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ATAL-DEGREMONT-CHINA HARBOUR JOINT VENTURE

CONTRACT NO. DC/2013/10 - DESIGN, BUILD AND OPERATE SAN WAI SEWAGE TREATMENT WORKS – PHASE 1

QUARTERLY EM&A REPORT NO. 4

(01 FEBRUARY – 30 APRIL 2018)

Prepared by: _____
LO, Ting Yi

Certified by: _____
LAU, Chi Leung
Environmental Team Leader

Issued Date: 15 May 2018 *Report No.: ENA83111*

ANEWR

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

Your reference:

Our reference: HKDSD203/50/105022

Date: 29 May 2018

Attention: Ms Carol Ho

BY EMAIL & POST
(email: carolho@dsd.gov.hk)

Dear Sirs

Agreement No. HATS 02/2016
Services for Independent Environmental Checker (IEC) for
Contract No. DC/2013/10 – Design, Build and Operate San Wai Sewage Treatment Works – Phase 1
Quarterly Environmental Monitoring and Audit Report No.4 (February 2018 – April 2018)

We refer to emails of 15 and 28 May 2018 from ETS-Testconsult Limited attaching the Quarterly Environmental Monitoring and Audit Report No.4 (February 2018 – April 2018).

We have no further comment and hereby verify the Quarterly Environmental Monitoring and Audit Report No.4 (February 2018 – April 2018).

Should you have any queries, please do not hesitate to contact the undersigned or our Mr Nic Lam on 2618 2831.

Yours faithfully
ANEWR CONSULTING LIMITED

Adi Lee
Independent Environmental Checker

LYMA/LHHN/WCKJ/lhmh

cc AECOM – Mr Patrick Leung (email: patrick.leung@swstw-aecom.com)
ETS-Testconsult Limited – Mr C L Lau (email: env@ets-testconsult.com)

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According to the Section 25 of the Particular Specification (PS) and the Environmental Permit No. EP-464/2013, an EM&A programme should be implemented in accordance with the procedures and requirements in the EM&A Manual of the approved EIA report (Registration No. AEIAR-072/2003). The scope of monitoring works includes air quality, construction noise, water quality and environmental site audit.

Baseline monitoring was completed in April 2017. Action and Limit Levels were established for air quality, noise and water quality parameters based on the baseline monitoring results.

This is the fourth Quarterly Environmental Monitoring and Audit (EM&A) Report for the Contract which summaries findings of the EM&A works conducted during the reporting period from 01 February to 30 April 2018.

Environmental Monitoring and Audit Progress
The quarterly EM&A programme was undertaken in accordance with the EM&A Manual for this Contract. The summary of the monitoring activities in this reporting month is listed below:

- *24-hour TSP Monitoring: 15 Occasions at 2 designated locations*
- *1-hour TSP Monitoring: 45 Occasions at 2 designated locations*
- *Noise Monitoring (Day-time): 15 Occasion at 2 designated locations*
- *Water Quality Monitoring: 39 Occasions at 1 designated location*
- *Weekly Site inspection: 13 Occasions*

Breaches of Action and Limit Levels
Air Quality Monitoring
No exceedance of Action and Limit levels was recorded for 1-hr and 24-hr TSP monitoring in the reporting month.

Noise Monitoring
No exceedance of Action and Limit levels for noise monitoring was recorded in the reporting month.

Water Quality Monitoring
According to the summary of water monitoring results, no exceedance of Action and Limit levels was recorded in this reporting month.

Weekly Site Inspections
In general, performance on environmental mitigation measures implemented was found to be satisfactory in this reporting period. The major findings observed during site inspections are presented in the **Section 3.4.**

Complaint Log
There was no complaint received in relation to the environmental impact during the reporting period.

Notifications of Summons and Successful Prosecutions
There were no notifications of summons or prosecutions received during the reporting period.

Reporting Change
There were no reporting changes during the reporting period.

1 INTRODUCTION

1.1. Basic Project Information

1.1.1. This Quarterly Environmental Monitoring and Audit (EM&A) Report is prepared for Contract No. DC/2013/10 - Design, Build and Operate San Wai Sewage Treatment Works – Stage 1 (the Project) (hereafter referred to as "the Contract"). The Contract was awarded to ATAL-DEGREMONT-CHINA HARBOUR JOINT VENTURE (ADCJV) by the Drainage Services Department (DSD) and ETS-Testconsult Limited was appointed as the Environmental Team (ET) by ADCJV to implement the EM&A program in compliance with the EP and the EM&A Manuals.

1.1.2. The project involves expansion of the preliminary treatment works at San Wai STW from 164,000 m^3/d to 200,000 m^3/d Average Dry Weather Flow, upgrading the preliminary treatment level to CEPT and adding centralized disinfection. The site layout plan is shown in **Appendix A**. For any enquiries, hot line telephone (24 hours) at 9083 0560 was established.

1.1.3. According to the Section 25 of the Particular Specification (PS) and the Environmental Permit No. EP-464/2013, an EM&A programme should be implemented by an independent Environmental Team (ET) in accordance with the procedures and requirements in the EM&A Manual of the approved EIA report (Registration No. AEIAR-072/2003).These documents are available through the EIA Ordinance Register. The construction works of the Contract commenced on 16 May 2017.

1.1.4. The scope of monitoring works includes air quality, construction noise, water quality and environmental site audit. The EM&A requirements for each parameter described in the following sections include:

- *All monitoring parameters;*
- *Monitoring schedules for the reporting month and forthcoming months;*
- *Action and Limit levels for all environmental parameters;*
- *Event/Action Plans;*
- *Environmental mitigation measures, as recommended in the Project EIA study final report; and*
- *Environmental requirements in contract documents*

1.1.5. As part of the project EM&A program, baseline monitoring was conducted from 21 March 2017 to 15 April 2017 to determine the ambient environmental conditions before the project commence any major construction works and it had been verified by IEC and endorsed by EPD.

1.1.6. This is the fourth Quarterly Environmental Monitoring and Audit (EM&A) Report for the Contract which summaries the audit findings of the EM&A programme during the reporting period from 01 February to 30 April 2018.

1.2. Project Organization

1.2.1. The project organization structure and lines of communication with respect to the on-site environmental management structure is shown in **Appendix B**. The key personnel contact names and numbers are summarized in **Table 1.1.**

Table 1.1 Contact Information of Key Personnel

Party	*Position*	*Name of Key Staff*	*Tel. No.*	*E-mail*
Supervising Officer (AECOM Asia Co. Ltd.)	*Resident Engineer*	*Mr. Patrick Leung*	*5222 6561*	*patrick.leung@swstw-aecom.com*
Independent Environmental Checker (ANewR Consulting Limited)	*Technical Director*	*Mr. Adi Lee*	*2618 2836*	*aymlee@anewr.com*
	Senior Environmental Consultant	*Mr. Nic Lam*	*2618 2836*	*nhhlam@anewr.com*
Contractor (ATAL-DEGREMONT-CHINA HARBOUR JOINT VENTURE)	*Environmental Officer*	*Mr. Johnny So*	*9513 8899*	*johnny.so@c302.chechk.com*
	Environmental Supervisor	*Ms Cherry Ye*	*6237 1125*	*cherry.ye@c302.chechk.com*
Environmental Team (ETS-Testconsult Ltd.)	*Environmental Team Leader*	*Mr. C. L. Lau*	*2946 7791*	*env@ets-testconsult.com*

1.3. Construction Programme

1.3.1. A copy of the Contractor's construction programme is provided in **Appendix C**.

1.4. Construction Works Undertaken During the Reporting Period

1.4.1. A summary of the construction activities undertaken during this reporting period is shown below:

- *Substructure (ELS & Bulk excavation);*
- *Removal of ELS;*
- *Substructure (rc structure);*
- *Backfilling;*
- *Superstructure (rc and metalworks);*
- *Pile Loading Test;*
- *Water Tightness Test;*
- *ABWF - Administration Building & Maintenance Workshop;*
- *ABWF - Payment Flowmeter Chamber;*
- *Bar Screen Installation;*
- *Post-Drilling (Investigation and verification of the quality of socketed H-piles);*
- *Slope works and Retaining Wall (Eastern Portion);*
- *Slope works (Northern Portion)*
- *Drainage Inlet connection (Diversion of Three Existing Sewage Rising Mains);*
- *Drainage Outlet connection (Effluent Connection to the Existing Junction Chamber);*
- *CLP Cable Duct and Draw Pits (within the Site);*
- *EVA (Road & Drainage);*
- *RC Trench and Odour Pipe;*
- *Process Pipe;*
- *Emergency By-Pass Pipe;*
- *Diversion of Existing Watermains by WSD*

2 EM&A Requirement

2.1. Summary of EM&A Requirements

2.1.1. The scope of monitoring works includes air quality, construction noise, water quality and environmental site audit. The EM&A requirements for each parameter described in the following sections include:

- *All monitoring parameters;*
- *Monitoring schedules for the reporting month and forthcoming months;*
- *Action and Limit levels for all environmental parameters;*
- *Event/Action Plans;*
- *Environmental mitigation measures, as recommended in the Project EIA study final report; and*
- *Environmental requirements in contract documents*

2.2. Monitoring Requirements

2.2.1. Air Quality Monitoring

In accordance with the EM&A Manual, 1-hr and 24-hr TSP air quality monitoring were conducted three times and once per six days correspondingly. Two air monitoring location, ASR1a (晉榮貨櫃服務有限公司) and ASR2a (永康貨櫃服務有限公司) were selected which was shown in **Figure 1**.

2.2.2. Noise Monitoring

Noise levels (L_{eq}, L_{10} and L_{90}) were monitored in the reporting period in accordance with the EM&A Manual. Two noise monitoring stations, NSR1a (晉榮貨櫃服務有限公司) and NSR2a (永康貨櫃服務有限公司) which shown in **Figure 1**, were required to perform impact noise monitoring.

2.2.3. Water Quality Monitoring

Water quality was monitored 3 times per week in the reporting period in accordance with the EM&A Manual at the one alternative water quality monitoring station, R1b (at Tin Shui Wai Nullah) which shown in **Figure 2**.

2.2.4 The equipment, monitoring parameters, frequency and duration, monitoring methodology, monitoring schedule, meteorological information are detailed in the monthly EM&A Reports.

2.3. Action and Limit Levels

2.3.1. The Action and Limit Levels for 1-hr TSP and 24-hr TSP are provided in **Table 2.1**.

Table 2.1 Action and Limit Levels for 1-hr and 24-hr TSP

Air Quality Monitoring Station	*1-hr TSP ($\mu g/m^3$)*		*24-hr TSP ($\mu g/m^3$)*	
	Action Level	*Limit Level*	*Action Level*	*Limit Level*
ASR1a	*309*	*500*	*260*	*260*
ASR2a	*292*	*500*	*228*	*260*

2.3.2. The Action and Limit Levels for construction noise are provided in **Table 2.2**

Table 2.2 Action and Limit Levels for Construction Noise

Time Period	*Action*	*Limit*
0700 –1900 hrs normal weekdays	*When one documented complaint is received*	*75 dB(A)**

Remark: (*)70dB(A) for schools and 65dB(A) for schools during school examination period

2.3.3. The Action and Limit Levels for Water Quality are provided in **Table 2.3**

Table 2.3 Action and Limit Levels for Water Quality

Parameters	*Unit*	*Action*	*Limit*
Turbidity	*NTU*	*19.8*	*20.5*
Dissolved Oxygen	*mg/L*	*1.84*	*1.81*
Suspended Solid	*mg/L*	*17.0*	*17.8*

2.4. Event and Action Plans

2.4.1. The event and action plan is provided in **Appendix G**.

2.5. Mitigation Measures

2.5.1. Environmental mitigation measures for the Contract were recommended in the Approved EIA Report. **Appendix H** lists the recommended mitigation measures and the implementation status.

3 ENVIRONMENTAL MONITORING AND AUDIT

3.1. Air Quality Monitoring Result

3.1.1. No exceedance of Action and Limit levels was recorded for 1-hr and 24-hr TSP monitoring in this quarter. Graphical presentation of 1-hour and 24-hour TSP monitoring results is shown in **Appendix D**. Wind data included wind speed and wind direction was extracted from Wetland Park Station of Hong Kong Observatory and is presented in **Appendix I**.

3.1.2. Generally, 1-hour TSP and 24-hour TSP monitoring results fluctuated well below the Action Level in this reporting period. The major dust source observed near the monitoring stations was mainly from vehicles passing by the container yards and general earth works. It can be concluded that the contractor implemented sufficient dust mitigation measures during this reporting quarter.

3.1.3. Apart from the construction activities, the cargo trunks passing through the container yards (晉榮貨櫃服務有限公司 and 永康貨櫃服務有限公司) would also generate dust since the Ha Tsuen Road was mainly made by soil and sand. A part of 1-hour TSP and 24-hour TSP monitoring results were contributed by the cargo trunks.

3.2. Noise Monitoring Results

3.2.1. No exceedance of Action and Limit Level of noise monitoring results was recorded during the reporting quarter. Graphical presentation of 1-hour and 24-hour TSP monitoring results for the reporting month is shown in **Appendix E**.

3.2.2. The noise monitoring data were found to be lower than the limit level. The major noise source during the monitoring event was the vehicles passing through the container yard entrance and the general earth works inside the construction site.

3.2.3. Since NSR1a and NSR2a were located inside the container yards, the frequency of vehicles moving in and out the container yards would influence the noise monitoring results.

3.3. Water Quality Monitoring Result

3.3.1. According to the summary of water monitoring results, no exceedance of Action and Limit levels was recorded in this reporting month. Graphical presentation of the monitoring results for the reporting month is shown in **Appendix F**.

3.3.2. Generally, the turbidity and suspended solids were found to be lower than the action level. Besides, all results of dissolved oxygen measured in this reporting period were higher than the action level.

3.3.3. Aside from the discharge, weather condition would be a major factor that affects the water quality in Tin Shui Wan Nallah. In rainy day, the soil and other suspended materials were flushed along the shore and entered the Tin Shui Wai Nullah. Besides, the nullah water would flow rapidly and the sand and stones in the nullah bed were upturned. Thus, the water quality would be deteriorated.

3.4. Site Inspection

3.4.1. Site Inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control mitigation measures for the project. The dates of environmental site inspections during the reporting period are listed in **Table 3.1**.

Table 3.1 Environmental Site Inspection Date

February 2018	March 2018	April 2018
02, 09, 14 and 23	02, 09, 16, 22 and 29	06, 13, 20 and 26

3.4.2. Observations for the site inspections within this reporting period are summarized in **Table 3.2**.

Table 3.2 Summary of observation of site inspections

Date	Observations / Reminders	Follow-up Action	Closed Date
26 January 2018	1. Oil stain near sheet piling machine was observed.	1. The oil stain was cleared.	02 February 2018
02 February 2018	1. Stagnant water was found accumulated near Portion P1.	1. Stagnant water was cleared near Portion P1.	09 February 2018
09 February 2018	--	--	--
14 February 2018	--	--	--
23 February 2018	1. Improper drip tray was observed. 2. Generator without drip tray was observed at Portion CEPT. Reminder 1 – The contractor was reminded to clear the stagnant pool frequently.	1. Proper drip tray was provided. 2. The generator was removed at Portion CEPT.	02 March 2018
02 March 2018	1. Stagnant water was found accumulated near CEPT work area.	1. Stagnant water was cleared near CEPT work area.	09 March 2018
09 March 2018	1. Stagnant water was observed inside the drip tray of the generator at Portion CEPT.	1. Stagnant water inside the drip tray of the generator at Portion CEPT was cleared.	16 March 2018
16 March 2018	1. General refuse was observed near security control room.	1. General refuse was collected near security control room.	22 March 2018

	2. Water was found accumulated in an admixture mixing bucket which is without cover near P3.	2. The admixture mixing bucket was removed near P3.	
22 March 2018	1. General refuse was observed near SDB.	1. General refuse was observed near SDB.	29 March 2018
29 March 2018	1. Accumulation of sediment inside the drainage was observed at CEPT. 2. Stock of cement without imprevious cover was observed at P1. 3. No wheel washing facilities were provided at P6. 4. Fugitive dust was observed at P6.	1. Sediment inside the drainage was removed at CEPT. 2. Imprevious cover was provided for the stock of cement at P1. 3. Wheel washing facilities were provided at P6. 4. Watering was provided at P6.	06 April 2018
06 April 2018	1. Stagnant pool was observed at CEPT	1. Stagnant pool was cleared at CEPT	13 April 2018
13 April 2018	--	--	--
20 April 2018	1. Stagnant pool was observed at SDB.	1. Stagnant pool was cleared at SDB.	26 April 2018
26 April 2018	1. Opened cement pack without impervious cover was observed at CEPT.	Follow-up actions for outstanding observation will be inspected during the next site inspection.	--

3.5. Advice on the Solid and Liquid Waste Management Status

3.5.1. 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

3.5.2. The quantities of waste for disposal in this reporting period are summarized in the Monthly Summary Waste Flow Table which is shown in **Appendix J**.

3.5.3. To control over the site performance on waste management, the Contractor shall ensure that all solid and liquid waste management works are in full compliance with the relevant license/permit requirements, such as the effluent discharge license and the chemical waste producer registration. The Contractor is also reminded to implement the recommended environmental mitigation measures according to the EM&A Manual based on actual site conditions.

3.6. Landscape and Visual Audit

3.6.1. Landscape and visual audits were undertaken at least once every two weeks throughout the construction period by a competent landscape architect. During the reporting period, audits were carried out on 09 & 23 February 2018, 09 & 23 March 2018 and 06 & 20 April 2018.

3.6.2. Observations and reminders were summarized in the landscape and visual impact assessment checklists which are attached in the monthly EM&A reports.

3.7. Discharge License and Results of Effluent Monitoring

3.7.1. Effluent quality was monitored in the reporting quarter in accordance with the EM&A Manual at the discharge point. A discharge license under Water Pollution Control Ordinance was obtained by the Contractor upon commencement of the Project. Self-monitoring would be performed as per the requirement under the discharge license. According to the EM&A Manual, pH, chemical oxygen demand and total suspended solid are required to be analysed at least once every two week.

3.7.2. Effluent water samples were sampled by the Contractor. The dates of environmental site inspections during the reporting period are listed in **Table 3.3**. During February 2018, there was no water discharged from 13 to 26 February 2018 and the Wetsep at P8 was not operated, the effluent water samples were sampled by the Contractor on 27 February 2018 at P1 and P6. During March 2018, since the Wetsep at P8 was not operated and P1 was not operated on 27 March 2018, the effluent water samples were sampled by the Contractor on 13 March 2018 at P1 & P6 and 27 March 2018 at P6. During April 2018, the effluent water sample was sampled at P1 only as the Wetsep at P6 and P8 were not operated during April 2018.

Table 3.3 Effluent Sampling Dates

February 2018	March 2018	April 2018
13 and 27	13 and 27	10 and 24

3.7.3. The required testing parameter including pH, chemical oxygen demand and total suspended solid were carried out in a HOKLAS laboratory. The methods of chemical oxygen demand and total suspended solid determination follow APHA 19ed 5220 B and APHA 19ed 2540 D respectively.

3.7.4. For effluent quality monitoring as per the discharge license requirement, the results complied with the discharge license requirement.

3.8. Implementation Status of Environmental Mitigation Measures

3.8.1. The environmental mitigation measures that recommended in the Environmental Monitoring and Audit Manual covered the issues of dust, noise and waste and they are summarized as following:

Dust Mitigation Measures

a. The working area for the uprooting of trees, shrubs, or vegetation or for the removal of boulders, poles, pillars or temporary or permanent structures should be sprayed with water or a dust suppression chemical immediately before, during and immediately after the operation so as to maintain the entire surface wet;
b. All demolished items (including trees, shrubs, vegetation, boulders, poles, pillars, structures, debris, rubbish and other items arising from site clearance) that may dislodge dust particles should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides within a day of demolition;
c. Vehicle washing facilities including a high pressure water jet should be provided at every discernible or designated vehicle exit point;
d. The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores;
e. Where a site boundary adjoins a road, street, service and or other area accessible to the public, hoarding of not less than 2.4m from ground level should be provided along the entire length of that portion of the site boundary except for a site entrance or exit;
f. Every main haul road (i.e. any course inside a construction site having a vehicle passing rate of higher than 4 in any 30 minutes) should be paved with concrete, bituminous materials, hardcores or metal plates, and kept clear of dusty materials; or sprayed with water or a dust suppression chemical so as to maintain the entire road surface wet;
g. The portion of any road leading only to a construction site that is within 30m of a discernible or designated vehicle entrance or exit should be kept clear of dusty materials;
h. Immediately before leaving a construction site, every vehicle should be washed to remove any dusty materials from its body and wheels;

i. Where a vehicle leaving a construction site is carrying a load of dusty materials, the load should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle;
j. The working area of any excavation or earth moving operation should be sprayed with water or a dusty suppression chemical immediately before, during and immediately after the operation so as to maintain the entire surface wet;
k. Exposed earth shall be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shotcrete or other suitable surface stabilizer within 6 months after the last construction activity on the construction site or part of the construction site where the exposed earth lies;
l. Any stockpile of dusty material should be either covered entirely by impervious sheeting; placed in an area sheltered on the top and the 3 sides; or sprayed with water or a dust suppression chemical so as to maintain the entire surface wet.

Noise Mitigation Measures

a. Quiet plants should be used in order to reduce the noise impacts to protect the nearby NSRs.
b. Temporary and Movable Noise Barriers should be used in order to reduce the noise impact to the surrounding sensitive receivers
c. The contractor should site noisy equipment and activities as far from sensitive receivers as practical.
d. Idle equipment should be turned off or throttled down.
e. Construction activities should be planned so that parallel operation of several sets of equipment close to a given receiver is avoided
f. Construction plant should be properly maintained and operated.

Water Quality Mitigation Measures

a. Exposed stockpiles should be covered with tarpaulin or impervious sheets before a rainstorm occurs;
b. The exposed soil surfaces should also be properly protected to minimize dust emission;
c. The stockpiles of materials should be placed in the locations away from the drainage channel so as to avoid releasing materials into the channel;
d. Wheel washing facilities should be provided at site exits to ensure that earth, mud and debris would not be carried out of the works areas by vehicles;
e. Provision of site drainage systems and treatment facilities would be required to minimize the water pollution;
f. A discharge license needs to be applied from EPD for discharging effluent from the construction site;
g. The treated effluent quality is required to meet the requirements specified in the discharge license;
h. Provision of chemical toilets is required to collect sewage from workforce. The chemical toilets should be cleaned on a regular basis;
i. A licensed waste collector should be employed to clean the chemical toilets and temporary storage tank on a regular basis;
j. Illegal disposal of chemicals should be strictly prohibited;
k. Registration as a chemical waste producer is required if chemical wastes are generated and need to be disposed of. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes;
l. Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance should be used as a guideline for handing chemical wastes;
m. The impact from accidental spillage of chemicals can be effectively controlled through good management practices.

Waste Management Mitigation Measures

a. Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal;
b. To encourage collection of aluminium cans by individual collectors, separate bins should be provided to segregate this waste from other general refuse generated by the workforce;

c. Any unused chemicals or those with remaining functional capacity should be recycled;
d. Prior to disposal of C&D waste, it is recommended that wood, steel and other metals be separated for re-use and/or recycling and inert waste as fill material to minimize the quantity of waste to be disposed of to landfill;
e. Proper storage and site practices to minimize the potential for damage or contamination of construction materials; and
f. Plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste.

4 SUMMARY OF EXCEEDANCE, COMPLAINT, NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTION

4.1. Summary of Exceedance of the Environmental Quality Performance Limit

4.1.1. There was no Action and Limit level exceedance of 1-hour and 24-hr TSP monitoring was recorded at station ASR1a and ASR2a during this reporting month.

4.1.2. There was no Action and Limit Level exceedance for noise recorded at station NSR1a and NSR2a during the reporting period.

4.1.3. According to the summary of water monitoring results, there was no Action and Limit Level exceedance for water quality monitoring recorded at station R1b during the reporting period.

4.2. Summary of Complaints, Notification of Summons and Successful Prosecution

4.2.1. There were no complaints received during the reporting period.

4.2.2. There were no notifications of summons or prosecutions received during the reporting period.

4.2.3. A summary of environmental complaints, notifications of summons and successful prosecutions was given in **Table 4.1**.

Table 4.1 Summary of Environmental Complaints Notification of Summons and Successful Prosecution

Reporting Period	Cumulative Statistic		
	Complaints	Notifications of summons	Successful prosecutions
The reporting period	0	0	0
From commencement date of construction to end of reporting month	0	0	0

5 COMMENTS, RECOMMENDATIONS AND CONCLUSION

5.1. Comments

5.1.1. According to the environmental site inspection undertaken during the reporting period, the following recommendations were provided:

- The Contractor was reminded to clear all the stagnant water pools;
- The Contractor was reminded to clean the oil stain;
- The Contractor was reminded to provide the drip tray for the chemical containers;

5.2. Recommendations

5.2.1. With implementation of the recommended environmental mitigation measures, the contract's environmental impacts were considered environmentally acceptable. The weekly environmental site inspections ensured that all the environmental mitigation measures recommended were effectively implemented.

5.2.2. The recommended environmental mitigation measures, as included in the EM&A programme, effectively minimize the potential environmental impacts from the Contract. Also, the EM&A programme effectively monitored the environmental impacts from the construction activities and ensure the proper implementation of mitigation measures. No particular recommendation was advised for the improvement of the programme.

5.3. Conclusions

5.3.1. There was no Action and Limit level exceedance of 1-hour and 24-hr TSP monitoring was recorded at station ASR1a and ASR2a during this reporting month.

5.3.2. There was no Action and Limit Level exceedance for noise recorded at station NSR1a and NSR2a during the reporting period.

5.3.3. According to the summary of water monitoring results, there was no Action and Limit Level exceedance for water quality monitoring recorded at station R1b during the reporting period.

5.3.4. Environmental site inspections were carried out on 02, 09, 14 & 23 February 2018, 02, 09, 16, 22 and 29 March 2018 and 06, 13, 20 & 26 April 2018. Recommendations on remedial actions were given to the Contractors for the deficiencies identified during the site inspections.

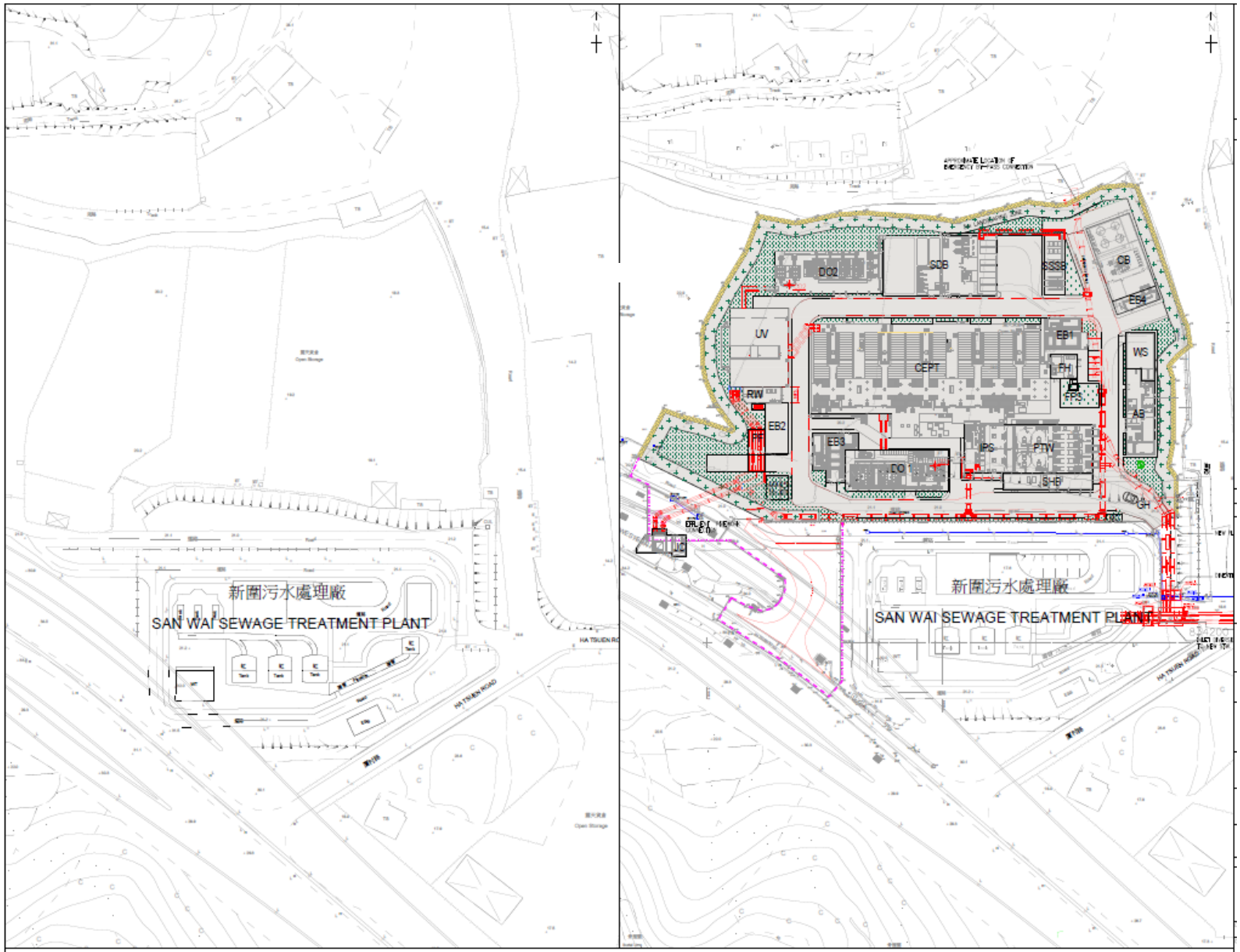
5.3.5. There were no complaints received during the reporting period.

5.3.6. There was no notification of summons and successful prosecution received during the reporting period.

- END OF REPORT -

Appendix A

Location of Works Areas

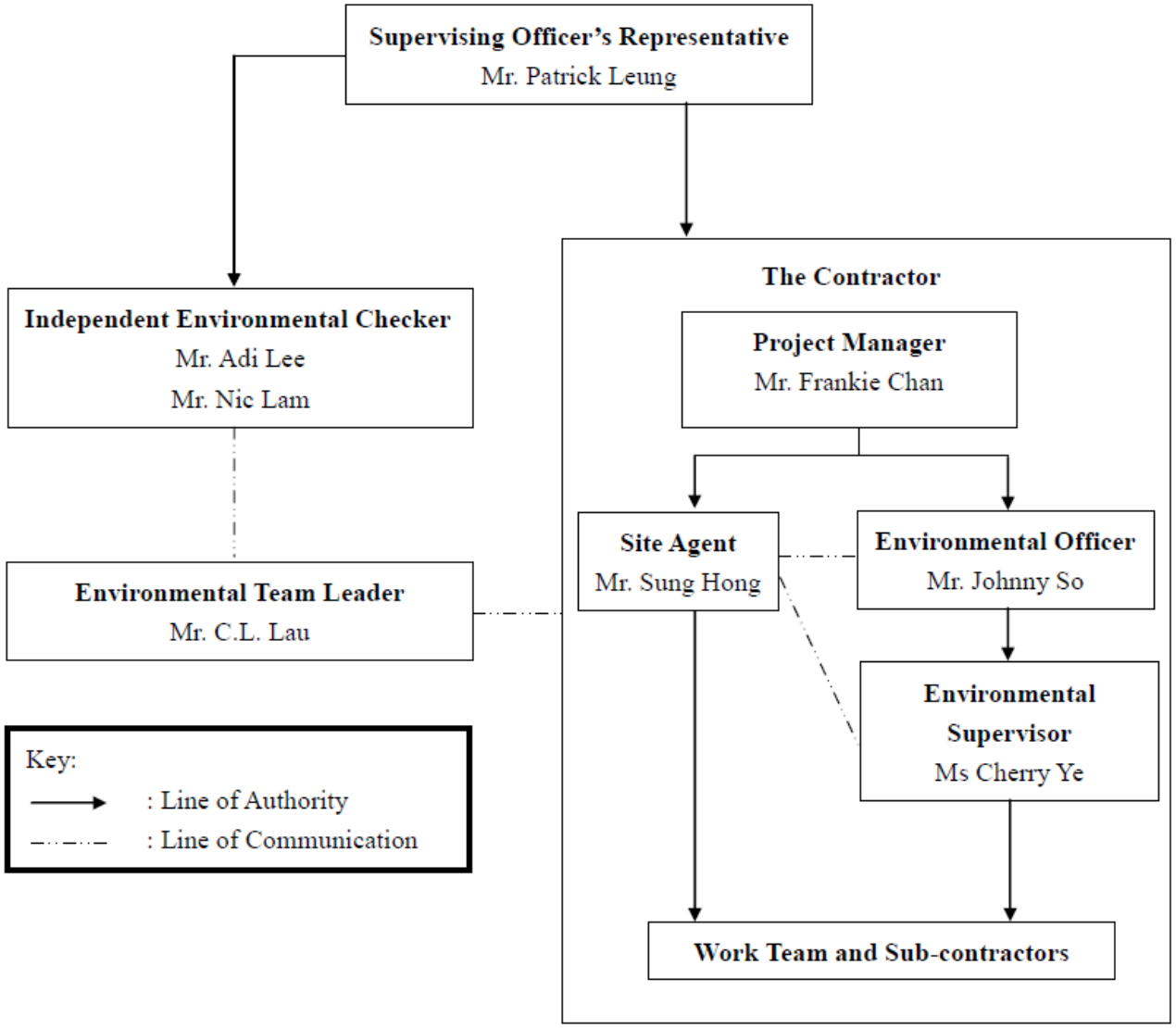


EXISTING SAN WAI SEWAGE TREATMENT WORKS

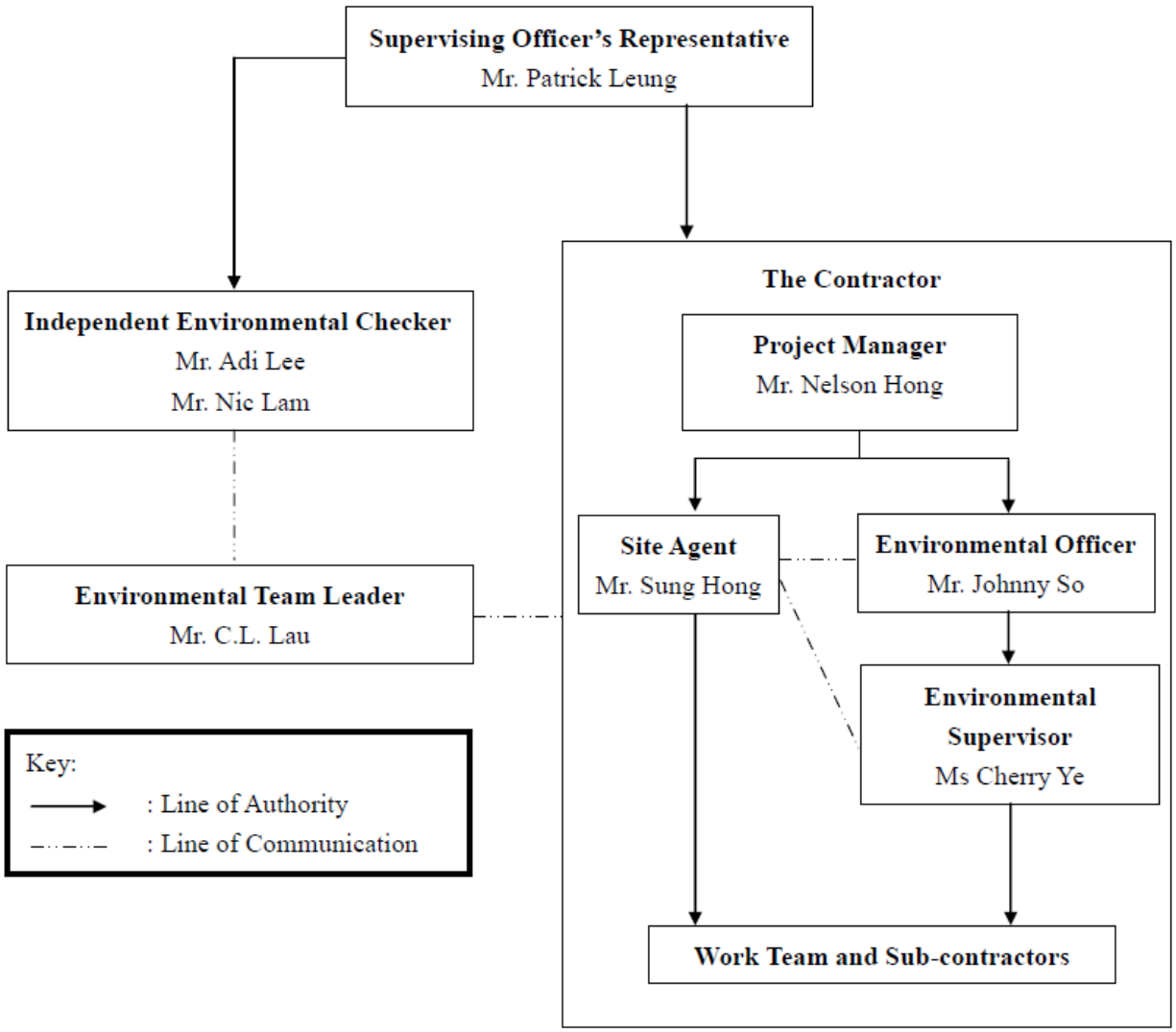
EXPANDED AND UPGRADED SAN WAI SEWAGE TREATMENT WORKS

Appendix B

Project Organization Chart



Project Organization Chart for February 2018



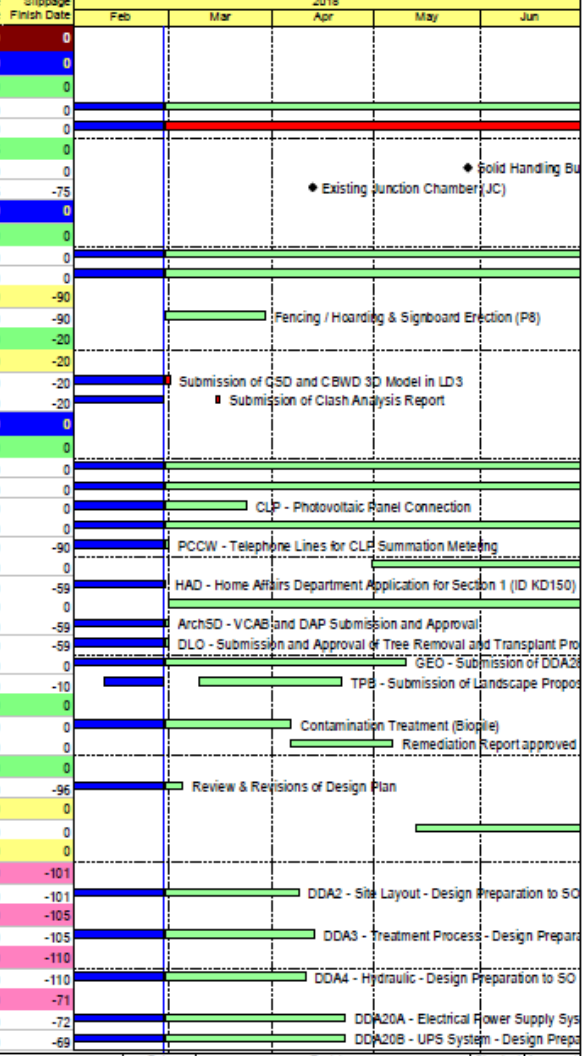
Project Organization Chart for March & April 2018

Appendix C

Construction Programme

DATA DATE: 28-Feb-18 | LAYOUT: SW Project PHase 1 Rev 8 (3M 28Feb18) | PAGE 1 OF 9

Activity ID	Activity Name	Original Duration	Start	Finish	Rev 8 BL Start	Rev 8 BL Finish	Slippage Start Date	Slippage Finish Date
San Wai Sewage Treatment Works Phase 1 - Rev 8 MP (Update as of 28 Feb 2018)		**1593**	**27-May-16**	**06-Oct-20**	**27-May-16**	**05-Oct-20**	**0**	**0**
Key Date		**1593**	**27-May-16**	**06-Oct-20**	**27-May-16**	**05-Oct-20**	**0**	**0**
Commencement & Completion of Works		1593	27-May-16	06-Oct-20	27-May-16	05-Oct-20	0	0
KD150	Section 1 - Handover to Home Affairs Department for Maintenance	1041	30-Nov-17	05-Oct-20	30-Nov-17	05-Oct-20	0	0
KD160	Section 2 - Period of Works (FOT P.3 cl 67, 71) - Including 10 Days Granted EOT	1593	27-May-16	06-Oct-20	27-May-16	05-Oct-20	0	0
Plant Room Handover Dates To E&M Installation		45	12-Apr-18	28-May-18	27-Jan-18	27-May-18	-75	0
KD304	Solid Handling Building (SHB)	0		28-May-18		27-May-18	0	0
KD322	Existing Junction Chamber (JC)	0		12-Apr-18		27-Jan-18	-75	-75
Preliminaries & General Requirement		**1529**	**01-Apr-17**	**25-Sep-20**	**01-Apr-17**	**25-Sep-20**	**0**	**0**
Contractor Requirement		1529	01-Apr-17	25-Sep-20	01-Apr-17	25-Sep-20	0	0
PS465	Impact Monitoring	1186	27-Jun-17	25-Sep-20	27-Jun-17	25-Sep-20	0	0
PS485	Site Drainage Plan Implementation	1274	01-Apr-17	25-Sep-20	01-Apr-17	25-Sep-20	0	0
Contractor Requirement for Working Area Portion (P8)		30	28-Feb-18	29-Mar-18	30-Nov-17	29-Dec-17	-90	-90
PS160	Fencing / Hoarding & Signboard Erection (P8)	30	28-Feb-18	29-Mar-18	30-Nov-17	29-Dec-17	-90	-90
Site Establishment		198	27-Aug-17	16-Mar-18	27-Aug-17	25-Feb-18	0	-20
Site Establishment for Working Area Portion (P1-P2)		198	27-Aug-17	16-Mar-18	27-Aug-17	25-Feb-18	0	-20
PS322	Submission of CSD and CBWD 3D Model in LD3	167	27-Aug-17	01-Mar-18	27-Aug-17	10-Feb-18	0	-20
PS323	Submission of Clash Analysis Report	167	11-Sep-17	16-Mar-18	11-Sep-17	25-Feb-18	0	-20
Design & Design Checking of Permanent Works		**1253**	**26-Jun-16**	**03-Oct-20**	**26-Jun-16**	**03-Oct-20**	**0**	**0**
Statutory Submission		1192	01-Nov-16	03-Oct-20	01-Nov-16	03-Oct-20	0	0
DS160	WSD - Water Supply & Plumbing	578	02-Feb-17	02-Sep-18	02-Feb-17	02-Sep-18	0	0
DS165	CLP - Power Supply	751	01-Nov-16	21-Nov-18	01-Nov-16	21-Nov-18	0	0
DS166	CLP - Photovoltaic Panel Connection	90	24-Dec-17	24-Mar-18	24-Dec-17	23-Mar-18	0	0
DS173	PCCW - Telephone Lines and Megalink	540	27-Jun-17	19-Dec-18	27-Jun-17	19-Dec-18	0	0
DS174	PCCW - Telephone Lines for CLP Summation Metering	126	28-Jul-17 A	01-Mar-18	28-Jul-17	30-Nov-17	0	-90
DS177	EMSD - Passenger Lift	355	30-Apr-18	20-Apr-19	30-Apr-18	19-Apr-19	0	0
DS185	HAD - Home Affairs Department Application for Section 1 (ID KD150)	154	31-Jul-17 A	28-Feb-18	31-Jul-17	31-Dec-17	0	-59
DS195	BEAM Plus - Final Assessment (FA)	948	01-Mar-18	03-Oct-20	01-Mar-18	03-Oct-20	0	0
DS200	ArchSD - VCAB and DAP Submission and Approval	292	15-Mar-17	01-Mar-18	15-Mar-17	01-Jan-18	0	-59
DS210	DLO - Submission and Approval of Tree Removal and Transplant Proposals	335	31-Jan-17	01-Mar-18	31-Jan-17	31-Dec-17	0	-59
DS230	GEO - Submission of DDA28A to SO for onward submission to GEO for Checking Certificate	280	03-Aug-17	10-May-18	03-Aug-17	09-May-18	0	0
DS280	TPB - Submission of Landscape Proposal to TPB for Approval	60	10-Feb-18	21-Apr-18	10-Feb-18	10-Apr-18	0	-10
Site Investigation		186	15-Oct-17	06-May-18	15-Oct-17	05-May-18	0	0
DS380	Contamination Treatment (Biopile)	173	15-Oct-17	06-Apr-18	15-Oct-17	05-Apr-18	0	0
DS390	Remediation Report approved by EPD	30	06-Apr-18	06-May-18	05-Apr-18	05-May-18	0	0
AIP / DDA Submission & Approval		630	26-Jun-16	18-Dec-18	26-Jun-16	19-Dec-18	0	0
DS410	Review & Revisions of Design Plan	521	26-Jun-16	05-Mar-18	26-Jun-16	28-Nov-17	0	-96
Design Memorandum (AIP1 / DDA1)		220	13-May-18	18-Dec-18	13-May-18	19-Dec-18	0	0
DS505	DDA1 - Design Memorandum - Design Preparation to SO Approval	220	13-May-18	18-Dec-18	13-May-18	19-Dec-18	0	0
Global Design		582	02-Sep-16	09-Oct-18	02-Sep-16	09-Oct-18	0	0
Site Layout (AIP2 / DDA2)		434	21-Oct-16	08-Apr-18	21-Oct-16	28-Dec-17	0	-101
DG390	DDA2 - Site Layout - Design Preparation to SO Approval	434	21-Oct-16	08-Apr-18	21-Oct-16	28-Dec-17	0	-101
Treatment Process (AIP3 / DDA3)		483	02-Sep-16	13-Apr-18	02-Sep-16	28-Dec-17	0	-105
DG130	DDA3 - Treatment Process - Design Preparation to SO Approval	483	02-Sep-16	13-Apr-18	02-Sep-16	28-Dec-17	0	-105
Hydraulic (AIP4 / DDA4)		475	02-Sep-16	10-Apr-18	02-Sep-16	20-Dec-17	0	-110
DG162	DDA4 - Hydraulic - Design Preparation to SO Approval	475	02-Sep-16	10-Apr-18	02-Sep-16	20-Dec-17	0	-110
Electrical Power Supply System (AIP20 / DDA20ABCDE)		392	24-Apr-17	11-May-18	24-Apr-17	28-Feb-18	0	-71
DG1891	DDA20A - Electrical Power Supply System - Design Preparation to SO Approval	260	24-Apr-17	22-Apr-18	24-Apr-17	08-Feb-18	0	-72
DG3880	DDA20B - UPS System - Design Preparation to SO Approval	260	24-Apr-17	22-Apr-18	24-Apr-17	11-Feb-18	0	-69



Remaining Level of Effort
Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
Milestone

ATAL-Degremont-China Harbour Joint Venture

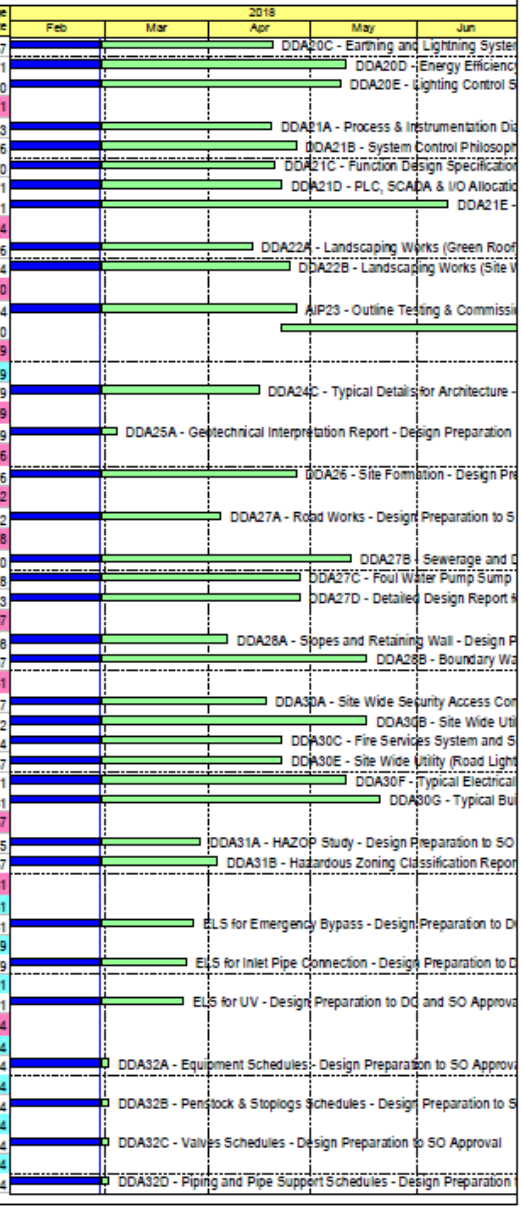
TASK filter: 3 Months Rolling Programme.

CONTRACT NO. DC/2013/10 DESIGN, BUILD & OPERATE
SAN WAI SEWAGE TREATMENT - PHASE 1
MASTER SCHEDULE Rev 8 (28 Febuary 2018)
THREE (3) MONTHS ROLLING PROGRAMME

Date	Revision	Checked	Approved
28-Feb-18	Three (3) Months Rolling Programme Rev. 8		

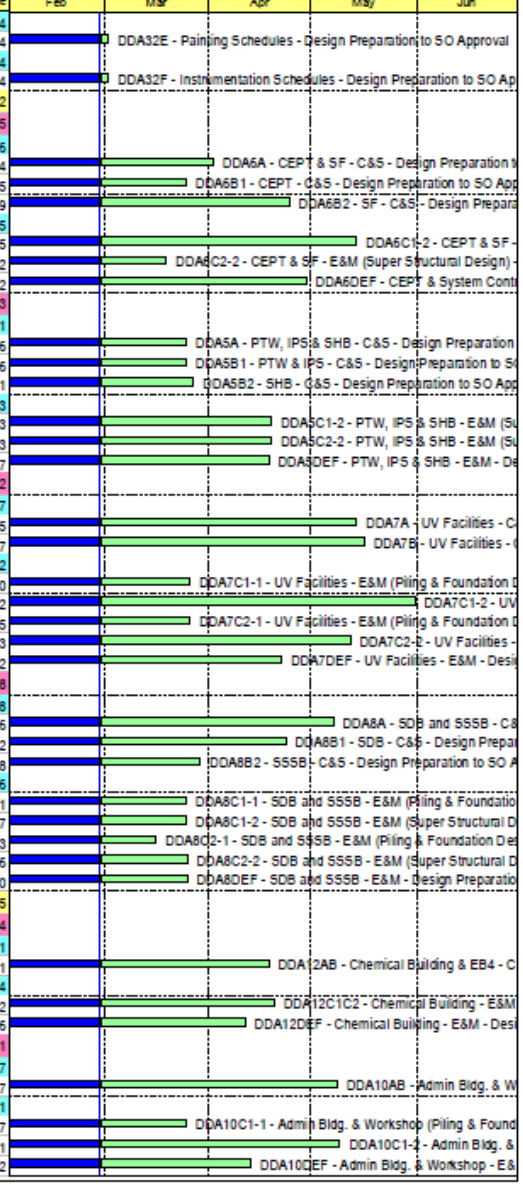
DATA DATE: 28-Feb-18 | LAYOUT: SW Project PHase 1 Rev 8 (3M 28Feb18) |

Activity ID	Activity Name	Original Duration	Start	Finish	Rev 8 BL Start	Rev 8 BL Finish	Slippage Start Date	Slippage Finish Date
DG3896	DDA20C - Earthing and Lightning System - Design Preparation to SO Approval	260	24-Apr-17	19-Apr-18	24-Apr-17	11-Feb-18	0	-67
DG3912	DDA20D - Energy Efficiency - Design Preparation to SO Approval	260	24-Apr-17	11-May-18	24-Apr-17	28-Feb-18	0	-71
DG3950	DDA20E - Lighting Control System - Design Preparation to SO Approval	260	01-Sep-17	09-May-18	01-Sep-17	08-Feb-18	0	-90
Control and Monitoring System (AIP21 / DDA21ABCDE)		538	12-Jan-17	10-Jun-18	12-Jan-17	29-May-18	0	-11
DG1924	DDA21A - Process & Instrumentation Diagram (P&ID) - Design Preparation to SO Approval	349	12-Jan-17	19-Apr-18	12-Jan-17	25-Jan-18	0	-83
DG1940	DDA21B - System Control Philosophy - Design Preparation to SO Approval	295	20-Mar-17	26-Apr-18	20-Mar-17	08-Feb-18	0	-76
DG1956	DDA21C - Function Design Specification - Design Preparation to SO Approval	270	03-Apr-17	20-Apr-18	03-Apr-17	09-Feb-18	0	-70
DG1972	DDA21D - PLC, SCADA & I/O Allocation Schedules - Design Preparation to SO Approval	261	23-Apr-17	22-Apr-18	23-Apr-17	09-Feb-18	0	-71
DG1988	DDA21E - SCADA Graphic Interface - Design Preparation to SO Approval	192	01-Jul-17 A	10-Jun-18	01-Jul-17	29-May-18	0	-11
Landscaping Works (AIP22 / DDA22AB)		478	06-Jan-17	24-Apr-18	06-Jan-17	09-Feb-18	0	-74
DG1260	DDA22A - Landscaping Works (Green Roof) - Design Preparation to SO Approval	329	06-Jan-17	13-Apr-18	06-Jan-17	28-Dec-17	0	-106
DG1274	DDA22B - Landscaping Works (Site Wide) - Design Preparation to SO Approval	186	03-Jul-17 A	24-Apr-18	03-Jul-17	09-Feb-18	0	-74
Testing and Commissioning Plan (AIP23 / DDA23)		277	28-Nov-17	09-Oct-18	28-Nov-17	09-Oct-18	0	0
DG3270	AIP23 - Outline Testing & Commissioning Plan - Design Preparation to SO Approval	145	28-Nov-17	26-Apr-18	28-Nov-17	22-Apr-18	0	-4
DG3305	DDA23 - Detailed Testing & Commissioning Plan - Design Preparation to SO Approval	170	22-Apr-18	09-Oct-18	22-Apr-18	09-Oct-18	0	0
General Notes Drawings for Foundation and Civil & Structural (AIP24AB / DDA24AB)		307	22-Feb-17	15-Apr-18	22-Feb-17	26-Jan-18	0	-79
General Notes Drawings for Civil & Structural (AIP24B / DDA24BC)		307	22-Feb-17	15-Apr-18	22-Feb-17	26-Jan-18	0	-79
DG3706	DDA24C - Typical Details for Architecture - Design Preparation to SO Approval	307	22-Feb-17	15-Apr-18	22-Feb-17	26-Jan-18	0	-79
Geotechnical Report (AIP25 / DDA25A)		390	09-Oct-16	04-Mar-18	09-Oct-16	25-Nov-17	0	-99
DG3445	DDA25A - Geotechnical Interpretation Report - Design Preparation to SO Approval	390	09-Oct-16	04-Mar-18	09-Oct-16	25-Nov-17	0	-99
Site Formation (AIP26 / DDA26)		361	14-Jan-17	26-Apr-18	14-Jan-17	08-Feb-18	0	-76
DG660	DDA26 - Site Formation - Design Preparation to SO Approval	361	14-Jan-17	26-Apr-18	14-Jan-17	08-Feb-18	0	-76
Road Works (AIP27A / DDA27A)		281	23-Mar-17	04-Apr-18	23-Mar-17	12-Jan-18	0	-82
DG1060	DDA27A - Road Works - Design Preparation to SO Approval	281	23-Mar-17	04-Apr-18	23-Mar-17	12-Jan-18	0	-82
Sewerage and Drainage Works (AIP27B / DDA27BCD)		547	21-Feb-17	12-May-18	21-Feb-17	23-Feb-18	0	-78
DG960	DDA27B - Sewerage and Drainage Works - Design Preparation to SO Approval	308	21-Feb-17	12-May-18	21-Feb-17	12-Jan-18	0	-120
DG974	DDA27C - Foul Water Pump Sump - E&M - Design Preparation to SO Approval	308	01-Sep-17	27-Apr-18	01-Sep-17	08-Feb-18	0	-78
DG988	DDA27D - Detailed Design Report for Pipe Trenches - C&S - Design Preparation to SO Approval	251	08-May-17	27-Apr-18	08-May-1	23-Feb-18	0	-63
Boundary Wall & Entrance (AIP28 / DDA28AB)		472	03-Feb-17	17-May-18	03-Feb-17	08-Feb-18	0	-97
DG1160	DDA28A - Slopes and Retaining Wall - Design Preparation to SO Approval	329	03-Feb-17	06-Apr-18	03-Feb-17	28-Dec-17	0	-98
DG1195	DDA28B - Boundary Wall & Entrance - Design Preparation to SO Approval	237	17-Jun-17	17-May-18	17-Jun-17	08-Feb-18	0	-97
Site Wide Utility (AIP30 / DDA30ABCDEFG)		526	30-Jan-17	21-May-18	30-Jan-17	28-Feb-18	0	-81
DG3515	DDA30A - Site Wide Security Access Control & Communication System - Design Preparation to SO Approval	336	30-Jan-17	17-Apr-18	30-Jan-17	31-Dec-17	0	-107
DG3774	DDA30B - Site Wide Utility (U/G Pipework, Ductwork, Cable Route, Cable Draw Pit) - Design Preparation to SO Approval	225	08-Jun-17	17-May-18	08-Jun-17	24-Jan-18	0	-112
DG3788	DDA30C - Fire Services System and Street Fire Hydrant System - Design Preparation to SO Approval	204	08-Jun-17	22-Apr-18	08-Jun-17	28-Dec-17	0	-114
DG3816	DDA30E - Site Wide Utility (Road Lighting) - Design Preparation to SO Approval	201	23-Jun-17	22-Apr-18	23-Jun-17	24-Jan-18	0	-87
DG3830	DDA30F - Typical Electrical Installation Drawings - Design Preparation to SO Approval	225	08-Jun-17	11-May-18	08-Jun-17	29-Jan-18	0	-101
DG3844	DDA30G - Typical Building Services Installation Drawings - Design Preparation to SO Approval	210	23-Jun-17	21-May-18	23-Jun-17	28-Feb-18	0	-81
HAZOP Report (DDA31AB)		410	01-Dec-16	03-Apr-18	01-Dec-16	05-Feb-18	0	-57
DG3530	DDA31A - HAZOP Study - Design Preparation to SO Approval	363	01-Dec-16	29-Mar-18	01-Dec-16	12-Jan-18	0	-75
DG3545	DDA31B - Hazardous Zoning Classification Report - Design Preparation to SO Approval	119	01-Sep-17	03-Apr-18	01-Sep-17	05-Feb-18	0	-57
ELS / Bulk Excavation (Temporary Works)		178	12-Jun-17	27-Mar-18	12-Jun-17	04-Jan-18	0	-81
ELS for Emergency Bypass		155	12-Jun-17	27-Mar-18	12-Jun-17	04-Jan-18	0	-81
DG3740	ELS for Emergency Bypass - Design Preparation to DC and SO Approval	155	12-Jun-17	27-Mar-18	12-Jun-17	04-Jan-18	0	-81
ELS for Inlet Pipe Connection		123	04-Sep-17	25-Mar-18	04-Sep-17	04-Jan-18	0	-79
DG3755	ELS for Inlet Pipe Connection - Design Preparation to DC and SO Approval	123	04-Sep-17	25-Mar-18	04-Sep-17	04-Jan-18	0	-79
ELS for UV		110	04-Sep-17	24-Mar-18	04-Sep-17	23-Dec-17	0	-91
DG3769	ELS for UV - Design Preparation to DC and SO Approval	110	04-Sep-17	24-Mar-18	04-Sep-17	23-Dec-17	0	-91
Miscellaneous Design		148	03-Jul-17 A	02-Mar-18	03-Jul-17	27-Jan-18	0	-34
Equipment Schedules (DDA32A)		148	03-Jul-17 A	02-Mar-18	03-Jul-17	08-Dec-17	0	-84
DG2012	DDA32A - Equipment Schedules - Design Preparation to SO Approval	148	03-Jul-17 A	02-Mar-18	03-Jul-17	08-Dec-17	0	-84
Penstock & Stoplogs Schedules (DDA32B)		148	03-Jul-17 A	02-Mar-18	03-Jul-17	28-Dec-17	0	-64
DG3216	DDA32B - Penstock & Stoplogs Schedules - Design Preparation to SO Approval	148	03-Jul-17 A	02-Mar-18	03-Jul-17	28-Dec-17	0	-64
Valves Schedules (DDA32C)		148	03-Jul-17 A	02-Mar-18	03-Jul-17	08-Dec-17	0	-84
DG3222	DDA32C - Valves Schedules - Design Preparation to SO Approval	148	03-Jul-17 A	02-Mar-18	03-Jul-17	08-Dec-17	0	-84
Piping and Pipe Support Schedules (DDA32D)		148	03-Jul-17 A	02-Mar-18	03-Jul-17	27-Jan-18	0	-34
DG3864	DDA32D - Piping and Pipe Support Schedules - Design Preparation to SO Approval	148	03-Jul-17 A	02-Mar-18	03-Jul-17	27-Jan-18	0	-34



DATA DATE: 28-Feb-18 | LAYOUT: SW Project PHase 1 Rev 8 (3M 28Feb18) |

Activity ID	Activity Name	Original Duration	Start	Finish	Rev 8 BL Start	Rev 8 BL Finish	Slippage Start Date	Slippage Finish Date
	Painting Schedules (DDA32E)	148	03-Jul-17 A	02-Mar-18	03-Jul-17	08-Dec-17	0	-84
DG3228	DDA32E - Painting Schedules - Design Preparation to SO Approval	148	03-Jul-17 A	02-Mar-18	03-Jul-17	08-Dec-17	0	-84
	Instrumentation Schedules (DDA32F)	148	03-Jul-17 A	02-Mar-18	03-Jul-17	28-Dec-17	0	-64
DG3234	DDA32F - Instrumentation Schedules - Design Preparation to SO Approval	148	03-Jul-17 A	02-Mar-18	03-Jul-17	28-Dec-17	0	-64
	LOT #1 - Building / Facilities Design : CEPT+SF, PTW+IPS+SHB, UV, SDB+SSSB	594	25-Sep-16	31-May-18	25-Sep-16	09-May-18	0	-22
	CEPT and System Control Flowmeter Chamber	492	24-Dec-16	14-May-18	24-Dec-16	09-Feb-18	0	-95
	Civil and Structural Design (AIP6A / DDA6AB1B2)	489	24-Dec-16	24-Apr-18	24-Dec-16	07-Feb-18	0	-76
DB1123	DDA6A - CEPT & SF - C&S - Design Preparation to SO Approval	352	24-Dec-16	02-Apr-18	24-Dec-16	28-Dec-17	0	-94
DB4914	DDA6B1 - CEPT - C&S - Design Preparation to SO Approval	370	24-Dec-16	25-Mar-18	24-Dec-16	07-Feb-18	0	-45
DB4930	DDA6B2 - SF - C&S - Design Preparation to SO Approval	285	26-Mar-17	24-Apr-18	26-Mar-17	25-Jan-18	0	-89
	Electrical and Mechanical Design (AIP6B / DDA6C1C2DEF)	427	25-Jan-17	14-May-18	25-Jan-17	09-Feb-18	0	-95
DB1160	DDA6C1-2 - CEPT & SF - E&M (Super Structural Design) - Design Preparation to SO Approval	185	08-Aug-17	14-May-18	08-Aug-17	09-Feb-18	0	-95
DB1188	DDA6C2-2 - CEPT & SF - E&M (Super Structural Design) - Design Preparation to SO Approval	185	28-Jun-17	19-Mar-18	28-Jun-17	25-Jan-18	0	-52
DB4508	DDA6DEF - CEPT & System Control - E&M - Design Preparation to SO Approval	327	25-Jan-17	29-Apr-18	25-Jan-17	28-Dec-17	0	-122
	Inlet Work, Preliminary Treatment Works, IPS and SHB	530	26-Nov-16	19-Apr-18	26-Nov-16	25-Jan-18	0	-83
	Civil and Structural Design (AIP5A / DDA5AB1B2)	396	26-Nov-16	27-Mar-18	26-Nov-16	25-Jan-18	0	-61
DB1223	DDA5A - PTW, IPS & SHB - C&S - Design Preparation to SO Approval	377	26-Nov-16	25-Mar-18	26-Nov-16	28-Dec-17	0	-86
DB4814	DDA5B1 - PTW & IPS - C&S - Design Preparation to SO Approval	359	17-Dec-16	25-Mar-18	17-Dec-16	28-Dec-17	0	-86
DB4830	DDA5B2 - SHB - C&S - Design Preparation to SO Approval	324	06-Feb-17	27-Mar-18	06-Feb-17	25-Jan-18	0	-61
	Electrical and Mechanical Design (AIP5B / DDA5C1C2DEF)	486	27-Nov-16	19-Apr-18	27-Nov-16	15-Jan-18	0	-93
DB1264	DDA5C1-2 - PTW, IPS & SHB - E&M (Super Structural Design) - Design Preparation to SO Approval	283	01-Apr-17	19-Apr-18	01-Apr-17	15-Jan-18	0	-93
DB1296	DDA5C2-2 - PTW, IPS & SHB - E&M (Super Structural Design) - Design Preparation to SO Approval	306	01-Mar-17	19-Apr-18	01-Mar-17	15-Jan-18	0	-93
DB4524	DDA5DEF - PTW, IPS & SHB - E&M - Design Preparation to SO Approval	394	27-Nov-16	18-Apr-18	27-Nov-16	01-Jan-18	0	-107
	UV Disinfection Facilities	467	22-Dec-16	31-May-18	22-Dec-16	09-May-18	0	-22
	Civil and Structural Design (AIP7A / DDA7AB)	228	26-Jun-17	16-May-18	26-Jun-17	08-Feb-18	0	-97
DB1325	DDA7A - UV Facilities - C&S (Architectural) - Design Preparation to SO Approval	182	11-Aug-17	14-May-18	11-Aug-17	08-Feb-18	0	-95
DB5010	DDA7B - UV Facilities - C&S (Structural) - Design Preparation to SO Approval	228	26-Jun-17	16-May-18	26-Jun-17	08-Feb-18	0	-97
	Electrical and Mechanical Design (AIP7B / DDA7C1C2DEF)	467	22-Dec-16	31-May-18	22-Dec-16	09-May-18	0	-22
DB1352	DDA7C1-1 - UV Facilities - E&M (Piling & Foundation Design) - Design Preparation to SO Approval	371	22-Dec-16	26-Mar-18	22-Dec-16	15-Jan-18	0	-70
DB1368	DDA7C1-2 - UV Facilities - E&M (Super Structural Design) - Design Preparation to SO Approval	244	08-Sep-17	31-May-18	08-Sep-17	09-May-18	0	-22
DB1384	DDA7C2-1 - UV Facilities - E&M (Piling & Foundation Design) - Design Preparation to SO Approval	371	22-Dec-16	26-Mar-18	22-Dec-16	20-Jan-18	0	-65
DB1399	DDA7C2-2 - UV Facilities - E&M (Super Structural Design) - Design Preparation to SO Approval	252	01-Jul-17 A	12-May-18	01-Jul-17	10-Mar-18	0	-53
DB4540	DDA7DEF - UV Facilities - E&M - Design Preparation to SO Approval	306	30-Mar-17	22-Apr-18	30-Mar-17	30-Jan-18	0	-82
	Sludge Dewatering Building and Sludge Skip Storage Building	594	25-Sep-16	07-May-18	25-Sep-16	08-Feb-18	0	-88
	Civil and Structural Design (AIP8A / DDA8AB1B2)	383	24-Dec-16	07-May-18	24-Dec-16	08-Feb-18	0	-88
DB1433	DDA8A - SDB and SSSB - C&S - Design Preparation to SO Approval	346	24-Dec-16	07-May-18	24-Dec-16	11-Jan-18	0	-116
DB4844	DDA8B1 - SDB - C&S - Design Preparation to SO Approval	307	04-Feb-17	23-Apr-18	04-Feb-17	11-Jan-18	0	-102
DB4858	DDA8B2 - SSSB - C&S - Design Preparation to SO Approval	341	04-Feb-17	29-Mar-18	04-Feb-17	08-Feb-18	0	-48
	Electrical and Mechanical Design (AIP8B / DDA8C1C2DEF)	585	25-Sep-16	25-Mar-18	25-Sep-16	18-Jan-18	0	-66
DB1460	DDA8C1-1 - SDB and SSSB - E&M (Piling & Foundation Design) - Design Preparation to SO Approval	449	25-Sep-16	25-Mar-18	25-Sep-16	23-Dec-17	0	-91
DB1476	DDA8C1-2 - SDB and SSSB - E&M (Super Structural Design) - Design Preparation to SO Approval	257	29-Apr-17	25-Mar-18	29-Apr-17	16-Jan-18	0	-67
DB1492	DDA8C2-1 - SDB and SSSB - E&M (Piling & Foundation Design) - Design Preparation to SO Approval	449	25-Sep-16	16-Mar-18	25-Sep-16	23-Dec-17	0	-83
DB1508	DDA8C2-2 - SDB and SSSB - E&M (Super Structural Design) - Design Preparation to SO Approval	248	29-Apr-17	25-Mar-18	29-Apr-17	18-Jan-18	0	-66
DB4556	DDA8DEF - SDB and SSSB - E&M - Design Preparation to SO Approval	394	27-Nov-16	25-Mar-18	27-Nov-16	25-Dec-17	0	-90
	LOT #2 - Building / Facilities Design : AB+WS, DO, CB+EB4, FH	585	28-Sep-16	23-May-18	28-Sep-16	09-Mar-18	0	-75
	Chemical Building and EB 4	450	28-Sep-16	20-Apr-18	28-Sep-16	25-Jan-18	0	-84
	Civil and Structural Design for CB & EB4 (AIP12A / DDA12AB)	308	31-Jan-17	18-Apr-18	31-Jan-17	28-Dec-17	0	-111
DB2123	DDA12AB - Chemical Building & EB4 - C&S - Design Preparation to SO Approval	308	31-Jan-17	18-Apr-18	31-Jan-17	28-Dec-17	0	-111
	Electrical and Mechanical Design for CB only (AIP12B / DDA12C1C2DEF)	443	28-Sep-16	20-Apr-18	28-Sep-16	25-Jan-18	0	-84
DB2148	DDA12C1C2 - Chemical Building - E&M - Design Preparation to SO Approval	432	28-Sep-16	20-Apr-18	28-Sep-16	28-Dec-17	0	-112
DB4602	DDA12DEF - Chemical Building - E&M - Design Preparation to SO Approval	313	05-Feb-17	11-Apr-18	05-Feb-17	25-Jan-18	0	-76
	Administration Building & Maintenance Workshop	542	03-Oct-16	09-May-18	03-Oct-16	09-Mar-18	0	-61
	Civil and Structural Design (AIP10A / DDA10AB)	334	22-Jan-17	08-May-18	22-Jan-17	11-Jan-18	0	-117
DB2234	DDA10AB - Admin Bldg. & Workshop - C&S - Design Preparation to SO Approval	334	22-Jan-17	08-May-18	22-Jan-17	11-Jan-18	0	-117
	Electrical and Mechanical Design (AIP10B / DDA10C1C2DEF)	452	03-Oct-16	09-May-18	03-Oct-16	09-Mar-18	0	-61
DB2286	DDA10C1-1 - Admin Bldg. & Workshop (Piling & Foundation Design) - E&M - Design Preparation to SO Approval	449	03-Oct-16	25-Mar-18	03-Oct-16	06-Jan-18	0	-77
DB2307	DDA10C1-2 - Admin Bldg. & Workshop (Super Structural Design) - E&M - Design Preparation to SO Approval	449	01-Oct-17	09-May-18	01-Oct-17	09-Mar-18	0	-61
DB4618	DDA10DEF - Admin Bldg. & Workshop - E&M - Design Preparation to SO Approval	332	31-Jan-17	13-Apr-18	31-Jan-17	20-Jan-18	0	-82



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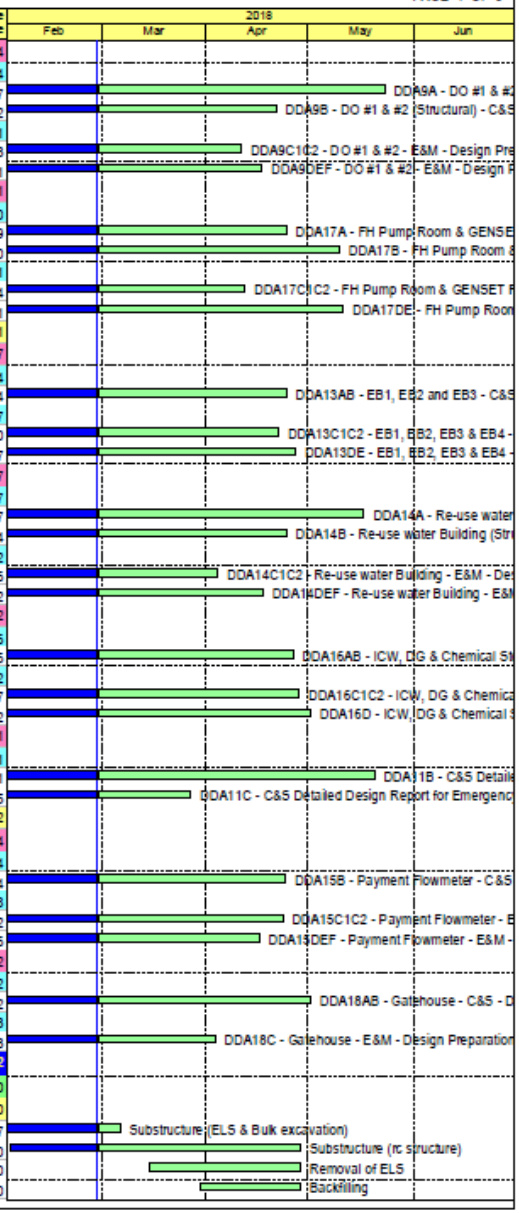
Activity ID	Activity Name	Original Duration	Start	Finish	Rev 8 BL Start	Rev 8 BL Finish	Slippage Start Date	Slippage Finish Date
	Deodorization Facilities No.1 and No.2	379	15-Dec-16	23-May-18	15-Dec-16	29-Jan-18	0	-114
	Civil and Structural Design (AIP9A / DDA9AB)	336	26-Jan-17	23-May-18	26-Jan-17	29-Jan-18	0	-114
DB2323	DDA9A - DO #1 & #2 (Architectural) - C&S - Design Preparation to SO Approval	336	26-Jan-17	23-May-18	26-Jan-17	26-Jan-18	0	-117
DB5150	DDA9B - DO #1 & #2 (Structural) - C&S - Design Preparation to SO Approval	336	05-Jun-17	21-Apr-18	05-Jun-17	29-Jan-18	0	-82
	Electrical and Mechanical Design (AIP9B / DDA9C1C2DEF)	379	15-Dec-16	17-Apr-18	15-Dec-16	25-Jan-18	0	-81
DB2348	DDA9C1C2 - DO #1 & #2 - E&M - Design Preparation to SO Approval	365	15-Dec-16	11-Apr-18	15-Dec-16	23-Dec-17	0	-108
DB4634	DDA9DEF - DO #1 & #2 - E&M - Design Preparation to SO Approval	337	26-Jan-17	17-Apr-18	26-Jan-17	25-Jan-18	0	-81
	Street Fire Hydrant Pump Room & GENSET Room	423	07-Dec-16	11-May-18	07-Dec-16	28-Feb-18	0	-71
	Civil and Structural Design (AIP17A / DDA17AB)	288	23-Mar-17	10-May-18	23-Mar-17	08-Feb-18	0	-90
DB2423	DDA17A - FH Pump Room & GENSET Room (Architectural) - C&S - Design Preparation to SO Approval	288	23-Mar-17	24-Apr-18	23-Mar-17	25-Jan-18	0	-89
DB5220	DDA17B - FH Pump Room & GENSET Room (Structural) - C&S - Design Preparation to SO Approval	288	01-Aug-17	10-May-18	01-Aug-17	08-Feb-18	0	-90
	Electrical and Mechanical Design (AIP17B / DDA17C1C2DE)	423	07-Dec-16	11-May-18	07-Dec-16	28-Feb-18	0	-71
DB2448	DDA17C1C2 - FH Pump Room & GENSET Room - E&M - Design Preparation to SO Approval	387	07-Dec-16	12-Apr-18	07-Dec-16	28-Dec-17	0	-104
DB4648	DDA17DE - FH Pump Room & GENSET Room - E&M - Design Preparation to SO Approval	317	23-Mar-17	11-May-18	23-Mar-17	28-Feb-18	0	-71
	LOT #3 - Building / Facilities Design : EB1, EB2, EB3, EB4, RW, DG+ICW, Inlet/Outlet Connection	575	16-Sep-16	20-May-18	16-Sep-16	28-Feb-18	0	-81
	Electrical Building No.1, No.2, No.3, No.4	515	16-Sep-16	27-Apr-18	16-Sep-16	28-Feb-18	0	-57
	Civil and Structural Design for EB123 (AIP13A / DDA13AB)	264	08-Apr-17	24-Apr-18	08-Apr-17	09-Feb-18	0	-74
DB3123	DDA13AB - EB1, EB2 and EB3 - C&S - Design Preparation to SO Approval	264	08-Apr-17	24-Apr-18	08-Apr-17	09-Feb-18	0	-74
	Electrical and Mechanical Design for EB1234 (AIP13B / DDA13C1C2DE)	475	16-Sep-16	27-Apr-18	16-Sep-16	28-Feb-18	0	-57
DB3148	DDA13C1C2 - EB1, EB2, EB3 & EB4 - E&M - Design Preparation to SO Approval	458	16-Sep-16	22-Apr-18	16-Sep-16	11-Jan-18	0	-100
DB4564	DDA13DE - EB1, EB2, EB3 & EB4 - E&M - Design Preparation to SO Approval	320	23-Feb-17	27-Apr-18	23-Feb-17	28-Feb-18	0	-57
	Re-use Water Building	456	03-Dec-16	17-May-18	03-Dec-16	09-Feb-18	0	-97
	Civil and Structural Design (AIP14A / DDA14AB)	262	13-Apr-17	17-May-18	13-Apr-17	09-Feb-18	0	-97
DB3223	DDA14A - Re-use water Building (Architectural) - C&S - Design Preparation to SO Approval	262	13-Apr-17	17-May-18	13-Apr-17	09-Feb-18	0	-97
DB5080	DDA14B - Re-use water Building (Structural) - C&S - Design Preparation to SO Approval	262	18-Aug-17	24-Apr-18	18-Aug-17	09-Feb-18	0	-74
	Electrical and Mechanical Design (AIP14B / DDA14C1C2DEF)	394	03-Dec-16	17-Apr-18	03-Dec-16	25-Jan-18	0	-82
DB3248	DDA14C1C2 - Re-use water Building - E&M - Design Preparation to SO Approval	366	03-Dec-16	04-Apr-18	03-Dec-16	19-Dec-17	0	-106
DB4580	DDA14DEF - Re-use water Building - E&M - Design Preparation to SO Approval	263	13-Apr-17	17-Apr-18	13-Apr-17	25-Jan-18	0	-82
	ICW and DG Store & Chemical Waste Storage Building	471	30-Nov-16	01-May-18	30-Nov-16	08-Feb-18	0	-82
	Civil and Structural Design (AIP16A / DDA16AB)	310	11-Mar-17	26-Apr-18	11-Mar-17	08-Feb-18	0	-76
DB3323	DDA16AB - ICW, DG & Chemical Stores - C&S - Design Preparation to SO Approval	310	11-Mar-17	26-Apr-18	11-Mar-17	08-Feb-18	0	-76
	Electrical and Mechanical Design (AIP16B / DDA16C1C2D)	440	30-Nov-16	01-May-18	30-Nov-16	08-Feb-18	0	-82
DB3348	DDA16C1C2 - ICW, DG & Chemical Stores - E&M - Design Preparation to SO Approval	380	30-Nov-16	28-Apr-18	30-Nov-16	11-Jan-18	0	-107
DB4694	DDA16D - ICW, DG & Chemical Stores - E&M - Design Preparation to SO Approval	233	24-May-17	01-May-18	24-May-1	08-Feb-18	0	-82
	Inlet & Outlet Pipe Connections and Diversion Pipeworks	353	31-Dec-16	20-May-18	31-Dec-16	08-Feb-18	0	-101
	Civil and Structural Design (AIP11 / DDA11ABC)	353	31-Dec-16	20-May-18	31-Dec-16	08-Feb-18	0	-101
DB3438	DDA11B - C&S Detailed Design Report for Inlet Connections Pipework - Design Preparation to SO Approval	284	08-Apr-17	20-May-18	08-Apr-17	08-Feb-18	0	-101
DB3452	DDA11C - C&S Detailed Design Report for Emergency Bypass - Design Preparation to SO Approval	353	31-Dec-16	27-Mar-18	31-Dec-16	11-Jan-18	0	-75
	LOT #4 - Building / Facilities Design : GH, PF	536	25-Nov-16	01-May-18	25-Nov-16	08-Feb-18	0	-82
	Payment Flowmeter Chamber	510	25-Nov-16	24-Apr-18	25-Nov-16	08-Feb-18	0	-74
	Civil and Structural Design (AIP15A / DDA15B)	277	13-Apr-17	24-Apr-18	13-Apr-17	08-Feb-18	0	-74
DB4323	DDA15B - Payment Flowmeter - C&S - Design Preparation to SO Approval	277	13-Apr-17	24-Apr-18	13-Apr-17	08-Feb-18	0	-74
	Electrical and Mechanical Design (AIP15B / DDA15C1C2DEF)	443	25-Nov-16	23-Apr-18	25-Nov-16	20-Jan-18	0	-93
DB4348	DDA15C1C2 - Payment Flowmeter - E&M - Design Preparation to SO Approval	383	25-Nov-16	23-Apr-18	25-Nov-16	11-Jan-18	0	-102
DB4740	DDA15DEF - Payment Flowmeter - E&M - Design Preparation to SO Approval	240	31-May-17	16-Apr-18	31-May-1	20-Jan-18	0	-86
	Gatehouse	500	24-Apr-17	01-May-18	24-Apr-17	08-Feb-18	0	-82
	Civil and Structural Design (AIP18A / DDA18AB)	176	18-Jul-17 A	01-May-18	18-Jul-17	08-Feb-18	0	-82
DB4424	DDA18AB - Gatehouse - C&S - Design Preparation to SO Approval	176	18-Jul-17 A	01-May-18	18-Jul-17	08-Feb-18	0	-82
	Electrical and Mechanical Design (AIP18B / DDA18C)	249	24-Apr-17	03-Apr-18	24-Apr-17	25-Jan-18	0	-68
DB4754	DDA18C - Gatehouse - E&M - Design Preparation to SO Approval	249	24-Apr-17	03-Apr-18	24-Apr-17	25-Jan-18	0	-68
	Civil & Structural Works	964	01-Jun-17	03-Feb-20	01-Jun-17	13-Nov-19	0	-82
	LOT #1 - Bldg / Facilities Const. (Arch'l & Struct'l) : CEPT+SF, PTW+IPS+SHB, UV, SDB+SSSB	296	01-Oct-17	23-Aug-18	01-Oct-17	22-Aug-18	0	0
	Chemically Enhanced Primary Treatment (CEPT)	296	01-Oct-17	23-Aug-18	01-Oct-17	22-Aug-18	0	0
CS1510	Substructure (EL5 & Bulk excavation)	130	01-Oct-17	06-Mar-18	01-Oct-17	07-Feb-18	0	-27
CS1520	Substructure (rc structure)	80	02-Feb-18	28-Apr-18	08-Feb-18	28-Apr-18	6	0
CS1525	Removal of EL5	45	15-Mar-18	28-Apr-18	15-Mar-18	28-Apr-18	0	0
CS1526	Backfilling	30	30-Mar-18	28-Apr-18	30-Mar-18	28-Apr-18	0	0



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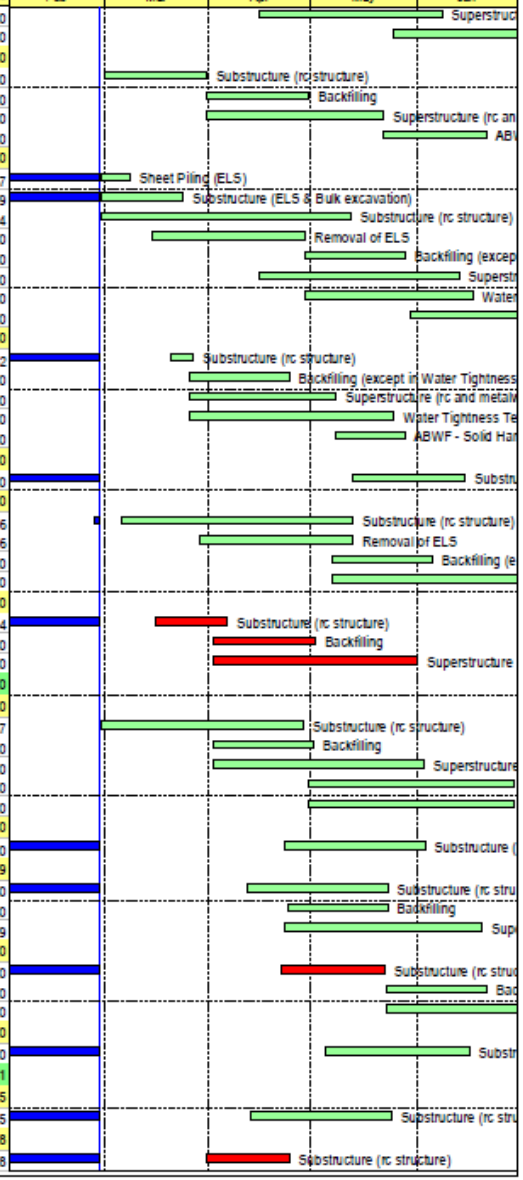
Activity ID	Activity Name	Original Duration	Start	Finish	Rev 8 BL Start	Rev 8 BL Finish	Slippage Start Date	Slippage Finish Date
CS1530	Superstructure (rc and metalworks)	54	15-Apr-18	08-Jun-18	15-Apr-18	07-Jun-18	0	0
CS1534	Water Tightness Test	90	25-May-18	23-Aug-18	25-May-18	22-Aug-18	0	0
System Control Flowmeter Chamber (SF)		112	01-Mar-18	21-Jun-18	01-Mar-18	20-Jun-18	0	0
CS1400	Substructure (rc structure)	30	01-Mar-18	31-Mar-18	01-Mar-18	30-Mar-18	0	0
CS1405	Backfilling	30	31-Mar-18	30-Apr-18	31-Mar-18	29-Apr-18	0	0
CS1410	Superstructure (rc and metalworks)	52	31-Mar-18	22-May-18	31-Mar-18	21-May-18	0	0
CS1420	ABWF - System Control Flowmeter Chamber	30	22-May-18	21-Jun-18	22-May-18	20-Jun-18	0	0
Inlet Work, Preliminary Treatment Works and Inlet Pumping Station (PTW & IPS)		243	13-Oct-17	01-Jul-18	13-Oct-17	30-Jun-18	0	0
CS1208	Sheet Piling (ELS)	45	28-Oct-17	08-Mar-18	28-Oct-17	11-Dec-17	0	-87
CS1210	Substructure (ELS & Bulk excavation)	124	13-Oct-17	24-Mar-18	13-Oct-17	13-Feb-18	0	-39
CS1220	Substructure (rc structure)	74	28-Feb-18	12-May-18	14-Feb-18	28-Apr-18	-14	-14
CS1224	Removal of ELS	45	15-Mar-18	29-Apr-18	15-Mar-18	28-Apr-18	0	0
CS1226	Backfilling (except in Water Tightness Test area)	30	29-Apr-18	28-May-18	29-Apr-18	28-May-18	0	0
CS1230	Superstructure (rc and metalworks)	59	15-Apr-18	13-Jun-18	15-Apr-18	12-Jun-18	0	0
CS1235	Water Tightness Test + Backfilling	50	29-Apr-18	17-Jun-18	29-Apr-18	17-Jun-18	0	0
CS1240	ABWF - Preliminary Treatment Works and Inlet Pumping Station	32	30-May-18	01-Jul-18	30-May-18	30-Jun-18	0	0
Solid Handling Building (SHB)		122	22-Oct-17	28-May-18	22-Oct-17	27-May-18	0	0
CS1300	Substructure (rc structure)	30	22-Oct-17	27-Mar-18	22-Oct-17	25-Mar-18	0	-2
CS1305	Backfilling (except in Water Tightness Test area)	30	26-Mar-18	24-Apr-18	26-Mar-18	24-Apr-18	0	0
CS1310	Superstructure (rc and metalworks)	43	26-Mar-18	08-May-18	26-Mar-18	07-May-18	0	0
CS1315	Water Tightness Test + Backfilling	60	26-Mar-18	25-May-18	26-Mar-18	24-May-18	0	0
CS1320	ABWF - Solid Handling Building	20	08-May-18	28-May-18	08-May-18	27-May-18	0	0
UV Disinfection Facility (UV)		78	07-Oct-17	15-Jun-18	07-Oct-17	14-Jun-18	0	0
CS1910	Substructure (rc structure)	78	07-Oct-17	15-Jun-18	07-Oct-17	14-Jun-18	0	0
Sludge Dewatering Building (SDB)		168	26-Feb-18	14-Aug-18	16-Feb-18	14-Aug-18	-10	0
CS1830	Substructure (rc structure)	80	26-Feb-18	13-May-18	16-Feb-18	06-May-18	-10	-6
CS1834	Removal of ELS	45	29-Mar-18	13-May-18	23-Mar-18	06-May-18	-6	-6
CS1836	Backfilling (except in Water Tightness Test area)	30	07-May-18	05-Jun-18	07-May-18	05-Jun-18	0	0
CS1840	Superstructure (rc and metalworks)	100	07-May-18	14-Aug-18	07-May-18	14-Aug-18	0	0
Sludge Skip Storage Building (SSSB)		142	22-Oct-17	01-Jun-18	22-Oct-17	31-May-18	0	0
CS2900	Substructure (rc structure)	30	22-Oct-17	06-Apr-18	22-Oct-17	01-Apr-18	0	-4
CS2905	Backfilling	30	02-Apr-18	02-May-18	02-Apr-18	01-May-18	0	0
CS2910	Superstructure (rc and metalworks)	60	02-Apr-18	01-Jun-18	02-Apr-18	31-May-18	0	0
LOT #2 - Bldg / Facilities Const. (Arch'l & Struct'l) : AB+WS, DO, CB, FH		185	13-Oct-17	31-Jul-18	13-Oct-17	31-Jul-18	0	0
Administration Building & Maintenance Workshop (AB & WS)		121	28-Feb-18	29-Jun-18	01-Feb-18	28-Jun-18	-27	0
CS1110	Substructure (rc structure)	60	28-Feb-18	28-Apr-18	01-Feb-18	01-Apr-18	-27	-27
CS1115	Backfilling	30	02-Apr-18	01-May-18	02-Apr-18	01-May-18	0	0
CS1120	Superstructure (rc and metalworks)	62	02-Apr-18	03-Jun-18	02-Apr-18	02-Jun-18	0	0
CS1125	Water Tightness Test	60	30-Apr-18	29-Jun-18	30-Apr-18	28-Jun-18	0	0
CS1130	ABWF - Administration Building & Maintenance Workshop	60	30-Apr-18	29-Jun-18	30-Apr-18	28-Jun-18	0	0
Deodorization Facilities No. 1 (DO 1)		60	19-Oct-17	03-Jun-18	19-Oct-17	03-Jun-18	0	0
CS1610	Substructure (rc structure)	60	19-Oct-17	03-Jun-18	19-Oct-17	03-Jun-18	0	0
Deodorization Facilities No. 2 (DO 2)		94	22-Oct-17	20-Jun-18	22-Oct-17	21-May-18	0	-29
CS1710	Substructure (rc structure)	60	22-Oct-17	23-May-18	22-Oct-17	24-Mar-18	0	-60
CS1715	Backfilling	30	24-Apr-18	23-May-18	25-Mar-18	23-Apr-18	-30	-30
CS1720	Superstructure (rc and metalworks)	58	23-Apr-18	20-Jun-18	25-Mar-18	21-May-18	-29	-29
Chemical Building (CB)		185	13-Oct-17	31-Jul-18	13-Oct-17	31-Jul-18	0	0
CS2310	Substructure (rc structure)	61	13-Oct-17	22-May-18	13-Oct-17	22-May-18	0	0
CS2315	Backfilling	30	23-May-18	21-Jun-18	23-May-18	21-Jun-18	0	0
CS2320	Superstructure (rc and metalworks)	70	23-May-18	31-Jul-18	23-May-18	31-Jul-18	0	0
Street Fire Hydrant Pump Room & GENSET Room (FH)		60	17-Oct-17	16-Jun-18	17-Oct-17	15-Jun-18	0	0
CS3010	Substructure (rc structure)	60	17-Oct-17	16-Jun-18	17-Oct-17	15-Jun-18	0	0
LOT #3 - Bldg / Facilities Const. (Arch'l & Struct'l) : EB, RW, DG, ICW, JC		202	04-Oct-17	10-Aug-18	04-Oct-17	10-Jul-18	0	-31
Electrical Building No.1 (EB1)		60	22-Oct-17	24-May-18	22-Oct-17	08-Jul-18	0	45
CS2410	Substructure (rc structure)	60	22-Oct-17	24-May-18	22-Oct-17	08-Jul-18	0	45
Electrical Building No.2 (EB2)		60	15-Oct-17	24-Apr-18	15-Oct-17	01-Jun-18	0	38
CS2510	Substructure (rc structure)	60	15-Oct-17	24-Apr-18	15-Oct-17	01-Jun-18	0	38



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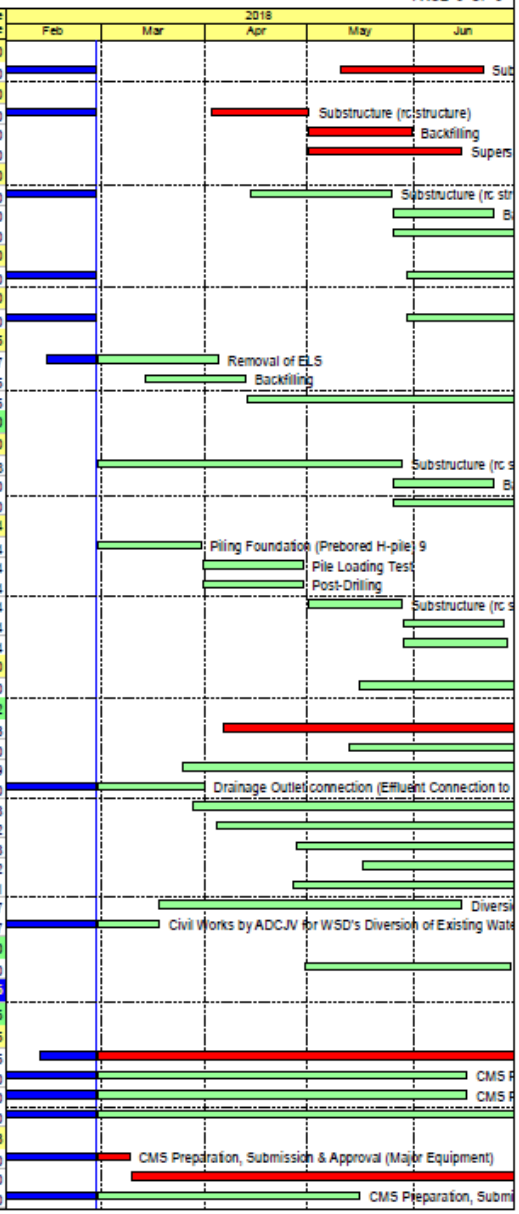
Activity ID	Activity Name	Original Duration	Start	Finish	Rev 8 BL Start	Rev 8 BL Finish	Slippage Start Date	Slippage Finish Date
	Electrical Building No.3 (EB3)	60	04-Oct-17	21-Jun-18	04-Oct-17	21-Jun-18	0	0
CS2610	Substructure (rc structure)	60	04-Oct-17	21-Jun-18	04-Oct-17	21-Jun-18	0	0
	Electrical Building No.4 (EB4)	138	22-Oct-17	15-Jun-18	22-Oct-17	15-Jun-18	0	0
CS2710	Substructure (rc structure)	60	22-Oct-17	01-May-18	22-Oct-17	01-May-18	0	0
CS2715	Backfilling	30	01-May-18	31-May-18	01-May-18	31-May-18	0	0
CS2720	Superstructure (rc and metalworks)	45	01-May-18	15-Jun-18	01-May-18	15-Jun-18	0	0
	Re-use Water Building (RW)	152	12-Oct-17	10-Jul-18	12-Oct-17	10-Jul-18	0	0
CS2010	Substructure (rc structure)	60	12-Oct-17	25-May-18	12-Oct-17	25-May-18	0	0
CS2015	Backfilling	30	26-May-18	24-Jun-18	26-May-18	24-Jun-18	0	0
CS2020	Superstructure (rc and metalworks)	45	26-May-18	10-Jul-18	26-May-18	10-Jul-18	0	0
	DG Store and Chemical Waste Storage Building (DG)	60	22-Oct-17	11-Jul-18	22-Oct-17	10-Jul-18	0	0
CS2800	Substructure (rc structure)	60	22-Oct-17	11-Jul-18	22-Oct-17	10-Jul-18	0	0
	Irrigation & Cleansing Water Pump Room (ICW)	60	22-Oct-17	11-Jul-18	22-Oct-17	10-Jul-18	0	0
CS3370	Substructure (rc structure)	60	22-Oct-17	11-Jul-18	22-Oct-17	10-Jul-18	0	0
	Existing Junction Chamber (JC)	175	13-Feb-18	10-Aug-18	19-Nov-17	27-May-18	-86	-75
CS2202	Removal of ELS	40	13-Feb-18	04-Apr-18	19-Nov-17	28-Dec-17	-86	-97
CS2205	Backfilling	30	14-Mar-18	12-Apr-18	29-Dec-17	27-Jan-18	-75	-75
CS2210	Bar Screen Installation	120	13-Apr-18	10-Aug-18	28-Jan-18	27-May-18	-75	-75
	LOT #4 - Bldg / Facilities Const. (Arch'l & Struct'l) : GH, PF	178	28-Feb-18	24-Aug-18	16-Dec-17	24-Aug-18	-74	0
	Gatehouse (GH)	178	28-Feb-18	24-Aug-18	25-Feb-18	24-Aug-18	-3	0
CS3100	Substructure (rc structure)	90	28-Feb-18	28-May-18	25-Feb-18	25-May-18	-3	-3
CS3105	Backfilling	30	26-May-18	24-Jun-18	26-May-18	24-Jun-18	0	0
CS3110	Superstructure (rc and metalworks)	91	26-May-18	24-Aug-18	26-May-18	24-Aug-18	0	0
	Payment Flowmeter Chamber (PF)	121	28-Feb-18	28-Jun-18	16-Dec-17	15-Apr-18	-74	-74
CS2080	Piling Foundation (Prebored H-pile) 9	31	28-Feb-18	30-Mar-18	16-Dec-17	15-Jan-18	-74	-74
CS2085	Pile Loading Test	30	31-Mar-18	29-Apr-18	16-Jan-18	14-Feb-18	-74	-74
CS2090	Post-Drilling	30	31-Mar-18	29-Apr-18	16-Jan-18	14-Feb-18	-74	-74
CS2100	Substructure (rc structure)	28	01-May-18	28-May-18	16-Feb-18	15-Mar-18	-74	-74
CS2105	Backfilling	30	29-May-18	27-Jun-18	16-Mar-18	14-Apr-18	-74	-74
CS2110	Superstructure (rc and metalworks)	31	29-May-18	28-Jun-18	16-Mar-18	15-Apr-18	-74	-74
	Foul Water Pump Sump	60	16-May-18	14-Jul-18	16-May-18	14-Jul-18	0	0
CS3395	Substructure (rc structure)	60	16-May-18	14-Jul-18	16-May-18	14-Jul-18	0	0
	External Works & Miscellaneous	964	01-Jun-17	03-Feb-20	01-Jun-17	13-Nov-19	0	-82
CS3201	Slope works and Retaining Wall (Eastern Portion)	197	06-Apr-18	20-Oct-18	29-Dec-17	13-Jul-18	-98	-98
CS3203	Slope works (Northern Portion)	180	13-May-18	08-Nov-18	13-Jan-18	11-Jul-18	-120	-120
CS3210	Drainage Inlet connection (Diversion of Three Existing Sewage Rising Mains)	208	25-Mar-18	19-Oct-18	05-Jan-18	31-Jul-18	-79	-79
CS3220	Drainage Outlet connection (Effluent Connection to the Existing Junction Chamber)	200	13-Sep-17	31-Mar-18	13-Sep-17	31-Mar-18	0	0
CS3230	CLP Cable Duct and Draw Pits (within the Site)	210	28-Mar-18	23-Oct-18	05-Mar-18	30-Sep-18	-23	-23
CS3250	EVA (Road & Drainage)	670	04-Apr-18	03-Feb-20	13-Jan-18	13-Nov-19	-82	-82
CS3252	RC Trench and Odour Pipe (DO1, DO2)	180	27-Apr-18	24-Oct-18	24-Feb-18	22-Aug-18	-63	-63
CS3254	Process Pipe	180	17-May-18	13-Nov-18	24-Feb-18	22-Aug-18	-82	-82
CS3258	Emergency By-Pass Pipe	200	26-Apr-18	12-Nov-18	05-Jan-18	23-Jul-18	-111	-111
CS3284	Diversion of Existing Watermains by WSD	89	18-Mar-18	15-Jun-18	01-Dec-17	27-Feb-18	-107	-107
CS3286	Civil Works by ADCJV for WSD's Diversion of Existing Watermains	183	01-Jun-17	18-Mar-18	01-Jun-17	30-Nov-17	0	-107
	Green Roof	60	30-Apr-18	29-Jun-18	30-Apr-18	28-Jun-18	0	0
CS3340	Administration Building and Maintenance Workshop	60	30-Apr-18	29-Jun-18	30-Apr-18	28-Jun-18	0	0
	E&M Works	682	27-Nov-16	13-Jan-19	27-Nov-16	18-Dec-18	0	-26
	Procurement	682	27-Nov-16	13-Jan-19	27-Nov-16	18-Dec-18	0	-26
	Chemically Enhanced Primary Treatment (CEPT)	366	10-Nov-17	16-Dec-18	10-Nov-17	12-Sep-18	0	-95
EM3112	Manufacturing & Logistic (Major Equipment)	307	11-Feb-18	16-Dec-18	10-Nov-17	12-Sep-18	-93	-95
EM3114	CMS Preparation, Submission & Approval (Penstock, Pipe & Valve)	219	10-Nov-17	16-Jun-18	10-Nov-17	16-Jun-18	0	0
EM3118	CMS Preparation, Submission & Approval (Electrical)	219	10-Nov-17	16-Jun-18	10-Nov-17	16-Jun-18	0	0
EM3122	CMS Preparation, Submission & Approval (Building Services)	278	10-Nov-17	14-Aug-18	10-Nov-17	14-Aug-18	0	0
	System Control Flowmeter Chamber (SF)	567	25-Jan-17	05-Oct-18	25-Jan-17	17-Sep-18	0	-18
EM3132	CMS Preparation, Submission & Approval (Major Equipment)	289	25-Jan-17	09-Mar-18	25-Jan-17	09-Nov-17	0	-120
EM3134	Manufacturing & Logistic (Major Equipment)	210	10-Mar-18	05-Oct-18	10-Nov-17	07-Jun-18	-120	-120
EM3136	CMS Preparation, Submission & Approval (Penstock, Pipe & Valve)	187	10-Nov-17	16-May-18	10-Nov-17	15-May-18	0	0



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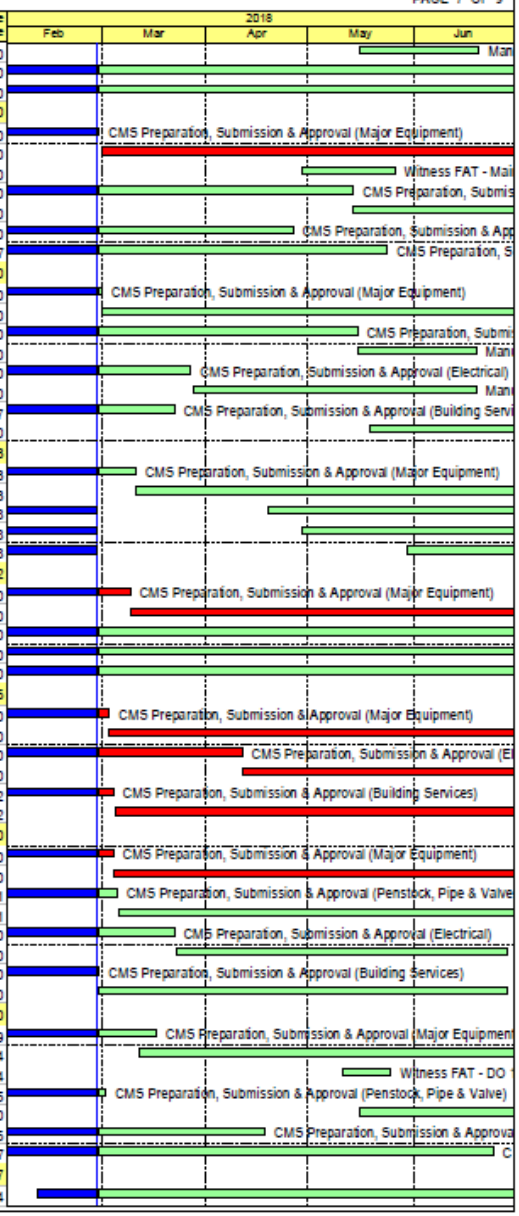
Activity ID	Activity Name	Original Duration	Start	Finish	Rev 8 BL Start	Rev 8 BL Finish	Slippage Start Date	Slippage Finish Date
EM3138	Manufacturing & Logistic (Penstock, Pipe & Valve)	35	16-May-18	20-Jun-18	16-May-18	19-Jun-18	0	0
EM3140	CMS Preparation, Submission & Approval (Electrical)	288	10-Nov-17	25-Aug-18	10-Nov-17	24-Aug-18	0	0
EM3144	CMS Preparation, Submission & Approval (Building Services)	312	10-Nov-17	17-Sep-18	10-Nov-17	17-Sep-18	0	0
Inlet Work, Preliminary Treatment Units and Inlet Pumping Station (PTW & IPS)		507	04-Jan-17	05-Dec-18	04-Jan-17	17-Sep-18	0	-80
EM3135	CMS Preparation, Submission & Approval (Major Equipment)	301	04-Jan-17	28-Feb-18	04-Jan-17	31-Oct-17	0	-120
EM3137	Manufacturing & Logistic (Major Equipment)	280	01-Mar-18	05-Dec-18	01-Nov-17	07-Aug-18	-120	-120
EM3141	Witness FAT - Main Sewage Pumps	28	29-Apr-18	26-May-18	30-Dec-17	26-Jan-18	-120	-120
EM3635	CMS Preparation, Submission & Approval (Penstock, Pipe & Valve)	225	01-Oct-17	14-May-18	01-Oct-17	14-May-18	0	0
EM3645	Manufacturing & Logistic (Penstock, Pipe & Valve)	126	14-May-18	17-Sep-18	14-May-18	17-Sep-18	0	0
EM3655	CMS Preparation, Submission & Approval (Electrical)	288	01-Oct-17	26-Apr-18	01-Oct-17	15-Jul-18	0	80
EM3675	CMS Preparation, Submission & Approval (Building Services)	342	01-Oct-17	24-May-18	01-Oct-17	08-Sep-18	0	107
Solid Handling Building (SHB)		334	12-Apr-17	16-Sep-18	12-Apr-17	16-Sep-18	0	0
EM3145	CMS Preparation, Submission & Approval (Major Equipment)	203	12-Apr-17	01-Mar-18	12-Apr-17	31-Oct-17	0	-120
EM3150	Manufacturing & Logistic (Major Equipment)	173	01-Mar-18	21-Aug-18	31-Oct-17	22-Apr-18	-120	-120
EM3695	CMS Preparation, Submission & Approval (Penstock, Pipe & Valve)	227	01-Oct-17	15-May-18	01-Oct-17	15-May-18	0	0
EM3705	Manufacturing & Logistic (Penstock, Pipe & Valve)	35	15-May-18	19-Jun-18	15-May-18	19-Jun-18	0	0
EM3715	CMS Preparation, Submission & Approval (Electrical)	178	01-Oct-17	27-Mar-18	01-Oct-17	28-Mar-18	0	0
EM3725	Manufacturing & Logistic (Electrical)	84	28-Mar-18	19-Jun-18	28-Mar-18	20-Jun-18	0	0
EM3735	CMS Preparation, Submission & Approval (Building Services)	230	01-Oct-17	22-Mar-18	01-Oct-17	19-May-18	0	57
EM3745	Manufacturing & Logistic (Building Services)	120	19-May-18	16-Sep-18	19-May-18	16-Sep-18	0	0
UV Disinfection Facility (UV)		623	30-Mar-17	13-Jan-19	30-Mar-17	15-Dec-18	0	-28
EM3185	CMS Preparation, Submission & Approval (Major Equipment)	318	30-Mar-17	11-Mar-18	30-Mar-17	10-Feb-18	0	-28
EM3190	Manufacturing & Logistic (Major Equipment)	308	11-Mar-18	13-Jan-19	11-Feb-18	15-Dec-18	-28	-28
EM3755	CMS Preparation, Submission & Approval (Penstock, Pipe & Valve)	250	21-Nov-17	15-Jul-18	21-Nov-17	29-Jul-18	0	13
EM3775	CMS Preparation, Submission & Approval (Electrical)	265	21-Nov-17	30-Jul-18	21-Nov-17	13-Aug-18	0	13
EM3795	CMS Preparation, Submission & Approval (Building Services)	313	21-Nov-17	16-Sep-18	21-Nov-17	30-Sep-18	0	15
Sludge Dewatering Building (SDB)		539	27-Nov-16	11-Jan-19	27-Nov-16	11-Nov-18	0	-62
EM3175	CMS Preparation, Submission & Approval (Major Equipment)	348	27-Nov-16	09-Mar-18	27-Nov-16	09-Nov-17	0	-120
EM3180	Manufacturing & Logistic (Major Equipment)	308	09-Mar-18	11-Jan-19	09-Nov-17	13-Sep-18	-120	-120
EM3815	CMS Preparation, Submission & Approval (Penstock, Pipe & Valve)	345	27-Oct-17	07-Oct-18	27-Oct-17	06-Oct-18	0	0
EM3835	CMS Preparation, Submission & Approval (Electrical)	270	27-Oct-17	23-Jul-18	27-Oct-17	24-Jul-18	0	0
EM3855	CMS Preparation, Submission & Approval (Building Services)	380	27-Oct-17	11-Nov-18	27-Oct-17	11-Nov-18	0	0
Sludge Skip Storage Building (SSSB)		350	08-Dec-16	09-Aug-18	08-Dec-16	04-Jul-18	0	-36
EM3265	CMS Preparation, Submission & Approval (Major Equipment)	331	08-Dec-16	03-Mar-18	08-Dec-16	03-Nov-17	0	-120
EM3270	Manufacturing & Logistic (Major Equipment)	159	03-Mar-18	09-Aug-18	03-Nov-17	11-Apr-18	-120	-120
EM3875	CMS Preparation, Submission & Approval (Electrical)	220	04-Sep-17	11-Apr-18	04-Sep-17	11-Apr-18	0	0
EM3885	Manufacturing & Logistic (Electrical)	84	11-Apr-18	04-Jul-18	11-Apr-18	04-Jul-18	0	0
EM3895	CMS Preparation, Submission & Approval (Building Services)	100	04-Sep-17	04-Mar-18	04-Sep-17	12-Dec-17	0	-82
EM3905	Manufacturing & Logistic (Building Services)	120	05-Mar-18	02-Jul-18	13-Dec-17	11-Apr-18	-82	-82
Administration Building & Maintenance Workshop (AB & WS)		545	31-Jan-17	26-Oct-18	31-Jan-17	29-Jun-18	0	-120
EM3125	CMS Preparation, Submission & Approval (Major Equipment)	278	31-Jan-17	04-Mar-18	31-Jan-17	04-Nov-17	0	-120
EM3130	Manufacturing & Logistic (Major Equipment)	236	04-Mar-18	26-Oct-18	04-Nov-17	28-Jun-18	-120	-120
EM3915	CMS Preparation, Submission & Approval (Penstock, Pipe & Valve)	177	30-Aug-17	05-Mar-18	30-Aug-17	22-Feb-18	0	-11
EM3925	Manufacturing & Logistic (Penstock, Pipe & Valve)	126	06-Mar-18	09-Jul-18	22-Feb-18	28-Jun-18	-11	-11
EM3935	CMS Preparation, Submission & Approval (Electrical)	205	30-Aug-17	22-Mar-18	30-Aug-17	23-Mar-18	0	0
EM3945	Manufacturing & Logistic (Electrical)	98	23-Mar-18	28-Jun-18	23-Mar-18	29-Jun-18	0	0
EM3955	CMS Preparation, Submission & Approval (Building Services)	183	30-Aug-17	28-Feb-18	30-Aug-17	28-Feb-18	0	0
EM3965	Manufacturing & Logistic (Building Services)	120	28-Feb-18	28-Jun-18	28-Feb-18	28-Jun-18	0	0
Deodorization Facilities No. 1 & 2 (DO 1 & DO 2)		535	10-Jan-17	19-Sep-18	10-Jan-17	08-Dec-18	0	80
EM3165	CMS Preparation, Submission & Approval (Major Equipment)	342	10-Jan-17	17-Mar-18	10-Jan-17	18-Dec-17	0	-89
EM3170	Manufacturing & Logistic (Major Equipment)	120	12-Mar-18	10-Jul-18	18-Dec-17	17-Apr-18	-84	-84
EM3171	Witness FAT - DO 1 & DO 2	14	11-May-18	25-May-18	16-Feb-18	02-Mar-18	-84	-84
EM3172	CMS Preparation, Submission & Approval (Penstock, Pipe & Valve)	249	30-Aug-17	02-Mar-18	30-Aug-17	05-May-18	0	65
EM3173	Manufacturing & Logistic (Penstock, Pipe & Valve)	126	16-May-18	19-Sep-18	06-May-18	08-Sep-18	-10	-10
EM3975	CMS Preparation, Submission & Approval (Electrical)	327	30-Aug-17	18-Apr-18	30-Aug-17	22-Jul-18	0	96
EM3995	CMS Preparation, Submission & Approval (Building Services)	455	30-Aug-17	24-Jun-18	30-Aug-17	08-Dec-18	0	167
Chemical Building (CB)		349	08-Nov-17	06-Aug-18	08-Nov-17	23-Oct-18	0	77
EM3230	Manufacturing & Logistic (Major Equipment)	168	10-Feb-18	06-Aug-18	08-Nov-17	25-Apr-18	-94	-104



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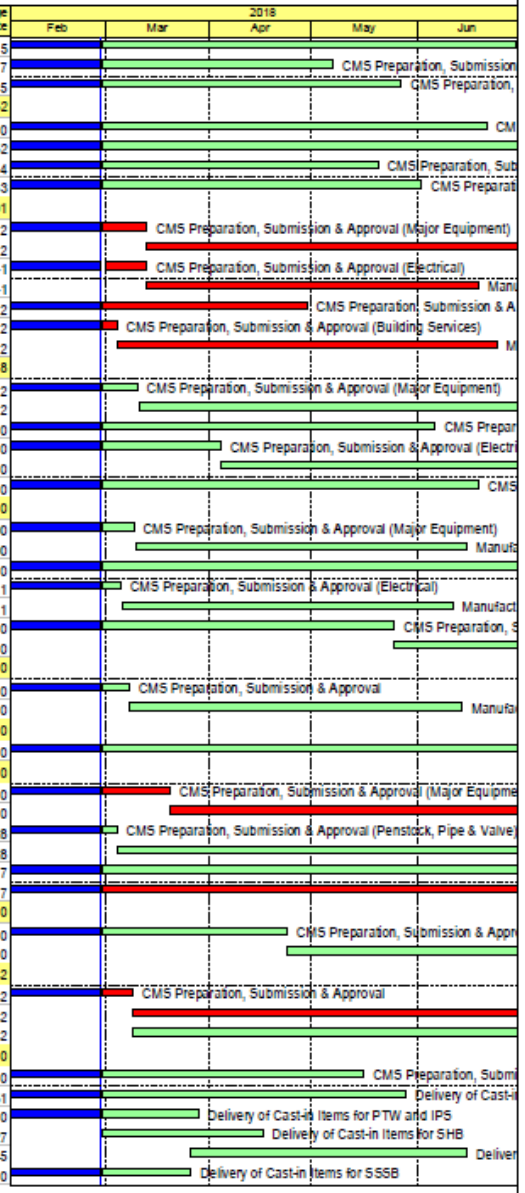
Activity ID	Activity Name	Original Duration	Start	Finish	Rev 8 BL Start	Rev 8 BL Finish	Slippage Start Date	Slippage Finish Date
EM4015	CMS Preparation, Submission & Approval (Penstock, Pipe & Valve)	349	08-Nov-17	30-Jun-18	08-Nov-17	23-Oct-18	0	115
EM4035	CMS Preparation, Submission & Approval (Electrical)	227	08-Nov-17	07-May-18	08-Nov-17	23-Jun-18	0	47
EM4055	CMS Preparation, Submission & Approval (Building Services)	295	08-Nov-17	27-May-18	08-Nov-17	30-Aug-18	0	95
Street Fire Hydrant Pump Room & GENSET Room (FH)		456	23-Mar-17	07-Jul-18	23-Mar-17	07-Dec-18	0	152
EM3275	CMS Preparation, Submission & Approval (Major Equipment)	455	23-Mar-17	21-Jun-18	23-Mar-17	21-Jun-18	0	0
EM4075	CMS Preparation, Submission & Approval (Penstock, Pipe & Valve)	432	01-Oct-17	07-Jul-18	01-Oct-17	07-Dec-18	0	152
EM4095	CMS Preparation, Submission & Approval (Electrical)	325	01-Oct-17	20-May-18	01-Oct-17	22-Aug-18	0	94
EM4115	CMS Preparation, Submission & Approval (Building Services)	378	01-Oct-17	02-Jun-18	01-Oct-17	13-Oct-18	0	133
Electrical Buildings (EB1, EB2, EB3 & EB4)		441	23-Feb-17	09-Oct-18	23-Feb-17	09-Jul-18	0	-91
EM3235	CMS Preparation, Submission & Approval (Major Equipment)	261	23-Feb-17	13-Mar-18	23-Feb-17	10-Nov-17	0	-122
EM3240	Manufacturing & Logistic (Major Equipment)	210	13-Mar-18	09-Oct-18	11-Nov-17	08-Jun-18	-122	-122
EM3300	CMS Preparation, Submission & Approval (Electrical)	182	11-Sep-17	13-Mar-18	11-Sep-17	12-Mar-18	0	-1
EM3305	Manufacturing & Logistic (Electrical)	98	13-Mar-18	19-Jun-18	12-Mar-18	18-Jun-18	-1	-1
EM3310	CMS Preparation, Submission & Approval (Control & Instrument)	302	11-Sep-17	29-Apr-18	11-Sep-17	09-Jul-18	0	72
EM3320	CMS Preparation, Submission & Approval (Building Services)	96	09-Aug-17	04-Mar-18	09-Aug-17	12-Nov-17	0	-112
EM3325	Manufacturing & Logistic (Building Services)	112	04-Mar-18	24-Jun-18	12-Nov-17	04-Mar-18	-112	-112
Re-use Water Building (RW)		476	13-Apr-17	28-Jul-18	13-Apr-17	11-Jul-18	0	-18
EM3195	CMS Preparation, Submission & Approval (Major Equipment)	220	13-Apr-17	10-Mar-18	13-Apr-17	19-Nov-17	0	-112
EM3200	Manufacturing & Logistic (Major Equipment)	140	11-Mar-18	28-Jul-18	19-Nov-17	08-Apr-18	-112	-112
EM4135	CMS Preparation, Submission & Approval (Penstock, Pipe & Valve)	199	19-Nov-17	06-Jun-18	19-Nov-17	06-Jun-18	0	0
EM4155	CMS Preparation, Submission & Approval (Electrical)	136	19-Nov-17	04-Apr-18	19-Nov-17	04-Apr-18	0	0
EM4165	Manufacturing & Logistic (Electrical)	98	04-Apr-18	11-Jul-18	04-Apr-18	11-Jul-18	0	0
EM4175	CMS Preparation, Submission & Approval (Building Services)	212	19-Nov-17	19-Jun-18	19-Nov-17	19-Jun-18	0	0
DG Store & Chemical Waste Storage Building (DG) and Irrigation & Cleansing Water Pump Room (ICW)		558	24-May-17	14-Sep-18	24-May-1	13-Sep-18	0	0
EM3255	CMS Preparation, Submission & Approval (Major Equipment)	200	24-May-17	09-Mar-18	24-May-1	09-Dec-17	0	-90
EM3260	Manufacturing & Logistic (Major Equipment)	98	10-Mar-18	15-Jun-18	10-Dec-17	17-Mar-18	-90	-90
EM4195	CMS Preparation, Submission & Approval (Penstock, Pipe & Valve)	273	10-Dec-17	09-Sep-18	10-Dec-17	08-Sep-18	0	0
EM4215	CMS Preparation, Submission & Approval (Electrical)	146	30-Sep-17	05-Mar-18	30-Sep-17	23-Feb-18	0	-11
EM4225	Manufacturing & Logistic (Electrical)	98	06-Mar-18	11-Jun-18	23-Feb-18	01-Jun-18	-11	-11
EM4235	CMS Preparation, Submission & Approval (Building Services)	237	30-Sep-17	25-May-18	30-Sep-17	24-May-18	0	0
EM4245	Manufacturing & Logistic (Building Services)	112	25-May-18	14-Sep-18	25-May-1	13-Sep-18	0	0
Existing Junction Chamber (JC)		305	07-Jan-17	14-Jun-18	07-Jan-17	14-Feb-18	0	-120
EM3215	CMS Preparation, Submission & Approval	305	07-Jan-17	08-Mar-18	07-Jan-17	08-Nov-17	0	-120
EM3220	Manufacturing & Logistic	98	08-Mar-18	14-Jun-18	08-Nov-17	14-Feb-18	-120	-120
Gatehouse (GH)		450	24-Apr-17	17-Jul-18	24-Apr-17	18-Jul-18	0	0
EM3285	CMS Preparation, Submission & Approval (Building Services)	450	24-Apr-17	17-Jul-18	24-Apr-17	18-Jul-18	0	0
Payment Flowmeter Chamber (PF)		658	25-Jan-17	09-Oct-18	25-Jan-17	18-Dec-18	0	70
EM3205	CMS Preparation, Submission & Approval (Major Equipment)	299	25-Jan-17	20-Mar-18	25-Jan-17	20-Nov-17	0	-120
EM3210	Manufacturing & Logistic (Major Equipment)	203	20-Mar-18	09-Oct-18	20-Nov-17	11-Jun-18	-120	-120
EM4255	CMS Preparation, Submission & Approval (Penstock, Pipe & Valve)	157	01-Sep-17	04-Mar-18	01-Sep-17	04-Feb-18	0	-28
EM4265	Manufacturing & Logistic (Penstock, Pipe & Valve)	126	04-Mar-18	08-Jul-18	04-Feb-18	10-Jun-18	-28	-28
EM4275	CMS Preparation, Submission & Approval (Electrical)	333	20-Nov-17	13-Aug-18	20-Nov-17	19-Oct-18	0	67
EM4295	CMS Preparation, Submission & Approval (Building Services)	393	20-Nov-17	12-Sep-18	20-Nov-17	18-Dec-18	0	97
Foul Water Pump Sump		234	20-Nov-17	21-Aug-18	20-Nov-17	21-Aug-18	0	0
EM4315	CMS Preparation, Submission & Approval	155	20-Nov-17	23-Apr-18	20-Nov-17	23-Apr-18	0	0
EM4320	Manufacturing & Logistic	120	23-Apr-18	21-Aug-18	24-Apr-18	21-Aug-18	0	0
SCADA and CMMS Systems		332	01-Jul-17 A	10-Aug-18	01-Jul-17	29-Jun-18	0	-42
EM3330	CMS Preparation, Submission & Approval	209	01-Jul-17 A	09-Mar-18	01-Jul-17	26-Jan-18	0	-42
EM3335	Manufacturing & Logistic (SCADA)	154	09-Mar-18	10-Aug-18	26-Jan-18	29-Jun-18	-42	-42
EM3345	Manufacturing & Logistic (CMMS)	154	09-Mar-18	10-Aug-18	26-Jan-18	29-Jun-18	-42	-42
Cast - In Items		469	01-Feb-17	10-Jul-18	01-Feb-17	09-Jul-18	0	0
EM3520	CMS Preparation, Submission & Approval	469	01-Feb-17	16-May-18	01-Feb-17	15-May-18	0	0
EM3525	Delivery of Cast-in Items for CEPT and SF	180	30-Sep-17	28-May-18	30-Sep-17	28-Mar-18	0	-61
EM3530	Delivery of Cast-in Items for PTW and IPS	180	30-Sep-17	28-Mar-18	30-Sep-17	28-Mar-18	0	0
EM3535	Delivery of Cast-in Items for SHB	48	28-Feb-18	16-Apr-18	01-Feb-18	20-Mar-18	-27	-27
EM3545	Delivery of Cast-in Items for SDB	82	26-Mar-18	15-Jun-18	09-Feb-18	01-May-18	-45	-45
EM3550	Delivery of Cast-in Items for SSSB	48	27-Oct-17	26-Mar-18	06-Feb-18	25-Mar-18	102	0



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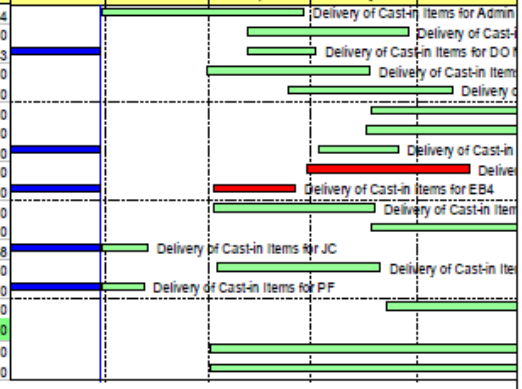
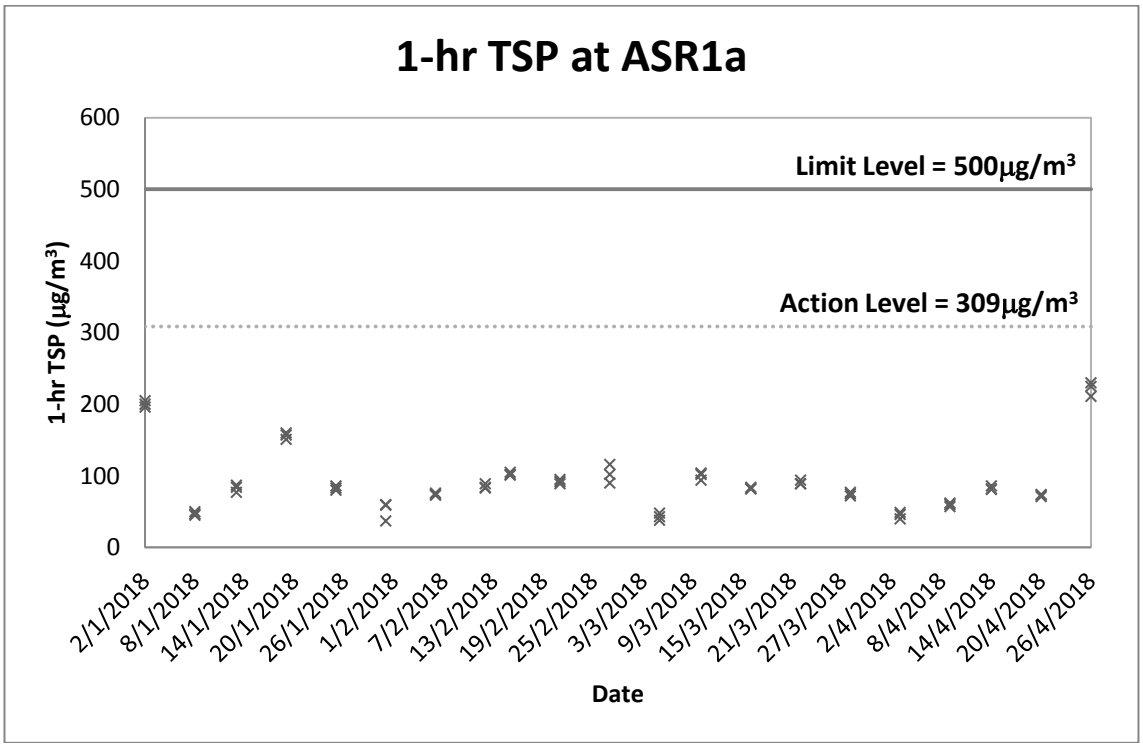
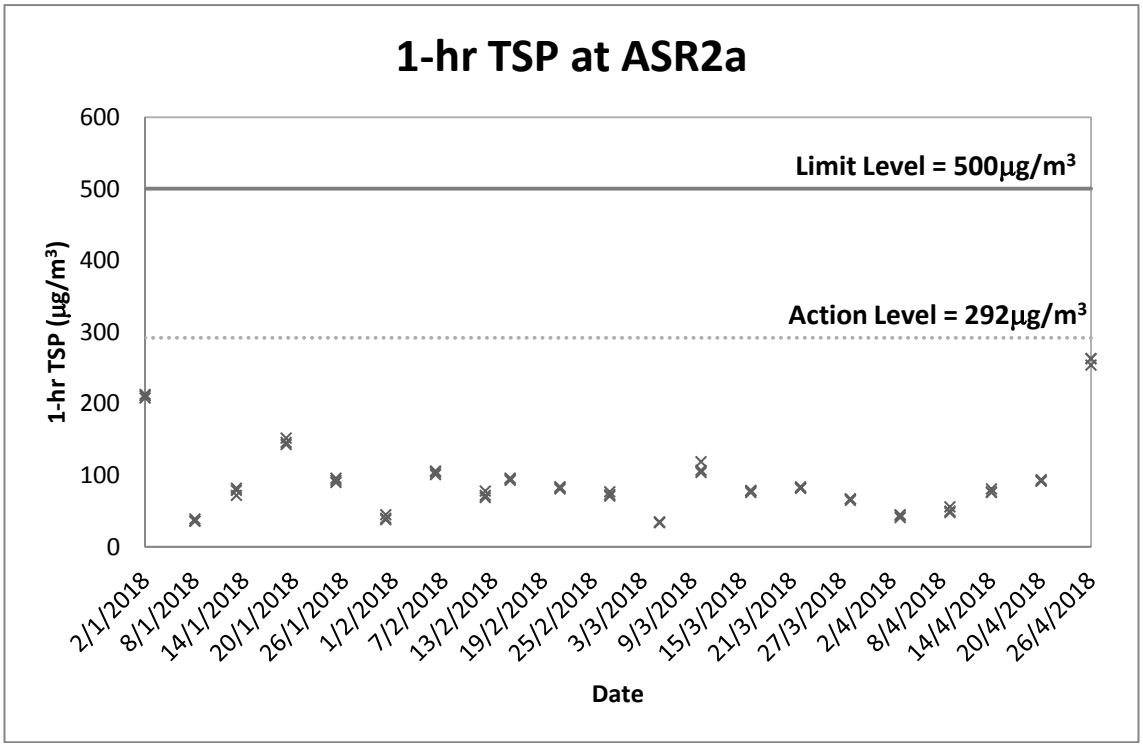
Activity ID	Activity Name	Original Duration	Start	Finish	Rev 8 BL Start	Rev 8 BL Finish	Slippage Start Date	Slippage Finish Date
EM3555	Delivery of Cast-in Items for Admin. Building	60	28-Feb-18	28-Apr-18	25-Jan-18	25-Mar-18	-34	-34
EM3560	Delivery of Cast-in Items for DO No. 1	48	12-Apr-18	29-May-18	12-Apr-18	29-May-18	0	0
EM3565	Delivery of Cast-in Items for DO No. 2	48	31-Jan-18	02-May-18	31-Jan-18	19-Mar-18	0	-45
EM3570	Delivery of Cast-in Items for CB	48	31-Mar-18	18-May-18	31-Mar-18	17-May-18	0	0
EM3575	Delivery of Cast-in Items for FH	48	24-Apr-18	11-Jun-18	24-Apr-18	10-Jun-18	0	0
EM3580	Delivery of Cast-in Items for ICW	48	18-May-18	05-Jul-18	18-May-18	04-Jul-18	0	0
EM3585	Delivery of Cast-in Items for EB1	48	17-May-18	03-Jul-18	17-May-18	03-Jul-18	0	0
EM3590	Delivery of Cast-in Items for EB2	48	27-Oct-17	26-May-18	09-Apr-18	26-May-18	164	0
EM3595	Delivery of Cast-in Items for EB3	48	29-Apr-18	16-Jun-18	30-Apr-18	16-Jun-18	0	0
EM3600	Delivery of Cast-in Items for EB4	48	27-Oct-17	26-Apr-18	09-Mar-18	26-Apr-18	133	0
EM3605	Delivery of Cast-in Items for RW	48	02-Apr-18	19-May-18	02-Apr-18	19-May-18	0	0
EM3610	Delivery of Cast-in Items for DG	48	18-May-18	05-Jul-18	18-May-18	04-Jul-18	0	0
EM3615	Delivery of Cast-in Items for JC	70	07-Oct-17	13-Mar-18	07-Oct-17	15-Dec-17	0	-88
EM3620	Delivery of Cast-in Items for GH	48	03-Apr-18	21-May-18	03-Apr-18	20-May-18	0	0
EM3625	Delivery of Cast-in Items for PF	48	24-Jan-18	12-Mar-18	24-Jan-18	12-Mar-18	0	0
EM3630	Delivery of Cast-in Items for FW	48	23-May-18	10-Jul-18	23-May-18	09-Jul-18	0	0
Testing & Commissioning		120	01-Apr-18	30-Jul-18	01-Apr-18	30-Jul-18	0	0
TC030	Operation Plan - Preparation for Submission	120	01-Apr-18	30-Jul-18	01-Apr-18	30-Jul-18	0	0
TC040	Asset Management Plan - Preparation for Submission	120	01-Apr-18	30-Jul-18	01-Apr-18	30-Jul-18	0	0

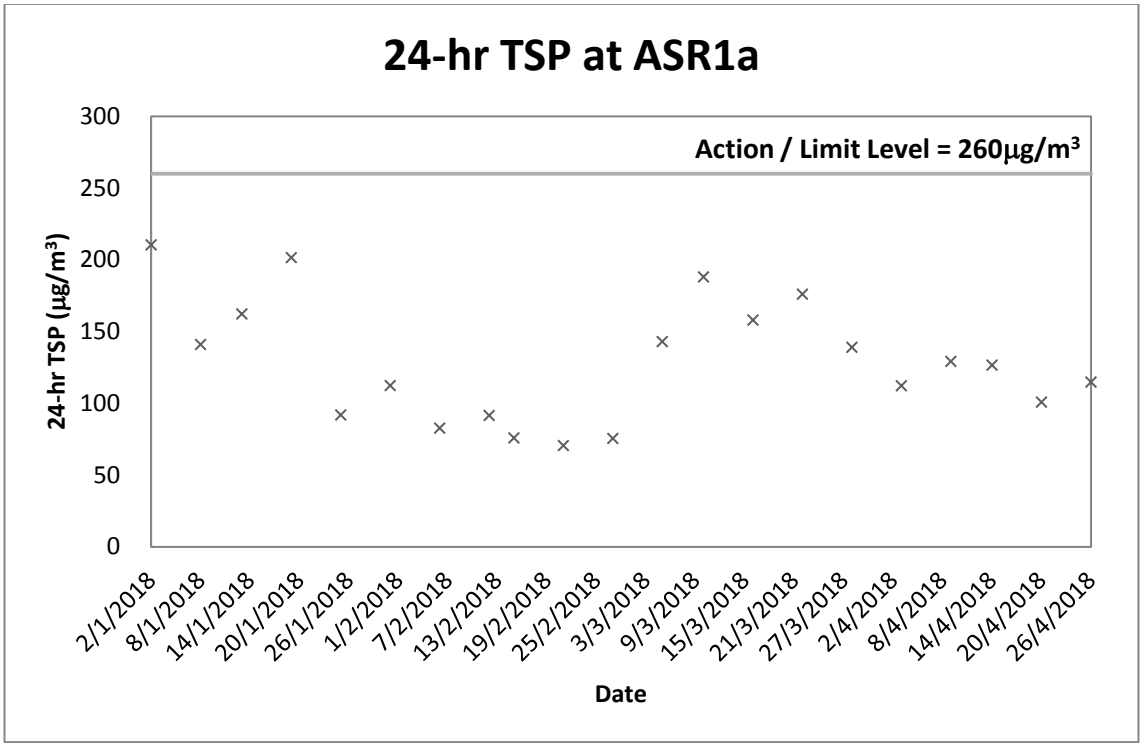


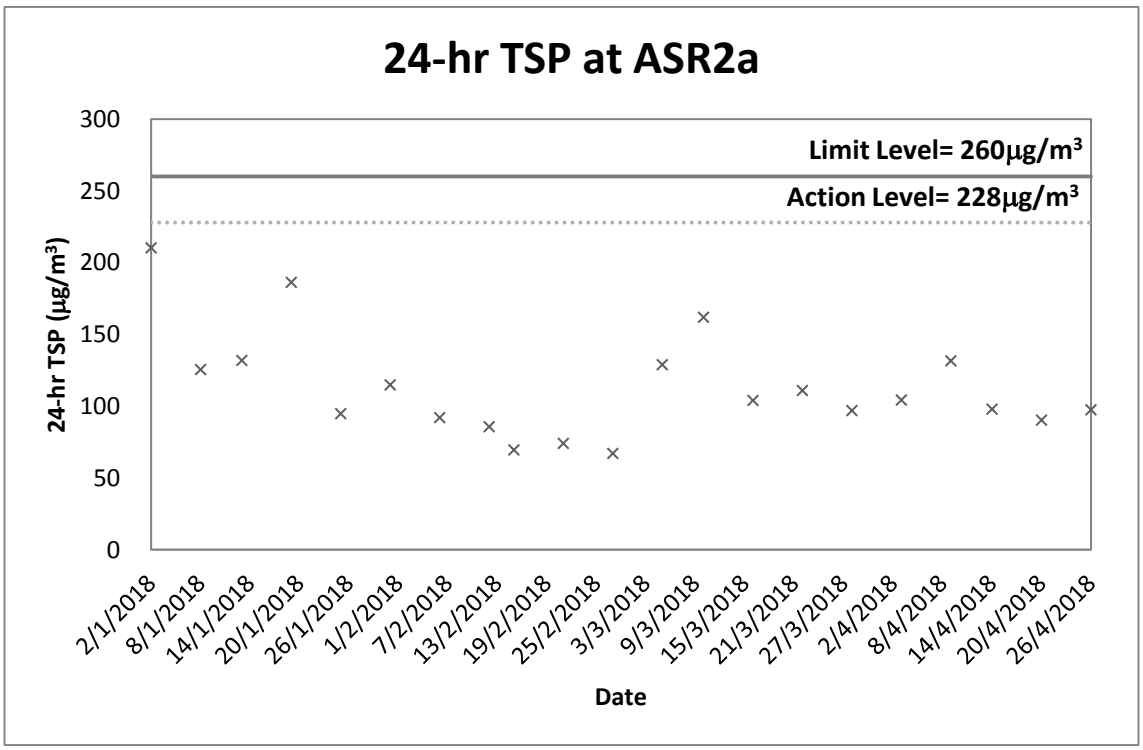
Appendix D

Graphical Plots of Impact Air Quality Monitoring Results


1-hr TSP at ASR1a
Limit Level = 500μg/m³
Action Level = 309μg/m³
1-hr TSP (μg/m³)
600
500
400
300
200
100
0
2/1/2018
8/1/2018
14/1/2018
20/1/2018
26/1/2018
1/2/2018
7/2/2018
13/2/2018
19/2/2018
25/2/2018
3/3/2018
9/3/2018
15/3/2018
21/3/2018
27/3/2018
2/4/2018
8/4/2018
14/4/2018
20/4/2018
26/4/2018
Date

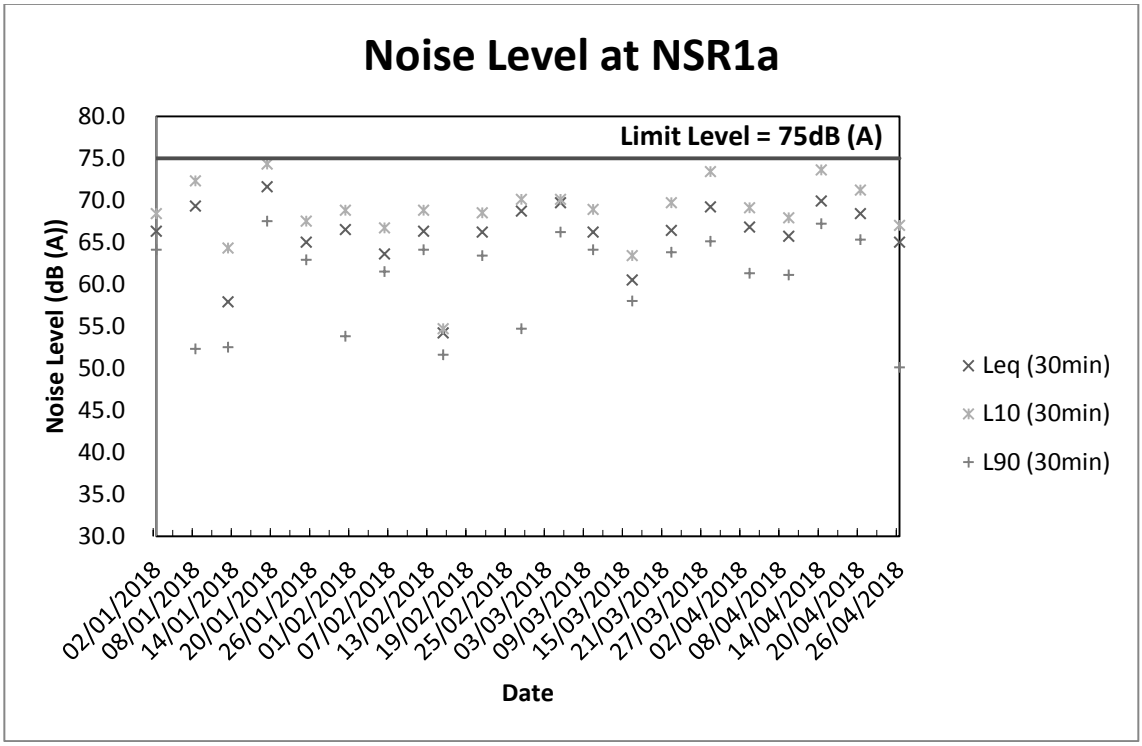

1-hr TSP at ASR2a
Limit Level = 500μg/m³
Action Level = 292μg/m³
1-hr TSP (μg/m³)
600
500
400
300
200
100
0
2/1/2018
8/1/2018
14/1/2018
20/1/2018
26/1/2018
1/2/2018
7/2/2018
13/2/2018
19/2/2018
25/2/2018
3/3/2018
9/3/2018
15/3/2018
21/3/2018
27/3/2018
2/4/2018
8/4/2018
14/4/2018
20/4/2018
26/4/2018
Date

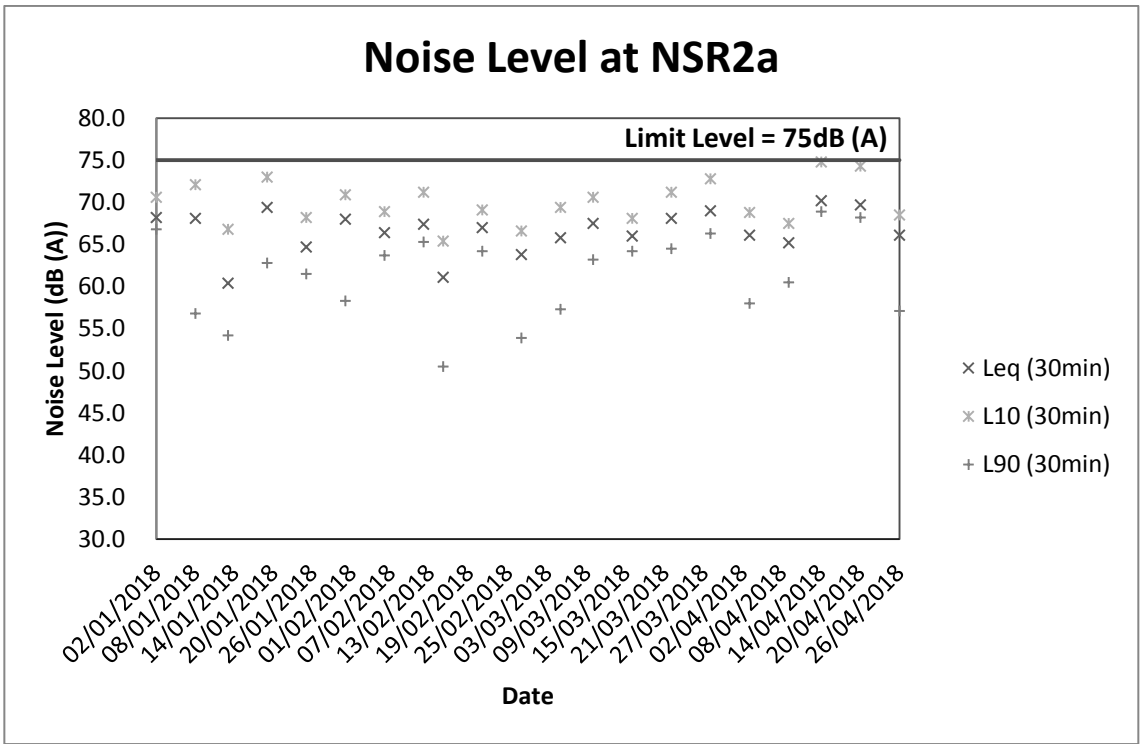

24-hr TSP at ASR1a
Action / Limit Level = 260µg/m³
24-hr TSP (µg/m³)
300
250
200
150
100
50
0
2/1/2018
8/1/2018
14/1/2018
20/1/2018
26/1/2018
1/2/2018
7/2/2018
13/2/2018
19/2/2018
25/2/2018
3/3/2018
9/3/2018
15/3/2018
21/3/2018
27/3/2018
2/4/2018
8/4/2018
14/4/2018
20/4/2018
26/4/2018
Date


24-hr TSP at ASR2a
Limit Level= 260µg/m³
Action Level= 228µg/m³
24-hr TSP (µg/m³)
300
250
200
150
100
50
0
2/1/2018
8/1/2018
14/1/2018
20/1/2018
26/1/2018
1/2/2018
7/2/2018
13/2/2018
19/2/2018
25/2/2018
3/3/2018
9/3/2018
15/3/2018
21/3/2018
27/3/2018
2/4/2018
8/4/2018
14/4/2018
20/4/2018
26/4/2018
Date

Appendix E

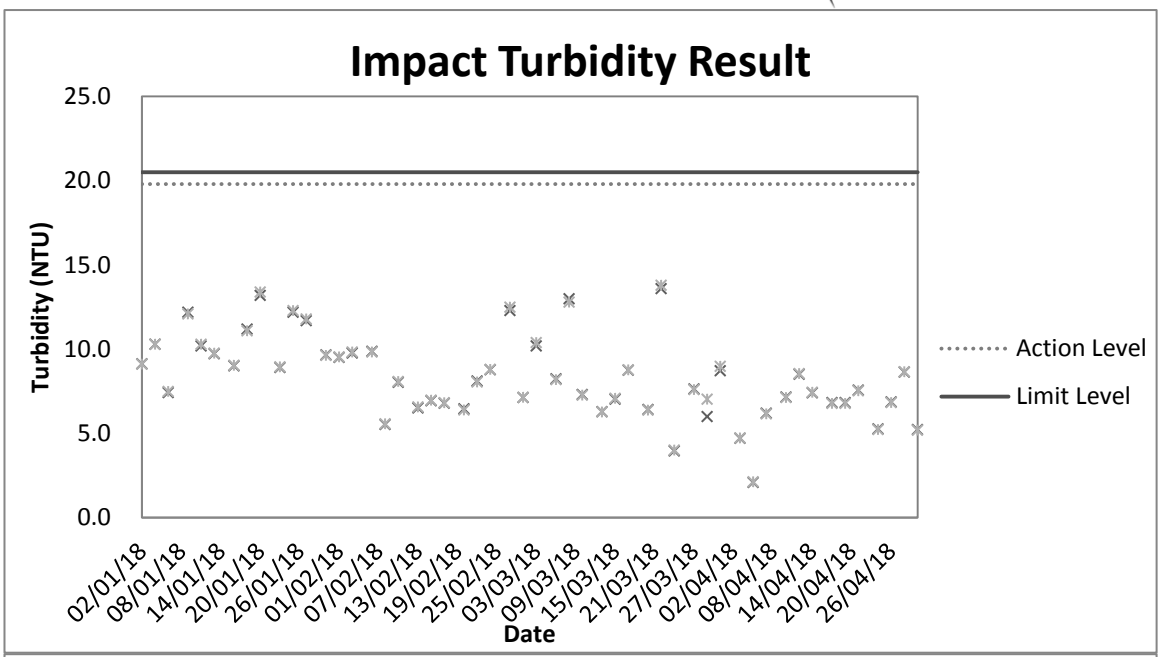
Graphical Plots of Impact Noise Monitoring Data

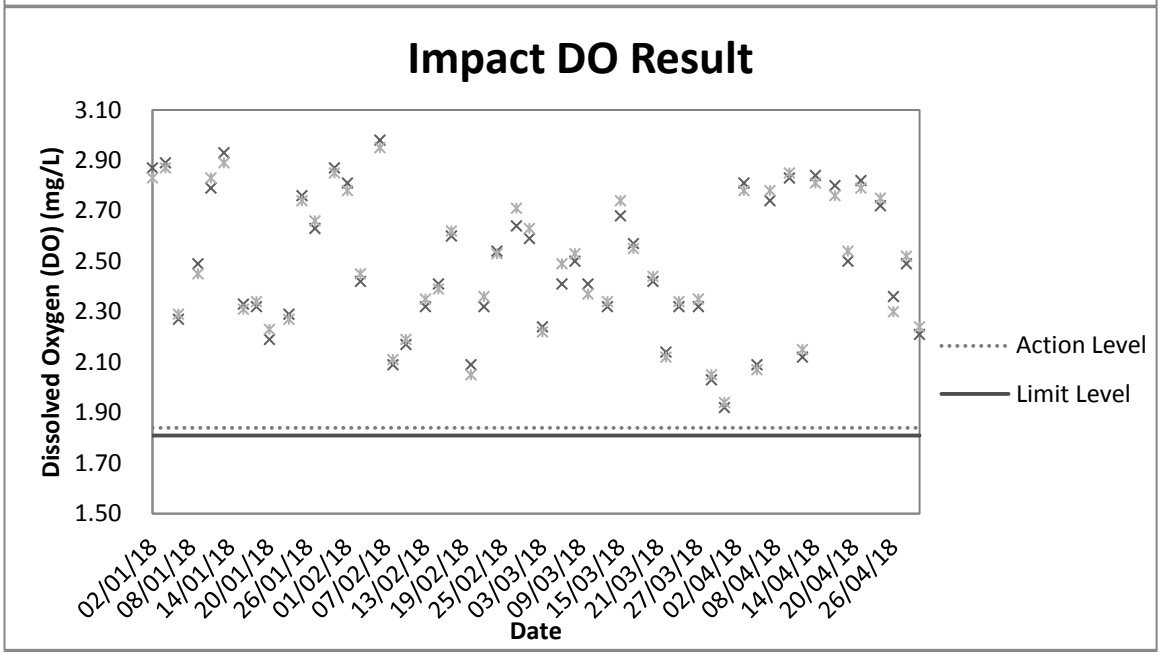

Noise Level at NSR1a
Limit Level = 75dB (A)
Noise Level (dB (A))
80.0
75.0
70.0
65.0
60.0
55.0
50.0
45.0
40.0
35.0
30.0
02/01/2018
08/01/2018
14/01/2018
20/01/2018
26/01/2018
01/02/2018
07/02/2018
13/02/2018
19/02/2018
25/02/2018
03/03/2018
09/03/2018
15/03/2018
21/03/2018
27/03/2018
02/04/2018
08/04/2018
14/04/2018
20/04/2018
26/04/2018
Date
Leq (30min)
L10 (30min)
L90 (30min)

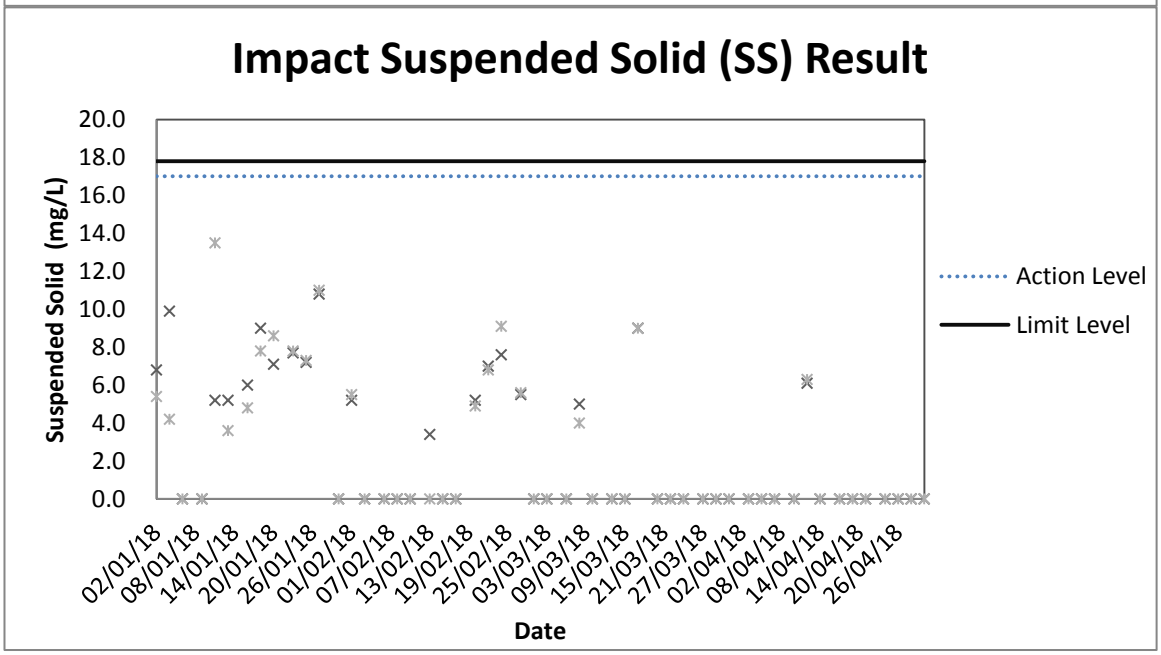

Noise Level at NSR2a
Limit Level = 75dB (A)
Noise Level (dB (A))
80.0
75.0
70.0
65.0
60.0
55.0
50.0
45.0
40.0
35.0
30.0
02/01/2018
08/01/2018
14/01/2018
20/01/2018
26/01/2018
01/02/2018
07/02/2018
13/02/2018
19/02/2018
25/02/2018
03/03/2018
09/03/2018
15/03/2018
21/03/2018
27/03/2018
02/04/2018
08/04/2018
14/04/2018
20/04/2018
26/04/2018
Date
Leq (30min)
L10 (30min)
L90 (30min)

Appendix F

Graphical Plots of Impact Water Quality Monitoring Data


Impact Turbidity Result
Turbidity (NTU)
25.0
20.0
15.0
10.0
5.0
0.0
02/01/18
08/01/18
14/01/18
20/01/18
26/01/18
01/02/18
07/02/18
13/02/18
19/02/18
25/02/18
03/03/18
09/03/18
15/03/18
21/03/18
27/03/18
02/04/18
08/04/18
14/04/18
20/04/18
26/04/18
Date
Action Level
Limit Level


Impact DO Result
Dissolved Oxygen (DO) (mg/L)
3.10
2.90
2.70
2.50
2.30
2.10
1.90
1.70
1.50
02/01/18
08/01/18
14/01/18
20/01/18
26/01/18
01/02/18
07/02/18
13/02/18
19/02/18
25/02/18
03/03/18
09/03/18
15/03/18
21/03/18
27/03/18
02/04/18
08/04/18
14/04/18
20/04/18
26/04/18
Date
Action Level
Limit Level


Impact Suspended Solid (SS) Result
Suspended Solid (mg/L)
20.0
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
02/01/18
08/01/18
14/01/18
20/01/18
26/01/18
01/02/18
07/02/18
13/02/18
19/02/18
25/02/18
03/03/18
09/03/18
15/03/18
21/03/18
27/03/18
02/04/18
08/04/18
14/04/18
20/04/18
26/04/18
Date
Action Level
Limit Level

Appendix G

Event and Action Plan

Event and Action Plan for Air Quality (Dust) during Construction Phase

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action Level being exceeded for one sample	1. Identify source; 2. Inform IEC and ER; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method.	1. Notify Contractor.	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.
Action Level being exceeded for two or more consecutive samples	1. Identify source; 2. Inform IEC and ER; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency to daily; 5. Discuss with IEC and Contractor on remedial actions required; 6. If exceedance continues, arrange meeting with IEC and ER; 7. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures are properly implemented.	1. Submit proposals for remedial actions to IEC within 3 working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate.
Limit Level being exceeded for one sample	1. Identify source; 2. Inform IEC, ER and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's	1. Check monitoring data submitted by ET and Contractor's working method; 2. Discuss with Contractor on the possible mitigation measures; 3. Review the proposed mitigation	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Check monitoring data and Contractor's working methods; 4. Discuss with IEC and Contractor on potential	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to ER within 3 working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
	remedial actions; 6. Keep EPD and ER informed of the results.	measures submitted by Contractor and advise the ER accordingly.	remedial actions; 5. Ensure remedial actions properly implemented.	appropriate.
Limit Level being exceeded for two or more consecutive samples	1. Identify source; 2. Inform IEC, ER and EPD the causes & actions taken for the exceedances; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Investigate the causes of exceedance; 6. Arrange meeting with EPD and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET and Contractor's working method; 2. Discuss with Contractor on the possible mitigation measures; 3. Review the proposed mitigation measures submitted by Contractor and advise the ER accordingly; 4. Supervise the implementation of mitigation measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 4. Discuss with IEC and the Contractor on potential remedial actions; 5. Review Contractor's remedial actions whenever necessary to assure their effectiveness; 6. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to ER within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not resolved; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event and Action Plan for Construction Noise

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action level	1. Notify IEC and Contractor; 2. Carry out investigation ; 3. Report the results of investigation to the IEC and Contractor; 4. Discuss with the Contractor and formulate remedial measures ; 5. Increase monitoring frequency to check the effectiveness of mitigation measures.	1. Review the analyzed 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.	1. Confirm receipt of notification in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analyzed noise problem; 4. Ensure mitigation measures are properly implemented.	1. Submit noise mitigation proposal to IEC; 2. Implement noise mitigation proposals.
Limit level	1. Notify IEC, ER, EPD & Contractor; 2. Identify source; 3. Repeat measurement 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 IEC, ER and EPD the causes and actions taken for the exceedances; 7. Assess the	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.	1. Confirm receipt of notification in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analyzed noise problem; 4. Ensure mitigation measures are properly implemented; 5. If exceedances continues, consider what portion of the work is responsible and instruct the Contractor to stop that	1. Undertake immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by ER, until the exceedance

	effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.		portion of work until the exceedance is abated.	is abated.

Event and Action Plan for Water Quality

Event	Action			
	ET Leader	IEC	ER	Contractor
Action Level being exceeded by one sampling day	1. Repeat in-situ measurement to confirm findings; 2. Identify reasons for non-compliance and sources of impact; 3. Inform IEC and Contractor; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC and Contractor; 6. Repeat measurement on next day of exceedance.	1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures.	1. Discuss with IEC on the proposed mitigation measures; 2. make agreement on the mitigation measures to be implemented; 3. Assess the effectiveness of the implemented mitigation measures.	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment 4. Consider changes of working methods; 5. Discuss with ET and IEC and propose mitigation measures to IEC and ER; 6. Implement the agreed mitigation measures.
Action Level being exceeded by more than two consecutive sampling days	1. Repeat in-situ measurement to confirm findings; 2. Identify reasons for non-compliance and sources of impact; 3. Inform IEC	1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor	1. Discuss with IEC on the proposed mitigation measures; 2. Make agreement on the mitigation measures to be implemented;	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and

Event	Action			
	ET Leader	IEC	ER	Contractor
	and Contractor; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC and Contractor; 6. Ensure mitigation measures are implemented; 7. Prepare to increase the monitoring frequency to daily; 8. Repeat measurement on next day of exceedance.	and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures.	3. Assess the effectiveness of the implemented mitigation measures.	equipment; 4. Consider changes of working methods; 5. Discuss with ET and IEC and propose mitigation measures to IEC and ER within 3 working days; 6. Implement the agreed mitigation measures.
Limit Level being exceeded by one sampling day	1. Repeat in-situ measurement to confirm findings; 2. Identify reasons for non-compliance and sources of impact; 3. Inform IEC, Contract or and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, ER and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the	1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures.	1. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 2. Request Contractor to critically review the working methods; 3. Make agreement on the mitigation measures to be implemented; 4. Assess the effectiveness of the implemented mitigation measures.	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 3 working days; 6. Implement the agreed mitigation measures.

Event	Action			
	ET Leader	IEC	ER	Contractor
	monitoring frequency to daily until no exceedance of Limit Level.			
Limit Level being exceeded by more than two consecutive sampling days	1. Repeat in-situ measurement to confirm findings; 2. Identify reasons for non-compliance and sources of impact; 3. Inform IEC, Contractor and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, ER and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Limit Level for two consecutive days.	1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures.	1. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 2. Request Contractor to critically review the working methods; 3. Make agreement on the mitigation measures to be implemented; 4. Assess the effectiveness of the implemented mitigation measures; 5. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the marine work until no exceedance of Limit Level.	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 3 working days; 6. Implement the agreed mitigation measures; 7. As directed by the ER, to slow down or to stop all or part of the marine work or construction activities.

Appendix H

Implementation Schedule for Environmental Mitigation Measures (EMIS)

Environmental Mitigation Measures	Location	Implementation Status			
		Implemented	Partially implemented	Not implemented	Not Applicable
Air Quality					
• The working area for the uprooting of trees, shrubs, or vegetation or for the removal of boulders, poles, pillars or temporary or permanent structures should be sprayed with water or a dust suppression chemical immediately before, during and immediately after the operation so as to maintain the entire surface wet;	Site Area	√			
• All demolished items (including trees, shrubs, vegetation, boulders, poles, pillars, structures, debris, rubbish and other items arising from site clearance) that may dislodge dust particles should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides within a day of demolition;	Site Area	√			
• Vehicle washing facilities including a high pressure water jet should be provided at every discernible or designated vehicle exit point;	Site Entrance		√		
• The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores;	Site Exit	√			
• Where a site boundary adjoins a road, street, service and or other area accessible to the public, hoarding of not less than 2.4m from ground level should be provided along the entire length of that portion of the site boundary except for a site entrance or exit;	Site Area	√			
• Every main haul road (i.e. any course inside a construction site having a vehicle passing rate of higher than 4 in any 30 minutes) should be paved with concrete, bituminous materials, hardcores or metal plates, and kept clear of dusty materials; or sprayed with water or a dust suppression chemical so as to maintain the entire road surface wet;	Main Haul Road	√			
• The portion of any road leading only to a construction site that is within 30m of a discernible or designated vehicle entrance or exit should be kept clear of dusty materials;	Site Entrance and Exit		√		
• Immediately before leaving a construction site, every vehicle should be washed to remove any dusty materials from its body and wheels;	Site Exit	√			
• Where a vehicle leaving a construction site is carrying a load of dusty materials, the load should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle;	--	√			
• The working area of any excavation or earth moving operation should be sprayed with water or a dusty suppression chemical immediately before, during and immediately after the operation so as to maintain the entire surface wet;	Site Area	√			
• Exposed earth shall be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shotcrete or other suitable	Site Area	√			

	surface stabilizer within 6 months after the last construction activity on the construction site or part of the construction site where the exposed earth lies;					
•	Any stockpile of dusty material should be either covered entirely by impervious sheeting; placed in an area sheltered on the top and the 3 sides; or sprayed with water or a dust suppression chemical so as to maintain the entire surface wet.	Site Area		√		
Noise						
•	Quiet plants should be used in order to reduce the noise impacts to protect the nearby NSRs.	Site Area	√			
•	Temporary and Movable Noise Barriers should be used in order to reduce the noise impact to the surrounding sensitive receivers	Site Area	√			
•	Intermittent noisy activities should be scheduled to minimize exposure of nearby NSRs to high levels of construction noise.	Site Area	√			
•	Idle equipment should be turned off or throttled down.	Site Area	√			
•	Construction activities should be planned so that parallel operation of several sets of equipment close to a given receiver is avoided	Site Area	√			
•	Construction plant should be properly maintained and operated.	Site Area	√			
Water Quality						
•	Exposed stockpiles should be covered with tarpaulin or impervious sheets before a rainstorm occurs;	Site Area	√			
•	The exposed soil surfaces should also be properly protected to minimize dust emission;	Site Area	√			
•	The stockpiles of materials should be placed in the locations away from the drainage channel so as to avoid releasing materials into the channel;	Site Area	√			
•	Wheel washing facilities should be provided at site exits to ensure that earth, mud and debris would not be carried out of the works areas by vehicles;	Site Exit		√		
•	Provision of site drainage systems and treatment facilities would be required to minimize the water pollution;	Site Area		√		
•	A discharge license needs to be applied from EPD for discharging effluent from the construction site;	--	√			
•	The treated effluent quality is required to meet the requirements specified in the discharge license;	--	√			
•	Provision of chemical toilets is required to collect sewage from workforce. The chemical toilets should be cleaned on a regular basis;	Chemical Toilet	√			

•	A licensed waste collector should be employed to clean the chemical toilets and temporary storage tank on a regular basis;	--	√			
•	Illegal disposal of chemicals should be strictly prohibited;	Site Area	√			
•	Registration as a chemical waste producer is required if chemical wastes are generated and need to be disposed of. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes;	Site Area	√			
•	Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance should be used as a guideline for handing chemical wastes;	Site Area	√			
•	The impact from accidental spillage of chemicals can be effectively controlled through good management practices.	Site Area		√		
Waste Management						
•	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;	Site Area		√		
•	To encourage collection of aluminium cans by individual collectors, separate bins should be provided to segregate this waste from other general refuse generated by the workforce;	Site Area	√			
•	Any unused chemicals or those with remaining functional capacity should be recycled;	Site Area	√			
•	Prior to disposal of C&D waste, it is recommended that wood, steel and other metals be separated for re-use and/or recycling and inert waste as fill material to minimize the quantity of waste to be disposed of to landfill;	Site Area	√			
•	Proper storage and site practices to minimize the potential for damage or contamination of construction materials; and	Site Area		√		
•	Plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste.	Site Area	√			
Landscape and Visual						
2.	Detailed tree survey should have been completed	Site Area	√			
•	Trees should be transplanted to their final positions clear of the construction site	--			√	
•	Erect site hoarding to protect adjacent vegetation from damage	Site Area	√			

• Regular inspections of the transplanted trees should be made to ensure the effectiveness of the hoarding	Site Area	√			
• Any topsoil excavated during the course of the works should be stored and protected on site for reuse for the restoration and screen planting works	Site Area			√	

Appendix I

Weather Condition

Daily Extract of Meteorological Observations, February 2018 – Wetland Park

Day	Mean Pressure (hPa)	Air Temperature			Mean Dew Point (deg. C)	Mean Relative Humidity (%)	Total Rainfall (mm)	Prevailing Wind Direction (degrees)	Mean Wind Speed (km/h)
		Absolute Daily Max (deg. C)	Mean (deg. C)	Absolute Daily Min (deg. C)					
01	1023.0	12.8	9.5	4.5	1.2	57	0.0	060	6.2
02	1025.4	11.7	10.2	8.9	3.6	64	0.0	360	7.1
03	1026.6	11.0	9.4	7.9	-1.5	47	0.0	030	8.5
04	1026.8	11.5	9.2	8.0	-2.3	44	0.0	030	7.7
05	1027.3	12.0#	8.5	6.0#	-1.7	51	0.0	010	5.8
06	1024.1	16.5	10.5	5.7	-1.7	45	0.0	050	5.8
07	1021.3	15.1	11.8	9.0	2.8	57	0.0	020	4.1
08	1019.0	18.5	13.3	8.4	5.0	60	0.0	060	4.3
09	1016.4	19.9	15.7	13.6	10.7	73	0.0	070	5.0
10	1017.6	23.4	18.1	15.2	12.9	72	0.0	270	5.0
11	1023.1	19.1	16.1	13.9	6.2	52	0.0	040	7.7
12	1026.7	20.2	14.4	10.2	4.0	51	0.0	060	7.7
13	1023.8	20.2#	14.0	9.4#	6.7	63	0.0	340	3.9
14	1018.9	22.6	16.1	10.3	9.4	67	0.0	170	3.0
15	1016.2	25.4	18.5	13.3	14.9	81	0.0	320	2.8
16	1015.1	25.6	19.6	13.9	15.7	81	0.0	270	3.2
17	1016.6	20.4	17.6	15.6	14.4	83	0.0	080	7.8
18	1017.4	22.8	19.1	16.3	15.2	79	0.0	050	3.5
19	1016.0	26.7	21.2	17.8	18.3	84	0.0	340	2.3
20	1014.1	26.3#	21.5	19.0#	18.7	85	0.0	060	4.4
21	1014.7	20.7	18.5	16.5	16.1	86	0.5	050	5.8
22	1018.8	16.7	14.0	11.7	12.3	89	2.5	040	7.4
23	1020.2	17.8	14.8	11.5	11.4	81	2.0	070	5.4
24	1019.0	23.3	18.7	15.0	14.1	75	0.0	330	3.5
25	1018.5	23.3	19.8	17.5	15.9	78	0.0	360	4.8
26	1019.7	21.0	17.5	14.7	12.9	75	0.0	060	6.0
27	1017.3	24.4	18.8	13.9	13.2	71	0.0	030	5.1
28	1013.8	26.7	21.2	17.5	17.5	80	0.0	330	3.4

Rainfall measured in increment of 0.5 mm.

Amount of < 0.5 mm cannot be detected

Daily Extract of Meteorological Observations, March 2018 – Wetland Park

Day	Mean Pressure (hPa)	Air Temperature			Mean Dew Point (deg. C)	Mean Relative Humidity (%)	Total Rainfall (mm)	Prevailing Wind Direction (degrees)	Mean Wind Speed (km/h)
		Absolute Daily Max (deg. C)	Mean (deg. C)	Absolute Daily Min (deg. C)					
01	1012.3	25.6	21.2	17.1	18.5	85	0.0	180	4.8
02	1011.6	28.2	22.7	19.7	18.4	77	0.0	170	5.8
03	1010.9	27.2	23.4	19.9	20.4	84	0.0	170	7.2
04	1010.7	25.7	24.1	22.8	21.9	87	1.0	160	8.8
05	1012.2	28.8	25.3	22.6	21.8	81	0.0	170	5.5
06	1016.5	24.7	21.2	18.8	16.7	76	0.0	110	9.8
07	1016.4	23.4	20.5	17.3	15.3	72	0.0	060	8.1
08	1020.5	20.5	13.3	11.7	10.1	82	16.0	030	10.5
09	1023.3	20.4	14.1	9.4	5.2	57	0.0	020	9.5
10	1022.2	22.2	15.2	10.0	9.3	71	0.0	040	5.0
11	1021.5	23.8	17.6	12.8	9.8	65	0.0	060	6.1
12	1018.9	25.0	18.8	13.6	13.4	74	0.0	060	5.1
13	1016.5	25.8	19.8	14.3	15.8	80	0.0	170	5.0
14	1014.5	22.2	20.2	18.1	17.9	87	3.0	310	4.0
15	1013.2	26.0	21.5	18.6	18.6	84	0.0	330	3.5
16	1014.7	27.3	21.9	17.5	18.4	82	0.0	180	4.9
17	1017.0	22.8	20.5	19.1	16.8	80	0.0	080	10.2
18	1015.5	26.6	22.0	18.2	17.9	78	0.0	170	7.3
19	1011.5	27.0	23.0	20.0	19.8	83	0.0	170	6.3
20	1013.9	23.6	20.0	15.6	14.5	71	1.0	350	8.3
21	1017.4	23.2	17.5	12.8	7.5	53	0.0	020	8.0
22	1017.0	24.4	18.3	13.2	8.6	55	0.0	030	5.3
23	1018.4	26.2#	19.2	13.1#	10.6	64	0.0	060	5.3
24	1018.8	26.1	20.9	16.8	15.8	73	0.0	070	6.2
25	1019.3	26.5	21.8	18.0	14.4	64	0.0	100	5.4
26	1018.3	27.4	21.8	17.6	16.2	72	0.0	170	3.5
27	1016.1	27.2	22.2	18.3	17.0	74	0.0	180	4.5
28	1014.5	27.5	21.8	17.6	17.4	78	0.0	170	5.2
29	1014.2	26.8	22.1	17.1	18.1	79	0.0	060	3.6
30	1015.2	28.8	23.2	18.7	18.0	74	0.0	070	5.9
31	1015.2	29.8	23.7	20.1	14.2	57	0.0	170	8.4

 # data incomplete

Rainfall measured in increment of 0.5 mm. Amount of < 0.5 mm cannot be detected

Daily Extract of Meteorological Observations, April 2018 – Wetland Park

Day	Mean Pressure (hPa)	Air Temperature			Mean Dew Point (deg. C)	Mean Relative Humidity (%)	Total Rainfall (mm)	Prevailing Wind Direction (degrees)	Mean Wind Speed (km/h)
		Absolute Daily Max (deg. C)	Mean (deg. C)	Absolute Daily Min (deg. C)					
01	1014.3	29.8	23.1	19.1	17.4	73	0.0	170	5.3
02	1013.4	28.2	23.4	18.7	17.7	72	0.0	170	5.8
03	1013.5	29.5	23.9	18.8	17.7	71	0.0	170	7.3
04	1012.6	28.3	23.5	19.0	19.3	79	0.0	180	5.7
05	1011.5	29.5	24.1	19.4	19.2	76	0.0	170	7.2
06	1015.8	28.2	21.2	16.8	16.0	74	0.0	010	7.1
07	1024.1	20.2	17.1	14.4	3.8	43	0.0	040	12.1
08	1020.8	24.9	18.3	11.8	8.3	55	0.0	170	5.4
09	1017.4	27.1	20.8	14.0	15.9	76	0.0	170	5.8
10	1014.6	28.6	22.8	17.7	18.2	77	0.0	170	6.3
11	1012.1	28.4	23.9	19.3	20.5	83	0.0	170	5.8
12	1010.9	28.8#	25.6	22.5#	21.6	79	0.0	160	7.5
13	1011.5	30.1	26.5	24.7	22.1	78	0.0	160	10.0
14	1011.1	30.1	26.4	24.0	22.6	80	0.0	160	8.2
15	1014.7	24.8	20.0	16.9	17.2	84	16.0	340	7.8
16	1017.3	17.3	16.4	15.4	14.9	91	7.5	050	5.5
17	1017.1#	24.2#	18.9#	15.5#	15.7#	82#	0.0#	040	4.5
18	1015.7	25.7	22.1	19.2	17.9	78	0.0	060	4.2
19	1014.4	27.8	22.8	18.5	17.6	74	0.0	060	3.8
20	1013.9	28.4	23.4	20.3	19.6	79	0.0	100	6.8
21	1012.7	29.7	25.2	22.0	20.0	74	0.0	130	8.5
22	1010.9	30.1	25.4	21.7	21.6	80	0.0	170	6.9
23	1009.0	29.4	26.1	22.6	21.7	78	0.0	160	7.0
24	1009.9	28.5	25.0	23.1	21.8	83	6.0	040	2.5
25	1012.4	23.9	22.8	21.8	18.6	78	4.0	050	5.9
26	1013.5	25.2	22.7	21.6	20.8	90	1.0	360	3.1
27	1015.0	27.8	24.6	21.9	21.9	85	0.0	060	3.0
28	1014.8	27.8	24.8	22.4	21.1	80	0.0	080	6.5
29	1013.0	29.6	25.5	22.1	21.5	80	0.0	060	4.9
30	1012.7	30.5	25.9	22.6	22.4#	85#	0.0	170	5.8

 # data incomplete

Rainfall measured in increment of 0.5 mm. Amount of < 0.5 mm cannot be detected

Appendix J

Waste Flow Table

Name of Department: DSD

Year: 2018

Project: Design, Build and Operate San Wai Sewage Treatment Works - Phase 1

Contract No.: DC/2013/10

Waste Flow Table

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Broken Broken Concrete (see Note 3)	Reused in the Contract (see Note)	Reused in other Projects	Disposed as Public Fill (see Note 4)	Imported Fill (see Note 4)	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	Chemical Waste	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 kg)
Jan	8.809	0.000	0.000	0.000	8.809	0.000	0.000	0.000	0.000	0.000	18.480
Feb	3.231	0.000	0.000	0.000	3.231	0.000	0.000	0.200	0.000	0.000	2.700
Mar	2.246	0.000	0.000	0.000	2.246	0.752	0.000	0.000	0.000	0.000	9.210
Apr	2.035	0.000	0.000	0.000	2.035	1.928	0.005	0.150	0.000	0.000	16.970
May											
Jun											
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	16.321	0.000	0.000	0.000	16.321	2.680	0.005	0.350	0.000	0.000	47.360

Notes: (1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.

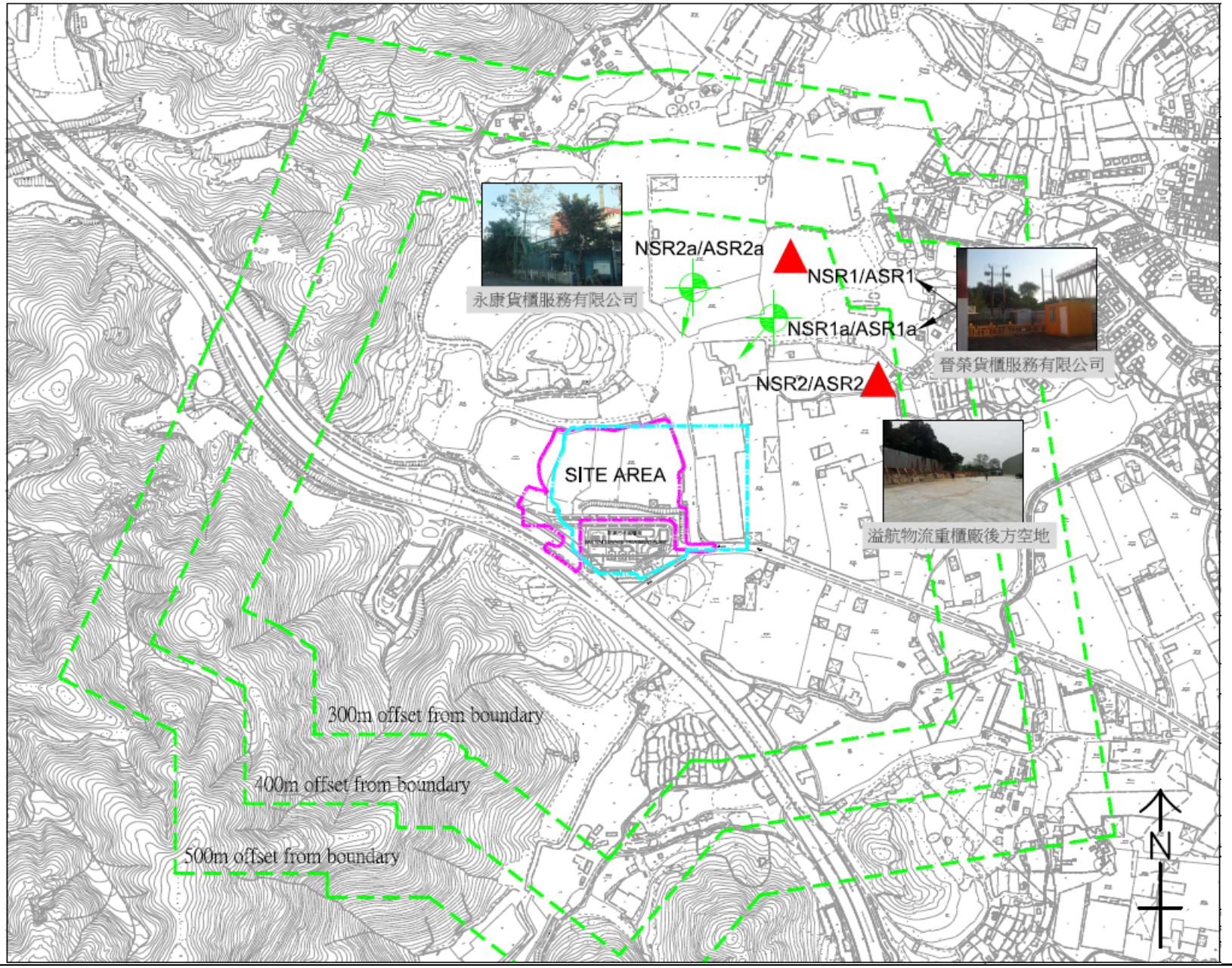
(2) Plastics refer to plastic bottles/ containers, plastic sheets/ foam from packaging materials.

(3) Broken concrete for recycling into aggregates.

(4) Assumption: The densities of subbase, Type A, Type B, Rockfill, Soil, Mix Rock and Soil, Reclaimed Asphalt Pave, Slurry are 2.0 ton/m^3; the densities of Building debris is 2.1 ton/m^3; the densities of Broken Concrete is 2.4 ton/m^3.

Figure 1

Locations of Air Quality and Noise Monitoring Stations

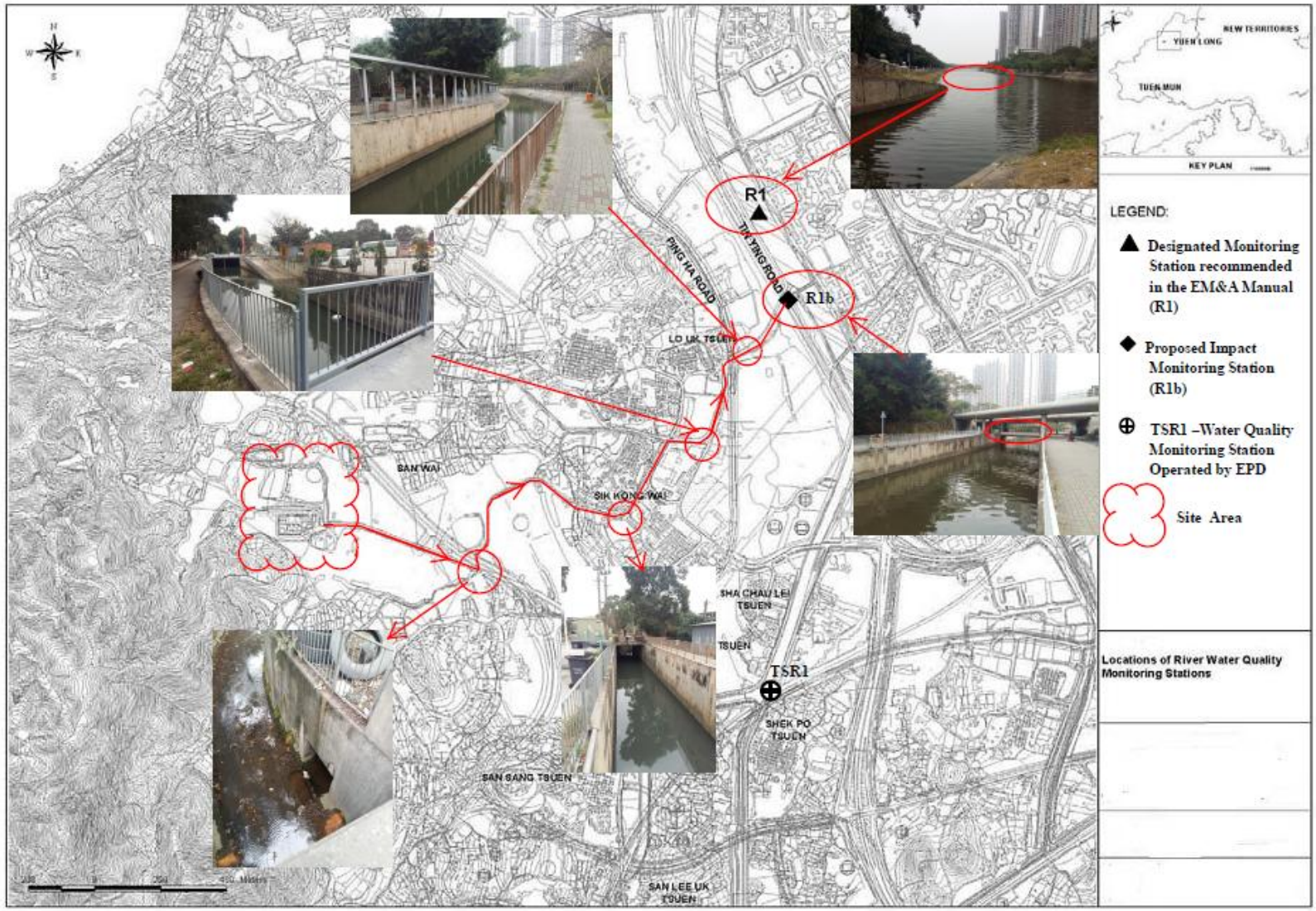


Project: Contract No. DC/2013/10 - Design, Build and Operate San Wai Sewage Treatment Works – Phase 1

Figure 1 Locations of Air Quality and Noise Monitoring Stations

Figure 2

Locations of Water Quality Monitoring Station



Project: Contract No. DC/2013/10 - Design, Build and Operate San Wai Sewage Treatment Works – Phase 1

Figure 2 Locations of Water Quality Monitoring Station