* | Location / Timing | Implementation Agent | Implementation Stages** | | | Relevant Legislation & Guidelines |
|---------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|----------------------|-------------------------|---|---|-----------------------------------|
| | | | | | D | C | O | |
| 2.5.37 | 4.12.4 | Use of closed grab dredging and silt curtains around the immediate dredging area and low dredging rates as recommended in Water Quality of the EIA report | Marine works site, during dredging works | Contractor | | √ | | TM on EIA Process |

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 ** D=Design, C=Construction, O=Operation
 N/A Not applicable

Implementation Schedule of Landscape and Visual Impact Measures

| EIA Ref | EM&A Ref | Environmental Protection Measures* | Location / Timing | Implementation Agent | Implementation Stages ** | | | Relevant Legislation & Guidelines |
|---------------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------------|--------------------------|---|---|-----------------------------------|
| | | | | | D | C | O | |
| Construction Phase | | | | | | | | |
| 2.8.37 | 9.2.2 | Careful and efficient transplanting of affected trees to temporary or final transplant location (the proposed tree to be transplanted is a semi-mature <i>Macaranga tanarius</i> and is located at the proposed Pumping Station P2 location). | All sites | Contractor | | √ | | WBTC No. 14/2002 |
| 2.8.37 | 9.2.2 | Short excavation and immediate backfilling sections upon completion of works to reduce active site area. | All sites | Contractor | | √ | | |
| 2.8.37 | 9.2.2 | Screening of site construction works by use of hoarding that is appropriate to its site. | All sites | Contractor | | √ | | WBTC No. 19/2001 |
| 2.8.37 | 9.2.2 | Conservation of topsoil for reuse. | All sites | Contractor | | √ | | |
| 2.8.30 | 9.2.2 | Night-time light source from marine fleets should be directed away from the residential units. | Outfall area. | Contractor | | √ | | |

* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.

** D=Design, C=Construction, O=Operation

N/A Not applicable