Monthly EM&A Report (June 2021)

0120/20/ED/0359 02

Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1 Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

IEC Comments

Items	Comments	Responses
1	ES ii & x: Please explain all abbreviations including "PST", "IW" & "FST", etc.	Expansion is provided.
2	ES iv, Section 4.8.5, Table 4.4 and Section 11.1.3 - The number of water quality exceedances is inconsistent with the result in Appendix F (e.g., 1/6, 15/6 and 17/6), please check and update as necessary.	Checked, the number of WQM exceedances is correct. Exceedances will only be counted when it is an impact station.
3	Section 1.4.2: Refinement of Appendix J is required, including breaking down of "EIA Ref" to more details, e.g., for EIA Ref.3.6.1.6, "N/A" may not be appropriate; and for EIA Ref. 3.8.1.1, "implemented" may not be precise enough. In addition, it is not considered meaningful to include those mitigation measures for operational phase with the implementation status of "N/A".	Break Down Version is provided.
4	Section 2.4.1: The calibration certificate of single-pan balance is expired. Please replace with a valid one.	Appendix D is updated.
5	Section 3.8.2: Please indicate the "Register No. AEIAR-220/2019" of theEIA Report.	Section 3.8.2 is amended.
6	Table 5.8 - Please refer to the comments on the notification of ecological exceedances on the diversity index calculation	Amended.
7	Appendix D - For the Water Quality Monitoring Equipment, please provide the valid calibration certificate for Valeport Model 106(Serial No. 7738) and River Surveyor M9 (Serial No. 5906)	The certificate is still valid.
8	Appendix I - The "Total" row for "Disposed ass Public Fill" and "Metals do not tally with the corresponding monthly entries; The "Total" row for "Total Quantities Generated" also do not tally with the total of other waste type generated. Please carefully check the table.	Amended.

RAMBOLL

Ref.: DSDYLSTWEM00_0_0109L.21

14 July 2021

By Hand and by E-mail

AECOM
12/F Grand Central Plaza, Tower 2
138 Shatin Rural Committee Road
Shatin, Hong Kong.

Attention: Mr YEUNG H. M. Simon

Dear Mr YEUNG,

Re: Contract No. SPW 08/2020
Independent Environmental Checker for
Construction of Yuen Long Effluent Polishing Plant Stage 1

Verification of the Monthly EM&A Report (June 2021)

Reference is made to the Monthly EM&A Report (June 2021) by the ET with Fugro Document No. 0120/20/ED/0359 02 (the Report), which was received via e-mail dated 13 July 2021.

Having reminded that, in accordance with the Condition 3.6 of the EP-565/2019, it is the ET's responsibility to ensure all submitted EM&A data shall be true, valid and correct, we have no further comments and herewith verify that the Report has fulfilled the EP Condition 3.4 as having complied with the requirements set out in the EM&A Manual.

Please contact the undersigned or our Mr. Y.H. HUI should you have any questions on the matter.

Yours sincerely,

For and on behalf of
Ramboll Hong Kong Limited

WONG Fu Nam
Independent Environmental Checker

c.c.

DSD	Mr LAM Yu Wang	By E-mail
Fugro	Mr HUNG David	By E-mail

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Document Control

Document Information

Project Title	Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1
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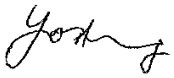
Client Information

Client	Drainage Services Department
Client Address	45/F, Revenue Tower, 5 Gloucester Road, Wan Chai, Hong Kong45/F, Revenue Tower, 5 Gloucester Road, Wan Chai, Hong Kong
Client Contact	Mr. LAM Yu Wang

Environmental Team

Initials	Name	Role	Signature
YO	**David Y.O. Hung**	**Environmental Team Leader**	
CY	**Cyrus C.Y. Lai**	**Senior Environmental Consultant**	
KH	**Toby K.H. Wan**	**Assistant Environmental Consultant**	

EXECUTIVE SUMMARY

i. This Monthly Environmental Monitoring and Audit (EM&A) Report is prepared for Contract No. SPW 07/2020 "Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1". Drainage Services Department (DSD) has appointed Fugro Technical Services Limited (FTS) to undertake the Environmental Team services for the project and implement the EM&A works.

ii. This is the 3rd Monthly EM&A Report for the Contract which summaries findings of the EM&A programme during the reporting period from 1 June 2021 to 30 June 2021. As informed by the Contractor, major activities in the reporting month were:

- Pre-drill work at Primary Sedimentation Tanks (PST) by 2 drill rigs;
- Drilling and install piezometers;
- Site formation works at Primary Sedimentation Tanks (PST);
- Breaking of Primary Sedimentation Tanks (PST) no. 7 & 8;
- Sheet pile installation works for Zone 1 diversion;
- Driven H-pile at Inlet Works (IW) stage 1 by 2 rigs;
- Demolition of main storage by crusher and breaker;
- Trial pit for Zone 2A & 3 diversion;
- Construction of temporary admin. Building, workshop & storage area;
- Removal of sludge from sludge holding tanks; and
- Overhaul work at Final Sedimentation Tanks (FST).

Breaches of Action and Limit Levels

iii. No Action and Limit Level exceedance was recorded for air quality monitoring and construction noise monitoring in the reporting month.

iv. An Action Level exceedance was recorded for water quality in the reporting month. The exceedance was recorded at M1 on 10 June 2021. A Limit Level exceedance was recorded for water quality in the reporting month. The exceedance was recorded at M1 on 8 June 2021. It was found that these exceedances were not project-related.

v. No Action / Limit exceedance was recorded for noise levels at stations (NMS1 and NMS2) in close proximity to the active ardeid night roost. One active ardeid night roost site (ANR1) was observed within the Survey Area during the June 2021 monitoring period, while the other night roost site (ANR2) was not currently used by the ardeids.

vi. Two exceedances in Action Level were recorded for the ecological monitoring of birds on 15 & 18 June 2021. These include significant declines in species diversity of all avifauna species in the community; and species diversity of species of conservation importance only. However, the exceedances were not project-related.

Complaint Log

vii. No complaints were received in the reporting period.

Notifications of any Summons and Successful Prosecutions

viii. No notifications of summons and prosecutions were received in the reporting period.

Reporting Change

ix. There were no reporting changes during the reporting month.

Future Key Issues

x. The main works will be anticipated in the next three months are as follow:

- Pre-drill work at Primary Sedimentation Tanks (PST);
- Demolition of workshop;
- Demolition of carpark;
- Demolition of Final Sedimentation Tanks (FST) no. 7&8;
- Demolition of Primary Sedimentation Tanks (PST) no. 5&6;
- Demolition of Detritor 3C;
- Demolition of changing room;
- Demolition of waste storage area;
- Sheet pile installation at Inlet Works (IW) & Primary Sedimentation Tanks (PST);
- Driven H-pile at Inlet Works (IW) & Primary Sedimentation Tanks (PST);
- Zone 1, 2 & 3 diversion work; and
- Enviro. GI at workshop & Air Floatation Thickener.

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1. INTRODUCTION

1.1 Background

1.1.1 The existing Yuen Long Sewage Treatment Works (YLSTW) is a secondary sewage treatment works, located at Yuen Long Industrial Estate serves Yuen Long Town, Yuen Long Industrial Estate and Kam Tin areas with a design capacity of 70,000 m^3 per day. Based on the latest planning data, the volume of sewage generation from the YLSTW catchment is estimated to increase to 150,000 m^3 per day after 20 years. In addition, since YLSTW has been operating for over 30 years and most of its facilities are of out-dated design and reaching the end of their design life, the environmental facilities of the plant will also be upgraded and hence improving the adjacent environment through upgrading the YLSTW to Yuen Long Effluent Polishing Plant (YLEPP). The layout for construction of Yuen Long Effluent Polishing Plant (hereinafter referred as "the Project") is given in **Figure 1**.

1.1.2 YLSTW will be reconstructed in two stages to increase its capacity to 150,000 m^3 per day. The proposed works, as Stage 1 of the project, will firstly increase the treatment capacity to 100,000 m^3 per day. In the course of Stage 1 construction, about half of the existing facilities of YLSTW would be demolished, while the other half would be kept in operation to maintain the sewage treatment service for Yuen Long area.

1.1.3 The Project is a designated project under Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) (Cap. 499) for which Environmental Impact Assessment (EIA) report and Environmental Monitoring and Audit (EM&A) Manual was approved by EPD (Register No.: AEIAR-220/2019) on 25 April 2019. The Environmental Permit (EP) (EP No. EP-565/2019) was issued by EPD on 26 April 2019.

1.1.4 Fugro Technical Services Limited (FTS) has been appointed as the Environmental Team (ET) by Drainage Services Department (DSD) to undertake the Environmental Team services for the Project and implement the EM&A works under the Contract No. DC/2019/10 Yuen Long Effluent Polishing Plant -Main Works for Stage 1 (hereinafter referred as "the Contract").

1.1.5 This is the 3rd Monthly EM&A report to document the findings of site inspection activities and EM&A programme for this project from 1 June 2021 to 30 June 2021 (reporting period) and is submitted to fulfil Condition 3.4 of the EP and Section 12.4.1 of the EM&A Manual. According to Condition 4 of the EP, electronic reporting is provided on the internet website to facilitate public inspection of the report.

1.2 Project Organization

1.2.1 The Project Organization 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	Telephone
Project Proponent (Drainage Services Department)	Engineer	Mr. Lam Yu Wang	2594 7473
Engineer's Representative (AECOM Asia Co. Ltd.)	Chief Resident Engineer	Mr. Simon Yeung	9075 7172
	Senior Resident Engineer	Mr. Patrick Leung	6124 8838
Independent Environmental Checker (Ramboll Hong Kong Limited)	Independent Environmental Checker (IEC)	Mr. F.N. Wong	3465 2805
Contractor (Paul Y. - CREC Joint Venture)	Environmental Officer	Ms. Iris Ho	5490 5271
Environmental Team (Fugro Technical Services Limited)	Environmental Team Leader (ETL)	Mr. David Hung	3565 4371

1.3 Construction Programme and Activities

1.3.1 The site layout plan of the project is shown in **Figure 1**.

1.3.2 The construction programme of this project is shown in **Appendix A**.

1.4 Works undertaken during the month

1.4.1 The main construction works carried out in the reporting period were as follow:

- Pre-drill work at PST by 2 drill rigs;
- Drilling and install piezometers;
- Site formation works at PST;
- Breaking of PST no. 7 & 8;
- Sheet pile installation works for Zone 1 diversion;
- Driven H-pile at IW stage 1 by 2 rigs;
- Demolition of main storage by crusher and breaker;
- Trial pit for Zone 2A & 3 diversion;
- Construction of temporary admin. Building, workshop & storage area;
- Removal of sludge from sludge holding tanks; and
- Overhaul work at FST.

1.4.2 The environmental protection and mitigation measures corresponding to the main construction works implemented in the reporting period can be referred to **Appendix J**.

1.5 Status of Environmental Licences, Notification and Permits

1.5.1 A summary of the relevant permits, licenses and/or notifications on environmental protection for this project is presented in **Table 1.2**.

Table 1.2 – Environmental Licenses, Notification and Permits Summary

Permit/ Notification/ License	Reference No	Valid From	Valid Till
Environmental Permit	EP-565/2019	26-Apr-2019	NA
Notification of Works under APCO	461616	6-Nov-2020	NA
Construction Waste Disposal Billing Account	7038933	20-Nov-2020	NA
Registration as Chemical Waste Producer under WDO	WPN5213-528-P2796-03	4-Feb-2021	NA
Construction Noise Permit	GW-RN0218-21	26-Mar-2021	17-Oct-2021
Construction Noise Permit (Percussive Pilling)	PP-RN0021-21	27-Apr-2021	30-Jun-2021
Admission Ticket for Disposal of Special Waste at Landfill	Admission Ticket No. 16225	3-May-2021	2-Nov-2021
Admission Ticket for Disposal of Special Waste at Landfill	Admission Ticket No. 16331	25-June-2021	31-Oct-2021
Wastewater Discharge License	Ref. Number: 463531	Under Application	NA
Marine Dumping Permit	Ref. Number: 468851, 468850 and 468852	Under Application	NA

2. AIR QUALITY

2.1 Monitoring Requirement

2.1.1 In accordance with the EM&A Manual, 1-hour Total Suspended Particulates (TSP) levels should be measured at the designated air quality monitoring stations to indicate the impacts of construction dust on air quality. Impact 1-hour TSP monitoring was conducted for at least three times every 6 days.

2.2 Monitoring Equipment

2.2.1 A portable direct reading dust meter was used to carry out the 1-hour TSP monitoring at the designated monitoring stations.

2.2.2 Wind data monitoring equipment is provided at the conspicuous locations for logging wind speed and wind direction near to the dust monitoring locations. The equipment installation location is agreed with the ER and the IEC.

2.2.3 The model of the air quality monitoring equipment used is summarized in **Table 2.1**.

Table 2.1 – Air Quality Monitoring Equipment

Item	Location	Brand	Model	Equipment	Serial No.
1	AM1	Sibata	Model LD-5R	Sibata Portable TSP Monitors	761105
2	AM2		Model LD-5R		882149
3		Global Water	GL500-7-2	Wind Station	2012000974

2.3 Monitoring Methodology for Direct Reading Dust Meter

2.3.1 Portable Laser Particle Photometer Monitors (Sibata Model LD-3B / 5R) complete with appropriate sampling inlets are employed for 1-hour TSP measurement.

Measuring Procedures

a) Pulling up the air sampling inlet cover
b) Changing the Mode 0 to BG
c) Pressing Start/Stop switch
d) Turning the knob to SENSI.ADJ and press it
e) Pressing Start/Stop switch again
f) Returning the knob to the position MEASURE slowly
g) Pressing the timer set switch to set measuring time
h) Removing the cap and start the measurement

Equipment Calibration

1-hour dust meter should be calibrated at 1 year intervals. The calibration certificates are presented in **Appendix D**.

2.4 Maintenance and Calibration for Direct Reading Dust Meter

2.4.1 ET shall submit sufficient information to the IEC to prove that the instrument is capable of achieving comparable results to the HVS. The instrument should also be calibrated regularly, and the 1-hour sampling shall be determined periodically by the HVS to check the validity and accuracy of the results measured by direct reading method. The calibration certificate for the direct reading dust meter is provided in **Appendix D**.

2.5 Monitoring Locations

2.5.1 In accordance with the EM&A Manual, two air quality monitoring locations, namely AM1, AM2 are covered under Contract No. SPW 07/2020 "Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1".

2.5.2 The most updated locations are summarized in **Table 2.2** and the locations of the air monitoring stations shown in **Figure 2**.

Table 2.2 – Air Quality Monitoring Location

Monitoring Station	Location
AM1	Topfine Machinery (China) Co. Ltd
AM2	Squatter house at the west of Yuen Long STW

2.6 Monitoring Results

2.6.1 The schedule of air quality monitoring in reporting month is provided in **Appendix E**.

2.6.2 No Action / Limit Level exceedance was recorded for 1-hr TSP at AM1 and AM2.

2.6.3 No effect that arose from the other factors was noted during the current monitoring month.

2.6.4 The weather conditions during the monitoring are provided in **Appendix K**.

2.6.5 The monitoring data of 1-hr TSP are summarized in **Table 2.3**. Detailed monitoring data are presented in **Appendix F**.

Table 2.3 – Summary of Air Quality Monitoring Results

Monitoring Station	Average ($\mu g/m^3$)	Range ($\mu g/ m^3$)	Action Level ($\mu g/ m^3$)	Limit Level ($\mu g/ m^3$)
1-hour TSP				
AM1	50	27-86	291	500
AM2	57	36-87	296	

2.6.6 The Action and Limit Levels for air quality monitoring have been set and are presented in **Appendix C**.

2.6.7 The Event and Action Plan for air quality is given in **Appendix H**.

2.6.8 The wind data obtained from the on-site wind station during the reporting period is provided in **Appendix G**.

2.7 Comparison of 1-hr TSP Monitoring Results with EIA Predictions

2.7.1 The monitoring data of 1-hr TSP was compared with the EIA predictions as summarized in **Table 2.4**.

Table 2.4 – Comparison of 1-hr TSP data with EIA predictions

Monitoring Station	EIA ID	Predicted Maximum Hourly Average TSP Concentration (µg/ m^3)	Maximum 1-hr TSP Monitoring Results in June (µg/ m^3)
1-hour TSP			
AM1	ASR09	205-451	86
AM2	ASR11		87

Notes:
Predicted TSP Concentration extracted from Table 3.20 of EIA Report, AEIAR-220/2019

2.7.2 The 1-hr TSP monitoring results at AM1 and AM2 were below the Predicted Maximum Hourly Average TSP Concentration in the approved Environmental Impact Assessment (EIA) Report.

3. NOISE

3.1 Monitoring Requirement

3.1.1 In accordance with the EM&A Manuals, Leq (30min) monitoring is conducted at least once a week when there are Project-related construction activities being undertaken within a radius of 300 m from the monitoring stations. The monitoring is conducted during the construction phase between 0700 and 1900 on normal weekdays at the designated monitoring locations.

3.2 Monitoring Equipment

3.2.1 As referred to the requirements of the Technical Memorandum (TM) issued under the NCO, the sound level meters in compliance with the International Electro technical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications should be used for carrying out the noise monitoring. Immediately prior to and following each noise measurement, the accuracy of the sound level meter should be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. The measurements may be accepted as valid only if the difference between calibration levels obtained before and after the noise measurement is less than 1.0 dB.

3.2.2 The model of the noise monitoring equipment used is summarized in **Table 3.1**.

Table 3.1 – Construction Noise Monitoring Equipment

Item	Brand	Model	Equipment	Serial No.
1	Casella	CEL-63X Series	Integrating Sound Level Meter	1488302
2	Casella	CEL-63X Series	Integrating Sound Level Meter	1488304
3	Casella	CEL-120/1	Calibrator	5230736
4	Casella	CEL-120/1	Calibrator	5230758
5	SENSOR	AR816	Anemometer	2136513

3.3 Monitoring Parameters and Frequency

3.3.1 The parameters and frequencies of impact noise monitoring is summarized in **Table 3.2**.

Table 3.2 – Monitoring Parameters and Frequencies of Noise Monitoring

Parameter	Frequency
LAeq (30 min) (L 10 and L90 will be recorded for reference)	At each station at 0700-1900 hours on normal weekdays at a frequency of once a week when construction activities are underway

3.4 Monitoring Methodology

3.4.1 Noise measurement should be conducted as the following procedures:

- The monitoring station will set at a point 1m from the exterior of the sensitive receivers building façade and set at a position 1.2m above the ground. (In case façade measurement is not feasible on-site, a free field correction of +3dB(A) will be applied.)
- The battery condition was checked to ensure good functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time will set as follows:
    - frequency weighting : A
    - time weighting : Fast
    - measurement time: 30 minutes
- Prior to and after noise measurement, the meter shall be calibrated using the calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement is more than 1.0 dB, the measurement will considered invalid and repeat of noise measurement is required after re-calibration or repair of the equipment.
- Noise measurement should be paused during periods of high intrusive noise if possible and observation shall be recorded when intrusive noise is not avoided.
- Noise measurements shall not be made in fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s. The wind speed shall be checked with a portable wind speed meter capable of measuring the wind speed in m/s. Calibration certificate of the anemometer is provided in **Appendix D**.

3.5 Maintenance and Calibration

3.5.1 Maintenance and calibration procedures should also be carried out, including:

- The microphone head of the sound level meter and calibrator should be cleaned with a soft cloth at quarterly intervals.
- The sound level meter and calibrator should be calibrated annually by a HOKLAS laboratory.
- Relevant calibration certificates are provided in **Appendix D**.

3.6 Monitoring Locations

3.6.1 In accordance with the EM&A Manual, three noise monitoring locations, namely CM1, CM2 and CM3 are covered under Contract No. SPW 07/2020 "Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1".

3.6.2 The most updated locations are summarized in **Table 3.3** and the locations of the noise monitoring stations shown in **Figure 3**.

Table 3.3 – Construction Noise Monitoring Location

Monitoring Station ID	Location	Measurements
CM1	Squatter house at the north of Yuen Long STW	Free Field
CM2	Squatter house at the west of Yuen Long STW	Free Field
CM3	Squatter house at the east of Yuen Long STW	Free Field

Note: Correction of +3 dB(A) shall be made to the free field measurements.

3.7 Monitoring Results

3.7.1 The schedule of noise monitoring in reporting month is provided in **Appendix E**.

3.7.2 No Action / Limit Level exceedance of location CM1, CM2 and CM3 was recorded for construction noise in the reporting month.

3.7.3 During the monitoring month, at CM2, road traffic from the squatter house at the west of Yuen Long STW was observed, at CM3, road traffic from the Nam Sang Wai Road was observed. No effect that arose from the other factors for CM1 was noted during the current monitoring month.

3.7.4 No raining and wind with speed over 5 m/s was observed during noise monitoring according to the onsite observation. The weather conditions during the monitoring month are provided in **Appendix K**.

3.7.5 The noise monitoring data are summarized in **Table 3.4**. Detailed monitoring data are presented in **Appendix F**.

Table 3.4 – Summary of Construction Noise Monitoring Results

Time Period	Noise Monitoring Stations	L_{eq} (30min) dB(A) (Range)	Action Level	Limit Level dB(A)
0700-1900 hrs on normal weekdays	CM1	52-57	When one documented complaint is received	75
	CM2	60-65		75
	CM3	52-67		75

Remark:
CM1, CM2 and CM3: Free-field measurement (+3 dB(A) correction has been applied).

3.7.6 The Action and Limit Levels for noise impact monitoring have been set and are presented in **Appendix C**.

3.7.7 The Event and Action Plan for noise is given in **Appendix H**.

3.8 Comparison of Noise Monitoring data with EIA Predictions

3.8.1 The noise monitoring data was compared with the EIA predictions as summarized in **Table 3.5**.

Table 3.5 – Comparison of Noise monitoring data with EIA predictions

Monitoring Station	EIA ID	Maximum Predicted Mitigated Construction Noise Level L_{eq} (30min) dB(A)	Maximum Construction Noise Level in June L_{eq} (30min) dB(A)
CM1	NSR1	72	57
CM2	NSR2	74	65
CM3	NSR3	75	67

Notes:
Predicted TSP Concentration extracted from Table 4.9 of EIA Report, AEIAR-220/2019

3.8.2 The construction noise monitoring results at CM1, CM2 and CM3 were below the Maximum Predicted mitigated Construction Noise Level in the approved Environmental Impact Assessment (EIA) Report (Register No.: AEIAR-220/2019).

4. WATER QUALITY

4.1 Monitoring Requirement

4.1.1 In accordance with the EM&A Manuals, impact monitoring is conducted for three days per week at mid-flood and mid-ebb with sampling and measurement at the designated monitoring stations.

4.2 Monitoring Equipment

4.2.1 Equipment used for in-situ measurement and water sampling during impact water quality monitoring is summarised in **Table 4.1**. The equipment is in compliance with the requirements set out in the EM&A Manual. All in-situ monitoring instruments were calibrated by a HOKLAS-accredited laboratory. Calibration of temperature, DO, salinity, pH and turbidity is conducted in three month interval. Calibration certificates for the water quality monitoring equipment are attached in **Appendix D**.

Table 4.1 – Water Quality Monitoring and Sampling Equipment

Parameter	Equipment	Model	Range	Equipment Accuracy	Serial No.
Temperature, Dissolved Oxygen, Salinity, pH, Turbidity	Water Quality Monitoring Device	Xylem EXO 3	Temp: -5 to 50°C DO: 0-50mg/L DO%: 0-500% Sal: 0 to 70ppt pH: 0 to 14 pH units Turb: 0-4000NTU	Temp: ±0.2°C DO: ±0.1mg/L or 1% for 0-20mg/L; ±5% for 20-50mg/L Sal: ±2% of the reading or 0.2 ppt (whichever greater) pH: ±0.2 units Turb: ±3% or 0.3NTU (FNU) (whichever greater)	19E100634
					19E100633
Current Velocity and Direction	Current Meter	Valeport Model 106	Speed: 0.03 to 5 m/s Direction: 0 to 360	Speed: ± 1.5% of reading above 0.15m/s, ± 0.004 m/s below 0.15m/s Direction: ± 2.5o	67738
		River Surveyor M9	Water Depth: 0-80m	Water Depth: 1% Current speed: ±0.25% of measured velocity or ±0.2cm/s Current direction: ±2degree magnetic	5906
Water Sampling	Water Sampler	Acrylic Beta Water Bottle Kit, Horizontal, 3.2L / 4.2L	NA	NA	NA

Parameter	Equipment	Model	Range	Equipment Accuracy	Serial No.
Positioning	DGPS	Simrad MX521B Smart Antenna with Simrad MX610 CDU	NA	GPS: ±1m	NA
Water Depth	Echo Sounder	Garmin ECHO 101	Maximum depth: 457.2 m	0.1 m	NA

4.3 Equipment Calibration

4.3.1 All in-situ monitoring instruments shall be checked, calibrated and certified by a laboratory accredited under HOKLAS before use and subsequently re-calibrated at three monthly intervals throughout all stages of the water quality monitoring programme. Responses of sensors and electrodes shall be checked with certified standard solutions before each use. Wet bulb calibration for a DO meter shall be carried out before measurement at each monitoring location.

4.3.2 Sufficient stocks of spare parts shall be maintained for replacements when necessary. Backup monitoring equipment shall also be made available so that monitoring is uninterrupted even when some equipment is under maintenance or calibration etc.

4.4 Monitoring Parameters

The monitoring parameters and frequency for both in-situ measurement and laboratory analysis are summarised in **Table 4.2**.

Table 4.2 – Monitoring Parameters and Frequency

Parameters	Monitoring Frequency
In-situ Measurement Turbidity (in NTU), pH, DO (in mg/L and % of saturation), Temperature (in ˚C), Salinity (in ppt) Laboratory Analysis Suspended Solids	3 days per week, at mid-flood and mid-ebb tides (The interval between two sets of monitoring shall not be less than 36 hours.)

4.5 Monitoring Operation

4.5.1 The position of water monitoring station will be located by the Differential Global Positioning System (DGPS) or equivalent. The water depth of water monitoring station will be determined by the echo sounder affixed to the bottom of the monitoring vessel or a portable echo sounder depth detector.

4.5.2 Once the location and water depth are confirmed, water samples shall be collected at 3 depths (1m below the surface, mid-depth, and 1m above the seabed) of the water column at each location, except where water depth is less than 6m, the mid-depth will be omitted and if the water depth is less than 3m only the mid-depth station will be monitored. Duplicate marine samples will be collected in each sampling event. The water samples are decanted from the water sampler into the water sample bottles. The bottles are labelled, tightly sealed, placed into a cool-box and packed with ice ready for delivery to the laboratory.

4.5.3 Two consecutive measurements of water quality data, including pH, salinity, dissolved oxygen and turbidity will be recorded according to the monitoring locations. Separate deployment of the monitoring instruments and water samplers will be conducted for the consecutive measurements or samplings. The monitoring location / position, time, water depth, sampling depth, tidal stages, weather conditions, sea condition and any special phenomena or work underway nearby shall also be recorded. If the difference in value between the first and second measurement of DO or turbidity parameters is more than 25% of the value of the first reading, the reading shall be discarded and further readings should be taken.

4.6 Laboratory Measurement / Analysis

Background

4.6.1 Fugro Technical Services Limited (HOKLAS Reg: No.015) has been appointed to conduct the laboratory measurement or analysis of water sample in this project.

Quality Assurance / Quality Control

4.6.2 The laboratory incorporates a variety of QA/QC monitoring programme into their testing system. Where applicable or available, the quality of the analysis will be monitored by conducting the following QC analysis:

For each batch of 20 samples:

- A minimal of 1 laboratory method blank will be analyzed;
- A minimal of 1 sample duplicate will be analyzed;
- A minimal of 1 sample matrix spike will be analyzed.

4.7 Monitoring Locations

4.7.1 In accordance with the EM&A Manual, water quality monitoring should be carried out at 3 designated monitoring locations.

4.7.2 The coordinates of the monitoring location stated in the EM&A Manual is summarised in **Table 4.3** and the locations of the water quality monitoring stations shown in **Figure 4**.

Table 4.3 – Coordinates of Water Quality Monitoring Locations

Sampling Location		Easting	Northing
M1	Serve as the control station at upstream location of construction site (Flood Tide) / Serve as the impact station at downstream location of construction site (Ebb Tide)	821 086	836 656
M2	Serve as the impact station at downstream location of construction site (Flood Tide)/ Serve as the control station at upstream location of construction site (Ebb Tide)	820 996	836 246
M3	Serve as the impact station at downstream location of construction site (Flood Tide) / Serve as the control station at upstream location of construction site (Ebb Tide)	820 645	836 335

4.8 Monitoring Results

4.8.1 The schedule of water quality monitoring in reporting month is provided in **Appendix E**.

4.8.2 Impact water quality monitoring was conducted at all designated monitoring stations in the reporting month. Impact water quality monitoring results and graphical presentations are provided in **Appendix F**.

4.8.3 The weather conditions during the monitoring are provided in **Appendix K**.

4.8.4 Number of exceedance recorded in the reporting month at each impact stations is summarized in **Table 4.4**.

Table 4.4 – Summary of Water Quality Exceedance

Sampling Location	Exceedance Level	DO		Turbidity		Suspended Solids		Total	
		Flood	Ebb	Flood	Ebb	Flood	Ebb	Flood	Ebb
M1	Action	0	0	0	0	0	1	0	1
	Limit	0	0	0	0	0	1	0	1
M2	Action	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0
M3	Action	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0
Total	Action	0	0	0	0	0	1	1	
	Limit	0	0	0	0	0	1	1	

4.8.5 During the reporting period, 1 Action Level and 1 Limit Level exceedances for Suspended Solids were recorded.

4.8.6 Based on the finding from the investigation on the recorded case of exceedances, the cause was found not related to the project. The exceedances may be caused by influences in the vicinity of the station or changes of the ambient conditions.

4.8.7 The details of Notification of Exceedance can be referred to **Appendix Q**.

4.8.8 The Event and Action Plan for water quality is given in **Appendix H**.

5. ECOLOGY MONITORING

5.1 Ardeid Night Roost Monitoring

5.1.1 Monitoring Requirement

With reference to the Pre-construction Ardeid Night Roost survey (January 2021) findings that identified two active ardeid night roosts within 100 m from the Project boundary (one approximately 40 m east of the Project boundary and the other one approximately 45 m northeast of the Project boundary), consequent monthly monitoring of these active ardeid night roosts was done in accordance to the **EM&A Manual Sections 7.3.10** and **7.3.11;** and **EIA Report Section 8.12.1.3**.

The survey was conducted with the following objectives:

- Check the status and location of any active ardeid night roosts within 100 m from the Project boundary with reference to **EM&A Manual Section 7.3.10**;
- Monitor the effectiveness of proposed mitigation measures and detect any unpredicted indirect ecological impacts arising from the proposed Project as specified in **EIA Report Section 8.12.1.3**; and
- Recommend remedial actions, where appropriate, based on the impact monitoring results (**EIA Report Section 8.12.1.3**) for the implementation of the contractor as only necessary.

5.1.2 Monitoring Methodology

5.1.2.1 Monitoring Area

With reference from **Section 7.3.10 of the approved EM&A Manual**, the monitoring was conducted in areas within 100 m from the Project boundary. The monitoring area and vantage points for direct observation of any active night roosts are shown in **Appendix O**.

5.1.2.2 Monitoring Activity

5.1.2.2.1 Active Ardeid Night Roost

Current Survey focused on the two active night roosts within the Survey Area that were previously confirmed during the pre-construction Survey. These roosts include one that was approximately 40 m east of the Project boundary and another one around 45 m northeast of the mentioned boundary (**Section 3 of the approved Pre-construction Survey Report of Ardeid Night Roost**). Primary data collection with the use of 7x and 10x binoculars; and field guides including the Avifauna of Hong Kong (Carey et al., 2001) and The Birds of Hong Kong and South China (Viney et al., 2005), was from about one hour before sunset time until one hour after sunset with reference to **Section 7.3.10 of the approved EM&A Manual**. Sunset time was according to Hong Kong Observatory (HKO). The survey was conducted on 11 June 2021.

Species composition, abundance and locations of night roosts were recorded. Species composition, abundance and location of pre-roosting aggregations (PRA) were also noted. PRAs are gatherings of avian individuals prior to flying into a night roost (Moore and Switzer, 1998). The time of return of the ardeids to the pre-roost and the final night roost were also recorded. Direct observations were made from vantage points adjacent the Project site with clear and unobstructed view of any active roosting location (s) within the Survey Area. However, aside from the established vantage points for the focused mangrove strips along Shan Pui River, observations were also conducted throughout the whole 100 m study site to cover other areas aside from the mangrove strips.

Observations such any changes in site condition or disturbances detected or observed at the monitoring locations, including both construction and non-construction related activities, during the monitoring activity was recorded with reference to **Section 7.3.10 of the approved EM&A Manual**. Additionally, other observations such as bird droppings on the ground which may possibly indicate presence of night roosts were noted in addition to noting of the roosting substrate (i.e. substrate species and approximate height). Any breeding activity usage of the roosting locations within the Survey Area was also noted.

5.1.2.2.2 Noise Monitoring

Monitoring Locations, Frequency, Time and Parameters

The noise monitoring locations were established at 22°28'4.25"N, 114°1'41.32"E; and 22°28'10.43"N, 114°1'42.17"E for NMS1 and NMS2 stations, respectively. Monitoring frequency was only once a month in concurrence with the construction phase monthly monitoring of the active night roosts for correlation. Monitoring time for both stations started around 18:50, the earliest final night roost period recorded during the survey, and lasted for 30 minutes. **Table 5.1** presents the monitoring parameters.

Table 5.1 – Noise Monitoring Parameters (For Active Ardeid Night Roost Survey)

Parameter	Frequency and Period
LAeq (30 min) (L10 and L90 will be recorded for reference)	Monthly in concurrence with the construction phase monthly monitoring of the active night roosts

The Action and Limit Levels for Active Ardeid Night Roost Survey have been set and are presented in **Appendix C**.

However, exceedances to the limit level were endeavoured to be prevented by the full implementation of mitigation measures (**Section 4.2 of the approved Pre-construction Survey Report of Ardeid Night Roost** and **Sections 5.2.1-5.2.2 of this Report**) during the construction phase.

Event and Action Plan

In instances of exceedance/s in the action and/or limit levels, the different measures as specified in **Table 3.3 Event and Action Plan for Construction Noise** of the **approved EM&A**

Manual and likewise presented in **Appendix H** of this report shall be implemented as responses.

5.1.3 Monitoring Results

5.1.3.1 Active Ardeid Night Roost

The monitoring activity was conducted on 11 June 2021 and started around 18:07 (one hour before sunset) on a low tide condition. During the pre-roost period (PRP), the period when avian individuals (ind.) gather first before flying into a night roost, individuals of Little Egret *Egretta garzetta* were observed in pre-roost aggregate (PRA) around 18:22 on the exposed mudflat east (ANR1) and northeast (ANR2) of the Project boundary (**Table 5.2**). A total of two ind. was observed at ANR1 while six ind. were at ANR2. For the final night roost at around 18:50, three individuals of Little Egret were observed at ANR1 while no night roost was observed at ANR2. No disturbances (construction related and/or otherwise) to the active night roost areas were observed during the period. Bird droppings were observed within the vicinity of the roosting area located east of the Project boundary.

Table 5.2 – Active Ardeid Night Roost Survey Findings

<table>
<tr><td colspan="3">Date: 11 June 2021</td><td colspan="3">Sunset Time: 19:07
Tidal Condition: Low Tide</td></tr>
<tr><td colspan="3">Pre-roost Period</td><td colspan="3">Final roost Period</td></tr>
<tr><td>Time of Return:</td><td colspan="2">Little Egret Egretta garzetta (18:22)</td><td>Time of Return:</td><td colspan="2">Little Egret Egretta garzetta (18:50)</td></tr>
<tr><td rowspan="2">Parameters</td><td colspan="2">Location</td><td rowspan="2">Parameters</td><td colspan="2">Location</td></tr>
<tr><td>ANR1</td><td>ANR2</td><td>ANR1</td><td>ANR2</td></tr>
<tr><td>Pre-roost Aggregation (Y/N):</td><td>Y</td><td>Y</td><td>Substrate Species:</td><td>Sonneratia apetala and S. caseolaris</td><td>Sonneratia apetala and S. caseolaris</td></tr>
<tr><td>Substrate Species:</td><td>Sonneratia apetala and S. caseolaris</td><td>Sonneratia apetala and S. caseolaris</td><td rowspan="2">Substrate Height (m):</td><td rowspan="2">Approx. 5 m.</td><td rowspan="2">Approx. 3-4 m.</td></tr>
<tr><td>Substrate Height (m):</td><td>Approx. 5 m.</td><td>Approx. 3-4 m.</td></tr>
<tr><td rowspan="2">Ardeid Species Composition</td><td colspan="2">Abundance (individuals)</td><td rowspan="2">Ardeid Species Composition</td><td colspan="2">Abundance (individuals)</td></tr>
<tr><td>ANR1</td><td>ANR2</td><td>ANR1</td><td>ANR2</td></tr>
<tr><td>Little Egret Egretta garzetta</td><td>2*</td><td>6*</td><td>Little Egret Egretta garzetta</td><td>3</td><td>-</td></tr>
<tr><td rowspan="2">Breeding Activity (Y/N):</td><td>ANR1</td><td colspan="4">N</td></tr>
<tr><td>ANR2</td><td colspan="4">N</td></tr>
</table>

Notes:
Pre-roost Period: Period when avian individuals gather first before flying into a night roost
ANR1: Active ardeid night roost area east of the Project boundary
ANR2: Active ardeid night roost area northeast of the Project boundary
*: individuals aggregated on the exposed mudflat contiguous to their final mangrove roosting substrate
-: not recorded

5.1.3.2 Noise Monitoring

Noise monitoring activities were conducted on 11 June 2021 in concurrence with the construction phase monthly monitoring of the pre-identified active night roosts. Noise monitoring started at 18:50 and lasted for 30 minutes, until 19:20.

Current survey results showed noise levels (L_{Aeq} (30 min.)) at both monitoring stations to be well below the action and limit levels as presented in **Table 5.3**.

Table 5.3 – Noise Monitoring Results

Frequency and Period	Location	Start Time	L_{Aeq} (30 min.)	Action Level	Limit Level
Monthly in concurrence with the construction phase monthly monitoring of the active night roosts	NMS1	18:50	60.0	65.5 dB(A)[1]	72.2 dB(A)[2]
	NMS2	18:50	59.0		

Notes:
NMS1= Noise monitoring station 1 located east of the Project boundary
NMS2= Noise monitoring station 2 located northeast of the Project boundary
1= Behavioural response of some kind more likely to occur (Wright et al. 2010)
2= Flight with abandonment of the site becomes the most likely outcome of the disturbance (Wright et al. 2010)

5.1.4 Detection of Any Unpredicted Indirect Ecological Impacts Arising from the Project

No unpredicted indirect ecological impacts that arose from the project was noted during the current monitoring period.

5.1.5 Summary

5.1.5.1 Status and Location of Any Active Ardeid Night Roost

One active ardeid night roost site (ANR1) was observed within the Survey Area during the June 2021 monitoring period. This roost was located at the mangrove strip in the east portion of the Project boundary. This was used by individuals of Little Egret. The other night roost site (ANR2) was not used during the period.

5.1.5.2 Noise Monitoring Results

Both noise levels at each of the monitoring stations were below the action and limit levels.

5.2 Ecological Monitoring of Birds

5.2.1 Monitoring Requirement

With reference to **Section 7.3.6** of the **EM&A Manual,** monthly ecological monitoring of birds, focusing on avifauna species of conservation interest, and overwintering waterbirds utilising wetland habitats in Fung Lok Wai and Nam Sang Wai as well as along Shan Pui River and Kam Tin River within the monitoring area (500 m from the Project Boundary) in addition to monitoring on the utilization of wetland habitats by birds also within the same monitoring area as required by **Section 7.3.1** of the **EM&A Manual.**

5.2.2 Monitoring Methodology

5.2.2.1 Monitoring Area

The monitoring area include wetland habitats in Fung Lok Wai and Nam Sang Wai as well as along Shan Pui River and Kam Tin River within 500m from the Project boundary with reference to **Section 7.3.6** of the **EM&A Manual.** The location of point count sites and transect routes is shown in **Appendix P**.

5.2.2.2 Monitoring Activity

Avifauna survey on the different wetland habitats using the transect count and point count methods was conducted on 15 June 2021 (daytime survey) which started around 06:50; and on 18 June 2021 (night time survey) around 19:09 while the survey overlooking the mudflats and mangroves in the Shan Pui River was conducted on 15 June 2021 during the low tide (generally 1.5m or below) period which also started around 06:50. The methodology for the monitoring activity followed **Sections 8.3.3.6** and **8.3.3.7** of the **EIA Report (AEIAR-220/2019)** and as detailed below.

For the transect count and point count methods, the presence and relative abundance of avifauna species at various wetland habitats were recorded visually and aurally.

Avifauna species were detected either by direct sighting or by their call and identified to species level. Any notable behaviours such as feeding, roosting and breeding were also recorded. Bird species encountered outside the point count locations and walk transects were also recorded. A comprehensive list of species recorded from the Assessment Area was prepared, with wetland-dependence, conservation and/or protection status indicated. Ornithological nomenclature in this report follows Carey et al. (2001), Viney et al. (2005) and the most recent updated list from Hong Kong Bird Watching Society (HKBWS).

Noise levels were recorded with the methodology and equipment as mentioned in **Section 3.4 and Section 3.2**, respectively, of this EM&A report. The parameter as shown in was recorded at each of the point count locations.

Table 5.4 - Noise Monitoring Parameters

Parameter	Frequency and Location
LAeq (30 min) (L10 and L90 will be recorded for reference)	Monthly in concurrence with the monthly ecological bird monitoring at the different point count locations

In addition to recording of noise levels, any changes in site condition or disturbances detected or observed at the monitoring locations, including both construction and non-construction related activities with reference to **Section 7.3.7** of the **EM&A Manual** were also noted.

5.2.2.3 Data Analysis

For the bird communities, the monitoring results were compared to pre-construction baseline condition during the dry and wet seasons as summarized in the Baseline Bird Survey Report

with reference to **Section 7.3.8** of the **EM&A Manual.** However, to further account the seasonality, monitoring results of the current month was compared to the results of the corresponding month of the baseline data.

The data for point count method and transect walk method were presented separately to account for the difference in the survey effort of the two methods. For each method, abundance and species composition of the avifauna communities during the monitoring month were summarized.

To check the presence of variation in bird abundance between baseline and impact monitoring, t-test was applied (α = 0.05). Moreover, to check the presence of variation in bird species diversity, the two-sided Hutcheson t-test was also used. The two-sided Hutcheson t-test was developed as a method to compare the diversity of two community samples using the Shannon diversity index (Hutcheson 1970). Shannon diversity index will be computed using the formula,

$$H^{'} = -\sum_{i=1}^{s} p_i ln p_i$$

where, H' = Shannon Diversity Index; P_i = proportion of the population of species; i; number of species in sample; ln = natural logarithm. Shannon diversity index is used as it accounts the proportion (relative abundance) of each species; thus, it gives a better description of diversity than a plain number of species (species richness).

The Action and Limit Levels for ecological monitoring of birds have been set and are presented in **Appendix C**.

Wetland habitat utilization during the construction phase monitoring shall only be compared seasonally, hence the comparison shall only be done after all the data (dry season and wet season) were collected with reference to **Appendix 8.5** of the approved **EIA Report**.

5.2.3 Monitoring Results

Results of the avifauna survey on the different habitats within the monitoring area using the transect count and point count methods as conducted last 15 June 2021 (daytime survey) which started around 06:50; and on 18 June 2021 (night time survey) are presented in **Sections 5.2.3.1** and **5.2.3.2** while results for the surveys overlooking the mudflats and mangroves in the Shan Pui River, with monitoring activities conducted on 15 June 2021 during the low tide (generally 1.5m or below) period which also started around 06:50 had results presented in **Section 5.2.3.3.**

5.2.3.1 Abundance

5.2.3.1.1 All Avifauna Species

A total 332 avifauna ind. was recorded in the monitoring area during the June 2021 monitoring period, of which 189 ind. were recorded from the point count method and 143 ind. from the transect walk method. Relative to the June 2017 baseline data, increase in total abundance was observed. In June 2017, a total of 190 ind. were recorded, of which 121 ind. were from point

count method and 69 ind. from transect walk method. These findings are summarized in **Table 5.5.**

Table 5.5 – Abundance of all Avifauna Species

Abundance of all Avifauna Species				
Point Count Method				
EIA Report ID	**EM&A Manual ID**	**Jun-17**	**Jun-21**	**Remarks**
P1	FLW1	4	77	+
P2	FLW2	3	2	-
P3	FLW3	7	5	-
P4	FLW4	17	9	-
P5	FLW5	25	21	-
P6	FLW6	6	21	+
P7	FLW7	9	26	+
P9	SP/NSW3	14	0	-
P10	SP/NSW2	11	3	-
P11	NSW1	17	18	+
P12	SP/NSW1	8	7	-
	Total	**121**	**189**	**+**
	Mean	**11**	**17**	**+**
Transect Walk Method				
EIA Report ID	**EM&A Manual ID**	**Jun-17**	**Jun-21**	**Remarks**
Fung Lok Wai	FLW	67	94	+
Nam Sang Wai	NSW	2	47	+
YLIE-CW	YLIE-CW	0	2	+
	Total	**69**	**143**	**+**
	Mean	**23**	**48**	**+**

5.2.3.1.2 Avifauna Species of Conservation Importance

Of the 332 avifauna individuals recorded in the monitoring area during the June 2021 monitoring period, 163 ind. were of conservation importance. A total of 108 ind. were recorded from point count method and 55 ind. were from transect walk method. Relative to the June 2017 baseline data, increase in the abundance of avifauna species of conservation importance was observed. In June 2017, a total of 85 ind. were recorded, of which 45 ind. were from point count method and 40 ind. were from transect walk method. The high abundances of Chinese Pond Heron *Ardeola bacchus* during the current monitoring period contributed to the increase in counts of avifauna species of conservation importance. These findings are summarized in **Table 5.6**.

Table 5.6 – Abundance of Species of Conservation Importance

Abundance of Species of Conservation Importance				
Point Count Method				
EIA Report ID	**EM&A Manual ID**	**Jun-17**	**Jun-21**	**Remarks**
P1	FLW1	2	66	+
P2	FLW2	0	0	=
P3	FLW3	0	0	=
P4	FLW4	3	2	-
P5	FLW5	5	3	-
P6	FLW6	5	16	+
P7	FLW7	1	14	+
P9	SP/NSW3	12	0	-
P10	SP/NSW2	10	3	-
P11	NSW1	1	2	+
P12	SP/NSW1	6	2	-
	Total	**45**	**108**	**+**
	Mean	**4**	**10**	**+**
Transect Walk Method				
EIA Report ID	**EM&A Manual ID**	**Jun-17**	**Jun-21**	**Remarks**
Fung Lok Wai	FLW	40	40	=
Nam Sang Wai	NSW	0	14	+
YLIE-CW	YLIE-CW	0	1	+
	Total	**40**	**55**	**+**
	Mean	**13**	**18**	**+**

5.2.3.2 Diversity (Species Richness[1] and Shannon Diversity Index[2])

5.2.3.2.1 All Avifauna Species

A total of 21 avifauna species (species richness) was recorded during the June 2021 monitoring period, of which 18 species were identified using point count method and also 18 species using transect walk method. Relative to the June 2017 baseline data, a decrease in the total species richness from 28 species in June 2017 to 21 species in the current monitoring period was noted. In terms of Shannon diversity index (H'), a significant decline (t-value = 7.16; t-crit = 1.97; p-value = 5.99E-12; α = 0.05) from baseline reference values was observed in point count method, from H'=3.93 in June 2017 to H'=2.99 in June 2021. However, the significant decline may not be attributed to the construction works of the Project as noise levels [47.5 dB(A) to 65.9 dB(A)] concurrently recorded from the different point count locations during the current ecological

[1] actual number of species
[2] use to account the proportion (in terms of relative abundance) of each species

bird monitoring are generally low. On the other hand, transect walk method showed an increase in H' from the baseline value of H'=2.09 to H'=2.71 during the current monitoring period. Details of these findings are summarized in **Table 5.7** and are further discussed in **Appendix F.1.2.**

Table 5.7 – Shannon Diversity Index Value of all Avifauna Species

Shannon Diversity Index Value of all Avifauna Species				
Point Count Method				
EIA Report ID	EM&A Manual ID	Jun-17	Jun-21	Remarks
P1	FLW1	1.04	0.81	-
P2	FLW2	0.64	0	-
P3	FLW3	1.28	1.05	-
P4	FLW4	2.20	1.74	-
P5	FLW5	2.39	1.75	-
P6	FLW6	0.87	1.08	+
P7	FLW7	1.89	1.52	-
P9	SP/NSW3	1.09	**	-
P10	SP/NSW2	1.17	0.64	-
P11	NSW1	1.85	1.50	-
P12	SP/NSW1	1.49	1.15	-
	Overall H'	**3.93**	**2.99**	-
	Species Richness	**25**	**18**	-
Transect Walk Method				
EIA Report ID	EM&A Manual ID	Jun-17	Jun-21	Remarks
Fung Lok Wai	FLW	1.99	1.92	-
Nam Sang Wai	NSW	0.69	2.26	+
YLIE-CW	YLIE-CW	**	0.69	+
	Overall H'	**2.09**	**2.71**	+
	Species Richness	**13**	**18**	+

Note:
** no species recorded

5.2.3.2.2 Avifauna Species of Conservation Importance

Of the 21 species of avifauna identified during the June 2021 monitoring period, four species of conservation importance were identified from the point count method and also four species from the transect walk method. Relative to the baseline values in June 2017, the species of conservation importance recorded from the point count method decreased by one and increase by one species from the transect walk method. In terms of H', a significant decline ((t-value = 5.50; t-crit = 1.98; p-value =1.77E-07; α = 0.05) was observed from the point count method, from H' = 2.69 in June 2017 to H'=1.69. However, as aforementioned,

the significant decline was observed to be due to other factors and not project-related. i.e. dominance of Chinese Pond Heron. On the other hand, transect walk method showed an increase in overall H' from H' = 1.04 in June 2017 to H'=1.14 in June 2021. Details of these findings are summarized in **Table 5.8** and are further discussed in **Appendix F.1.2.**

Table 5.8 – Shannon Diversity Index Value of Species with Conservation Importance

Shannon Diversity Index Value of Species with Conservation Importance				
Point Count Method				
EIA Report ID	EM&A Manual ID	Jun-17	Jun-21	Remarks
P1	FLW1	0.69	0.30	-
P2	FLW2	**	**	=
P3	FLW3	**	**	=
P4	FLW4	0.64	0.69	+
P5	FLW5	0.95	0.64	-
P6	FLW6	0.50	0.70	+
P7	FLW7	0	0.52	+
P9	SP/NSW3	0.68	**	-
P10	SP/NSW2	0.95	0.64	-
P11	NSW1	0	0	=
P12	SP/NSW1	1.01	0.69	-
	Overall H'	**2.69**	**1.69**	-
	Species Richness	**5**	**4**	-
Transect Walk Method				
EIA Report ID	EM&A Manual ID	Jun-17	Jun-21	Remarks
Fung Lok Wai	FLW	1.04	0.69	-
Nam Sang Wai	NSW	**	0.23	+
YLIE-CW	YLIE-CW	**	0	+
	Overall H'	**1.04**	**1.14**	+
	Species Richness	**3**	**4**	+

Note:
** no species recorded

5.2.3.3 Wetland Habitat Utilization

Avifauna communities were observed during the current monitoring period in the different wetland habitats, i.e. modified watercourse, ponds, mangrove, and reedbed.

With reference to **Section 7.3.1** of the **EM&A Manual**, the utilization of the wetland habitats by birds within the monitoring area was recorded and monitored.

5.2.3.3.1 All Avifauna Species

During the current monitoring period, majority of the wetland habitats were less utilized by avifauna communities as evident with the very low to low (VL; and VL-L) abundances in these areas. With regards to species richness, generally very low (VL) number of species was noted in the different wetland habitats except in the Active Ponds North to Nullah 2 (L-M, low to moderate) in Fung Lok Wai (**Table 5.9**).

Table 5.9 – Wetland habitat utilization of all avifauna species

Wetland Habitats	Area Description	Abundance[1]	Species Richness[2]
Modified Watercourse	Confluence of Shan Pui River and Kam Tin River	VL	VL
	Shan Pui River adjacent to Project site	VL	VL
	Upper course of Shan Pui River along YLIE	VL	VL
Ponds	Active Ponds adjacent to Project site in Fung Lok Wai	VL	VL
	Active Ponds North to Nullah 2 in Fung Lok Wai	VL-L	L-M
	Inactive Ponds in Fung Lok Wai	VL	VL
	Active and Inactive Ponds in Nam Sang Wai	VL	VL
Mangrove	Mangrove within Assessment Area	VL	VL
Reedbed	Reedbed in Nam Sang Wai	VL	VL

Notes:

1. Abundance of avifauna species of conservation importance amongst wetland habitats within the assessment area: VL = Very Low (~<50 individuals); L = Low (~100 individuals); M = Moderate (~300 individuals); H = High (~500 individuals), VH = Very High (>700 individuals)
2. Species richness (total number of species) amongst wetland habitats within the assessment area: VL = Very Low (≤5 species); L = Low (~10 species); M = Moderate (~15 species); H = High (~20 species), VH = Very High (>25 species)

Source: approved EIA Report (AEIAR-220/2019)

5.2.3.3.2 Avifauna Species of Conservation Importance

All of the wetland habitats were noted with very low abundances (VL) of species with conservation importance during the current monitoring period which then indicated subsequent very low utilization of these areas. In terms of species richness, all of the wetland habitats were also utilized by very low number (VL) of species (**Table 5.10**).

Table 5.10 – Wetland habitat utilization of avifauna species of conservation importance

Wetland Habitats	Area Description	Abundance[1]	Species Richness[2]
Modified Watercourse	Confluence of Shan Pui River and Kam Tin River	VL	VL
	Shan Pui River adjacent to Project site	VL	VL

	Upper course of Shan Pui River along YLIE	VL	VL
Ponds	Active Ponds adjacent to Project site in Fung Lok Wai	VL	VL
	Active Ponds North to Nullah 2 in Fung Lok Wai	VL	VL
	Inactive Ponds in Fung Lok Wai	VL	VL
	Active and Inactive Ponds in Nam Sang Wai	VL	VL
Mangrove	Mangrove within Assessment Area	VL	VL
Reedbed	Reedbed in Nam Sang Wai	VL	VL

Notes:

1. Abundance of avifauna species of conservation importance amongst wetland habitats within the assessment area: VL = Very Low (~<50 individuals); L = Low (~100 individuals); M = Moderate (~300 individuals); H = High (~500 individuals), VH = Very High (>700 individuals)
2. Species richness (total number of species) of conservation important species amongst wetland habitats within the assessment area:
   VL = Very Low (≤5 species); L = Low (~10 species); M = Moderate (~15 species); H = High (~20 species), VH = Very High (>25 species)
   Source: approved EIA Report (AEIAR-220/2019)

5.2.3.3.3 Overwintering Avifauna Species

Several species including the Black-crowned Night Heron *Nycticorax nycticorax,* Black Kite *Milvus migrans*, and Great Egret which are both winter visitors and residents in Hong Kong in addition to White Wagtail *Motacilla alba* a winter visitor and passage migrant, were observed during this monitoring period. However, as the current monitoring period covered the summer season, it was likely that these individuals were either residents or passage migrant. Hence, no overwintering species that utilized the different wetland habitats was recorded during the period.

5.2.3.4 Noise Levels

Noise levels L_{Aeq} (30 min) recorded on 15 June 2021 (daytime) and 18 June 2021 (night time) from each of the point count locations during the ecological bird monitoring are shown in **Table 5.11**.

Table 5.11 – Noise Monitoring Results (For Ecological Monitoring of Birds)

Frequency and Period	Location	Daytime (15/06/2021)		Night time (18/06/2021)	
		Start Time	L_{Aeq} (30 min) dB(A)	Start Time	L_{Aeq} (30 min) dB(A)
Monthly in concurrence with the ecological monitoring of birds	FLW1	09:40	47.8	21:10	48.9
	FLW2	09:30	53	21:20	49.3
	FLW3	09:30	57.4	21:20	51.1
	FLW4	10:15	52	20:01	51.3
	FLW5	10:15	57.1	20:46	56.4
	FLW6	10:04	47.5	20:55	48.9

Frequency and Period	Location	Daytime (15/06/2021)		Night time (18/06/2021)	
		Start Time	L_{Aeq} (30 min) dB(A)	Start Time	L_{Aeq} (30 min) dB(A)
	FLW7	10:04	52.4	20:55	51.2
	SP/NSW3	07:40	65.9[1]	19:17	57.3
	SP/NSW2	07:40	50.6	19:25	65.7[1]
	NSW1	08:10	55	19:25	52.9
	SP/NSW1	07:45	51.6	19:17	62

Note:

1. Close to the roadsides with low to moderate traffic. Passing vehicles, barking dogs, and noisy insects were noted during the monitoring period.

6. LANDSCAPE AND VISUAL

6.1 Audit Requirements

6.1.1 According to the EM&A Manual, site audits should be undertaken every week during the construction phase to check that the proposed landscape and visual mitigation measures are properly implemented and maintained as per their intended objectives.

6.2 Results and Observations

6.2.1 To monitor and audit the implementation of landscape and visual mitigation measures, five weekly landscape and visual site audits were carried out on 2, 8, 16, 23 and 30 June 2021.

6.2.2 No outstanding issues were reported during the reporting month. Details of observations recorded during the site inspections are summarized in **Appendix M**.

7. SITE INSPECTION AND AUDIT

7.1 Site Inspection

7.1.1 Site audits were carried out by ET on weekly basis to monitor the implementation of proper environmental management practices and mitigation measures in the Project site.

7.1.2 In the reporting month, five site inspections were carried out on 2, 8, 16, 23 and 30 June 2021.

7.1.3 No outstanding issues were reported during the reporting month. Details of observations recorded during the site inspections are summarized in **Appendix M**.

7.2 Advice on the Solid and Liquid Waste Management Status

7.2.1 The Contractor registered as a chemical waste producer for the Contract. Sufficient numbers of receptacles were available for general refuse collection and sorting.

7.2.2 The waste generated by the construction and disposal ground is presented in **Table 7.1**.

Table 7.1 – Waste Generated by the Construction and Disposal Ground

Types of Waste	Disposal Ground
Inert C&D Waste (Excluding slurry and bentonite)	Tuen Mun Area 38
Inert C&D Waste (For slurry and bentonite)	Tseung Kwan O Area 137
Non-inert C&D Materials	North East New Territories Landfill (NENT)

7.2.3 The monthly summary of waste flow table is detailed in **Appendix I**.

7.2.4 If off-site disposal is required, the excavated marine mud from the land-based works shall be disposed of at the designated disposal sites within Hong Kong as allocated by the Marine Fill Committee or other locations as agreed by the Director. The Contractor shall ensure no spilling and overflowing of materials during loading / unloading / transportation is allowed.

7.2.5 The Contractor was reminded that chemical waste containers should be properly treated and stored temporarily in designated chemical waste storage area on site in accordance with the Code of Practice on the Packing, Labelling and Storage of Chemical Waste.

8. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

8.1 Environmental Exceedance

8.1.1 No Action / Limit Level exceedance was recorded for 1-hr TSP level at AM1 and AM2 in the reporting month.

8.1.2 No Action / Limit Level exceedance was recorded for construction noise at CM1, CM2 and CM3 in the reporting month.

8.1.3 No Action and Limit Level exceedance were recorded for water quality at M2 and M3 in the reporting month.

8.1.4 An Action Level exceedance was recorded for water quality in the reporting month. The exceedance was recorded at M1 on 10 June 2021. A Limit Level exceedance was recorded for water quality in the reporting month. The exceedance was recorded at M1 on 8 June 2021. It was found that these exceedances were not project-related.

8.1.5 No Action / Limit exceedance was recorded for noise levels at stations (NMS1 and NMS2) in close proximity to the active ardeid night roosts.

8.1.6 Two exceedances in Action Level were recorded for the ecological monitoring of birds on 15 and 18 June 2021 which included significant declines in species diversity of all avifauna species (including but not limited to overwintering waterbirds) in the community; and species diversity of species of conservation importance only. However, the exceedances were not project-related.

8.2 Complaints, Notification of Summons and Prosecution

8.2.1 No environmental complaint, notification of summons and successful prosecution were received in the reporting month.

8.2.2 Cumulative complaint log, summaries of complaints, notification of summons and successful prosecutions are presented in **Appendix L**.

9. IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURE

9.1 Implementation Status

The Contractor had implemented environmental mitigation measures and requirements as stated in the EIA Reports, the EP and EM&A Manuals. The implementation status of the environmental mitigation measures during the reporting period is summarized in **Appendix J.**

10. FUTURE KEY ISSUES

10.1 Construction Programme for the Next Three Month

- Driven piling work at IW;
- Demolition of PST no. 7 & 8 tanks;
- Demolition of main store;
- Demolition of carpark cover;
- Demolition of workshop;
- Sheet piling;
- Construction of temporary storage area, admin. Building and workshop;
- Installation of sheet piles for Zone 1 diversion;
- Pre-drilling works at PST;
- Environmental drill holes inside main store and workshop;
- Trench excavation for UU diversion; and
- Breaking of existing road pavement at PST.

10.2 Key Issues for the Coming Month

10.2.1 Potential environmental impacts arising from the above construction activities are mainly associated with construction dust, construction noise, waste management, ecology, land contamination and landscape and visual impact issues.

10.3 Monitoring Schedules for the Next Three Month

10.3.1 The tentative schedule for environmental monitoring in the coming three month is provided in **Appendix E**.

11. CONCLUSION AND RECOMMENDATION

11.1 Conclusions

11.1.1 1-hour TSP impact monitoring were carried out in the reporting month. No Action / Limit Level exceedance at AM1 and AM2 was recorded during the period.

11.1.2 Construction noise monitoring were carried out in the reporting month. No Action / Limit Level exceedance at CM1, CM2 and CM3 was recorded during the period.

11.1.3 An Action Level exceedance was recorded for water quality in the reporting month. The exceedance was recorded at M1 on 10 June 2021. A Limit Level exceedance was recorded for water quality in the reporting month. The exceedance was recorded at M1 on 8 June 2021. It was found that these exceedances were not project-related.

11.1.4 Ardeid night roost monitoring was carried out in the reporting month. Of the two confirmed ardeid night roosts during the pre-construction survey, only ANR 1 was observed to be active. No Action / Limit Level exceedance at NMS1 and NMS2 was recorded during the period.

11.1.5 Ecological bird monitoring was carried out in the reporting month. Two exceedances in Action Level were recorded during this period's monitoring of birds including significant declines in species diversity of all avifauna species in the community; and species diversity of species of conservation importance only for the point count method. However, the exceedances were not project-related.

11.1.6 Five environmental site inspections were carried out in the reporting month. Recommendations on mitigation measures for Permit/ Licenses were given to the Contractor for remediating the deficiencies identified during the site inspections.

11.1.7 Five landscape and visual site audits were carried out in the reporting month.

11.1.8 Referring to the Contractor's information, no environmental complaint, notification of summons and successful prosecution was received in the reporting month.

11.2 Comment and Recommendations

11.2.1 The recommended environmental mitigation measures, as proposed in the EIA reports and EM&A Manuals shall be effectively implemented to minimize the potential environmental impacts from the Project. The EM&A programme would effectively monitor the environmental impacts generated from the construction activities and ensure the proper implementation of mitigation measures.

11.2.2 According to the environmental site inspections performed in the reporting month, the following recommendations were provided:

Air Quality Impact

- No specific observation was identified in the reporting month. .

Construction Noise Impact

- No specific observation was identified in the reporting month.

Water Quality Impact

- Mitigation measures should be provided to prevent runoff from the temporary administration building works area flowing out to the nullah.
- Mitigation measure should be provided at inlet / outlet of channel at catchpit to prevent discharge of water.
- The contractor is reminded to provide mitigation measure to prevent silt / silty runoff getting into storm drain and / or checking the existing pipe network for temporarily sealing up manhole at excavation near piling area.

Chemical and Waste Management

- No specific observation was identified in the reporting month.

Active Ardeid Night Roost Impact

- No specific observation was identified in the reporting month.

Ecology of Birds Impact

- No specific observation was identified in the reporting month.

Land Contamination

- No specific observation was identified in the reporting month.

Landscape and Visual Impact

- Establish protective barrier for retain trees T250 & T251.
- Retain trees T252, T253 – Trench work within tree protection zone has to be reviewed and follow specification of works and exercise care when doing work.

Hazard to Life

- No specific observation was identified in the reporting month.

Permit/ Licenses

- No specific observation was identified in the reporting month.

Figure 1

General Layout of the Proposed Yuen Long Effluent Polishing Plant

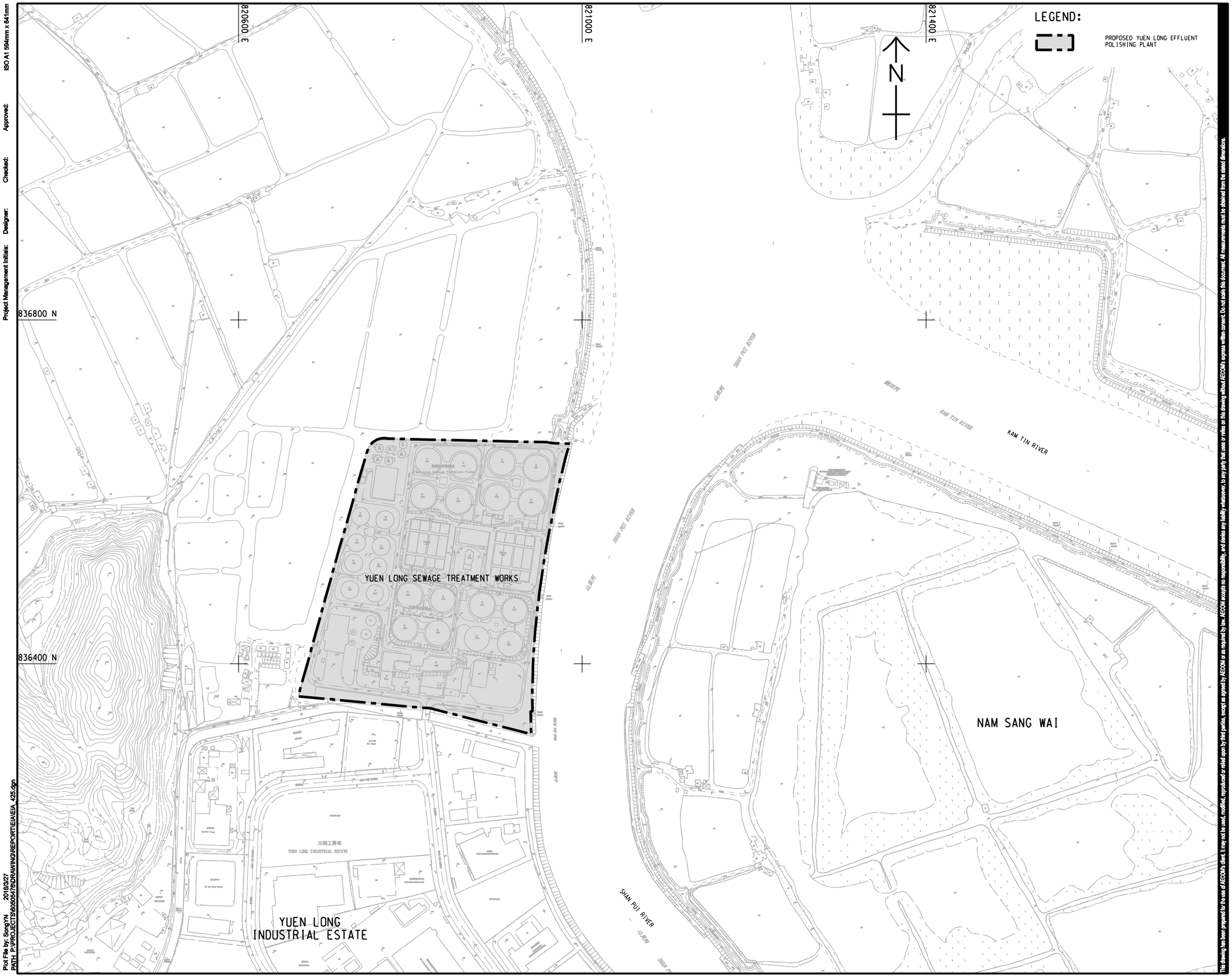
ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:



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PROJECT
項目

YUEN LONG EFFLUENT POLISHING PLANT - INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

渠務署
Drainage Services Department

CONSULTANT
工程顧問公司

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修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核核

STATUS
階段

SCALE 比例
A1 1 : 2000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60505476

CONTRACT NO. 合約編號
CE 3/2015 (DS)

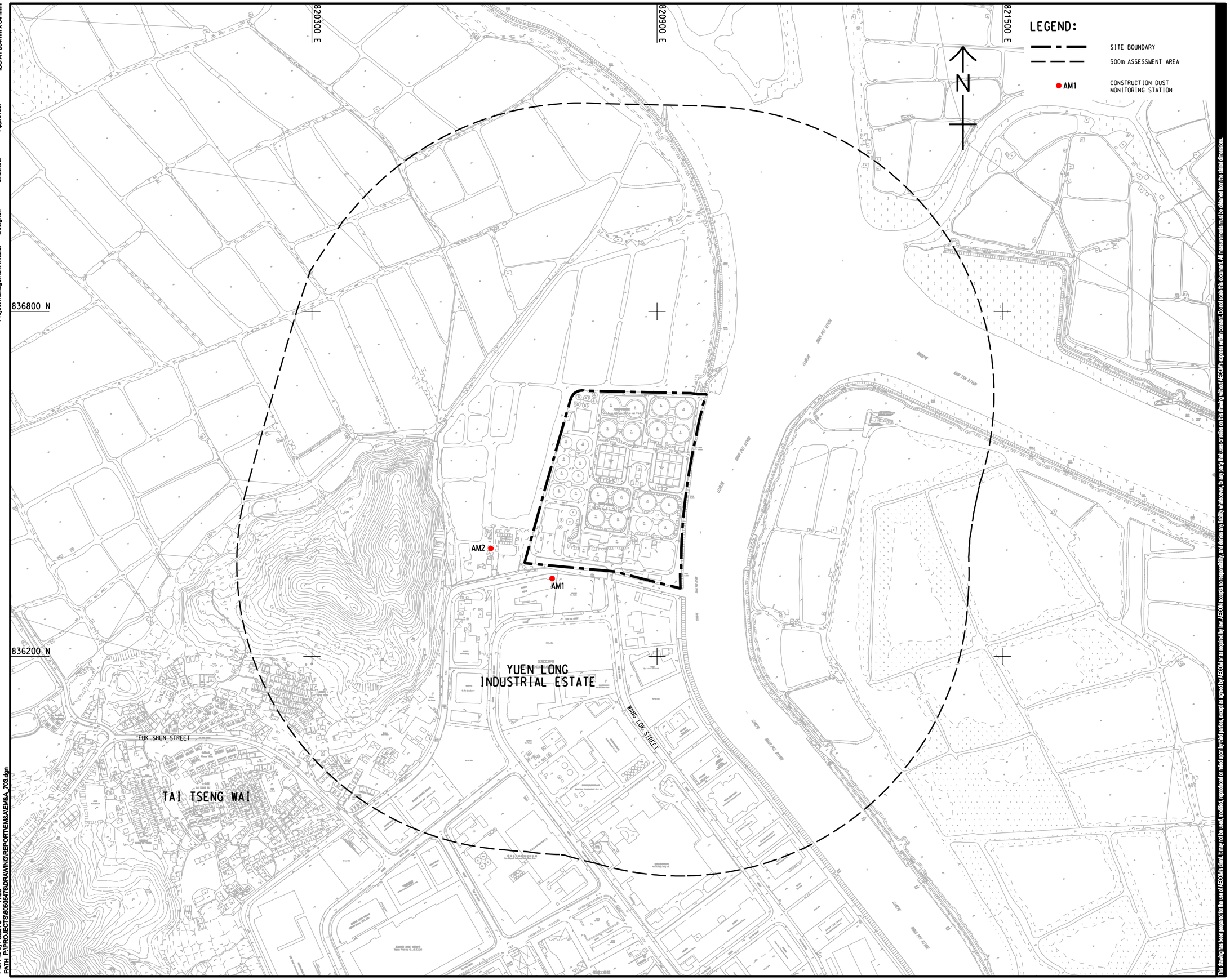
SHEET TITLE
圖紙名稱

LOCATION OF PROPOSED YUEN LONG EFFLUENT POLISHING PLANT

SHEET NUMBER
圖紙編號

Figure 2

Air Quality Monitoring Locations



ISO A1 594mm x 841mm

Project Management Initials: Designer: Checked: Approved:

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PROJECT 項目

YUEN LONG EFFLUENT POLISHING PLANT - INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT 業主

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Drainage Services Department

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I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核核

STATUS 用途

SCALE 比例
A1 1 : 3000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN 索引圖

PROJECT NO. 項目編號
60505476

CONTRACT NO. 合約編號
CE 3/2015 (DS)

SHEET TITLE 圖紙名稱

LOCATION OF CONSTRUCTION DUST MONITOING STATIONS

SHEET NUMBER 圖紙編號

Figure 3

Noise Monitoring Locations

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

820500 E

820900 E

821300 E

836700 N

836300 N

CM1

CM2

CM3

LEGEND:

SITE BOUNDARY

300m ASSESSMENT AREA

NOISE MONITORING POINT

N

SHAN PUI RIVER

山貝河

KAM TIN RIVER

錦田河

元朗污水處理廠
Yuen Long Sewage Treatment Works

元朗工業邨
YUEN LONG INDUSTRIAL ESTATE

YUEN LONG
INDUSTRIAL ESTATE

WANG LOK STREET

WANG LEE STREET

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PROJECT
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YUEN LONG EFFLUENT POLISHING PLANT - INVESTIGATION, DESIGN AND CONSTRUCTION

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I/R 發行	DATE 日期	DESCRIPTION 內容摘要	CHK. 核核

STATUS
狀況

SCALE 比例
A1 1 : 2000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60505476

CONTRACT NO. 合約編號
CE 3/2015 (DS)

SHEET TITLE
圖紙名稱

LOCATIONS OF NOISE MONITORING POINTS

SHEET NUMBER
圖紙編號

Figure 4

Water Quality Monitoring Locations

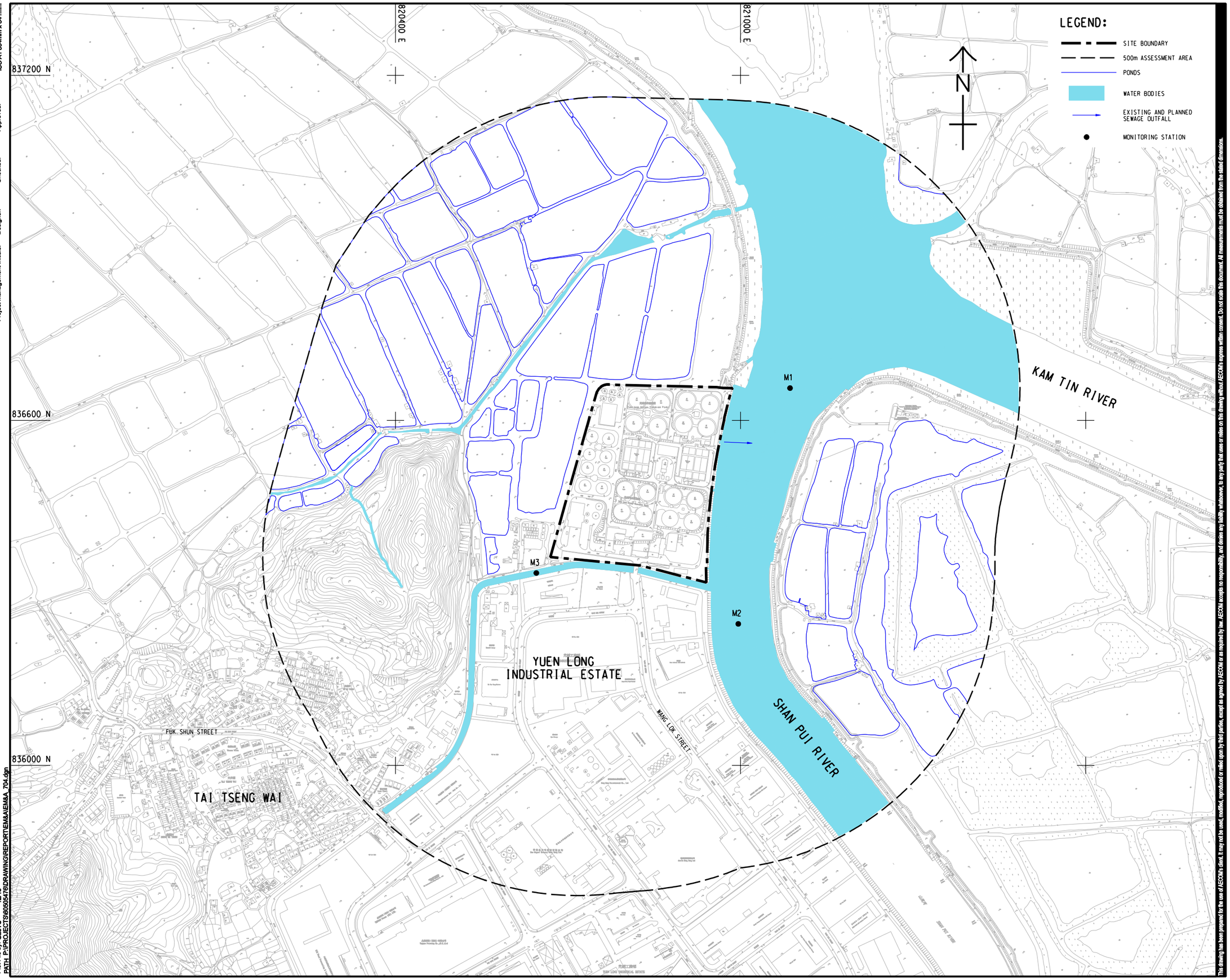
ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:



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PROJECT
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YUEN LONG EFFLUENT POLISHING PLANT - INVESTIGATION, DESIGN AND CONSTRUCTION

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業主

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Drainage Services Department

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修訂

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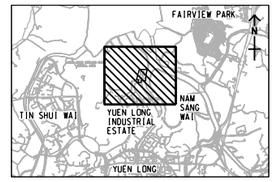
STATUS
狀況

SCALE 比例
A3 1 : 6000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN 索引圖 A3 1 : 180000



PROJECT NO. 項目編號
60505476

CONTRACT NO. 合約編號
CE 3/2015 (DS)

SHEET TITLE
圖紙名稱

LOCATIONS OF WATER QUALITY MONITORING STATIONS FOR CONSTRUCTION PHASE

SHEET NUMBER
圖紙編號

Figure 5

Ecology Monitoring Locations

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

820300 E

820900 E

821500 E

836800 N

836200 N

LEGEND:

SITE BOUNDARY

500m ASSESSMENT AREA

SURVEY TRANSECTS

POINT COUNT LOCATIONS FOR AVIFAUNA SURVEY

N

FLW1

FLW2

FLW3

FLW4

FLW5

FLW6

FLW7

SP/NSW1

SP/NSW2

SP/NSW3

NSW1

FUNG LOK WAI

TAI SANG WAI

NAM SANG WAI

YUEN LONG SEWAGE TREATMENT WORKS

YUEN LONG INDUSTRIAL ESTATE

NG UK TSUEN

LEON COURT

TAI TSENG WAI

FUK SHUN STREET

WANG LOK STREET

SHAN PUI RIVER

KAM TIN RIVER

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PROJECT 項目

YUEN LONG EFFLUENT POLISHING PLANT - INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT 業主

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ISSUE/REVISION 修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核查

STATUS 狀況

SCALE 比例

A1 1 : 3000

DIMENSION UNIT 尺寸單位

METRES

KEY PLAN 索引圖

PROJECT NO. 項目編號

60505476

CONTRACT NO. 合約編號

CE 3/2015 (DS)

SHEET TITLE 圖紙名稱

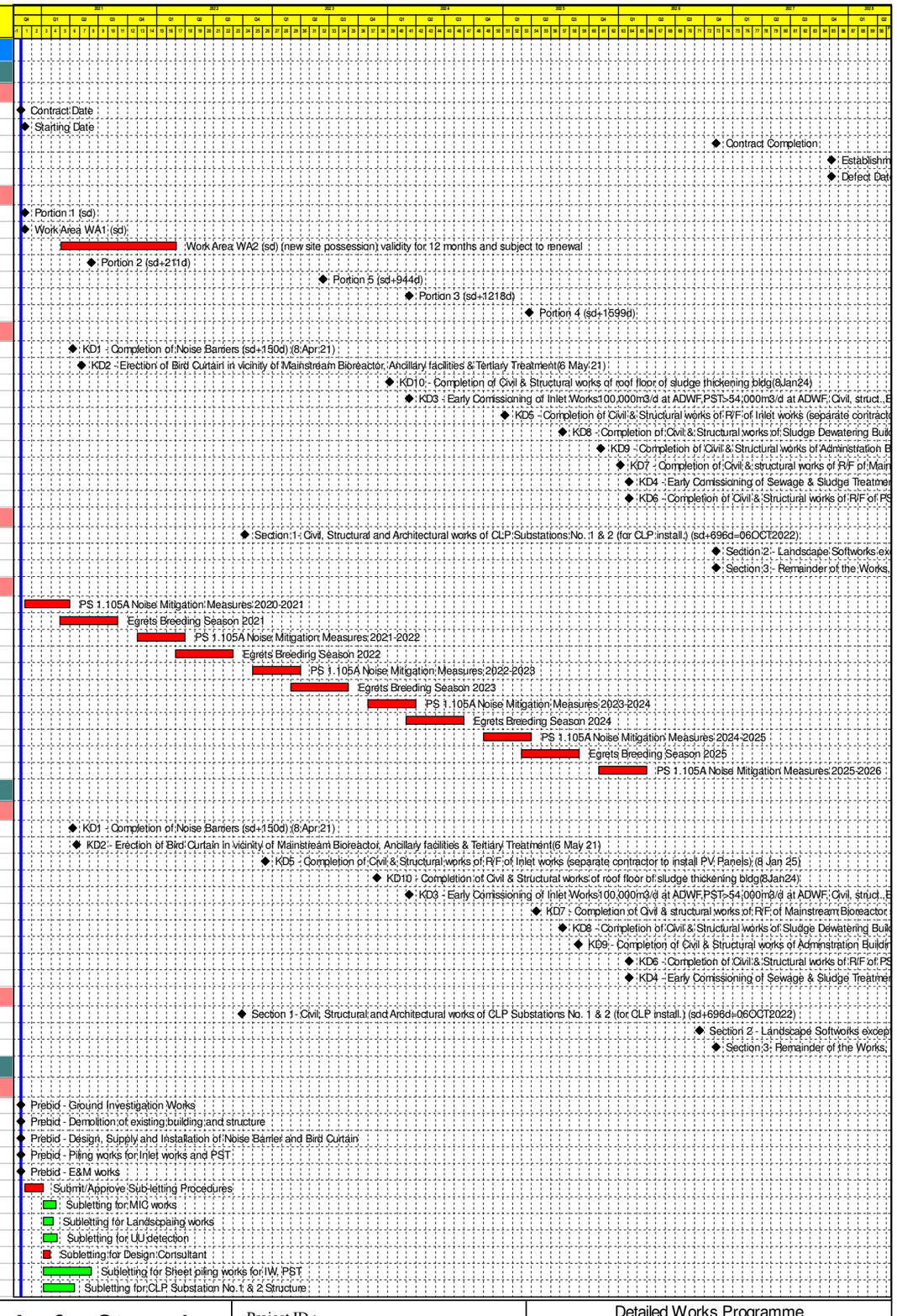
ECOLOGICAL MONITORING LOCATIONS

SHEET NUMBER 圖紙編號

Appendix A

Construction Programme

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
YL Effluent Polishing Plant - Main Works Stage 1 - Detailed Works Programme		2202	27-Oct-20	09-Nov-27	26-Oct-20	09-Nov-27	0
Contract Data Part 1		2569	27-Oct-20	09-Nov-27	26-Oct-20	09-Nov-27	0
Commencement Date		2569	27-Oct-20	09-Nov-27	26-Oct-20	09-Nov-27	0
CD1	Contract Date	0	27-Oct-20		26-Oct-20		0
CD2	Starting Date	0	09-Nov-20		09-Nov-20		0
CD3	Contract Completion	0	09-Nov-26		09-Nov-26		0
CD4	Establishment Period (12 months)	0	09-Nov-27		09-Nov-27		0
CD5	Defect Date (12 months)	0	09-Nov-27		09-Nov-27		0
Access Dates		1599	09-Nov-20	27-Mar-25	09-Nov-20	27-Mar-25	0
ADP1	Portion 1 (sd)	0	09-Nov-20*		09-Nov-20		0
ADWA1	Work Area WA1 (sd)	0	09-Nov-20*		09-Nov-20		0
ADWA2	Work Area WA2 (sd) (new site possession) validity for 12 months and subject to renewal	365	05-Mar-21*	04-Mar-22*	05-Mar-21	04-Mar-22	0
ADP2	Portion 2 (sd+211d)	0	08-Jun-21*		08-Jun-21		0
ADP5	Portion 5 (sd+944d)	0	11-Jun-23*		11-Jun-23		0
ADP3	Portion 3 (sd+1218d)	0	11-Mar-24*		10-Mar-24		0
ADP4	Portion 4 (sd+1599d)	0	27-Mar-25*		27-Mar-25		0
Contract Key Dates		1764	08-Apr-21	05-Feb-26	08-Apr-21	05-Feb-26	0
CKD1	KD1 - Completion of Noise Barriers (sd+150d) (8 Apr 21)	0		08-Apr-21*		08-Apr-21	0
CKD2	KD2 - Erection of Bird Curtain in vicinity of Mainstream Bioreactor, Ancillary facilities & Tertiary Treatment(6 May 21)	0		06-May-21*		06-May-21	0
CKD10	KD10 - Completion of Civil & Structural works of roof floor of sludge thickening bldg(8Jan24)	0		08-Jan-24*		08-Jan-24	0
CKD3	KD3 - Early Comissioning of Inlet Works100,000m3/d at ADWF,PST>54,000m3/d at ADWF, Civil, struct.,E&M & BS (11Mar 24)	0		11-Mar-24*		11-Mar-24	0
CKD5	KD5 - Completion of Civil & Structural works of R/F of Inlet works (separate contractor to install PV Panels) (8 Jan 25)	0		08-Jan-25*		08-Jan-25	0
CKD8	KD8 - Completion of Civil & Structural works of Sludge Dewatering Building (separate contractor E&M, BS & PV) (8 Jul 25)	0		08-Jul-25*		08-Jul-25	0
CKD9	KD9 - Completion of Civil & Structural works of Adminstration Building (separate contractor E&M & BS)(6 Nov 25)	0		06-Nov-25*		06-Nov-25	0
CKD7	KD7 - Completion of Civil & structural works of R/F of Mainstream Bioreactor system and Ancillary facilties (8 Jan 26)	0		08-Jan-26*		08-Jan-26	0
CKD4	KD4 - Early Comissioning of Sewage & Sludge Treatment Facilities >60,000m3/d at AWDF (5 Feb 26)	0		05-Feb-26*		05-Feb-26	0
CKD6	KD6 - Completion of Civil & Structural works of R/F of PST (separate contractor to install PV Panels) (5 Feb 26)	0		05-Feb-26*		05-Feb-26	0
Contract Section Completion		1494	06-Oct-22	08-Nov-26	06-Oct-22	08-Nov-26	0
CSC1	Section 1- Civil, Structural and Architectural works of CLP Substations No. 1 & 2 (for CLP install.) (sd+696d=06OCT2022)	0		06-Oct-22*		06-Oct-22	0
CSC2	Section 2 - Landscape Softworks except those Works under other sections (sd+2190d=08NOV2026)	0		08-Nov-26*		08-Nov-26	0
CSC3	Section 3 - Remainder of the Works, except Landscape Softworks & Establishment Works (sd+2190d=08NOV2026)	0		08-Nov-26*		08-Nov-26	0
Environmental Constraints		1969	09-Nov-20	31-Mar-26	09-Nov-20	31-Mar-26	0
NMM-2135	PS 1.105A Noise Mitigation Measures 2020-2021	143	09-Nov-20*	31-Mar-21	09-Nov-20	31-Mar-21	0
EBS-2145	Egrets Breeding Season 2021	184	01-Mar-21*	31-Aug-21	01-Mar-21	31-Aug-21	0
NMM-2145	PS 1.105A Noise Mitigation Measures 2021-2022	151	01-Nov-21*	31-Mar-22	01-Nov-21	31-Mar-22	0
EBS-2155	Egrets Breeding Season 2022	184	01-Mar-22*	31-Aug-22	01-Mar-22	31-Aug-22	0
NMM-2155	PS 1.105A Noise Mitigation Measures 2022-2023	151	01-Nov-22*	31-Mar-23	01-Nov-22	31-Mar-23	0
EBS-2165	Egrets Breeding Season 2023	184	01-Mar-23*	31-Aug-23	01-Mar-23	31-Aug-23	0
NMM-2165	PS 1.105A Noise Mitigation Measures 2023-2024	152	01-Nov-23*	31-Mar-24	01-Nov-23	31-Mar-24	0
EBS-2175	Egrets Breeding Season 2024	184	01-Mar-24*	31-Aug-24	01-Mar-24	31-Aug-24	0
NMM-2175	PS 1.105A Noise Mitigation Measures 2024-2025	151	01-Nov-24*	31-Mar-25	01-Nov-24	31-Mar-25	0
EBS-2185	Egrets Breeding Season 2025	183	02-Mar-25*	31-Aug-25	02-Mar-25	31-Aug-25	0
NMM-2185	PS 1.105A Noise Mitigation Measures 2025-2026	151	01-Nov-25*	31-Mar-26	01-Nov-25	31-Mar-26	0
Planned Completion		2039	08-Apr-21	07-Nov-26	08-Apr-21	08-Nov-26	1
Planned Key Dates		1764	08-Apr-21	05-Feb-26	08-Apr-21	05-Feb-26	0
PKD1	KD1 - Completion of Noise Barriers (sd+150d) (8 Apr 21)	0		08-Apr-21*		08-Apr-21	0
PKD2	KD2 - Erection of Bird Curtain in vicinity of Mainstream Bioreactor, Ancillary facilities & Tertiary Treatment(6 May 21)	0		22-Apr-21*		06-May-21	14
PKD5	KD5 - Completion of Civil & Structural works of R/F of Inlet works (separate contractor to install PV Panels) (8 Jan 25)	0		10-Dec-22*		08-Jan-25	760
PKD10	KD10 - Completion of Civil & Structural works of roof floor of sludge thickening bldg(8Jan24)	0		27-Nov-23*		08-Jan-24	42
PPKD3	KD3 - Early Comissioning of Inlet Works100,000m3/d at ADWF,PST>54,000m3/d at ADWF, Civil, struct.,E&M & BS (11Mar 24)	0		11-Mar-24*		11-Mar-24	0
PKD7	KD7 - Completion of Civil & structural works of R/F of Mainstream Bioreactor system and Ancillary facilties (8 Jan 26)	0		16-Apr-25*		08-Jan-26	267
PKD8	KD8 - Completion of Civil & Structural works of Sludge Dewatering Building (separate contractor E&M, BS & PV) (8 Jul 25)	0		08-Jul-25*		08-Jul-25	0
PKD9	KD9 - Completion of Civil & Structural works of Adminstration Building (separate contractor E&M & BS)(6 Nov 25)	0		28-Aug-25*		06-Nov-25	70
PKD6	KD6 - Completion of Civil & Structural works of R/F of PST (separate contractor to install PV Panels) (5 Feb 26)	0		04-Feb-26*		05-Feb-26	1
PPKD4	KD4 - Early Comissioning of Sewage & Sludge Treatment Facilities >60,000m3/d at AWDF (5 Feb 26)	0		05-Feb-26*		05-Feb-26	0
Planned Section Completion		1502	27-Sep-22	07-Nov-26	06-Oct-22	08-Nov-26	1
PSC1	Section 1- Civil, Structural and Architectural works of CLP Substations No. 1 & 2 (for CLP install.) (sd+696d=06OCT2022)	0		27-Sep-22*		06-Oct-22	9
PSC2	Section 2 - Landscape Softworks except those Works under other sections (sd+2190d=08NOV2026)	0		15-Sep-26*		08-Nov-26	54
PSC3	Section 3- Remainder of the Works, except Landscape Softworks & Establishment Works (sd+2190d=08NOV2026)	0		07-Nov-26*		08-Nov-26	1
Preliminary and Preparation Works		1443	27-Oct-20	05-Jun-25	26-Oct-20	08-Nov-27	759
Subletting		767	27-Oct-20	02-Dec-22	26-Oct-20	13-Jan-26	1138
SUB-110	Prebid - Ground Investigation Works	0		27-Oct-20*		26-Oct-20	0
SUB-120	Prebid - Demolition of existing building and structure	0		27-Oct-20*		26-Oct-20	0
SUB-130	Prebid - Design, Supply and Installation of Noise Barrier and Bird Curtain	0		27-Oct-20*		26-Oct-20	0
SUB-140	Prebid - Piling works for Inlet works and PST	0		27-Oct-20*		26-Oct-20	0
SUB-150	Prebid - E&M works	0		27-Oct-20*		26-Oct-20	0
SUB-160	Submit/Approve Sub-letting Procedures	60	09-Nov-20	07-Jan-21	09-Nov-20	07-Jan-21	0
SUB-180	Subletting for MIC works	40	08-Jan-21	16-Feb-21	09-Jan-21	17-Feb-21	1
SUB-190	Subletting for Landscpaing works	30	08-Jan-21	06-Feb-21	21-Jan-21	19-Feb-21	13
SUB-200	Subletting for UU detection	44	08-Jan-21	20-Feb-21	15-Feb-21	30-Mar-21	38
SUB-210	Subletting for Design Consultant	22	08-Jan-21	29-Jan-21	08-Jan-21	29-Jan-21	0
SUB-220	Subletting for Sheet piling works for IW, PST	150	08-Jan-21	06-Jun-21	14-Feb-21	13-Jul-21	37
SUB-230	Subletting for CLP Substation No.1 & 2 Structure	100	08-Jan-21	17-Apr-21	27-Jun-21	04-Oct-21	170



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

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

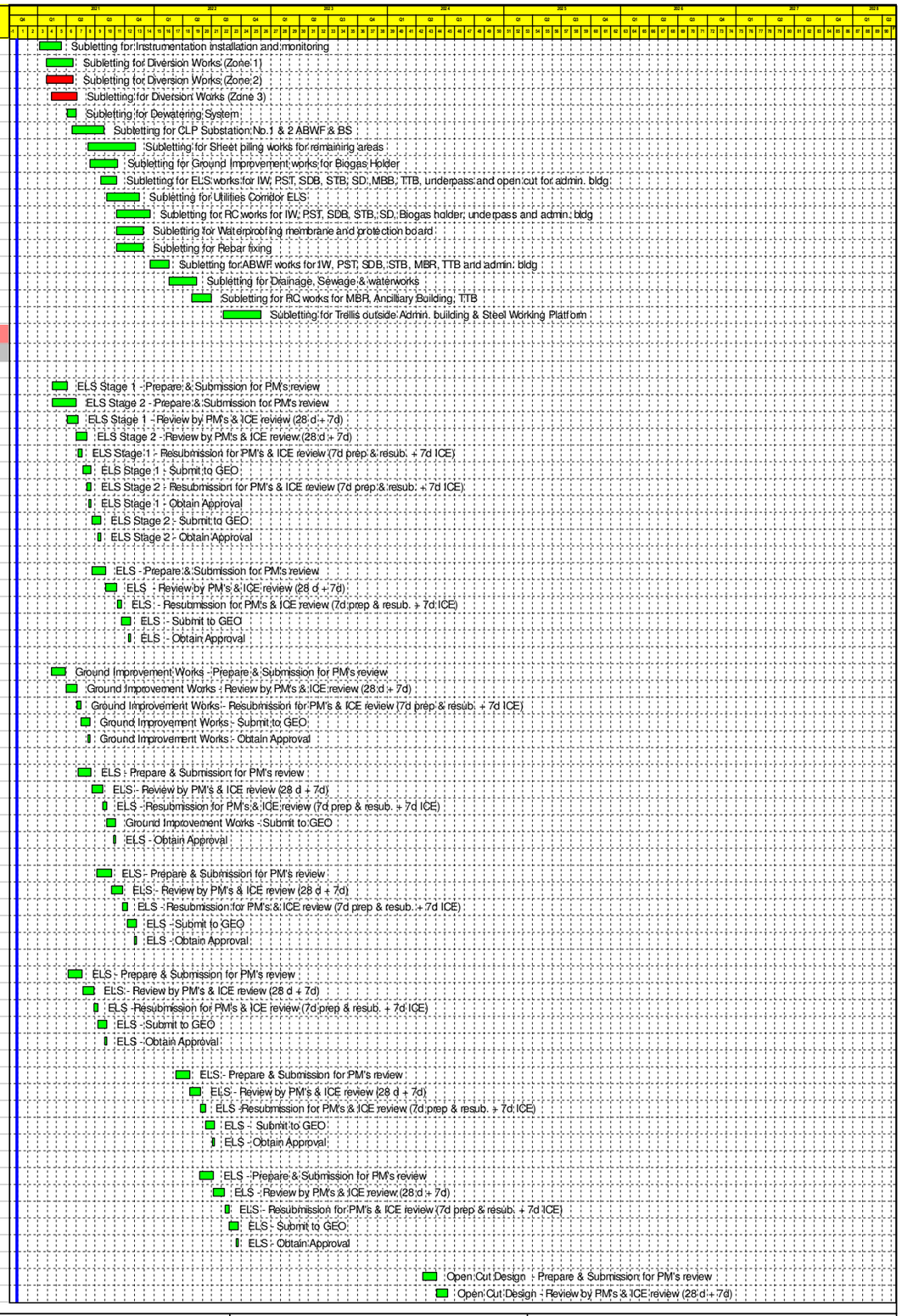
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr1_210422
Layout : DC201910 Detailed Programme

Detailed Works Programme

Date	Revision	Checked	Approved
15-Mar-21	Rev. 0		
21-Apr-21	Rev 1		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
SUB-370	Subletting for Instrumentation installation and monitoring	67	08-Jan-21	15-Mar-21	16-Jan-21	23-Mar-21	8
SUB-100	Subletting for Diversion Works (Zone 1)	84	30-Jan-21	23-Apr-21	06-May-21	28-Jul-21	96
SUB-170	Subletting for Diversion Works (Zone 2)	84	30-Jan-21	23-Apr-21	30-Jan-21	23-Apr-21	0
SUB-260	Subletting for Diversion Works (Zone 3)	80	14-Feb-21	04-May-21	14-Feb-21	04-May-21	0
SUB-330	Subletting for Dewatering System	30	03-Apr-21	02-May-21	30-Apr-21	29-May-21	27
SUB-240	Subletting for CLP Substation No.1 & 2 ABWF & BS	100	18-Apr-21	26-Jul-21	11-Jan-22	20-Apr-22	268
SUB-380	Subletting for Sheet piling works for remaining areas	150	07-Jun-21	03-Nov-21	24-Jul-21	20-Dec-21	47
SUB-250	Subletting for Ground Improvement works for Biogas Holder	86	15-Jun-21	08-Sep-21	05-Aug-21	29-Oct-21	51
SUB-270	Subletting for ELS works for IW, PST, SDB, STB, SD ,MBB, TTB, underpass and open cut for admin. bldg	50	17-Jul-21	04-Sep-21	19-Jul-21	06-Sep-21	2
SUB-310	Subletting for Utilities Corridor ELS	100	07-Aug-21	14-Nov-21	15-Jan-22	24-Apr-22	161
SUB-280	Subletting for RC works for IW, PST, SDB, STB, SD, Biogas holder, underpass and admin. bldg	105	05-Sep-21	18-Dec-21	07-Sep-21	20-Dec-21	2
SUB-350	Subletting for Waterproofing membrane and protection board	86	05-Sep-21	29-Nov-21	26-Sep-21	20-Dec-21	21
SUB-360	Subletting for Rebar fixing	86	05-Sep-21	29-Nov-21	26-Sep-21	20-Dec-21	21
SUB-290	Subletting for ABWF works for IW, PST, SDB, STB, MBR, TTB and admin. bldg	60	19-Dec-21	16-Feb-22	03-Jan-23	03-Mar-23	380
SUB-340	Subletting for Drainage, Sewage & waterworks	86	17-Feb-22	13-May-22	20-Oct-25	13-Jan-26	1341
SUB-300	Subletting for RC works for MBR, Ancilliary Building, TTB	60	30-Apr-22	28-Jun-22	19-Jun-22	17-Aug-22	50
SUB-320	Subletting for Trellis outside Admin. building & Steel Working Platform	120	05-Aug-22	02-Dec-22	09-Feb-25	08-Jun-25	919
Design Submission		1562	30-Jan-21	10-May-25	14-Feb-21	31-Mar-26	325
Temporary Works Design		1286	13-Feb-21	21-Aug-24	19-Feb-21	19-Aug-25	363
Inlet Work and Primary Sedimentation Tank		150	17-Feb-21	16-Jul-21	19-Feb-21	18-Jul-21	2
TWD-100	ELS Stage 1 - Prepare & Submission for PM's review	45	17-Feb-21	02-Apr-21	15-Mar-21	28-Apr-21	26
TWD-420	ELS Stage 2 - Prepare & Submission for PM's review	73	17-Feb-21	30-Apr-21	19-Feb-21	02-May-21	2
TWD-110	ELS Stage 1 - Review by PM's & ICE review (28 d + 7d)	35	03-Apr-21	07-May-21	29-Apr-21	02-Jun-21	26
TWD-430	ELS Stage 2 - Review by PM's & ICE review (28 d + 7d)	35	01-May-21	04-Jun-21	03-May-21	06-Jun-21	2
TWD-120	ELS Stage 1 - Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE)	14	08-May-21	21-May-21	03-Jun-21	16-Jun-21	26
TWD-500	ELS Stage 1 - Submit to GEO	28	22-May-21	18-Jun-21	17-Jun-21	14-Jul-21	26
TWD-440	ELS Stage 2 - Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE)	14	05-Jun-21	18-Jun-21	07-Jun-21	20-Jun-21	2
TWD-130	ELS Stage 1 - Obtain Approval	7	12-Jun-21	18-Jun-21	08-Jul-21	14-Jul-21	26
TWD-510	ELS Stage 2 - Submit to GEO	28	19-Jun-21	16-Jul-21	21-Jun-21	18-Jul-21	2
TWD-450	ELS Stage 2 - Obtain Approval	7	10-Jul-21	16-Jul-21	12-Jul-21	18-Jul-21	2
Mainstream Bio-Reactor System		122	19-Jun-21	18-Oct-21	07-Aug-21	06-Dec-21	49
TWD-220	ELS - Prepare & Submission for PM's review	45	19-Jun-21	02-Aug-21	07-Aug-21	20-Sep-21	49
TWD-230	ELS - Review by PM's & ICE review (28 d + 7d)	35	03-Aug-21	06-Sep-21	21-Sep-21	25-Oct-21	49
TWD-240	ELS - Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE)	14	07-Sep-21	20-Sep-21	26-Oct-21	08-Nov-21	49
TWD-520	ELS - Submit to GEO	28	21-Sep-21	18-Oct-21	09-Nov-21	06-Dec-21	49
TWD-250	ELS - Obtain Approval	7	12-Oct-21	18-Oct-21	30-Nov-21	06-Dec-21	49
Biogas Holders		122	13-Feb-21	14-Jun-21	05-Apr-21	04-Aug-21	51
TWD-380	Ground Improvement Works - Prepare & Submission for PM's review	45	13-Feb-21	29-Mar-21	05-Apr-21	19-May-21	51
TWD-390	Ground Improvement Works - Review by PM's & ICE review (28 d + 7d)	35	30-Mar-21	03-May-21	20-May-21	23-Jun-21	51
TWD-400	Ground Improvement Works - Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE)	14	04-May-21	17-May-21	24-Jun-21	07-Jul-21	51
TWD-530	Ground Improvement Works - Submit to GEO	28	18-May-21	14-Jun-21	08-Jul-21	04-Aug-21	51
TWD-410	Ground Improvement Works - Obtain Approval	7	08-Jun-21	14-Jun-21	29-Jul-21	04-Aug-21	51
Sludge Thickening Building		119	08-May-21	03-Sep-21	11-May-21	06-Sep-21	3
TWD-180	ELS - Prepare & Submission for PM's review	42	08-May-21	18-Jun-21	11-May-21	21-Jun-21	3
TWD-190	ELS - Review by PM's & ICE review (28 d + 7d)	35	19-Jun-21	23-Jul-21	22-Jun-21	26-Jul-21	3
TWD-200	ELS - Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE)	14	24-Jul-21	06-Aug-21	27-Jul-21	09-Aug-21	3
TWD-540	Ground Improvement Works - Submit to GEO	28	07-Aug-21	03-Sep-21	10-Aug-21	06-Sep-21	3
TWD-210	ELS - Obtain Approval	7	28-Aug-21	03-Sep-21	31-Aug-21	06-Sep-21	3
Tertiary Treatment System		122	07-Jul-21	05-Nov-21	28-Feb-22	29-Jun-22	236
TWD-140	ELS - Prepare & Submission for PM's review	45	07-Jul-21	20-Aug-21	28-Feb-22	13-Apr-22	236
TWD-150	ELS - Review by PM's & ICE review (28 d + 7d)	35	21-Aug-21	24-Sep-21	14-Apr-22	18-May-22	236
TWD-160	ELS - Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE)	14	25-Sep-21	08-Oct-21	19-May-22	01-Jun-22	236
TWD-550	ELS - Submit to GEO	28	09-Oct-21	05-Nov-21	02-Jun-22	29-Jun-22	236
TWD-170	ELS - Obtain Approval	7	30-Oct-21	05-Nov-21	23-Jun-22	29-Jun-22	236
Utilities Corridor		122	07-Apr-21	06-Aug-21	04-Aug-21	03-Dec-21	119
TWD-340	ELS - Prepare & Submission for PM's review	45	07-Apr-21	21-May-21	04-Aug-21	17-Sep-21	119
TWD-350	ELS - Review by PM's & ICE review (28 d + 7d)	35	22-May-21	25-Jun-21	18-Sep-21	22-Oct-21	119
TWD-360	ELS -Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE)	14	26-Jun-21	09-Jul-21	23-Oct-21	05-Nov-21	119
TWD-560	ELS - Submit to GEO	28	10-Jul-21	06-Aug-21	06-Nov-21	03-Dec-21	119
TWD-370	ELS - Obtain Approval	7	31-Jul-21	06-Aug-21	27-Nov-21	03-Dec-21	119
Sludge Digester		122	09-Mar-22	08-Jul-22	05-Dec-22	05-Apr-23	271
TWD-460	ELS - Prepare & Submission for PM's review	45	09-Mar-22	22-Apr-22	05-Dec-22	18-Jan-23	271
TWD-470	ELS - Review by PM's & ICE review (28 d + 7d)	35	23-Apr-22	27-May-22	19-Jan-23	22-Feb-23	271
TWD-480	ELS -Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE)	14	28-May-22	10-Jun-22	23-Feb-23	08-Mar-23	271
TWD-570	ELS - Submit to GEO	28	11-Jun-22	08-Jul-22	09-Mar-23	05-Apr-23	271
TWD-490	ELS - Obtain Approval	7	02-Jul-22	08-Jul-22	30-Mar-23	05-Apr-23	271
Sludge Dewatering and Underpass		122	23-May-22	21-Sep-22	17-Mar-24	16-Jul-24	664
TWD-260	ELS - Prepare & Submission for PM's review	45	23-May-22	06-Jul-22	17-Mar-24	30-Apr-24	664
TWD-270	ELS - Review by PM's & ICE review (28 d + 7d)	35	07-Jul-22	10-Aug-22	01-May-24	04-Jun-24	664
TWD-280	ELS - Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE)	14	11-Aug-22	24-Aug-22	05-Jun-24	18-Jun-24	664
TWD-580	ELS - Submit to GEO	28	25-Aug-22	21-Sep-22	19-Jun-24	16-Jul-24	664
TWD-290	ELS - Obtain Approval	7	15-Sep-22	21-Sep-22	10-Jul-24	16-Jul-24	664
Administration Building		122	22-Apr-24	21-Aug-24	02-Jul-24	31-Oct-24	71
TWD-300	Open Cut Design - Prepare & Submission for PM's review	45	22-Apr-24	05-Jun-24	02-Jul-24	15-Aug-24	71
TWD-310	Open Cut Design - Review by PM's & ICE review (28 d + 7d)	35	06-Jun-24	10-Jul-24	16-Aug-24	19-Sep-24	71



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

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

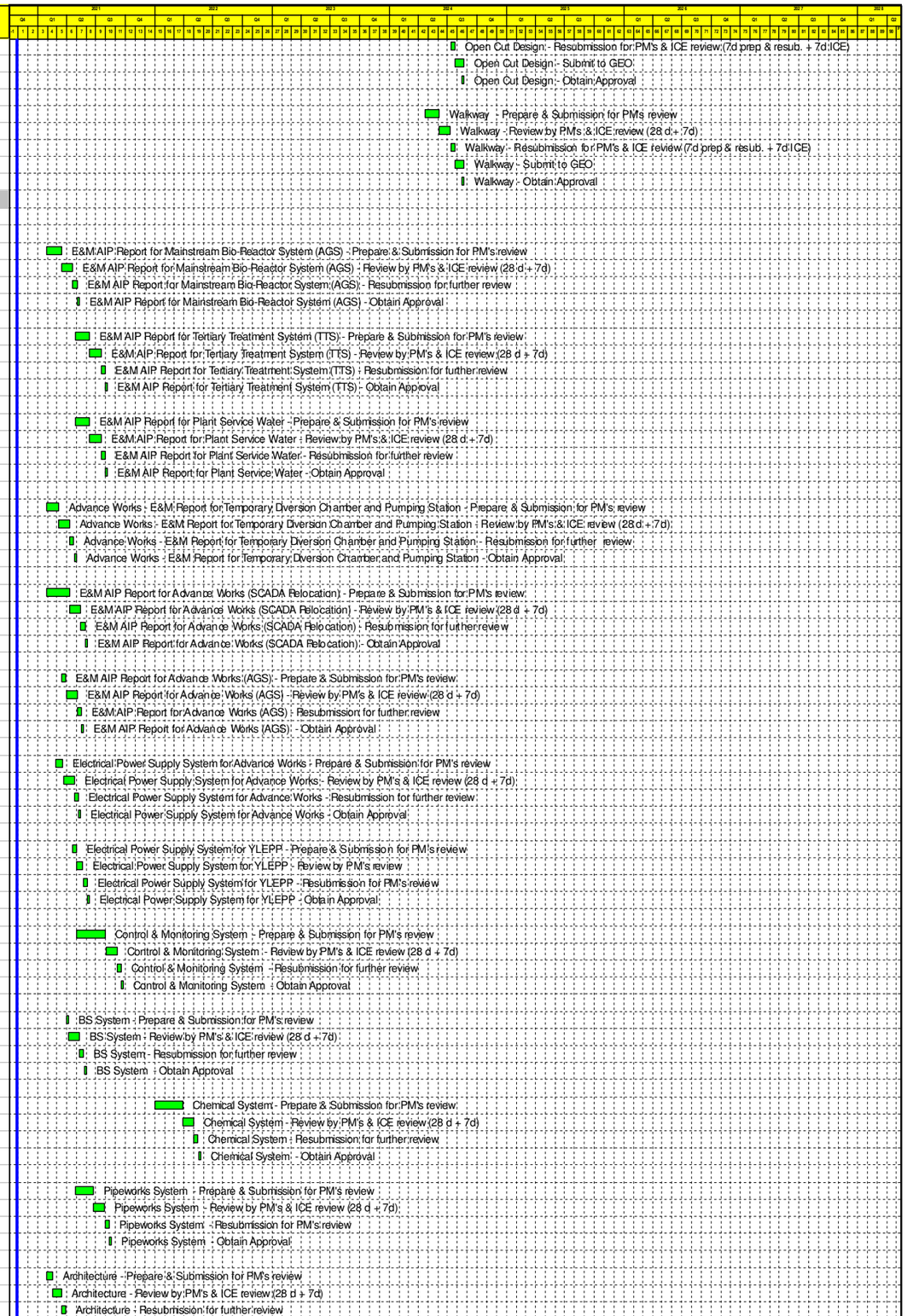
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr1_210422
Layout : DC201910 Detailed Programme

Detailed Works Programme

Date	Revision	Checked	Approved
15-Mar-21	Rev. 0		
21-Apr-21	Rev 1		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
TWD-320	Open Cut Design - Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE)	14	11-Jul-24	24-Jul-24	20-Sep-24	03-Oct-24	71
TWD-590	Open Cut Design - Submit to GEO	28	25-Jul-24	21-Aug-24	04-Oct-24	31-Oct-24	71
TWD-330	Open Cut Design - Obtain Approval	7	15-Aug-24	21-Aug-24	25-Oct-24	31-Oct-24	71
Walkway		122	22-Apr-24	21-Aug-24	20-Apr-25	19-Aug-25	363
TWD-600	Walkway - Prepare & Submission for PM's review	45	22-Apr-24	05-Jun-24	20-Apr-25	03-Jun-25	363
TWD-610	Walkway - Review by PM's & ICE review (28 d + 7d)	35	06-Jun-24	10-Jul-24	04-Jun-25	08-Jul-25	363
TWD-620	Walkway - Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE)	14	11-Jul-24	24-Jul-24	09-Jul-25	22-Jul-25	363
TWD-630	Walkway - Submit to GEO	28	25-Jul-24	21-Aug-24	23-Jul-25	19-Aug-25	363
TWD-640	Walkway - Obtain Approval	7	15-Aug-24	21-Aug-24	13-Aug-25	19-Aug-25	363
Contractor 's Permanent Works Design (include ATAL)		1562	30-Jan-21	10-May-25	14-Feb-21	31-Mar-26	325
AIP		478	30-Jan-21	22-May-22	14-Feb-21	07-Dec-23	564
Package 1A - Mainstream Bio-Reactor System (AGS)		101	30-Jan-21	10-May-21	09-May-21	17-Aug-21	99
AIP-420	E&M AIP Report for Mainstream Bio-Reactor System (AGS) - Prepare & Submission for PM's review	45	30-Jan-21	15-Mar-21	09-May-21	22-Jun-21	99
AIP-430	E&M AIP Report for Mainstream Bio-Reactor System (AGS) - Review by PM's & ICE review (28 d + 7d)	35	16-Mar-21	19-Apr-21	23-Jun-21	27-Jul-21	99
AIP-440	E&M AIP Report for Mainstream Bio-Reactor System (AGS) - Resubmission for further review	14	20-Apr-21	03-May-21	28-Jul-21	10-Aug-21	99
AIP-450	E&M AIP Report for Mainstream Bio-Reactor System (AGS) - Obtain Approval	7	04-May-21	10-May-21	11-Aug-21	17-Aug-21	99
Package 2A - Tertiary Treatment System (TTS)		101	28-Apr-21	06-Aug-21	01-Jul-21	09-Oct-21	64
AIP-460	E&M AIP Report for Tertiary Treatment System (TTS) - Prepare & Submission for PM's review	45	28-Apr-21	11-Jun-21	01-Jul-21	14-Aug-21	64
AIP-470	E&M AIP Report for Tertiary Treatment System (TTS) - Review by PM's & ICE review (28 d + 7d)	35	12-Jun-21	16-Jul-21	15-Aug-21	18-Sep-21	64
AIP-480	E&M AIP Report for Tertiary Treatment System (TTS) - Resubmission for further review	14	17-Jul-21	30-Jul-21	19-Sep-21	02-Oct-21	64
AIP-490	E&M AIP Report for Tertiary Treatment System (TTS) - Obtain Approval	7	31-Jul-21	06-Aug-21	03-Oct-21	09-Oct-21	64
Package 3A - Plant Service Water		101	28-Apr-21	06-Aug-21	04-Nov-21	12-Feb-22	190
AIP-500	E&M AIP Report for Plant Service Water - Prepare & Submission for PM's review	45	28-Apr-21	11-Jun-21	04-Nov-21	18-Dec-21	190
AIP-510	E&M AIP Report for Plant Service Water - Review by PM's & ICE review (28 d + 7d)	35	12-Jun-21	16-Jul-21	19-Dec-21	22-Jan-22	190
AIP-520	E&M AIP Report for Plant Service Water - Resubmission for further review	14	17-Jul-21	30-Jul-21	23-Jan-22	05-Feb-22	190
AIP-530	E&M AIP Report for Plant Service Water - Obtain Approval	7	31-Jul-21	06-Aug-21	06-Feb-22	12-Feb-22	190
Package 4A - E&M Report for Temp. Diversion Chamber and Pumping Station		91	30-Jan-21	30-Apr-21	11-May-21	09-Aug-21	101
AIP-540	Advance Works - E&M Report for Temporary Diversion Chamber and Pumping Station - Prepare & Submission for PM's review	35	30-Jan-21	05-Mar-21	11-May-21	14-Jun-21	101
AIP-550	Advance Works - E&M Report for Temporary Diversion Chamber and Pumping Station - Review by PM's & ICE review (28 d + 7	35	06-Mar-21	09-Apr-21	15-Jun-21	19-Jul-21	101
AIP-560	Advance Works - E&M Report for Temporary Diversion Chamber and Pumping Station - Resubmission for further review	14	10-Apr-21	23-Apr-21	20-Jul-21	02-Aug-21	101
AIP-570	Advance Works - E&M Report for Temporary Diversion Chamber and Pumping Station - Obtain Approval	7	24-Apr-21	30-Apr-21	03-Aug-21	09-Aug-21	101
Package 4B - E&M Report for SCADA Relocation		126	30-Jan-21	04-Jun-21	04-Mar-21	07-Jul-21	33
AIP-580	E&M AIP Report for Advance Works (SCADA Relocation) - Prepare & Submission for PM's review	70	30-Jan-21	09-Apr-21	04-Mar-21	12-May-21	33
AIP-590	E&M AIP Report for Advance Works (SCADA Relocation) - Review by PM's & ICE review (28 d + 7d)	35	10-Apr-21	14-May-21	13-May-21	16-Jun-21	33
AIP-600	E&M AIP Report for Advance Works (SCADA Relocation) - Resubmission for further review	14	15-May-21	28-May-21	17-Jun-21	30-Jun-21	33
AIP-610	E&M AIP Report for Advance Works (SCADA Relocation) - Obtain Approval	7	29-May-21	04-Jun-21	01-Jul-21	07-Jul-21	33
Package 4C - E&M Report for AGS Pilot Plant		70	16-Mar-21	24-May-21	15-Apr-23	23-Jun-23	760
AIP-630	E&M AIP Report for Advance Works (AGS) - Prepare & Submission for PM's review	14	16-Mar-21	29-Mar-21	15-Apr-23	28-Apr-23	760
AIP-640	E&M AIP Report for Advance Works (AGS) - Review by PM's & ICE review (28 d + 7d)	35	30-Mar-21	03-May-21	29-Apr-23	02-Jun-23	760
AIP-650	E&M AIP Report for Advance Works (AGS) - Resubmission for further review	14	04-May-21	17-May-21	03-Jun-23	16-Jun-23	760
AIP-660	E&M AIP Report for Advance Works (AGS) - Obtain Approval	7	18-May-21	24-May-21	17-Jun-23	23-Jun-23	760
Package 5A - Electrical Power Supply System for Advance Works		80	25-Feb-21	15-May-21	27-Feb-21	17-May-21	2
AIP-100	Electrical Power Supply System for Advance Works - Prepare & Submission for PM's review	24	25-Feb-21	20-Mar-21	27-Feb-21	22-Mar-21	2
AIP-110	Electrical Power Supply System for Advance Works - Review by PM's & ICE review (28 d + 7d)	35	21-Mar-21	24-Apr-21	23-Mar-21	26-Apr-21	2
AIP-120	Electrical Power Supply System for Advance Works - Resubmission for further review	14	25-Apr-21	08-May-21	27-Apr-21	10-May-21	2
AIP-130	Electrical Power Supply System for Advance Works - Obtain Approval	7	09-May-21	15-May-21	11-May-21	17-May-21	2
Package 5B - Electrical Power Supply System for YLEPP		53	20-Apr-21	11-Jun-21	16-Oct-23	07-Dec-23	909
AIP-140	Electrical Power Supply System for YLEPP - Prepare & Submission for PM's review	11	20-Apr-21	30-Apr-21	16-Oct-23	26-Oct-23	909
AIP-150	Electrical Power Supply System for YLEPP - Review by PM's review	21	01-May-21	21-May-21	27-Oct-23	16-Nov-23	909
AIP-160	Electrical Power Supply System for YLEPP - Resubmission for PM's review	14	22-May-21	04-Jun-21	17-Nov-23	30-Nov-23	909
AIP-170	Electrical Power Supply System for YLEPP - Obtain Approval	7	05-Jun-21	11-Jun-21	01-Dec-23	07-Dec-23	909
Package 6A - Control & Monitoring System		148	01-May-21	25-Sep-21	10-Nov-22	06-Apr-23	558
AIP-180	Control & Monitoring System - Prepare & Submission for PM's review	92	01-May-21	31-Jul-21	10-Nov-22	09-Feb-23	558
AIP-190	Control & Monitoring System - Review by PM's & ICE review (28 d + 7d)	35	01-Aug-21	04-Sep-21	10-Feb-23	16-Mar-23	558
AIP-200	Control & Monitoring System - Resubmission for further review	14	05-Sep-21	18-Sep-21	17-Mar-23	30-Mar-23	558
AIP-620	Control & Monitoring System - Obtain Approval	7	19-Sep-21	25-Sep-21	31-Mar-23	06-Apr-23	558
Package 7A - Building Services System		63	30-Mar-21	31-May-21	07-Apr-21	08-Jun-21	8
AIP-220	BS System - Prepare & Submission for PM's review	7	30-Mar-21	05-Apr-21	07-Apr-21	13-Apr-21	8
AIP-230	BS System - Review by PM's & ICE review (28 d + 7d)	35	06-Apr-21	10-May-21	14-Apr-21	18-May-21	8
AIP-240	BS System - Resubmission for further review	14	11-May-21	24-May-21	19-May-21	01-Jun-21	8
AIP-250	BS System - Obtain Approval	7	25-May-21	31-May-21	02-Jun-21	08-Jun-21	8
Package 8A - Chemical System		142	01-Jan-22	22-May-22	24-Jan-22	14-Jun-22	23
AIP-260	Chemical System - Prepare & Submission for PM's review	86	01-Jan-22	27-Mar-22	24-Jan-22	19-Apr-22	23
AIP-270	Chemical System - Review by PM's & ICE review (28 d + 7d)	35	28-Mar-22	01-May-22	20-Apr-22	24-May-22	23
AIP-280	Chemical System - Resubmission for further review	14	02-May-22	15-May-22	25-May-22	07-Jun-22	23
AIP-290	Chemical System - Obtain Approval	7	16-May-22	22-May-22	08-Jun-22	14-Jun-22	23
Package 9A - Pipeworks System		113	28-Apr-21	18-Aug-21	01-Oct-21	21-Jan-22	156
AIP-300	Pipeworks System - Prepare & Submission for PM's review	57	28-Apr-21	23-Jun-21	01-Oct-21	26-Nov-21	156
AIP-310	Pipeworks System - Review by PM's & ICE review (28 d + 7d)	35	24-Jun-21	28-Jul-21	27-Nov-21	31-Dec-21	156
AIP-320	Pipeworks System - Resubmission for PM's review	14	29-Jul-21	11-Aug-21	01-Jan-22	14-Jan-22	156
AIP-330	Pipeworks System - Obtain Approval	7	12-Aug-21	18-Aug-21	15-Jan-22	21-Jan-22	156
Package 10A - Architecture		66	30-Jan-21	05-Apr-21	01-May-21	05-Jul-21	91
AIP-340	Architecture - Prepare & Submission for PM's review	17	30-Jan-21	15-Feb-21	01-May-21	17-May-21	91
AIP-350	Architecture - Review by PM's & ICE review (28 d + 7d)	28	16-Feb-21	15-Mar-21	18-May-21	14-Jun-21	91
AIP-360	Architecture - Resubmission for further review	14	16-Mar-21	29-Mar-21	15-Jun-21	28-Jun-21	91



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

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

Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr1_210422
Layout : DC201910 Detailed Programme

Detailed Works Programme

Date	Revision	Checked	Approved
15-Mar-21	Rev. 0		
21-Apr-21	Rev 1		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
AIP-370	Architecture - Obtain Approval	7	30-Mar-21	05-Apr-21	29-Jun-21	05-Jul-21	91
Package 11A - Civil, Structural & Geotechnical		81	30-Jan-21	20-Apr-21	14-Feb-21	05-May-21	15
AIP-380	Civil, Structural & Geotechnical - Prepare & Submission for PM's review	25	30-Jan-21	23-Feb-21	14-Feb-21	10-Mar-21	15
AIP-390	Civil, Structural & Geotechnical - Review by PM's & ICE review (28 d + 7d)	35	24-Feb-21	30-Mar-21	11-Mar-21	14-Apr-21	15
AIP-400	Civil, Structural & Geotechnical - Resubmission for further review	14	31-Mar-21	13-Apr-21	15-Apr-21	28-Apr-21	15
AIP-410	Civil, Structural & Geotechnical - Obtain Approval	7	14-Apr-21	20-Apr-21	29-Apr-21	05-May-21	15
DDA		1496	06-Apr-21	10-May-25	18-May-21	31-Mar-26	325
Package 1 - General Architecture, Civil, Structural & Geotechnical		122	21-Apr-21	20-Aug-21	10-Jun-21	09-Oct-21	50
DDA-100	Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Prepare & Submission for PM's review	45	21-Apr-21	04-Jun-21	10-Jun-21	24-Jul-21	50
DDA-110	Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Review by PM's & ICE review (28 d + 7d)	35	05-Jun-21	09-Jul-21	25-Jul-21	28-Aug-21	50
DDA-120	Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Resubmission for further review	14	10-Jul-21	23-Jul-21	29-Aug-21	11-Sep-21	50
DDA-1080	Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Submit to GEO for comment and approval	28	24-Jul-21	20-Aug-21	12-Sep-21	09-Oct-21	50
DDA-130	Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Obtain Approval	7	14-Aug-21	20-Aug-21	03-Oct-21	09-Oct-21	50
Package 2 - Tertiary Treatment System		441	07-Aug-21	21-Oct-22	10-Oct-21	19-Dec-23	424
DDA-170	Civil Req. for TTS (foundation design) - Prepare(60d), Sub. & Review.(45d),Comment & Resub.(14d), GEO(28d)&Approval (7d)	154	07-Aug-21	07-Jan-22	29-Jun-22	29-Nov-22	326
DDA-180	Civil Req. for TTS (Superstruct. design) - Prepare (130d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	189	07-Aug-21	11-Feb-22	02-Jul-22	06-Jan-23	329
DDA-140	Architectural for TTS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	21-Aug-21	24-Dec-21	10-Oct-21	12-Feb-22	50
DDA-150	Foundation for TTS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	25-Dec-21	29-Apr-22	13-Feb-22	18-Jun-22	50
DDA-190	P&ID for TTS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	12-Feb-22	17-Jun-22	12-Apr-23	15-Aug-23	424
DDA-200	Mechanical for TTS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	12-Feb-22	17-Jun-22	16-Aug-23	19-Dec-23	550
DDA-210	Electrical& Control for TTS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	12-Feb-22	17-Jun-22	16-Aug-23	19-Dec-23	550
DDA-160	Civil & Structural for TTS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	13-Feb-22	18-Jun-22	19-Jun-22	22-Oct-22	126
DDA-220	Building Services (BS) for TTS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	18-Jun-22	21-Oct-22	16-Aug-23	19-Dec-23	424
Package 3 - Mainstream Bio-Reactor System		331	06-Apr-21	02-Mar-22	06-Jul-21	27-Oct-23	604
DDA-230	Architectural for MBS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	06-Apr-21	09-Aug-21	06-Jul-21	08-Nov-21	91
DDA-240	Foundation for MBS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d),GEO (28d)& Approval (7d)	154	06-Apr-21	06-Sep-21	06-Jul-21	06-Dec-21	91
DDA-250	Civil & Structural for MBS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	11-May-21	13-Sep-21	18-Aug-21	21-Dec-21	99
DDA-260	Civil Req. for MBS (foundation design) - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	14-Sep-21	17-Jan-22	22-Dec-21	26-Apr-22	99
DDA-270	Civil Req. for MBS (Superstruct. design) - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	14-Sep-21	17-Jan-22	14-Apr-22	17-Aug-22	212
DDA-280	P&ID for TTS - MBS (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	28-Oct-21	02-Mar-22	24-Jun-23	27-Oct-23	604
DDA-290	Mechanical for MBS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	28-Oct-21	02-Mar-22	24-Jun-23	27-Oct-23	604
DDA-300	Electrical& Control for MBS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	28-Oct-21	02-Mar-22	24-Jun-23	27-Oct-23	604
DDA-310	Building Services (BS) for MBS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	28-Oct-21	02-Mar-22	24-Jun-23	27-Oct-23	604
Package 5A - Master Water Meter Room		658	03-Mar-22	20-Dec-23	12-Jun-24	31-Mar-26	832
DDA-350	Architectural for Master Water Meter Room - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	03-Mar-22	06-Jul-22	12-Jun-24	15-Oct-24	832
DDA-360	Foundation for Master Water Meter RM- Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d),GEO(28d) & Approval (7	154	07-Jul-22	07-Dec-22	16-Oct-24	18-Mar-25	832
DDA-370	Civil & Struct. for Master Water Meter Room- Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	08-Dec-22	12-Apr-23	19-Mar-25	22-Jul-25	832
DDA-380	General Arrangement & Civil Req. for MWMR - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	13-Apr-23	16-Aug-23	26-Nov-25	31-Mar-26	958
DDA-390	P&ID for MWMR - MBS (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	13-Apr-23	16-Aug-23	23-Jul-25	25-Nov-25	832
DDA-400	Mechanical for MWMR - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	17-Aug-23	20-Dec-23	26-Nov-25	31-Mar-26	832
DDA-410	Electrical& Control for MWMR - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	17-Aug-23	20-Dec-23	26-Nov-25	31-Mar-26	832
Package 5B - Plant Service Water (PSW)		196	07-Aug-21	18-Feb-22	13-Feb-22	19-Dec-23	669
DDA-1050	Civil Requirement Drawings - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	126	07-Aug-21	10-Dec-21	13-Feb-22	18-Jun-22	190
DDA-1040	Piping & Instrumentation Diagram (P&ID) - Prep(94d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	126	12-Sep-21	15-Jan-22	12-Apr-23	15-Aug-23	577
DDA-1060	Electrical & Control for PSW - Prep(94d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	160	12-Sep-21	18-Feb-22	13-Jul-23	19-Dec-23	669
DDA-1070	Mechanical for PSW - Prep(94d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	160	12-Sep-21	18-Feb-22	13-Jul-23	19-Dec-23	669
Package 6 - Sludge Thickening Chemical System		378	06-Apr-21	18-Apr-22	06-Oct-21	18-Oct-22	183
DDA-420	Arch. for STCS, Waste Gas Burner &Guard Hse - Prepare (60d), Sub. & Review.(45d) ,Com. & Resub.(14d) & Approval (7d)	126	06-Apr-21	09-Aug-21	06-Oct-21	08-Feb-22	183
DDA-430	Found.for STCS,WasteGasBurner &Guard Hse- Prepare(60d),Sub.&Review.(45d),Comment & Resub.(14d),GEO(28d) & Approv	126	10-Aug-21	13-Dec-21	09-Feb-22	14-Jun-22	183
DDA-440	Civil & Struct. for STCS, WGB & Guard Hse - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	14-Dec-21	18-Apr-22	15-Jun-22	18-Oct-22	183
Package 7 - CLP Substation and 11kV Switchgear House		335	21-Apr-21	21-Mar-22	21-May-21	20-Apr-22	30
DDA-450	Found.for CLP Sub. &11kV Switchgear Hse- Prepare (60d),Sub.&Review.(45d) ,Comment&Resub.(14d),GEO(28d)& Approval (	126	21-Apr-21	24-Aug-21	21-May-21	23-Sep-21	30
DDA-460	Civil&Struct. for CLP Sub. &11kV Switchgear Hse- Prep. (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval(7d)	126	21-May-21	23-Sep-21	20-Jun-21	23-Oct-21	30
DDA-490	BS for CLP Sub. &11kV Switchgear Hse - Prepare (152d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	218	02-Jun-21	05-Jan-22	15-Sep-21	20-Apr-22	105
DDA-470	Electrical System for all facilities - Prepare (124d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	190	02-Jul-21	07-Jan-22	13-Oct-21	20-Apr-22	103
DDA-480	UPS System for CLPSub.&11kV Switchgear Hse - Prepare (135d), Sub. & Review.(45d),Comment & Resub.(14d)&Approval (7d	201	02-Sep-21	21-Mar-22	02-Oct-21	20-Apr-22	30
Package 8 - Advance Works and SCADA Relocation		51	16-May-21	05-Jul-21	18-May-21	07-Jul-21	2
DDA-500	Mechanical for Advance Works - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	41	16-May-21	25-Jun-21	28-May-21	07-Jul-21	12
DDA-510	Electrical & Control for Advance Works - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	41	16-May-21	25-Jun-21	28-May-21	07-Jul-21	12
DDA-520	BS for Advance Works - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	41	16-May-21	25-Jun-21	18-May-21	27-Jun-21	2
DDA-530	E&M for Advance Works - SCADA Relocation - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	21	15-Jun-21	05-Jul-21	17-Jun-21	07-Jul-21	2
Package 9 - Miscellaneous		126	21-Apr-21	24-Aug-21	03-Mar-25	06-Jul-25	1412
DDA-540	Civil & Structural for Misc, Manholes,DrawPits,FenceWall - Prep(60d),Sub.&Review(45d),Comment&Resub(14d) & Approval(7d)	126	21-Apr-21	24-Aug-21	03-Mar-25	06-Jul-25	1412
Package 10 - SCADA System, CMMS, IDMS, PQEMS		219	26-Sep-21	02-May-22	03-May-23	07-Dec-23	584
DDA-550	Supervisory Control&Data Application(SCADA) System - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	126	26-Sep-21	29-Jan-22	11-Jul-23	13-Nov-23	653
DDA-560	Computerised Mainatenance Mangement System(CMMS) -Prep(153d), Sub.&Review(45d),Comment&Resub (14d) & Approval	219	26-Sep-21	02-May-22	03-May-23	07-Dec-23	584
DDA-570	Information and Document mangement System (IDMS) - Prep(153d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7	119	26-Sep-21	22-Jan-22	11-Aug-23	07-Dec-23	684
DDA-580	Power Quality & Energy Management System (PQEMS) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d)&Approval (7d	119	27-Oct-21	22-Feb-22	11-Aug-23	07-Dec-23	653
Package 11 - Building Services		497	01-Jun-21	10-Oct-22	09-Oct-21	03-Mar-23	144
DDA-600	BS for Sludge Thickening Building (STB) - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	01-Jun-21	04-Oct-21	09-Feb-22	14-Jun-22	253
DDA-620	BS for Biogas Holder (BH) - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	01-Jun-21	04-Oct-21	10-Dec-21	14-Apr-22	192
DDA-590	BS for Inlet Works (IW) - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	31-Jul-21	03-Dec-21	29-Oct-22	03-Mar-23	455
DDA-610	BS for Primary Sedimentation Tanks (PST) - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	01-Oct-21	03-Feb-22	09-Oct-21	11-Feb-22	8
DDA-630	BS for Sludge Dewatering Building (SDB) - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	07-Apr-22	10-Aug-22	15-Apr-22	18-Aug-22	8
DDA-640	BS for Utility Corridor&Pipe Portal (UC/PP) - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	07-Jun-22	10-Oct-22	15-Jun-22	18-Oct-22	8

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PAUL Y.-CREC JOINT VENTURE

- Remaining Level of Effort
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- Remaining Work
- Critical Remaining Work
- Milestone

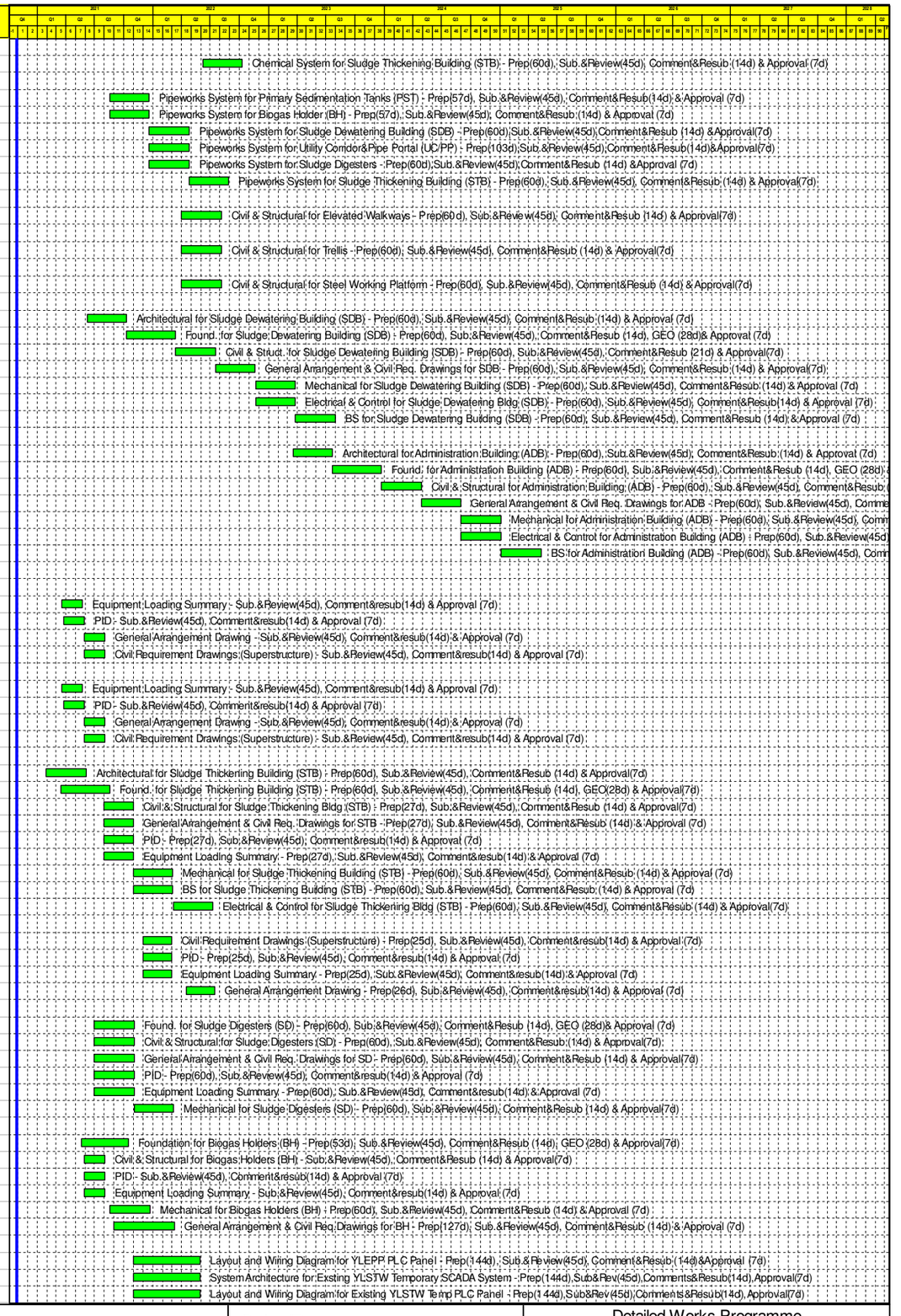
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr1_210422
Layout : DC201910 Detailed Programme

Detailed Works Programme

Date	Revision	Checked	Approved
15-Mar-21	Rev. 0		
21-Apr-21	Rev 1		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
Package 12 - Chemical System for STB		126	07-Jun-22	10-Oct-22	15-Jun-22	18-Oct-22	8
DDA-650	Chemical System for Sludge Thickening Building (STB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d	126	07-Jun-22	10-Oct-22	15-Jun-22	18-Oct-22	8
Package 13 - Pipework System		375	19-Aug-21	28-Aug-22	22-Jan-22	07-Dec-23	466
DDA-670	Pipeworks System for Primary Sedimentation Tanks (PST) - Prep(57d), Sub.&Review(45d), Comment&Resub(14d) & Approval (	123	19-Aug-21	19-Dec-21	22-Jan-22	24-May-22	156
DDA-680	Pipeworks System for Biogas Holder (BH) - Prep(57d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	123	19-Aug-21	19-Dec-21	22-Jan-22	24-May-22	156
DDA-690	Pipeworks System for Sludge Dewatering Building (SDB) - Prep(60d),Sub.&Review(45d),Comment&Resub (14d) &Approval(7d)	126	20-Dec-21	24-Apr-22	12-Jul-22	14-Nov-22	204
DDA-700	Pipeworks System for Utility Corridor&Pipe Portal (UC/PP) - Prep(103d),Sub.&Review(45d),Comment&Resub(14d)&Approval(7d	126	20-Dec-21	24-Apr-22	12-Jul-22	14-Nov-22	204
DDA-1030	Pipeworks System for Sludge Digesters - Prep(60d),Sub.&Review(45d),Comment&Resub (14d) &Approval (7d)	126	20-Dec-21	24-Apr-22	31-Mar-23	03-Aug-23	466
DDA-660	Pipeworks System for Sludge Thickening Building (STB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d	126	25-Apr-22	28-Aug-22	04-Aug-23	07-Dec-23	466
Package 14 - Elevated Walkways		126	01-Apr-22	04-Aug-22	06-Oct-24	08-Feb-25	919
DDA-710	Civil & Structural for Elevated Walkways - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	126	01-Apr-22	04-Aug-22	06-Oct-24	08-Feb-25	919
Package 15 - Trellis		126	01-Apr-22	04-Aug-22	06-Oct-24	08-Feb-25	919
DDA-720	Civil & Structural for Trellis - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	126	01-Apr-22	04-Aug-22	06-Oct-24	08-Feb-25	919
Package 16 - Steel Working Platform		126	01-Apr-22	04-Aug-22	06-Oct-24	08-Feb-25	919
DDA-730	Civil & Structural for Steel Working Platform - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	126	01-Apr-22	04-Aug-22	06-Oct-24	08-Feb-25	919
Package 20 - Sludge Dewatering Building (SDB)		784	07-Jun-21	30-Jul-23	14-Dec-22	04-Feb-25	555
DDA-890	Architectural for Sludge Dewatering Building (SDB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	126	07-Jun-21	10-Oct-21	14-Dec-22	18-Apr-23	555
DDA-900	Found. for Sludge Dewatering Building (SDB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d), GEO (28d)& Approval (	154	11-Oct-21	13-Mar-22	19-Apr-23	19-Sep-23	555
DDA-910	Civil & Struct. for Sludge Dewatering Building (SDB) - Prep(60d), Sub.&Review(45d), Comment&Resub (21d) & Approval(7d)	126	14-Mar-22	17-Jul-22	20-Sep-23	23-Jan-24	555
DDA-920	General Arrangement & Civil Req. Drawings for SDB - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	126	18-Jul-22	20-Nov-22	24-Jan-24	28-May-24	555
DDA-930	Mechanical for Sludge Dewatering Building (SDB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	126	21-Nov-22	26-Mar-23	29-May-24	01-Oct-24	555
DDA-940	Electrical & Control for Sludge Dewatering Bldg (SDB) - Prep(60d), Sub.&Review(45d), Comment&Resub(14d) & Approval (7d)	126	21-Nov-22	26-Mar-23	29-May-24	01-Oct-24	555
DDA-950	BS for Sludge Dewatering Building (SDB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	126	27-Mar-23	30-Jul-23	02-Oct-24	04-Feb-25	555
Package 21 - Administration Building (ADB)		784	19-Mar-23	10-May-25	05-Oct-23	26-Dec-25	230
DDA-0960	Architectural for Administration Building (ADB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	126	19-Mar-23	22-Jul-23	05-Oct-23	07-Feb-24	200
DDA-0970	Found. for Administration Building (ADB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d), GEO (28d) & Approval (7d)	154	23-Jul-23	23-Dec-23	08-Feb-24	10-Jul-24	200
DDA-0980	Civil & Structural for Administration Building (ADB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	126	24-Dec-23	27-Apr-24	26-Jul-24	28-Nov-24	215
DDA-0990	General Arrangement & Civil Req. Drawings for ADB - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	126	28-Apr-24	31-Aug-24	14-Dec-24	18-Apr-25	230
DDA-1000	Mechanical for Administration Building (ADB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	126	01-Sep-24	04-Jan-25	23-Aug-25	26-Dec-25	356
DDA-1010	Electrical & Control for Administration Building (ADB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	126	01-Sep-24	04-Jan-25	19-Apr-25	22-Aug-25	230
DDA-1020	BS for Administration Building (ADB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	126	05-Jan-25	10-May-25	23-Aug-25	26-Dec-25	230
Technical Submission		532	30-Jan-21	15-Jul-22	05-Jun-21	08-Nov-24	847
Inlet Works (IW)		137	20-Mar-21	03-Aug-21	27-May-22	11-Nov-22	465
TS-900	Equipment Loading Summary - Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	66	20-Mar-21	24-May-21	27-May-22	31-Jul-22	433
TS-890	PID - Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	66	25-Mar-21	29-May-21	01-Jun-22	05-Aug-22	433
TS-910	General Arrangement Drawing - Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	66	30-May-21	03-Aug-21	07-Sep-22	11-Nov-22	465
TS-920	Civil Requirement Drawings (Superstructure) - Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	66	30-May-21	03-Aug-21	07-Sep-22	11-Nov-22	465
Primary Sedimentation Tank (PST)		137	20-Mar-21	03-Aug-21	27-May-22	10-Oct-22	433
TS-930	Equipment Loading Summary - Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	66	20-Mar-21	24-May-21	27-May-22	31-Jul-22	433
TS-940	PID - Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	66	25-Mar-21	29-May-21	01-Jun-22	05-Aug-22	433
TS-950	General Arrangement Drawing - Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	66	30-May-21	03-Aug-21	06-Aug-22	10-Oct-22	433
TS-960	Civil Requirement Drawings (Superstructure) - Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	66	30-May-21	03-Aug-21	06-Aug-22	10-Oct-22	433
Package 19 - Sludge Thickening Building (STB)		526	30-Jan-21	09-Jul-22	22-Feb-22	07-Dec-23	516
TS-820	Architectural for Sludge Thickening Building (STB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	126	30-Jan-21	04-Jun-21	09-May-22	11-Sep-22	464
TS-830	Found. for Sludge Thickening Building (STB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d), GEO(28d) & Approval(7(	154	16-Mar-21	16-Aug-21	22-Feb-22	25-Jul-22	343
TS-840	Civil & Structural for Sludge Thickening Bldg (STB) - Prep(27d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	93	30-Jul-21	30-Oct-21	06-Nov-22	06-Feb-23	464
TS-850	General Arrangement & Civil Req. Drawings for STB - Prep(27d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	93	30-Jul-21	30-Oct-21	28-Dec-22	30-Mar-23	516
TS-970	PID - Prep(27d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	93	30-Jul-21	30-Oct-21	06-Nov-22	06-Feb-23	464
TS-980	Equipment Loading Summary - Prep(27d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	93	30-Jul-21	30-Oct-21	18-Jun-23	18-Sep-23	688
TS-860	Mechanical for Sludge Thickening Building (STB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	126	31-Oct-21	05-Mar-22	31-Mar-23	03-Aug-23	516
TS-880	BS for Sludge Thickening Building (STB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	126	31-Oct-21	05-Mar-22	04-Aug-23	07-Dec-23	642
TS-870	Electrical & Control for Sludge Thickening Bldg (STB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	126	06-Mar-22	09-Jul-22	04-Aug-23	07-Dec-23	516
H2S Removal System (H2S)		228	30-Nov-21	15-Jul-22	26-Mar-24	08-Nov-24	847
TS-1000	Civil Requirement Drawings (Superstructure) - Prep(25d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	91	30-Nov-21	28-Feb-22	26-Mar-24	24-Jun-24	847
TS-1020	PID - Prep(25d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	91	30-Nov-21	28-Feb-22	26-Mar-24	24-Jun-24	847
TS-1010	Equipment Loading Summary - Prep(25d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	91	30-Nov-21	28-Feb-22	26-Mar-24	24-Jun-24	847
TS-990	General Arrangement Drawing - Prep(26d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	92	15-Apr-22	15-Jul-22	09-Aug-24	08-Nov-24	847
Package 17 - Sludge Digesters (SD)		252	30-Jun-21	08-Mar-22	25-May-22	20-Mar-24	743
TS-740	Found. for Sludge Digesters (SD) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d), GEO (28d)& Approval (7d)	126	30-Jun-21	02-Nov-21	25-May-22	27-Sep-22	329
TS-750	Civil & Structural for Sludge Digesters (SD) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	126	30-Jun-21	02-Nov-21	30-Mar-23	02-Aug-23	638
TS-760	General Arrangement & Civil Req. Drawings for SD - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	126	30-Jun-21	02-Nov-21	13-Jul-23	15-Nov-23	743
TS-1030	PID - Prep(60d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	126	30-Jun-21	02-Nov-21	16-Nov-23	20-Mar-24	869
TS-1040	Equipment Loading Summary - Prep(60d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	126	30-Jun-21	02-Nov-21	16-Nov-23	20-Mar-24	869
TS-770	Mechanical for Sludge Digesters (SD) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	126	03-Nov-21	08-Mar-22	16-Nov-23	20-Mar-24	743
Package 18 - Biogas Holders (BH)		295	21-May-21	11-Mar-22	05-Jun-21	24-May-22	74
TS-780	Foundation for Biogas Holders (BH) - Prep(53d), Sub.&Review(45d), Comment&Resub (14d), GEO (28d) & Approval(7d)	147	21-May-21	14-Oct-21	05-Jun-21	29-Oct-21	15
TS-790	Civil & Structural for Biogas Holders (BH) - Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	66	30-May-21	03-Aug-21	12-Aug-21	16-Oct-21	74
TS-1050	PID - Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	66	30-May-21	03-Aug-21	14-Nov-21	18-Jan-22	168
TS-1060	Equipment Loading Summary - Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	66	30-May-21	03-Aug-21	14-Nov-21	18-Jan-22	168
TS-810	Mechanical for Biogas Holders (BH) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	126	18-Aug-21	21-Dec-21	19-Jan-22	24-May-22	154
TS-800	General Arrangement & Civil Req.Drawings for BH - Prep(127d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	193	31-Aug-21	11-Mar-22	13-Nov-21	24-May-22	74
SCADA		210	31-Oct-21	28-May-22	12-May-23	07-Dec-23	558
TS-1070	Layout and Wiring Diagram for YLEPP PLC Panel - Prep(144d), Sub.& Review(45d), Comment &Resub (14d)&Approval (7d)	210	31-Oct-21	28-May-22	12-May-23	07-Dec-23	558
TS-1080	System Architecture for Exsting YLSTW Temporary SCADA System - Prep(144d),Sub&Rev(45d),Comments&Resub(14d),Appro	210	31-Oct-21	28-May-22	12-May-23	07-Dec-23	558
TS-1090	Layout and Wiring Diagram for Existing YLSTW Temp PLC Panel - Prep(144d),Sub&Rev(45d),Comments&Resub(14d),Approva	210	31-Oct-21	28-May-22	12-May-23	07-Dec-23	558



PAUL Y. REC
保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

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

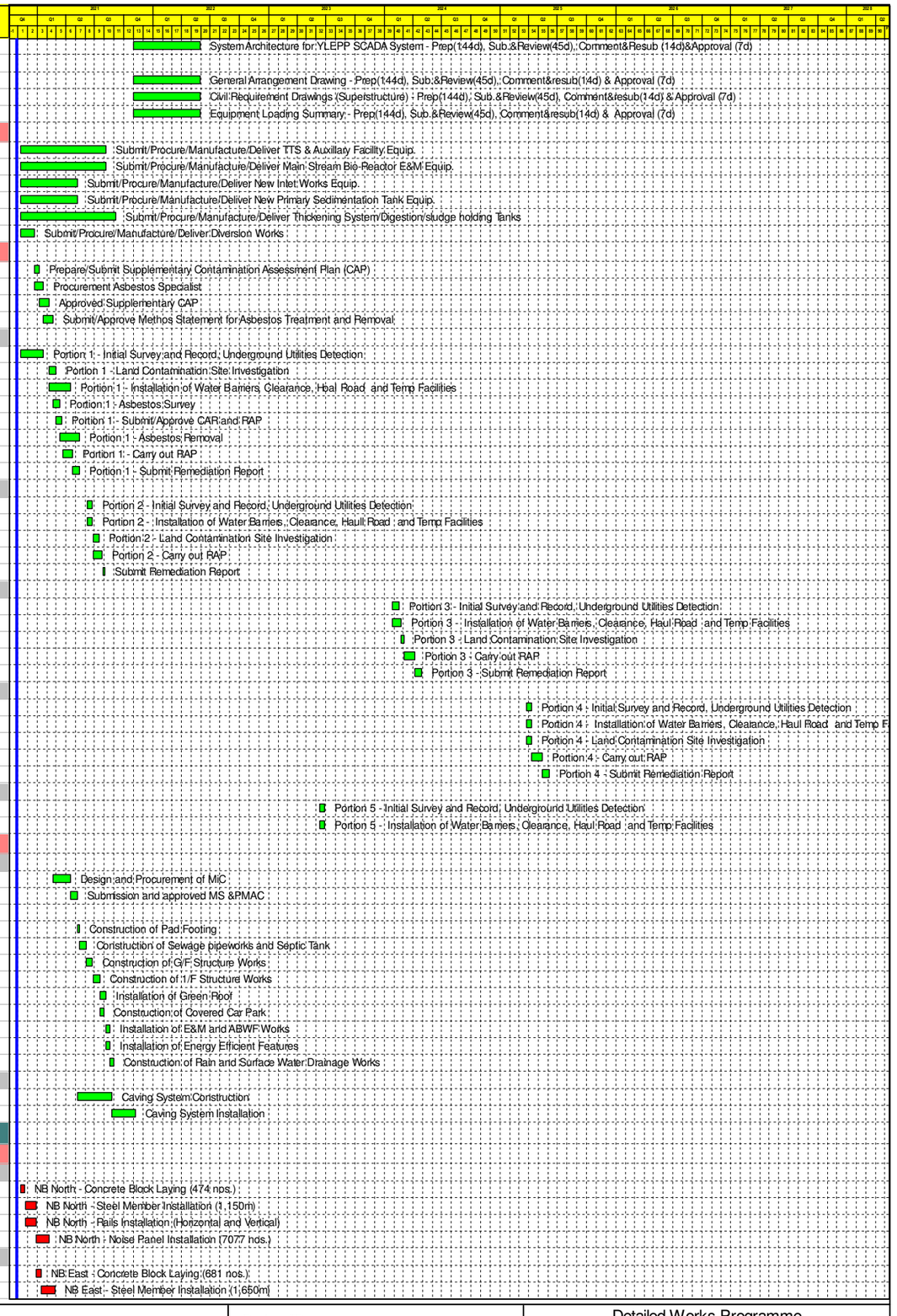
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr1_210422
Layout : DC201910 Detailed Programme

Detailed Works Programme

Date	Revision	Checked	Approved
15-Mar-21	Rev. 0		
21-Apr-21	Rev 1		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
TS-1100	System Architecture for YLEPP SCADA System - Prep(144d), Sub.&Review(45d), Comment&Resub (14d)&Approval (7d)	210	31-Oct-21	28-May-22	12-May-23	07-Dec-23	558
Utility Corridor and Pipe Portal		210	31-Oct-21	28-May-22	07-Aug-23	03-Mar-24	645
TS-1110	General Arrangement Drawing - Prep(144d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	210	31-Oct-21	28-May-22	07-Aug-23	03-Mar-24	645
TS-1120	Civil Requirement Drawings (Superstructure) - Prep(144d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	210	31-Oct-21	28-May-22	07-Aug-23	03-Mar-24	645
TS-1140	Equipment Loading Summary - Prep(144d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	210	31-Oct-21	28-May-22	07-Aug-23	03-Mar-24	645
Material Submission, Procurement, Manufacturing and Delivery		300	09-Nov-20	04-Sep-21	14-Nov-20	19-Dec-23	836
PRE-240	Submit/Procure/Manufacture/Deliver TTS & Auxillary Facility Equip.	270	09-Nov-20	05-Aug-21	25-Mar-23	19-Dec-23	866
PRE-230	Submit/Procure/Manufacture/Deliver Main Stream Bio-Reactor E&M Equip.	270	09-Nov-20	05-Aug-21	31-Jan-23	27-Oct-23	813
PRE-210	Submit/Procure/Manufacture/Deliver New Inlet Works Equip.	180	09-Nov-20	07-May-21	16-May-22	11-Nov-22	553
PRE-220	Submit/Procure/Manufacture/Deliver New Primary Sedimentation Tank Equip.	180	09-Nov-20	07-May-21	14-Apr-22	10-Oct-22	521
PRE-250	Submit/Procure/Manufacture/Deliver Thickening System/Digestion/sludge holding Tanks	300	09-Nov-20	04-Sep-21	23-Nov-22	18-Sep-23	744
PRE-260	Submit/Procure/Manufacture/Deliver Diversion Works	44	09-Nov-20	22-Dec-20	14-Nov-20	27-Dec-20	5
Site Establishment Works		1432	09-Nov-20	05-Jun-25	02-Dec-20	20-Jun-26	326
PG-100	Prepare/Submit Supplementary Contamination Assessment Plan (CAP)	12	21-Dec-20	06-Jan-21	07-Jan-21	20-Jan-21	12
PG-120	Procurement Asbestos Specialist	30	21-Dec-20	19-Jan-21	07-Feb-21	08-Mar-21	48
PG-110	Approved Supplementary CAP	30	07-Jan-21	05-Feb-21	21-Jan-21	19-Feb-21	14
PG-130	Submit/Approve Methos Statement for Asbestos Treatment and Removal	30	20-Jan-21	18-Feb-21	09-Mar-21	07-Apr-21	48
Portion 1 - IW Stage 1, PST, MBR, AF, TTS, STCS, Utilities Corridor, Pipe Portal		147	09-Nov-20	14-May-21	02-Dec-20	26-Jun-21	35
P1-100	Portion 1 - Initial Survey and Record, Underground Utilities Detection	60	09-Nov-20	20-Jan-21	02-Dec-20	19-Feb-21	20
P1-120	Portion 1 - Land Contamination Site Investigation	13	06-Feb-21	27-Feb-21	20-Feb-21	06-Mar-21	6
P1-110	Portion 1 - Installation of Water Barriers, Clearance, Hbal Road and Temp Facilities	48	08-Feb-21	15-Apr-21	20-Feb-21	21-Apr-21	5
P1-200	Portion 1 - Asbestos Survey	18	19-Feb-21	11-Mar-21	08-Apr-21	28-Apr-21	37
P1-130	Portion 1 - Submit/Approve CAR and RAP	18	01-Mar-21	20-Mar-21	08-Mar-21	27-Mar-21	6
P1-210	Portion 1 - Asbestos Removal	48	12-Mar-21	12-May-21	29-Apr-21	26-Jun-21	37
P1-140	Portion 1 - Carry out RAP	24	22-Mar-21	22-Apr-21	29-Mar-21	29-Apr-21	6
P1-150	Portion 1 - Submit Remediation Report	18	23-Apr-21	14-May-21	30-Apr-21	22-May-21	6
Portion 2 - IW Stage 2		46	08-Jun-21	02-Aug-21	12-Jun-21	14-Sep-21	37
P2-100	Portion 2 - Initial Survey and Record, Underground Utilities Detection	12	08-Jun-21	22-Jun-21	12-Jun-21	26-Jun-21	4
P2-110	Portion 2 - Installation of Water Barriers, Clearance, Haull Road and Temp Facilities	12	08-Jun-21	22-Jun-21	12-Jun-21	26-Jun-21	4
P2-120	Portion 2 - Land Contamination Site Investigation	14	26-Jun-21	13-Jul-21	28-Jun-21	14-Jul-21	1
P2-140	Portion 2 - Carry out RAP	24	26-Jun-21	24-Jul-21	10-Aug-21	06-Sep-21	37
P2-150	Submit Remediation Report	7	26-Jul-21	02-Aug-21	07-Sep-21	14-Sep-21	37
Portion 3 - PST, SDB, Admin. Bldg		69	26-Jan-24	27-Apr-24	27-Feb-24	29-Jul-24	75
P3-100	Portion 3 - Initial Survey and Record, Underground Utilities Detection	12	26-Jan-24	16-Feb-24	27-Feb-24	11-Mar-24	20
P3-110	Portion 3 - Installation of Water Barriers, Clearance, Haul Road and Temp Facilities	17	26-Jan-24	22-Feb-24	27-Feb-24	16-Mar-24	20
P3-120	Portion 3 - Land Contamination Site Investigation	10	22-Feb-24	05-Mar-24	18-Mar-24	28-Mar-24	20
P3-140	Portion 3 - Carry out RAP	24	05-Mar-24	06-Apr-24	08-Jun-24	08-Jul-24	75
P3-150	Portion 3 - Submit Remediation Report	18	06-Apr-24	27-Apr-24	09-Jul-24	29-Jul-24	75
Portion 4 - EVA		54	27-Mar-25	05-Jun-25	16-Apr-26	20-Jun-26	307
P4-100	Portion 4 - Initial Survey and Record, Underground Utilities Detection	12	27-Mar-25	10-Apr-25	06-Jun-26	20-Jun-26	349
P4-110	Portion 4 - Installation of Water Barriers, Clearance, Haul Road and Temp Facilities	12	27-Mar-25	10-Apr-25	06-Jun-26	20-Jun-26	349
P4-120	Portion 4 - Land Contamination Site Investigation	12	27-Mar-25	10-Apr-25	16-Apr-26	29-Apr-26	307
P4-140	Portion 4 - Carry out RAP	24	11-Apr-25	14-May-25	30-Apr-26	29-May-26	307
P4-150	Portion 4 - Submit Remediation Report	18	15-May-25	05-Jun-25	30-May-26	20-Jun-26	307
Portion 5 - Walkway		12	12-Jun-23	26-Jun-23	06-Aug-25	19-Aug-25	633
P5-100	Portion 5 - Initial Survey and Record, Underground Utilities Detection	12	12-Jun-23	26-Jun-23	06-Aug-25	19-Aug-25	633
P5-110	Portion 5 - Installation of Water Barriers, Clearance, Haul Road and Temp Facilities	12	12-Jun-23	26-Jun-23	06-Aug-25	19-Aug-25	633
PM and Contractor Accomodation		213	18-Feb-21	05-Nov-21	05-Mar-27	08-Nov-27	1780
Project Manager's & Contractor Site Accommodation		158	18-Feb-21	30-Aug-21	05-Mar-27	08-Nov-27	1835
PMCA-110	Design and Procurement of MiC	45	18-Feb-21	15-Apr-21	05-Mar-27	26-Apr-27	1780
PMCA-140	Submission and approved MS &PMAC	18	16-Apr-21	07-May-21	27-Apr-27	17-May-27	1780
MiC Section		95	08-May-21	30-Aug-21	21-Jul-27	08-Nov-27	1835
PMCA-150	Construction of Pad Footing	6	08-May-21	14-May-21	21-Jul-27	27-Jul-27	1835
PMCA-160	Construction of Sewage pipeworks and Septic Tank	17	15-May-21	04-Jun-21	28-Jul-27	16-Aug-27	1835
PMCA-170	Construction of G/F Structure Works	16	05-Jun-21	24-Jun-21	17-Aug-27	03-Sep-27	1835
PMCA-180	Construction of 1/F Structure Works	18	25-Jun-21	16-Jul-21	04-Sep-27	24-Sep-27	1835
PMCA-190	Installation of Green Roof	16	17-Jul-21	04-Aug-21	25-Sep-27	13-Oct-27	1835
PMCA-200	Construction of Covered Car Park	13	17-Jul-21	31-Jul-21	29-Sep-27	13-Oct-27	1838
PMCA-210	Installation of E&M and ABWF Works	12	05-Aug-21	18-Aug-21	14-Oct-27	27-Oct-27	1835
PMCA-220	Installation of Energy Efficient Features	12	05-Aug-21	18-Aug-21	14-Oct-27	27-Oct-27	1835
PMCA-230	Construction of Rain and Surface Water Drainage Works	10	19-Aug-21	30-Aug-21	28-Oct-27	08-Nov-27	1835
Caving System		150	08-May-21	05-Nov-21	18-May-27	08-Nov-27	1780
PMCA-240	Caving System Construction	90	08-May-21	24-Aug-21	18-May-27	30-Aug-27	1780
PMCA-250	Caving System Installation	60	25-Aug-21	05-Nov-21	31-Aug-27	08-Nov-27	1780
Environmental Mitigation Measures for KD1 & 2		129	09-Nov-20	22-Apr-21	09-Nov-20	06-May-21	11
Noise Barrier		117	09-Nov-20	08-Apr-21	09-Nov-20	08-Apr-21	0
NB Northern Side		75	09-Nov-20	06-Feb-21	09-Nov-20	06-Feb-21	0
NBN-00	NB North - Concrete Block Laying (474 nos.)	12	09-Nov-20	21-Nov-20	09-Nov-20	21-Nov-20	0
NBN-10	NB North - Steel Member Installation (1,150m)	30	23-Nov-20	29-Dec-20	23-Nov-20	29-Dec-20	0
NBN-20	NB North - Rails Installation (Horizontal and Vertical)	30	23-Nov-20	29-Dec-20	23-Nov-20	29-Dec-20	0
NBN-30	NB North - Noise Panel Installation (7077 nos.)	33	30-Dec-20	06-Feb-21	30-Dec-20	06-Feb-21	0
NB Eastern Side		75	30-Dec-20	08-Apr-21	30-Dec-20	08-Apr-21	0
NBE-00	NB East - Concrete Block Laying (681 nos.)	12	30-Dec-20	13-Jan-21	30-Dec-20	13-Jan-21	0
NBE-10	NB East - Steel Member Installation (1,650m)	30	14-Jan-21	24-Feb-21	14-Jan-21	24-Feb-21	0



PaulY REC
保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

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

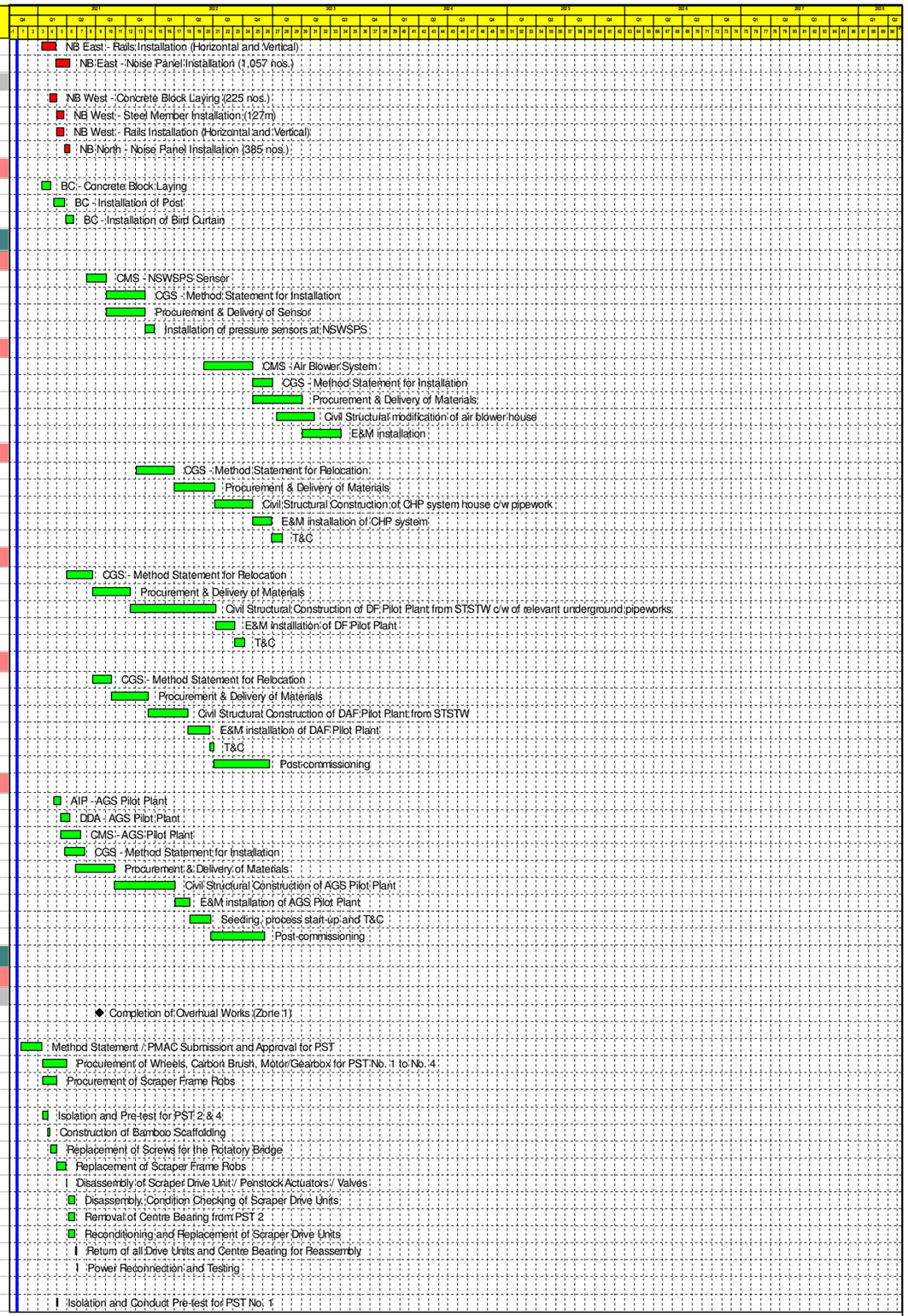
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr1_210422
Layout : DC201910 Detailed Programme

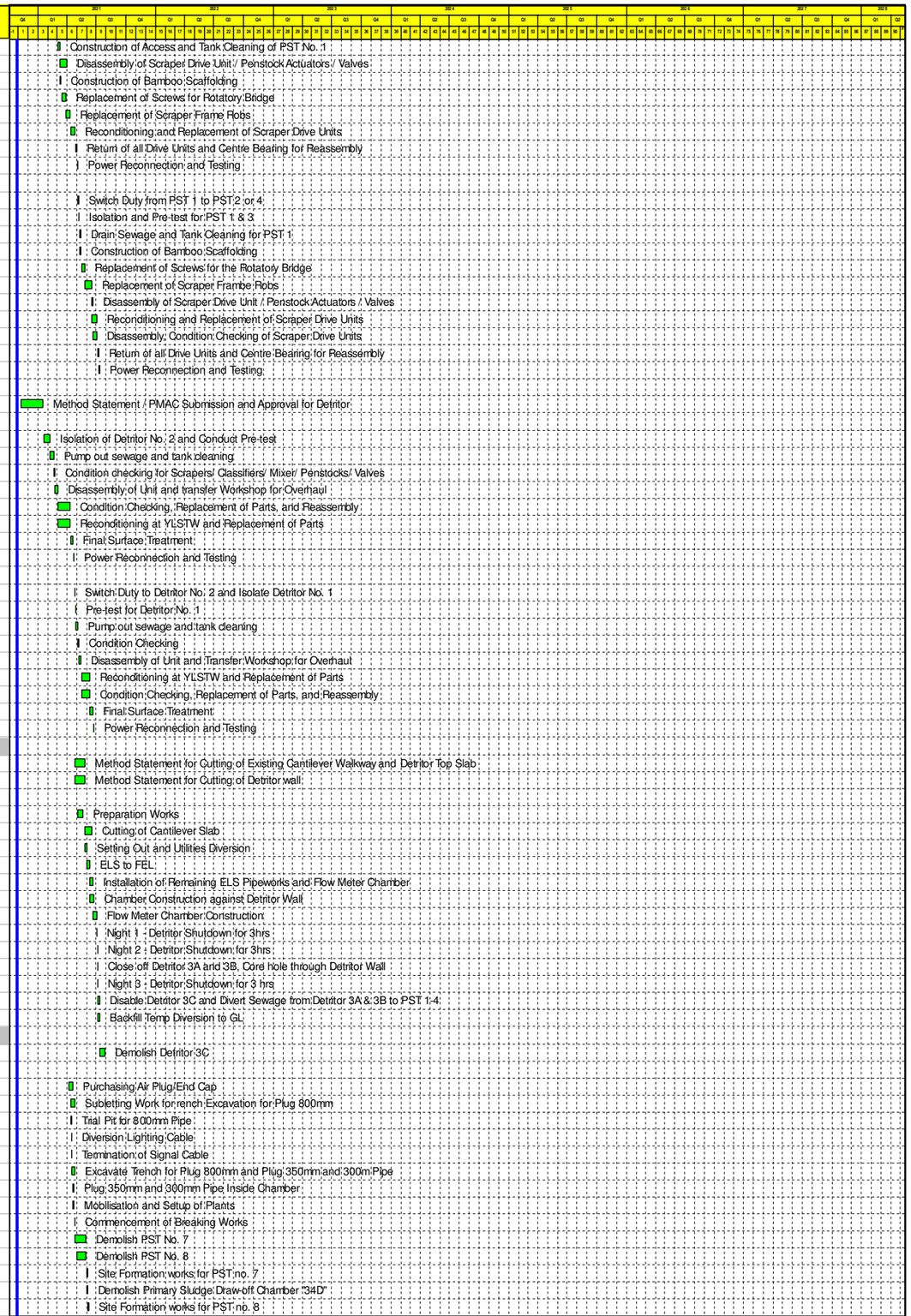
Detailed Works Programme

Date	Revision	Checked	Approved
15-Mar-21	Rev. 0		
21-Apr-21	Rev 1		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
NBE-20	NB East - Rails Installation (Horizontal and Vertical)	30	14-Jan-21	24-Feb-21	14-Jan-21	24-Feb-21	0
NBE-30	NB East - Noise Panel Installation (1,057 nos.)	33	25-Feb-21	08-Apr-21	25-Feb-21	08-Apr-21	0
NB Western Side		42	08-Feb-21	08-Apr-21	08-Feb-21	08-Apr-21	0
NBW-00B	NB West - Concrete Block Laying (225 nos.)	12	08-Feb-21	27-Feb-21	08-Feb-21	27-Feb-21	0
NBW-10	NB West - Steel Member Installation (127m)	20	01-Mar-21	23-Mar-21	01-Mar-21	23-Mar-21	0
NBW-20	NB West - Rails Installation (Horizontal and Vertical)	20	01-Mar-21	23-Mar-21	01-Mar-21	23-Mar-21	0
NBW-30	NB North - Noise Panel Installation (385 nos.)	10	24-Mar-21	08-Apr-21	24-Mar-21	08-Apr-21	0
Bird Curtain		75	14-Jan-21	22-Apr-21	27-Jan-21	06-May-21	11
BC-10	BC - Concrete Block Laying	24	14-Jan-21	10-Feb-21	27-Jan-21	02-Mar-21	11
BC-20	BC - Installation of Post	32	18-Feb-21	26-Mar-21	03-Mar-21	13-Apr-21	11
BC-30	BC - Installation of Bird Curtain	19	27-Mar-21	22-Apr-21	14-Apr-21	06-May-21	11
General Advance Works		720	18-Feb-21	03-Aug-23	21-May-22	11-Mar-24	178
NSWSPS Sensors		174	01-Jun-21	29-Dec-21	08-Aug-23	11-Mar-24	642
ATALGA-1130	CMS - NSWSPS Sensor	51	01-Jun-21*	02-Aug-21	08-Aug-23	07-Oct-23	642
ATALGA-1160	CGS - Method Statement for Installation	101	02-Aug-21	01-Dec-21	09-Oct-23	07-Feb-24	642
ATALGA-1170	Procurement & Delivery of Sensor	101	02-Aug-21	01-Dec-21	09-Oct-23	07-Feb-24	642
ATALGA-1260	Installation of pressure sensors at NSWSPS	22	01-Dec-21	29-Dec-21	08-Feb-24	11-Mar-24	642
Air Blower House		345	01-Jun-22	03-Aug-23	04-Jan-23	11-Mar-24	178
ATALGA-1280	CMS - Air Blower System	127	01-Jun-22*	02-Nov-22	04-Jan-23	14-Jun-23	178
ATALGA-1290	CGS - Method Statement for Installation	49	02-Nov-22	31-Dec-22	06-Sep-23	04-Nov-23	247
ATALGA-1300	Procurement & Delivery of Materials	121	02-Nov-22	03-Apr-23	15-Jun-23	08-Nov-23	178
ATALGA-1020	Civil Structural modification of air blower house	90	13-Jan-23*	11-May-23	17-Nov-23	11-Mar-24	247
ATALGA-1310	E&M installation	97	03-Apr-23	03-Aug-23	09-Nov-23	11-Mar-24	178
Temporary CHP System		363	02-Nov-21	02-Feb-23	10-Dec-22	11-Mar-24	326
ATALGA-1230	CGS - Method Statement for Relocation	93	02-Nov-21*	01-Mar-22	10-Dec-22	12-Apr-23	326
ATALGA-1240	Procurement & Delivery of Materials	100	01-Mar-22	05-Jul-22	13-Apr-23	11-Aug-23	326
ATALGA-1250	Civil Structural Construction of CHP system house c/w pipework	100	05-Jul-22*	02-Nov-22	12-Aug-23	09-Dec-23	326
ATALGA-1320	E&M installation of CHP system	47	02-Nov-22	29-Dec-22	11-Dec-23	06-Feb-24	326
ATALGA-1330	T&C	23	29-Dec-22	02-Feb-23	07-Feb-24	11-Mar-24	326
Disc Filter (DF) Pilot Plant		444	01-Apr-21	06-Oct-22	17-Jun-22	11-Mar-24	418
ATALGA-1080	CGS - Method Statement for Relocation	63	01-Apr-21*	21-Jun-21	17-Jun-22	30-Aug-22	352
ATALGA-1090	Procurement & Delivery of Materials	97	21-Jun-21	16-Oct-21	31-Aug-22	24-Dec-22	352
ATALGA-1000	Civil Structural Construction of DF Pilot Plant from STSTW c/w of relevant underground pipeworks	211	16-Oct-21*	09-Jul-22	23-Mar-23	07-Dec-23	418
ATALGA-1140	E&M installation of DF Pilot Plant	51	09-Jul-22	07-Sep-22	07-Dec-23	07-Feb-24	418
ATALGA-1190	T&C	22	07-Sep-22	06-Oct-22	08-Feb-24	11-Mar-24	418
Dissolved Air Flotation (DAF) Pilot Plant		447	21-Jun-21	22-Dec-22	31-Aug-22	11-Mar-24	352
ATALGA-1100	CGS - Method Statement for Relocation	47	21-Jun-21	16-Aug-21	31-Aug-22	27-Oct-22	352
ATALGA-1110	Procurement & Delivery of Materials	97	16-Aug-21	10-Dec-21	28-Oct-22	28-Feb-23	352
ATALGA-1070	Civil Structural Construction of DAF Pilot Plant from STSTW	97	10-Dec-21*	14-Apr-22	01-Mar-23	29-Jun-23	352
ATALGA-1150	E&M installation of DAF Pilot Plant	51	14-Apr-22	20-Jun-22	30-Jun-23	29-Aug-23	352
ATALGA-1200	T&C	11	20-Jun-22	04-Jul-22	30-Aug-23	11-Sep-23	352
ATALGA-1220	Post-commissioning	144	04-Jul-22	22-Dec-22	12-Sep-23	11-Mar-24	352
Aerobic Granular Sludge (AGS) Pilot Plant		532	18-Feb-21	06-Dec-22	21-May-22	11-Mar-24	366
ATALGA-1030	AIP - AGS Pilot Plant	20	18-Feb-21*	12-Mar-21	21-May-22	14-Jun-22	366
ATALGA-1040	DDA - AGS Pilot Plant	21	13-Mar-21	10-Apr-21	23-Mar-23	20-Apr-23	594
ATALGA-1050	CMS - AGS Pilot Plant	48	13-Mar-21	13-May-21	15-Jun-22	10-Aug-22	366
ATALGA-1060	CGS - Method Statement for Installation	47	25-Mar-21	25-May-21	04-Apr-23	03-Jun-23	594
ATALGA-1120	Procurement & Delivery of Materials	100	28-Apr-21	26-Aug-21	27-Jul-22	23-Nov-22	366
ATALGA-1010	Civil Structural Construction of AGS Pilot Plant	150	27-Aug-21*	03-Mar-22	24-Nov-22	03-Jun-23	366
ATALGA-1180	E&M installation of AGS Pilot Plant	36	04-Mar-22	19-Apr-22	05-Jun-23	18-Jul-23	366
ATALGA-1210	Seeding, process start-up and T&C	52	20-Apr-22	22-Jun-22	19-Jul-23	16-Sep-23	366
ATALGA-1270	Post-commissioning	139	23-Jun-22	06-Dec-22	18-Sep-23	11-Mar-24	366
Zone 1 Construction		1878	09-Nov-20	08-Nov-26	09-Nov-20	08-Nov-26	0
Demolition and Temporary Modification/Diversion Works		253	09-Nov-20	30-Aug-21	30-Nov-20	29-Apr-22	208
PST Overhaul Works		193	09-Nov-20	10-Jul-21	30-Nov-20	31-Jul-21	18
ATALPST-5130	Completion of Overhual Works (Zone 1)	0		10-Jul-21*		31-Jul-21	18
PST Existing Primary Sedimentation Tanks (PST)		193	09-Nov-20	10-Jul-21	30-Nov-20	31-Jul-21	18
ATALPST-1000	Method Statement / PMAC Submission and Approval for PST	55	09-Nov-20	14-Jan-21	30-Nov-20	04-Feb-21	18
ATALPST-1030	Procurement of Wheels, Carbon Brush, Motor/Gearbox for PST No. 1 to No. 4	60	15-Jan-21	01-Apr-21	05-Feb-21	27-Apr-21	18
ATALPST-1040	Procurement of Scraper Frame Robs	32	15-Jan-21	27-Feb-21	05-Feb-21	20-Mar-21	18
PST No. 2 & 4		84	15-Jan-21	05-May-21	05-Feb-21	27-May-21	18
ATALPST-1020	Isolation and Pre-test for PST 2 & 4	14	15-Jan-21	30-Jan-21	05-Feb-21	27-Feb-21	18
ATALPST-1070	Construction of Bamboo Scaffolding	7	01-Feb-21	08-Feb-21	01-Mar-21	08-Mar-21	18
ATALPST-1090	Replacement of Screws for the Rotatory Bridge	11	09-Feb-21	27-Feb-21	09-Mar-21	20-Mar-21	18
ATALPST-1120	Replacement of Scraper Frame Robs	25	01-Mar-21	29-Mar-21	22-Mar-21	23-Apr-21	18
ATALPST-1160	Disassembly of Scraper Drive Unit / Penstock Actuators / Valves	3	30-Mar-21	01-Apr-21	24-Apr-21	27-Apr-21	18
ATALPST-1170	Disassembly, Condition Checking of Scraper Drive Units	17	07-Apr-21	26-Apr-21	28-Apr-21	18-May-21	18
ATALPST-1180	Removal of Centre Bearing from PST 2	17	07-Apr-21	26-Apr-21	28-Apr-21	18-May-21	18
ATALPST-1190	Reconditioning and Replacement of Scraper Drive Units	17	07-Apr-21	26-Apr-21	28-Apr-21	18-May-21	18
ATALPST-1230	Return of all Drive Units and Centre Bearing for Reassembly	4	27-Apr-21	30-Apr-21	20-May-21	24-May-21	18
ATALPST-1260	Power Reconnection and Testing	3	03-May-21	05-May-21	25-May-21	27-May-21	18
PST No. 1		52	01-Mar-21	05-May-21	22-Mar-21	27-May-21	18
ATALPST-1440	Isolation and Conduct Pre-test for PST No. 1	4	01-Mar-21	04-Mar-21	22-Mar-21	25-Mar-21	18



Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
ATALPST-1450	Construction of Access and Tank Cleaning of PST No. 1	3	05-Mar-21	08-Mar-21	26-Mar-21	29-Mar-21	18
ATALPST-1460	Disassembly of Scraper Drive Unit / Penstock Actuators / Valves	21	09-Mar-21	01-Apr-21	08-Apr-21	03-May-21	22
ATALPST-1470	Construction of Bamboo Scaffolding	5	09-Mar-21	13-Mar-21	30-Mar-21	08-Apr-21	18
ATALPST-1480	Replacement of Screws for Rotatory Bridge	12	15-Mar-21	27-Mar-21	09-Apr-21	22-Apr-21	18
ATALPST-1490	Replacement of Scraper Frame Robs	8	29-Mar-21	10-Apr-21	23-Apr-21	03-May-21	18
ATALPST-1500	Reconditioning and Replacement of Scraper Drive Units	13	12-Apr-21	26-Apr-21	04-May-21	18-May-21	18
ATALPST-1510	Return of all Drive Units and Centre Bearing for Reassembly	4	27-Apr-21	30-Apr-21	20-May-21	24-May-21	18
ATALPST-1520	Power Reconnection and Testing	3	03-May-21	05-May-21	25-May-21	27-May-21	18
PST No. 3		54	06-May-21	10-Jul-21	28-May-21	31-Jul-21	18
ATALPST-1280	Switch Duty from PST 1 to PST 2 or 4	2	06-May-21	07-May-21	28-May-21	29-May-21	18
ATALPST-1300	Isolation and Pre-test for PST 1 & 3	1	08-May-21	08-May-21	31-May-21	31-May-21	18
ATALPST-1310	Drain Sewage and Tank Cleaning for PST 1	4	10-May-21	13-May-21	03-Jun-21	07-Jun-21	20
ATALPST-1320	Construction of Bamboo Scaffolding	6	10-May-21	15-May-21	01-Jun-21	07-Jun-21	18
ATALPST-1330	Replacement of Screws for the Rotatory Bridge	7	17-May-21	25-May-21	08-Jun-21	16-Jun-21	18
ATALPST-1360	Replacement of Scraper Frambe Robs	18	26-May-21	16-Jun-21	17-Jun-21	08-Jul-21	18
ATALPST-1380	Disassembly of Scraper Drive Unit / Penstock Actuators / Valves	3	17-Jun-21	19-Jun-21	09-Jul-21	12-Jul-21	18
ATALPST-1390	Reconditioning and Replacement of Scraper Drive Units	14	17-Jun-21	03-Jul-21	09-Jul-21	24-Jul-21	18
ATALPST-1400	Disassembly, Condition Checking of Scraper Drive Units	11	21-Jun-21	03-Jul-21	13-Jul-21	24-Jul-21	18
ATALPST-1420	Return of all Drive Units and Centre Bearing for Reassembly	3	05-Jul-21	07-Jul-21	26-Jul-21	28-Jul-21	18
ATALPST-1430	Power Reconnection and Testing	3	08-Jul-21	10-Jul-21	29-Jul-21	31-Jul-21	18
Detritors 1 & 2		179	09-Nov-20	23-Jun-21	16-Dec-20	31-Jul-21	32
ATALPST-1010	Method Statement / PMAC Submission and Approval for Detritor	57	09-Nov-20	16-Jan-21	16-Dec-20	02-Mar-21	32
Detritor No. 2		73	18-Jan-21	23-Apr-21	03-Mar-21	02-Jun-21	32
ATALPST-1050	Isolation of Detritor No. 2 and Conduct Pre-test	17	18-Jan-21	05-Feb-21	03-Mar-21	22-Mar-21	32
ATALPST-1080	Pump out sewage and tank cleaning	6	06-Feb-21	19-Feb-21	23-Mar-21	29-Mar-21	32
ATALPST-1100	Condition checking for Scrapers/ Classifiers/ Mixer/ Penstocks/ Valves	2	20-Feb-21	22-Feb-21	30-Mar-21	31-Mar-21	32
ATALPST-1110	Disassembly of Unit and transfer Workshop for Overhaul	8	23-Feb-21	03-Mar-21	01-Apr-21	14-Apr-21	32
ATALPST-1140	Condition Checking, Replacement of Parts, and Reassembly	29	04-Mar-21	10-Apr-21	15-Apr-21	20-May-21	32
ATALPST-1150	Reconditioning at YLSTW and Replacement of Parts	29	04-Mar-21	10-Apr-21	15-Apr-21	20-May-21	32
ATALPST-1200	Final Surface Treatment	8	12-Apr-21	20-Apr-21	21-May-21	29-May-21	32
ATALPST-1210	Power Reconnection and Testing	3	21-Apr-21	23-Apr-21	31-May-21	02-Jun-21	32
Detritor No. 1		49	24-Apr-21	23-Jun-21	03-Jun-21	31-Jul-21	32
ATALPST-1220	Switch Duty to Detritor No. 2 and Isolate Detritor No. 1	2	24-Apr-21	26-Apr-21	03-Jun-21	04-Jun-21	32
ATALPST-1240	Pre-test for Detritor No. 1	1	27-Apr-21	27-Apr-21	05-Jun-21	05-Jun-21	32
ATALPST-1250	Pump out sewage and tank cleaning	4	28-Apr-21	03-May-21	07-Jun-21	10-Jun-21	32
ATALPST-1270	Condition Checking	3	04-May-21	06-May-21	11-Jun-21	15-Jun-21	32
ATALPST-1290	Disassembly of Unit and Transfer Workshop for Overhaul	8	07-May-21	15-May-21	16-Jun-21	24-Jun-21	32
ATALPST-1340	Reconditioning at YLSTW and Replacement of Parts	21	17-May-21	10-Jun-21	25-Jun-21	20-Jul-21	32
ATALPST-1350	Condition Checking, Replacement of Parts, and Reassembly	21	17-May-21	10-Jun-21	25-Jun-21	20-Jul-21	32
ATALPST-1370	Final Surface Treatment	8	11-Jun-21	21-Jun-21	21-Jul-21	29-Jul-21	32
ATALPST-1410	Power Reconnection and Testing	2	22-Jun-21	23-Jun-21	30-Jul-21	31-Jul-21	32
PST Temporary Diversion		64	24-Apr-21	12-Jul-21	29-Jul-21	13-Oct-21	78
PSTD-00A	Method Statement for Cutting of Existing Cantilever Walkway and Detritor Top Slab	25	24-Apr-21	25-May-21	29-Jul-21	26-Aug-21	78
PSTD-00B	Method Statement for Cutting of Detritor wall	25	24-Apr-21	25-May-21	29-Jul-21	26-Aug-21	78
PST Temporary Diversion 1 - Detritor to PST		58	03-May-21	12-Jul-21	10-Aug-21	13-Oct-21	78
PSTD100	Preparation Works	15	03-May-21	20-May-21	10-Aug-21	26-Aug-21	82
PSTTD1-00	Cutting of Cantilever Slab	18	26-May-21	16-Jun-21	27-Aug-21	16-Sep-21	78
PSTD105	Setting Out and Utilities Diversion	5	26-May-21	31-May-21	27-Aug-21	01-Sep-21	78
PSTTD1-45	ELS to FEL	8	01-Jun-21	09-Jun-21	02-Sep-21	10-Sep-21	78
PSTTD1-10	Installation of Remaining ELS Pipeworks and Flow Meter Chamber	8	10-Jun-21	19-Jun-21	11-Sep-21	20-Sep-21	78
PSTTD1-60	Chamber Construction against Detritor Wall	10	10-Jun-21	22-Jun-21	11-Sep-21	23-Sep-21	78
PSTTD1-15	Flow Meter Chamber Construction	10	21-Jun-21	02-Jul-21	21-Sep-21	04-Oct-21	78
PSTTD1-20	Night 1 - Detritor Shutdown for 3hrs	1	03-Jul-21	03-Jul-21	05-Oct-21	05-Oct-21	78
PSTTD1-25	Night 2 - Detritor Shutdown for 3hrs	1	05-Jul-21	05-Jul-21	06-Oct-21	06-Oct-21	78
PSTTD1-30	Close off Detritor 3A and 3B, Core hole through Detritor Wall	1	05-Jul-21	05-Jul-21	06-Oct-21	06-Oct-21	78
PSTTD1-35	Night 3 - Detritor Shutdown for 3 hrs	1	06-Jul-21	06-Jul-21	07-Oct-21	07-Oct-21	78
PSTTD1-40	Disable Detritor 3C and Divert Sewage from Detritor 3A & 3B to PST 1-4	5	07-Jul-21	12-Jul-21	08-Oct-21	13-Oct-21	78
PSTTD1-50	Backfill Temp Diversion to GL	5	07-Jul-21	12-Jul-21	08-Oct-21	13-Oct-21	78
PST Demolition Stage 1		97	07-Apr-21	28-Jul-21	24-Apr-21	30-Oct-21	81
PSTTD1-55	Demolish Detritor 3C	14	13-Jul-21	28-Jul-21	15-Oct-21	30-Oct-21	78
Demolition of PST 7 and 8		54	07-Apr-21	08-Jun-21	24-Apr-21	14-Jul-21	31
PST-1121	Purchasing Air Plug/End Cap	11	07-Apr-21	19-Apr-21	24-Apr-21	07-May-21	15
PST-1122	Subletting Work for rench Excavation for Plug 800mm	12	12-Apr-21	24-Apr-21	29-Apr-21	13-May-21	15
PST-1124	Trial Pit for 800mm Pipe	4	13-Apr-21	16-Apr-21	30-Apr-21	05-May-21	15
PST-1126	Diversion Lighting Cable	1	15-Apr-21	15-Apr-21	11-May-21	11-May-21	22
PST-1127	Termination of Signal Cable	1	15-Apr-21	15-Apr-21	11-May-21	11-May-21	21
PST-1125	Excavate Trench for Plug 800mm and Plug 350mm and 300m Pipe	8	17-Apr-21	26-Apr-21	06-May-21	14-May-21	15
PST-1123	Plug 350mm and 300mm Pipe Inside Chamber	3	20-Apr-21	22-Apr-21	11-May-21	13-May-21	18
PST-1128	Mobilisation and Setup of Plants	2	20-Apr-21	21-Apr-21	12-May-21	13-May-21	18
PST-1129	Commencement of Breaking Works	1	26-Apr-21	26-Apr-21	14-May-21	14-May-21	16
PST-3021	Demolish PST No. 7	28	26-Apr-21	29-May-21	14-May-21	17-Jun-21	15
PST-3023	Demolish PST No. 8	24	30-Apr-21	29-May-21	25-May-21	22-Jun-21	19
PST-3022	Site Formation works for PST no. 7	4	31-May-21	03-Jun-21	18-Jun-21	22-Jun-21	15
PST-3025	Demolish Primary Sludge Draw-off Chamber "34D"	6	31-May-21	05-Jun-21	08-Jul-21	14-Jul-21	33
PST-3024	Site Formation works for PST no. 8	4	04-Jun-21	08-Jun-21	23-Jun-21	26-Jun-21	16



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

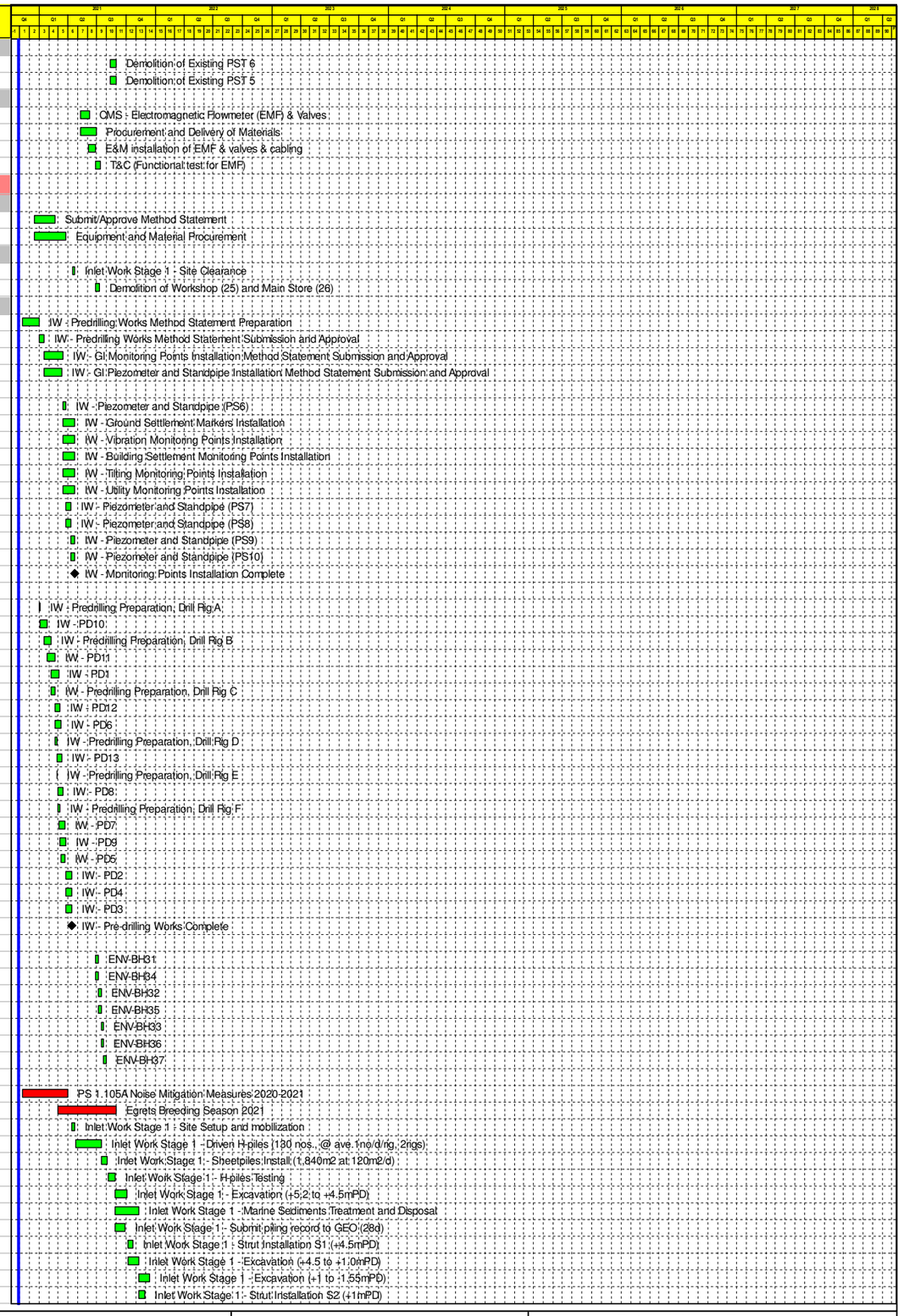
Remaining Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr1_210422
Layout : DC201910 Detailed Programme

Detailed Works Programme			
Date	Revision	Checked	Approved
15-Mar-21	Rev. 0		
21-Apr-21	Rev 1		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
PST Demolition Stage 2		15	13-Aug-21	30-Aug-21	22-Oct-21	29-Apr-22	71
PSTTD1-4080	Demolition of Existing PST 6	15	13-Aug-21	30-Aug-21	09-Apr-22	29-Apr-22	71
PSTTD1-4090	Demolition of Existing PST 5	15	13-Aug-21	30-Aug-21	22-Oct-21	09-Apr-22	57
Temporary Flowmeter Chamber (F)		50	11-May-21	10-Jul-21	21-Aug-21	21-Oct-21	85
PSTTD1-4020	CMS - Electromagnetic Flowmeter (EMF) & Valves	24	11-May-21	08-Jun-21	21-Aug-21	17-Sep-21	85
PSTTD1-4030	Procurement and Delivery of Materials	40	12-May-21	29-Jun-21	23-Aug-21	09-Oct-21	85
PSTTD1-4050	E&M installation of EMF & valves & cabling	19	03-Jun-21	25-Jun-21	13-Sep-21	06-Oct-21	85
PSTTD1-4070	T&C (Functional test for EMF)	12	26-Jun-21	10-Jul-21	07-Oct-21	21-Oct-21	85
Inlet Works (IW)		1045	09-Nov-20	11-Mar-24	09-Nov-20	11-Mar-24	0
IW Temporary Workshop, Storage Facil. and Haul Road		78	15-Dec-20	25-Mar-21	14-Jan-21	26-Apr-21	23
IW-2010	Submit/Approve Method Statement	48	15-Dec-20	18-Feb-21	14-Jan-21	17-Mar-21	23
IW-2020	Equipment and Material Procurement	78	15-Dec-20	25-Mar-21	14-Jan-21	26-Apr-21	23
IW Footprint Demolition Works		68	16-Apr-21	08-Jul-21	22-Apr-21	09-Jul-21	1
IW-2350	Inlet Work Stage 1 - Site Clearance	7	16-Apr-21	23-Apr-21	22-Apr-21	29-Apr-21	5
IW-2410	Demolition of Workshop (25) and Main Store (26)	10	26-Jun-21	08-Jul-21	28-Jun-21	09-Jul-21	1
IW Foundation & ELS Works		413	09-Nov-20	04-Mar-22	09-Nov-20	04-Mar-22	0
IW-2000	IW - Predrilling Works Method Statement Preparation	44	09-Nov-20	31-Dec-20	16-Nov-20	08-Jan-21	6
IW-2030	IW - Predrilling Works Method Statement Submission and Approval	12	02-Jan-21	15-Jan-21	09-Jan-21	22-Jan-21	6
IW-2050	IW - GI Monitoring Points Installation Method Statement Submission and Approval	45	16-Jan-21	16-Mar-21	23-Jan-21	23-Mar-21	6
IW-2060	IW - GI Piezometer and Standpipe Installation Method Statement Submission and Approval	42	16-Jan-21	12-Mar-21	27-Jan-21	23-Mar-21	9
IW GI - Monitoring Points Installation		29	16-Mar-21	22-Apr-21	24-Mar-21	29-Apr-21	6
IW-2230	IW - Piezometer and Standpipe (PS6)	9	16-Mar-21	25-Mar-21	24-Mar-21	07-Apr-21	7
IW-2240	IW - Ground Settlement Markers Installation	28	17-Mar-21	22-Apr-21	24-Mar-21	29-Apr-21	6
IW-2250	IW - Vibration Monitoring Points Installation	28	17-Mar-21	22-Apr-21	24-Mar-21	29-Apr-21	6
IW-2260	IW - Building Settlement Monitoring Points Installation	28	17-Mar-21	22-Apr-21	24-Mar-21	29-Apr-21	6
IW-2270	IW - Tilting Monitoring Points Installation	28	17-Mar-21	22-Apr-21	24-Mar-21	29-Apr-21	6
IW-2280	IW - Utility Monitoring Points Installation	28	17-Mar-21	22-Apr-21	24-Mar-21	29-Apr-21	6
IW-2290	IW - Piezometer and Standpipe (PS7)	9	26-Mar-21	09-Apr-21	08-Apr-21	17-Apr-21	7
IW-2330	IW - Piezometer and Standpipe (PS8)	9	26-Mar-21	09-Apr-21	08-Apr-21	17-Apr-21	7
IW-2340	IW - Piezometer and Standpipe (PS9)	10	10-Apr-21	21-Apr-21	19-Apr-21	29-Apr-21	7
IW-2360	IW - Piezometer and Standpipe (PS10)	10	10-Apr-21	21-Apr-21	19-Apr-21	29-Apr-21	7
IW-2370	IW - Monitoring Points Installation Complete	0		22-Apr-21		29-Apr-21	6
IW GI - Predrilling Works		77	02-Jan-21	13-Apr-21	22-Jan-21	21-Apr-21	7
IW-2040	IW - Predrilling Preparation, Drill Rig A	2	02-Jan-21	04-Jan-21	22-Jan-21	23-Jan-21	17
IW-2070	IW - PD10	18	05-Jan-21	25-Jan-21	28-Jan-21	24-Feb-21	20
IW-2080	IW - Predrilling Preparation, Drill Rig B	18	16-Jan-21	05-Feb-21	25-Jan-21	20-Feb-21	7
IW-2090	IW - PD11	15	26-Jan-21	18-Feb-21	25-Feb-21	13-Mar-21	20
IW-2100	IW - PD1	15	06-Feb-21	02-Mar-21	10-Mar-21	26-Mar-21	21
IW-2110	IW - Predrilling Preparation, Drill Rig C	5	06-Feb-21	18-Feb-21	22-Feb-21	26-Feb-21	7
IW-2130	IW - PD12	14	19-Feb-21	06-Mar-21	15-Mar-21	30-Mar-21	20
IW-2140	IW - PD6	15	19-Feb-21	08-Mar-21	27-Feb-21	16-Mar-21	7
IW-2150	IW - Predrilling Preparation, Drill Rig D	5	19-Feb-21	24-Feb-21	16-Mar-21	20-Mar-21	21
IW-2160	IW - PD13	14	25-Feb-21	12-Mar-21	01-Apr-21	21-Apr-21	30
IW-2170	IW - Predrilling Preparation, Drill Rig E	2	25-Feb-21	26-Feb-21	22-Mar-21	23-Mar-21	21
IW-2180	IW - PD8	15	27-Feb-21	16-Mar-21	31-Mar-21	21-Apr-21	27
IW-2190	IW - Predrilling Preparation, Drill Rig F	6	27-Feb-21	05-Mar-21	24-Mar-21	30-Mar-21	21
IW-2200	IW - PD7	18	03-Mar-21	23-Mar-21	27-Mar-21	21-Apr-21	21
IW-2210	IW - PD9	15	08-Mar-21	24-Mar-21	31-Mar-21	21-Apr-21	20
IW-2220	IW - PD5	13	09-Mar-21	23-Mar-21	17-Mar-21	31-Mar-21	7
IW-2300	IW - PD2	14	24-Mar-21	13-Apr-21	01-Apr-21	21-Apr-21	7
IW-2310	IW - PD4	14	24-Mar-21	13-Apr-21	01-Apr-21	21-Apr-21	7
IW-2320	IW - PD3	14	24-Mar-21	13-Apr-21	01-Apr-21	21-Apr-21	7
IW-2890	IW - Pre-drilling Works Complete	0		13-Apr-21		21-Apr-21	7
IW GI - Environmental		28	26-Jun-21	29-Jul-21	28-Jun-21	30-Jul-21	1
IW-2430	ENV-BH31	7	26-Jun-21	05-Jul-21	28-Jun-21	06-Jul-21	1
IW-2440	ENV-BH34	7	26-Jun-21	05-Jul-21	28-Jun-21	06-Jul-21	1
IW-2450	ENV-BH32	7	06-Jul-21	13-Jul-21	07-Jul-21	14-Jul-21	1
IW-2460	ENV-BH35	7	06-Jul-21	13-Jul-21	07-Jul-21	14-Jul-21	1
IW-2480	ENV-BH33	7	14-Jul-21	21-Jul-21	15-Jul-21	22-Jul-21	1
IW-2490	ENV-BH36	7	14-Jul-21	21-Jul-21	15-Jul-21	22-Jul-21	1
IW-2510	ENV-BH37	7	22-Jul-21	29-Jul-21	23-Jul-21	30-Jul-21	1
IW Foundation & ELS Stage 1		344	09-Nov-20	14-Dec-21	09-Nov-20	19-Jan-22	31
NMM-2020	PS 1.105A Noise Mitigation Measures 2020-2021	143	09-Nov-20	31-Mar-21	09-Nov-20	31-Mar-21	0
EBS-2021	Egrets Breeding Season 2021	184	01-Mar-21	31-Aug-21	01-Mar-21	31-Aug-21	0
IW-2850	Inlet Work Stage 1 - Site Setup and mobilization	7	14-Apr-21	21-Apr-21	22-Apr-21	29-Apr-21	7
IW-2380	Inlet Work Stage 1 - Driven H-piles (130 nos., @ ave.1no/d/rig, 2rigs)	65	24-Apr-21	13-Jul-21	30-Apr-21	19-Jul-21	5
IW-2420	Inlet Work Stage 1 - Sheetpiles Install (1,840m2 at 120m2/d)	18	14-Jul-21	03-Aug-21	20-Jul-21	09-Aug-21	5
IW-2470	Inlet Work Stage 1 - H-piles Testing	21	04-Aug-21	27-Aug-21	10-Aug-21	02-Sep-21	5
IW-2520	Inlet Work Stage 1 - Excavation (+5.2 to +4.5mPD)	30	28-Aug-21	04-Oct-21	03-Sep-21	09-Oct-21	5
IW-2500	Inlet Work Stage 1 - Marine Sediments Treatment and Disposal	60	28-Aug-21	09-Nov-21	29-Oct-21	10-Jan-22	50
IW-2880	Inlet Work Stage 1 - Submit piling record to GEO (28d)	30	28-Aug-21	26-Sep-21	21-Nov-21	20-Dec-21	85
IW-2540	Inlet Work Stage 1 - Strut Installation S1 (+4.5mPD)	16	05-Oct-21	23-Oct-21	10-Dec-21	30-Dec-21	56
IW-2550	Inlet Work Stage 1 - Excavation (+4.5 to +1.0mPD)	30	05-Oct-21	09-Nov-21	11-Oct-21	15-Nov-21	5
IW-2570	Inlet Work Stage 1 - Excavation (+1 to -1.55mPD)	30	10-Nov-21	14-Dec-21	16-Nov-21	20-Dec-21	5
IW-2580	Inlet Work Stage 1 - Strut Installation S2 (+1mPD)	16	10-Nov-21	27-Nov-21	31-Dec-21	19-Jan-22	42



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

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

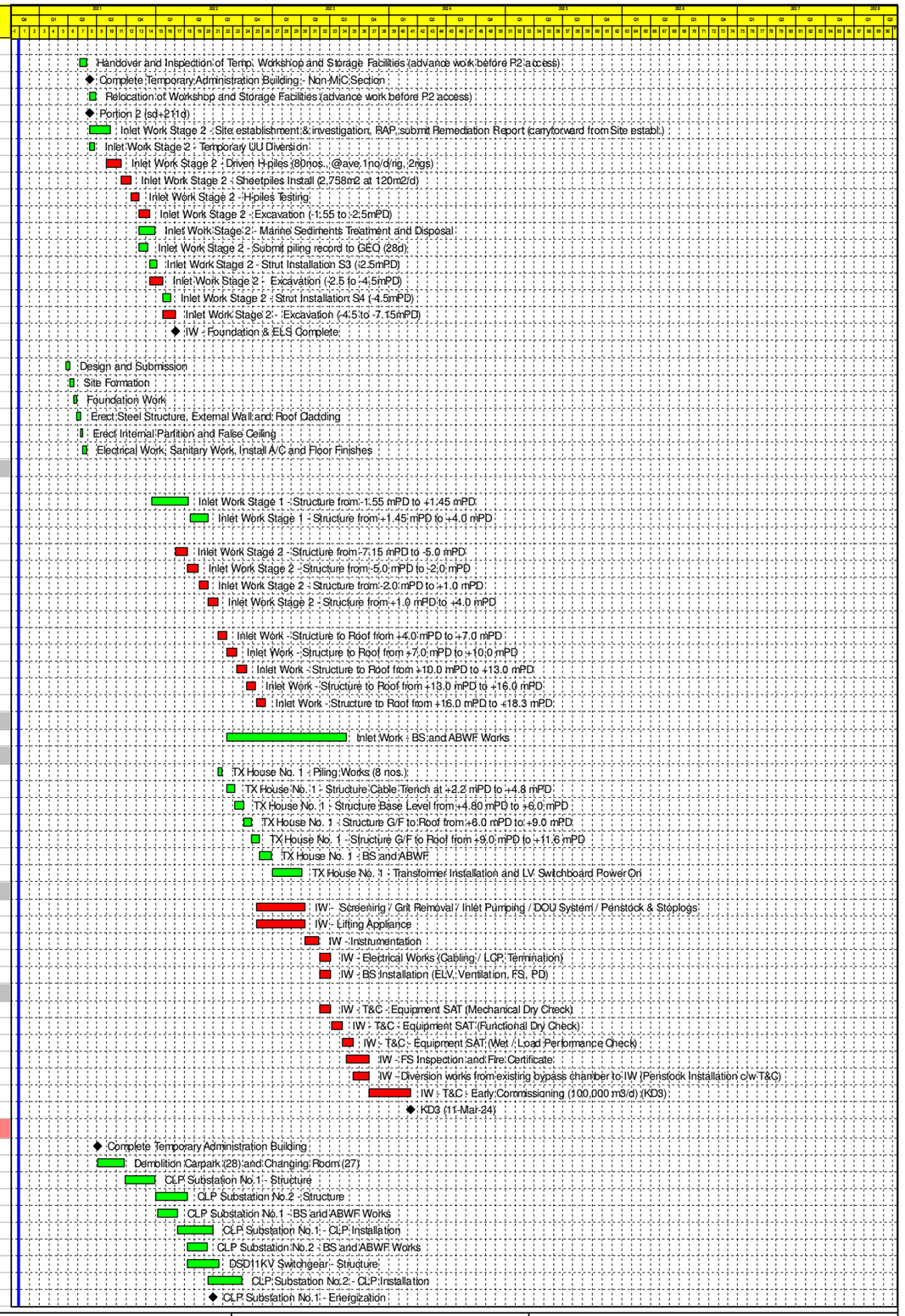
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr1_210422
Layout : DC201910 Detailed Programme

Detailed Works Programme

Date	Revision	Checked	Approved
15-Mar-21	Rev. 0		
21-Apr-21	Rev 1		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
IW Foundation & ELS Stage 2		295	26-Mar-21	04-Mar-22	27-Apr-21	04-Mar-22	0
IW-2400	Handover and Inspection of Temp. Workshop and Storage Facilities (advance work before P2 access)	18	08-May-21	29-May-21	05-Jun-21	26-Jun-21	23
IW-2125	Complete Temporary Administration Building - Non-MiC Section	0		07-Jun-21		08-Jun-21	1
IW-2390	Relocation of Workshop and Storage Facilities (advance work before P2 access)	15	08-Jun-21	25-Jun-21	09-Jun-21	26-Jun-21	1
PP2	Portion 2 (sd+211d)	0	08-Jun-21*		08-Jun-21		0
IW-2860	Inlet Work Stage 2 - Site establishment & investigation, RAP, submit Remediation Report (carryforward from Site establ.)	53	08-Jun-21	10-Aug-21	15-Jul-21	14-Sep-21	30
IW-2861	Inlet Work Stage 2 - Temporary UU Diversion	14	08-Jun-21	24-Jun-21	15-Jul-21	30-Jul-21	30
IW-2530	Inlet Work Stage 2 - Driven H-piles (80nos., @ave.1no/d/rig, 2rigs)	40	31-Jul-21	15-Sep-21	31-Jul-21	15-Sep-21	0
IW-2560	Inlet Work Stage 2 - Sheetpiles Install (2,758m2 at 120m2/d)	23	16-Sep-21	15-Oct-21	16-Sep-21	15-Oct-21	0
IW-2590	Inlet Work Stage 2 - H-piles Testing	21	16-Oct-21	09-Nov-21	16-Oct-21	09-Nov-21	0
IW-2610	Inlet Work Stage 2 - Excavation (-1.55 to -2.5mPD)	30	10-Nov-21	14-Dec-21	10-Nov-21	14-Dec-21	0
IW-2620	Inlet Work Stage 2 - Marine Sediments Treatment and Disposal	40	10-Nov-21	28-Dec-21	11-Jan-22	04-Mar-22	50
IW-2870	Inlet Work Stage 2 - Submit piling record to GEO (28d)	28	10-Nov-21	07-Dec-21	23-Nov-21	20-Dec-21	13
IW-2630	Inlet Work Stage 2 - Strut Installation S3 (-2.5mPD)	16	15-Dec-21	05-Jan-22	20-Jan-22	14-Feb-22	28
IW-2640	Inlet Work Stage 2 - Excavation (-2.5 to -4.5mPD)	30	15-Dec-21	21-Jan-22	15-Dec-21	21-Jan-22	0
IW-2650	Inlet Work Stage 2 - Strut Installation S4 (-4.5mPD)	16	22-Jan-22	16-Feb-22	15-Feb-22	04-Mar-22	14
IW-2660	Inlet Work Stage 2 - Excavation (-4.5 to -7.15mPD)	30	22-Jan-22	04-Mar-22	22-Jan-22	04-Mar-22	0
IW-2670	IW - Foundation & ELS Complete	0		04-Mar-22		04-Mar-22	0
Temporary Workshop and Storage		50	26-Mar-21	29-May-21	27-Apr-21	26-Jun-21	23
IW-2120A	Design and Submission	7	26-Mar-21	07-Apr-21	27-Apr-21	05-May-21	23
IW-2120B	Site Formation	10	08-Apr-21	19-Apr-21	06-May-21	17-May-21	23
IW-2120C	Foundation Work	7	20-Apr-21	27-Apr-21	18-May-21	26-May-21	23
IW-2120D	Erect Steel Structure, External Wall and Roof Cladding	10	28-Apr-21	10-May-21	27-May-21	07-Jun-21	23
IW-2120E	Erect Internal Partition and False Ceiling	6	11-May-21	17-May-21	08-Jun-21	15-Jun-21	23
IW-2120F	Electrical Work, Sanitary Work, Install A/C and Floor Finishes	10	18-May-21	29-May-21	16-Jun-21	26-Jun-21	23
IW Civil and Structural Works		286	20-Dec-21	10-Dec-22	21-Dec-21	10-Dec-22	0
IW Structure Stage 1 (to G/F +4.0mPD)		135	20-Dec-21	13-Jun-22	21-Dec-21	14-Jun-22	1
IW-2600	Inlet Work Stage 1 - Structure from -1.55 mPD to +1.45 mPD	90	20-Dec-21	14-Apr-22	21-Dec-21	19-Apr-22	1
IW-2690	Inlet Work Stage 1 - Structure from +1.45 mPD to +4.0 mPD	45	19-Apr-22	13-Jun-22	20-Apr-22	14-Jun-22	1
IW Structure Stage 2 (to G/F +4.0mPD)		105	05-Mar-22	14-Jul-22	05-Mar-22	14-Jul-22	0
IW-2680	Inlet Work Stage 2 - Structure from -7.15 mPD to -5.0 mPD	30	05-Mar-22	09-Apr-22	05-Mar-22	09-Apr-22	0
IW-2700	Inlet Work Stage 2 - Structure from -5.0 mPD to -2.0 mPD	25	11-Apr-22	14-May-22	11-Apr-22	14-May-22	0
IW-2710	Inlet Work Stage 2 - Structure from -2.0 mPD to +1.0 mPD	25	16-May-22	14-Jun-22	16-May-22	14-Jun-22	0
IW-2720	Inlet Work Stage 2 - Structure from +1.0 mPD to +4.0 mPD	25	15-Jun-22	14-Jul-22	15-Jun-22	14-Jul-22	0
IW Structure to Roof (+4.0mPD to +18.3mPD)		125	15-Jul-22	10-Dec-22	15-Jul-22	10-Dec-22	0
IW-2730	Inlet Work - Structure to Roof from +4.0 mPD to +7.0 mPD	25	15-Jul-22	12-Aug-22	15-Jul-22	12-Aug-22	0
IW-2740	Inlet Work - Structure to Roof from +7.0 mPD to +10.0 mPD	25	13-Aug-22	12-Sep-22	13-Aug-22	12-Sep-22	0
IW-2750	Inlet Work - Structure to Roof from +10.0 mPD to +13.0 mPD	25	13-Sep-22	13-Oct-22	13-Sep-22	13-Oct-22	0
IW-2760	Inlet Work - Structure to Roof from +13.0 mPD to +16.0 mPD	25	14-Oct-22	11-Nov-22	14-Oct-22	11-Nov-22	0
IW-2770	Inlet Work - Structure to Roof from +16.0 mPD to +18.3 mPD	25	12-Nov-22	10-Dec-22	12-Nov-22	10-Dec-22	0
IW ABWF and BS Works		300	13-Aug-22	21-Aug-23	04-Mar-23	11-Mar-24	162
IW-2780	Inlet Work - BS and ABWF Works	300	13-Aug-22	21-Aug-23	04-Mar-23	11-Mar-24	162
IW Transformer House No. 1		225	15-Jul-22	03-Apr-23	20-Oct-22	11-Mar-24	294
IW-2785	TX House No. 1 - Piling Works (8 nos.)	10	15-Jul-22	26-Jul-22	20-Oct-22	31-Oct-22	80
IW-2790	TX House No. 1 - Structure Cable Trench at +2.2 mPD to +4.8 mPD	21	13-Aug-22	06-Sep-22	13-Feb-23	08-Mar-23	145
IW-2800	TX House No. 1 - Structure Base Level from +4.80 mPD to +6.0 mPD	21	07-Sep-22	03-Oct-22	09-Mar-23	01-Apr-23	145
IW-2810	TX House No. 1 - Structure G/F to Roof from +6.0 mPD to +9.0 mPD	21	05-Oct-22	28-Oct-22	03-Apr-23	02-May-23	145
IW-2820	TX House No. 1 - Structure G/F to Roof from +9.0 mPD to +11.6 mPD	21	29-Oct-22	22-Nov-22	03-May-23	27-May-23	145
IW-2830	TX House No. 1 - BS and ABWF	30	23-Nov-22	29-Dec-22	03-Nov-23	07-Dec-23	276
IW-2840	TX House No. 1 - Transformer Installation and LV Switchboard Power On	72	03-Jan-23	03-Apr-23	08-Dec-23	11-Mar-24	274
IW E&M Works		184	12-Nov-22	04-Jul-23	12-Nov-22	04-Jul-23	0
ATAL-1000	IW - Screening / Grit Removal / Inlet Pumping / DOU System / Penstock & Stoplogs	118	12-Nov-22	13-Apr-23	12-Nov-22	13-Apr-23	0
ATAL-1010	IW - Lifting Appliance	118	12-Nov-22	13-Apr-23	12-Nov-22	13-Apr-23	0
ATAL-1020	IW - Instrumentation	36	14-Apr-23	27-May-23	14-Apr-23	27-May-23	0
ATAL-1030	IW - Electrical Works (Cabling / LCP, Termination)	30	29-May-23	04-Jul-23	29-May-23	04-Jul-23	0
ATAL-1040	IW - BS Installation (ELV, Ventilation, FS, PD)	30	29-May-23	04-Jul-23	29-May-23	04-Jul-23	0
IW E&M T&C		247	29-May-23	11-Mar-24	29-May-23	11-Mar-24	0
ATAL-1050	IW - T&C - Equipment SAT (Mechanical Dry Check)	30	29-May-23	04-Jul-23	29-May-23	04-Jul-23	0
ATAL-1060	IW - T&C - Equipment SAT (Functional Dry Check)	30	05-Jul-23	08-Aug-23	05-Jul-23	08-Aug-23	0
ATAL-1070	IW - T&C - Equipment SAT (Wet / Load Performance Check)	30	09-Aug-23	12-Sep-23	09-Aug-23	12-Sep-23	0
ATAL-1080	IW - FS Inspection and Fire Certificate	57	23-Aug-23	31-Oct-23	23-Aug-23	31-Oct-23	0
ATAL-1090	IW - Diversion works from existing bypass chamber to IW (Penstock Installation c/w T&C)	39	13-Sep-23	31-Oct-23	13-Sep-23	31-Oct-23	0
ATAL-1100	IW - T&C - Early Commissioning (100,000 m3/d) (KD3)	104	01-Nov-23	11-Mar-24	01-Nov-23	11-Mar-24	0
IW-995	KD3 (11-Mar-24)	0		11-Mar-24*		11-Mar-24	0
CLP Substations No. 1 & 2		1364	02-Jul-21	10-Nov-25	09-Jul-21	07-Nov-26	311
CLP-0900	Complete Temporary Administration Building	0		02-Jul-21		09-Jul-21	6
CLP-1000	Demolition Carpark (28) and Changing Room (27)	72	03-Jul-21	25-Sep-21	10-Jul-21	04-Oct-21	6
CLP-1010	CLP Substation No.1 - Structure	78	27-Sep-21	30-Dec-21	05-Oct-21	07-Jan-22	6
CLP-1020	CLP Substation No.2 - Structure	78	31-Dec-21	09-Apr-22	08-Jan-22	20-Apr-22	6
CLP-1040	CLP Substation No.1 - BS and ABWF Works	48	06-Jan-22	09-Mar-22	21-Apr-22	18-Jun-22	80
CLP-1070	CLP Substation No.1 - CLP Installation	90	10-Mar-22	30-Jun-22	20-Jun-22	06-Oct-22	80
CLP-1050	CLP Substation No.2 - BS and ABWF Works	48	11-Apr-22	11-Jun-22	21-Apr-22	18-Jun-22	6
CLP-1030	DSD11KV Switchgear - Structure	78	11-Apr-22	18-Jul-22	01-Apr-23	10-Jul-23	286
CLP-1080	CLP Substation No.2 - CLP Installation	90	13-Jun-22	27-Sep-22	20-Jun-22	06-Oct-22	6
CLP-1090	CLP Substation No.1 - Energization	0		30-Jun-22		06-Oct-22	80



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

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

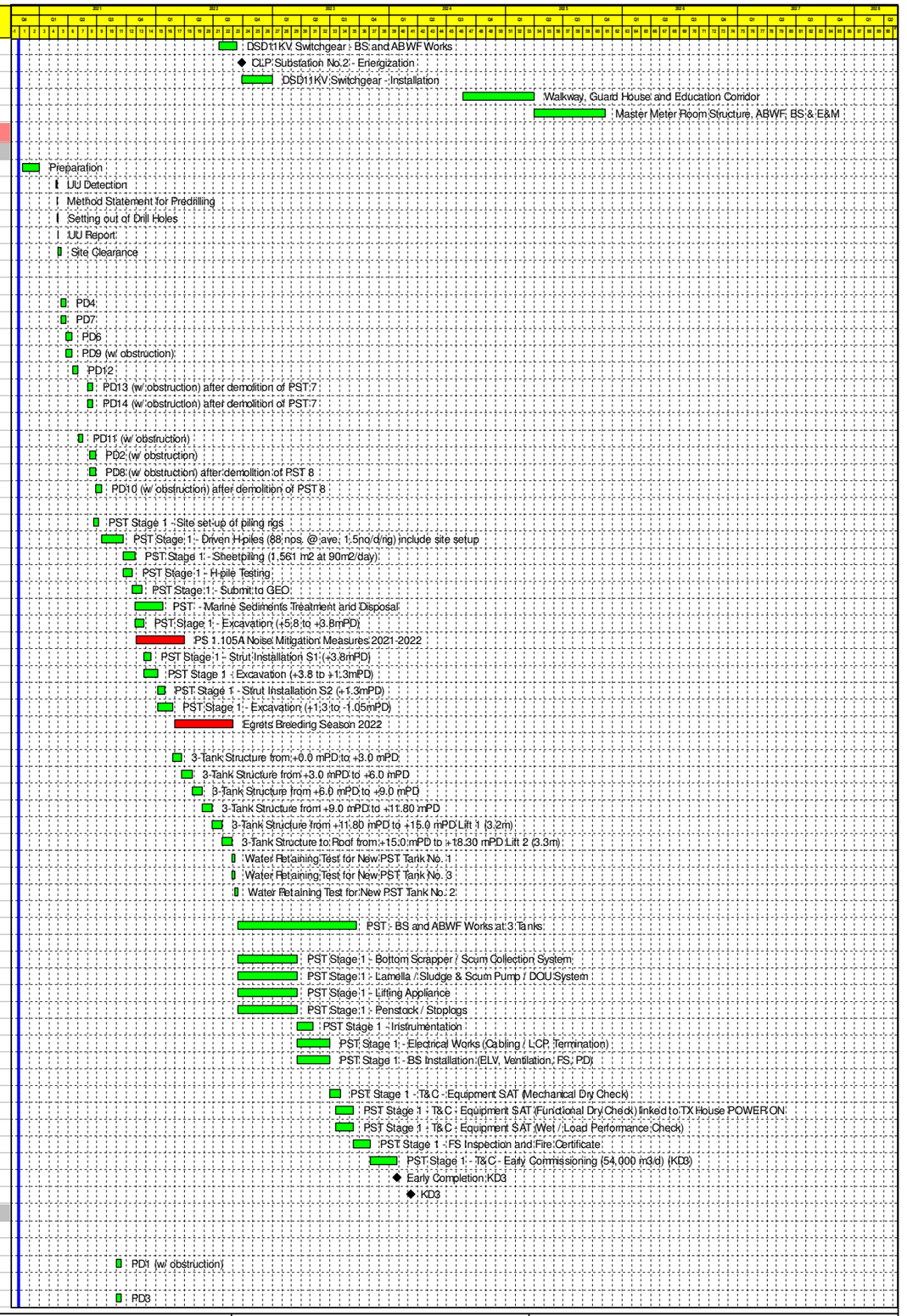
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr1_210422
Layout : DC201910 Detailed Programme

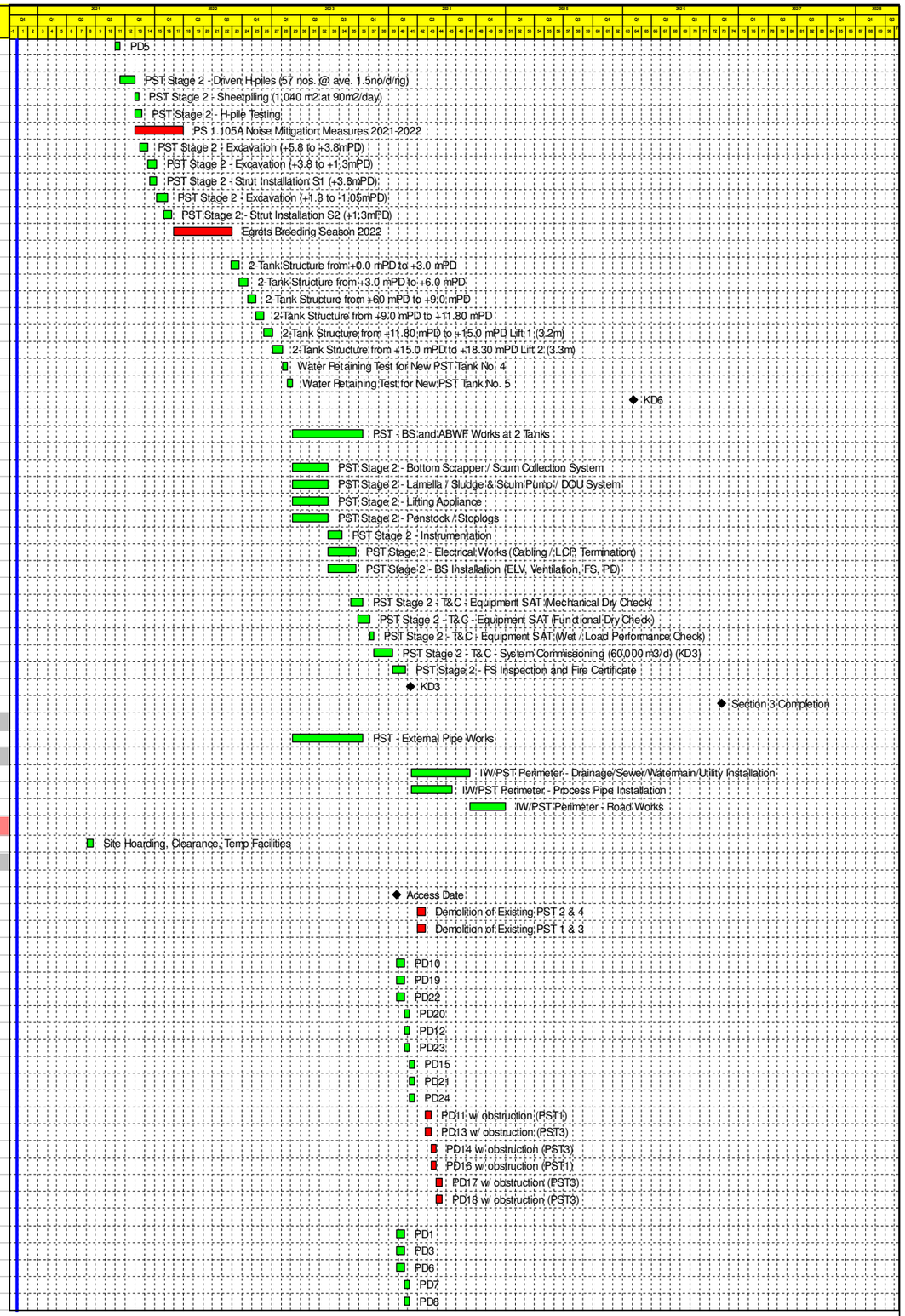
Detailed Works Programme

Date	Revision	Checked	Approved
15-Mar-21	Rev. 0		
21-Apr-21	Rev 1		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
CLP-1060	DSD11KV Switchgear - BS and ABWF Works	48	19-Jul-22	13-Sep-22	11-Jul-23	04-Sep-23	286
CLP-1100	CLP Substation No.2 - Energization	0		27-Sep-22		06-Oct-22	6
CLP-1110	DSD11KV Switchgear - Installation	78	28-Sep-22	31-Dec-22	05-Sep-23	07-Dec-23	274
CLP-1120	Walkway, Guard House and Education Corridor	180	22-Aug-24	01-Apr-25	20-Aug-25	31-Mar-26	292
CLP-1130	Master Meter Room Structure, ABWF, BS & E&M	180	02-Apr-25	10-Nov-25	01-Apr-26	07-Nov-26	292
Primary Sedimentation Tank (PST)		1878	09-Nov-20	08-Nov-26	01-Feb-21	08-Nov-26	0
PST Stage 1 of Works		1045	09-Nov-20	11-Mar-24	01-Feb-21	05-Jul-24	100
PST-1000	Preparation	44	09-Nov-20	31-Dec-20	01-Feb-21	30-Mar-21	69
PST-1010	UU Detection	3	22-Feb-21	24-Feb-21	31-Mar-21	07-Apr-21	32
PST-1020	Method Statement for Predrilling	1	25-Feb-21	25-Feb-21	08-Apr-21	08-Apr-21	32
PST-1030	Setting out of Drill Holes	2	26-Feb-21	27-Feb-21	09-Apr-21	10-Apr-21	32
PST-1040	UU Report	1	01-Mar-21	01-Mar-21	12-Apr-21	12-Apr-21	32
PST-1050	Site Clearance	6	02-Mar-21	08-Mar-21	13-Apr-21	19-Apr-21	32
PST Stage 1 - GI - Proposed Predrilling for Piling Works		101	09-Mar-21	13-Jul-21	20-Apr-21	30-Jul-21	15
Predrilling at Existing PST 8 (including Trial Pit Excavation, Level Checking, Core Inspection, SPT)		79	09-Mar-21	16-Jun-21	20-Apr-21	30-Jul-21	37
PST-1060	PD4	14	09-Mar-21	24-Mar-21	07-May-21	24-May-21	46
PST-1070	PD7	14	09-Mar-21	24-Mar-21	20-Apr-21	06-May-21	32
PST-1080	PD6	14	25-Mar-21	14-Apr-21	25-May-21	09-Jun-21	46
PST-1090	PD9 (w/ obstruction)	14	25-Mar-21	14-Apr-21	07-May-21	24-May-21	32
PST-1110	PD12	14	15-Apr-21	30-Apr-21	25-May-21	09-Jun-21	32
PST-1150	PD13 (w/ obstruction) after demolition of PST 7	14	31-May-21	16-Jun-21	15-Jul-21	30-Jul-21	37
PST-1160	PD14 (w/ obstruction) after demolition of PST 7	14	31-May-21	16-Jun-21	15-Jul-21	30-Jul-21	37
Predrilling at Existing PST 7 (including Trial Pit Excavation, Level Checking, Core Inspection, SPT)		59	03-May-21	13-Jul-21	10-Jun-21	30-Jul-21	15
PST-1130	PD11 (w/ obstruction)	14	03-May-21	18-May-21	10-Jun-21	26-Jun-21	32
PST-1140	PD2 (w/ obstruction)	14	08-Jun-21	25-Jun-21	28-Jun-21	14-Jul-21	15
PST-1190	PD8 (w/ obstruction) after demolition of PST 8	14	08-Jun-21	25-Jun-21	15-Jul-21	30-Jul-21	29
PST-1200	PD10 (w/ obstruction) after demolition of PST 8	14	25-Jun-21	13-Jul-21	15-Jul-21	30-Jul-21	15
PST Stage 1 - Foundation (At First 3 Tanks, PST 7-8 Footprint)		376	19-Jun-21	31-Aug-22	15-Jul-21	15-Sep-22	13
PST-1175	PST Stage 1 - Site set-up of piling rigs	14	19-Jun-21	06-Jul-21	15-Jul-21	30-Jul-21	21
PST-1180	PST Stage 1 - Driven H-piles (88 nos. @ ave. 1.5no/d/rig) include site setup	59	13-Jul-21	20-Sep-21	31-Jul-21	09-Oct-21	15
PST-1170	PST Stage 1 - Sheetpiling (1,561 m2 at 90m2/day)	30	20-Sep-21	28-Oct-21	11-Oct-21	15-Nov-21	15
PST-1210	PST Stage 1 - H-pile Testing	21	20-Sep-21	18-Oct-21	11-Oct-21	04-Nov-21	15
PST-3020	PST Stage 1 - Submit to GEO	28	18-Oct-21	19-Nov-21	07-Feb-22	10-Mar-22	86
PST-1230	PST - Marine Sediments Treatment and Disposal	70	28-Oct-21	21-Jan-22	24-Jun-22	15-Sep-22	188
PST-1220	PST Stage 1 - Excavation (+5.8 to +3.8mPD)	25	28-Oct-21	26-Nov-21	16-Nov-21	14-Dec-21	15
NMM-2021	PS 1.105A Noise Mitigation Measures 2021-2022	151	01-Nov-21*	31-Mar-22	01-Nov-21	31-Mar-22	0
PST-1240	PST Stage 1 - Strut Installation S1 (+3.8mPD)	18	26-Nov-21	17-Dec-21	21-Jan-22	17-Feb-22	44
PST-1250	PST Stage 1 - Excavation (+3.8 to +1.3mPD)	33	26-Nov-21	07-Jan-22	15-Dec-21	25-Jan-22	15
PST-1260	PST Stage 1 - Strut Installation S2 (+1.3mPD)	18	07-Jan-22	28-Jan-22	18-Feb-22	10-Mar-22	29
PST-1270	PST Stage 1 - Excavation (+1.3 to -1.05mPD)	32	07-Jan-22	21-Feb-22	26-Jan-22	10-Mar-22	15
EBS-2022	Egrets Breeding Season 2022	184	01-Mar-22*	31-Aug-22	01-Mar-22	31-Aug-22	0
PST Stage 1 - Structure (At First 3 Tanks, PST 7-8 Footprint)		167	21-Feb-22	14-Sep-22	11-Mar-22	10-Oct-22	20
PST-1280	3-Tank Structure from +0.0 mPD to +3.0 mPD	26	21-Feb-22	23-Mar-22	11-Mar-22	11-Apr-22	15
PST-1290	3-Tank Structure from +3.0 mPD to +6.0 mPD	25	23-Mar-22	26-Apr-22	12-Apr-22	16-May-22	15
PST-1300	3-Tank Structure from +6.0 mPD to +9.0 mPD	25	26-Apr-22	27-May-22	17-May-22	15-Jun-22	15
PST-1310	3-Tank Structure from +9.0 mPD to +11.80 mPD	25	27-May-22	27-Jun-22	16-Jun-22	15-Jul-22	15
PST-1320	3-Tank Structure from +11.80 mPD to +15.0 mPD Lift 1 (3.2m)	26	27-Jun-22	28-Jul-22	16-Jul-22	15-Aug-22	15
PST-1330	3-Tank Structure to Roof from +15.0 mPD to +18.30 mPD Lift 2 (3.3m)	26	28-Jul-22	27-Aug-22	16-Aug-22	15-Sep-22	15
PST-1340	Water Retaining Test for New PST Tank No. 1	7	27-Aug-22	05-Sep-22	22-Sep-22	29-Sep-22	20
PST-1350	Water Retaining Test for New PST Tank No. 3	7	27-Aug-22	05-Sep-22	22-Sep-22	29-Sep-22	20
PST-1360	Water Retaining Test for New PST Tank No. 2	7	05-Sep-22	14-Sep-22	30-Sep-22	10-Oct-22	20
PST Stage 1 - ABWF & BS Works		300	14-Sep-22	21-Sep-23	28-Jun-23	05-Jul-24	227
PST-1370	PST - BS and ABWF Works at 3 Tanks	300	14-Sep-22	21-Sep-23	28-Jun-23	05-Jul-24	227
PST Stage 1 - E&M Installation Works at New PST 1,2,3		230	14-Sep-22	30-Jun-23	11-Oct-22	25-Jul-23	20
ATALPST-3000	PST Stage 1 - Bottom Scrapper / Scum Collection System	150	14-Sep-22	21-Mar-23	11-Oct-22	18-Apr-23	20
ATALPST-3010	PST Stage 1 - Lamella / Sludge & Scum Pump / DOU System	150	14-Sep-22	21-Mar-23	11-Oct-22	18-Apr-23	20
ATALPST-3020	PST Stage 1 - Lifting Appliance	150	14-Sep-22	21-Mar-23	11-Oct-22	18-Apr-23	20
ATALPST-3030	PST Stage 1 - Penstock / Stoplogs	150	14-Sep-22	21-Mar-23	11-Oct-22	18-Apr-23	20
ATALPST-3040	PST Stage 1 - Instrumentation	36	21-Mar-23	08-May-23	19-Apr-23	01-Jun-23	20
ATALPST-3050	PST Stage 1 - Electrical Works (Cabling / LCP, Termination)	80	21-Mar-23	30-Jun-23	19-Apr-23	25-Jul-23	20
ATALPST-3060	PST Stage 1 - BS Installation (ELV, Ventilation, FS, PD)	80	21-Mar-23	30-Jun-23	19-Apr-23	25-Jul-23	20
PST Stage 1 - Testing and Commissioning at New PST 1,2,3		218	30-Jun-23	11-Mar-24	26-Jul-23	11-Mar-24	0
ATALPST-3070	PST Stage 1 - T&C - Equipment SAT (Mechanical Dry Check)	28	30-Jun-23	03-Aug-23	26-Jul-23	26-Aug-23	20
ATALPST-3080	PST Stage 1 - T&C - Equipment SAT (Functional Dry Check) linked to TX House POWER ON	48	19-Jul-23	13-Sep-23	12-Aug-23	09-Oct-23	20
ATALPST-3090	PST Stage 1 - T&C - Equipment SAT (Wet / Load Performance Check)	48	19-Jul-23	13-Sep-23	12-Aug-23	09-Oct-23	20
ATALPST-3100	PST Stage 1 - FS Inspection and Fire Certificate	42	13-Sep-23	04-Nov-23	10-Oct-23	28-Nov-23	20
ATALPST-3110	PST Stage 1 - T&C - Early Commissioning (54,000 m3/d) (KD3)	68	04-Nov-23	26-Jan-24	29-Nov-23	26-Feb-24	20
PKD3	Early Completion KD3	0		26-Jan-24		26-Feb-24	31
CDKD3	KD3	0		11-Mar-24*		11-Mar-24	0
PST Stage 2 of Works		1625	31-Aug-21	08-Nov-26	01-Nov-21	08-Nov-26	0
PST GI - Propose Predrilling for Piling Works		14	31-Aug-21	15-Sep-21	11-Apr-22	28-Jun-22	226
Pre-drilling @ Existing PST 6 (including Trial Pit Excavation, Level Checking, Core Inspection, SPT)		14	31-Aug-21	15-Sep-21	13-Jun-22	28-Jun-22	226
PST-2000	PD1 (w/ obstruction)	14	31-Aug-21	15-Sep-21	13-Jun-22	28-Jun-22	226
Pre-drilling @ Existing PST 5 (including Trial Pit Excavation, Level Checking, Core Inspection, SPT)		14	31-Aug-21	15-Sep-21	11-Apr-22	29-Apr-22	178
PST-2010	PD3	14	31-Aug-21	15-Sep-21	11-Apr-22	29-Apr-22	178



Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
PST-2020	PD5	14	31-Aug-21	15-Sep-21	11-Apr-22	29-Apr-22	178
PST Foundation - Stage 2 (At Remaining 2 Tanks, PST 5-6 Footprint)		300	16-Sep-21	31-Aug-22	01-Nov-21	15-Sep-22	13
PST-2030	PST Stage 2 - Driven H-piles (57 nos. @ ave. 1.5no/d/rig)	36	16-Sep-21	30-Oct-21	30-Apr-22	14-Jun-22	57
PST-2040	PST Stage 2 - Sheetpiling (1,040 m2 at 90m2/day)	12	01-Nov-21	13-Nov-21	15-Jun-22	28-Jun-22	178
PST-2060	PST Stage 2 - H-pile Testing	18	01-Nov-21	20-Nov-21	23-Jul-22	12-Aug-22	210
NMM-2105	PS 1.105A Noise Mitigation Measures 2021-2022	151	01-Nov-21*	31-Mar-22	01-Nov-21	31-Mar-22	0
PST-2050	PST Stage 2 - Excavation (+5.8 to +3.8mPD)	22	15-Nov-21	09-Dec-21	29-Jun-22	25-Jul-22	178
PST-2080	PST Stage 2 - Excavation (+3.8 to +1.3mPD)	22	10-Dec-21	07-Jan-22	26-Jul-22	19-Aug-22	178
PST-2070	PST Stage 2 - Strut Installation S1 (+3.8mPD)	14	17-Dec-21	06-Jan-22	13-Aug-22	29-Aug-22	187
PST-2100	PST Stage 2 - Excavation (+1.3 to -1.05mPD)	22	08-Jan-22	09-Feb-22	20-Aug-22	15-Sep-22	178
PST-2090	PST Stage 2 - Strut Installation S2 (+1.3mPD)	14	28-Jan-22	21-Feb-22	30-Aug-22	15-Sep-22	168
EBS-2115	Egrets Breeding Season 2022	184	01-Mar-22*	31-Aug-22	01-Mar-22	31-Aug-22	0
PST Stage 2 - Structure (At Remaining 2 Tanks,PST 5-6 Footprint)		1078	27-Aug-22	05-Feb-26	16-Sep-22	05-Feb-26	0
PST-2110	2-Tank Structure from +0.0 mPD to +3.0 mPD	21	27-Aug-22	22-Sep-22	16-Sep-22	12-Oct-22	15
PST-2120	2-Tank Structure from +3.0 mPD to +6.0 mPD	21	22-Sep-22	19-Oct-22	13-Oct-22	05-Nov-22	15
PST-2130	2-Tank Structure from +60 mPD to +9.0 mPD	21	19-Oct-22	12-Nov-22	07-Nov-22	30-Nov-22	15
PST-2140	2-Tank Structure from +9.0 mPD to +11.80 mPD	21	12-Nov-22	07-Dec-22	01-Dec-22	24-Dec-22	15
PST-2150	2-Tank Structure from +11.80 mPD to +15.0 mPD Lift 1 (3.2m)	21	07-Dec-22	04-Jan-23	28-Dec-22	28-Jan-23	15
PST-2160	2-Tank Structure from +15.0 mPD to +18.30 mPD Lift 2 (3.3m)	21	04-Jan-23	04-Feb-23	30-Jan-23	22-Feb-23	15
PST-2170	Water Retaining Test for New PST Tank No. 4	13	04-Feb-23	20-Feb-23	23-Feb-23	09-Mar-23	15
PST-2180	Water Retaining Test for New PST Tank No. 5	13	20-Feb-23	07-Mar-23	10-Mar-23	24-Mar-23	15
CDKD6	KD6	0		05-Feb-26*		05-Feb-26	0
PST Stage 2 - ABWF & BS Works		180	07-Mar-23	14-Oct-23	28-Jun-23	31-Jan-24	89
PST-2190	PST - BS and ABWF Works at 2 Tanks	180	07-Mar-23	14-Oct-23	28-Jun-23	31-Jan-24	89
PST Stage 2 - E&M Installation Works at New PST 4,5		162	07-Mar-23	21-Sep-23	25-Mar-23	11-Mar-24	135
ATALPST-5000	PST Stage 2 - Bottom Scrapper / Scum Collection System	90	07-Mar-23	28-Jun-23	25-Mar-23	17-Jul-23	15
ATALPST-5010	PST Stage 2 - Lamella / Sludge & Scum Pump / DOU System	90	07-Mar-23	28-Jun-23	25-Mar-23	17-Jul-23	15
ATALPST-5020	PST Stage 2 - Lifting Appliance	90	07-Mar-23	28-Jun-23	25-Mar-23	17-Jul-23	15
ATALPST-5030	PST Stage 2 - Penstock / Stoplogs	90	07-Mar-23	28-Jun-23	25-Mar-23	17-Jul-23	15
ATALPST-5040	PST Stage 2 - Instrumentation	36	28-Jun-23	10-Aug-23	18-Jul-23	28-Aug-23	15
ATALPST-5050	PST Stage 2 - Electrical Works (Cabling / LCP, Termination)	72	28-Jun-23	21-Sep-23	08-Dec-23	11-Mar-24	135
ATALPST-5060	PST Stage 2 - BS Installation (ELV, Ventilation, FS, PD)	72	28-Jun-23	21-Sep-23	08-Dec-23	11-Mar-24	135
PST Stage 2 - Testing and Commissioning at New PST 4,5		992	07-Sep-23	08-Nov-26	26-Sep-23	08-Nov-26	0
ATALPST-5070	PST Stage 2 - T&C - Equipment SAT (Mechanical Dry Check)	30	07-Sep-23	14-Oct-23	26-Sep-23	02-Nov-23	15
ATALPST-5080	PST Stage 2 - T&C - Equipment SAT (Functional Dry Check)	30	27-Sep-23	04-Nov-23	18-Oct-23	22-Nov-23	15
ATALPST-5090	PST Stage 2 - T&C - Equipment SAT (Wet / Load Performance Check)	9	04-Nov-23	15-Nov-23	23-Nov-23	02-Dec-23	15
ATALPST-5100	PST Stage 2 - T&C - System Commissioning (60,000 m3/d) (KD3)	48	15-Nov-23	13-Jan-24	04-Dec-23	31-Jan-24	15
ATALPST-5110	PST Stage 2 - FS Inspection and Fire Certificate	28	13-Jan-24	22-Feb-24	01-Feb-24	11-Mar-24	15
CDKD3a	KD3	0		11-Mar-24*		11-Mar-24	0
CS3	Section 3 Completion	0		08-Nov-26*		08-Nov-26	0
PST External Pipeworks		180	07-Mar-23	14-Oct-23	29-Apr-23	02-Dec-23	41
ATALPST-5120	PST - External Pipe Works	180	07-Mar-23	14-Oct-23	29-Apr-23	02-Dec-23	41
External Works - Inlet Work and Primary Sedimentation Tank Perimeter		240	12-Mar-24	31-Dec-24	14-Jan-26	07-Nov-26	544
EW-1080	IW/PST Perimeter - Drainage/Sewer/Watermain/Utility Installation	150	12-Mar-24	11-Sep-24	14-Jan-26	22-Jul-26	544
EW-1050	IW/PST Perimeter - Process Pipe Installation	102	12-Mar-24	17-Jul-24	18-Mar-26	22-Jul-26	592
EW-1090	IW/PST Perimeter - Road Works	90	12-Sep-24	31-Dec-24	23-Jul-26	07-Nov-26	544
Sludge Dewatering Building (SDB)		1605	04-Jun-21	20-Jul-26	01-Nov-21	07-Nov-26	95
SDB-1000	Site Hoarding, Clearance, Temp Facilities	17	04-Jun-21	24-Jun-21	02-Apr-24	22-Apr-24	828
SDB Foundation & ELS - Stage 1		1022	01-Nov-21	04-Feb-25	01-Nov-21	04-Feb-25	0
SDB GI - Pre-drilling Works		122	26-Jan-24	17-Jun-24	02-Apr-24	29-Jul-24	36
SDB-1220	Access Date	0	26-Jan-24		02-Apr-24		66
SDB-1320	Demolition of Existing PST 2 & 4	20	02-Apr-24	25-Apr-24	02-Apr-24	25-Apr-24	0
SDB-1100	Demolition of Existing PST 1 & 3	20	02-Apr-24	25-Apr-24	02-Apr-24	25-Apr-24	0
SDB At PST 1,3 Footprint		109	26-Jan-24	17-Jun-24	26-Apr-24	17-Jun-24	0
SDB-1010	PD10	14	26-Jan-24	19-Feb-24	26-Apr-24	13-May-24	67
SDB-1020	PD19	14	26-Jan-24	19-Feb-24	26-Apr-24	13-May-24	67
SDB-1030	PD22	14	26-Jan-24	19-Feb-24	26-Apr-24	13-May-24	67
SDB-1040	PD20	14	19-Feb-24	06-Mar-24	14-May-24	30-May-24	67
SDB-1050	PD12	14	19-Feb-24	06-Mar-24	14-May-24	30-May-24	67
SDB-1060	PD23	14	19-Feb-24	06-Mar-24	14-May-24	30-May-24	67
SDB-1070	PD15	14	06-Mar-24	22-Mar-24	31-May-24	17-Jun-24	67
SDB-1080	PD21	14	06-Mar-24	22-Mar-24	31-May-24	17-Jun-24	67
SDB-1090	PD24	14	06-Mar-24	22-Mar-24	31-May-24	17-Jun-24	67
SDB-1110	PD11 w/ obstruction (PST1)	14	26-Apr-24	13-May-24	26-Apr-24	13-May-24	0
SDB-1120	PD13 w/ obstruction (PST3)	14	26-Apr-24	13-May-24	26-Apr-24	13-May-24	0
SDB-1130	PD14 w/ obstruction (PST3)	14	14-May-24	30-May-24	14-May-24	30-May-24	0
SDB-1140	PD16 w/ obstruction (PST1)	14	14-May-24	30-May-24	14-May-24	30-May-24	0
SDB-1150	PD17 w/ obstruction (PST3)	14	31-May-24	17-Jun-24	31-May-24	17-Jun-24	0
SDB-1160	PD18 w/ obstruction (PST3)	14	31-May-24	17-Jun-24	31-May-24	17-Jun-24	0
SDB At PST 2,4 Footprint		95	26-Jan-24	30-May-24	14-May-24	29-Jul-24	49
SDB-1230	PD1	14	26-Jan-24	19-Feb-24	14-May-24	30-May-24	81
SDB-1240	PD3	14	26-Jan-24	19-Feb-24	08-Jun-24	25-Jun-24	102
SDB-1250	PD6	14	26-Jan-24	19-Feb-24	14-May-24	30-May-24	81
SDB-1290	PD7	14	19-Feb-24	06-Mar-24	31-May-24	17-Jun-24	81
SDB-1260	PD8	14	19-Feb-24	06-Mar-24	26-Jun-24	12-Jul-24	102



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

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

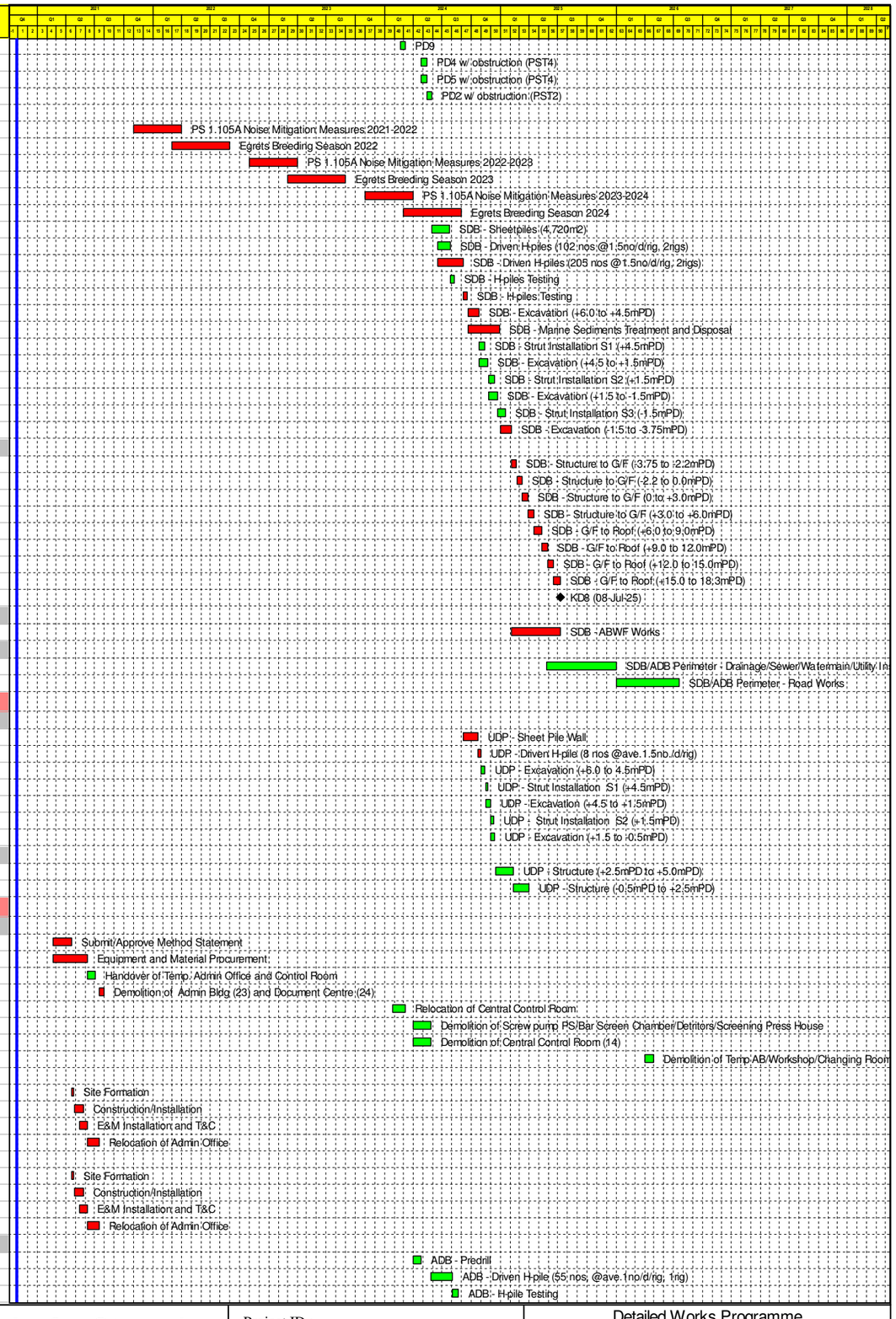
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr1_210422
Layout : DC201910 Detailed Programme

Detailed Works Programme

Date	Revision	Checked	Approved
15-Mar-21	Rev. 0		
21-Apr-21	Rev 1		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
SDB-1300	PD9	14	19-Feb-24	06-Mar-24	26-Jun-24	12-Jul-24	102
SDB-1350	PD4 w/ obstruction (PST4)	14	26-Apr-24	13-May-24	13-Jul-24	29-Jul-24	63
SDB-1360	PD5 w/ obstruction (PST4)	14	26-Apr-24	13-May-24	13-Jun-24	28-Jun-24	38
SDB-1370	PD2 w/ obstruction (PST2)	14	14-May-24	30-May-24	29-Jun-24	16-Jul-24	38
SDB Foundation - PST 1-4 Footprint		1022	01-Nov-21	04-Feb-25	01-Nov-21	04-Feb-25	0
NMM-2095	PS 1.105A Noise Mitigation Measures 2021-2022	151	01-Nov-21*	31-Mar-22	01-Nov-21	31-Mar-22	0
EBS-2105	Egrets Breeding Season 2022	184	01-Mar-22*	31-Aug-22	01-Mar-22	31-Aug-22	0
NMM-2022	PS 1.105A Noise Mitigation Measures 2022-2023	151	01-Nov-22	31-Mar-23	01-Nov-22	31-Mar-23	0
EBS-2023	Egrets Breeding Season 2023	184	01-Mar-23	31-Aug-23	01-Mar-23	31-Aug-23	0
NMM-2023	PS 1.105A Noise Mitigation Measures 2023-2024	152	01-Nov-23*	31-Mar-24	01-Nov-23	31-Mar-24	0
EBS-2024	Egrets Breeding Season 2024	184	01-Mar-24*	31-Aug-24	01-Mar-24	31-Aug-24	0
SDB-1190	SDB - Sheetpiles (4,720m2)	45	31-May-24	24-Jul-24	17-Jul-24	06-Sep-24	38
SDB-1410	SDB - Driven H-piles (102 nos @1.5no/d/rig, 2rigs)	34	18-Jun-24	27-Jul-24	30-Jul-24	06-Sep-24	35
SDB-1170	SDB - Driven H-piles (205 nos @1.5no/d/rig, 2rigs)	69	18-Jun-24	06-Sep-24	18-Jun-24	06-Sep-24	0
SDB-1420	SDB - H-piles Testing	10	29-Jul-24	08-Aug-24	07-Sep-24	19-Sep-24	35
SDB-1180	SDB - H-piles Testing	10	07-Sep-24	19-Sep-24	07-Sep-24	19-Sep-24	0
SDB-1200	SDB - Excavation (+6.0 to +4.5mPD)	29	20-Sep-24	25-Oct-24	20-Sep-24	25-Oct-24	0
SDB-1210	SDB - Marine Sediments Treatment and Disposal	83	20-Sep-24	30-Dec-24	20-Sep-24	30-Dec-24	0
SDB-1270	SDB - Strut Installation S1 (+4.5mPD)	17	26-Oct-24	14-Nov-24	28-Nov-24	17-Dec-24	28
SDB-1280	SDB - Excavation (+4.5 to +1.5mPD)	25	26-Oct-24	23-Nov-24	31-Oct-24	28-Nov-24	4
SDB-1330	SDB - Strut Installation S2 (+1.5mPD)	17	25-Nov-24	13-Dec-24	18-Dec-24	09-Jan-25	20
SDB-1340	SDB - Excavation (+1.5 to -1.5mPD)	25	25-Nov-24	23-Dec-24	29-Nov-24	30-Dec-24	4
SDB-1390	SDB - Strut Installation S3 (-1.5mPD)	17	24-Dec-24	15-Jan-25	10-Jan-25	04-Feb-25	12
SDB-1400	SDB - Excavation (-1.5 to -3.75mPD)	25	31-Dec-24	04-Feb-25	31-Dec-24	04-Feb-25	0
SDB Structure		132	05-Feb-25	08-Jul-25	05-Feb-25	08-Jul-25	0
SDB-1510	SDB - Structure to G/F (-3.75 to -2.2mPD)	15	05-Feb-25	21-Feb-25	05-Feb-25	21-Feb-25	0
SDB-1530	SDB - Structure to G/F (-2.2 to 0.0mPD)	15	22-Feb-25	11-Mar-25	22-Feb-25	11-Mar-25	0
SDB-1540	SDB - Structure to G/F (0 to +3.0mPD)	15	12-Mar-25	28-Mar-25	12-Mar-25	28-Mar-25	0
SDB-1550	SDB - Structure to G/F (+3.0 to +6.0mPD)	15	29-Mar-25	16-Apr-25	29-Mar-25	16-Apr-25	0
SDB-1560	SDB - G/F to Roof (+6.0 to 9.0mPD)	16	17-Apr-25	10-May-25	17-Apr-25	10-May-25	0
SDB-1570	SDB - G/F to Roof (+9.0 to 12.0mPD)	16	12-May-25	29-May-25	12-May-25	29-May-25	0
SDB-1580	SDB - G/F to Roof (+12.0 to 15.0mPD)	16	30-May-25	18-Jun-25	30-May-25	18-Jun-25	0
SDB-1590	SDB - G/F to Roof (+15.0 to 18.3mPD)	16	19-Jun-25	08-Jul-25	19-Jun-25	08-Jul-25	0
SDB-1600	KD8 (08-Jul-25)	0		08-Jul-25*		08-Jul-25	0
SDB ABWF Works		124	05-Feb-25	08-Jul-25	05-Feb-25	08-Jul-25	0
SDB-1520	SDB - ABWF Works	124	05-Feb-25	08-Jul-25	05-Feb-25	08-Jul-25	0
External Works -Sludge Dewatering and Administration Buildings Perimeter		338	28-May-25	20-Jul-26	15-Sep-25	07-Nov-26	92
EW-1110	SDB/ADB Perimeter - Drainage/Sewer/Watermain/Utility Installation	180	28-May-25	31-Dec-25	15-Sep-25	29-Apr-26	92
EW-1130	SDB/ADB Perimeter - Road Works	158	02-Jan-26	20-Jul-26	30-Apr-26	07-Nov-26	92
Underpass		177	07-Sep-24	01-Apr-25	07-Sep-24	08-Jul-25	84
UDP Foundation and ELS Works		85	07-Sep-24	14-Dec-24	07-Sep-24	22-Mar-25	84
UDP-1000	UDP - Sheet Pile Wall	36	07-Sep-24	22-Oct-24	07-Sep-24	22-Oct-24	0
UDP-1010	UDP - Driven H-pile (8 nos @ave.1.5no./d/rig)	8	23-Oct-24	31-Oct-24	23-Oct-24	31-Oct-24	0
UDP-1020	UDP - Excavation (+6.0 to 4.5mPD)	12	01-Nov-24	14-Nov-24	07-Feb-25	20-Feb-25	76
UDP-1030	UDP - Strut Installation S1 (+4.5mPD)	8	15-Nov-24	23-Nov-24	05-Mar-25	13-Mar-25	86
UDP-1040	UDP - Excavation (+4.5 to +1.5mPD)	14	15-Nov-24	30-Nov-24	21-Feb-25	08-Mar-25	76
UDP-1050	UDP - Strut Installation S2 (+1.5mPD)	8	02-Dec-24	10-Dec-24	14-Mar-25	22-Mar-25	80
UDP-1060	UDP - Excavation (+1.5 to -0.5mPD)	12	02-Dec-24	14-Dec-24	10-Mar-25	22-Mar-25	76
UDP Structure		84	16-Dec-24	01-Apr-25	24-Mar-25	08-Jul-25	76
UDP-1070	UDP - Structure (+2.5mPD to +5.0mPD)	42	16-Dec-24	11-Feb-25	24-Mar-25	17-May-25	76
UDP-1080	UDP - Structure (-0.5mPD to +2.5mPD)	42	12-Feb-25	01-Apr-25	19-May-25	08-Jul-25	76
Administration Building (ADB)		1625	18-Feb-21	28-Apr-26	18-Feb-21	07-Nov-26	166
Temporary Admin Office and Control Room		1625	18-Feb-21	28-Apr-26	18-Feb-21	07-Nov-26	166
ADB-1000	Submit/Approve Method Statement	48	18-Feb-21	19-Apr-21	18-Feb-21	19-Apr-21	0
ADB-1010	Equipment and Material Procurement	88	18-Feb-21	07-Jun-21	18-Feb-21	07-Jun-21	0
ADB-1040	Handover of Temp. Admin Office and Control Room	20	08-Jun-21	02-Jul-21	16-Jun-21	09-Jul-21	6
ADB-1050	Demolition of Admin Bldg (23) and Document Centre (24)	14	15-Jul-21	30-Jul-21	15-Jul-21	30-Jul-21	0
ADB-1060	Relocation of Central Control Room	30	26-Jan-24	08-Mar-24	06-May-24	11-Jun-24	74
ADB-1070	Demolition of Screw pump PS/Bar Screen Chamber/Detritors/Screening Press House	45	02-Apr-24	27-May-24	12-Jun-24	03-Aug-24	57
ADB-1080	Demolition of Central Control Room (14)	45	02-Apr-24	27-May-24	12-Jun-24	03-Aug-24	57
ADB-1210	Demolition of Temp AB/Workshop/Changing Room/Control Room	21	01-Apr-26	28-Apr-26	14-Oct-26	07-Nov-26	159
Temp Admin Office - MiC Section		70	20-Apr-21	14-Jul-21	20-Apr-21	14-Jul-21	0
ADB-1020A10	Site Formation	6	20-Apr-21	26-Apr-21	20-Apr-21	26-Apr-21	0
ADB-1020A20	Construction/Installation	24	27-Apr-21	26-May-21	27-Apr-21	26-May-21	0
ADB-1020A30	E&M Installation and T&C	20	14-May-21	07-Jun-21	14-May-21	07-Jun-21	0
ADB-1020A40	Relocation of Admin Office	30	08-Jun-21	14-Jul-21	08-Jun-21	14-Jul-21	0
Temp Admin Office - Non-MiC Section		70	20-Apr-21	14-Jul-21	20-Apr-21	14-Jul-21	0
ADB-1020A50	Site Formation	6	20-Apr-21	26-Apr-21	20-Apr-21	26-Apr-21	0
ADB-1020A60	Construction/Installation	24	27-Apr-21	26-May-21	27-Apr-21	26-May-21	0
ADB-1020A70	E&M Installation and T&C	20	14-May-21	07-Jun-21	14-May-21	07-Jun-21	0
ADB-1020A80	Relocation of Admin Office	30	08-Jun-21	14-Jul-21	08-Jun-21	14-Jul-21	0
ADB Construction of New AB and Demolition		443	02-Apr-24	31-Aug-25	11-Jul-24	06-Nov-25	58
ADB-1220	ADB - Predrill	21	02-Apr-24	26-Apr-24	11-Jul-24	03-Aug-24	81
ADB-1090	ADB - Driven H-pile (55 nos, @ave.1no/d/rig, 1rig)	55	28-May-24	01-Aug-24	05-Aug-24	09-Oct-24	57
ADB-1100	ADB - H-pile Testing	18	02-Aug-24	22-Aug-24	10-Oct-24	31-Oct-24	57



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

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

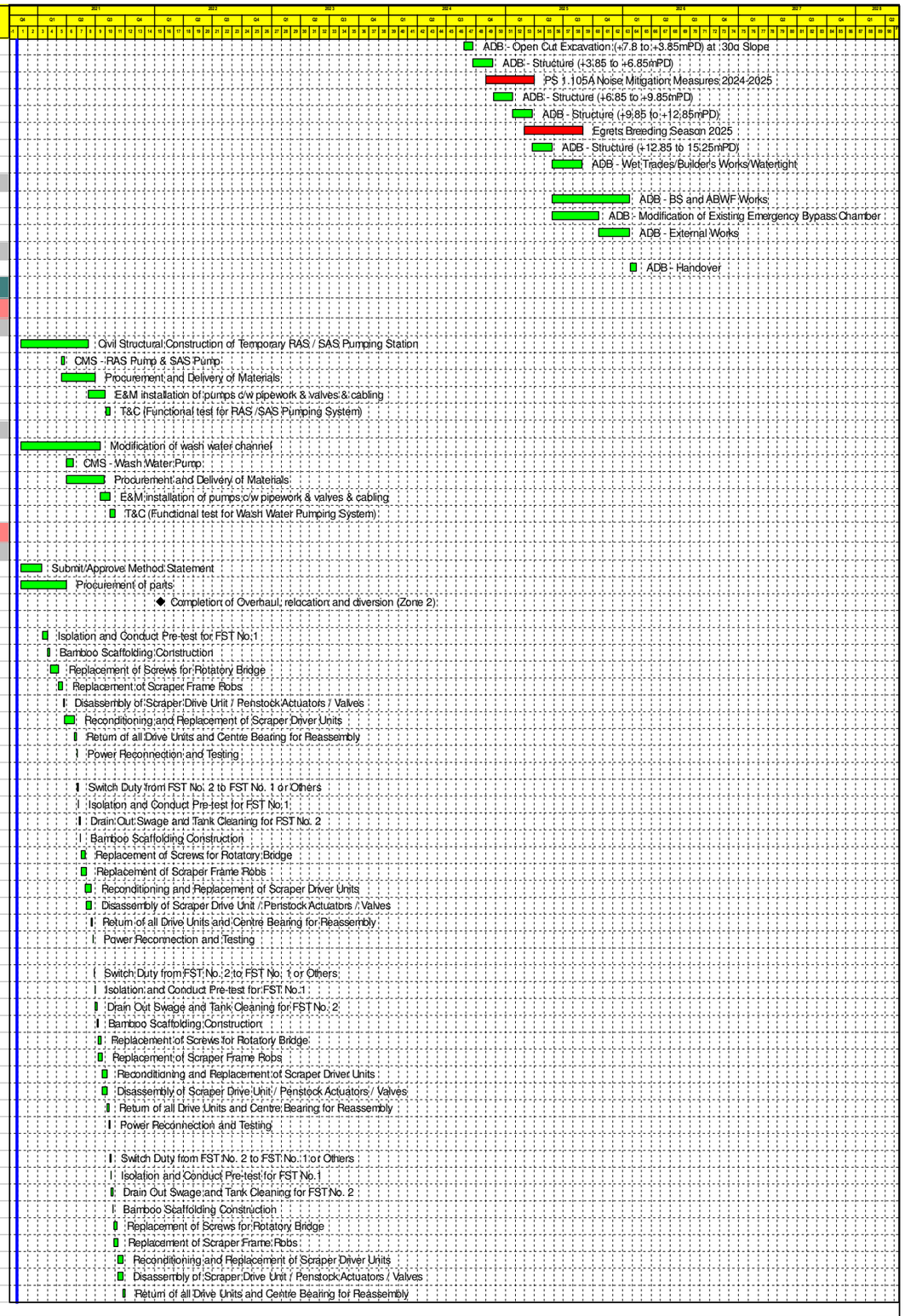
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr1_210422
Layout : DC201910 Detailed Programme

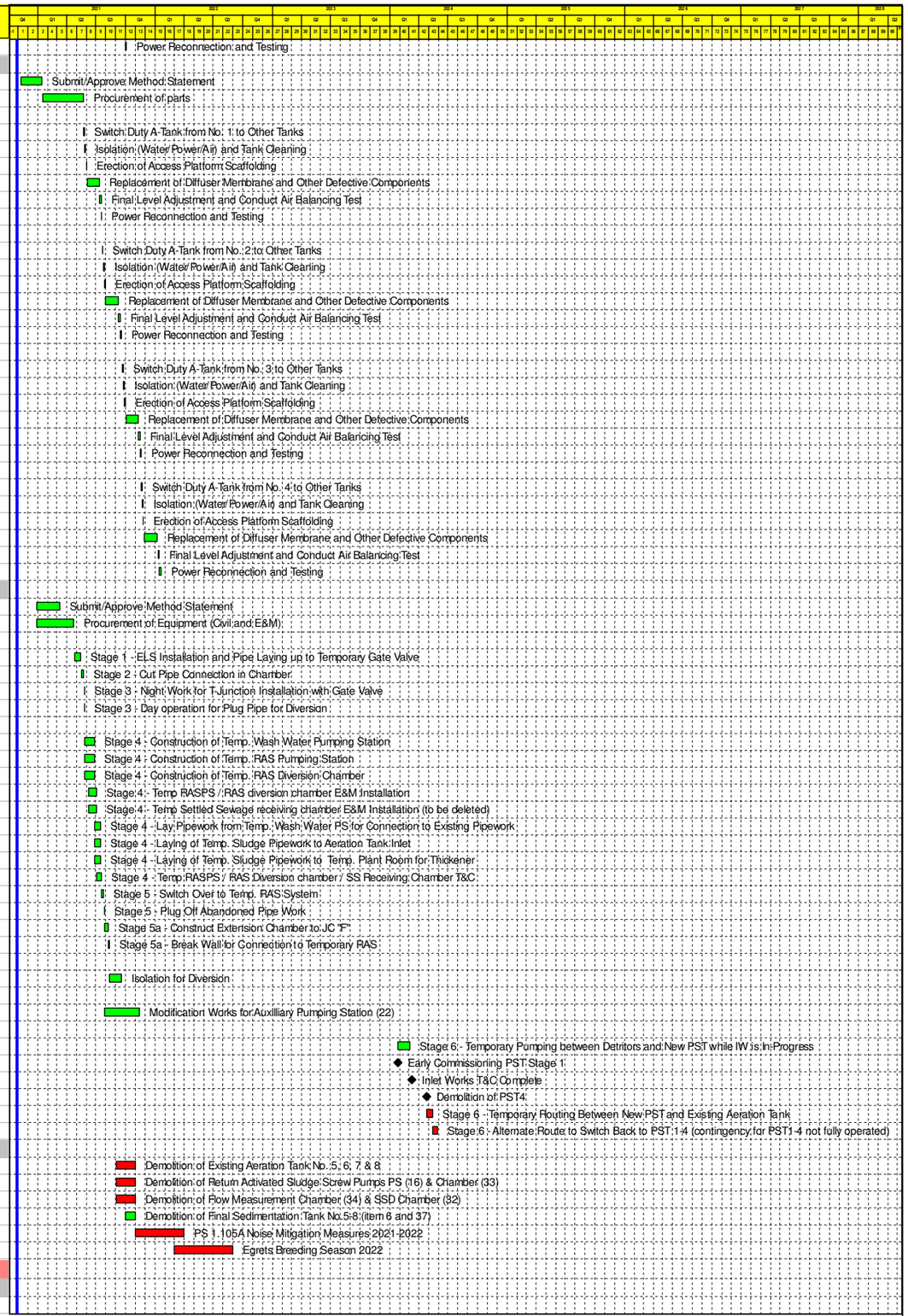
Detailed Works Programme

Date	Revision	Checked	Approved
15-Mar-21	Rev. 0		
21-Apr-21	Rev 1		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
ADB-1110	ADB - Open Cut Excavation (+7.8 to +3.85mPD) at 30o Slope	24	23-Aug-24	20-Sep-24	01-Nov-24	28-Nov-24	57
ADB-1120	ADB - Structure (+3.85 to +6.85mPD)	53	21-Sep-24	23-Nov-24	29-Nov-24	07-Feb-25	57
NMM-2024	PS 1.105A Noise Mitigation Measures 2024-2025	151	01-Nov-24*	31-Mar-25	01-Nov-24	31-Mar-25	0
ADB-1130	ADB - Structure (+6.85 to +9.85mPD)	48	25-Nov-24	22-Jan-25	08-Feb-25	04-Apr-25	57
ADB-1140	ADB - Structure (+9.85 to +12.85mPD)	48	23-Jan-25	25-Mar-25	07-Apr-25	07-Jun-25	57
EBS-2025	Egrets Breeding Season 2025	184	01-Mar-25*	31-Aug-25	01-Mar-25	31-Aug-25	0
ADB-1150	ADB - Structure (+12.85 to 15.25mPD)	48	26-Mar-25	27-May-25	09-Jun-25	04-Aug-25	57
ADB-1160	ADB - Wet Trades/Builder's Works/Watertight	78	28-May-25	28-Aug-25	05-Aug-25	06-Nov-25	57
ADB E&M Installation		200	28-May-25	24-Jan-26	27-Dec-25	23-Sep-26	194
ADB-1170	ADB - BS and ABWF Works	200	28-May-25	24-Jan-26	27-Dec-25	02-Sep-26	176
ADB-1180	ADB - Modification of Existing Emergency Bypass Chamber	120	28-May-25	18-Oct-25	19-Jan-26	20-Jun-26	194
ADB-1190	ADB - External Works	80	20-Oct-25	24-Jan-26	22-Jun-26	23-Sep-26	194
ADB Handover and Inspection		18	26-Jan-26	14-Feb-26	03-Sep-26	23-Sep-26	176
ADB-1200	ADB - Handover	18	26-Jan-26	14-Feb-26	03-Sep-26	23-Sep-26	176
Zone 2 Construction		1642	09-Nov-20	05-Feb-26	20-Nov-20	08-Nov-27	549
Advance Works		236	09-Nov-20	30-Aug-21	19-Apr-21	29-Jan-22	125
Temporary RAS / SAS Pumping Station (K)		223	09-Nov-20	14-Aug-21	05-May-21	29-Jan-22	138
Z2AW-2010	Civil Structural Construction of Temporary RAS / SAS Pumping Station	166	09-Nov-20*	08-Jun-21	05-May-21	22-Nov-21	138
Z2AW-2020	CMS - RAS Pump & SAS Pump	9	15-Mar-21*	24-Mar-21	04-Oct-21	13-Oct-21	164
Z2AW-2030	Procurement and Delivery of Materials	86	15-Mar-21	30-Jun-21	04-Oct-21	15-Jan-22	164
Z2AW-2060	E&M installation of pumps c/w pipework & valves & cabling	45	08-Jun-21	31-Jul-21	22-Nov-21	15-Jan-22	138
Z2AW-2080	T&C (Functional test for RAS /SAS Pumping System)	12	02-Aug-21	14-Aug-21	17-Jan-22	29-Jan-22	138
Wash Water Pumping Station (Q)		236	09-Nov-20	30-Aug-21	19-Apr-21	29-Jan-22	125
Z2AW-2000	Modification of wash water channel	195	09-Nov-20	13-Jul-21	19-Apr-21	09-Dec-21	125
Z2AW-2040	CMS - Wash Water Pump	13	01-Apr-21*	21-Apr-21	25-Sep-21	11-Oct-21	143
Z2AW-2050	Procurement and Delivery of Materials	91	01-Apr-21	26-Jul-21	25-Sep-21	14-Jan-22	143
Z2AW-2070	E&M installation of pumps c/w pipework & valves & cabling	28	14-Jul-21	14-Aug-21	10-Dec-21	14-Jan-22	125
Z2AW-2090	T&C (Functional test for Wash Water Pumping System)	13	16-Aug-21	30-Aug-21	15-Jan-22	29-Jan-22	125
Overhaul, Relocation and Diversion Works		1114	09-Nov-20	30-May-24	20-Nov-20	08-Nov-27	1077
Overhaul Works for FST Nos.1, 2, 3 & 4		351	09-Nov-20	18-Jan-22	16-Jan-21	29-Jan-22	10
Z2D-1000	Submit/Approve Method Statement	55	09-Nov-20	14-Jan-21	16-Jan-21	27-Mar-21	56
Z2D-1010	Procurement of parts	115	09-Nov-20	01-Apr-21	19-Feb-21	12-Jul-21	79
Z2D-4240	Completion of Overhaul, relocation and diversion (Zone 2)	0		18-Jan-22*		29-Jan-22	10
FST No. 1		83	15-Jan-21	04-May-21	29-Mar-21	12-Jul-21	56
Z2D-3000	Isolation and Conduct Pre-test for FST No.1	14	15-Jan-21	30-Jan-21	29-Mar-21	17-Apr-21	56
Z2D-3010	Bamboo Scaffolding Construction	7	01-Feb-21	08-Feb-21	19-Apr-21	26-Apr-21	56
Z2D-3020	Replacement of Screws for Rotatory Bridge	17	09-Feb-21	06-Mar-21	27-Apr-21	17-May-21	56
Z2D-3030	Replacement of Scraper Frame Robs	12	08-Mar-21	20-Mar-21	18-May-21	01-Jun-21	56
Z2D-3040	Disassembly of Scraper Drive Unit / Penstock Actuators / Valves	4	22-Mar-21	25-Mar-21	02-Jun-21	05-Jun-21	56
Z2D-3050	Reconditioning and Replacement of Scraper Driver Units	22	26-Mar-21	24-Apr-21	07-Jun-21	03-Jul-21	56
Z2D-3060	Return of all Drive Units and Centre Bearing for Reassembly	5	26-Apr-21	30-Apr-21	05-Jul-21	09-Jul-21	56
Z2D-3070	Power Reconnection and Testing	2	03-May-21	04-May-21	10-Jul-21	12-Jul-21	56
FST No. 2		42	05-May-21	24-Jun-21	13-Jul-21	30-Aug-21	56
Z2D-3080	Switch Duty from FST No. 2 to FST No. 1 or Others	2	05-May-21	06-May-21	13-Jul-21	14-Jul-21	56
Z2D-3085	Isolation and Conduct Pre-test for FST No.1	2	07-May-21	08-May-21	15-Jul-21	16-Jul-21	56
Z2D-3090	Drain Out Swage and Tank Cleaning for FST No. 2	4	10-May-21	13-May-21	17-Jul-21	21-Jul-21	56
Z2D-3095	Bamboo Scaffolding Construction	2	14-May-21	15-May-21	22-Jul-21	23-Jul-21	56
Z2D-3100	Replacement of Screws for Rotatory Bridge	10	17-May-21	28-May-21	24-Jul-21	04-Aug-21	56
Z2D-3110	Replacement of Scraper Frame Robs	12	17-May-21	31-May-21	24-Jul-21	06-Aug-21	56
Z2D-3130	Reconditioning and Replacement of Scraper Driver Units	15	29-May-21	16-Jun-21	05-Aug-21	21-Aug-21	56
Z2D-3120	Disassembly of Scraper Drive Unit / Penstock Actuators / Valves	13	01-Jun-21	16-Jun-21	07-Aug-21	21-Aug-21	56
Z2D-3140	Return of all Drive Units and Centre Bearing for Reassembly	4	17-Jun-21	21-Jun-21	23-Aug-21	26-Aug-21	56
Z2D-3150	Power Reconnection and Testing	3	22-Jun-21	24-Jun-21	27-Aug-21	30-Aug-21	56
FST No. 3		42	25-Jun-21	13-Aug-21	31-Aug-21	21-Oct-21	56
Z2D-3160	Switch Duty from FST No. 2 to FST No. 1 or Others	2	25-Jun-21	26-Jun-21	31-Aug-21	01-Sep-21	56
Z2D-3240	Isolation and Conduct Pre-test for FST No.1	2	28-Jun-21	29-Jun-21	02-Sep-21	03-Sep-21	56
Z2D-3250	Drain Out Swage and Tank Cleaning for FST No. 2	4	30-Jun-21	05-Jul-21	04-Sep-21	08-Sep-21	56
Z2D-3170	Bamboo Scaffolding Construction	2	06-Jul-21	07-Jul-21	09-Sep-21	10-Sep-21	56
Z2D-3180	Replacement of Screws for Rotatory Bridge	10	08-Jul-21	19-Jul-21	11-Sep-21	23-Sep-21	56
Z2D-3190	Replacement of Scraper Frame Robs	12	08-Jul-21	21-Jul-21	11-Sep-21	25-Sep-21	56
Z2D-3210	Reconditioning and Replacement of Scraper Driver Units	15	20-Jul-21	05-Aug-21	24-Sep-21	12-Oct-21	56
Z2D-3200	Disassembly of Scraper Drive Unit / Penstock Actuators / Valves	13	22-Jul-21	05-Aug-21	27-Sep-21	12-Oct-21	56
Z2D-3220	Return of all Drive Units and Centre Bearing for Reassembly	4	06-Aug-21	10-Aug-21	13-Oct-21	18-Oct-21	56
Z2D-3230	Power Reconnection and Testing	3	11-Aug-21	13-Aug-21	19-Oct-21	21-Oct-21	56
FST No. 4		42	14-Aug-21	04-Oct-21	22-Oct-21	09-Dec-21	56
Z2D-3260	Switch Duty from FST No. 2 to FST No. 1 or Others	2	14-Aug-21	16-Aug-21	22-Oct-21	23-Oct-21	56
Z2D-3340	Isolation and Conduct Pre-test for FST No.1	2	17-Aug-21	18-Aug-21	25-Oct-21	26-Oct-21	56
Z2D-3350	Drain Out Swage and Tank Cleaning for FST No. 2	4	19-Aug-21	23-Aug-21	27-Oct-21	30-Oct-21	56
Z2D-3270	Bamboo Scaffolding Construction	2	24-Aug-21	25-Aug-21	01-Nov-21	02-Nov-21	56
Z2D-3280	Replacement of Screws for Rotatory Bridge	10	26-Aug-21	06-Sep-21	03-Nov-21	13-Nov-21	56
Z2D-3290	Replacement of Scraper Frame Robs	12	26-Aug-21	08-Sep-21	03-Nov-21	16-Nov-21	56
Z2D-3310	Reconditioning and Replacement of Scraper Driver Units	15	07-Sep-21	24-Sep-21	15-Nov-21	01-Dec-21	56
Z2D-3300	Disassembly of Scraper Drive Unit / Penstock Actuators / Valves	13	09-Sep-21	24-Sep-21	17-Nov-21	01-Dec-21	56
Z2D-3320	Return of all Drive Units and Centre Bearing for Reassembly	4	25-Sep-21	29-Sep-21	02-Dec-21	06-Dec-21	56



Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
Z2D-3330	Power Reconnection and Testing	3	30-Sep-21	04-Oct-21	07-Dec-21	09-Dec-21	56
Overhaul Works for Aeration Tanks (A-Tank)		351	09-Nov-20	18-Jan-22	20-Nov-20	29-Jan-22	10
Z2D-3360	Submit/Approve Method Statement	55	09-Nov-20	14-Jan-21	20-Nov-20	26-Jan-21	10
Z2D-3370	Procurement of parts	98	15-Jan-21	22-May-21	27-Jan-21	03-Jun-21	10
A-Tank No. 1		47	24-May-21	19-Jul-21	04-Jun-21	30-Jul-21	10
Z2D-4000	Switch Duty A-Tank from No. 1 to Other Tanks	3	24-May-21	26-May-21	04-Jun-21	07-Jun-21	10
Z2D-4010	Isolation (Water/Power/Air) and Tank Cleaning	3	27-May-21	29-May-21	08-Jun-21	10-Jun-21	10
Z2D-4020	Erection of Access Platform Scaffolding	3	31-May-21	02-Jun-21	11-Jun-21	15-Jun-21	10
Z2D-4030	Replacement of Diffuser Membrane and Other Defective Components	31	03-Jun-21	10-Jul-21	16-Jun-21	22-Jul-21	10
Z2D-4040	Final Level Adjustment and Conduct Air Balancing Test	5	12-Jul-21	16-Jul-21	23-Jul-21	28-Jul-21	10
Z2D-4050	Power Reconnection and Testing	2	17-Jul-21	19-Jul-21	29-Jul-21	30-Jul-21	10
A-Tank No. 2		53	20-Jul-21	18-Sep-21	31-Jul-21	02-Oct-21	10
Z2D-4060	Switch Duty A-Tank from No. 2 to Other Tanks	3	20-Jul-21	22-Jul-21	31-Jul-21	03-Aug-21	10
Z2D-4070	Isolation (Water/Power/Air) and Tank Cleaning	3	23-Jul-21	26-Jul-21	04-Aug-21	06-Aug-21	10
Z2D-4080	Erection of Access Platform Scaffolding	3	27-Jul-21	29-Jul-21	07-Aug-21	10-Aug-21	10
Z2D-4090	Replacement of Diffuser Membrane and Other Defective Components	36	30-Jul-21	09-Sep-21	11-Aug-21	21-Sep-21	10
Z2D-4100	Final Level Adjustment and Conduct Air Balancing Test	5	10-Sep-21	15-Sep-21	23-Sep-21	28-Sep-21	10
Z2D-4110	Power Reconnection and Testing	3	16-Sep-21	18-Sep-21	29-Sep-21	02-Oct-21	10
A-Tank No. 3		49	20-Sep-21	18-Nov-21	04-Oct-21	30-Nov-21	10
Z2D-4120	Switch Duty A-Tank from No. 3 to Other Tanks	3	20-Sep-21	23-Sep-21	04-Oct-21	06-Oct-21	10
Z2D-4130	Isolation (Water/Power/Air) and Tank Cleaning	3	24-Sep-21	27-Sep-21	07-Oct-21	09-Oct-21	10
Z2D-4140	Erection of Access Platform Scaffolding	3	28-Sep-21	30-Sep-21	11-Oct-21	13-Oct-21	10
Z2D-4150	Replacement of Diffuser Membrane and Other Defective Components	32	02-Oct-21	09-Nov-21	15-Oct-21	20-Nov-21	10
Z2D-4160	Final Level Adjustment and Conduct Air Balancing Test	5	10-Nov-21	15-Nov-21	22-Nov-21	26-Nov-21	10
Z2D-4170	Power Reconnection and Testing	3	16-Nov-21	18-Nov-21	27-Nov-21	30-Nov-21	10
A-Tank No. 4		49	19-Nov-21	18-Jan-22	01-Dec-21	29-Jan-22	10
Z2D-4180	Switch Duty A-Tank from No. 4 to Other Tanks	3	19-Nov-21	22-Nov-21	01-Dec-21	03-Dec-21	10
Z2D-4190	Isolation (Water/Power/Air) and Tank Cleaning	2	23-Nov-21	24-Nov-21	04-Dec-21	06-Dec-21	10
Z2D-4200	Erection of Access Platform Scaffolding	2	25-Nov-21	26-Nov-21	07-Dec-21	08-Dec-21	10
Z2D-4210	Replacement of Diffuser Membrane and Other Defective Components	34	27-Nov-21	08-Jan-22	09-Dec-21	20-Jan-22	10
Z2D-4220	Final Level Adjustment and Conduct Air Balancing Test	5	10-Jan-22	14-Jan-22	21-Jan-22	26-Jan-22	10
Z2D-4230	Power Reconnection and Testing	3	15-Jan-22	18-Jan-22	27-Jan-22	29-Jan-22	10
Temporary Diversion from FST to Aeration Tanks		999	28-Dec-20	30-May-24	06-Mar-21	08-Nov-27	1032
Z2D-1100	Submit/Approve Method Statement	54	28-Dec-20	08-Mar-21	06-Mar-21	13-May-21	52
Z2D-1110	Procurement of Equipment (Civil and E&M)	90	28-Dec-20	23-Apr-21	06-Mar-21	26-Jun-21	52
Temporary Settled Sewage Diversion Chamber		26	24-Apr-21	26-May-21	14-May-21	15-Jun-21	16
Z2D-2000	Stage 1 - ELS Installation and Pipe Laying up to Temporary Gate Valve	18	24-Apr-21	15-May-21	14-May-21	04-Jun-21	16
Z2D-2010	Stage 2 - Cut Pipe Connection in Chamber	6	17-May-21	24-May-21	05-Jun-21	11-Jun-21	16
Z2D-2020	Stage 3 - Night Work for T-Junction Installation with Gate Valve	1	25-May-21	25-May-21	12-Jun-21	12-Jun-21	16
Z2D-2030	Stage 3 - Day operation for Plug Pipe for Diversion	1	26-May-21	26-May-21	15-Jun-21	15-Jun-21	16
Temporary Wash Water Pumping Station, RAS Pumping Station, RAS Diversion Chamber		65	27-May-21	12-Aug-21	16-Jun-21	31-Aug-21	16
Z2D-2040	Stage 4 - Construction of Temp. Wash Water Pumping Station	25	27-May-21	25-Jun-21	18-Jun-21	17-Jul-21	18
Z2D-2050	Stage 4 - Construction of Temp. RAS Pumping Station	25	27-May-21	25-Jun-21	16-Jun-21	15-Jul-21	16
Z2D-2060	Stage 4 - Construction of Temp. RAS Diversion Chamber	25	27-May-21	25-Jun-21	16-Jun-21	15-Jul-21	16
ATALZ2D-1150	Stage 4 - Temp RASPS / RAS diversion chamber E&M Installation	20	08-Jun-21	02-Jul-21	28-Jun-21	21-Jul-21	16
ATALZ2D-1160	Stage 4 - Temp Settled Sewage receiving chamber E&M Installation (to be deleted)	20	08-Jun-21	02-Jul-21	28-Jun-21	21-Jul-21	16
Z2D-2045	Stage 4 - Lay Pipework from Temp. Wash Water PS for Connection to Existing Pipework	15	26-Jun-21	14-Jul-21	19-Jul-21	04-Aug-21	18
Z2D-2070	Stage 4 - Laying of Temp. Sludge Pipework to Aeration Tank Inlet	15	26-Jun-21	14-Jul-21	19-Jul-21	04-Aug-21	18
Z2D-2080	Stage 4 - Laying of Temp. Sludge Pipework to Temp. Plant Room for Thickener	15	26-Jun-21	14-Jul-21	19-Jul-21	04-Aug-21	18
ATALZ2D-1170	Stage 4 - Temp RASPS / RAS Diversion chamber / SS Receiving Chamber T&C	12	03-Jul-21	16-Jul-21	22-Jul-21	04-Aug-21	16
Z2D-2110	Stage 5 - Switch Over to Temp. RAS System	7	17-Jul-21	24-Jul-21	05-Aug-21	12-Aug-21	16
Z2D-2120	Stage 5 - Plug Off Abandoned Pipe Work	2	26-Jul-21	27-Jul-21	13-Aug-21	14-Aug-21	16
Z2D-2090	Stage 5a - Construct Extension Chamber to JC "F"	10	28-Jul-21	07-Aug-21	16-Aug-21	26-Aug-21	16
Z2D-2100	Stage 5a - Break Wall for Connection to Temporary RAS	4	09-Aug-21	12-Aug-21	27-Aug-21	31-Aug-21	16
FST Tank Nos. 5-8 Diversion		30	13-Aug-21	16-Sep-21	02-Nov-21	06-Dec-21	66
Z2D-2200	Isolation for Diversion	30	13-Aug-21	16-Sep-21	02-Nov-21	06-Dec-21	66
Modification Works for Auxillary Pumping Station		90	28-Jul-21	12-Nov-21	20-Aug-21	06-Dec-21	20
Z2D-1050	Modification Works for Auxilliary Pumping Station (22)	90	28-Jul-21	12-Nov-21	20-Aug-21	06-Dec-21	20
Temporary Sewage Routing		95	26-Jan-24	30-May-24	11-Mar-24	08-Nov-27	1032
Z2D-2130	Stage 6 - Temporary Pumping between Detritors and New PST while IW is In-Progress	27	26-Jan-24	05-Mar-24	08-Oct-27	08-Nov-27	1100
Z2D-2140	Early Commissioning PST Stage 1	0		26-Jan-24		11-Mar-24	32
Z2D-2150	Inlet Works T&C Complete	0		11-Mar-24		11-Mar-24	0
Z2D-2160	Demolition of PST4	0		25-Apr-24		25-Apr-24	0
Z2D-2170	Stage 6 - Temporary Routing Between New PST and Existing Aeration Tank	14	26-Apr-24	13-May-24	26-Apr-24	13-May-24	0
Z2D-2180	Stage 6 - Alternate Route to Switch Back to PST 1-4 (contingency for PST1-4 not fully operated)	14	14-May-24	30-May-24	14-May-24	30-May-24	0
Demolition Works		313	01-Sep-21	31-Aug-22	01-Sep-21	31-Aug-22	0
Z2T-150	Demolition of Existing Aeration Tank No. 5, 6, 7 & 8	49	01-Sep-21	30-Oct-21	01-Sep-21	30-Oct-21	0
Z2T-152	Demolition of Return Activated Sludge Screw Pumps PS (16) & Chamber (33)	49	01-Sep-21	30-Oct-21	01-Sep-21	30-Oct-21	0
Z2T-154	Demolition of Flow Measurement Chamber (34) & SSD Chamber (32)	49	01-Sep-21	30-Oct-21	01-Sep-21	30-Oct-21	0
Z2T-180	Demolition of Final Sedimentation Tank No.5-8 (item 6 and 37)	25	30-Sep-21	30-Oct-21	07-Dec-21	07-Jan-22	56
NMM-2115	PS 1.105A Noise Mitigation Measures 2021-2022	151	01-Nov-21*	31-Mar-22	01-Nov-21	31-Mar-22	0
EBS-2125	Egrets Breeding Season 2022	184	01-Mar-22*	31-Aug-22	01-Mar-22	31-Aug-22	0
Mainstream Bio-Reactor & Auxillary Facility (MBR and AF)		1325	13-Nov-21	05-Feb-26	07-Dec-21	07-Nov-26	236
MBR Stage 1 and AF Structure		935	13-Nov-21	07-Nov-24	07-Dec-21	07-Nov-24	0
MBR Foundation and ELS Works		201	13-Nov-21	25-Jul-22	07-Dec-21	18-Nov-22	97



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

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

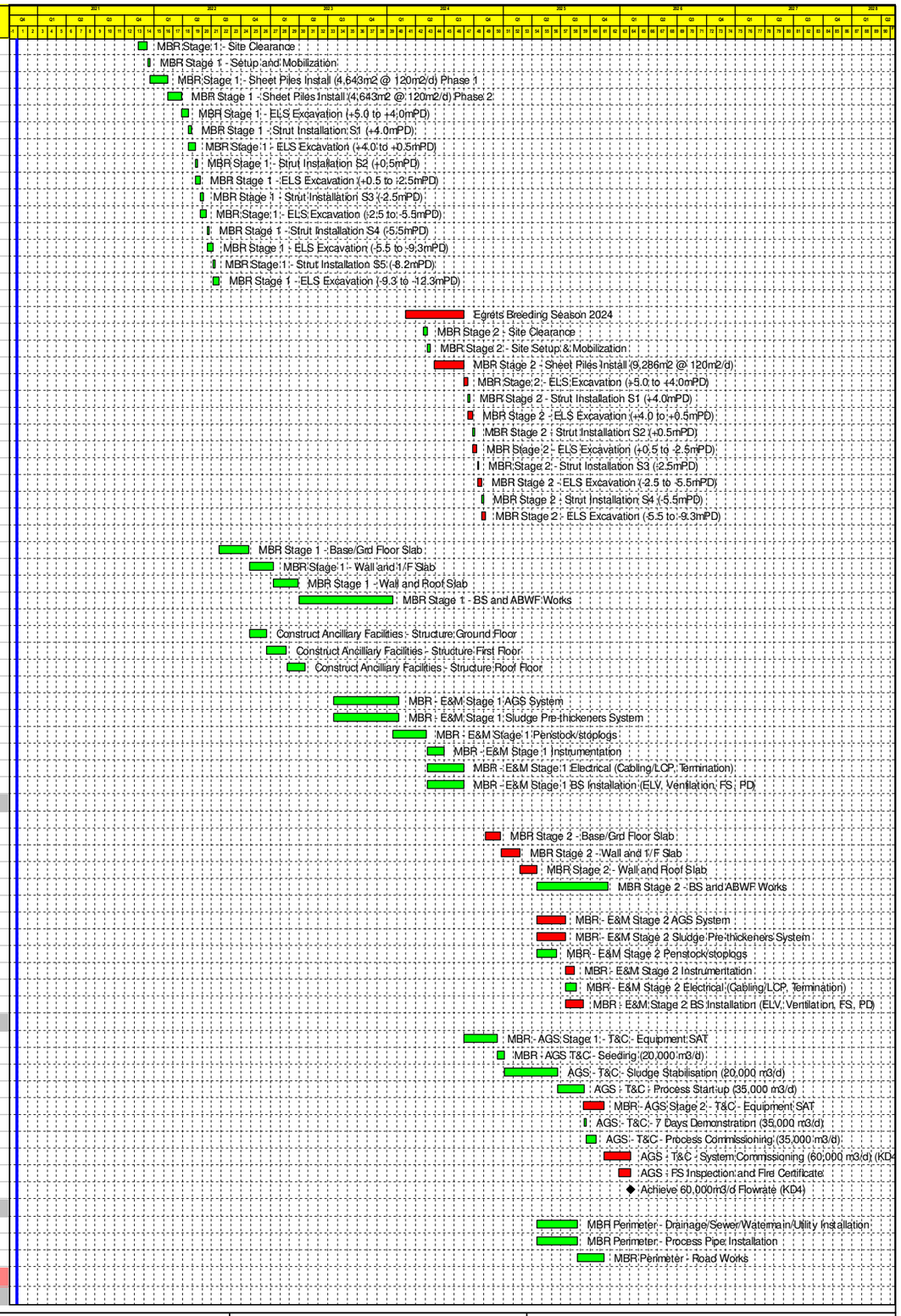
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr1_210422
Layout : DC201910 Detailed Programme

Detailed Works Programme

Date	Revision	Checked	Approved
15-Mar-21	Rev. 0		
21-Apr-21	Rev 1		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
MBR-1000	MBR Stage 1 - Site Clearance	25	13-Nov-21	11-Dec-21	07-Dec-21	07-Jan-22	20
MBR-1440	MBR Stage 1 - Setup and Mobilization	7	13-Dec-21	20-Dec-21	08-Jan-22	15-Jan-22	20
MBR-1010	MBR Stage 1 - Sheet Piles Install (4,643m2 @ 120m2/d) Phase 1	38	21-Dec-21	12-Feb-22	17-Jan-22	08-Mar-22	20
MBR-1020	MBR Stage 1 - Sheet Piles Install (4,643m2 @ 120m2/d) Phase 2	38	14-Feb-22	29-Mar-22	09-Mar-22	26-Apr-22	20
MBR-1030	MBR Stage 1 - ELS Excavation (+5.0 to +4.0mPD)	15	30-Mar-22	20-Apr-22	27-Apr-22	16-May-22	20
MBR-1040	MBR Stage 1 - Strut Installation S1 (+4.0mPD)	7	21-Apr-22	28-Apr-22	16-Jul-22	23-Jul-22	70
MBR-1050	MBR Stage 1 - ELS Excavation (+4.0 to +0.5mPD)	15	21-Apr-22	10-May-22	17-May-22	02-Jun-22	20
MBR-1060	MBR Stage 1 - Strut Installation S2 (+0.5mPD)	7	11-May-22	18-May-22	25-Jul-22	01-Aug-22	62
MBR-1070	MBR Stage 1 - ELS Excavation (+0.5 to -2.5mPD)	15	11-May-22	27-May-22	04-Jun-22	21-Jun-22	20
MBR-1080	MBR Stage 1 - Strut Installation S3 (-2.5mPD)	7	28-May-22	06-Jun-22	02-Aug-22	09-Aug-22	54
MBR-1090	MBR Stage 1 - ELS Excavation (-2.5 to -5.5mPD)	15	28-May-22	15-Jun-22	22-Jun-22	09-Jul-22	20
MBR-1100	MBR Stage 1 - Strut Installation S4 (-5.5mPD)	7	16-Jun-22	23-Jun-22	10-Aug-22	17-Aug-22	46
MBR-1110	MBR Stage 1 - ELS Excavation (-5.5 to -9.3mPD)	15	16-Jun-22	04-Jul-22	11-Jul-22	27-Jul-22	20
MBR-1120	MBR Stage 1 - Strut Installation S5 (-8.2mPD)	7	05-Jul-22	12-Jul-22	11-Nov-22	18-Nov-22	108
MBR-1130	MBR Stage 1 - ELS Excavation (-9.3 to -12.3mPD)	18	05-Jul-22	25-Jul-22	28-Jul-22	17-Aug-22	20
MBR Foundation and ELS Works Stage 2		216	01-Mar-24	07-Nov-24	01-Mar-24	07-Nov-24	0
MBR-1240	Egrets Breeding Season 2024	184	01-Mar-24*	31-Aug-24	01-Mar-24	31-Aug-24	0
MBR-1280	MBR Stage 2 - Site Clearance	9	26-Apr-24	07-May-24	11-May-24	22-May-24	12
MBR-1450	MBR Stage 2 - Site Setup & Mobilization	7	08-May-24	16-May-24	23-May-24	30-May-24	12
MBR-1290	MBR Stage 2 - Sheet Piles Install (9,286m2 @ 120m2/d)	77	31-May-24	30-Aug-24	31-May-24	30-Aug-24	0
MBR-1300	MBR Stage 2 - ELS Excavation (+5.0 to +4.0mPD)	11	31-Aug-24	12-Sep-24	31-Aug-24	12-Sep-24	0
MBR-1310	MBR Stage 2 - Strut Installation S1 (+4.0mPD)	5	13-Sep-24	19-Sep-24	16-Oct-24	21-Oct-24	25
MBR-1320	MBR Stage 2 - ELS Excavation (+4.0 to +0.5mPD)	11	13-Sep-24	26-Sep-24	13-Sep-24	26-Sep-24	0
MBR-1330	MBR Stage 2 - Strut Installation S2 (+0.5mPD)	5	27-Sep-24	03-Oct-24	22-Oct-24	26-Oct-24	19
MBR-1340	MBR Stage 2 - ELS Excavation (+0.5 to -2.5mPD)	11	27-Sep-24	10-Oct-24	27-Sep-24	10-Oct-24	0
MBR-1350	MBR Stage 2 - Strut Installation S3 (-2.5mPD)	5	12-Oct-24	17-Oct-24	28-Oct-24	01-Nov-24	13
MBR-1360	MBR Stage 2 - ELS Excavation (-2.5 to -5.5mPD)	11	12-Oct-24	24-Oct-24	12-Oct-24	24-Oct-24	0
MBR-1370	MBR Stage 2 - Strut Installation S4 (-5.5mPD)	5	25-Oct-24	30-Oct-24	02-Nov-24	07-Nov-24	7
MBR-1380	MBR Stage 2 - ELS Excavation (-5.5 to -9.3mPD)	12	25-Oct-24	07-Nov-24	25-Oct-24	07-Nov-24	0
MBR Structure Stage 1		441	26-Jul-22	20-Jan-24	18-Aug-22	20-Feb-24	20
MBR-1140	MBR Stage 1 - Base/Grd Floor Slab	77	26-Jul-22	26-Oct-22	18-Aug-22	18-Nov-22	20
MBR-1160	MBR Stage 1 - Wall and 1/F Slab	62	27-Oct-22	10-Jan-23	19-Nov-22	09-Feb-23	20
MBR-1180	MBR Stage 1 - Wall and Roof Slab	62	11-Jan-23	30-Mar-23	10-Feb-23	27-Apr-23	20
MBR-1200	MBR Stage 1 - BS and ABWF Works	240	31-Mar-23	20-Jan-24	28-Apr-23	20-Feb-24	20
Ancillary Facilities Structure Stage 1		138	27-Oct-22	20-Apr-23	13-May-23	27-Oct-23	156
MBR-1150	Construct Ancillary Facilities - Structure Ground Floor	46	27-Oct-22	19-Dec-22	13-May-23	08-Jul-23	156
MBR-1170	Construct Ancillary Facilities - Structure First Floor	46	20-Dec-22	21-Feb-23	10-Jul-23	31-Aug-23	156
MBR-1190	Construct Ancillary Facilities - Structure Roof Floor	46	22-Feb-23	20-Apr-23	01-Sep-23	27-Oct-23	156
MBR Stage 1 E&M Installation		331	18-Jul-23	29-Aug-24	28-Oct-23	23-Sep-24	20
MBR-1210	MBR - E&M Stage 1 AGS System	170	18-Jul-23	07-Feb-24	28-Oct-23	30-May-24	85
MBR-1220	MBR - E&M Stage 1 Sludge Pre-thickeners System	170	18-Jul-23	07-Feb-24	28-Oct-23	30-May-24	85
MBR-1230	MBR - E&M Stage 1 Penstock/stoplogs	80	22-Jan-24	06-May-24	21-Feb-24	30-May-24	20
MBR-1250	MBR - E&M Stage 1 Instrumentation	45	07-May-24	29-Jun-24	31-May-24	24-Jul-24	20
MBR-1260	MBR - E&M Stage 1 Electrical (Cabling/LCP, Termination)	96	07-May-24	29-Aug-24	31-May-24	23-Sep-24	20
MBR-1270	MBR - E&M Stage 1 BS Installation (ELV, Ventilation, FS, PD)	96	07-May-24	29-Aug-24	31-May-24	23-Sep-24	20
MBR Stage 2 Structure		308	08-Nov-24	24-Nov-25	08-Nov-24	05-Feb-26	60
MBR Structure Stage 2		308	08-Nov-24	24-Nov-25	08-Nov-24	05-Feb-26	60
MBR-1390	MBR Stage 2 - Base/Grd Floor Slab	40	08-Nov-24	24-Dec-24	08-Nov-24	24-Dec-24	0
MBR-1400	MBR Stage 2 - Wall and 1/F Slab	44	27-Dec-24	22-Feb-25	27-Dec-24	22-Feb-25	0
MBR-1420	MBR Stage 2 - Wall and Roof Slab	44	24-Feb-25	16-Apr-25	24-Feb-25	16-Apr-25	0
MBR-1430	MBR Stage 2 - BS and ABWF Works	180	17-Apr-25	24-Nov-25	04-Jul-25	05-Feb-26	60
MBR Stage 2 E&M Installation		118	17-Apr-25	09-Sep-25	17-Apr-25	05-Feb-26	122
ATALMBR-1030	MBR - E&M Stage 2 AGS System	70	17-Apr-25	15-Jul-25	17-Apr-25	15-Jul-25	0
ATALMBR-1040	MBR - E&M Stage 2 Sludge Pre-thickeners System	70	17-Apr-25	15-Jul-25	17-Apr-25	15-Jul-25	0
ATALMBR-1050	MBR - E&M Stage 2 Penstock/stoplogs	48	17-Apr-25	18-Jun-25	19-May-25	15-Jul-25	22
ATALMBR-1060	MBR - E&M Stage 2 Instrumentation	24	16-Jul-25	12-Aug-25	16-Jul-25	12-Aug-25	0
ATALMBR-1070	MBR - E&M Stage 2 Electrical (Cabling/LCP, Termination)	30	16-Jul-25	19-Aug-25	02-Jan-26	05-Feb-26	140
ATALMBR-1080	MBR - E&M Stage 2 BS Installation (ELV, Ventilation, FS, PD)	48	16-Jul-25	09-Sep-25	16-Jul-25	09-Sep-25	0
MBR and AF E&M T&C		450	30-Aug-24	05-Feb-26	24-Sep-24	05-Feb-26	0
ATALMBR-1000	MBR - AGS Stage 1 - T&C - Equipment SAT	87	30-Aug-24	12-Dec-24	24-Sep-24	08-Jan-25	20
ATALMBR-1010	MBR - AGS T&C - Seeding (20,000 m3/d)	16	13-Dec-24	03-Jan-25	09-Jan-25	27-Jan-25	20
ATALMBR-1020	AGS - T&C - Sludge Stabilisation (20,000 m3/d)	132	04-Jan-25	20-Jun-25	03-Feb-25	15-Jul-25	20
ATALMBR-1090	AGS - T&C - Process Start-up (35,000 m3/d)	70	21-Jun-25	11-Sep-25	16-Jul-25	06-Oct-25	20
ATALMBR-1100	MBR - AGS Stage 2 - T&C - Equipment SAT	52	10-Sep-25	12-Nov-25	10-Sep-25	12-Nov-25	0
ATALMBR-1110	AGS - T&C - 7 Days Demonstration (35,000 m3/d)	6	12-Sep-25	18-Sep-25	08-Oct-25	14-Oct-25	20
ATALMBR-1120	AGS - T&C - Process Commissioning (35,000 m3/d)	24	19-Sep-25	18-Oct-25	15-Oct-25	12-Nov-25	20
ATALMBR-1130	AGS - T&C - System Commissioning (60,000 m3/d) (KD4)	70	13-Nov-25	05-Feb-26	13-Nov-25	05-Feb-26	0
ATALMBR-1140	AGS - FS Inspection and Fire Certificate	32	30-Dec-25	05-Feb-26	30-Dec-25	05-Feb-26	0
PKD4	Achieve 60,000m3/d Flowrate (KD4)	0		05-Feb-26		05-Feb-26	0
External Works - Mainstream Bio-Reactor System Perimeter		172	17-Apr-25	14-Nov-25	14-Apr-26	07-Nov-26	288
EW-1000	MBR Perimeter - Drainage/Sewer/Watermain/Utility Installation	102	17-Apr-25	21-Aug-25	14-Apr-26	14-Aug-26	288
EW-1010	MBR Perimeter - Process Pipe Installation	102	17-Apr-25	21-Aug-25	14-Apr-26	14-Aug-26	288
EW-1030	MBR Perimeter - Road Works	70	22-Aug-25	14-Nov-25	15-Aug-26	07-Nov-26	288
Tertriary Treatment System (TTS)		1157	01-Nov-21	11-Jul-25	01-Nov-21	29-Apr-26	250
Foundation and ELS		261	01-Nov-21	31-Aug-22	01-Nov-21	06-Jan-23	110



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

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

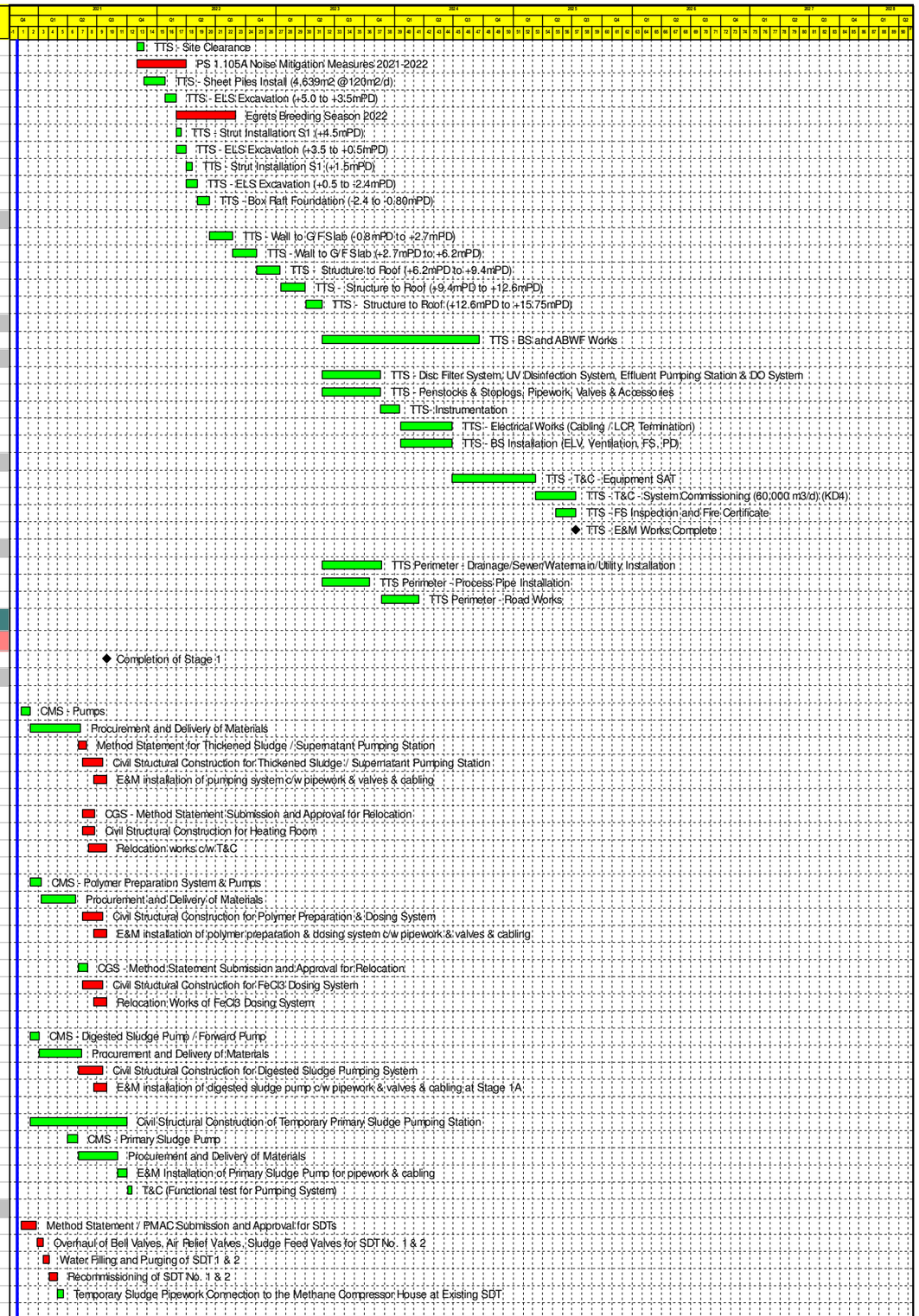
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr1_210422
Layout : DC201910 Detailed Programme

Detailed Works Programme

Date	Revision	Checked	Approved
15-Mar-21	Rev. 0		
21-Apr-21	Rev 1		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
TTS-1000	TTS - Site Clearance	18	01-Nov-21	20-Nov-21	09-Jun-22	29-Jun-22	173
NMM-2125	PS 1.105A Noise Mitigation Measures 2021-2022	151	01-Nov-21*	31-Mar-22	01-Nov-21	31-Mar-22	0
TTS-1010	TTS - Sheet Piles Install (4,639m2 @120m2/d)	52	22-Nov-21	24-Jan-22	30-Jun-22	30-Aug-22	173
TTS-1020	TTS - ELS Excavation (+5.0 to +3.5mPD)	25	25-Jan-22	01-Mar-22	31-Aug-22	29-Sep-22	173
EBS-2135	Egrets Breeding Season 2022	184	01-Mar-22*	31-Aug-22	01-Mar-22	31-Aug-22	0
TTS-1030	TTS - Strut Installation S1 (+4.5mPD)	14	02-Mar-22	17-Mar-22	28-Oct-22	12-Nov-22	195
TTS-1040	TTS - ELS Excavation (+3.5 to +0.5mPD)	25	02-Mar-22	30-Mar-22	30-Sep-22	31-Oct-22	173
TTS-1050	TTS - Strut Installation S1 (+1.5mPD)	14	31-Mar-22	20-Apr-22	14-Nov-22	29-Nov-22	184
TTS-1060	TTS - ELS Excavation (+0.5 to -2.4mPD)	25	31-Mar-22	04-May-22	01-Nov-22	29-Nov-22	173
TTS-1070	TTS - Box Raft Foundation (-2.4 to -0.80mPD)	30	05-May-22	10-Jun-22	30-Nov-22	06-Jan-23	173
Structure		280	11-Jun-22	24-May-23	07-Jan-23	19-Dec-23	173
TTS-1080	TTS - Wall to G/F Slab (-0.8mPD to +2.7mPD)	60	11-Jun-22	20-Aug-22	07-Jan-23	24-Mar-23	173
TTS-1090	TTS - Wall to G/F Slab (+2.7mPD to +6.2mPD)	60	22-Aug-22	02-Nov-22	25-Mar-23	09-Jun-23	173
TTS-1100	TTS - Structure to Roof (+6.2mPD to +9.4mPD)	60	03-Nov-22	14-Jan-23	10-Jun-23	21-Aug-23	173
TTS-1110	TTS - Structure to Roof (+9.4mPD to +12.6mPD)	60	16-Jan-23	01-Apr-23	22-Aug-23	02-Nov-23	173
TTS-1120	TTS - Structure to Roof (+12.6mPD to +15.75mPD)	40	03-Apr-23	24-May-23	03-Nov-23	19-Dec-23	173
BS & ABWF Works		390	25-May-23	17-Sep-24	14-Oct-24	05-Feb-26	409
TTS-1130	TTS - BS and ABWF Works	390	25-May-23	17-Sep-24	14-Oct-24	05-Feb-26	409
E&M Installation Works		320	25-May-23	26-Jun-24	20-Dec-23	22-Jan-25	173
TTS-1140	TTS - Disc Filter System, UV Disinfection System, Effluent Pumping Station & DO System	148	25-May-23	20-Nov-23	20-Dec-23	27-Jun-24	173
TTS-1150	TTS - Penstocks & Stoplogs, Pipework, Valves & Accessories	148	25-May-23	20-Nov-23	20-Dec-23	27-Jun-24	173
TTS-1160	TTS- Instrumentation	48	21-Nov-23	18-Jan-24	28-Jun-24	23-Aug-24	173
TTS-1170	TTS - Electrical Works (Cabling / LCP, Termination)	124	19-Jan-24	26-Jun-24	24-Aug-24	22-Jan-25	173
TTS-1180	TTS - BS Installation (ELV, Ventilation, FS, PD)	124	19-Jan-24	26-Jun-24	24-Aug-24	22-Jan-25	173
Testing and Commissioning (T&C) - KD4		306	27-Jun-24	11-Jul-25	23-Jan-25	05-Feb-26	173
TTS-1190	TTS - T&C - Equipment SAT	208	27-Jun-24	10-Mar-25	23-Jan-25	09-Oct-25	173
TTS-1200	TTS - T&C - System Commissioning (60,000 m3/d) (KD4)	98	11-Mar-25	11-Jul-25	10-Oct-25	05-Feb-26	173
TTS-1210	TTS - FS Inspection and Fire Certificate	50	13-May-25	11-Jul-25	06-Dec-25	05-Feb-26	173
TTS-1220	TTS - E&M Works Complete	0		11-Jul-25		05-Feb-26	173
External Works -Tertiary Treatment System Perimeter		240	25-May-23	16-Mar-24	07-Jul-25	29-Apr-26	621
EW-1100	TTS Perimeter - Drainage/Sewer/Watermain/Utility Installation	150	25-May-23	22-Nov-23	07-Jul-25	03-Jan-26	621
EW-1070	TTS Perimeter - Process Pipe Installation	120	25-May-23	17-Oct-23	07-Jul-25	26-Nov-25	621
EW-1120	TTS Perimeter - Road Works	90	23-Nov-23	16-Mar-24	05-Jan-26	29-Apr-26	621
Zone 3 Construction		1878	09-Nov-20	07-Nov-26	09-Nov-20	07-Nov-26	0
Stage 1 (Starting Date to July 2021)		293	09-Nov-20	15-Oct-21	09-Nov-20	03-Dec-21	42
Z3S1-3000	Completion of Stage 1	0		31-Jul-21*		31-Jul-21	0
Advance Works		273	09-Nov-20	15-Oct-21	04-Jan-21	03-Dec-21	42
Temporary Thickened Sludge / Supernatant Pumping Station		211	09-Nov-20	31-Jul-21	04-Jan-21	31-Jul-21	0
ATALZ3S1-2000	CMS - Pumps	24	09-Nov-20	05-Dec-20	04-Jan-21	30-Jan-21	45
ATALZ3S1-2010	Procurement and Delivery of Materials	120	07-Dec-20	11-May-21	01-Feb-21	06-Jul-21	45
ATALZ3S1-2060	Method Statement for Thickened Sludge / Supernatant Pumping Station	20	05-May-21	28-May-21	05-May-21	28-May-21	0
Z3S1-2070	Civil Structural Construction for Thickened Sludge / Supernatant Pumping Station	50	17-May-21	16-Jul-21	17-May-21	16-Jul-21	0
ATALZ3S1-2140	E&M installation of pumping system c/w pipework & valves & cabling	35	21-Jun-21	31-Jul-21	21-Jun-21	31-Jul-21	0
Relocation of Heater Room		63	17-May-21	31-Jul-21	17-May-21	31-Jul-21	0
ATALZ3S1-2080	CGS - Method Statement Submission and Approval for Relocation	30	17-May-21	22-Jun-21	17-May-21	22-Jun-21	0
Z3S1-2090	Civil Structural Construction for Heating Room	30	17-May-21	22-Jun-21	17-May-21	22-Jun-21	0
ATALZ3S1-2150	Relocation works c/w T&C	48	04-Jun-21	31-Jul-21	04-Jun-21	31-Jul-21	0
Temporary Polymer Preparation & Dosing System		187	07-Dec-20	31-Jul-21	01-Feb-21	31-Jul-21	0
ATALZ3S1-2020	CMS - Polymer Preparation System & Pumps	27	07-Dec-20	09-Jan-21	01-Feb-21	10-Mar-21	45
ATALZ3S1-2130	Procurement and Delivery of Materials	80	11-Jan-21	24-Apr-21	11-Mar-21	19-Jun-21	45
Z3S1-2100	Civil Structural Construction for Polymer Preparation & Dosing System	50	17-May-21	16-Jul-21	17-May-21	16-Jul-21	0
ATALZ3S1-2160	E&M installation of polymer preparation & dosing system c/w pipework & valves & cabling	35	21-Jun-21	31-Jul-21	21-Jun-21	31-Jul-21	0
Relocation of Ferric Chloride (FeCl3) Dosing System		73	05-May-21	31-Jul-21	17-May-21	31-Jul-21	0
ATALZ3S1-2040	CGS - Method Statement Submission and Approval for Relocation	22	05-May-21	31-May-21	24-May-21	18-Jun-21	15
Z3S1-2110	Civil Structural Construction for FeCl3 Dosing System	50	17-May-21	16-Jul-21	17-May-21	16-Jul-21	0
ATALZ3S1-2170	Relocation Works of FeCl3 Dosing System	36	19-Jun-21	31-Jul-21	19-Jun-21	31-Jul-21	0
Temporary Digested Sludge Pumping System and Forward Pumping Station		187	07-Dec-20	31-Jul-21	24-Feb-21	31-Jul-21	0
ATALZ3S1-2030	CMS - Digested Sludge Pump / Forward Pump	22	07-Dec-20	04-Jan-21	24-Feb-21	20-Mar-21	59
ATALZ3S1-2120	Procurement and Delivery of Materials	100	05-Jan-21	13-May-21	22-Mar-21	24-Jul-21	59
Z3S1-2050	Civil Structural Construction for Digested Sludge Pumping System	60	05-May-21	16-Jul-21	05-May-21	16-Jul-21	0
ATALZ3S1-2200	E&M installation of digested sludge pump c/w pipework & valves & cabling at Stage 1A	36	19-Jun-21	31-Jul-21	19-Jun-21	31-Jul-21	0
Temporary Primary Sludge Pumping Station (P)		249	07-Dec-20	15-Oct-21	28-Jan-21	03-Dec-21	42
Z3TD1-4010	Civil Structural Construction of Temporary Primary Sludge Pumping Station	238	07-Dec-20	30-Sep-21	28-Jan-21	20-Nov-21	42
Z3TD1-4040	CMS - Primary Sludge Pump	22	01-Apr-21	30-Apr-21	27-May-21	22-Jun-21	42
Z3TD1-4060	Procurement and Delivery of Materials	102	03-May-21	01-Sep-21	23-Jun-21	23-Oct-21	42
Z3TD1-4100	E&M Installation of Primary Sludge Pump for pipework & cabling	24	02-Sep-21	30-Sep-21	25-Oct-21	20-Nov-21	42
Z3TD1-4110	T&C (Functional test for Pumping System)	11	02-Oct-21	15-Oct-21	22-Nov-21	03-Dec-21	42
Overhaul Works At Existing SDT Footprint		202	09-Nov-20	21-Jul-21	09-Nov-20	21-Jul-21	0
ATALZ3S1-1000	Method Statement / PMAC Submission and Approval for SDTs	40	09-Nov-20	24-Dec-20	09-Nov-20	24-Dec-20	0
ATALZ3S1-1010	Overhaul of Bell Valves, Air Relief Valves, Sludge Feed Valves for SDT No. 1 & 2	16	28-Dec-20*	15-Jan-21	28-Dec-20	15-Jan-21	0
ATALZ3S1-1020	Water Filling and Purging of SDT 1 & 2	17	16-Jan-21	04-Feb-21	16-Jan-21	04-Feb-21	0
ATALZ3S1-1060	Recommissioning of SDT No. 1 & 2	14	05-Feb-21	27-Feb-21	05-Feb-21	27-Feb-21	0
Z3S1A-2040	Temporary Sludge Pipework Connection to the Methane Compressor House at Existing SDT	18	01-Mar-21	20-Mar-21	02-Mar-21	22-Mar-21	1
SDT No. 3 and 4		115	01-Mar-21	21-Jul-21	01-Mar-21	21-Jul-21	0



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

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

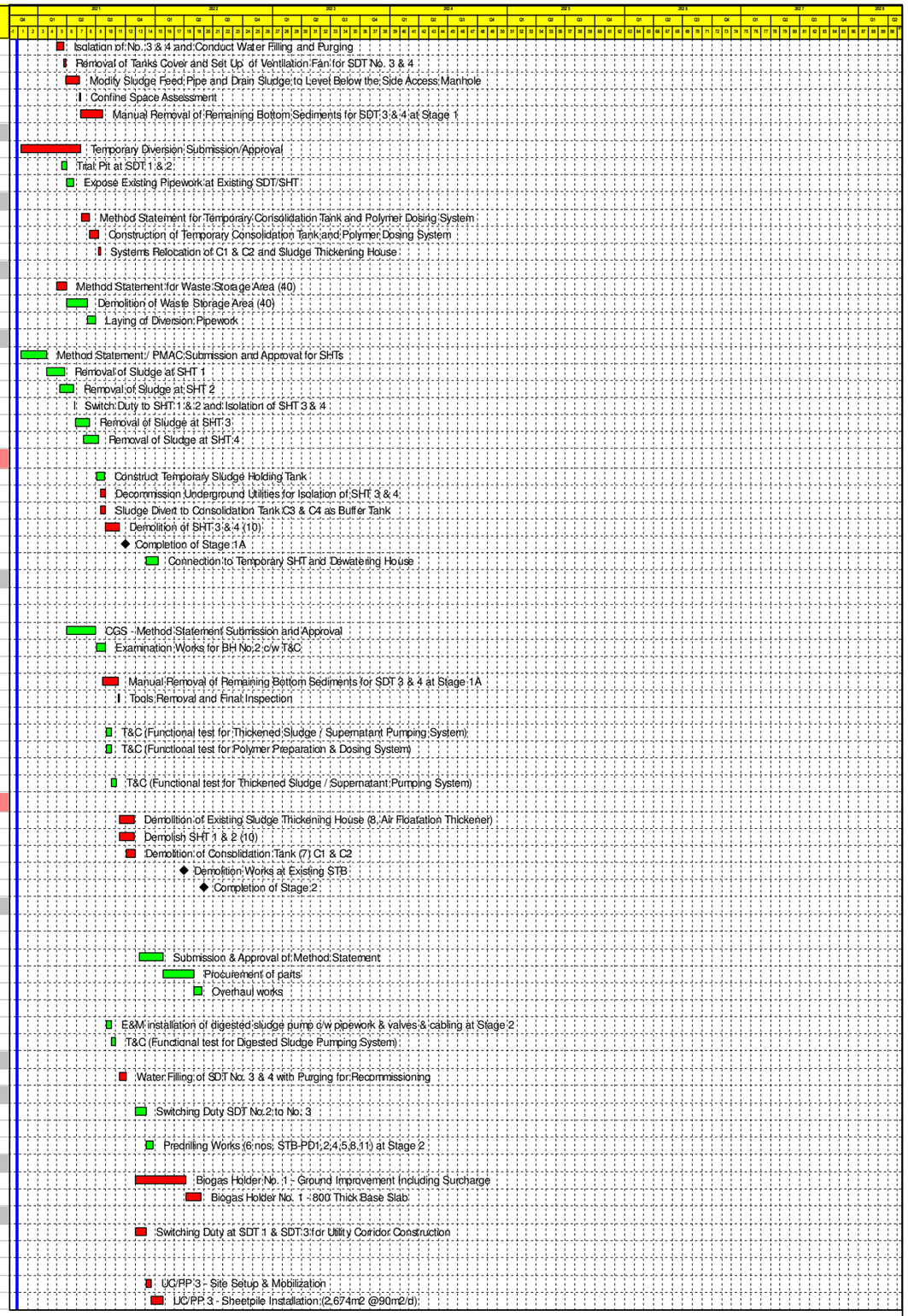
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr1_210422
Layout : DC201910 Detailed Programme

Detailed Works Programme

Date	Revision	Checked	Approved
15-Mar-21	Rev. 0		
21-Apr-21	Rev 1		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
ATALZ3S1-1070	Isolation of No. 3 & 4 and Conduct Water Filling and Purging	19	01-Mar-21	22-Mar-21	01-Mar-21	22-Mar-21	0
ATALZ3S1-1080	Removal of Tanks Cover and Set Up of Ventilation Fan for SDT No. 3 & 4	5	23-Mar-21	27-Mar-21	23-Mar-21	27-Mar-21	0
ATALZ3S1-1090	Modify Sludge Feed Pipe and Drain Sludge to Level Below the Side Access Manhole	32	29-Mar-21	10-May-21	29-Mar-21	10-May-21	0
ATALZ3S1-1100	Confine Space Assessment	4	11-May-21	14-May-21	11-May-21	14-May-21	0
ATALZ3S1-1110	Manual Removal of Remaining Bottom Sediments for SDT 3 & 4 at Stage 1	55	15-May-21	21-Jul-21	15-May-21	21-Jul-21	0
Trial Pits and Expose Pipeworks		148	09-Nov-20	15-May-21	09-Nov-20	08-Jun-21	19
TDZ3S1-1000	Temporary Diversion Submission/Approval	148	09-Nov-20	15-May-21*	09-Nov-20	15-May-21	0
TDZ3S1-1030	Trial Pit at SDT 1 & 2	14	16-Mar-21	31-Mar-21	06-May-21	22-May-21	39
TDZ3S1-1040	Expose Existing Pipework at Existing SDT/SHT	14	01-Apr-21	21-Apr-21	24-May-21	08-Jun-21	39
Systems Relocation for Decommissioining of C1 & C2		49	17-May-21	15-Jul-21	17-May-21	15-Jul-21	0
TDZ3S1-1010	Method Statement for Temporary Consolidation Tank and Polymer Dosing System	21	17-May-21	10-Jun-21	17-May-21	10-Jun-21	0
TDZ3S1-1070	Construction of Temporary Consolidation Tank and Polymer Dosing System	21	11-Jun-21	07-Jul-21	11-Jun-21	07-Jul-21	0
TDZ3S1-1080	Systems Relocation of C1 & C2 and Sludge Thickening House	7	08-Jul-21	15-Jul-21	08-Jul-21	15-Jul-21	0
Diversion Pipework		105	01-Mar-21	30-Jun-21	01-Mar-21	05-Jul-21	4
Z3S1A-2000	Method Statement for Waste Storage Area (40)	27	01-Mar-21*	31-Mar-21	01-Mar-21	31-Mar-21	0
Z3S1A-2010	Demolition of Waste Storage Area (40)	50	01-Apr-21	04-Jun-21	09-Apr-21	08-Jun-21	3
TDZ3S1-1100	Laying of Diversion Pipework	21	05-Jun-21	30-Jun-21	09-Jun-21	05-Jul-21	3
Overhaul Works At Existing SHT Footprint		191	09-Nov-20	08-Jul-21	02-Dec-20	31-Jul-21	20
ATALZ3S1A-2000	Method Statement / PMAC Submission and Approval for SHTs	67	09-Nov-20*	28-Jan-21	02-Dec-20	27-Feb-21	20
ATALZ3S1A-2010	Removal of Sludge at SHT 1	41	29-Jan-21	24-Mar-21	01-Mar-21	21-Apr-21	20
ATALZ3S1A-2020	Removal of Sludge at SHT 2	36	09-Mar-21	23-Apr-21	01-Apr-21	18-May-21	20
ATALZ3S1A-2030	Switch Duty to SHT 1 & 2 and Isolation of SHT 3 & 4	2	24-Apr-21	26-Apr-21	20-May-21	21-May-21	20
ATALZ3S1A-2040	Removal of Sludge at SHT 3	38	27-Apr-21	11-Jun-21	22-May-21	07-Jul-21	20
ATALZ3S1A-2050	Removal of Sludge at SHT 4	38	24-May-21	08-Jul-21	17-Jun-21	31-Jul-21	20
Stage 1A (Apr 2021 to Sep 2021)		231	01-Apr-21	11-Jan-22	04-May-21	11-Apr-22	70
TDZ3S1-1060	Construct Temporary Sludge Holding Tank	21	02-Jul-21	26-Jul-21	06-Jul-21	29-Jul-21	3
Z3S1A-2020	Decommission Underground Utilities for Isolation of SHT 3 & 4	12	16-Jul-21	29-Jul-21	16-Jul-21	29-Jul-21	0
TDZ3S1-1110	Sludge Divert to Consolidation Tank C3 & C4 as Buffer Tank	12	16-Jul-21	29-Jul-21	16-Jul-21	29-Jul-21	0
Z3S1A-2030	Demolition of SHT 3 & 4 (10)	38	30-Jul-21	11-Sep-21	30-Jul-21	11-Sep-21	0
Z3S1A-3010	Completion of Stage 1A	0		30-Sep-21*		30-Sep-21	0
Z3S2-2360	Connection to Temporary SHT and Dewatering House	30	04-Dec-21	11-Jan-22	07-Mar-22	11-Apr-22	70
Stage 1A : Existing Biogas Burner		133	01-Apr-21	11-Sep-21	04-May-21	11-Sep-21	0
Stage 1A : Advance Works		96	01-Apr-21	30-Jul-21	04-May-21	26-Aug-21	23
S1A : Gas Holder 2 (GH2)		96	01-Apr-21	30-Jul-21	04-May-21	26-Aug-21	23
ATALZ3S1-1200	CGS - Method Statement Submission and Approval	71	01-Apr-21	30-Jun-21	04-May-21	28-Jul-21	23
ATALZ3S1-1210	Examination Works for BH No.2 c/w T&C	25	02-Jul-21	30-Jul-21	29-Jul-21	26-Aug-21	23
Stage 1A : Existing SDT No. 3 and 4		45	22-Jul-21	11-Sep-21	22-Jul-21	11-Sep-21	0
ATALZ3S1-1115	Manual Removal of Remaining Bottom Sediments for SDT 3 & 4 at Stage 1A	41	22-Jul-21	07-Sep-21	22-Jul-21	07-Sep-21	0
ATALZ3S1-1120	Tools Removal and Final Inspection	4	08-Sep-21	11-Sep-21	08-Sep-21	11-Sep-21	0
Stage 1A : Temporary Polymer Preparation & Dosing System		15	02-Aug-21	18-Aug-21	10-Aug-21	11-Sep-21	21
ATALZ3S1-2180	T&C (Functional test for Thickened Sludge / Supernatant Pumping System)	15	02-Aug-21	18-Aug-21	10-Aug-21	26-Aug-21	7
ATALZ3S1-1220	T&C (Functional test for Polymer Preparation & Dosing System)	14	02-Aug-21	17-Aug-21	27-Aug-21	11-Sep-21	22
Stage 1A : Relocation of Ferric Chloride (FeCl3) Dosing System		14	19-Aug-21	03-Sep-21	27-Aug-21	11-Sep-21	7
ATALZ3S1-1230	T&C (Functional test for Thickened Sludge / Supernatant Pumping System)	14	19-Aug-21	03-Sep-21	27-Aug-21	11-Sep-21	7
Stage 2 (Aug 2021 to May 2022)		260	02-Aug-21	31-May-22	13-Sep-21	31-May-22	0
Z3S2-2030	Demolition of Existing Sludge Thickening House (8, Air Floatation Thickener)	38	13-Sep-21	29-Oct-21	13-Sep-21	29-Oct-21	0
Z3S2-2010	Demolish SHT 1 & 2 (10)	38	13-Sep-21	29-Oct-21	13-Sep-21	29-Oct-21	0
Z3S2-2040	Demolition of Consolidation Tank (7) C1 & C2	23	04-Oct-21	30-Oct-21	04-Oct-21	30-Oct-21	0
Z3S2-2050	Demolition Works at Existing STB	0		01-Apr-22		11-Apr-22	8
Z3S2-3020	Completion of Stage 2	0		31-May-22*		31-May-22	0
Stage 2 : Advance Works		238	02-Aug-21	26-May-22	18-Nov-21	31-May-22	4
Stage 2 : Existing Biogas Burner		152	13-Nov-21	26-May-22	18-Nov-21	31-May-22	4
S2 : Gas Holder 1 (GH1)		152	13-Nov-21	26-May-22	18-Nov-21	31-May-22	4
ATALZ3S2-1000	Submission & Approval of Method Statement	60	13-Nov-21*	25-Jan-22	18-Nov-21	29-Jan-22	4
ATALZ3S2-1010	Procurement of parts	72	26-Jan-22	30-Apr-22	07-Feb-22	06-May-22	4
ATALZ3S2-1020	Overhaul works	20	03-May-22	26-May-22	07-May-22	31-May-22	4
Stage 2 : Temporary Digested Sludge Pumping System and Forward Pumping Station		26	02-Aug-21	31-Aug-21	29-Apr-22	31-May-22	216
ATALZ3S2-1030	E&M installation of digested sludge pump c/w pipework & valves & cabling at Stage 2	15	02-Aug-21	18-Aug-21	29-Apr-22	18-May-22	216
ATALZ3S2-1040	T&C (Functional test for Digested Sludge Pumping System)	11	19-Aug-21	31-Aug-21	19-May-22	31-May-22	216
Stage 2 : Existing SDT No. 3 and 4		16	13-Sep-21	02-Oct-21	13-Sep-21	02-Oct-21	0
ATALZ3S1-1130	Water Filling of SDT No. 3 & 4 with Purging for Recommissioning	16	13-Sep-21	02-Oct-21	13-Sep-21	02-Oct-21	0
Stage 2 : New Sludge Thickening Building (STB) at		48	30-Oct-21	24-Dec-21	14-Feb-22	11-Apr-22	82
ATALZ3S1-1050	Switching Duty SDT No.2 to No. 3	30	30-Oct-21	03-Dec-21	14-Feb-22	19-Mar-22	82
Stage 2 : STB Pre-drilling Works		18	04-Dec-21	24-Dec-21	21-Mar-22	11-Apr-22	82
Z3S3-3050	Predrilling Works (6 nos. STB-PD1,2,4,5,8,11) at Stage 2	18	04-Dec-21	24-Dec-21	21-Mar-22	11-Apr-22	82
Stage 2 : Biogas Holder No. 1		162	30-Oct-21	24-May-22	30-Oct-21	24-May-22	0
Z3BH-1000	Biogas Holder No. 1 - Ground Improvement Including Surcharge	126	30-Oct-21	06-Apr-22	30-Oct-21	06-Apr-22	0
Z3BH-1010	Biogas Holder No. 1 - 800 Thick Base Slab	36	07-Apr-22	24-May-22	07-Apr-22	24-May-22	0
Stage 2 : Utility Corridor Construction		168	30-Oct-21	31-May-22	30-Oct-21	31-May-22	0
Z3S2-2350	Switching Duty at SDT 1 & SDT 3 for Utility Corridor Construction	30	30-Oct-21	03-Dec-21	30-Oct-21	03-Dec-21	0
Stage 2 : Utility Corridor No. 3		135	04-Dec-21	27-May-22	04-Dec-21	31-May-22	3
S2 : UC/PP3 Foundation and ELS Works		108	04-Dec-21	23-Apr-22	04-Dec-21	23-Apr-22	0
Z3S2-2340	UC/PP 3 - Site Setup & Mobilization	14	04-Dec-21	20-Dec-21	04-Dec-21	20-Dec-21	0
Z3S2-2060	UC/PP 3 - Sheetpile Installation (2,674m2 @90m2/d)	30	21-Dec-21	27-Jan-22	21-Dec-21	27-Jan-22	0



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

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

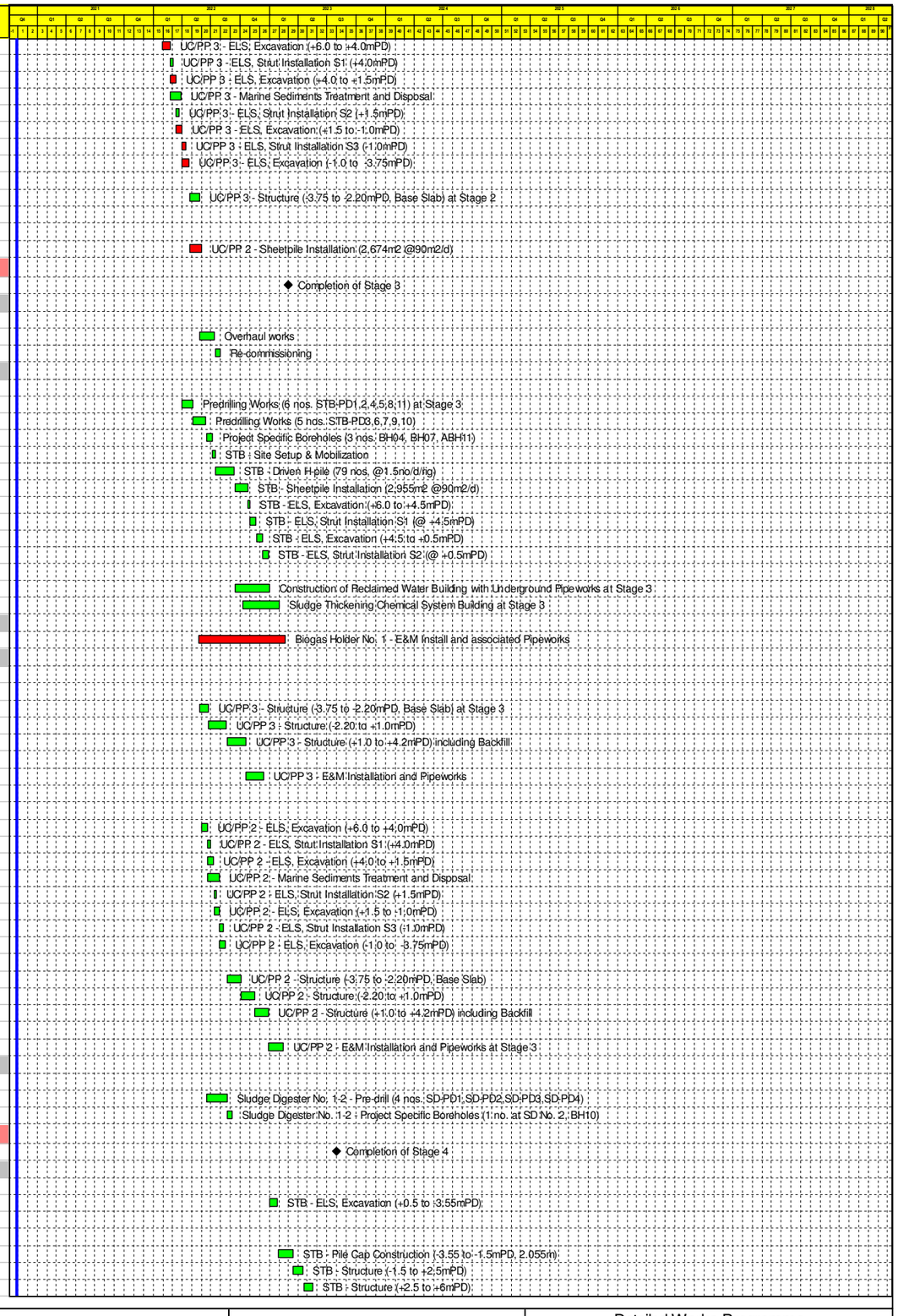
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr1_210422
Layout : DC201910 Detailed Programme

Detailed Works Programme

Date	Revision	Checked	Approved
15-Mar-21	Rev. 0		
21-Apr-21	Rev 1		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
Z3S2-2070	UC/PP 3 - ELS, Excavation (+6.0 to +4.0mPD)	16	28-Jan-22	22-Feb-22	28-Jan-22	22-Feb-22	0
Z3S2-2080	UC/PP 3 - ELS, Strut Installation S1 (+4.0mPD)	8	23-Feb-22	03-Mar-22	14-Mar-22	22-Mar-22	16
Z3S2-2090	UC/PP 3 - ELS, Excavation (+4.0 to +1.5mPD)	16	23-Feb-22	12-Mar-22	23-Feb-22	12-Mar-22	0
Z3S2-2160	UC/PP 3 - Marine Sediments Treatment and Disposal	30	23-Feb-22	29-Mar-22	25-Feb-22	31-Mar-22	2
Z3S2-2100	UC/PP 3 - ELS, Strut Installation S2 (+1.5mPD)	8	14-Mar-22	22-Mar-22	23-Mar-22	31-Mar-22	8
Z3S2-2110	UC/PP 3 - ELS, Excavation (+1.5 to -1.0mPD)	16	14-Mar-22	31-Mar-22	14-Mar-22	31-Mar-22	0
Z3S2-2120	UC/PP 3 - ELS, Strut Installation S3 (-1.0mPD)	9	01-Apr-22	12-Apr-22	01-Apr-22	12-Apr-22	0
Z3S2-2130	UC/PP 3 - ELS, Excavation (-1.0 to -3.75mPD)	16	01-Apr-22	23-Apr-22	01-Apr-22	23-Apr-22	0
S2 : UC/PP3 Civil and Structural Works		27	25-Apr-22	27-May-22	28-Apr-22	31-May-22	3
Z3S2-2370	UC/PP 3 - Structure (-3.75 to -2.20mPD, Base Slab) at Stage 2	27	25-Apr-22	27-May-22	28-Apr-22	31-May-22	3
Stage 2 : Utility Corridor No. 2		30	25-Apr-22	31-May-22	25-Apr-22	31-May-22	0
S2 : UC/PP2 Foundation and ELS Works		30	25-Apr-22	31-May-22	25-Apr-22	31-May-22	0
Z3S2-2150	UC/PP 2 - Sheetpile Installation (2,674m2 @90m2/d)	30	25-Apr-22	31-May-22	25-Apr-22	31-May-22	0
Stage 3 (Apr 2022 to Feb 2023)		286	01-Apr-22	28-Feb-23	12-Apr-22	28-Feb-23	0
Z3S3-3030	Completion of Stage 3	0		28-Feb-23*		28-Feb-23	0
Stage 3 : Existing Biogas Burner		54	27-May-22	30-Jul-22	17-Dec-22	28-Feb-23	170
Stage 3 : Gas Holder 1 (GH1)		54	27-May-22	30-Jul-22	17-Dec-22	28-Feb-23	170
ATALZ3S3-1000	Overhaul works	39	27-May-22	13-Jul-22	17-Dec-22	10-Feb-23	170
ATALZ3S3-1050	Re-commissioning	15	14-Jul-22	30-Jul-22	11-Feb-23	28-Feb-23	170
Stage 3 : New Sludge Thickening Building (STB) (Continued)		264	01-Apr-22	02-Feb-23	12-Apr-22	10-Feb-23	7
Stage 3 : STB Foundation and ELS		235	01-Apr-22	30-Dec-22	12-Apr-22	10-Jan-23	9
Z3S3-2020	Predrilling Works (6 nos. STB-PD1,2,4,5,8,11) at Stage 3	24	01-Apr-22	04-May-22	12-Apr-22	14-May-22	8
Z3S3-2030	Predrilling Works (5 nos. STB-PD3,6,7,9,10)	34	05-May-22	15-Jun-22	16-May-22	24-Jun-22	8
Z3S3-2040	Project Specific Boreholes (3 nos. BH04, BH07, ABH11)	15	16-Jun-22	04-Jul-22	25-Jun-22	13-Jul-22	8
Z3S3-3010	STB - Site Setup & Mobilization	10	05-Jul-22	15-Jul-22	14-Jul-22	25-Jul-22	8
Z3S3-2090	STB - Driven H-pile (79 nos, @1.5no/d/rig)	50	16-Jul-22	13-Sep-22	26-Jul-22	22-Sep-22	8
Z3S3-2180	STB - Sheetpile Installation (2,955m2 @90m2/d)	34	14-Sep-22	25-Oct-22	23-Sep-22	03-Nov-22	8
Z3S3-2250	STB - ELS, Excavation (+6.0 to +4.5mPD)	6	26-Oct-22	01-Nov-22	04-Nov-22	10-Nov-22	8
Z3S3-2290	STB - ELS, Strut Installation S1 (@ +4.5mPD)	16	02-Nov-22	19-Nov-22	11-Nov-22	29-Nov-22	8
Z3S3-2360	STB - ELS, Excavation (+4.5 to +0.5mPD)	17	21-Nov-22	09-Dec-22	30-Nov-22	19-Dec-22	8
Z3S3-2420	STB - ELS, Strut Installation S2 (@ +0.5mPD)	16	10-Dec-22	30-Dec-22	20-Dec-22	10-Jan-23	8
Stage 3 : Chemical Building and Reclaimed Water Building		111	14-Sep-22	02-Feb-23	19-Oct-22	10-Feb-23	7
Z3S3-2170	Construction of Reclaimed Water Building with Underground Pipeworks at Stage 3	90	14-Sep-22	31-Dec-22	19-Oct-22	10-Feb-23	28
Z3S3-2160	Sludge Thickening Chemical System Building at Stage 3	90	11-Oct-22	02-Feb-23	19-Oct-22	10-Feb-23	7
Stage 3 : Biogas Holder No. 1 (Continued)		220	25-May-22	21-Feb-23	25-May-22	21-Feb-23	0
ATALZ3BH-1000	Biogas Holder No. 1 - E&M Install and associated Pipeworks	220	25-May-22	21-Feb-23	25-May-22	21-Feb-23	0
Stage 3 : Utility Corridor Construction (Continued)		210	28-May-22	13-Feb-23	14-Jun-22	28-Feb-23	13
Stage 3 : Utility Corridor No. 3		168	28-May-22	15-Dec-22	14-Jun-22	14-Jan-23	23
S3 : UC/PP3 Civil and Structural Works		118	28-May-22	18-Oct-22	14-Jun-22	14-Nov-22	23
Z3S2-2140	UC/PP 3 - Structure (-3.75 to -2.20mPD, Base Slab) at Stage 3	22	28-May-22	23-Jun-22	14-Jun-22	09-Jul-22	13
Z3S2-2180	UC/PP 3 - Structure (-2.20 to +1.0mPD)	48	24-Jun-22	19-Aug-22	11-Jul-22	03-Sep-22	13
Z3S2-2250	UC/PP 3 - Structure (+1.0 to +4.2mPD) including Backfill	48	20-Aug-22	18-Oct-22	17-Sep-22	14-Nov-22	23
S3 : UC/PP3 E&M Installation		50	19-Oct-22	15-Dec-22	15-Nov-22	14-Jan-23	23
Z3S2-2280	UC/PP 3 - E&M Installation and Pipeworks	50	19-Oct-22	15-Dec-22	15-Nov-22	14-Jan-23	23
Stage 3 : Utility Corridor No. 2		207	01-Jun-22	13-Feb-23	21-Jun-22	28-Feb-23	13
S3 : UC/PP2 Foundation and ELS Works		64	01-Jun-22	16-Aug-22	21-Jun-22	03-Sep-22	16
Z3S2-2170	UC/PP 2 - ELS, Excavation (+6.0 to +4.0mPD)	16	01-Jun-22	20-Jun-22	21-Jun-22	09-Jul-22	16
Z3S2-2190	UC/PP 2 - ELS, Strut Installation S1 (+4.0mPD)	8	21-Jun-22	29-Jun-22	06-Aug-22	15-Aug-22	39
Z3S2-2200	UC/PP 2 - ELS, Excavation (+4.0 to +1.5mPD)	16	21-Jun-22	09-Jul-22	11-Jul-22	28-Jul-22	16
Z3S2-2260	UC/PP 2 - Marine Sediments Treatment and Disposal	30	21-Jun-22	26-Jul-22	13-Jul-22	16-Aug-22	18
Z3S2-2210	UC/PP 2 - ELS, Strut Installation S2 (+1.5mPD)	8	11-Jul-22	19-Jul-22	16-Aug-22	24-Aug-22	31
Z3S2-2220	UC/PP 2 - ELS, Excavation (+1.5 to -1.0mPD)	16	11-Jul-22	28-Jul-22	29-Jul-22	16-Aug-22	16
Z3S2-2230	UC/PP 2 - ELS, Strut Installation S3 (-1.0mPD)	9	29-Jul-22	08-Aug-22	25-Aug-22	03-Sep-22	23
Z3S2-2240	UC/PP 2 - ELS, Excavation (-1.0 to -3.75mPD)	16	29-Jul-22	16-Aug-22	17-Aug-22	03-Sep-22	16
S3 : UC/PP2 Civil and Structural Works		108	20-Aug-22	29-Dec-22	05-Sep-22	14-Jan-23	13
Z3S2-2270	UC/PP 2 - Structure (-3.75 to -2.20mPD, Base Slab)	36	20-Aug-22	03-Oct-22	05-Sep-22	19-Oct-22	13
Z3S2-2290	UC/PP 2 - Structure (-2.20 to +1.0mPD)	36	05-Oct-22	15-Nov-22	20-Oct-22	30-Nov-22	13
Z3S2-2300	UC/PP 2 - Structure (+1.0 to +4.2mPD) including Backfill	36	16-Nov-22	29-Dec-22	01-Dec-22	14-Jan-23	13
S3 : UC/PP2 E&M Installation		32	30-Dec-22	13-Feb-23	16-Jan-23	28-Feb-23	13
Z3S2-2320	UC/PP 2 - E&M Installation and Pipeworks at Stage 3	32	30-Dec-22	13-Feb-23	16-Jan-23	28-Feb-23	13
Stage 3 : New Sludge Digester No. 1 and 2 (Continued)		70	16-Jun-22	06-Sep-22	07-Jul-22	27-Sep-22	17
Stage 3 : SD 1,2 Pre-drilling Works		70	16-Jun-22	06-Sep-22	07-Jul-22	27-Sep-22	17
Z3S3-2010	Sludge Digester No. 1-2 - Pre-drill (4 nos. SD-PD1,SD-PD2,SD-PD3,SD-PD4)	56	16-Jun-22	20-Aug-22	07-Jul-22	09-Sep-22	17
Z3S3-2000	Sludge Digester No. 1-2 - Project Specific Boreholes (1 no. at SD No. 2, BH10)	14	22-Aug-22	06-Sep-22	12-Sep-22	27-Sep-22	17
Stage 4 (Sep 2022 to Jul 2023)		281	07-Sep-22	31-Jul-23	28-Sep-22	31-Jul-23	0
Z3S4-3340	Completion of Stage 4	0		31-Jul-23*		31-Jul-23	0
Stage 4 : New Sludge Thickening Building (STB) (Continued)		142	31-Dec-22	30-Jun-23	11-Jan-23	10-Jul-23	7
Stage 4 : STB Foundation and ELS		17	31-Dec-22	27-Jan-23	11-Jan-23	06-Feb-23	8
Z3S3-2450	STB - ELS, Excavation (+0.5 to -3.55mPD)	17	31-Dec-22	27-Jan-23	11-Jan-23	06-Feb-23	8
Stage 4 : STB Civil and Structural Works		141	03-Jan-23	30-Jun-23	07-Feb-23	10-Jul-23	7
S4 : STB Substructure		90	28-Jan-23	18-May-23	07-Feb-23	29-May-23	8
Z3S3-2500	STB - Pile Cap Construction (-3.55 to -1.5mPD, 2.055m)	40	28-Jan-23	15-Mar-23	07-Feb-23	24-Mar-23	8
Z3S3-2600	STB - Structure (-1.5 to +2.5mPD)	25	16-Mar-23	18-Apr-23	25-Mar-23	27-Apr-23	8
Z3S3-2630	STB - Structure (+2.5 to +6mPD)	25	19-Apr-23	18-May-23	28-Apr-23	29-May-23	8



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

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

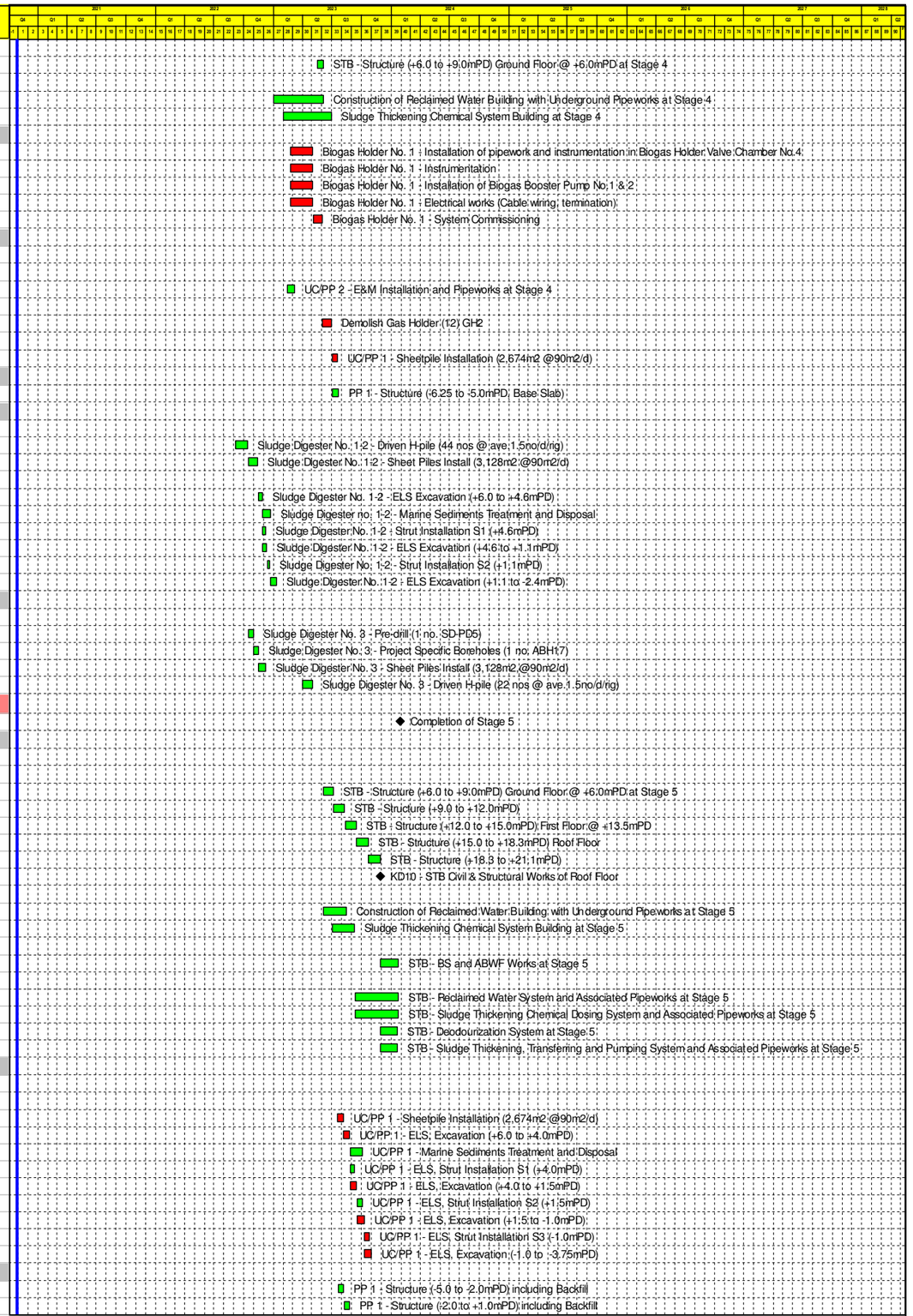
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr1_210422
Layout : DC201910 Detailed Programme

Detailed Works Programme

Date	Revision	Checked	Approved
15-Mar-21	Rev. 0		
21-Apr-21	Rev 1		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
S4 : STB Superstructure		14	19-May-23	05-Jun-23	30-May-23	14-Jun-23	8
Z3S3-3100	STB - Structure (+6.0 to +9.0mPD) Ground Floor @ +6.0mPD at Stage 4	14	19-May-23	05-Jun-23	30-May-23	14-Jun-23	8
S4 : Chemical Building and Reclaimed Water Building		141	03-Jan-23	30-Jun-23	11-Feb-23	10-Jul-23	7
Z3S3-3080	Construction of Reclaimed Water Building with Underground Pipeworks at Stage 4	120	03-Jan-23	05-Jun-23	11-Feb-23	10-Jul-23	28
Z3S3-3070	Sludge Thickening Chemical System Building at Stage 4	120	03-Feb-23	30-Jun-23	11-Feb-23	10-Jul-23	7
Stage 4 : Biogas Holder No. 1 (Continued)		80	22-Feb-23	01-Jun-23	22-Feb-23	01-Jun-23	0
ATALZ3BH-1010	Biogas Holder No. 1 - Installation of pipework and instrumentation in Biogas Holder Valve Chamber No.4	56	22-Feb-23	03-May-23	22-Feb-23	03-May-23	0
ATALZ3BH-1020	Biogas Holder No. 1 - Instrumentation	56	22-Feb-23	03-May-23	22-Feb-23	03-May-23	0
ATALZ3BH-1030	Biogas Holder No. 1 - Installation of Biogas Booster Pump No.1 & 2	56	22-Feb-23	03-May-23	22-Feb-23	03-May-23	0
ATALZ3BH-1040	Biogas Holder No. 1 - Electrical works (Cable wiring, termination)	56	22-Feb-23	03-May-23	22-Feb-23	03-May-23	0
ATALZ3BH-1050	Biogas Holder No. 1 - System Commissioning	24	04-May-23	01-Jun-23	04-May-23	01-Jun-23	0
Stage 4 : Utility Corridor Construction (Continued)		134	14-Feb-23	19-Jul-23	02-Jun-23	31-Jul-23	10
Stage 4 : Utility Corridor No. 2		18	14-Feb-23	06-Mar-23	11-Jul-23	31-Jul-23	118
S4 : UC/PP2 E&M Installation		18	14-Feb-23	06-Mar-23	11-Jul-23	31-Jul-23	118
Z3S2-2380	UC/PP 2 - E&M Installation and Pipeworks at Stage 4	18	14-Feb-23	06-Mar-23	11-Jul-23	31-Jul-23	118
Stage 4 : Utility Corridor No. 1		41	02-Jun-23	19-Jul-23	02-Jun-23	19-Jul-23	0
Z3S4-2000	Demolish Gas Holder (12) GH2	24	02-Jun-23	30-Jun-23	02-Jun-23	30-Jun-23	0
S4 : UC/PP 1 Foundation and ELS Works		15	03-Jul-23	19-Jul-23	03-Jul-23	19-Jul-23	0
Z3S5UC1-2000	UC/PP 1 - Sheetpile Installation (2,674m2 @90m2/d)	15	03-Jul-23	19-Jul-23	03-Jul-23	19-Jul-23	0
Stage 4 : Pipe Portal No. 1		16	03-Jul-23	20-Jul-23	13-Jul-23	31-Jul-23	9
Z3S4-2010	PP 1 - Structure (-6.25 to -5.0mPD, Base Slab)	16	03-Jul-23	20-Jul-23	13-Jul-23	31-Jul-23	9
Stage 4 : New Sludge Digester No. 1 and 2 (Continued)		107	07-Sep-22	09-Jan-23	28-Sep-22	05-Jul-23	152
Stage 4 : SD 1,2 Foundation and ELS		107	07-Sep-22	09-Jan-23	28-Sep-22	05-Jul-23	152
Z3S3-2050	Sludge Digester No. 1-2 - Driven H-pile (44 nos @ ave.1.5no/d/rig)	30	07-Sep-22*	14-Oct-22	28-Sep-22	04-Apr-23	17
Z3S3-2060	Sludge Digester No. 1-2 - Sheet Piles Install (3,128m2 @90m2/d)	26	15-Oct-22	14-Nov-22	06-Apr-23	10-May-23	138
S4 : Excavation and Strut Installation		45	15-Nov-22	09-Jan-23	11-May-23	05-Jul-23	138
Z3S3-2110	Sludge Digester No. 1-2 - ELS Excavation (+6.0 to +4.6mPD)	12	15-Nov-22	28-Nov-22	11-May-23	24-May-23	138
Z3S3-2130	Sludge Digester no. 1-2 - Marine Sediments Treatment and Disposal	21	29-Nov-22	22-Dec-22	25-May-23	19-Jun-23	138
Z3S3-2140	Sludge Digester No. 1-2 - Strut Installation S1 (+4.6mPD)	7	29-Nov-22	06-Dec-22	03-Jun-23	10-Jun-23	145
Z3S3-2150	Sludge Digester No. 1-2 - ELS Excavation (+4.6 to +1.1mPD)	12	29-Nov-22	12-Dec-22	29-May-23	10-Jun-23	140
Z3S3-2190	Sludge Digester No. 1-2 - Strut Installation S2 (+1.1mPD)	7	13-Dec-22	20-Dec-22	12-Jun-23	19-Jun-23	140
Z3S3-2200	Sludge Digester No. 1-2 - ELS Excavation (+1.1 to -2.4mPD)	12	23-Dec-22	09-Jan-23	20-Jun-23	05-Jul-23	138
Stage 4 : New Sludge Digester No. 3 (Continued)		171	15-Oct-22	02-May-23	01-Jun-23	31-Jul-23	77
Stage 4 : SD 3 Foundation and ELS Works		171	15-Oct-22	02-May-23	01-Jun-23	31-Jul-23	77
Z3S3-2080	Sludge Digester No. 3 - Pre-drill (1 no. SD-PD5)	14	15-Oct-22	31-Oct-22	01-Jun-23	16-Jun-23	181
Z3S3-2100	Sludge Digester No. 3 - Project Specific Boreholes (1 no. ABH17)	14	01-Nov-22	16-Nov-22	17-Jun-23	05-Jul-23	181
Z3S3-2120	Sludge Digester No. 3 - Sheet Piles Install (3,128m2,@90m2/d)	18	17-Nov-22*	07-Dec-22	11-Jul-23	31-Jul-23	185
Z3S3-2070	Sludge Digester No. 3 - Driven H-pile (22 nos @ ave.1.5no/d/rig)	22	01-Apr-23	02-May-23	06-Jul-23	31-Jul-23	74
Stage 5 (Jun 2023 to Jan 2024)		324	23-Dec-22	31-Jan-24	15-Jun-23	07-Feb-24	6
Z3S5-3350	Completion of Stage 5	0		31-Jan-24*		31-Jan-24	0
Stage 5 : New Sludge Thickening Building (STB) (Continued)		191	06-Jun-23	23-Jan-24	15-Jun-23	31-Jan-24	7
Stage 5 : STB Civil and Structural Works		190	06-Jun-23	22-Jan-24	15-Jun-23	31-Jan-24	8
S5 : STB Superstructure		145	06-Jun-23	27-Nov-23	15-Jun-23	08-Jan-24	33
Z3S3-2660	STB - Structure (+6.0 to +9.0mPD) Ground Floor @ +6.0mPD at Stage 5	25	06-Jun-23	06-Jul-23	15-Jun-23	15-Jul-23	8
Z3S3-2700	STB - Structure (+9.0 to +12.0mPD)	30	07-Jul-23	10-Aug-23	17-Jul-23	19-Aug-23	8
Z3S3-2710	STB - Structure (+12.0 to +15.0mPD) First Floor @ +13.5mPD	30	11-Aug-23	14-Sep-23	21-Aug-23	23-Sep-23	8
Z3S3-2740	STB - Structure (+15.0 to +18.3mPD) Roof Floor	30	15-Sep-23	21-Oct-23	25-Sep-23	01-Nov-23	8
Z3S3-2770	STB - Structure (+18.3 to +21.1mPD)	30	24-Oct-23	27-Nov-23*	02-Nov-23	06-Dec-23	8
Z3S3-2780	KD10 - STB Civil & Structural Works of Roof Floor	0		27-Nov-23*		08-Jan-24	33
S5 : Chemical Building and Reclaimed Water Building		81	06-Jun-23	09-Sep-23	11-Jul-23	18-Sep-23	7
Z3S3-3180	Construction of Reclaimed Water Building with Underground Pipeworks at Stage 5	60	06-Jun-23	16-Aug-23	11-Jul-23	18-Sep-23	28
Z3S3-3170	Sludge Thickening Chemical System Building at Stage 5	60	03-Jul-23	09-Sep-23	11-Jul-23	18-Sep-23	7
S5 : STB ABWF and BS Works		45	28-Nov-23	22-Jan-24	07-Dec-23	31-Jan-24	8
Z3S3-2790	STB - BS and ABWF Works at Stage 5	45	28-Nov-23	22-Jan-24	07-Dec-23	31-Jan-24	8
Stage 5 : STB E&M Installation		110	11-Sep-23	23-Jan-24	19-Sep-23	31-Jan-24	7
Z3S3-2720	STB - Reclaimed Water System and Associated Pipeworks at Stage 5	110	11-Sep-23	23-Jan-24	19-Sep-23	31-Jan-24	7
Z3S3-2730	STB - Sludge Thickening Chemical Dosing System and Associated Pipeworks at Stage 5	110	11-Sep-23	23-Jan-24	19-Sep-23	31-Jan-24	7
Z3S3-2800	STB - Deodourization System at Stage 5	44	28-Nov-23	20-Jan-24	08-Dec-23	31-Jan-24	9
Z3S3-2810	STB - Sludge Thickening, Transferring and Pumping System and Associated Pipeworks at Stage 5	44	28-Nov-23	20-Jan-24	08-Dec-23	31-Jan-24	9
Stage 5 : Utility Corridor Construction (Continued)		87	20-Jul-23	01-Nov-23	20-Jul-23	31-Jan-24	75
Stage 5 : Utility Corridor No. 1		87	20-Jul-23	01-Nov-23	20-Jul-23	31-Jan-24	75
S5 : UC/PP 1 Foundation and ELS Works		87	20-Jul-23	01-Nov-23	20-Jul-23	31-Jan-24	75
Z3S5UC1-2140	UC/PP 1 - Sheetpile Installation (2,674m2 @90m2/d)	15	20-Jul-23	05-Aug-23	20-Jul-23	05-Aug-23	0
Z3S5UC1-2010	UC/PP 1 - ELS, Excavation (+6.0 to +4.0mPD)	18	07-Aug-23	26-Aug-23	07-Aug-23	26-Aug-23	0
Z3S5UC1-2080	UC/PP 1 - Marine Sediments Treatment and Disposal	30	28-Aug-23	03-Oct-23	27-Dec-23	31-Jan-24	99
Z3S5UC1-2020	UC/PP 1 - ELS, Strut Installation S1 (+4.0mPD)	12	28-Aug-23	09-Sep-23	11-Sep-23	23-Sep-23	12
Z3S5UC1-2030	UC/PP 1 - ELS, Excavation (+4.0 to +1.5mPD)	18	28-Aug-23	16-Sep-23	28-Aug-23	16-Sep-23	0
Z3S5UC1-2040	UC/PP 1 - ELS, Strut Installation S2 (+1.5mPD)	12	18-Sep-23	03-Oct-23	25-Sep-23	10-Oct-23	6
Z3S5UC1-2050	UC/PP 1 - ELS, Excavation (+1.5 to -1.0mPD)	18	18-Sep-23	10-Oct-23	18-Sep-23	10-Oct-23	0
Z3S5UC1-2060	UC/PP 1 - ELS, Strut Installation S3 (-1.0mPD)	12	11-Oct-23	25-Oct-23	11-Oct-23	25-Oct-23	0
Z3S5UC1-2070	UC/PP 1 - ELS, Excavation (-1.0 to -3.75mPD)	18	11-Oct-23	01-Nov-23	11-Oct-23	01-Nov-23	0
Stage 5 : Pipe Portal No. 1		98	21-Jul-23	15-Nov-23	03-Aug-23	28-Nov-23	11
Z3S4-2020	PP 1 - Structure (-5.0 to -2.0mPD) including Backfill	15	21-Jul-23	07-Aug-23	03-Aug-23	19-Aug-23	11
Z3S4-2030	PP 1 - Structure (-2.0 to +1.0mPD) including Backfill	16	08-Aug-23	25-Aug-23	21-Aug-23	07-Sep-23	11



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

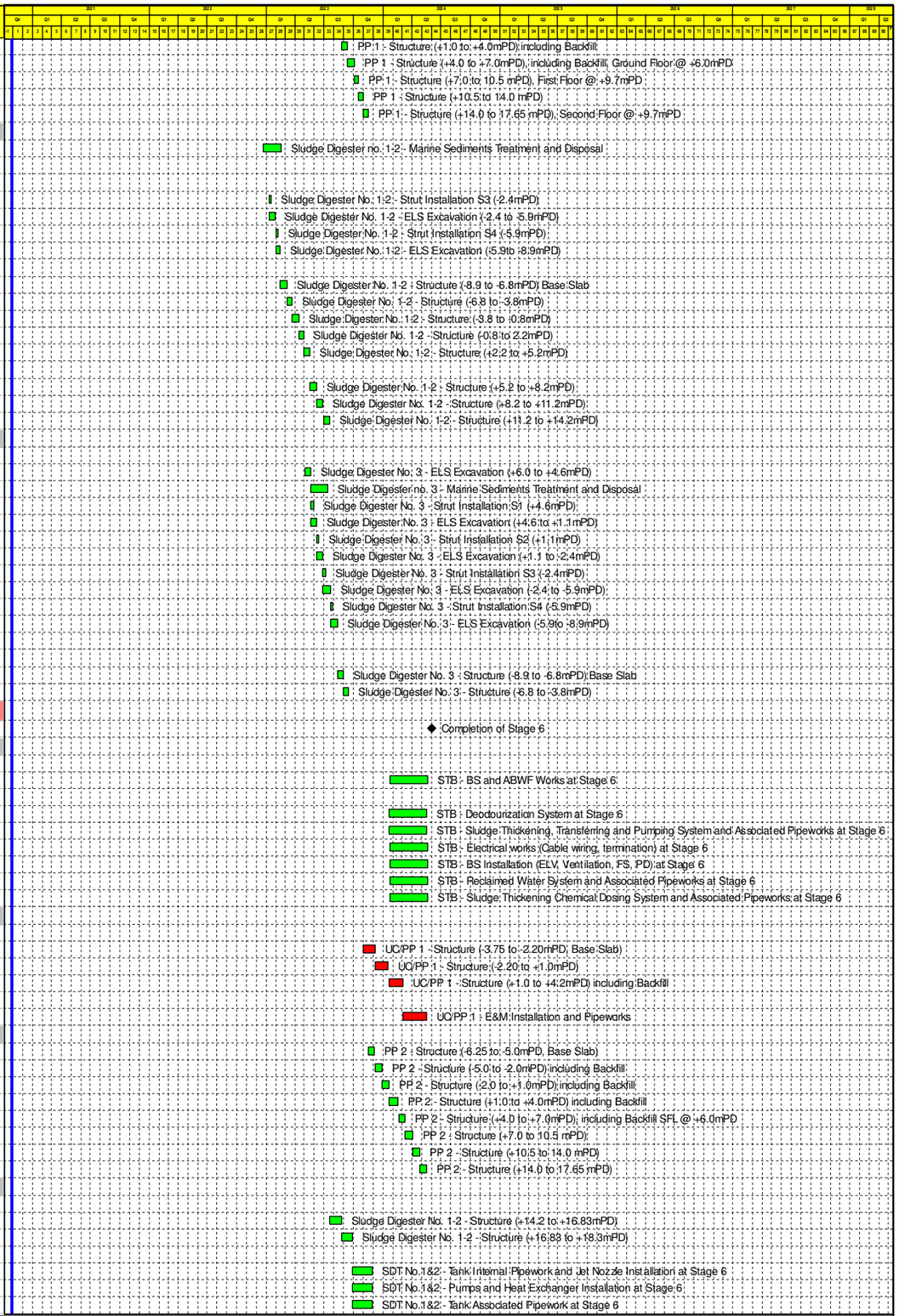
Remaining Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr1_210422
Layout : DC201910 Detailed Programme

Detailed Works Programme			
Date	Revision	Checked	Approved
15-Mar-21	Rev. 0		
21-Apr-21	Rev 1		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
Z3S4-2040	PP 1 - Structure (+1.0 to +4.0mPD) including Backfill	15	26-Aug-23	12-Sep-23	08-Sep-23	25-Sep-23	11
Z3S4-2050	PP 1 - Structure (+4.0 to +7.0mPD), including Backfill, Ground Floor @ +6.0mPD	16	13-Sep-23	03-Oct-23	26-Sep-23	16-Oct-23	11
Z3S4-2060	PP 1 - Structure (+7.0 to 10.5 mPD), First Floor @ +9.7mPD	12	04-Oct-23	17-Oct-23	17-Oct-23	31-Oct-23	11
Z3S4-2070	PP 1 - Structure (+10.5 to 14.0 mPD)	12	18-Oct-23	01-Nov-23	01-Nov-23	14-Nov-23	11
Z3S4-2080	PP 1 - Structure (+14.0 to 17.65 mPD), Second Floor @ +9.7mPD	12	02-Nov-23	15-Nov-23	15-Nov-23	28-Nov-23	11
Stage 5 : New Sludge Digester No. 1 and 2 (Continued)		162	23-Dec-22	19-Jul-23	06-Jul-23	07-Feb-24	168
Z3S3-3020	Sludge Digester no. 1-2 - Marine Sediments Treatment and Disposal	39	23-Dec-22	16-Feb-23	21-Dec-23	07-Feb-24	291
Stage 5 : Civil and Structural Works		150	10-Jan-23	19-Jul-23	06-Jul-23	03-Jan-24	138
S5 : SD 1,2 Foundation and ELS		24	10-Jan-23	13-Feb-23	06-Jul-23	02-Aug-23	138
Z3S3-2210	Sludge Digester No. 1-2 - Strut Installation S3 (-2.4mPD)	7	10-Jan-23	17-Jan-23	18-Jul-23	25-Jul-23	148
Z3S3-2220	Sludge Digester No. 1-2 - ELS Excavation (-2.4 to -5.9mPD)	12	10-Jan-23	30-Jan-23	06-Jul-23	19-Jul-23	138
Z3S3-2230	Sludge Digester No. 1-2 - Strut Installation S4 (-5.9mPD)	7	31-Jan-23	07-Feb-23	26-Jul-23	02-Aug-23	143
Z3S3-2240	Sludge Digester No. 1-2 - ELS Excavation (-5.9to -8.9mPD)	12	31-Jan-23	13-Feb-23	20-Jul-23	02-Aug-23	138
S5 : Substructure		74	14-Feb-23	16-May-23	03-Aug-23	31-Oct-23	138
Z3S3-2270	Sludge Digester No. 1-2 - Structure (-8.9 to -6.8mPD) Base Slab	18	14-Feb-23	06-Mar-23	03-Aug-23	23-Aug-23	138
Z3S3-2350	Sludge Digester No. 1-2 - Structure (-6.8 to -3.8mPD)	14	07-Mar-23	22-Mar-23	24-Aug-23	08-Sep-23	138
Z3S3-2390	Sludge Digester No. 1-2 - Structure (-3.8 to -0.8mPD)	14	23-Mar-23	12-Apr-23	09-Sep-23	25-Sep-23	138
Z3S3-2440	Sludge Digester No. 1-2 - Structure (-0.8 to 2.2mPD)	14	13-Apr-23	28-Apr-23	26-Sep-23	13-Oct-23	138
Z3S3-2470	Sludge Digester No. 1-2 - Structure (+2.2 to +5.2mPD)	14	29-Apr-23	16-May-23	14-Oct-23	31-Oct-23	138
S5 : Superstructure		52	17-May-23	19-Jul-23	01-Nov-23	03-Jan-24	138
Z3S3-2520	Sludge Digester No. 1-2 - Structure (+5.2 to +8.2mPD)	18	17-May-23	07-Jun-23	01-Nov-23	21-Nov-23	138
Z3S3-2550	Sludge Digester No. 1-2 - Structure (+8.2 to +11.2mPD)	17	08-Jun-23	28-Jun-23	22-Nov-23	11-Dec-23	138
Z3S3-2580	Sludge Digester No. 1-2 - Structure (+11.2 to +14.2mPD)	17	29-Jun-23	19-Jul-23	12-Dec-23	03-Jan-24	138
Stage 5 : New Sludge Digester No. 3 (Continued)		115	03-May-23	16-Sep-23	13-Sep-23	31-Jan-24	111
Stage 5 : Excavation and Strut Installation		85	03-May-23	12-Aug-23	13-Sep-23	23-Dec-23	111
Z3S3-2280	Sludge Digester No. 3 - ELS Excavation (+6.0 to +4.6mPD)	15	03-May-23	19-May-23	13-Sep-23	29-Sep-23	111
Z3S3-2300	Sludge Digester no. 3 - Marine Sediments Treatment and Disposal	42	20-May-23	11-Jul-23	06-Nov-23	23-Dec-23	139
Z3S3-2310	Sludge Digester No. 3 - Strut Installation S1 (+4.6mPD)	7	20-May-23	29-May-23	22-Nov-23	29-Nov-23	153
Z3S3-2320	Sludge Digester No. 3 - ELS Excavation (+4.6 to +1.1mPD)	15	20-May-23	07-Jun-23	03-Oct-23	19-Oct-23	111
Z3S3-2330	Sludge Digester No. 3 - Strut Installation S2 (+1.1mPD)	7	08-Jun-23	15-Jun-23	30-Nov-23	07-Dec-23	145
Z3S3-2340	Sludge Digester No. 3 - ELS Excavation (+1.1 to -2.4mPD)	15	08-Jun-23	26-Jun-23	20-Oct-23	07-Nov-23	111
Z3S3-2370	Sludge Digester No. 3 - Strut Installation S3 (-2.4mPD)	7	27-Jun-23	05-Jul-23	08-Dec-23	15-Dec-23	137
Z3S3-2380	Sludge Digester No. 3 - ELS Excavation (-2.4 to -5.9mPD)	20	27-Jun-23	20-Jul-23	08-Nov-23	30-Nov-23	111
Z3S3-2400	Sludge Digester No. 3 - Strut Installation S4 (-5.9mPD)	7	21-Jul-23	28-Jul-23	16-Dec-23	23-Dec-23	124
Z3S3-2410	Sludge Digester No. 3 - ELS Excavation (-5.9to -8.9mPD)	20	21-Jul-23	12-Aug-23	01-Dec-23	23-Dec-23	111
Stage 5 : SD 3 Civil and Structural Works		30	14-Aug-23	16-Sep-23	27-Dec-23	31-Jan-24	111
S5 : SD 3 Substructure		30	14-Aug-23	16-Sep-23	27-Dec-23	31-Jan-24	111
Z3S3-2430	Sludge Digester No. 3 - Structure (-8.9 to -6.8mPD) Base Slab	15	14-Aug-23	30-Aug-23	27-Dec-23	13-Jan-24	111
Z3S3-2460	Sludge Digester No. 3 - Structure (-6.8 to -3.8mPD)	15	31-Aug-23	16-Sep-23	15-Jan-24	31-Jan-24	111
Stage 6 (Nov 2023 to May 2024)		254	20-Jul-23	31-May-24	02-Nov-23	31-May-24	0
Z3S6-3360	Completion of Stage 6	0		31-May-24*		31-May-24	0
Stage 6 : New Sludge Thickening Building (STB) (Continued)		92	22-Jan-24	21-May-24	03-Feb-24	31-May-24	9
Stage 6 : STB ABWF and BS Works		90	23-Jan-24	20-May-24	03-Feb-24	31-May-24	10
Z3S3-3210	STB - BS and ABWF Works at Stage 6	90	23-Jan-24	20-May-24	03-Feb-24	31-May-24	10
Stage 6 : STB E&M Installation		92	22-Jan-24	21-May-24	03-Feb-24	31-May-24	9
Z3S3-3190	STB - Deodourization System at Stage 6	90	22-Jan-24	18-May-24	03-Feb-24	31-May-24	11
Z3S3-3200	STB - Sludge Thickening, Transferring and Pumping System and Associated Pipeworks at Stage 6	90	22-Jan-24	18-May-24	03-Feb-24	31-May-24	11
Z3S3-2850	STB - Electrical works (Cable wiring, termination) at Stage 6	90	24-Jan-24	21-May-24	03-Feb-24	31-May-24	9
Z3S3-2860	STB - BS Installation (ELV, Ventilation, FS, PD) at Stage 6	90	24-Jan-24	21-May-24	03-Feb-24	31-May-24	9
Z3S3-3150	STB - Reclaimed Water System and Associated Pipeworks at Stage 6	90	24-Jan-24	21-May-24	03-Feb-24	31-May-24	9
Z3S3-3160	STB - Sludge Thickening Chemical Dosing System and Associated Pipeworks at Stage 6	90	24-Jan-24	21-May-24	03-Feb-24	31-May-24	9
Stage 6 : Utility Corridor No. 1		156	02-Nov-23	18-May-24	02-Nov-23	18-May-24	0
Stage 6 : UC/PP 1 Civil and Structural Works		96	02-Nov-23	02-Mar-24	02-Nov-23	02-Mar-24	0
Z3S5UC1-2090	UC/PP 1 - Structure (-3.75 to -2.20mPD, Base Slab)	32	02-Nov-23	08-Dec-23	02-Nov-23	08-Dec-23	0
Z3S5UC1-2100	UC/PP 1 - Structure (-2.20 to +1.0mPD)	32	09-Dec-23	18-Jan-24	09-Dec-23	18-Jan-24	0
Z3S5UC1-2110	UC/PP 1 - Structure (+1.0 to +4.2mPD) including Backfill	32	19-Jan-24	02-Mar-24	19-Jan-24	02-Mar-24	0
Stage 6 : UC/PP 1 E&M Installation		60	04-Mar-24	18-May-24	04-Mar-24	18-May-24	0
Z3S5UC1-2120	UC/PP 1 - E&M Installation and Pipeworks	60	04-Mar-24	18-May-24	04-Mar-24	18-May-24	0
Stage 6 : Pipe Portal No. 2		144	16-Nov-23	18-May-24	29-Nov-23	31-May-24	11
Z3S6PP2-2000	PP 2 - Structure (-6.25 to -5.0mPD, Base Slab)	18	16-Nov-23	06-Dec-23	29-Nov-23	19-Dec-23	11
Z3S6PP2-2010	PP 2 - Structure (-5.0 to -2.0mPD) including Backfill	18	07-Dec-23	29-Dec-23	20-Dec-23	12-Jan-24	11
Z3S6PP2-2020	PP 2 - Structure (-2.0 to +1.0mPD) including Backfill	18	30-Dec-23	20-Jan-24	13-Jan-24	02-Feb-24	11
Z3S6PP2-2030	PP 2 - Structure (+1.0 to +4.0mPD) including Backfill	18	22-Jan-24	17-Feb-24	03-Feb-24	01-Mar-24	11
Z3S6PP2-2040	PP 2 - Structure (+4.0 to +7.0mPD), including Backfill SFL @ +6.0mPD	18	19-Feb-24	09-Mar-24	02-Mar-24	22-Mar-24	11
Z3S6PP2-2050	PP 2 - Structure (+7.0 to 10.5 mPD)	18	11-Mar-24	03-Apr-24	23-Mar-24	17-Apr-24	11
Z3S6PP2-2060	PP 2 - Structure (+10.5 to 14.0 mPD)	18	05-Apr-24	25-Apr-24	18-Apr-24	09-May-24	11
Z3S6PP2-2070	PP 2 - Structure (+14.0 to 17.65 mPD)	18	26-Apr-24	18-May-24	10-May-24	31-May-24	11
Stage 6 : New Sludge Digester No. 1 and 2 (Continued)		112	20-Jul-23	30-Nov-23	04-Jan-24	27-May-24	138
Stage 6 : SD 1,2 Superstructure		60	20-Jul-23	27-Sep-23	04-Jan-24	20-Mar-24	138
Z3S3-2620	Sludge Digester No. 1-2 - Structure (+14.2 to +16.83mPD)	30	20-Jul-23	23-Aug-23	04-Jan-24	07-Feb-24	138
Z3S3-2640	Sludge Digester No. 1-2 - Structure (+16.83 to +18.3mPD)	30	24-Aug-23	27-Sep-23	08-Feb-24	20-Mar-24	138
Stage 6 : SD 1,2 E&M Installation		52	28-Sep-23	30-Nov-23	21-Mar-24	27-May-24	138
Z3S3-2670	SDT No.1&2 - Tank Internal Pipework and Jet Nozzle Installation at Stage 6	52	28-Sep-23	30-Nov-23	21-Mar-24	27-May-24	138
Z3S3-2680	SDT No.1&2 - Pumps and Heat Exchanger Installation at Stage 6	52	28-Sep-23	30-Nov-23	21-Mar-24	27-May-24	138
Z3S3-2690	SDT No.1&2 - Tank Associated Pipework at Stage 6	52	28-Sep-23	30-Nov-23	21-Mar-24	27-May-24	138



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

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

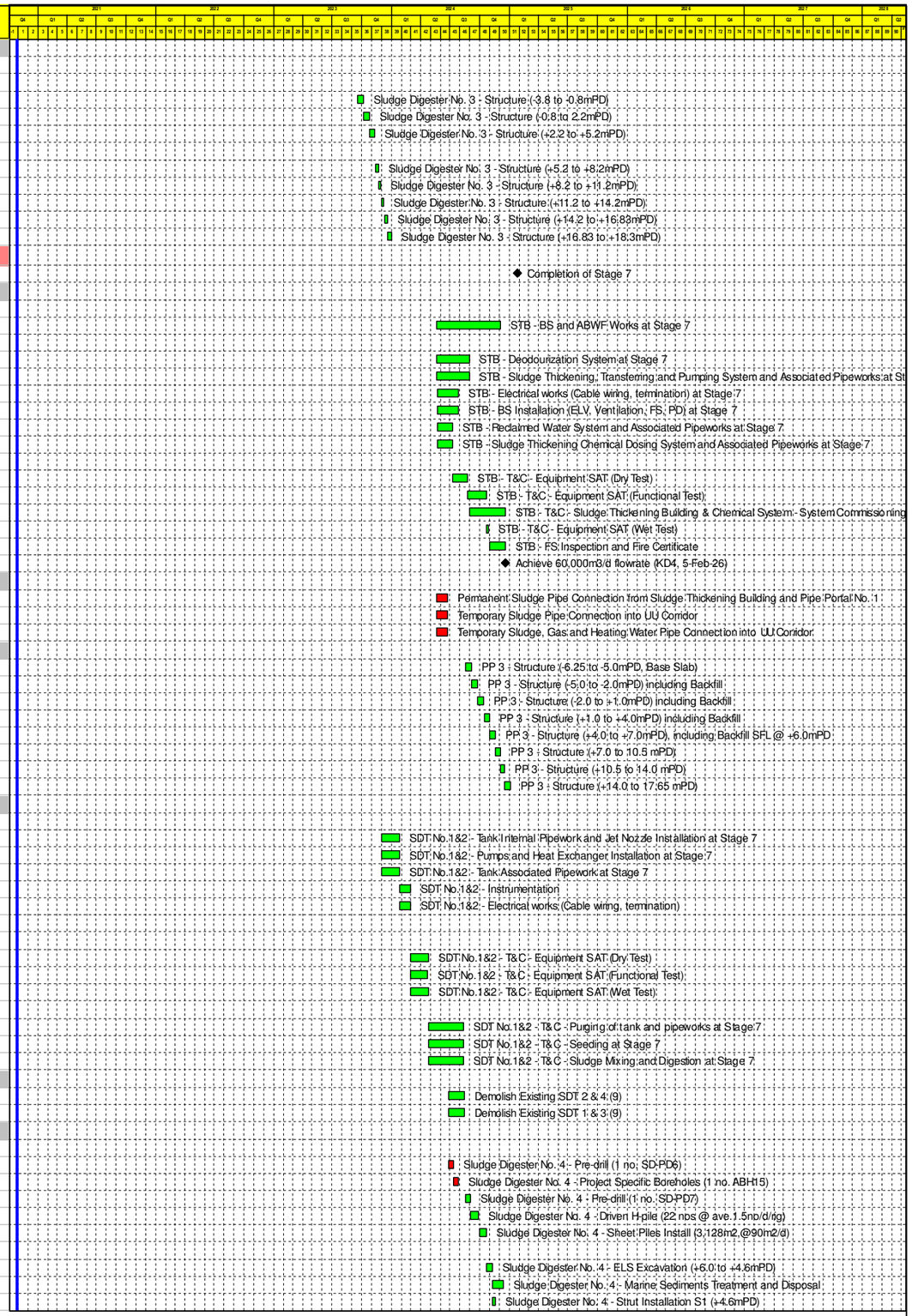
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr1_210422
Layout : DC201910 Detailed Programme

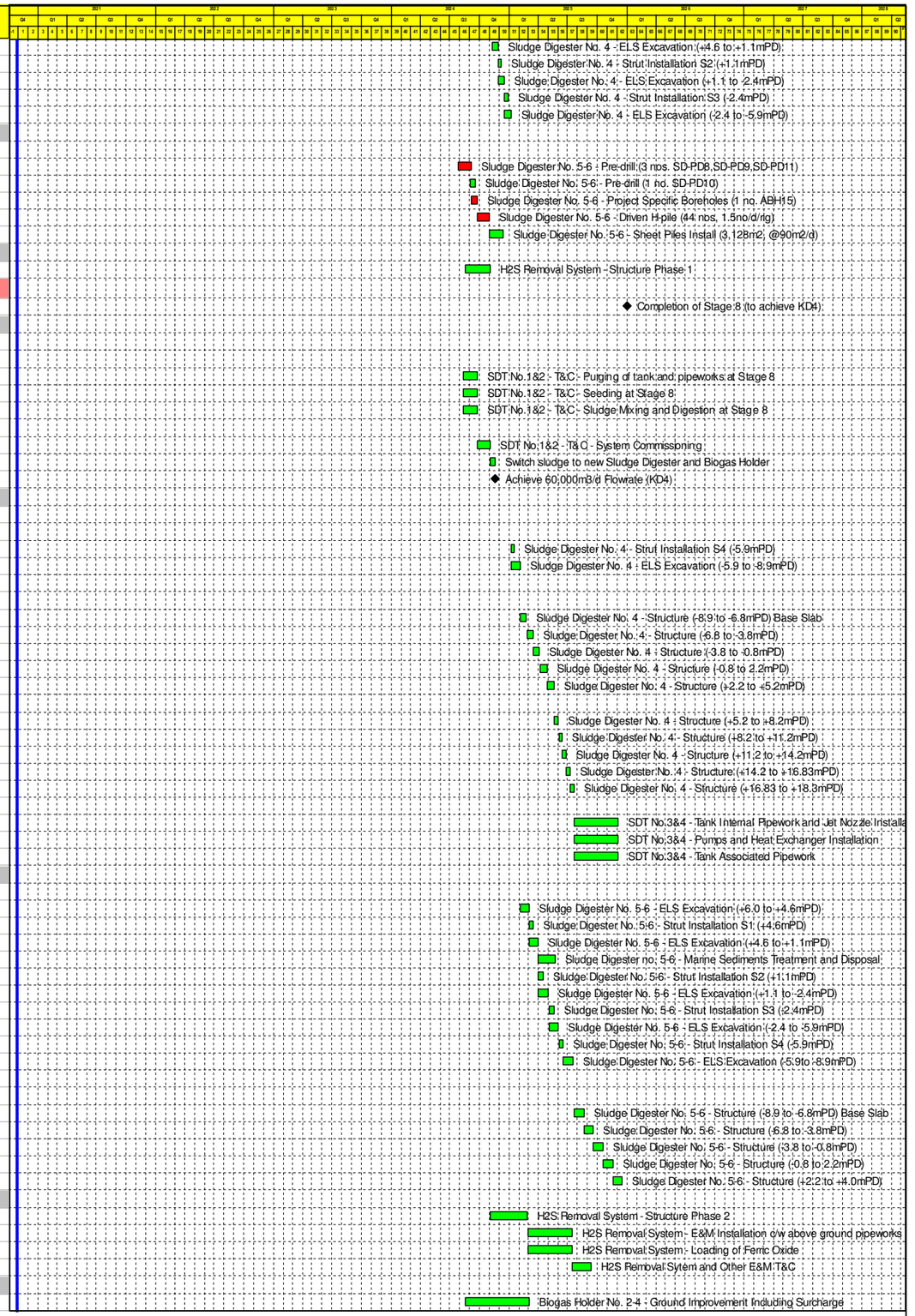
Detailed Works Programme

Date	Revision	Checked	Approved
15-Mar-21	Rev. 0		
21-Apr-21	Rev 1		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
Stage 6 : New Sludge Digester No. 3 (Continued)		87	18-Sep-23	03-Jan-24	07-Feb-24	31-May-24	116
Stage 6 : SD 3 Civil and Structural Works		87	18-Sep-23	03-Jan-24	07-Feb-24	31-May-24	116
S6 : SD 3 Substructure		45	18-Sep-23	11-Nov-23	07-Feb-24	10-Apr-24	116
Z3S3-2480	Sludge Digester No. 3 - Structure (-3.8 to -0.8mPD)	15	18-Sep-23	06-Oct-23	07-Feb-24	01-Mar-24	116
Z3S3-2490	Sludge Digester No. 3 - Structure (-0.8 to 2.2mPD)	15	07-Oct-23	25-Oct-23	02-Mar-24	19-Mar-24	116
Z3S3-2530	Sludge Digester No. 3 - Structure (+2.2 to +5.2mPD)	15	26-Oct-23	11-Nov-23	20-Mar-24	10-Apr-24	116
S6 : SD 3 Superstructure		42	13-Nov-23	03-Jan-24	11-Apr-24	31-May-24	116
Z3S3-2540	Sludge Digester No. 3 - Structure (+5.2 to +8.2mPD)	8	13-Nov-23	21-Nov-23	11-Apr-24	19-Apr-24	116
Z3S3-2560	Sludge Digester No. 3 - Structure (+8.2 to +11.2mPD)	8	22-Nov-23	30-Nov-23	20-Apr-24	29-Apr-24	116
Z3S3-2570	Sludge Digester No. 3 - Structure (+11.2 to +14.2mPD)	8	01-Dec-23	09-Dec-23	30-Apr-24	09-May-24	116
Z3S3-2590	Sludge Digester No. 3 - Structure (+14.2 to +16.83mPD)	8	11-Dec-23	19-Dec-23	10-May-24	20-May-24	116
Z3S3-2610	Sludge Digester No. 3 - Structure (+16.83 to +18.3mPD)	10	20-Dec-23	03-Jan-24	21-May-24	31-May-24	116
Stage 7 (Mar 2024 to Feb 2025)		363	01-Dec-23	27-Jan-25	20-May-24	27-Jan-25	0
Z3S7-3370	Completion of Stage 7	0		27-Jan-25*		27-Jan-25	0
Stage 7 : New Sludge Thickening Building (STB) (Continued)		185	20-May-24	20-Dec-24	24-Jun-24	27-Jan-25	32
Stage 7 : STB ABWF and BS Works		165	21-May-24	04-Dec-24	12-Jul-24	27-Jan-25	43
Z3S3-3090	STB - BS and ABWF Works at Stage 7	165	21-May-24	04-Dec-24	12-Jul-24	27-Jan-25	43
Stage 7 : STB E&M Installation		86	20-May-24	29-Aug-24	24-Jun-24	27-Jan-25	123
Z3S3-3260	STB - Deodourization System at Stage 7	86	20-May-24	29-Aug-24	16-Oct-24	27-Jan-25	123
Z3S3-3270	STB - Sludge Thickening, Transferring and Pumping System and Associated Pipeworks at Stage 7	86	20-May-24	29-Aug-24	24-Jun-24	04-Oct-24	29
Z3S3-3220	STB - Electrical works (Cable wiring, termination) at Stage 7	56	22-May-24	27-Jul-24	20-Nov-24	27-Jan-25	151
Z3S3-3230	STB - BS Installation (ELV, Ventilation, FS, PD) at Stage 7	56	22-May-24	27-Jul-24	20-Nov-24	27-Jan-25	151
Z3S3-3240	STB - Reclaimed Water System and Associated Pipeworks at Stage 7	40	22-May-24	09-Jul-24	29-Jun-24	15-Aug-24	32
Z3S3-3250	STB - Sludge Thickening Chemical Dosing System and Associated Pipeworks at Stage 7	40	22-May-24	09-Jul-24	29-Jun-24	15-Aug-24	32
Stage 7 : STB Testing & Commissioning		141	10-Jul-24	20-Dec-24	16-Aug-24	27-Jan-25	32
Z3S3-2910	STB - T&C - Equipment SAT (Dry Test)	39	10-Jul-24	23-Aug-24	16-Aug-24	02-Oct-24	32
Z3S3-2920	STB - T&C - Equipment SAT (Functional Test)	48	24-Aug-24	22-Oct-24	03-Oct-24	28-Nov-24	32
Z3S3-2940	STB - T&C - Sludge Thickening Building & Chemical System - System Commissioning (60,000 m3/d) (KD4)	94	30-Aug-24	20-Dec-24	05-Oct-24	27-Jan-25	29
Z3S3-2960	STB - T&C - Equipment SAT (Wet Test)	6	23-Oct-24	29-Oct-24	29-Nov-24	05-Dec-24	32
Z3S3-2970	STB - FS Inspection and Fire Certificate	42	02-Nov-24	20-Dec-24	06-Dec-24	27-Jan-25	29
Z3S3-2980	Achieve 60,000m3/d flowrate (KD4, 5-Feb-26)	0		20-Dec-24		27-Jan-25	38
Stage 7 : UC/PP Connection		30	20-May-24	24-Jun-24	20-May-24	24-Jun-24	0
Z3S7-2000	Permanent Sludge Pipe Connection from Sludge Thickening Building and Pipe Portal No. 1	30	20-May-24	24-Jun-24	20-May-24	24-Jun-24	0
Z3S7-2010	Temporary Sludge Pipe Connection into UU Corridor	30	20-May-24	24-Jun-24	20-May-24	24-Jun-24	0
Z3S7-2020	Temporary Sludge, Gas and Heating Water Pipe Connection into UU Corridor	30	20-May-24	24-Jun-24	20-May-24	24-Jun-24	0
Stage 7 : Pipe Portal No. 3		114	17-Aug-24	03-Jan-25	10-Sep-24	27-Jan-25	20
Z3S8PP3-2000	PP 3 - Structure (-6.25 to -5.0mPD, Base Slab)	16	17-Aug-24	04-Sep-24	10-Sep-24	28-Sep-24	20
Z3S8PP3-2010	PP 3 - Structure (-5.0 to -2.0mPD) including Backfill	15	05-Sep-24	23-Sep-24	30-Sep-24	18-Oct-24	20
Z3S8PP3-2020	PP 3 - Structure (-2.0 to +1.0mPD) including Backfill	16	24-Sep-24	14-Oct-24	19-Oct-24	06-Nov-24	20
Z3S8PP3-2030	PP 3 - Structure (+1.0 to +4.0mPD) including Backfill	15	15-Oct-24	31-Oct-24	07-Nov-24	23-Nov-24	20
Z3S8PP3-2040	PP 3 - Structure (+4.0 to +7.0mPD), including Backfill SFL @ +6.0mPD	16	01-Nov-24	19-Nov-24	25-Nov-24	12-Dec-24	20
Z3S8PP3-2050	PP 3 - Structure (+7.0 to 10.5 mPD)	12	20-Nov-24	03-Dec-24	13-Dec-24	28-Dec-24	20
Z3S8PP3-2060	PP 3 - Structure (+10.5 to 14.0 mPD)	12	04-Dec-24	17-Dec-24	30-Dec-24	13-Jan-25	20
Z3S8PP3-2070	PP 3 - Structure (+14.0 to 17.65 mPD)	12	18-Dec-24	03-Jan-25	14-Jan-25	27-Jan-25	20
Stage 7 : New Sludge Digester Nos. 1 and 2 (Continued)		202	01-Dec-23	12-Aug-24	28-May-24	27-Jan-25	138
Stage 7 : E&M Installation		68	01-Dec-23	28-Feb-24	28-May-24	16-Aug-24	138
Z3S3-3280	SDT No.1&2 - Tank Internal Pipework and Jet Nozzle Installation at Stage 7	46	01-Dec-23	26-Jan-24	28-May-24	22-Jul-24	138
Z3S3-3290	SDT No.1&2 - Pumps and Heat Exchanger Installation at Stage 7	46	01-Dec-23	26-Jan-24	28-May-24	22-Jul-24	138
Z3S3-3300	SDT No.1&2 - Tank Associated Pipework at Stage 7	46	01-Dec-23	26-Jan-24	28-May-24	22-Jul-24	138
Z3S3-2750	SDT No.1&2 - Instrumentation	22	27-Jan-24	28-Feb-24	23-Jul-24	16-Aug-24	138
Z3S3-2760	SDT No.1&2 - Electrical works (Cable wiring, termination)	22	27-Jan-24	28-Feb-24	23-Jul-24	16-Aug-24	138
Stage 7 : Testing & Commissioning		134	29-Feb-24	12-Aug-24	17-Aug-24	27-Jan-25	138
S7 : Equipment SAT		44	29-Feb-24	24-Apr-24	17-Aug-24	09-Oct-24	138
Z3S3-2820	SDT No.1&2 - T&C - Equipment SAT (Dry Test)	44	29-Feb-24	24-Apr-24	17-Aug-24	09-Oct-24	138
Z3S3-2830	SDT No.1&2 - T&C - Equipment SAT (Functional Test)	43	29-Feb-24	23-Apr-24	19-Aug-24	09-Oct-24	139
Z3S3-2840	SDT No.1&2 - T&C - Equipment SAT (Wet Test)	44	29-Feb-24	24-Apr-24	17-Aug-24	09-Oct-24	138
S7 : Process Start-Up		90	25-Apr-24	12-Aug-24	10-Oct-24	27-Jan-25	138
Z3S3-2870	SDT No.1&2 - T&C - Purging of tank and pipeworks at Stage 7	90	25-Apr-24	12-Aug-24	10-Oct-24	27-Jan-25	138
Z3S3-2880	SDT No.1&2 - T&C - Seeding at Stage 7	90	25-Apr-24	12-Aug-24	10-Oct-24	27-Jan-25	138
Z3S3-2890	SDT No.1&2 - T&C - Sludge Mixing and Digestion at Stage 7	90	25-Apr-24	12-Aug-24	10-Oct-24	27-Jan-25	138
Stage 7 : Demolition of SDT 1-4		45	25-Jun-24	16-Aug-24	28-Jun-24	02-Sep-24	14
Z3S7-2030	Demolish Existing SDT 2 & 4 (9)	45	25-Jun-24	16-Aug-24	28-Jun-24	20-Aug-24	3
Z3S7-2040	Demolish Existing SDT 1 & 3 (9)	45	25-Jun-24	16-Aug-24	12-Jul-24	02-Sep-24	14
Stage 7: New Sludge Digester No. 4		170	25-Jun-24	08-Jan-25	25-Jun-24	18-Jan-25	9
Stage 7 : SD 4 Foundation and ELS Works		170	25-Jun-24	08-Jan-25	25-Jun-24	18-Jan-25	9
Z3S8SD-2000	Sludge Digester No. 4 - Pre-drill (1 no. SD-PD6)	14	25-Jun-24	11-Jul-24	25-Jun-24	11-Jul-24	0
Z3S8SD-2010	Sludge Digester No. 4 - Project Specific Boreholes (1 no. ABH15)	14	12-Jul-24	27-Jul-24	12-Jul-24	27-Jul-24	0
Z3S8SD-2020	Sludge Digester No. 4 - Pre-drill (1 no. SD-PD7)	14	17-Aug-24	02-Sep-24	21-Aug-24	05-Sep-24	3
Z3S8SD-2030	Sludge Digester No. 4 - Driven H-pile (22 nos @ ave.1.5no/d/rig)	22	03-Sep-24	28-Sep-24	13-Sep-24	10-Oct-24	9
Z3S8SD-2040	Sludge Digester No. 4 - Sheet Piles Install (3,128m2,@90m2/d)	18	30-Sep-24*	22-Oct-24	12-Oct-24	01-Nov-24	9
S7 : Excavation and Strut Installation		64	23-Oct-24	08-Jan-25	02-Nov-24	18-Jan-25	9
Z3S8SD-2050	Sludge Digester No. 4 - ELS Excavation (+6.0 to +4.6mPD)	16	23-Oct-24*	09-Nov-24	02-Nov-24	20-Nov-24	9
Z3S8SD-2060	Sludge Digester No. 4 - Marine Sediments Treatment and Disposal	30	11-Nov-24	14-Dec-24	23-Nov-24	30-Dec-24	11
Z3S8SD-2070	Sludge Digester No. 4 - Strut Installation S1 (+4.6mPD)	8	11-Nov-24	19-Nov-24	10-Dec-24	18-Dec-24	25



Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
Z3S8SD-2080	Sludge Digester No. 4 - ELS Excavation (+4.6 to +1.1mPD)	16	11-Nov-24	28-Nov-24	21-Nov-24	09-Dec-24	9
Z3S8SD-2090	Sludge Digester No. 4 - Strut Installation S2 (+1.1mPD)	8	29-Nov-24	07-Dec-24	19-Dec-24	30-Dec-24	17
Z3S8SD-2100	Sludge Digester No. 4 - ELS Excavation (+1.1 to -2.4mPD)	16	29-Nov-24	17-Dec-24	10-Dec-24	30-Dec-24	9
Z3S8SD-2110	Sludge Digester No. 4 - Strut Installation S3 (-2.4mPD)	8	18-Dec-24	28-Dec-24	31-Dec-24	09-Jan-25	9
Z3S8SD-2120	Sludge Digester No. 4 - ELS Excavation (-2.4 to -5.9mPD)	16	18-Dec-24	08-Jan-25	31-Dec-24	18-Jan-25	9
Stage 7 : New Sludge Digester No. 5 and 6		120	29-Jul-24	14-Dec-24	29-Jul-24	27-Jan-25	37
Stage 7 : SD 5,6 Foundation and ELS Works		120	29-Jul-24	14-Dec-24	29-Jul-24	27-Jan-25	37
Z3S8SD-1000	Sludge Digester No. 5-6 - Pre-drill (3 nos. SD-PD8,SD-PD9,SD-PD11)	34	29-Jul-24	05-Sep-24	29-Jul-24	05-Sep-24	0
Z3S8SD-1010	Sludge Digester No. 5-6 - Pre-drill (1 no. SD-PD10)	14	03-Sep-24	19-Sep-24	06-Sep-24	23-Sep-24	3
Z3S8SD-1020	Sludge Digester No. 5-6 - Project Specific Boreholes (1 no. ABH15)	14	06-Sep-24	23-Sep-24	06-Sep-24	23-Sep-24	0
Z3S8SD-1030	Sludge Digester No. 5-6 - Driven H-pile (44 nos, 1.5no/d/rig)	31	24-Sep-24	31-Oct-24	24-Sep-24	31-Oct-24	0
Z3S8SD-1040	Sludge Digester No. 5-6 - Sheet Piles Install (3,128m2, @90m2/d)	38	01-Nov-24	14-Dec-24	11-Dec-24	27-Jan-25	34
Stage 7 : H2S System		65	17-Aug-24	04-Nov-24	09-Nov-24	27-Jan-25	69
H2S-180	H2S Removal System - Structure Phase 1	65	17-Aug-24	04-Nov-24	09-Nov-24	27-Jan-25	69
Stage 8 (Nov 2024 to Dec 2025)		434	13-Aug-24	31-Dec-25	03-Sep-24	31-Dec-25	0
Z3S8-3380	Completion of Stage 8 (to achieve KD4)	0		31-Dec-25*		31-Dec-25	0
Stage 8 : New Sludge Digester No. 1 and 2 (Continued)		81	13-Aug-24	18-Nov-24	23-Sep-25	31-Dec-25	329
Stage 8 : Testing & Commissioning		81	13-Aug-24	18-Nov-24	23-Sep-25	31-Dec-25	329
S8 : Process Start-Up		35	13-Aug-24	23-Sep-24	23-Sep-25	05-Nov-25	329
Z3S3-3310	SDT No.1&2 - T&C - Purging of tank and pipeworks at Stage 8	35	13-Aug-24	23-Sep-24	23-Sep-25	05-Nov-25	329
Z3S3-3320	SDT No.1&2 - T&C - Seeding at Stage 8	35	13-Aug-24	23-Sep-24	23-Sep-25	05-Nov-25	329
Z3S3-3330	SDT No.1&2 - T&C - Sludge Mixing and Digestion at Stage 8	35	13-Aug-24	23-Sep-24	23-Sep-25	05-Nov-25	329
S8 : System Commissioning		46	24-Sep-24	18-Nov-24	06-Nov-25	31-Dec-25	329
Z3S3-2900	SDT No.1&2 - T&C - System Commissioning	34	24-Sep-24	04-Nov-24	06-Nov-25	15-Dec-25	329
Z3S3-2930	Switch sludge to new Sludge Digester and Biogas Holder	12	05-Nov-24	18-Nov-24	16-Dec-25	31-Dec-25	329
Z3S3-2950	Achieve 60,000m3/d Flowrate (KD4)	0		18-Nov-24		31-Dec-25	329
Stage 8 : New Sludge Digester No. 4 (Continued)		269	09-Jan-25	06-Dec-25	20-Jan-25	31-Dec-25	19
Stage 8 : SD 4 Foundation and ELS Works		17	09-Jan-25	03-Feb-25	20-Jan-25	13-Feb-25	9
S8 : Excavation and Strut Installation		17	09-Jan-25	03-Feb-25	20-Jan-25	13-Feb-25	9
Z3S8SD-2130	Sludge Digester No. 4 - Strut Installation S4 (-5.9mPD)	8	09-Jan-25	17-Jan-25	05-Feb-25	13-Feb-25	18
Z3S8SD-2140	Sludge Digester No. 4 - ELS Excavation (-5.9 to -8.9mPD)	17	09-Jan-25	03-Feb-25	20-Jan-25	13-Feb-25	9
Stage 8 : SD 4 Civil and Structural Works		137	04-Feb-25	22-Jul-25	14-Feb-25	01-Aug-25	9
S8 : SD 4 Substructure		86	04-Feb-25	21-May-25	14-Feb-25	02-Jun-25	9
Z3S8SD-2150	Sludge Digester No. 4 - Structure (-8.9 to -6.8mPD) Base Slab	18	04-Feb-25	24-Feb-25	14-Feb-25	06-Mar-25	9
Z3S8SD-2160	Sludge Digester No. 4 - Structure (-6.8 to -3.8mPD)	17	25-Feb-25	15-Mar-25	07-Mar-25	26-Mar-25	9
Z3S8SD-2170	Sludge Digester No. 4 - Structure (-3.8 to -0.8mPD)	17	17-Mar-25	04-Apr-25	27-Mar-25	16-Apr-25	9
Z3S8SD-2180	Sludge Digester No. 4 - Structure (-0.8 to 2.2mPD)	17	07-Apr-25	29-Apr-25	17-Apr-25	12-May-25	9
Z3S8SD-2190	Sludge Digester No. 4 - Structure (+2.2 to +5.2mPD)	17	30-Apr-25	21-May-25	13-May-25	02-Jun-25	9
S8 : SD 4 Superstructure		51	22-May-25	22-Jul-25	03-Jun-25	01-Aug-25	9
Z3S8SD-2200	Sludge Digester No. 4 - Structure (+5.2 to +8.2mPD)	10	22-May-25	03-Jun-25	03-Jun-25	13-Jun-25	9
Z3S8SD-2210	Sludge Digester No. 4 - Structure (+8.2 to +11.2mPD)	10	04-Jun-25	14-Jun-25	14-Jun-25	25-Jun-25	9
Z3S8SD-2220	Sludge Digester No. 4 - Structure (+11.2 to +14.2mPD)	10	16-Jun-25	26-Jun-25	26-Jun-25	08-Jul-25	9
Z3S8SD-2230	Sludge Digester No. 4 - Structure (+14.2 to +16.83mPD)	10	27-Jun-25	09-Jul-25	09-Jul-25	19-Jul-25	9
Z3S8SD-2240	Sludge Digester No. 4 - Structure (+16.83 to +18.3mPD)	11	10-Jul-25	22-Jul-25	21-Jul-25	01-Aug-25	9
Stage 8 : E&M Works SDT No.3 & No.4		115	23-Jul-25	06-Dec-25	14-Aug-25	31-Dec-25	19
ATALZ3S8-2000	SDT No.3&4 - Tank Internal Pipework and Jet Nozzle Installation	115	23-Jul-25	06-Dec-25	14-Aug-25	31-Dec-25	19
ATALZ3S8-2010	SDT No.3&4 - Pumps and Heat Exchanger Installation	115	23-Jul-25	06-Dec-25	14-Aug-25	31-Dec-25	19
ATALZ3S8-2020	SDT No.3&4 - Tank Associated Pipework	115	23-Jul-25	06-Dec-25	14-Aug-25	31-Dec-25	19
Stage 8 : New Sludge Digester No. 5 and 6 (Continued)		262	04-Feb-25	18-Dec-25	19-Feb-25	31-Dec-25	9
Stage 8 : SD 5,6 Foundation and ELS Works		133	04-Feb-25	17-Jul-25	19-Feb-25	01-Aug-25	13
Z3S8SD-1060	Sludge Digester No. 5-6 - ELS Excavation (+6.0 to +4.6mPD)	24	04-Feb-25	03-Mar-25	19-Feb-25	18-Mar-25	13
Z3S8SD-1070	Sludge Digester No. 5-6 - Strut Installation S1 (+4.6mPD)	12	04-Mar-25	17-Mar-25	07-May-25	20-May-25	49
Z3S8SD-1080	Sludge Digester No. 5-6 - ELS Excavation (+4.6 to +1.1mPD)	24	04-Mar-25	31-Mar-25	19-Mar-25	16-Apr-25	13
Z3S8SD-1090	Sludge Digester no. 5-6 - Marine Sediments Treatment and Disposal	40	01-Apr-25	23-May-25	16-May-25	03-Jul-25	33
Z3S8SD-1100	Sludge Digester No. 5-6 - Strut Installation S2 (+1.1mPD)	12	01-Apr-25	15-Apr-25	21-May-25	04-Jun-25	37
Z3S8SD-1110	Sludge Digester No. 5-6 - ELS Excavation (+1.1 to -2.4mPD)	24	01-Apr-25	03-May-25	17-Apr-25	20-May-25	13
Z3S8SD-1120	Sludge Digester No. 5-6 - Strut Installation S3 (-2.4mPD)	12	06-May-25	19-May-25	05-Jun-25	18-Jun-25	25
Z3S8SD-1130	Sludge Digester No. 5-6 - ELS Excavation (-2.4 to -5.9mPD)	24	06-May-25	03-Jun-25	21-May-25	18-Jun-25	13
Z3S8SD-1140	Sludge Digester No. 5-6 - Strut Installation S4 (-5.9mPD)	12	04-Jun-25	17-Jun-25	19-Jun-25	03-Jul-25	13
Z3S8SD-1150	Sludge Digester No. 5-6 - ELS Excavation (-5.9to -8.9mPD)	25	18-Jun-25	17-Jul-25	04-Jul-25	01-Aug-25	13
Stage 8 : SD 5,6 Civil and Structural Works		125	23-Jul-25	18-Dec-25	02-Aug-25	31-Dec-25	9
S8 : SD 5,6 Substructure		125	23-Jul-25	18-Dec-25	02-Aug-25	31-Dec-25	9
Z3S8SD-1170	Sludge Digester No. 5-6 - Structure (-8.9 to -6.8mPD) Base Slab	25	23-Jul-25	20-Aug-25	02-Aug-25	30-Aug-25	9
Z3S8SD-1180	Sludge Digester No. 5-6 - Structure (-6.8 to -3.8mPD)	25	21-Aug-25	18-Sep-25	01-Sep-25	29-Sep-25	9
Z3S8SD-1190	Sludge Digester No. 5-6 - Structure (-3.8 to -0.8mPD)	25	19-Sep-25	20-Oct-25	30-Sep-25	31-Oct-25	9
Z3S8SD-1200	Sludge Digester No. 5-6 - Structure (-0.8 to 2.2mPD)	25	21-Oct-25	19-Nov-25	01-Nov-25	29-Nov-25	9
Z3S8SD-1210	Sludge Digester No. 5-6 - Structure (+2.2 to +4.0mPD)	25	20-Nov-25	18-Dec-25	01-Dec-25	31-Dec-25	9
Stage 8 : H2S System (Continued)		253	05-Nov-24	13-Sep-25	25-Feb-25	31-Dec-25	88
H2S-170	H2S Removal System - Structure Phase 2	91	05-Nov-24	27-Feb-25	25-Feb-25	18-Jun-25	88
H2S-150	H2S Removal System - E&M Installation c/w above ground pipeworks	110	28-Feb-25	15-Jul-25	19-Jun-25	28-Oct-25	88
H2S-155	H2S Removal System - Loading of Ferric Oxide	110	28-Feb-25	15-Jul-25	19-Jun-25	28-Oct-25	88
H2S-160	H2S Removal Sytem and Other E&M T&C	52	16-Jul-25	13-Sep-25	30-Oct-25	31-Dec-25	88
Stage 8 : Biogas Holders No. 2,3 and 4		397	17-Aug-24	18-Dec-25	03-Sep-24	18-Dec-25	0
Z3BH-1020	Biogas Holder No. 2-4 - Ground Improvement Including Surcharge	160	17-Aug-24	04-Mar-25	03-Sep-24	20-Mar-25	14



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

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

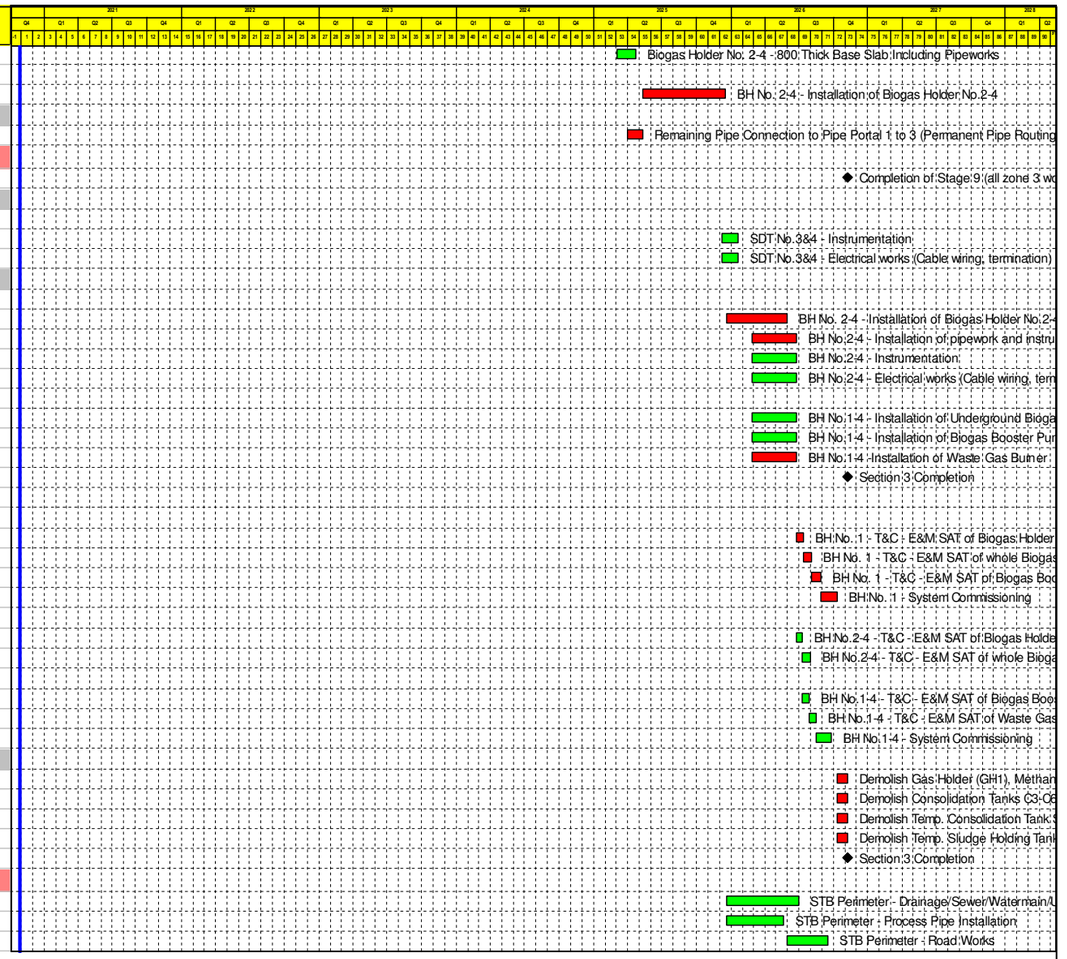
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr1_210422
Layout : DC201910 Detailed Programme

Detailed Works Programme

Date	Revision	Checked	Approved
15-Mar-21	Rev. 0		
21-Apr-21	Rev 1		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
Z3BH-1030	Biogas Holder No. 2-4 - 800 Thick Base Slab Including Pipeworks	39	05-Mar-25	23-Apr-25	21-Mar-25	12-May-25	14
Stage 8 : E&M Installation Works BH 2,3,4		184	13-May-25	18-Dec-25	13-May-25	18-Dec-25	0
ATALZ3BH-2260	BH No. 2-4 - Installation of Biogas Holder No.2-4	184	13-May-25	18-Dec-25	13-May-25	18-Dec-25	0
Stage 8 : Remaining Works		30	01-Apr-25	12-May-25	01-Apr-25	12-May-25	0
ATALZ3BH-2210	Remaining Pipe Connection to Pipe Portal 1 to 3 (Permanent Pipe Routing)	30	01-Apr-25	12-May-25	01-Apr-25	12-May-25	0
Stage 9 (Dec 2025 to Nov 2026)		288	08-Dec-25	07-Nov-26	19-Dec-25	07-Nov-26	0
Z3S9-3380	Completion of Stage 9 (all zone 3 works complete)	0		07-Nov-26*		07-Nov-26	0
Stage 9 : New Sludge Digester No. 4 (Continued)		34	08-Dec-25	19-Jan-26	28-Sep-26	07-Nov-26	235
Stage 9 : E&M Works SDT No. 3 & No. 4		34	08-Dec-25	19-Jan-26	28-Sep-26	07-Nov-26	235
ATALZ3S8-2030	SDT No.3&4 - Instrumentation	34	08-Dec-25	19-Jan-26	28-Sep-26	07-Nov-26	235
ATALZ3S8-2040	SDT No.3&4 - Electrical works (Cable wiring, termination)	34	08-Dec-25	19-Jan-26	28-Sep-26	07-Nov-26	235
Stage 9 : Biogas Holders No. 2,3 and 4 (Continued)		278	19-Dec-25	07-Nov-26	19-Dec-25	07-Nov-26	0
Stage 9 : E&M Installation Works BH 2,3,4		145	19-Dec-25	23-Jun-26	19-Dec-25	06-Jul-26	10
ATALZ3BH-2000	BH No. 2-4 - Installation of Biogas Holder No.2-4	126	19-Dec-25	30-May-26	19-Dec-25	30-May-26	0
ATALZ3BH-2010	BH No.2-4 - Installation of pipework and instrumentation in Biogas Holder Valve Chamber No.2-4	95	26-Feb-26	23-Jun-26	26-Feb-26	23-Jun-26	0
ATALZ3BH-2020	BH No.2-4 - Instrumentation	95	26-Feb-26	23-Jun-26	10-Mar-26	06-Jul-26	10
ATALZ3BH-2030	BH No.2-4 - Electrical works (Cable wiring, termination)	95	26-Feb-26	23-Jun-26	10-Mar-26	06-Jul-26	10
Stage 9 : E&M Installation Works for Biogas Holders No. 1-4		219	26-Feb-26	07-Nov-26	26-Feb-26	07-Nov-26	0
ATALZ3BH-2040	BH No.1-4 - Installation of Underground Biogas Pipework	95	26-Feb-26	23-Jun-26	10-Mar-26	06-Jul-26	10
ATALZ3BH-2050	BH No.1-4 - Installation of Biogas Booster Pump No.3 & 4 and Transfer Pump	95	26-Feb-26	23-Jun-26	10-Mar-26	06-Jul-26	10
ATALZ3BH-2060	BH No.1-4 -Installation of Waste Gas Burner	95	26-Feb-26	23-Jun-26	26-Feb-26	23-Jun-26	0
ATALZ3BH-2170	Section 3 Completion	0		07-Nov-26*		07-Nov-26	0
Stage 9 : Testing and Commissioning (T&C)		90	24-Jun-26	09-Oct-26	24-Jun-26	09-Oct-26	0
S9 : BH No.1		90	24-Jun-26	09-Oct-26	24-Jun-26	09-Oct-26	0
ATALZ3BH-2070	BH No. 1 - T&C - E&M SAT of Biogas Holder No.1 (using Air to test membrane only)	15	24-Jun-26	11-Jul-26	24-Jun-26	11-Jul-26	0
ATALZ3BH-2090	BH No. 1 - T&C - E&M SAT of whole Biogas Holder No.1 and associated valve and pipework (N2 Purging)	20	13-Jul-26	04-Aug-26	13-Jul-26	04-Aug-26	0
ATALZ3BH-2100	BH No. 1 - T&C - E&M SAT of Biogas Booster Pump No.1 & 2	20	05-Aug-26	27-Aug-26	05-Aug-26	27-Aug-26	0
ATALZ3BH-2160	BH No. 1 - System Commissioning	35	28-Aug-26	09-Oct-26	28-Aug-26	09-Oct-26	0
S9 : BH No.2, 3 & 4		32	24-Jun-26	31-Jul-26	07-Jul-26	09-Oct-26	58
ATALZ3BH-2080	BH No.2-4 - T&C - E&M SAT of Biogas Holder No.2-4 (using Air to test membrane only)	14	24-Jun-26	10-Jul-26	07-Jul-26	22-Jul-26	10
ATALZ3BH-2110	BH No.2-4 - T&C - E&M SAT of whole Biogas Holder No.2-4 and associated valve and pipework (N2 Purging)	18	11-Jul-26	31-Jul-26	17-Sep-26	09-Oct-26	58
S9 : BH No.1, 2, 3 & 4		66	11-Jul-26	25-Sep-26	23-Jul-26	09-Oct-26	10
ATALZ3BH-2120	BH No.1-4 - T&C - E&M SAT of Biogas Booster Pump No.3 & 4 and Transfer Pump	15	11-Jul-26	28-Jul-26	23-Jul-26	08-Aug-26	10
ATALZ3BH-2130	BH No.1-4 - T&C - E&M SAT of Waste Gas Burner	15	29-Jul-26	14-Aug-26	10-Aug-26	26-Aug-26	10
ATALZ3BH-2150	BH No.1-4 - System Commissioning	36	15-Aug-26	25-Sep-26	27-Aug-26	09-Oct-26	10
Stage 9 : Remaining Works		25	10-Oct-26	07-Nov-26	10-Oct-26	07-Nov-26	0
ATALZ3BH-2200	Demolish Gas Holder (GH1), Methane Compressor House and Water Heater House	24	10-Oct-26	07-Nov-26	10-Oct-26	07-Nov-26	0
ATALZ3BH-2220	Demolish Consolidation Tanks C3-C6	24	10-Oct-26	07-Nov-26	10-Oct-26	07-Nov-26	0
ATALZ3BH-2230	Demolish Temp. Consolidation Tank System & Polymer Dosing System	24	10-Oct-26	07-Nov-26	10-Oct-26	07-Nov-26	0
ATALZ3BH-2240	Demolish Temp. Sludge Holding Tank (SHT)	24	10-Oct-26	07-Nov-26	10-Oct-26	07-Nov-26	0
ATALZ3BH-2250	Section 3 Completion	0		07-Nov-26*		07-Nov-26	0
External Works - Sludge Thickening Building Perimeter		216	19-Dec-25	15-Sep-26	01-Apr-26	07-Nov-26	43
EW-1020	STB Perimeter - Drainage/Sewer/Watermain/Utility Installation	150	19-Dec-25	29-Jun-26	01-Apr-26	02-Oct-26	79
EW-1040	STB Perimeter - Process Pipe Installation	120	19-Dec-25	22-May-26	01-Apr-26	26-Aug-26	79
EW-1060	STB Perimeter - Road Works	90	01-Jun-26	15-Sep-26	23-Jul-26	07-Nov-26	43



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

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

Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr1_210422
Layout : DC201910 Detailed Programme

Detailed Works Programme

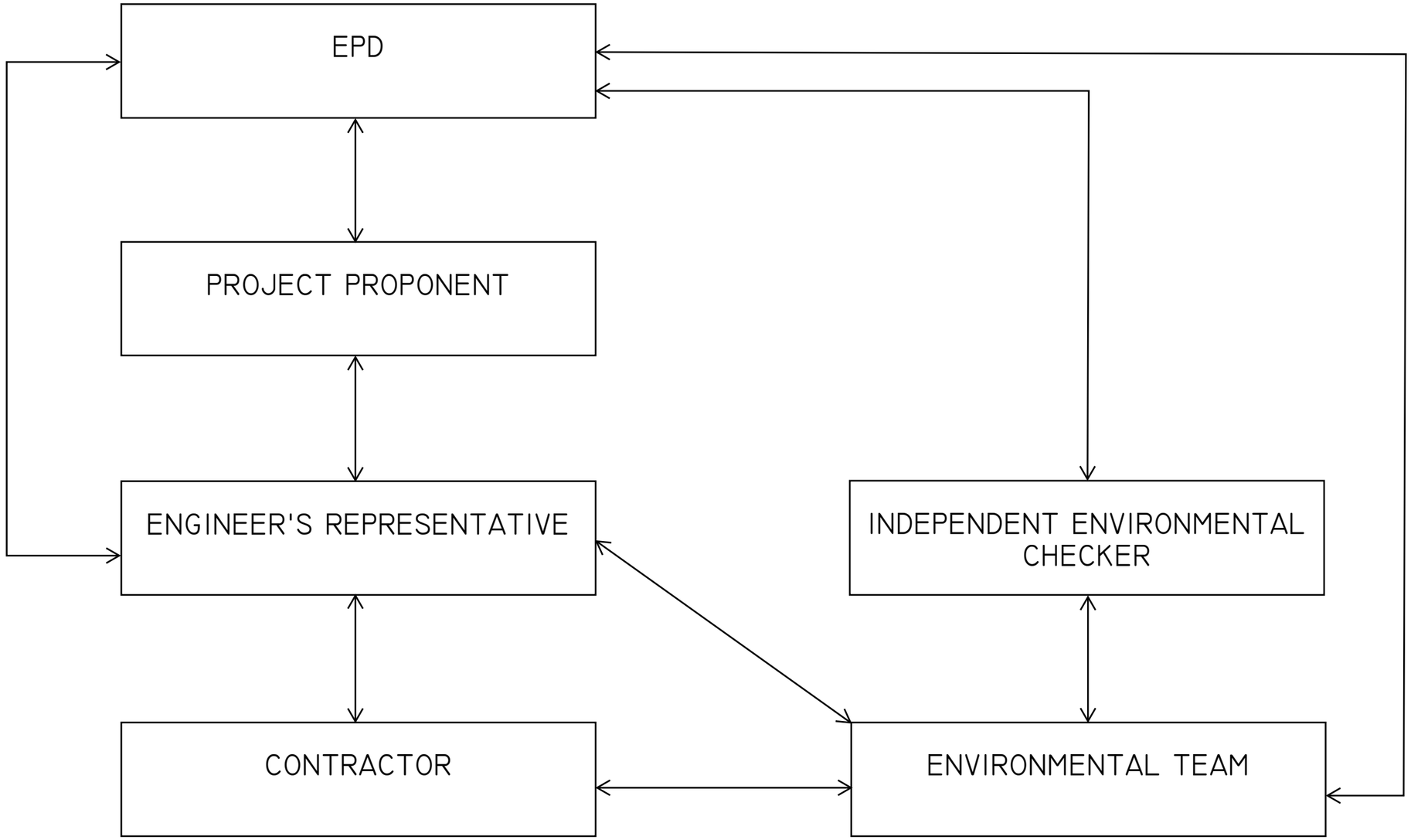
Date	Revision	Checked	Approved
15-Mar-21	Rev. 0		
21-Apr-21	Rev 1		

Appendix B

Project Organization Chart

LEGEND:

LINE OF COMMUNICATION



Project Management Initials: Designer: Checked: Approved: ISO A1 594mm x 841mm

Plot File by: Chanwa 5/28/2018
PATH: p:\projects\60505476\drawing\report\EM&A\EM&A_702.dgn

AECOM

PROJECT
項目

YUEN LONG EFFLUENT POLISHING PLANT - INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

渠務署
Drainage Services Department

CONSULTANT
工程顧問公司

AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS
分判工程顧問公司

ISSUE/REVISION
修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核對

STATUS
狀況

SCALE 比例: A3 1 : 40000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60505476

CONTRACT NO. 合約編號: CE 3/2015 (DS)

SHEET TITLE
圖紙名稱

PROJECT ORGANISATION

SHEET NUMBER
圖紙編號

Appendix C

Action and Limit Level

Action / Limit Levels for Air Quality

Parameters	Action Level	Limit Level
1-hour TSP Level in $\mu g/m^3$	[1]For baseline level ≤ 384 $\mu g/m^3$, Action level = (baseline level * 1.3 + Limit level)/2; For baseline level > 384 $\mu g/m^3$, Action level = Limit level	500 $\mu g/m^3$

Notes:

1. The Action Level for 1-hour TSP Level:

a) AMS 2 = (63*1.3 + 500) / 2 = 291 $\mu g/m^3$;

b) AMS 3C = (70*1.3 + 500) / 2 = 296 $\mu g/m^3$.

Action and Limit Levels for Construction Noise

Time Period	Action Level	Limit Level
0700 - 1900 hours on normal weekdays	When one documented complaint is received	75 dB(A) *

Notes:

1. If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the Noise Control Authority have to be followed.
2. Correction of +3 dB(A) shall be made to the free field measurements.

Action and Limit Levels for Water Quality

Parameters	Action Levels	Limit Levels
Construction Phase Water Quality Monitoring		
DO in mg/L (Surface, Middle & Bottom) [2]	Surface & Middle 5%-ile of baseline data for surface and middle layer. Bottom 5%-ile of baseline data for bottom layer.	Surface & Middle 4 mg/L or 1%-ile of baseline data for surface and middle layer. Bottom 2 mg/L or 1%-ile of baseline data for bottom layer.
SS in mg/L (depth-averaged [1]) [3]	95%-ile of baseline data or 120% of upstream control station's SS recorded on the same day	99%-ile of baseline data or 130% of upstream control station's SS recorded on the same day
Turbidity in NTU (depth-averaged [1]) [3]	95%-ile of baseline data or 120% of upstream control station's turbidity recorded on the same day	99%-ile of baseline data or 130% of upstream control station's turbidity recorded on the same day

Notes:

1. "Depth-averaged" is calculated by taking the arithmetic means of reading of all three depths;
2. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits;
3. For SS and turbidity, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.

Action and Limit Levels for Ecology

Active Ardeid Night Roost Survey

As there are no specific guidelines on noise thresholds for roosting ardeids, the Action and Limit levels specified in below table were based on study conducted on exploring behavioural responses of shorebirds to impulsive noise (Wright et al. 2010).

Time Period	Action Level	Limit Level
after 17:30 during dry season after 18:00 during wet season	65.5 dB(A)[1]	72.2 dB(A)[2]

Notes:
1. Behavioural response of some kind more likely to occur
2. Flight with abandonment of the site becomes the most likely outcome of the disturbance

Ecological Monitoring of Birds

Method	Parameters	Action Level[3]	Limit Level[3]
Transect	Abundance of all avifauna species (including but not only limited to overwintering waterbirds) in the community	Significant decline[1,2] in any of these parameters during the current monitoring month relative to the corresponding month during the baseline survey.	Significant decline in any of these parameters for three consecutive months.
	Species diversity of all avifauna species (including but not only limited to overwintering waterbirds) in the community		
	Abundance of species with conservation importance only		
	Species diversity of species with conservation importance only		
Point Count	Abundance of all avifauna species (including but not only limited to overwintering waterbirds) in the community		
	Species diversity of all avifauna species (including but not only limited to overwintering waterbirds) in the community		
	Abundance of species with conservation importance only		
	Species diversity of species with conservation importance only		

Notes:
1. Significant decline in abundance will be determined using two-tailed t-test, $\alpha = 0.05$.
2. Significant decline in species diversity will be determined using the Hutcheson t-test, two tailed.
3. Response will be triggered if any of the above level is reached for each parameter.

Appendix D

Calibration Certificate of Monitoring Equipment

Air Quality Monitoring Equipment

FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, NT
Hong Kong

Report no. : 940891CA202730(1)

CALIBRATION CERTIFICATE OF DUST METER

Client : Fugro Technical Services Limited

Project : Calibration Services

Client Supplied Information

Details of Unit Under Test, UUT

Description	: Laser dust monitor
Manufacturer	: SIBATA
Model No.	: LD-5R
Serial No.	: 761105
Specification Limit	: NA
Next Calibration Date	: 22-Nov-2021

Laboratory Information

Description	: 1. Balance 2. TSP high volume air sampler
Equipment ID. / Serial no.	: 1. C-065-5 2. 4350
Date of Calibration	: 23-Nov-2020 Ambient Temperature : 25 ± 10 °C
Calibration Location	: General Chemical Laboratory of FTS and Ma Wan A1 Site Boundary
Method Used	: By direct comparison the weight of dust particle trapped in a filter paper using high volume sampler (TSP method) for a certain period, with the reading of the UUT. They should be placed at the same location and powered on and off at the same time.

Calibration Results :

Reference concentration (mg/m^3)	Total count for 1 hour	CPM (Count per minute)
0.0915	3647	60.78
0.0469	3027	50.45
0.1172	3861	64.35

Remarks:

1. The equipment being used in this calibration is traceable to recognized National Standards.
2. The interpolation equation : Concentration (mg/m^3) = K x [UUT reading (CPM)], where K = 0.001456
3. Correlation coefficient (r) : 0.9928

Checked by : Date : 15-12-2020 Certified by : Date : 15-12-2020

Leung Kwok Tai (Assistant Manager)

CA-R-297 (22/07/2009)

** End of Report **

FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, NT
Hong Kong

Report no. : 940891CA202730(6)

CALIBRATION CERTIFICATE OF DUST METER

Client : Fugro Technical Services Limited

Project : Calibration Services

Client Supplied Information

Details of Unit Under Test, UUT

Description	: Laser dust monitor
Manufacturer	: SIBATA
Model No.	: LD-5R
Serial No.	: 882149
Specification Limit	: NA
Next Calibration Date	: 22-Nov-2021

Laboratory Information

Description : 1. Balance 2. TSP high volume air sampler

Equipment ID. / Serial no. : 1. C-065-5 2. 4350

Date of Calibration : 23-Nov-2020 Ambient Temperature : 25 ± 10 °C

Calibration Location : General Chemical Laboratory of FTS and Ma Wan A1 Site Boundary

Method Used : By direct comparison the weight of dust particle trapped in a filter paper using high volume sampler (TSP method) for a certain period, with the reading of the UUT. They should be placed at the same location and powered on and off at the same time.

Calibration Results :

Reference concentration (mg/m^3)	Total count for 1 hour	CPM (Count per minute)
0.0915	3526	58.77
0.0469	2720	45.33
0.1172	3776	62.93

Remarks:

1. The equipment being used in this calibration is traceable to recognized National Standards.
2. The interpolation equation : Concentration (mg/m^3) = K x [UUT reading (CPM)], where K = 0.001530
3. Correlation coefficient (r) : 0.9901

Checked by : Cammy Date : 15-12-2020 Certified by : C T Leung Date : 15-12-2020

CA-R-297 (22/07/2009)

Leung Kwok Tai (Assistant Manager)

** End of Report **

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : MaWTF, Ma Wan
Location ID: A1 Site Boundary

Date of Calibration: 23-Oct-20
Next Calibration Date: 22-Jan-21
Technician: Felix

CONDITIONS

Sea Level Pressure (hPa):	1011.40	Corrected Pressure (mm Hg):	759
Temperature (℃):	24	Temperature (K):	297

CALIBRATION ORIFICE

Make:	Tisch	Qstd Slope:	2.11508
Model:	TE-5025A	Qstd Intercept:	-0.02962
Calibration Date:	11/9/2020	Expiry Date:	11/9/2021

CALIBRATIONS

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m^3/min)	I (chart)	IC (corrected)	LINEAR REGRESSION	
18	5.40	-6.00	11.400	1.613	61.00	61.10	Slope =	32.5454
13	4.30	-4.70	9.000	1.435	54.00	54.09	Intercept =	8.0074
10	3.30	-3.70	7.000	1.267	49.00	49.08	Corr. coeff.:	0.9991
7	2.00	-2.50	4.500	1.019	41.00	41.07		
5	1.10	-1.60	2.700	0.792	34.00	34.05		

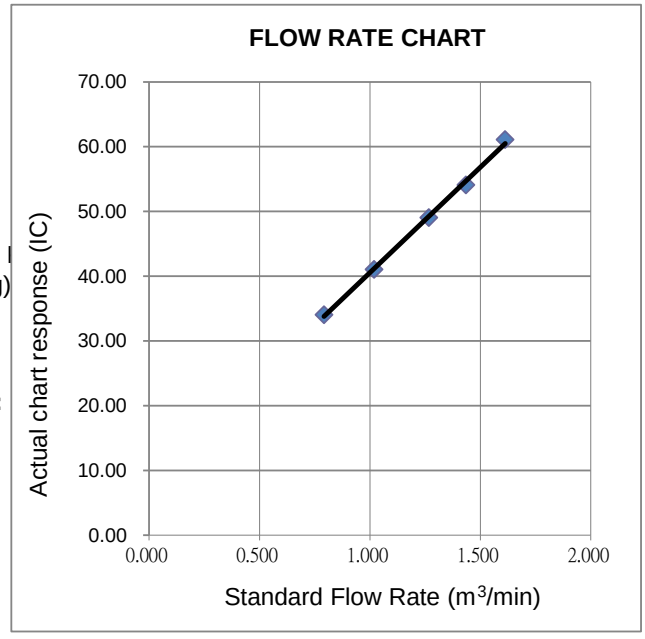
Calculations:

Qstd = 1/m[Sqrt(H2O(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart response
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pa = actual pressure during calibration (mm Hg)
Tstd = 298 deg K
Pstd = 760 mm Hg

For subsequent calculation of sampler flow:
1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre,
5 Lok Yi Street, Tai Lam,
Tuen Mun, N.T.,
Hong Kong.

Tel : +852 2450 8233
Fax : +852 2450 6138
E-mail : matlab@fugro.com
Website : www.fugro.com

MateriaLab

Report no. : 921436CA195379

HKAS HOKLAS 015 CAL

CALIBRATION CERTIFICATE OF SINGLE-PAN BALANCE

Client Supplied Information

Client : Fugro Technical Services Ltd.

Address : 5 Lok Yi Street, 17 M.S. Castle Peak Road, Tai Lam, Tuen Mun, N.T.

Manufacturer	: Sartorius	Capacity	: 150 (g)
Model no.	: LA130S-F	Discrimination	: 0.0001 (g)
Serial no.	: 90104309	Operating range	: 149.9999 (g)
Equipment ID.	: C-065-5	Type	: Without Built-in Mass

Location : General Chemical Laboratory of FTS

Next calibration due date : Full Check : 08-Apr-2021 Repeatability Check : 08-Oct-2019

Laboratory Information

Equipment ID. of weight set : R-030-29

Class of weight set : E2

Equipment ID. of psychrometer : R-067-67

Date of calibration : 09-Apr-2019

Temperature during test : 25 - 25 °C Relative humidity during test : 62 - 60 %

Method used : **In house method R-C-082**

Calibration results:

Departure from nominal value

Reading (g)	Correction (g)
5.0001	-0.0001
15.0000	0.0000
30.0001	-0.0001
45.0001	-0.0001
60.0003	-0.0003
75.0002	-0.0002
90.0003	-0.0003
105.0004	-0.0005
120.0003	-0.0004
135.0002	-0.0003
150.0002	-0.0003
--	--

Note:
When the sign of the correction is positive (+) the amount should be added to the balance reading to give the correct value and when negative (-) subtracted from it.

Repeatability of reading

Reading (g)	Standard deviation of reading (g)	Max. difference between successive reading (g)
5.0001	0.00010	0.0002
75.0002	0.00008	0.0002
150.0002	0.00007	0.0002

FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre,
5 Lok Yi Street, Tai Lam,
Tuen Mun, N.T.,
Hong Kong.
Tel : +852 2450 8233
Fax : +852 2450 6138
E-mail : matlab@fugro.com
Website : www.fugro.com

MaterialLab

HOKLAS 015 CAL

Effect of off-centre loading

A mass of approximately 50 (g) was placed at various positions of the weighing pan.
The differences in balance readings are given in the table.

Centre	Front	Rear	Left	Right	Maximum difference (g)
0.0000	0.0002	-0.0001	-0.0002	0.0005	0.0007

Hysteresis

Load (g)	Hysteresis (g)
100.0001	less than 0.0002

Tare check

Tare load (g)	Balance reading with 99.9999 (g)	Error (g)
50.0000	100.0000	0.0001

Uncertainty of weighing (correction is applied) = ± 0.0004 g at 95% confidence level, with a coverage factor of **2.09**

The uncertainty of weighing is the tolerance band within which 95% balance readings will fall after appropriate correction is applied

Limit of performance for the balance (no correction is applied) = ± 0.0010 g

The limit of performance is the tolerance band within which 95% balance readings will fall.

Remarks :

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The reported hysteresis value is an average from three trials. In each trial, an extra mass was added to bring the balance reading close to full capacity after the specified load was placed on the pan. Hysteresis value is the difference of the readings of the specified load, before the extra mass was added and after it has been removed.
3. The uncertainty for departure from nominal value is ± **0.0004** g

Checked by : Hung Date : 18-4-2019 Approved Signatory : K T Leung Date : 18-4-2019

CA-R-124 (12/12/2008)

Leung Kwok Tai (Assistant Manager)

** End of Report **

FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, N.T.
Hong Kong

Report No. : 921436CA202374

WORKSHEET FOR REPEATABILITY TEST OF BALANCE

Client Supplied Information

Client : Fugro Technical Services Limited

Calibration Item -	Description	: BALANCE
	Manufacturer	: Sartorius
	Model No.	: LA130S-F
	Serial No.	: 90104309
	Equipment ID.	: C-065-5
	Capacity	: 150 (g)
	Discrimination	: 0.0001 (g)
	Type	: [√] Top Loading [ ] Analytical

Laboratory Information

Calibrating Equipment -	Description	: Masses
	Equipment ID.	: R-030-29

Data of calibration : 25-Nov-2020 Ambient Temperature : 24 °C Relative Humidity : 57 %

Calibration Location : General Chemical Laboratory of FTS

Method Used : **CSIRO Publication "The Calibration of Balances" by David B. Prowse**

In-house testing procedure no. : **R-C-082**

1. Results of Previous Calibration (Last Full Check)

Report No. of last full check : 921436CA195379

Calibration date of last full check : 09-Apr-2019

Value of $\sigma 1$: 0.000103 (g)

(σ_1 is the maximum standard deviation found on the repeatability tests in the last full check)

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Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, N.T.
Hong Kong

2. Repeatability test

2.1 Repeatability of reading near to zero

M, near to zero = 5.0000 (g)

No.	Pan load	Reading (g)		Difference, mi -zi (g)	No.	Pan load	Reading (g)		Difference, mi -zi (g)
1	O	z_1=	0.0000	5.0001	6	O	z_6=	0.0000	5.0000
	M	m_1=	5.0001			M	m_6=	5.0000	
2	O	z_2=	0.0000	5.0001	7	O	z_7=	0.0000	5.0000
	M	m_2=	5.0001			M	m_7=	5.0000	
3	O	z_3=	0.0000	5.0000	8	O	z_8=	0.0000	5.0001
	M	m_3=	5.0000			M	m_8=	5.0001	
4	O	z_4=	0.0000	5.0001	9	O	z_9=	0.0000	5.0000
	M	m_4=	5.0001			M	m_9=	5.0000	
5	O	z_5=	0.0000	5.0001	10	O	z_{10}=	0.0000	5.0001
	M	m_5=	5.0001			M	m_{10}=	5.0001	

2.2 Repeatability of reading at half capacity

M, at half capacity = 75.0000 (g)

No.	Pan load	Reading (g)		Difference, mi -zi (g)	No.	Pan load	Reading (g)		Difference, mi -zi (g)
1	O	z_1=	0.0000	75.0005	6	O	z_6=	0.0000	75.0005
	M	m_1=	75.0005			M	m_6=	75.0005	
2	O	z_2=	0.0000	75.0005	7	O	z_7=	0.0000	75.0005
	M	m_2=	75.0005			M	m_7=	75.0005	
3	O	z_3=	0.0000	75.0004	8	O	z_8=	0.0000	75.0004
	M	m_3=	75.0004			M	m_8=	75.0004	
4	O	z_4=	0.0000	75.0005	9	O	z_9=	0.0000	75.0004
	M	m_4=	75.0005			M	m_9=	75.0004	
5	O	z_5=	0.0000	75.0005	10	O	z_{10}=	0.0000	75.0003
	M	m_5=	75.0005			M	m_{10}=	75.0003	

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Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, N.T.
Hong Kong

Report No. : 921436CA202374

2. Repeatability test

2.3 Repeatability of reading at full capacity

M, at full capacity = 149.9999 (g)

No.	Pan load	Reading (g)		Difference, mi -zi (g)	No.	Pan load	Reading (g)		Difference, mi -zi (g)
1	O	z_1=	0.0000	150.0005	6	O	z_6=	0.0000	150.0006
	M	m_1=	150.0005			M	m_6=	150.0006	
2	O	z_2=	0.0000	150.0005	7	O	z_7=	0.0000	150.0006
	M	m_2=	150.0005			M	m_7=	150.0006	
3	O	z_3=	0.0000	150.0006	8	O	z_8=	0.0000	150.0005
	M	m_3=	150.0006			M	m_8=	150.0005	
4	O	z_4=	0.0000	150.0005	9	O	z_9=	0.0000	150.0005
	M	m_4=	150.0005			M	m_9=	150.0005	
5	O	z_5=	0.0000	150.0006	10	O	z_{10}=	0.0000	150.0006
	M	m_5=	150.0006			M	m_{10}=	150.0006	

3. Results of repeatability test

σ of readings near to zero : 0.000052 g σ_1 in last full check : 0.000103 g

σ of readings at half capacity : 0.000071 g

σ of readings at full capacity : 0.000053 g

Maximum value of σ is greater than σ_1 : [√] **No.**

[ ] **Yes** - carry out a full check

$\sigma = [\Sigma(r_i-r)^2/(n-1)]^{1/2}$,where i = 1,...,,10 ,r = mean value in the column "Difference".

or minimum $\sigma = dx/n^{1/2}$,where n=10 and dx is the discrimination of balance.

Note :

A full check should be carried out at least once every three years.

A full check must be carried out if the value of σ was increased in a repeatability test.

A repeatability test was carried out once every six months.

Pass	√
Fail	
N/A	

Remarks:

1. The equipment used in this calibration has traceable accuracy to National Primary Standards.
2. [√] Recommended next calibration date : 24-May-2021
3. [ ] The balance was recommended to carry out a full check.

[ ] Tick the appropriate.

Tested by: R. Anasco Date: 25-NOV-2020 Checked by : Date: 1- Dec-2020

T+852 2450 8233 | F+852 2450 6138 | E matlab@fugro.com | W fugro.com

FUGRO TECHNICAL SERVICES LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.

CALIBRATION REPORT OF WIND METER

Project: Contract No. SPW 07/2020 | **Date of Calibration: 28-Mar-2021**
Location: Yuen Long Sewage Treatment Works | **Next Calibration Date: 27-Sep-2021**
Technician: Sam Fong

Brand: Global Water
Model: GL500-7-2 **Serial No: 2012000974**

Anemometer

Brand: Benetech
Model: GM816 **Equipment ID: 08**

Procedures:

1. **Wind Still Test:** **The wind speed sensor was held by hand until stabilized.**
2. **Wind Speed Test:** **The wind meter was calibrated in-situ and compared with the Anemometer.**
3. **Wind Direction Test:** **The wind meter was calibrated in-situ and compared with a marine compass from four directions.**

Wind Still Test:

Wind Speed (m/s)
0.00

Wind Speed Test:

Global Water (m/s)	Anemometer (m/s)
1.2	1.0
1.5	1.4
2.8	3.0

Wind Direction Test:

	Marine Compass (o)
358	358
266	264
154	150
243	244

Report Date: 1/4/2021

Wan Ka Ho
Project Consultant

Noise Monitoring Equipment

FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, NT
Hong Kong

Report no.: 203258CA201298(6)

CALIBRATION CERTIFICATE OF SOUND LEVEL METER

Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description : Sound Level Meter

Manufacturer : Casella

	Meter	Microphone	Preamplifier
Model No. :	CEL-63X	CE-251	CEL-495
Serial No. :	1488302	03348	003036

Equipment ID : N/A

Next Calibration Date : 13-Jul-2021

Specification Limit : EN 61672-1: 2003 Class 1

Laboratory Information

Details of Reference Equipment -

Description : B & K Acoustic Multifunction Calibrator 4226 (Traditional free field setting)

Equipment ID. : R-108-1

Date of Calibration : 14-Jul-2020

Calibration Location : Calibration Laboratory of FTS Ambient Temperature : 20±2 °C

Method Used : By direct comparison

Calibration Results :

Parameters		Mean Value (dB)	Specification Limit(dB)
A-weigthing frequency response	4000Hz	0.9	2.6 to -0.6
	2000Hz	1.1	2.8 to -0.4
	1000Hz	0.0	1.1 to -1.1
	500Hz	-3.3	-1.8 to -4.6
	250Hz	-8.8	-7.2 to -10.0
	125Hz	-16.3	-14.6 to -17.6
	63Hz	-26.3	-24.7 to -27.7
	31.5Hz	-39.4	-37.4 to -41.4
Differential level linearity	94dB-104dB	0.0	± 0.6
	104dB-114dB	0.0	± 0.6

Remarks :

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The mean value is the average of four measurements.
3. For calibration: Reference SPL are 94, 104 & 114dB, range setting is 20-140dB & time weighting is fast
4. The UUT complies with EN 61672-1: 2003 Class 1 sound level meter for the above measurement.
5. The values given in this Calibration Certificate only relate to the values at the time of the test and any uncertainties will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during tranportation, overloading, mis-handling or the capability of any other laboratory to repeat the measurement.

Checked by : William Date : 21-7-2020 Certified by : K.T. Leung Date : 21-7-2020

CA-R-297 (22/07/2009)

Leung Kwok Tai (Assistant Manager)

** End of Report **

FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, NT
Hong Kong

Report no.: 203258CA202302(2)

CALIBRATION CERTIFICATE OF SOUND LEVEL METER

Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description : Sound Level Meter

Manufacturer : Casella

	Meter	Microphone	Preamplifier
Model No. :	CEL-63X	CE-251	CEL-495
Serial No. :	1488304	03876	002752

Equipment ID : N-62

Next Calibration Date : 29-Oct-2021

Specification Limit : EN 61672-1: 2003 Class 1

Laboratory Information

Details of Reference Equipment -

Description : B & K Acoustic Multifunction Calibrator 4226 (Traditional free field setting)

Equipment ID. : R-108-1

Date of Calibration : 30-Oct-2020

Calibration Location : Calibration Laboratory of FTS

Method Used : By direct comparison

Ambient Temperature : 20±2 °C

Relative Humidity : <80% R.H.

Calibration Results :

Parameters		Mean Value (dB)	Specification Limit(dB)
A-weigthing frequency response	4000Hz	1.5	2.6 to -0.6
	2000Hz	1.3	2.8 to -0.4
	1000Hz	-0.1	1.1 to -1.1
	500Hz	-3.5	-1.8 to -4.6
	250Hz	-8.9	-7.2 to -10.0
	125Hz	-16.4	-14.6 to -17.6
	63Hz	-26.4	-24.7 to -27.7
	31.5Hz	-39.4	-37.4 to -41.4
Differential level linearity	94dB-104dB	0.0	± 0.6
	104dB-114dB	0.0	± 0.6

Remarks :

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The mean value is the average of four measurements.
3. For calibration: Reference SPL are 94, 104 & 114dB, range setting is 20-140dB & time weighting is fast.
4. The UUT does comply with EN 61672-1: 2003 Class 1 sound level meter for the above measurement.
5. The values given in this Calibration Certificate only relate to the values at the time of the test and any uncertainties will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during tranportation, overloading, mis-handling or the capability of any other laboratory to repeat the measurement.

Checked by : William Date : 4-11-2020 Certified by : K.T. Leung Date : 4-11-2020

Leung Kwok Tai (Assistant Manager)

CA-R-297 (22/07/2009)

** End of Report **

FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, NT
Hong Kong

Report no.: 203258CA201871(1)

CALIBRATION CERTIFICATE OF SOUND CALIBRATOR

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Client Supplied Information

Details of Unit Under Test, UUT

Description	:	Sound Calibrator
Manufacturer	:	Casella (Model CEL-120/1)
Serial No.	:	5230736
Equipment ID	:	N-18
Next Calibration Date	:	07-Sep-2021
Specification Limit	:	EN 60942: 2003 Class 1

Laboratory Information

Details of Calibration Equipment

Description	:	Reference Sound level meter
Equipment ID.	:	R-119-1
Calibration Date		08-Sep-2020
Calibration Location	:	Calibration Laboratory of FTS
Method Used	:	By direct comparison

Ambient Temperature : 20±2 °C

Relative Humidity : : <80% R.H.

Calibration Results :

Parameters (Setting of UUT)	Mean Value (error of measurement)	Specification Limit(dB)
94dB	0.1 dB	±0.4dB
114dB	0.2 dB	

Remarks :

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The mean value is the average of four measurements.
3. The unit under test complies with the specification limit.
4. The values given in this Calibration Certificate only relate to the unit-under-test and the values measured at the time of the test. Any uncertainties quoted will not include allowances for the environmental changes, variation and shock during transportation, or the capability of any other laboratory to repeat the measurement.

Checked by : William Date : 11-9-2020 Certified by : K T Leung Date : 12-9-2020

CA-R-297 (22/07/2009)

Leung Kwok Tai (Assistant Manager)

** End of Report **

FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, NT
Hong Kong

Report no.: 203258CA201298(3)

CALIBRATION CERTIFICATE OF SOUND CALIBRATOR

Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description	:	Sound Calibrator
Manufacturer	:	Casella (Model CEL-120/1)
Serial No.	:	5230758
Equipment ID	:	N/A
Next Calibration Date	:	13-Jul-2021
Specification Limit	:	EN 60942: 2003 Type 1

Laboratory Information

Description	:	Reference Sound level meter
Equipment ID.	:	R-119-1
Date of Calibration	:	14-Jul-2020 Ambient Temperature : 20±2 °C
Calibration Location	:	Calibration Laboratory of FTS
Method Used	:	By direct comparison

Calibration Results :

Parameters (Setting of UUT)	Mean Value (error of measurement)	Specification Limit(dB)
94dB	-0.3 dB	±0.4dB
114dB	-0.3 dB	

Remarks :

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The mean value is the average of four measurements.
3. The equipment does comply with the specification limit.
4. The values given in this Calibration Certificate only relate to the values at the time of the test and any uncertainties will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during tranportation, overloading, mis-handling or the capability of any other laboratory to repeat the measurement.

Checked by : William Date : 21-7-2020 Certified by : K.T. Leung Date : 21-7-2020

CA-R-297 (22/07/2009)

Leung Kwok Tai (Assistant Manager)

** End of Report **

FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, NT
Hong Kong

Report No. : 212769CA211145

CALIBRATION CERTIFICATE OF ANEMOMETER

Client Supplied Information

Client : Fugro Technical Services Limited

Project : Calibration Services

Details of Unit Under Test, UUT

Description : Anemometer

Manufacturer : SENSOR

Model No. : AR816

Serial No. : 2136513

Equipment ID. : NA

Next Calibration Date : 30-May-2022

Laboratory Information

Details of Reference Equipment –

Description : Reference Anemometer

Equipment ID. : R-101-4

Date of Calibration : 31-May-2021 Ambient Temperature : 22 °C

Calibration Location : Calibration Laboratory of FTS

Method Used : In-house Method R-C-279

Calibration Results :

Reference Reading (m/s)	UUT Reading (m/s)	Error (m/s)
1.99	2.0	0.0
4.00	4.3	0.3
6.01	6.3	0.3
7.99	8.2	0.2
10.03	9.9	-0.1

Remark :

1. The equipment being used in this calibration is traceable to recognized National Standards.
2. The reported readings in this calibration are an average from 10 trials.
3. The expanded uncertainty is 0.5 m/s with a coverage factor of 2 at a confidence level of 95%.

Checked by : William Date : 2-6-2021 Certified by : P.T. Leung Date : 2-6-2021

CA-R-297 (22/07/2009)

Leung Kwok Tai (Assistant Manager)

** End of Report **

Water Quality Monitoring Equipment

FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, NT
Hong Kong

Report No. : 142626WA210725

Report on Calibration of YSI EXO-3 Multi-parameter Water Quality Meter

Information Supplied by Client

Client	:	Fugro Technical Services Limited (MCL)
Client's address	:	Rm. 723-726, 7/F, Profit Industrial Building, No. 1-15, Kwai Fung Crescent, Kwai Chung, N.T.
Sample description	:	One YSI EXO-3 Multi-parameter Water Quality Meter
Client sample ID	:	Serial No. 19E100634
Test required	:	Calibration of the YSI EXO-3 Multi-parameter Water Quality Meter

Laboratory Information

Lab. sample ID	:	WA210725/1
Date sample received	:	30/03/2021
Date of calibration	:	19/04/2021
Next calibration date	:	18/07/2021
Test method used	:	In-house comparison method

Note : This report refers only to the sample(s) tested.

FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, NT
Hong Kong

Report No. : 142626WA210725

Results :

A. pH calibration

pH reading at 24°C for Q.C. solution(6.86) and at 24°C for Q.C. solution(9.18)		
Theoretical	Measured	Deviation
9.18	9.16	-0.02
6.86	6.83	-0.03

B. Salinity calibration

Salinity, ppt			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
10	10.10	+0.10	± 0.5
20	20.08	+0.08	± 1.0
30	30.09	+0.09	± 1.5
40	40.37	+0.37	± 2.0

C. Dissolved Oxygen calibration

Trial No.	Dissolved oxygen content, mg/L	
	By Titration	By D.O. meter
1	8.51	8.47
2	8.48	8.44
3	8.51	8.48
Average	8.50	8.46

Differences of D.O. Content between Wrinkler Titration and D.O. meter should be less than 0.2 mg/L

Certified by : _____
Approved Signatory : CHAN Hoi Yan, Winnie
Assistant Manager

Date : 7-5-2021

Note : This report refers only to the sample(s) tested.

FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, NT
Hong Kong

Report No. : 142626WA210725

Results :

D. Temperature calibration

Thermometer reading, °C	Meter reading, °C
23.8	23.312

E. Turbidity calibration

Turbidity, N.T.U.			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
0	-	-	± 0.5
4	4.47	+0.47	± 0.6
8	8.36	+0.36	± 0.8
40	40.28	+0.28	± 3.0
80	79.42	-0.58	± 4.0

F. Chlorophyll calibration

Chlorophyll reading at 24.247°C for Std. solution (62.5ug/L)		
Theoretical (ug/L) (Temp.-compensated)	Measured	Deviation
62.5	63.45	+0.95

Certified by : _____
Approved Signatory : CHAN Hoi Yan, Winnie
Assistant Manager

Date : 7-5-2021

** End of Report **

Note : This report refers only to the sample(s) tested.

FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, NT
Hong Kong

Report No. : 142626WA210725(1)

Report on Calibration of YSI EXO-3 Multi-parameter Water Quality Meter

Information Supplied by Client

Client	:	Fugro Technical Services Limited (MCL)
Client's address	:	Rm. 723-726, 7/F, Profit Industrial Building, No. 1-15, Kwai Fung Crescent, Kwai Chung, N.T.
Sample description	:	One YSI EXO-3 Multi-parameter Water Quality Meter
Client sample ID	:	Serial No. 19E100633
Test required	:	Calibration of the YSI EXO-3 Multi-parameter Water Quality Meter

Laboratory Information

Lab. sample ID	:	WA210725/2
Date sample received	:	30/03/2021
Date of calibration	:	19/04/2021
Next calibration date	:	18/07/2021
Test method used	:	In-house comparison method

Note : This report refers only to the sample(s) tested.

FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, NT
Hong Kong

Report No. : 142626WA210725(1)

Results :

A. pH calibration

pH reading at 24°C for Q.C. solution(6.86) and at 24°C for Q.C. solution(9.18)		
Theoretical	Measured	Deviation
9.18	9.13	-0.05
6.86	6.83	-0.03

B. Salinity calibration

Salinity, ppt			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
10	10.05	+0.05	± 0.5
20	20.02	+0.02	± 1.0
30	29.95	-0.05	± 1.5
40	40.10	+0.10	± 2.0

C. Dissolved Oxygen calibration

Trial No.	Dissolved oxygen content, mg/L	
	By Titration	By D.O. meter
1	8.56	8.45
2	8.11	8.30
3	8.19	8.27
Average	8.29	8.34

Differences of D.O. Content between Wrinkler Titration and D.O. meter should be less than 0.2 mg/L

Certified by : _____
Approved Signatory : CHAN Hoi Yan, Winnie
Assistant Manager

Date : 7-5-2021

Note : This report refers only to the sample(s) tested.

FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, NT
Hong Kong

Report No. : 142626WA210725(1)

Results :

D. Temperature calibration

Thermometer reading, °C	Meter reading, °C
21.5	20.979

E. Turbidity calibration

Turbidity, N.T.U.			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
0	-	-	± 0.5
4	4.41	+0.41	± 0.6
8	8.09	+0.09	± 0.8
40	40.25	+0.25	± 3.0
80	80.34	+0.34	± 4.0

Certified by : _____
Approved Signatory : CHAN Hoi Yan, Winnie
Assistant Manager

Date : 7-7-2021

** End of Report **

Note : This report refers only to the sample(s) tested.

CALIBRATION CERTIFICATE

This document certifies that the instrument detailed below has been calibrated according to Valeport Limited's Standard Procedures, using equipment with calibrations traceable to UKAS or National Standards.

Calibration Certificate Number:	**61134**
Instrument Type:	MODEL 106
Instrument Serial Number:	67738
Calibrated By:	N.PADDON
Date:	11TH NOVEMBER 2019
Signed:	

Full details of the results from the calibration procedure applied to each fitted sensor are available, on request, via email. This summary certificate should be kept with the instrument.

Valeport Limited
St. Peter's Quay, Totnes,
Devon TQ9 5EW UK

+44 (0) 1803 869292
sales@valeport.co.uk
www.valeport.co.uk

VAT No: GB 165 8753 67
Registered in England No: 1950444

ISO 9001 ISO 14001 OHSAS 18001

SonTek
a xylem brand

9940 Summers Ridge Road
San Diego, CA 92121
Tel: (858) 546-8327
support@sontek.com

Certificate of Calibration

TEST REPORT

Serial Number	5906
System Type	M9
System Orientation	Down
Compass Type	Sontek
Compass Offset (degrees)	N/A
Communications Output	RS232
Recorder Size (GB)	14.9
Firmware Version	4.02
Date Tested	05/23/2017

POWER TEST

Command Mode (W):	0.17	Range : 0.00 – 0.30
Sleep Mode (W):	N/A	Range : N/A
Ping Mode - 18V (W):	2.67	Range : 1.50 – 3.50
Power Check		PASS

NOISE TEST

Beam 1 – 3.0 MHz (counts)	95
Beam 2 – 1.0 MHz (counts)	96
Beam 3 – 3.0 MHz (counts)	95
Beam 4 – 1.0 MHz (counts)	101
Beam 5 – 3.0 MHz (counts)	93
Beam 6 – 1.0 MHz (counts)	95
Beam 7 – 3.0 MHz (counts)	91
Beam 8 – 1.0 MHz (counts)	100
Beam Vertical – 500KHz (counts)	88
Noise Test	PASS

VERIFICATION

Velocity Check	PASS
Transmit Output	PASS
Sensitivity	PASS
Temperature Sensor	PASS
Compass Heading Check	PASS
Compass Level Check	PASS
Burn-in (24 hrs)	PASS
Load Default Parameters	DONE

OPTIONS

Bottom Track	Installed
SmartPulse HD ™	Enabled
Stationary	Disabled
GPS Compass Integration	Disabled
RiverSurveyor	Enabled
HydroSurveyor	Disabled

Verified by: **ainthasane**

This report was generated on 5/24/2017.

Appendix E

Environmental Monitoring Schedule

Project: Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Impact Monitoring Schedule (June 2021)_Rev.1

Sun	Mon	Tue	Wed	Thur	Fri	Sat
		1 **WQM** Mid Flood(10:54) Mid Ebb(06:14)	**2**	3 **WQM** Mid Flood(13:57) Mid Ebb(09:15)	4 **AQM, NM,**	5 **WQM** Mid Flood(04:41) Mid Ebb(11:03)
6	7	8 **WQM** Mid Flood(05:47) Mid Ebb(12:34)	9	10 **AQM, NM,** **WQM** Mid Flood(06:34) Mid Ebb(13:43)	11 **ANRM**	12 **WQM** Mid Flood(07:31) Mid Ebb(14:56)
13	14	15 **EMB** (Day Time), **WQM** Mid Flood(09:18) Mid Ebb(16:51)	16 **AQM, NM**	17 **WQM** Mid Flood(11:14) Mid Ebb(06:27)	18 **EMB** (Night Time)	19 **WQM** Mid Flood(14:05) Mid Ebb(08:51)
20	21	22 **AQM, NM** **WQM** Mid Flood(18:28) Mid Ebb(11:31)	23	24 **WQM** Mid Flood(06:12) Mid Ebb(13:15)	25	26 **WQM** Mid Flood(07:29) Mid Ebb(14:54)
27	28 **AQM, NM**	29 **WQM** Mid Flood(09:52) Mid Ebb(17:08)	30			

Remarks

1. Air Quality Monitoring (**AQM**): 3 x 1-hour TSP Monitoring per 6 days.
2. Noise Monitoring (**NM**): L_{eq} (30 min) during between 0700 - 1900.
3. Water Quality Monitoring (**WQM**): Once per day for 3 days per week.
4. Ecological Monitoring of Birds (**EMB**): Once per month.
5. Ardeid Night Roost Monitoring (**ANRM**): Once per month.
6. Air Quality Location: AM1 and AM2
7. Noise Monitoring Location: CM1, CM2 and CM3
8. Water Quality Monitoring Location: M1, M2, M3

Project: Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Impact Monitoring Schedule (July 2021)

Sun	Mon	Tue	Wed	Thur	Fri	Sat
				1 **WQM** Mid Flood(11:55) Mid Ebb(07:03)	2	3 **AQM** **WQM** Mid Flood(14:24) Mid Ebb(09:13)
4	5	6 **WQM** Mid Flood(18:27) Mid Ebb(11:26)	7	8 **WQM** Mid Flood(05:23) Mid Ebb(12:46)	9 **AQM, NM, ANRM,** **EMB** (Night Time)	10 **WQM** Mid Flood(06:35) Mid Ebb(14:06)
11	12	13 **EMB** (Day Time), **WQM** Mid Flood(08:36) Mid Ebb(16:00)	14	15 **AQM, NM,** **WQM** Mid Flood(10:18) Mid Ebb(17:16)	16	17 **WQM** Mid Flood(06:47) Mid Ebb(12:21)
18	19	20 **WQM** Mid Flood(17:28) Mid Ebb(10:06)	21 **AQM, NM**	22 **WQM** Mid Flood(04:59) Mid Ebb(12:11)	23	24 **WQM** Mid Flood(06:34) Mid Ebb(13:56)
25	26	27 **AQM, NM** **WQM** Mid Flood(09:03) Mid Ebb(16:04)	28	29 **WQM** Mid Flood(10:37) Mid Ebb(17:10)	30	31 **WQM** Mid Flood(12:16) Mid Ebb(06:32)

Remarks

1. Actual monitoring may be subjected to change due to any safety concern or adverse weather condition.
2. Air Quality Monitoring (**AQM**): 3 x 1-hour TSP Monitoring per 6 days.
3. Noise Monitoring (**NM**): L_{eq} (30 min) during between 0700 - 1900.
4. Water Quality Monitoring (**WQM**): Once per day for 3 days per week.
5. Ecological Monitoring of Birds (**EMB**): Once per month.
6. Ardeid Night Roost Monitoring (**ANRM**): Once per month.
7. Air Quality Location: AM1 and AM2
8. Noise Monitoring Location: CM1, CM2 and CM3
9. Water Quality Monitoring Location: M1, M2, M3

Project: Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Impact Monitoring Schedule (August 2021)

Sun	Mon	Tue	Wed	Thur	Fri	Sat
1	2 **AQM, NM**	3 **WQM** Mid Flood(17:23) Mid Ebb(09:55)	4	5 **WQM** Mid Flood(19:10) Mid Ebb(11:42)	6	7 **AQM,** **WQM** Mid Flood(05:41) Mid Ebb(13:09)
8	9	10 **WQM** Mid Flood(07:58) Mid Ebb(15:07)	11	12 **WQM** Mid Flood(09:36) Mid Ebb(16:17)	13 **AQM, NM**	14 **WQM** Mid Flood(05:15) Mid Ebb(11:12)
15	16	17 **WQM** Mid Flood(16:14) Mid Ebb(08:19)	18	19 **AQM, NM,** **WQM** Mid Flood(18:51) Mid Ebb(10:58)	20	21 **WQM** Mid Flood(05:48) Mid Ebb(12:55)
22	23	24 **WQM** Mid Flood(08:19) Mid Ebb(15:02)	25 **AQM, NM**	26 **WQM** Mid Flood(09:39) Mid Ebb(16:02)	27	28 **WQM** Mid Flood(11:00) Mid Ebb(16:55)
29	30	31 **AQM, NM** **WQM** Mid Flood(12:59) Mid Ebb(06:14)				

Remarks

1. Actual monitoring may be subjected to change due to any safety concern or adverse weather condition.
2. Air Quality Monitoring (**AQM**): 3 x 1-hour TSP Monitoring per 6 days.
3. Noise Monitoring (**NM**): L_{eq} (30 min) during between 0700 - 1900.
4. Water Quality Monitoring (**WQM**): Once per day for 3 days per week.
5. Ecological Monitoring of Birds (**EMB**): Once per month.
6. Ardeid Night Roost Monitoring (**ANRM**): Once per month.
7. Air Quality Location: AM1 and AM2
8. Noise Monitoring Location: CM1, CM2 and CM3
9. Water Quality Monitoring Location: M1, M2, M3

Project: Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Impact Monitoring Schedule (September 2021)

Sun	Mon	Tue	Wed	Thur	Fri	Sat
			1	2 **WQM** Mid Flood(18:14) Mid Ebb(10:13)	3	4 **WQM** Mid Flood(04:44) Mid Ebb(12:02)
5	6 **AQM, NM**	7 **WQM** Mid Flood(07:19) Mid Ebb(14:07)	8	9 **WQM** Mid Flood(08:52) Mid Ebb(15:19)	10	11 **AQM** **WQM** Mid Flood(10:20) Mid Ebb(04:07)
12	13	14 **WQM** Mid Flood(14:43) Mid Ebb(06:33)	15	16 **WQM** Mid Flood(17:45) Mid Ebb(09:27)	17 **AQM, NM**	18 **WQM** Mid Flood(04:59) Mid Ebb(11:50)
19	20	21 **WQM** Mid Flood(07:28) Mid Ebb(13:58)	22	23 **AQM, NM** **WQM** Mid Flood(08:47) Mid Ebb(14:58)	24	25 **WQM** Mid Flood(10:03) Mid Ebb(15:51)
26	27	28 **WQM** Mid Flood(13:04) Mid Ebb(05:23)	29 **AQM, NM**	30 **WQM** Mid Flood(20:31) Mid Ebb(07:23)		

Remarks

1. Actual monitoring may be subjected to change due to any safety concern or adverse weather condition.
2. Air Quality Monitoring (**AQM**): 3 x 1-hour TSP Monitoring per 6 days.
3. Noise Monitoring (**NM**): L_{eq} (30 min) during between 0700 - 1900.
4. Water Quality Monitoring (**WQM**): Once per day for 3 days per week.
5. Ecological Monitoring of Birds (**EMB**): Once per month.
6. Ardeid Night Roost Monitoring (**ANRM**): Once per month.
7. Air Quality Location: AM1 and AM2
8. Noise Monitoring Location: CM1, CM2 and CM3
9. Water Quality Monitoring Location: M1, M2, M3

Appendix F

Monitoring Results

Air Quality Monitoring Results

1-hour TSP Monitoring Result for

Contract No. SPW 07/2020

Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

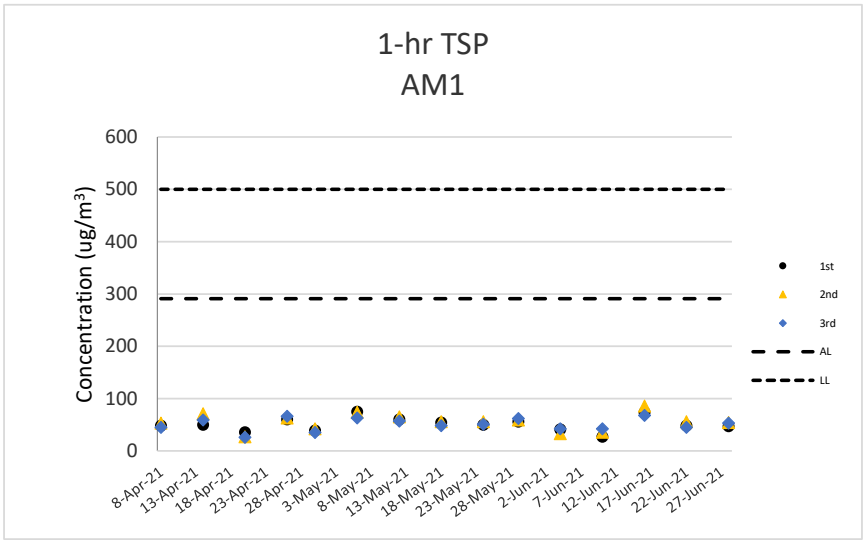
AM1 - Topfine Machinery (China) Co. Ltd.

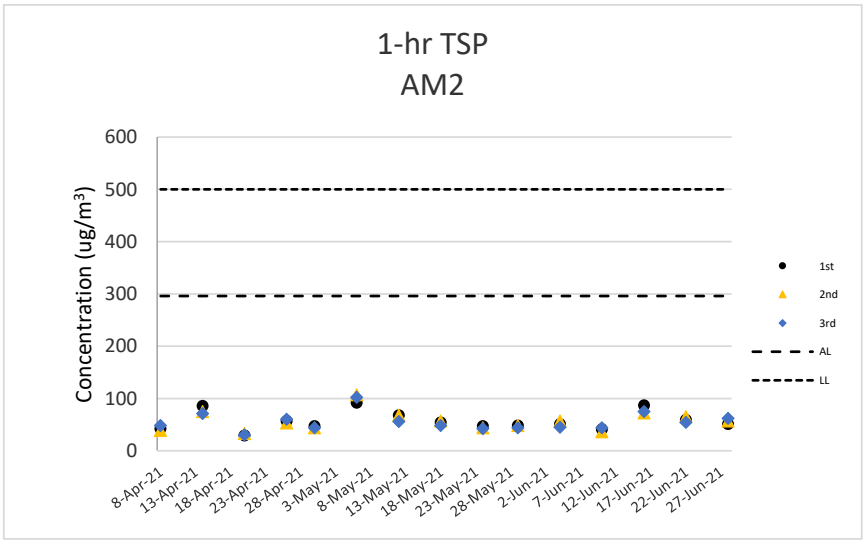
Date	Weather Condition	Start Time	1-hour TSP (µg/m³) 1st Measurement	2nd Measurement	3rd Measurement	Action Level (ug/m^3)	Limit Level (ug/m^3)
4-Jun-21	Fine	10:02	41	33	42	291	500
10-Jun-21	Fine	10:44	27	36	42		
16-Jun-21	Fine	10:57	74	86	68		
22-Jun-21	Cloudy	12:23	48	56	45		
28-Jun-21	Cloudy	13:06	47	54	53		
		Min	27				
		Max	86				
		Average	50				

AM2 - Squatter house at the west of Yuen Long STW

Date	Weather Condition	Start Time	1-hour TSP (µg/m³) 1st Measurement	2nd Measurement	3rd Measurement	Action Level (ug/m^3)	Limit Level (ug/m^3)
4-Jun-21	Fine	09:44	51	57	45	296	500
10-Jun-21	Fine	10:08	41	36	44		
16-Jun-21	Fine	11:20	87	72	75		
22-Jun-21	Cloudy	11:34	59	65	54		
28-Jun-21	Cloudy	13:27	51	57	62		
		Min	36				
		Max	87				
		Average	57				

Note:
Underline: Exceedance of Action Level
Underline and Bold: Exceedance of Limit Level


1-hr TSP
AM1
Concentration (ug/m³)
600
500
400
300
200
100
0
8-Apr-21
13-Apr-21
18-Apr-21
23-Apr-21
28-Apr-21
3-May-21
8-May-21
13-May-21
18-May-21
23-May-21
28-May-21
2-Jun-21
7-Jun-21
12-Jun-21
17-Jun-21
22-Jun-21
27-Jun-21
1st
2nd
3rd
AL
LL


1-hr TSP
AM2
Concentration (ug/m³)
600
500
400
300
200
100
0
8-Apr-21
13-Apr-21
18-Apr-21
23-Apr-21
28-Apr-21
3-May-21
8-May-21
13-May-21
18-May-21
23-May-21
28-May-21
2-Jun-21
7-Jun-21
12-Jun-21
17-Jun-21
22-Jun-21
27-Jun-21
1st
2nd
3rd
AL
LL

Noise Monitoring Results

Noise Impact Monitoring Result for
Contract No. SPW 07/2020
Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

CM1 - Squatter house to the north of YLSTW

Date	Start Time	L_{eq} 30min dB(A)	L_{10} dB(A)	L_{90} dB(A)	Wind Speed (m/s)	Weather	Limit Level dB(A)
4-Jun-21	12:17	52	54	48	0.3	Fine	75
10-Jun-21	12:24	52	58	50	0.2	Fine	75
16-Jun-21	09:14	57	59	53	0.7	Fine	75
22-Jun-21	14:02	57	59	55	0.2	Cloudy	75
28-Jun-21	14:49	56	58	54	0.4	Cloudy	75
	Max	57					
	Min	52					

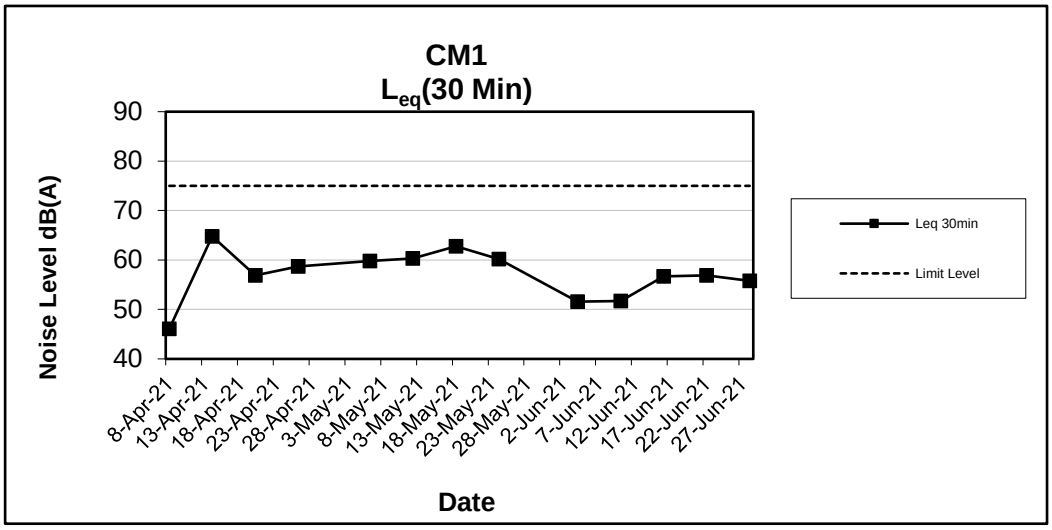
CM2 - Squatter house to the west of YLSTW

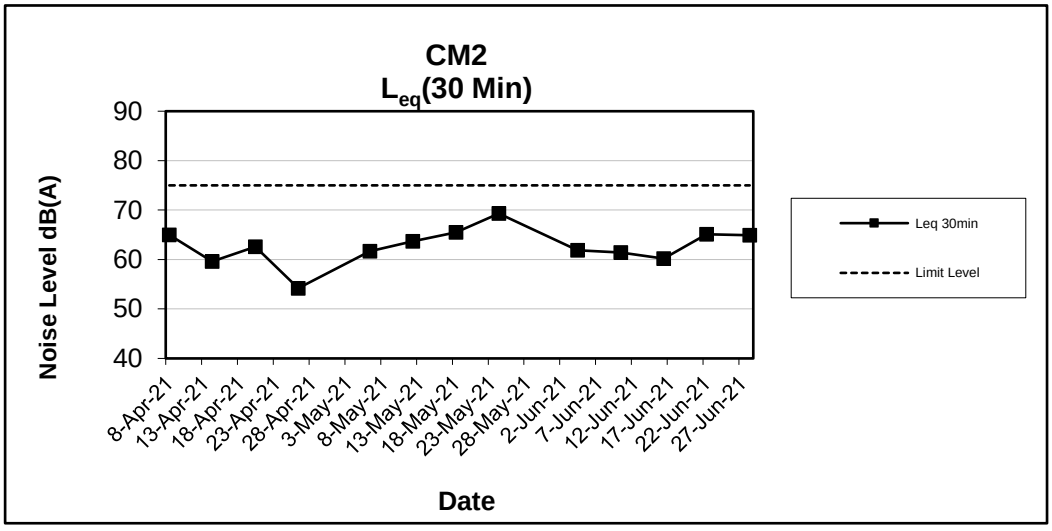
Date	Start Time	L_{eq} 30min dB(A)	L_{10} dB(A)	L_{90} dB(A)	Wind Speed (m/s)	Weather	Limit Level dB(A)
4-Jun-21	09:50	62	65	58	0.2	Fine	75
10-Jun-21	10:24	61	64	59	0.5	Fine	75
16-Jun-21	11:24	60	63	56	0.8	Fine	75
22-Jun-21	11:46	65	68	62	0.3	Cloudy	75
28-Jun-21	13:38	65	67	62	0.3	Cloudy	75
	Max	65					
	Min	60					

CM3 - Squatter house to the east of YLSTW

Date	Start Time	L_{eq} 30min dB(A)	L_{10} dB(A)	L_{90} dB(A)	Wind Speed (m/s)	Weather	Limit Level dB(A)
4-Jun-21	11:23	56	59	53	0.1	Fine	75
10-Jun-21	11:27	60	63	58	0.4	Fine	75
16-Jun-21	10:03	52	58	49	0.6	Fine	75
22-Jun-21	15:41	67	71	63	0.3	Cloudy	75
28-Jun-21	15:57	66	69	62	0.5	Cloudy	75
	Max	67					
	Min	52					

Note:
CM1, CM2 and CM3: Free-field measurement (+3dB(A) correction has been applied).
No raining or wind with speed over 5 m/s was observed during noise monitoring according to the onsite observation.


CM1
L_{eq}(30 Min)
Noise Level dB(A)
90
80
70
60
50
40
8-Apr-21
13-Apr-21
18-Apr-21
23-Apr-21
28-Apr-21
3-May-21
8-May-21
13-May-21
18-May-21
23-May-21
28-May-21
2-Jun-21
7-Jun-21
12-Jun-21
17-Jun-21
22-Jun-21
27-Jun-21
Date
Leq 30min
Limit Level


CM2
L_{eq}(30 Min)
Noise Level dB(A)
90
80
70
60
50
40
8-Apr-21
13-Apr-21
18-Apr-21
23-Apr-21
28-Apr-21
3-May-21
8-May-21
13-May-21
18-May-21
23-May-21
28-May-21
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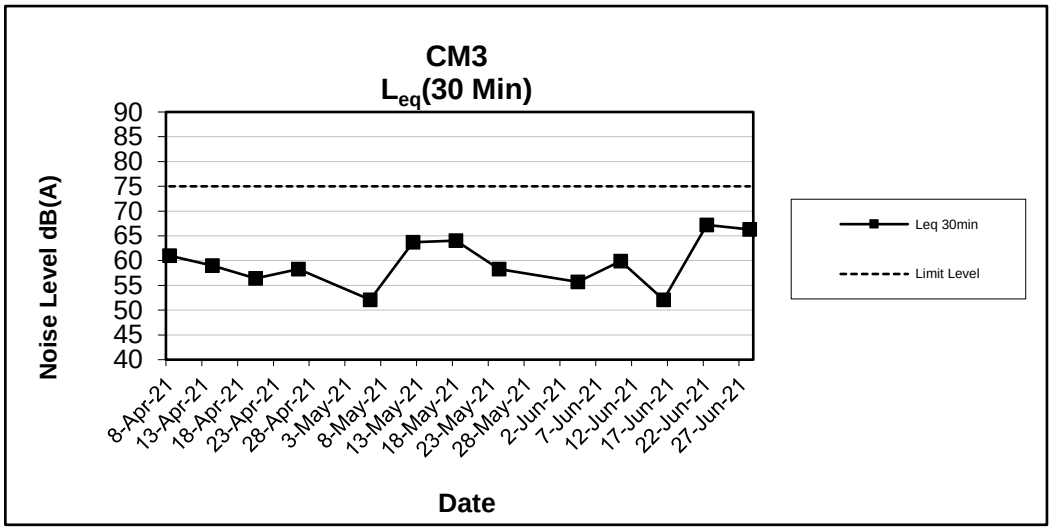
7-Jun-21
12-Jun-21
17-Jun-21
22-Jun-21
27-Jun-21
Date
Leq 30min
Limit Level


CM3
L_{eq}(30 Min)
Noise Level dB(A)
90
85
80
75
70
65
60
55
50
45
40
8-Apr-21
13-Apr-21
18-Apr-21
23-Apr-21
28-Apr-21
3-May-21
8-May-21
13-May-21
18-May-21
23-May-21
28-May-21
2-Jun-21
7-Jun-21
12-Jun-21
17-Jun-21
22-Jun-21
27-Jun-21
Date
Leq 30min
Limit Level

Water Quality Monitoring Results

Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Monitoring Location	Date	Tide Mode	Weather	Sea Condition	Time	Water Depth (m)	Monitoring Level	Monitoring Level (m)	Replicate	In-situ Measurement												Laboratory Analysis	
										Current Speed (m/s)	Current Direction (°)	pH		Salinity (ppt)		Temperature (degree C)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total Suspended Solids (mg/L)	
										Value	Value	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.
M1	1/6/2021	Mid-Flood	Cloudy	Calm	11:20	1	M	0.5	1	0.044	168	7.18	7.19	3.10	3.10	29.55	29.55	24.9	25.0	1.88	1.89	40.8	40.7	51	55
M1	1/6/2021	Mid-Flood	Cloudy	Calm	11:20	1	M	0.5	2			7.19		3.10		29.54		25.1		1.89		40.5		59	
M2	1/6/2021	Mid-Flood	Cloudy	Calm	11:00	0.8	M	0.4	1	0.057	145	7.19	7.19	3.09	3.09	29.78	29.79	30.9	30.6	2.54	2.56	24.7	24.6	23	26
M2	1/6/2021	Mid-Flood	Cloudy	Calm	11:00	0.8	M	0.4	2			7.19		3.09		29.79		30.3		2.57		24.5		29	
M3	1/6/2021	Mid-Flood	Cloudy	Calm	11:26	0.8	M	0.4	1	0.103	74	7.14	7.15	2.23	2.23	29.26	29.27	53.7	53.7	4.06	4.06	41.6	41.5	19	20
M3	1/6/2021	Mid-Flood	Cloudy	Calm	11:26	0.8	M	0.4	2			7.15		2.23		29.27		53.6		4.05		41.4		20	
M1	1/6/2021	Mid-Ebb	Cloudy	Calm	06:40	1.2	M	0.6	1	0.087	260	7.51	7.51	7.54	7.57	27.88	27.86	80.5	81.0	6.52	6.59	33.6	33.3	25	27
M1	1/6/2021	Mid-Ebb	Cloudy	Calm	06:40	1.2	M	0.6	2			7.51		7.60		27.84		81.4		6.66		33.0		29	
M2	1/6/2021	Mid-Ebb	Cloudy	Calm	07:00	0.8	M	0.4	1	0.076	253	7.50	7.50	6.99	7.01	28.10	28.08	75.3	75.2	5.73	5.72	26.1	26.4	24	24
M2	1/6/2021	Mid-Ebb	Cloudy	Calm	07:00	0.8	M	0.4	2			7.50		7.03		28.06		75.0		5.70		26.6		24	
M3	1/6/2021	Mid-Ebb	Cloudy	Calm	06:52	0.4	M	0.2	1	0.095	255	7.06	7.06	0.22	0.22	29.26	29.27	53.7	53.7	4.06	4.06	41.6	41.5	52	50
M3	1/6/2021	Mid-Ebb	Cloudy	Calm	06:52	0.4	M	0.2	2			7.06		0.22		29.27		53.6		4.05		41.4		47	

Remark

1. Orange and Bold: Action Level Exceedance (For Impact Station Only)
2. Red and Bold: Limit Level Exceedance (For Impact Station Only)
3. Action Level for Turbidity: 95%-ile of baseline data or 120% of upstream control station's turbidity recorded on the same day.
4. Limti Level for Turbidity: 99%-ile of baseline data or 130% of upstream control station's turbidity recorded on the same day.
5. Action Level for SS: 95%-ile of baseline data or 120% of upstream control station's SS recorded on the same day.
6. Limti Level for SS: 99%-ile of baseline data or 130% of upstream control station's SS recorded on the same day.

For Flood Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M1	2.25	1.91	48.4	50.4	59	68
M2	1.88	1.79	48.8	52.8	81	112
M3	3.28	3.14	74.3	78.0	104	167

For Ebb Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M1	2.25	1.91	48.4	50.4	59	68
M2	1.88	1.79	43.0	52.4	81	112
M3	3.28	3.14	74.3	78.0	104	167

Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Monitoring Location	Date	Tide Mode	Weather	Sea Condition	Time	Water Depth (m)	Monitoring Level	Monitoring Level (m)	Replicate	In-situ Measurement												Laboratory Analysis	
										Current Speed (m/s)	Current Direction (°)	pH		Salinity (ppt)		Temperature (degree C)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total Suspended Solids (mg/L)	
										Value	Value	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.
M1	3/6/2021	Mid-Flood	Fine	Calm	14:15	1	M	0.5	1	0.055	278	7.15	7.15	1.06	1.06	29.63	29.66	33.7	33.1	2.73	2.73	45.4	45.5	43	43
M1	3/6/2021	Mid-Flood	Fine	Calm	14:15	1	M	0.5	2			7.15		1.06		29.69		32.5		2.73		45.5		43	
M2	3/6/2021	Mid-Flood	Fine	Calm	14:00	0.9	M	0.45	1	0.05	209	7.20	7.20	0.93	0.93	30.27	30.28	34.7	34.7	2.60	2.60	31.8	32.3	52	55
M2	3/6/2021	Mid-Flood	Fine	Calm	14:00	0.9	M	0.45	2			7.20		0.93		30.29		34.7		2.59		32.7		58	
M3	3/6/2021	Mid-Flood	Fine	Calm	14:05	0.5	M	0.25	1	0.139	261	7.24	7.24	0.82	0.82	33.83	33.84	51.8	51.8	3.65	3.65	38.9	39.0	62	66
M3	3/6/2021	Mid-Flood	Fine	Calm	14:05	0.5	M	0.25	2			7.24		0.82		33.84		51.7		3.65		39.1		69	
M1	3/6/2021	Mid-Ebb	Fine	Calm	09:28	0.9	M	0.45	1	0.054	136	7.15	7.15	0.91	0.91	29.94	29.94	36.0	36.3	3.00	3.01	29.6	29.6	41	41
M1	3/6/2021	Mid-Ebb	Fine	Calm	09:28	0.9	M	0.45	2			7.15		0.91		29.94		36.5		3.02		29.5		41	
M2	3/6/2021	Mid-Ebb	Fine	Calm	10:00	0.7	M	0.35	1	0.053	182	7.15	7.15	0.85	0.85	29.66	29.66	28.9	29.1	2.51	2.53	25.1	25.1	26	25
M2	3/6/2021	Mid-Ebb	Fine	Calm	10:00	0.7	M	0.35	2			7.15		0.85		29.65		29.2		2.55		25.1		23	
M3	3/6/2021	Mid-Ebb	Fine	Calm	09:25	0.8	M	0.4	1	0.108	77	7.03	7.04	0.92	0.92	28.50	28.50	40.9	40.0	3.38	3.31	18.5	18.2	26	25
M3	3/6/2021	Mid-Ebb	Fine	Calm	09:25	0.8	M	0.4	2			7.05		0.92		28.50		39.1		3.24		17.8		24	

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6. Limti Level for SS: 99%-ile of baseline data or 130% of upstream control station's SS recorded on the same day.

For Flood Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M1	2.25	1.91	48.4	50.4	59	68
M2	1.88	1.79	54.5	59.1	81	112
M3	3.28	3.14	74.3	78.0	104	167

For Ebb Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M1	2.25	1.91	48.4	50.4	59	68
M2	1.88	1.79	43.0	52.4	81	112
M3	3.28	3.14	74.3	78.0	104	167

Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Monitoring Location	Date	Tide Mode	Weather	Sea Condition	Time	Water Depth (m)	Monitoring Level	Monitoring Level (m)	Replicate	In-situ Measurement												Laboratory Analysis	
										Current Speed (m/s)	Current Direction (°)	pH		Salinity (ppt)		Temperature (degree C)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total Suspended Solids (mg/L)	
										Value	Value	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.
M1	5/6/2021	Mid-Flood	Fine	Smooth	04:50	1.2	M	0.6	1	0.071	277	7.32	7.32	1.21	1.21	28.88	28.89	51.0	51.3	3.90	3.88	36.5	36.5	54	52
M1	5/6/2021	Mid-Flood	Fine	Smooth	04:50	1.2	M	0.6	2			7.31		1.21		28.89		51.6		3.86		36.4		50	
M2	5/6/2021	Mid-Flood	Fine	Smooth	05:08	1	M	0.5	1	0.082	237	7.40	7.40	1.22	1.22	28.98	29.00	55.3	57.0	4.46	4.56	39.3	38.9	52	51
M2	5/6/2021	Mid-Flood	Fine	Smooth	05:08	1	M	0.5	2			7.40		1.22		29.02		58.6		4.66		38.5		49	
M3	5/6/2021	Mid-Flood	Fine	Calm	05:30	1.8	M	0.9	1	0.041	115	7.28	7.26	1.03	1.04	28.59	28.59	50.7	50.6	4.01	3.97	16.0	16.0	24	24
M3	5/6/2021	Mid-Flood	Fine	Calm	05:30	1.8	M	0.9	2			7.24		1.04		28.59		50.4		3.92		15.9		23	
M1	5/6/2021	Mid-Ebb	Fine	Smooth	11:30	1	M	0.5	1	0.049	178	7.31	7.31	1.00	1.00	28.85	28.88	42.7	42.6	3.18	3.16	41.7	41.1	33	37
M1	5/6/2021	Mid-Ebb	Fine	Smooth	11:30	1	M	0.5	2			7.31		1.00		28.90		42.4		3.14		40.5		40	
M2	5/6/2021	Mid-Ebb	Fine	Smooth	11:11	0.8	M	0.4	1	0.042	151	7.34	7.34	0.94	0.94	29.34	29.34	41.9	41.7	3.15	3.14	26.8	26.9	44	43
M2	5/6/2021	Mid-Ebb	Fine	Smooth	11:11	0.8	M	0.4	2			7.34		0.94		29.34		41.4		3.12		27.0		42	
M3	5/6/2021	Mid-Ebb	Fine	Calm	11:45	0.3	M	0.15	1	0.013	50	7.27	7.27	0.49	0.49	30.31	30.31	46.2	46.3	3.72	3.74	26.7	26.4	28	28
M3	5/6/2021	Mid-Ebb	Fine	Calm	11:45	0.3	M	0.15	2			7.26		0.48		30.31		46.4		3.75		26.1		27	

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For Flood Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M1	2.25	1.91	48.4	50.4	59	68
M2	1.88	1.79	43.7	52.4	81	112
M3	3.28	3.14	74.3	78.0	104	167

For Ebb Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M1	2.25	1.91	48.4	50.4	59	68
M2	1.88	1.79	43.0	52.4	81	112
M3	3.28	3.14	74.3	78.0	104	167

Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Monitoring Location	Date	Tide Mode	Weather	Sea Condition	Time	Water Depth (m)	Monitoring Level	Monitoring Level (m)	Replicate	In-situ Measurement												Laboratory Analysis	
										Current Speed (m/s)	Current Direction (°)	pH		Salinity (ppt)		Temperature (degree C)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total Suspended Solids (mg/L)	
										Value	Value	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.
M1	8/6/2021	Mid-Flood	Fine	Calm	06:13	1.2	M	0.6	1	0.026	113	7.99	7.99	3.20	3.20	30.11	30.12	116.3	116.2	8.60	8.60	37.6	37.6	33	32
M1	8/6/2021	Mid-Flood	Fine	Calm	06:13	1.2	M	0.6	2			7.98		3.19		30.12		116.0		8.59		37.6		30	
M2	8/6/2021	Mid-Flood	Fine	Calm	06:33	0.9	M	0.45	1	0.028	105	7.73	7.74	1.91	1.92	30.63	30.64	107.0	107.1	7.94	7.94	36.8	37.0	37	38
M2	8/6/2021	Mid-Flood	Fine	Calm	06:33	0.9	M	0.45	2			7.74		1.92		30.64		107.1		7.93		37.1		39	
M3	8/6/2021	Mid-Flood	Fine	Calm	06:20	0.8	M	0.4	1	0.107	280	7.33	7.33	2.61	2.61	29.20	29.25	69.3	68.4	5.23	5.12	56.2	57.9	87	85
M3	8/6/2021	Mid-Flood	Fine	Calm	06:20	0.8	M	0.4	2			7.33		2.61		29.30		67.4		5.01		59.6		82	
M1	8/6/2021	Mid-Ebb	Fine	Calm	13:00	1	M	0.5	1	0.019	72	7.70	7.70	2.38	2.38	30.93	30.94	103.1	103.3	7.59	7.61	41.0	41.1	83	**87**
M1	8/6/2021	Mid-Ebb	Fine	Calm	13:00	1	M	0.5	2			7.69		2.37		30.94		103.4		7.63		41.2		90	
M2	8/6/2021	Mid-Ebb	Fine	Calm	12:41	0.8	M	0.4	1	0.02	58	8.05	8.05	2.00	2.00	32.01	32.02	124.5	123.6	9.26	9.22	39.3	39.2	59	58
M2	8/6/2021	Mid-Ebb	Fine	Calm	12:41	0.8	M	0.4	2			8.04		1.99		32.02		122.7		9.17		39.1		56	
M3	8/6/2021	Mid-Ebb	Fine	Calm	12:58	0.5	M	0.25	1	0.085	90	7.53	7.54	2.44	2.44	31.50	31.40	115.1	115.9	8.46	8.48	25.0	25.0	35	33
M3	8/6/2021	Mid-Ebb	Fine	Calm	12:58	0.5	M	0.25	2			7.54		2.44		31.30		116.6		8.49		25.0		31	

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For Flood Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M1	2.25	1.91	48.4	50.4	59	68
M2	1.88	1.79	45.1	52.4	81	112
M3	3.28	3.14	74.3	78.0	104	167

For Ebb Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M1	2.25	1.91	48.4	50.4	59	68
M2	1.88	1.79	43.0	52.4	81	112
M3	3.28	3.14	74.3	78.0	104	167

Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Monitoring Location	Date	Tide Mode	Weather	Sea Condition	Time	Water Depth (m)	Monitoring Level	Monitoring Level (m)	Replicate	In-situ Measurement												Laboratory Analysis	
										Current Speed (m/s)	Current Direction (°)	pH		Salinity (ppt)		Temperature (degree C)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total Suspended Solids (mg/L)	
										Value	Value	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.
M1	10/6/2021	Mid-Flood	Fine	Moderate	07:07	1.1	M	0.55	1	0.021	144	7.88	7.85	5.87	5.88	29.85	29.87	131.2	131.5	9.64	9.65	24.2	24.3	56	58
M1	10/6/2021	Mid-Flood	Fine	Moderate	07:07	1.1	M	0.55	2			7.81		5.88		29.88		131.7		9.66		24.4		59	
M2	10/6/2021	Mid-Flood	Fine	Moderate	07:20	0.9	M	0.45	1	0.029	81	7.74	7.75	3.49	3.49	29.99	30.00	94.5	94.6	6.99	6.99	33.1	33.1	39	42
M2	10/6/2021	Mid-Flood	Fine	Moderate	07:20	0.9	M	0.45	2			7.75		3.48		30.00		94.6		6.98		33.1		45	
M3	10/6/2021	Mid-Flood	Fine	Calm	07:25	1	M	0.5	1	0.101	268	7.21	7.22	3.38	3.38	29.40	29.40	54.2	53.6	4.06	4.01	63.0	63.3	90	90
M3	10/6/2021	Mid-Flood	Fine	Calm	07:25	1	M	0.5	2			7.22		3.38		29.40		52.9		3.96		63.5		89	
M1	10/6/2021	Mid-Ebb	Fine	Moderate	14:04	0.9	M	0.45	1	0.042	156	7.54	7.59	3.65	3.65	30.41	30.41	82.4	82.7	6.06	6.12	44.9	44.9	76	**73**
M1	10/6/2021	Mid-Ebb	Fine	Moderate	14:04	0.9	M	0.45	2			7.63		3.64		30.40		82.9		6.17		44.9		70	
M2	10/6/2021	Mid-Ebb	Fine	Moderate	13:50	0.7	M	0.35	1	0.037	217	7.44	7.45	3.58	3.59	30.29	30.30	66.8	66.8	4.92	4.91	42.9	42.8	77	77
M2	10/6/2021	Mid-Ebb	Fine	Moderate	13:50	0.7	M	0.35	2			7.46		3.59		30.30		66.7		4.90		42.6		76	
M3	10/6/2021	Mid-Ebb	Fine	Calm	14:00	0.3	M	0.15	1	0.108	86	7.15	7.16	2.19	2.20	29.30	29.30	59.7	59.2	4.52	4.47	26.7	27.2	41	40
M3	10/6/2021	Mid-Ebb	Fine	Calm	14:00	0.3	M	0.15	2			7.16		2.20		29.30		58.6		4.41		27.6		39	

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For Flood Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M1	2.25	1.91	48.4	50.4	59	68
M2	1.88	1.79	43.0	52.4	81	112
M3	3.28	3.14	74.3	78.0	104	167

For Ebb Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M1	2.25	1.91	48.4	50.4	70	76
M2	1.88	1.79	43.0	52.4	81	112
M3	3.28	3.14	74.3	78.0	104	167

Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Monitoring Location	Date	Tide Mode	Weather	Sea Condition	Time	Water Depth (m)	Monitoring Level	Monitoring Level (m)	Replicate	In-situ Measurement												Laboratory Analysis	
										Current Speed (m/s)	Current Direction (°)	pH		Salinity (ppt)		Temperature (degree C)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total Suspended Solids (mg/L)	
										Value	Value	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.
M1	12/6/2021	Mid-Flood	Fine	Moderate	07:53	2.4	M	1.2	1	0.103	227	7.78	7.79	8.05	8.05	29.22	29.23	89.7	90.0	6.58	6.60	21.9	22.2	31	31
M1	12/6/2021	Mid-Flood	Fine	Moderate	07:53	2.4	M	1.2	2			7.79		8.04		29.24		90.2		6.62		22.4		30	
M2	12/6/2021	Mid-Flood	Fine	Moderate	08:09	1.6	M	0.8	1	0.166	311	7.80	7.80	7.35	7.35	29.27	29.28	84.9	84.7	6.22	6.21	23.1	22.9	30	31
M2	12/6/2021	Mid-Flood	Fine	Moderate	08:09	1.6	M	0.8	2			7.80		7.34		29.28		84.4		6.19		22.7		32	
M3	12/6/2021	Mid-Flood	Fine	Calm	08:10	1.2	M	0.6	1	0.023	224	7.19	7.19	5.31	5.31	29.60	29.61	61.0	61.5	4.51	4.55	36.1	36.1	40	41
M3	12/6/2021	Mid-Flood	Fine	Calm	08:10	1.2	M	0.6	2			7.19		5.30		29.61		61.9		4.59		36.1		41	
M1	12/6/2021	Mid-Ebb	Fine	Moderate	15:21	2	M	1	1	0.158	262	7.34	7.34	4.36	4.36	28.89	28.90	55.2	55.1	4.13	4.12	29.7	29.9	34	33
M1	12/6/2021	Mid-Ebb	Fine	Moderate	15:21	2	M	1	2			7.33		4.35		28.91		55.0		4.11		30.0		31	
M2	12/6/2021	Mid-Ebb	Fine	Moderate	15:06	1.4	M	0.7	1	0.093	79	7.30	7.30	3.20	3.25	29.43	29.43	44.6	44.8	3.34	3.36	27.7	27.8	28	30
M2	12/6/2021	Mid-Ebb	Fine	Moderate	15:06	1.4	M	0.7	2			7.29		3.30		29.42		44.9		3.37		27.8		32	
M3	12/6/2021	Mid-Ebb	Fine	Calm	15:17	0.8	M	0.4	1	0.017	163	7.05	7.05	1.20	1.20	28.79	28.79	59.6	59.3	4.50	4.50	21.0	21.0	20	20
M3	12/6/2021	Mid-Ebb	Fine	Calm	15:17	0.8	M	0.4	2			7.05		1.20		28.79		59.0		4.49		21.0		20	

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For Flood Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M1	2.25	1.91	48.4	50.4	59	68
M2	1.88	1.79	43.0	52.4	81	112
M3	3.28	3.14	74.3	78.0	104	167

For Ebb Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M1	2.25	1.91	48.4	50.4	59	68
M2	1.88	1.79	43.0	52.4	81	112
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Monitoring Location	Date	Tide Mode	Weather	Sea Condition	Time	Water Depth (m)	Monitoring Level	Monitoring Level (m)	Replicate	In-situ Measurement												Laboratory Analysis	
										Current Speed (m/s)	Current Direction (°)	pH		Salinity (ppt)		Temperature (degree C)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total Suspended Solids (mg/L)	
										Value	Value	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.
M1	15/6/2021	Mid-Flood	Fine	Calm	09:36	0.9	M	0.45	1	0.062	122	7.40	7.40	6.23	6.23	29.66	29.66	69.8	69.9	5.14	5.14	44.2	44.3	71	69
M1	15/6/2021	Mid-Flood	Fine	Calm	09:36	0.9	M	0.45	2			7.40		6.22		29.66		69.9		5.13		44.3		66	
M2	15/6/2021	Mid-Flood	Fine	Calm	09:56	1.2	M	0.6	1	0.043	72	7.47	7.47	6.18	6.18	29.89	29.89	72.2	72.2	5.27	5.28	41.9	41.9	75	69
M2	15/6/2021	Mid-Flood	Fine	Calm	09:56	1.2	M	0.6	2			7.46		6.18		29.89		72.1		5.28		41.9		62	
M3	15/6/2021	Mid-Flood	Fine	Calm	09:30	1.2	M	0.6	1	0.028	181	7.11	7.12	4.26	4.26	30.09	30.10	64.5	64.7	4.76	4.77	45.1	45.3	33	30
M3	15/6/2021	Mid-Flood	Fine	Calm	09:30	1.2	M	0.6	2			7.12		4.26		30.10		64.8		4.78		45.4		27	
M1	15/6/2021	Mid-Ebb	Fine	Calm	17:14	0.7	M	0.35	1	0.021	71	7.44	7.46	7.99	7.96	30.29	30.25	71.2	71.0	5.12	5.11	32.1	31.7	23	23
M1	15/6/2021	Mid-Ebb	Fine	Calm	17:14	0.7	M	0.35	2			7.48		7.93		30.20		70.7		5.09		31.2		22	
M2	15/6/2021	Mid-Ebb	Fine	Calm	16:58	0.8	M	0.4	1	0.041	111	7.53	7.54	6.53	6.54	32.94	32.97	77.6	77.5	5.60	5.59	32.9	33.0	35	36
M2	15/6/2021	Mid-Ebb	Fine	Calm	16:58	0.8	M	0.4	2			7.54		6.54		32.99		77.4		5.58		33.0		36	
M3	15/6/2021	Mid-Ebb	Fine	Calm	16:59	0.8	M	0.4	1	0.019	261	7.62	7.62	4.43	4.43	30.54	30.54	109.1	109.1	7.97	7.97	23.0	23.1	25	24
M3	15/6/2021	Mid-Ebb	Fine	Calm	16:59	0.8	M	0.4	2			7.62		4.43		30.54		109.0		7.96		23.1		22	

Remark

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5. Action Level for SS: 95%-ile of baseline data or 120% of upstream control station's SS recorded on the same day.
6. Limti Level for SS: 99%-ile of baseline data or 130% of upstream control station's SS recorded on the same day.

For Flood Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M1	2.25	1.91	48.4	50.4	59	68
M2	1.88	1.79	53.1	57.5	82	112
M3	3.28	3.14	74.3	78.0	104	167

For Ebb Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M1	2.25	1.91	48.4	50.4	59	68
M2	1.88	1.79	43.0	52.4	81	112
M3	3.28	3.14	74.3	78.0	104	167

Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Monitoring Location	Date	Tide Mode	Weather	Sea Condition	Time	Water Depth (m)	Monitoring Level	Monitoring Level (m)	Replicate	In-situ Measurement												Laboratory Analysis	
										Current Speed (m/s)	Current Direction (°)	pH		Salinity (ppt)		Temperature (degree C)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total Suspended Solids (mg/L)	
										Value	Value	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.
M1	17/6/2021	Mid-Flood	Fine	Calm	11:50	1.3	M	0.65	1	0.026	173	7.38	7.38	3.11	3.11	31.09	31.09	58.5	58.7	4.29	4.30	53.1	53.2	29	28
M1	17/6/2021	Mid-Flood	Fine	Calm	11:50	1.3	M	0.65	2			7.38		3.11		31.09		58.8		4.31		53.2		27	
M2	17/6/2021	Mid-Flood	Fine	Calm	11:30	1	M	0.5	1	0.024	179	7.31	7.31	3.23	3.23	30.79	30.80	47.4	47.4	3.17	3.17	36.2	36.2	35	36
M2	17/6/2021	Mid-Flood	Fine	Calm	11:30	1	M	0.5	2			7.30		3.23		30.80		47.3		3.17		36.1		36	
M3	17/6/2021	Mid-Flood	Fine	Calm	12:04	0.6	M	0.3	1	0.128	260	7.31	7.31	3.03	3.04	31.40	31.45	63.6	64.0	4.62	4.65	36.0	38.7	33	35
M3	17/6/2021	Mid-Flood	Fine	Calm	12:04	0.6	M	0.3	2			7.30		3.04		31.50		64.4		4.67		41.4		36	
M1	17/6/2021	Mid-Ebb	Fine	Calm	06:35	0.9	M	0.45	1	0.029	252	7.63	7.63	2.79	2.79	31.96	31.97	94.4	94.5	6.82	6.80	50.0	50.7	54	56
M1	17/6/2021	Mid-Ebb	Fine	Calm	06:35	0.9	M	0.45	2			7.62		2.79		31.97		94.5		6.78		51.4		57	
M2	17/6/2021	Mid-Ebb	Fine	Calm	07:00	0.7	M	0.35	1	0.022	244	7.56	7.56	2.81	2.81	31.73	31.74	82.9	83.3	6.07	6.09	49.6	50.2	82	80
M2	17/6/2021	Mid-Ebb	Fine	Calm	07:00	0.7	M	0.35	2			7.56		2.81		31.74		83.6		6.10		50.7		78	
M3	17/6/2021	Mid-Ebb	Fine	Calm	07:15	0.1	M	0.05	1	0.097	78	7.24	7.24	2.03	2.04	30.10	30.10	61.7	62.3	4.50	4.54	38.4	40.3	66	68
M3	17/6/2021	Mid-Ebb	Fine	Calm	07:15	0.1	M	0.05	2			7.23		2.04		30.10		62.9		4.58		42.2		70	

Remark

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For Flood Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M1	2.25	1.91	48.4	50.4	59	68
M2	1.88	1.79	63.8	69.1	81	112
M3	3.28	3.14	74.3	78.0	104	167

For Ebb Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M1	2.25	1.91	54.3	58.8	88.8	96.2
M2	1.88	1.79	43.0	52.4	81	112
M3	3.28	3.14	74.3	78.0	104	167

Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Monitoring Location	Date	Tide Mode	Weather	Sea Condition	Time	Water Depth (m)	Monitoring Level	Monitoring Level (m)	Replicate	In-situ Measurement												Laboratory Analysis	
										Current Speed (m/s)	Current Direction (°)	pH		Salinity (ppt)		Temperature (degree C)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total Suspended Solids (mg/L)	
										Value	Value	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.
M1	19/6/2021	Mid-Flood	Fine	Calm	14:22	1.6	M	0.8	1	0.021	234	7.41	7.43	1.67	1.67	31.71	31.71	66.3	66.2	4.82	4.81	40.6	40.7	56	55
M1	19/6/2021	Mid-Flood	Fine	Calm	14:22	1.6	M	0.8	2			7.44		1.66		31.70		66.1		4.79		40.7		54	
M2	19/6/2021	Mid-Flood	Fine	Calm	14:13	1.4	M	0.7	1	0.03	77	7.35	7.36	1.42	1.43	31.75	31.75	66.8	66.8	4.87	4.87	42.8	42.5	52	50
M2	19/6/2021	Mid-Flood	Fine	Calm	14:13	1.4	M	0.7	2			7.36		1.44		31.75		66.7		4.86		42.1		48	
M3	19/6/2021	Mid-Flood	Fine	Calm	14:35	1.2	M	0.6	1	0.094	107	6.92	6.93	0.81	0.81	33.90	33.91	54.8	54.8	4.00	4.00	34.2	35.0	35	35
M3	19/6/2021	Mid-Flood	Fine	Calm	14:35	1.2	M	0.6	2			6.93		0.81		33.91		54.7		3.99		35.7		34	
M1	19/6/2021	Mid-Ebb	Fine	Calm	09:17	1.1	M	0.55	1	0.025	165	7.27	7.27	2.00	2.01	31.24	31.24	51.7	51.3	3.83	3.79	42.2	42.1	59	58
M1	19/6/2021	Mid-Ebb	Fine	Calm	09:17	1.1	M	0.55	2			7.26		2.01		31.24		50.8		3.74		41.9		56	
M2	19/6/2021	Mid-Ebb	Fine	Calm	09:30	1.3	M	0.65	1	0.023	91	7.24	7.24	1.54	1.55	31.28	31.26	42.1	42.1	3.04	3.04	41.3	41.6	26	27
M2	19/6/2021	Mid-Ebb	Fine	Calm	09:30	1.3	M	0.65	2			7.23		1.55		31.24		42.0		3.03		41.8		27	
M3	19/6/2021	Mid-Ebb	Fine	Calm	09:20	1.2	M	0.6	1	0.083	104	7.21	7.23	0.76	0.76	30.25	30.25	49.9	49.5	3.62	3.59	27.3	27.4	25	25
M3	19/6/2021	Mid-Ebb	Fine	Calm	09:20	1.2	M	0.6	2			7.24		0.76		30.24		49.1		3.56		27.4		24	

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For Flood Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M1	2.25	1.91	48.4	50.4	59	68
M2	1.88	1.79	48.8	52.8	81	112
M3	3.28	3.14	74.3	78.0	104	167

For Ebb Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M1	2.25	1.91	48.4	50.4	59	68
M2	1.88	1.79	43.0	52.4	81	112
M3	3.28	3.14	74.3	78.0	104	167

Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Monitoring Location	Date	Tide Mode	Weather	Sea Condition	Time	Water Depth (m)	Monitoring Level	Monitoring Level (m)	Replicate	In-situ Measurement												Laboratory Analysis	
										Current Speed (m/s)	Current Direction (°)	pH		Salinity (ppt)		Temperature (degree C)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total Suspended Solids (mg/L)	
										Value	Value	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.
M1	22/6/2021	Mid-Flood	Cloudy	Calm	18:55	1.1	M	0.55	1	0.019	99	7.52	7.52	2.63	2.64	28.60	28.60	75.7	75.7	5.85	5.85	39.4	39.5	38	38
M1	22/6/2021	Mid-Flood	Cloudy	Calm	18:55	1.1	M	0.55	2			7.52		2.64		28.60		75.6		5.84		39.6		38	
M2	22/6/2021	Mid-Flood	Cloudy	Calm	18:36	1	M	0.5	1	0.013	172	7.37	7.34	2.60	2.60	28.59	28.59	76.6	76.5	5.92	5.92	40.8	40.9	39	39
M2	22/6/2021	Mid-Flood	Cloudy	Calm	18:36	1	M	0.5	2			7.31		2.59		28.59		76.4		5.91		40.9		38	
M3	22/6/2021	Mid-Flood	Cloudy	Calm	18:50	0.6	M	0.3	1	0.092	74	7.36	7.37	1.68	1.69	28.55	28.55	54.2	54.3	4.17	4.18	58.4	59.2	54	56
M3	22/6/2021	Mid-Flood	Cloudy	Calm	18:50	0.6	M	0.3	2			7.38		1.69		28.54		54.4		4.18		59.9		58	
M1	22/6/2021	Mid-Ebb	Cloudy	Calm	11:48	0.6	M	0.3	1	0.035	144	7.45	7.45	0.36	0.37	28.58	28.59	75.7	75.7	5.86	5.86	43.0	43.0	24	24
M1	22/6/2021	Mid-Ebb	Cloudy	Calm	11:48	0.6	M	0.3	2			7.44		0.37		28.59		75.6		5.85		43.0		23	
M2	22/6/2021	Mid-Ebb	Cloudy	Calm	12:08	0.8	M	0.4	1	0.039	198	7.52	7.52	0.48	0.46	28.62	28.62	68.8	68.6	5.44	5.43	40.9	40.9	35	35
M2	22/6/2021	Mid-Ebb	Cloudy	Calm	12:08	0.8	M	0.4	2			7.51		0.44		28.61		68.4		5.41		40.9		34	
M3	22/6/2021	Mid-Ebb	Cloudy	Calm	11:52	0.3	M	0.15	1	0.06	251	7.29	7.29	0.82	0.82	26.32	26.33	51.4	51.3	3.97	3.96	62.5	62.1	51	50
M3	22/6/2021	Mid-Ebb	Cloudy	Calm	11:52	0.3	M	0.15	2			7.28		0.82		26.34		51.1		3.95		61.7		48	

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For Flood Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M1	2.25	1.91	48.4	50.4	59	68
M2	1.88	1.79	47.4	52.4	81	112
M3	3.28	3.14	74.3	78.0	104	167

For Ebb Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M1	2.25	1.91	61.8	67.0	59	68
M2	1.88	1.79	43.0	52.4	81	112
M3	3.28	3.14	74.3	78.0	104	167

Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Monitoring Location	Date	Tide Mode	Weather	Sea Condition	Time	Water Depth (m)	Monitoring Level	Monitoring Level (m)	Replicate	In-situ Measurement												Laboratory Analysis	
										Current Speed (m/s)	Current Direction (°)	pH		Salinity (ppt)		Temperature (degree C)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total Suspended Solids (mg/L)	
										Value	Value	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.
M1	24/6/2021	Mid-Flood	Rainy	Moderate	06:38	1.1	M	0.55	1	0.136	235	7.18	7.18	1.02	1.02	27.19	27.27	29.2	29.0	2.31	2.30	42.9	43.4	120	115
M1	24/6/2021	Mid-Flood	Rainy	Moderate	06:38	1.1	M	0.55	2			7.18		1.02		27.35		28.8		2.28		43.9		110	
M2	24/6/2021	Mid-Flood	Rainy	Moderate	06:57	1	M	0.5	1	0.202	252	7.15	7.15	1.12	1.12	27.37	27.38	29.5	29.4	2.32	2.32	46.3	46.9	50	49
M2	24/6/2021	Mid-Flood	Rainy	Moderate	06:57	1	M	0.5	2			7.15		1.12		27.38		29.3		2.31		47.4		47	
M3	24/6/2021	Mid-Flood	Rainy	Calm	06:39	1	M	0.5	1	0.02	273	7.15	7.15	1.11	1.11	27.39	27.39	43.6	43.2	3.97	3.98	55.6	55.7	77	72
M3	24/6/2021	Mid-Flood	Rainy	Calm	06:39	1	M	0.5	2			7.15		1.11		27.39		42.8		3.99		55.7		67	
M1	24/6/2021	Mid-Ebb	Rainy	Moderate	13:26	1	M	0.5	1	0.249	179	7.24	7.24	0.82	0.82	26.95	26.95	39.1	38.9	3.11	3.10	78.9	79.5	78	76
M1	24/6/2021	Mid-Ebb	Rainy	Moderate	13:26	1	M	0.5	2			7.23		0.82		26.95		38.7		3.09		80.0		73	
M2	24/6/2021	Mid-Ebb	Rainy	Moderate	13:40	0.9	M	0.45	1	0.201	189	7.18	7.18	0.81	0.81	27.30	27.30	26.3	26.2	1.96	1.96	106.1	107.1	110	110
M2	24/6/2021	Mid-Ebb	Rainy	Moderate	13:40	0.9	M	0.45	2			7.18		0.81		27.29		26.1		1.95		108.1		110	
M3	24/6/2021	Mid-Ebb	Rainy	Calm	13:15	0.7	M	0.35	1	0.06	167	7.39	7.39	0.13	0.13	26.76	26.76	80.6	80.6	6.44	6.44	69.1	69.0	96	93
M3	24/6/2021	Mid-Ebb	Rainy	Calm	13:15	0.7	M	0.35	2			7.39		0.13		26.76		80.5		6.43		68.9		89	

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For Flood Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M1	2.25	1.91	48.4	50.4	59	68
M2	1.88	1.79	52.1	56.4	138	150
M3	3.28	3.14	74.3	78.0	138	167

For Ebb Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M1	2.25	1.91	105.7	114.5	121.5	132
M2	1.88	1.79	43.0	52.4	81	112
M3	3.28	3.14	74.3	78.0	104	167

Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Monitoring Location	Date	Tide Mode	Weather	Sea Condition	Time	Water Depth (m)	Monitoring Level	Monitoring Level (m)	Replicate	In-situ Measurement												Laboratory Analysis	
										Current Speed (m/s)	Current Direction (°)	pH		Salinity (ppt)		Temperature (degree C)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total Suspended Solids (mg/L)	
										Value	Value	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.
M1	26/6/2021	Mid-Flood	Fine	Calm	07:45	1.3	M	0.65	1	0.043	261.9	7.22	7.22	5.47	5.47	28.09	28.09	40.8	40.8	3.11	3.11	26.8	26.8	26	27
M1	26/6/2021	Mid-Flood	Fine	Calm	07:45	1.3	M	0.65	2			7.22		5.47		28.09		40.7		3.10		26.8		28	
M2	26/6/2021	Mid-Flood	Fine	Calm	08:12	0.7	M	0.35	1	0.034	284.1	7.23	7.23	5.50	5.53	28.11	28.11	38.5	38.5	2.92	2.92	22.6	22.6	21	21
M2	26/6/2021	Mid-Flood	Fine	Calm	08:12	0.7	M	0.35	2			7.23		5.56		28.11		38.5		2.92		22.6		20	
M3	26/6/2021	Mid-Flood	Fine	Calm	07:54	1.3	M	0.65	1	0.025	139	7.12	7.13	1.49	1.48	27.50	27.50	56.3	56.0	4.41	4.40	21.5	21.5	22	24
M3	26/6/2021	Mid-Flood	Fine	Calm	07:54	1.3	M	0.65	2			7.14		1.46		27.50		55.7		4.38		21.5		26	
M1	26/6/2021	Mid-Ebb	Fine	Calm	15:15	1.1	M	0.55	1	0.037	136	7.29	7.29	3.15	3.16	27.94	27.94	35.8	35.8	2.74	2.73	23.7	23.7	26	26
M1	26/6/2021	Mid-Ebb	Fine	Calm	15:15	1.1	M	0.55	2			7.29		3.16		27.94		35.7		2.72		23.6		26	
M2	26/6/2021	Mid-Ebb	Fine	Calm	15:00	0.8	M	0.4	1	0.052	117	7.29	7.29	2.30	2.30	27.99	28.04	33.1	33.1	2.50	2.50	26.8	26.8	22	24
M2	26/6/2021	Mid-Ebb	Fine	Calm	15:00	0.8	M	0.4	2			7.29		2.30		28.08		33.0		2.50		26.8		26	
M3	26/6/2021	Mid-Ebb	Fine	Calm	15:21	0.9	M	0.45	1	0.018	88	7.14	7.15	1.49	1.49	27.79	27.79	52.8	53.1	4.12	4.19	24.0	24.0	28	28
M3	26/6/2021	Mid-Ebb	Fine	Calm	15:21	0.9	M	0.45	2			7.15		1.48		27.79		53.4		4.26		24.0		28	

Remark

1. Orange and Bold: Action Level Exceedance (For Impact Station Only)
2. Red and Bold: Limit Level Exceedance (For Impact Station Only)
3. Action Level for Turbidity: 95%-ile of baseline data or 120% of upstream control station's turbidity recorded on the same day.
4. Limti Level for Turbidity: 99%-ile of baseline data or 130% of upstream control station's turbidity recorded on the same day.
5. Action Level for SS: 95%-ile of baseline data or 120% of upstream control station's SS recorded on the same day.
6. Limti Level for SS: 99%-ile of baseline data or 130% of upstream control station's SS recorded on the same day.

For Flood Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M1	2.25	1.91	48.4	50.4	59	68
M2	1.88	1.79	43.0	52.4	81	112
M3	3.28	3.14	74.3	78.0	104	167

For Ebb Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M1	2.25	1.91	48.4	50.4	59	68
M2	1.88	1.79	43.0	52.4	81	112
M3	3.28	3.14	74.3	78.0	104	167

Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Monitoring Location	Date	Tide Mode	Weather	Sea Condition	Time	Water Depth (m)	Monitoring Level	Monitoring Level (m)	Replicate	In-situ Measurement												Laboratory Analysis	
										Current Speed (m/s)	Current Direction (°)	pH		Salinity (ppt)		Temperature (degree C)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total Suspended Solids (mg/L)	
										Value	Value	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.
M1	29/6/2021	Mid-Flood	Fine	Calm	10:15	1.2	M	0.6	1	0.023	75	7.26	7.27	1.03	1.04	27.96	27.96	45.8	45.7	3.48	3.49	40.3	40.0	45	46
M1	29/6/2021	Mid-Flood	Fine	Calm	10:15	1.2	M	0.6	2			7.27		1.04		27.96		45.6		3.50		39.7		46	
M2	29/6/2021	Mid-Flood	Fine	Calm	10:27	1.4	M	0.7	1	0.046	122	7.06	7.06	0.65	0.66	27.96	27.96	26.8	26.8	2.34	2.34	44.1	43.7	35	39
M2	29/6/2021	Mid-Flood	Fine	Calm	10:27	1.4	M	0.7	2			7.05		0.66		27.96		26.7		2.33		43.3		42	
M3	29/6/2021	Mid-Flood	Fine	Calm	10:15	1.2	M	0.6	1	0.117	275	6.93	6.92	0.60	0.60	28.47	28.47	41.6	41.5	3.30	3.29	50.5	49.7	43	47
M3	29/6/2021	Mid-Flood	Fine	Calm	10:15	1.2	M	0.6	2			6.91		0.60		28.46		41.4		3.27		48.8		50	
M1	29/6/2021	Mid-Ebb	Fine	Calm	17:33	0.8	M	0.4	1	0.043	84	7.18	7.17	1.12	1.12	28.23	28.26	38.6	38.4	3.10	3.01	44.3	44.3	26	29
M1	29/6/2021	Mid-Ebb	Fine	Calm	17:33	0.8	M	0.4	2			7.16		1.11		28.28		38.1		2.92		44.3		31	
M2	29/6/2021	Mid-Ebb	Fine	Calm	17:16	0.7	M	0.35	1	0.032	122	7.18	7.19	1.16	1.16	28.34	28.34	37.8	37.8	2.93	2.92	40.6	40.6	26	25
M2	29/6/2021	Mid-Ebb	Fine	Calm	17:16	0.7	M	0.35	2			7.19		1.15		28.34		37.7		2.91		40.6		24	
M3	29/6/2021	Mid-Ebb	Fine	Calm	17:20	1.1	M	0.55	1	0.123	265	7.06	7.06	0.28	0.28	28.26	28.26	48.8	48.7	3.80	3.79	30.2	31.0	30	27
M3	29/6/2021	Mid-Ebb	Fine	Calm	17:20	1.1	M	0.55	2			7.06		0.28		28.25		48.6		3.78		31.8		23	

Remark

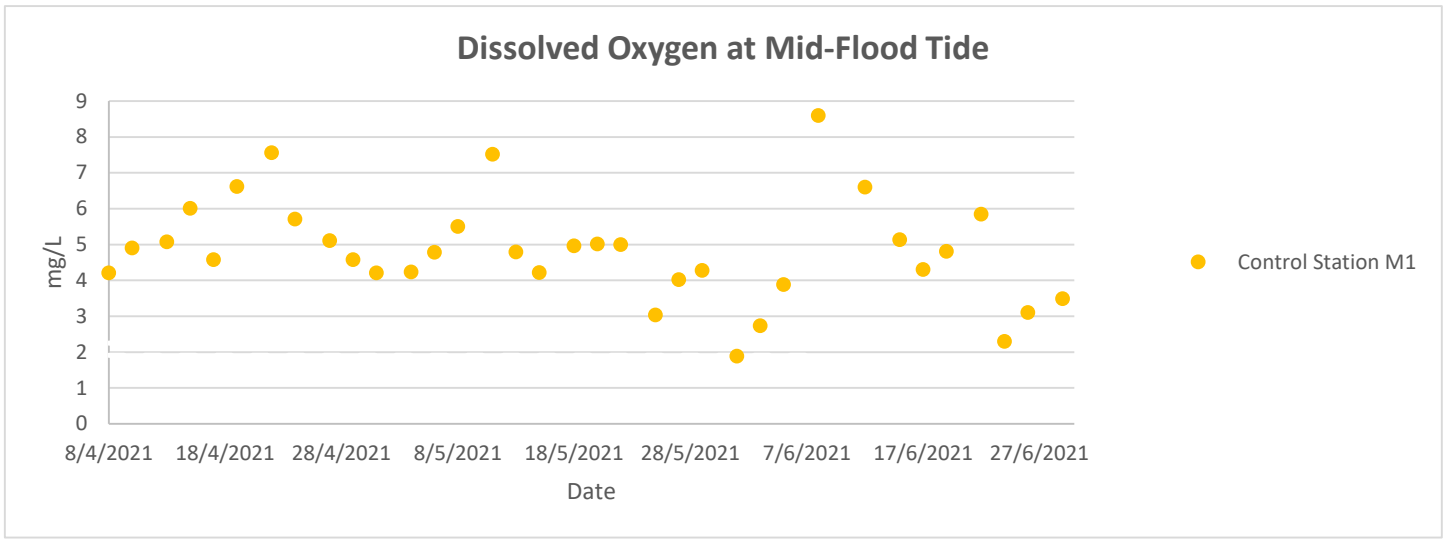
1. Orange and Bold: Action Level Exceedance (For Impact Station Only)
2. Red and Bold: Limit Level Exceedance (For Impact Station Only)
3. Action Level for Turbidity: 95%-ile of baseline data or 120% of upstream control station's turbidity recorded on the same day.
4. Limti Level for Turbidity: 99%-ile of baseline data or 130% of upstream control station's turbidity recorded on the same day.
5. Action Level for SS: 95%-ile of baseline data or 120% of upstream control station's SS recorded on the same day.
6. Limti Level for SS: 99%-ile of baseline data or 130% of upstream control station's SS recorded on the same day.

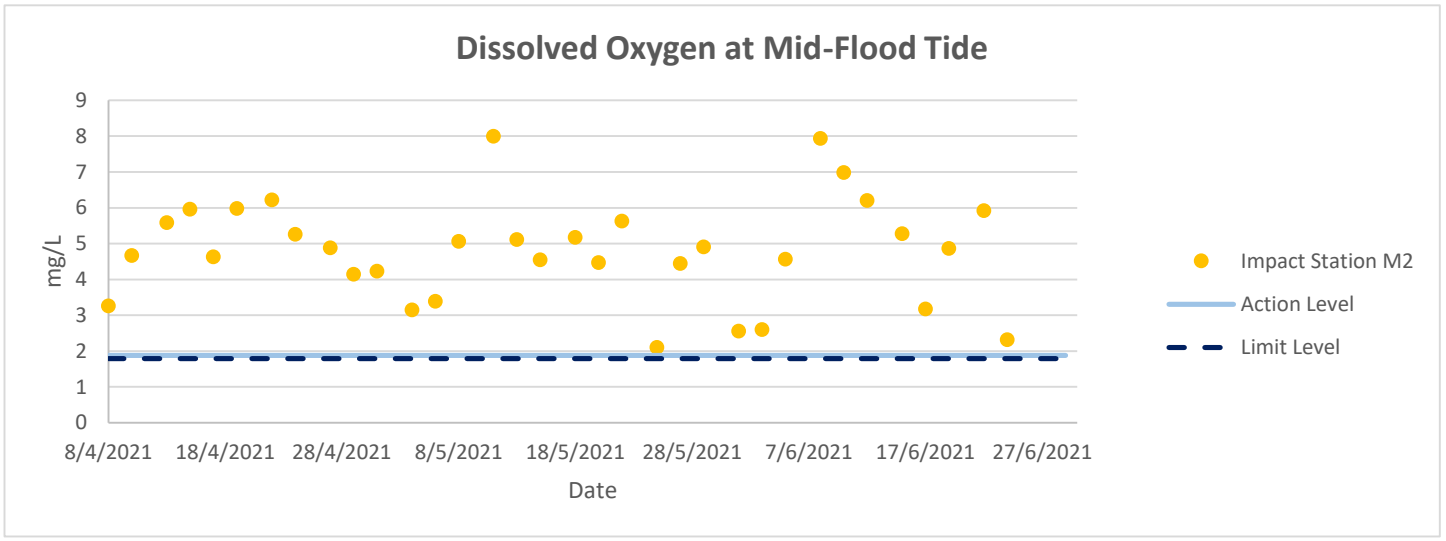
For Flood Tide

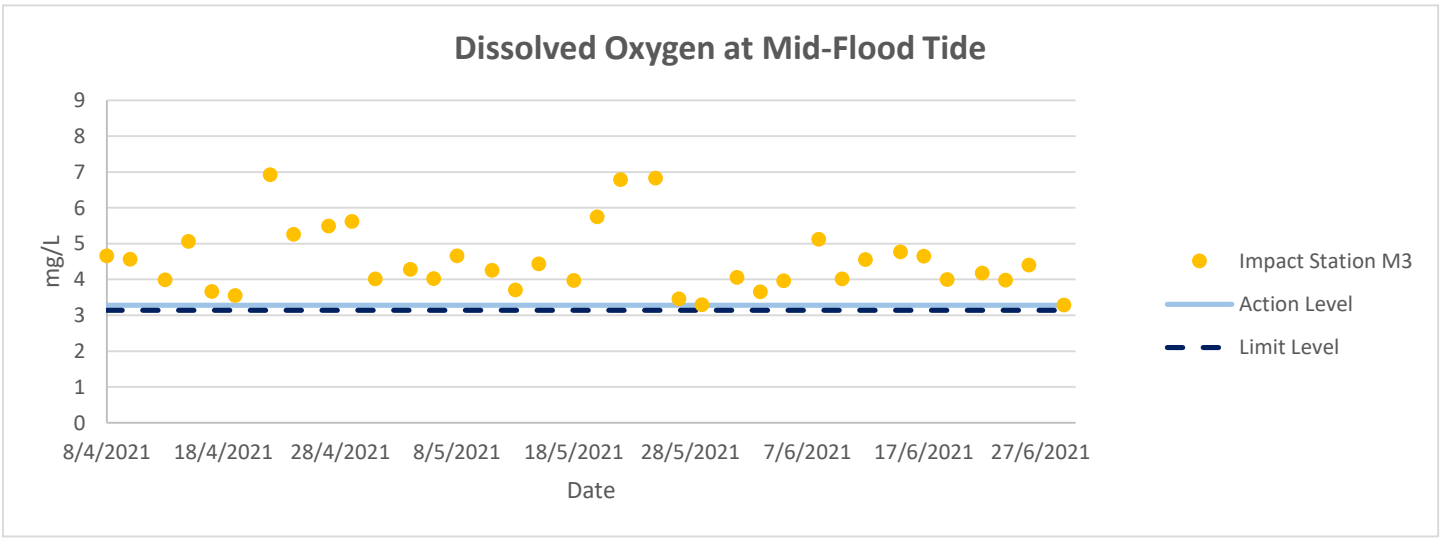
Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M1	2.25	1.91	48.4	50.4	59	68
M2	1.88	1.79	48.0	52.4	81	112
M3	3.28	3.14	74.3	78.0	104	167

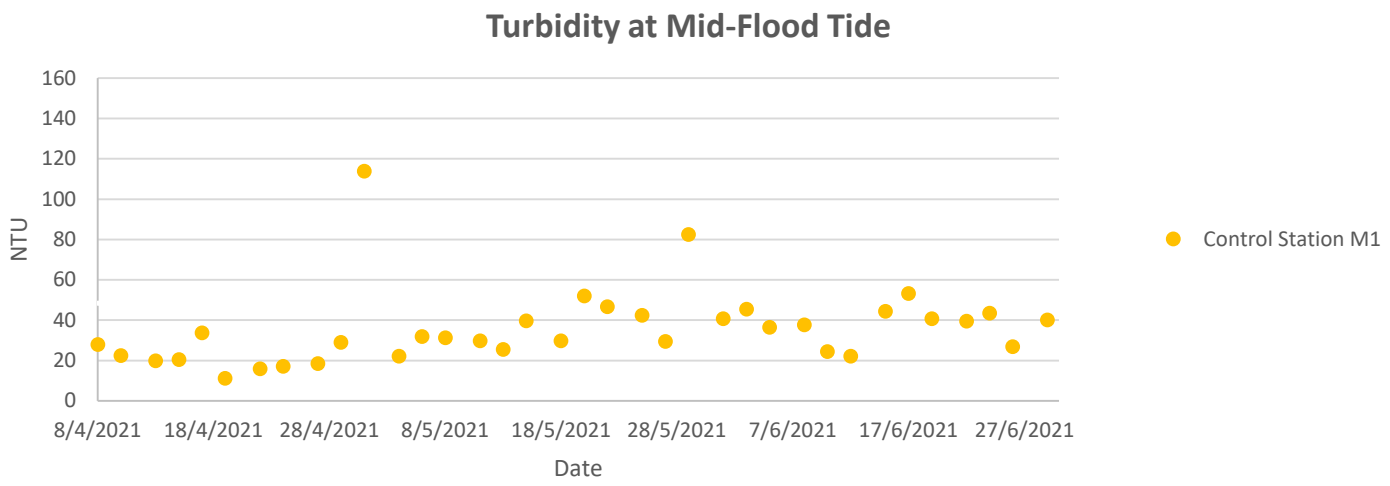
For Ebb Tide

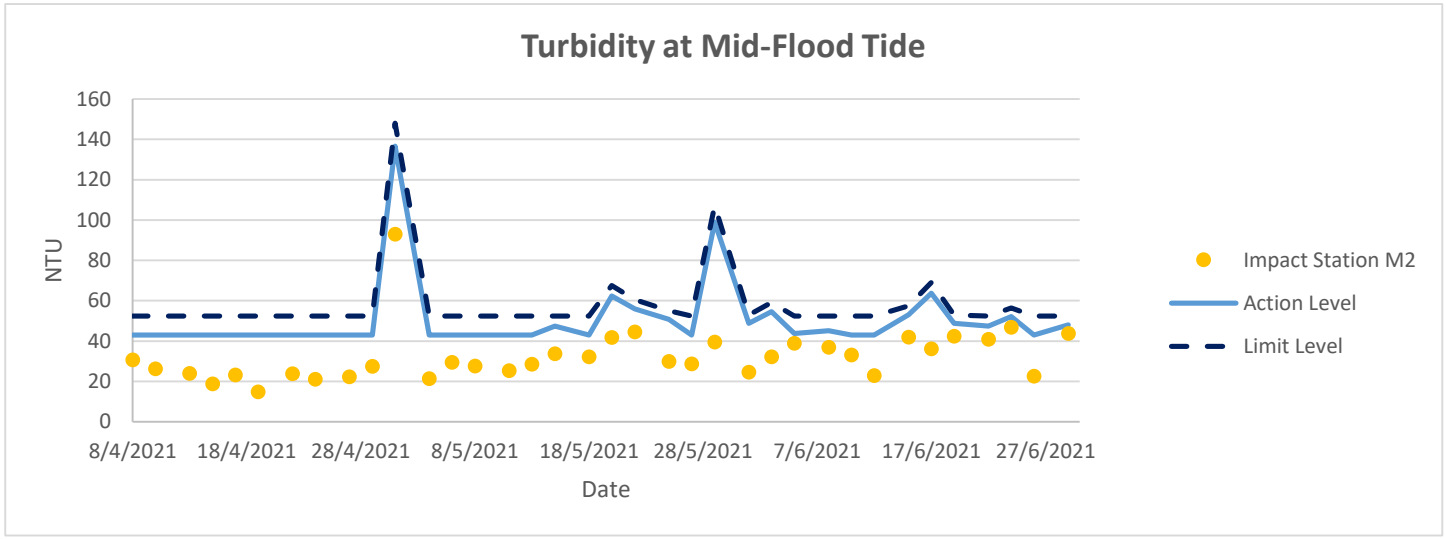
Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M1	2.25	1.91	48.4	50.4	59	68
M2	1.88	1.79	43.0	52.4	81	112
M3	3.28	3.14	74.3	78.0	104	167

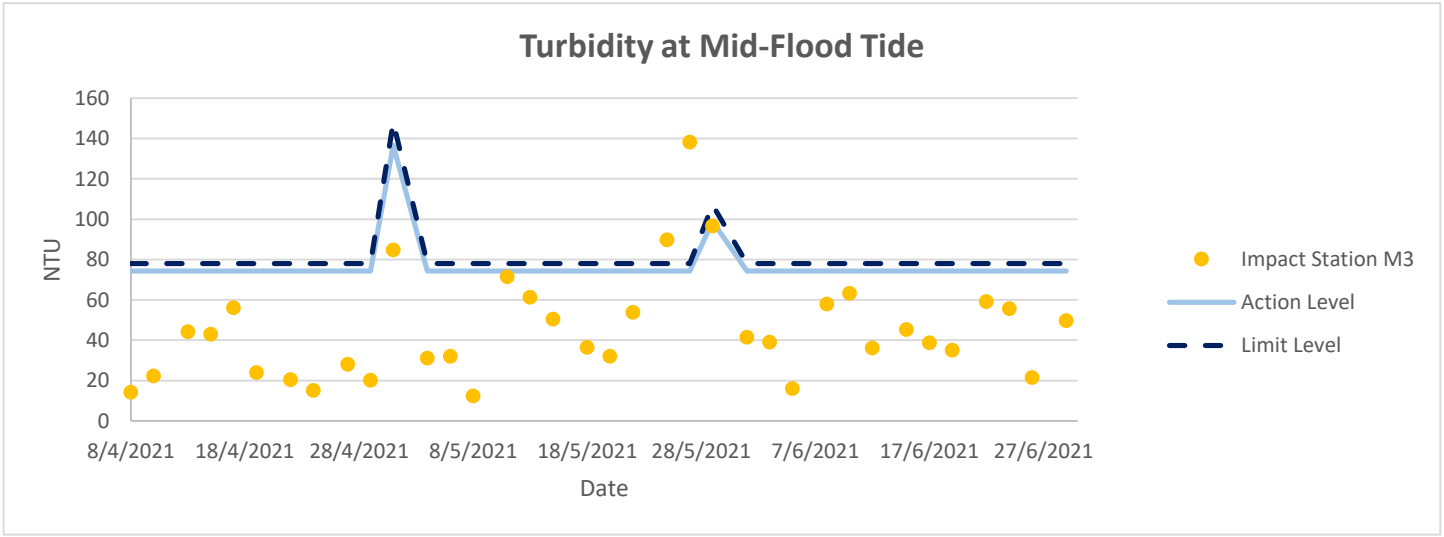

Dissolved Oxygen at Mid-Flood Tide
mg/L
9
8
7
6
5
4
3
2
1
0
8/4/2021
18/4/2021
28/4/2021
8/5/2021
18/5/2021
28/5/2021
7/6/2021
17/6/2021
27/6/2021
Date
Control Station M1

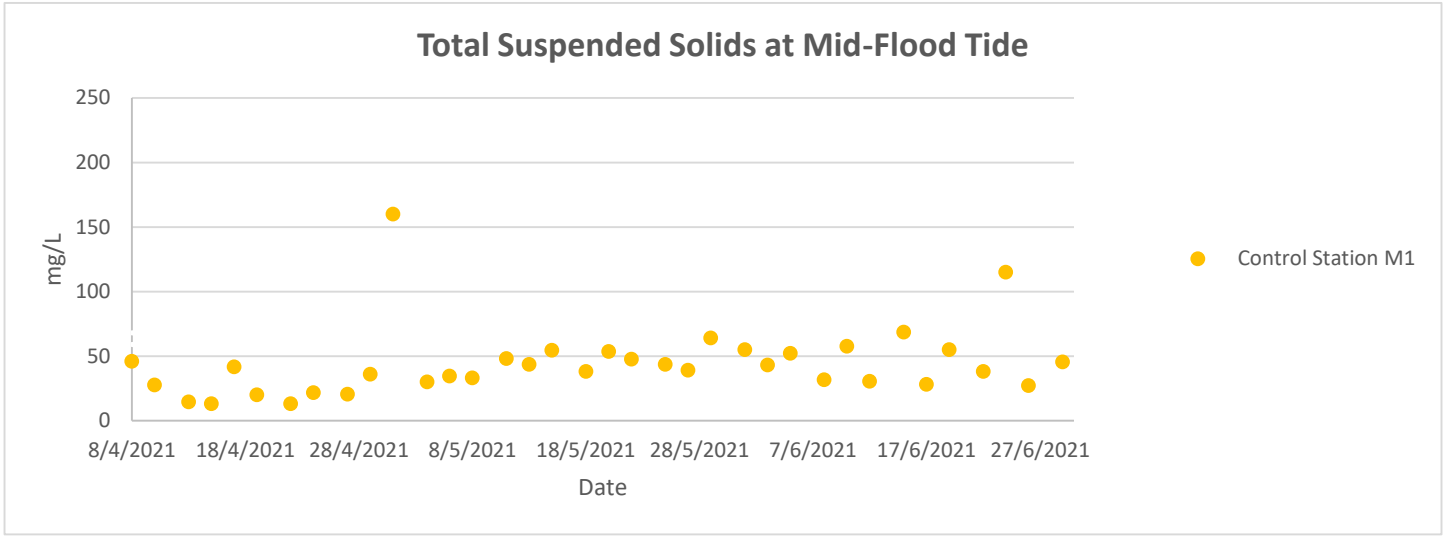

Dissolved Oxygen at Mid-Flood Tide
mg/L
9
8
7
6
5
4
3
2
1
0
8/4/2021
18/4/2021
28/4/2021
8/5/2021
18/5/2021
28/5/2021
7/6/2021
17/6/2021
27/6/2021
Date
Impact Station M2
Action Level
Limit Level

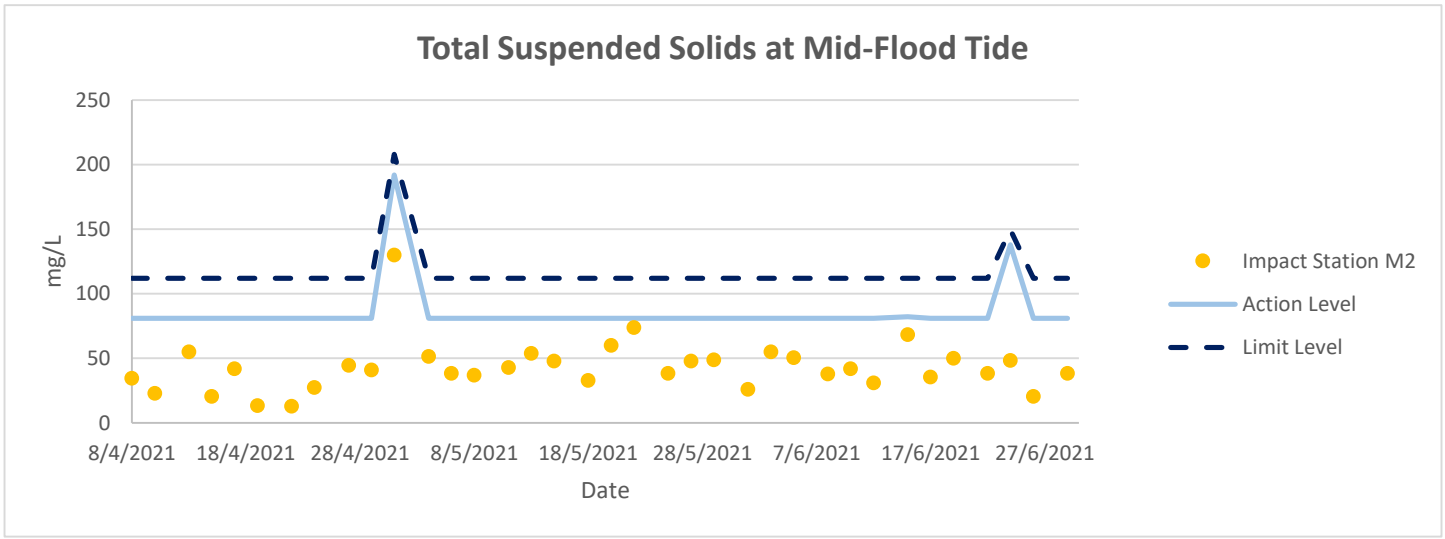

Dissolved Oxygen at Mid-Flood Tide
mg/L
9
8
7
6
5
4
3
2
1
0
8/4/2021
18/4/2021
28/4/2021
8/5/2021
18/5/2021
28/5/2021
7/6/2021
17/6/2021
27/6/2021
Date
Impact Station M3
Action Level
Limit Level

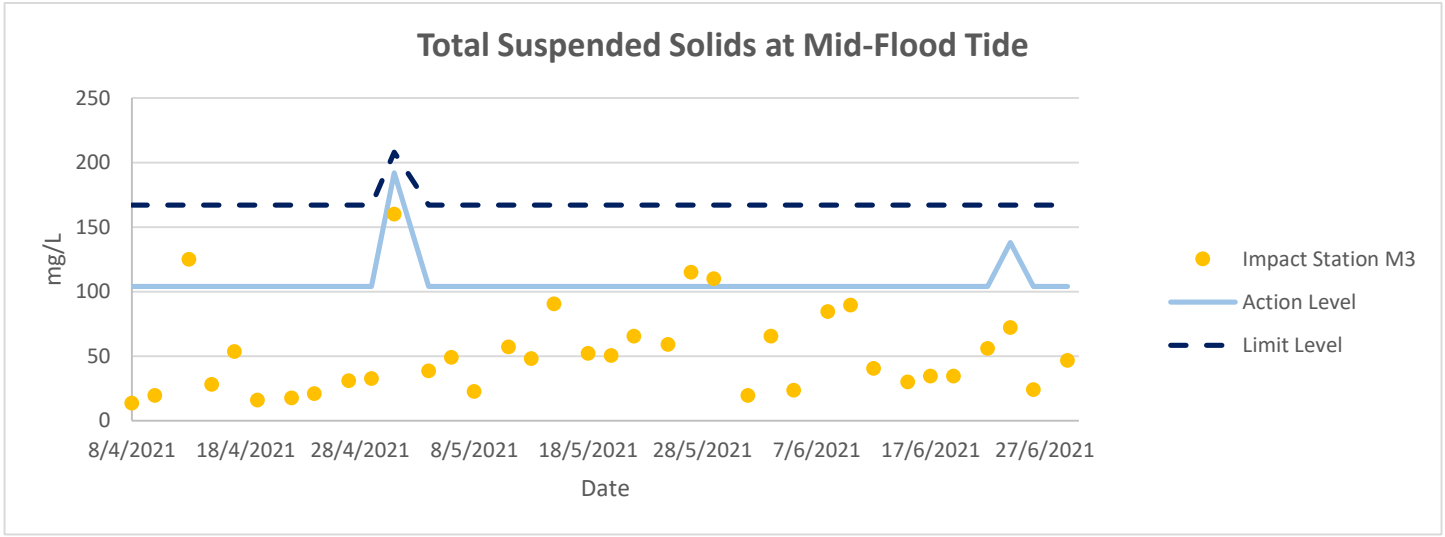

Turbidity at Mid-Flood Tide
160
140
120
100
80
60
40
20
0
NTU
8/4/2021
18/4/2021
28/4/2021
8/5/2021
18/5/2021
28/5/2021
7/6/2021
17/6/2021
27/6/2021
Date
Control Station M1

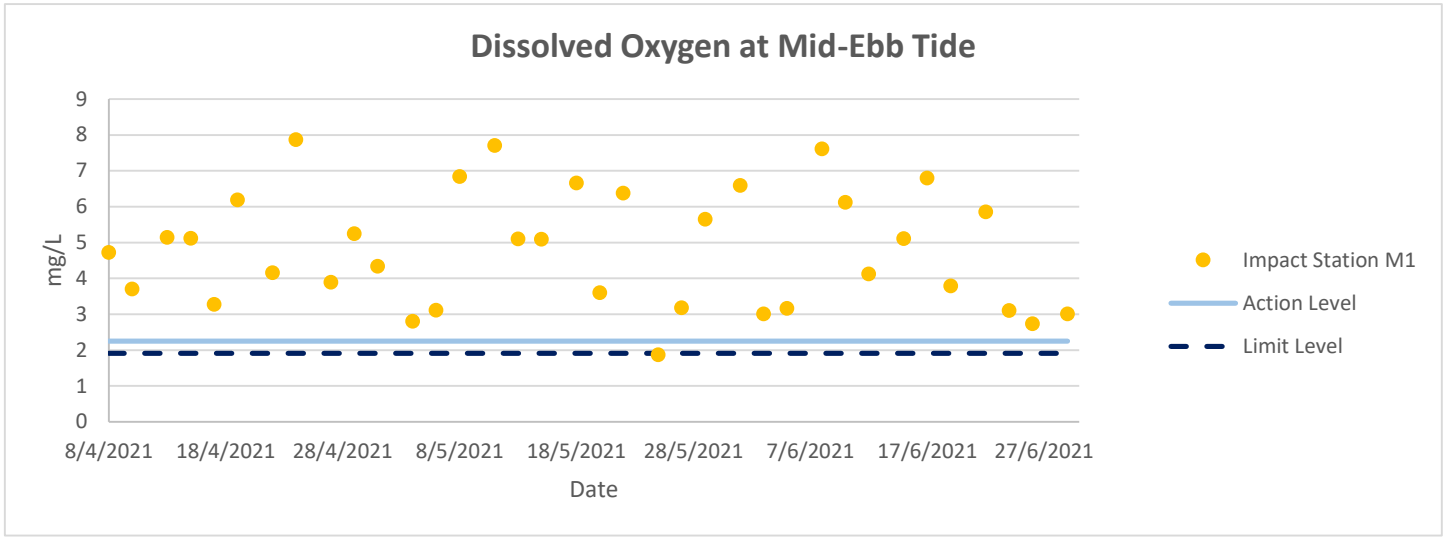

Turbidity at Mid-Flood Tide
160
140
120
100
80
60
40
20
0
NTU
8/4/2021
18/4/2021
28/4/2021
8/5/2021
18/5/2021
28/5/2021
7/6/2021
17/6/2021
27/6/2021
Date
Impact Station M2
Action Level
Limit Level

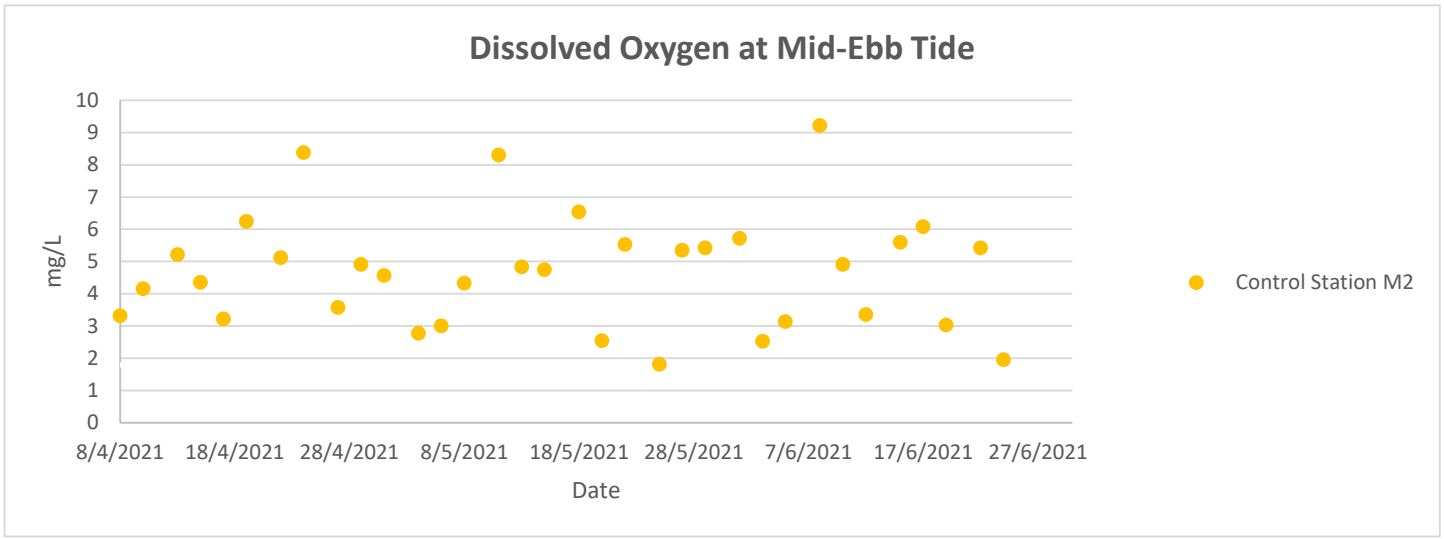

Turbidity at Mid-Flood Tide
160
140
120
100
80
60
40
20
0
NTU
8/4/2021
18/4/2021
28/4/2021
8/5/2021
18/5/2021
28/5/2021
7/6/2021
17/6/2021
27/6/2021
Date
Impact Station M3
Action Level
Limit Level

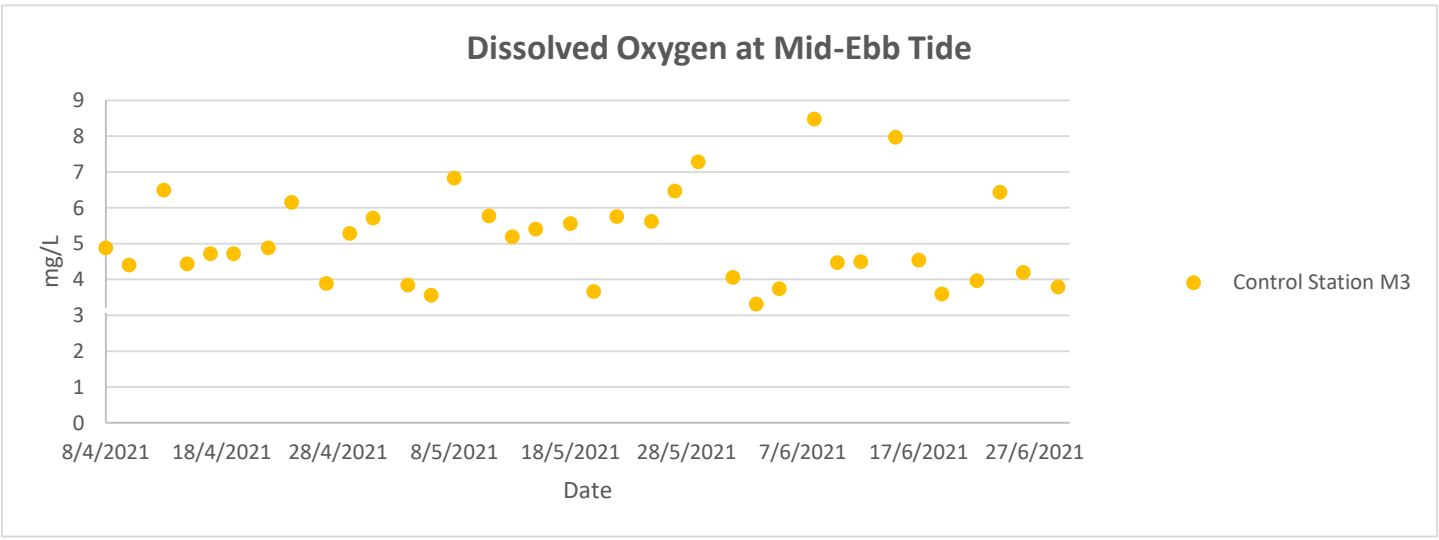

Total Suspended Solids at Mid-Flood Tide
250
200
150
100
50
0
mg/L
8/4/2021
18/4/2021
28/4/2021
8/5/2021
18/5/2021
28/5/2021
7/6/2021
17/6/2021
27/6/2021
Date
Control Station M1

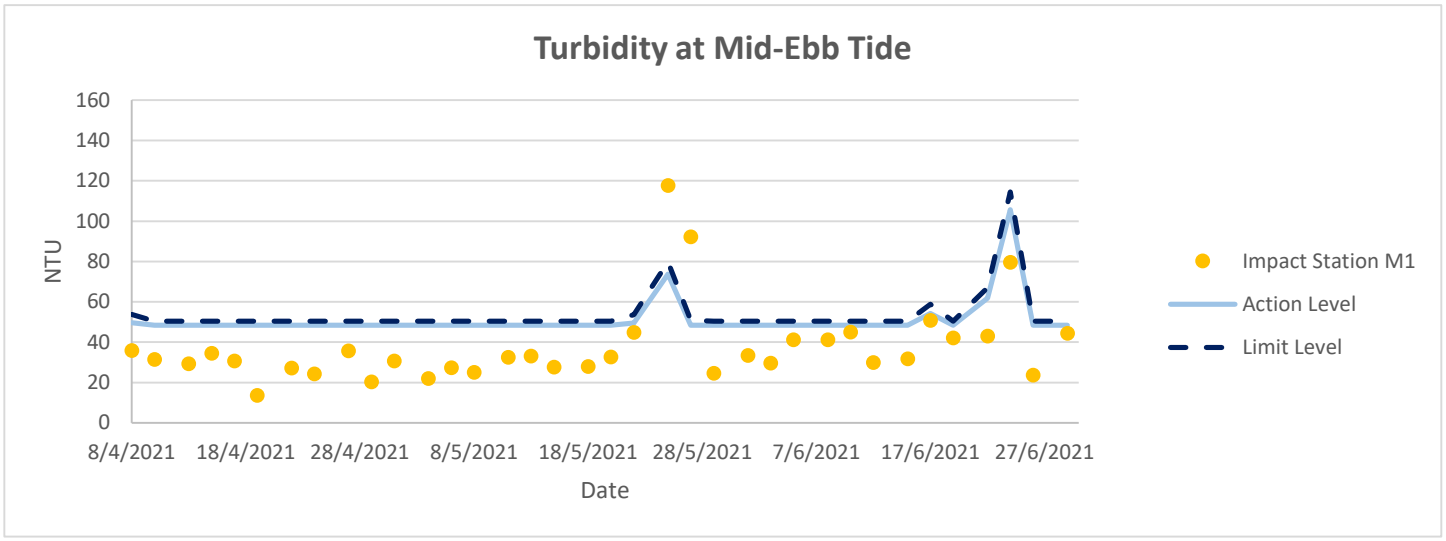

Total Suspended Solids at Mid-Flood Tide
250
200
150
100
50
0
mg/L
8/4/2021
18/4/2021
28/4/2021
8/5/2021
18/5/2021
28/5/2021
7/6/2021
17/6/2021
27/6/2021
Date
Impact Station M2
Action Level
Limit Level

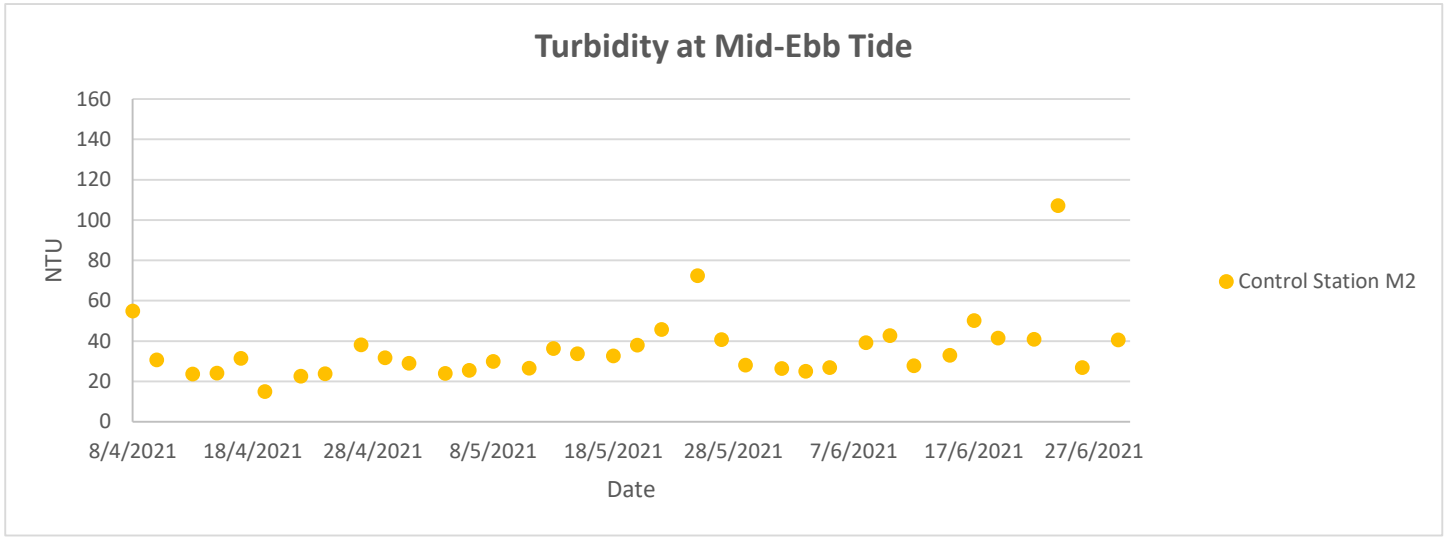

Total Suspended Solids at Mid-Flood Tide
250
200
150
100
50
0
mg/L
8/4/2021
18/4/2021
28/4/2021
8/5/2021
18/5/2021
28/5/2021
7/6/2021
17/6/2021
27/6/2021
Date
Impact Station M3
Action Level
Limit Level

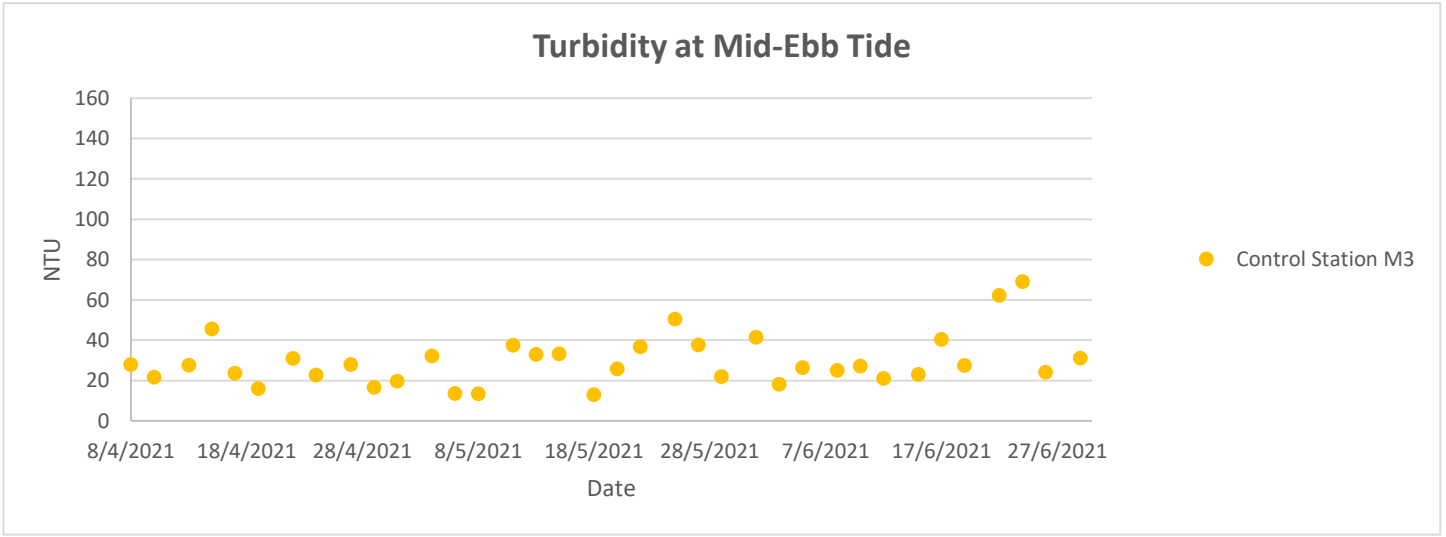

Dissolved Oxygen at Mid-Ebb Tide
mg/L
9
8
7
6
5
4
3
2
1
0
8/4/2021
18/4/2021
28/4/2021
8/5/2021
18/5/2021
28/5/2021
7/6/2021
17/6/2021
27/6/2021
Date
Impact Station M1
Action Level
Limit Level


Dissolved Oxygen at Mid-Ebb Tide
mg/L
10
9
8
7
6
5
4
3
2
1
0
8/4/2021
18/4/2021
28/4/2021
8/5/2021
18/5/2021
28/5/2021
7/6/2021
17/6/2021
27/6/2021
Date
Control Station M2


Dissolved Oxygen at Mid-Ebb Tide
mg/L
9
8
7
6
5
4
3
2
1
0
8/4/2021
18/4/2021
28/4/2021
8/5/2021
18/5/2021
28/5/2021
7/6/2021
17/6/2021
27/6/2021
Date
Control Station M3


Turbidity at Mid-Ebb Tide
NTU
160
140
120
100
80
60
40
20
0
8/4/2021
18/4/2021
28/4/2021
8/5/2021
18/5/2021
28/5/2021
7/6/2021
17/6/2021
27/6/2021
Date
Impact Station M1
Action Level
Limit Level


Turbidity at Mid-Ebb Tide
NTU
160
140
120
100
80
60
40
20
0
8/4/2021
18/4/2021
28/4/2021
8/5/2021
18/5/2021
28/5/2021
7/6/2021
17/6/2021
27/6/2021
Date
Control Station M2


Turbidity at Mid-Ebb Tide
NTU
160
140
120
100
80
60
40
20
0
8/4/2021
18/4/2021
28/4/2021
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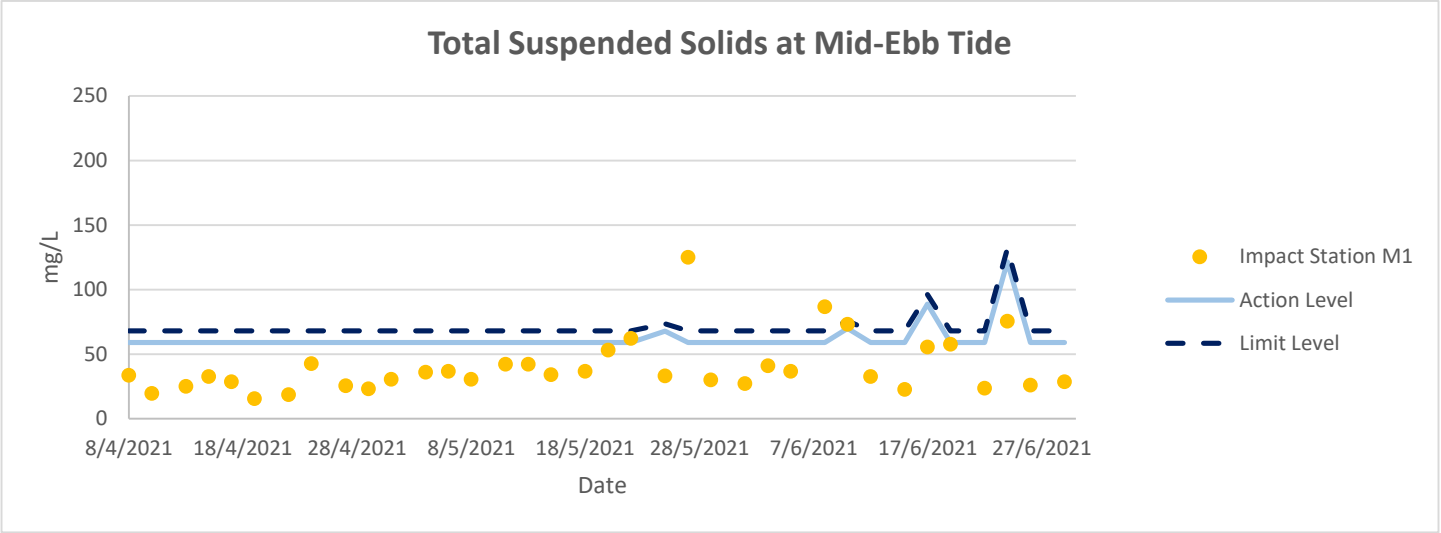
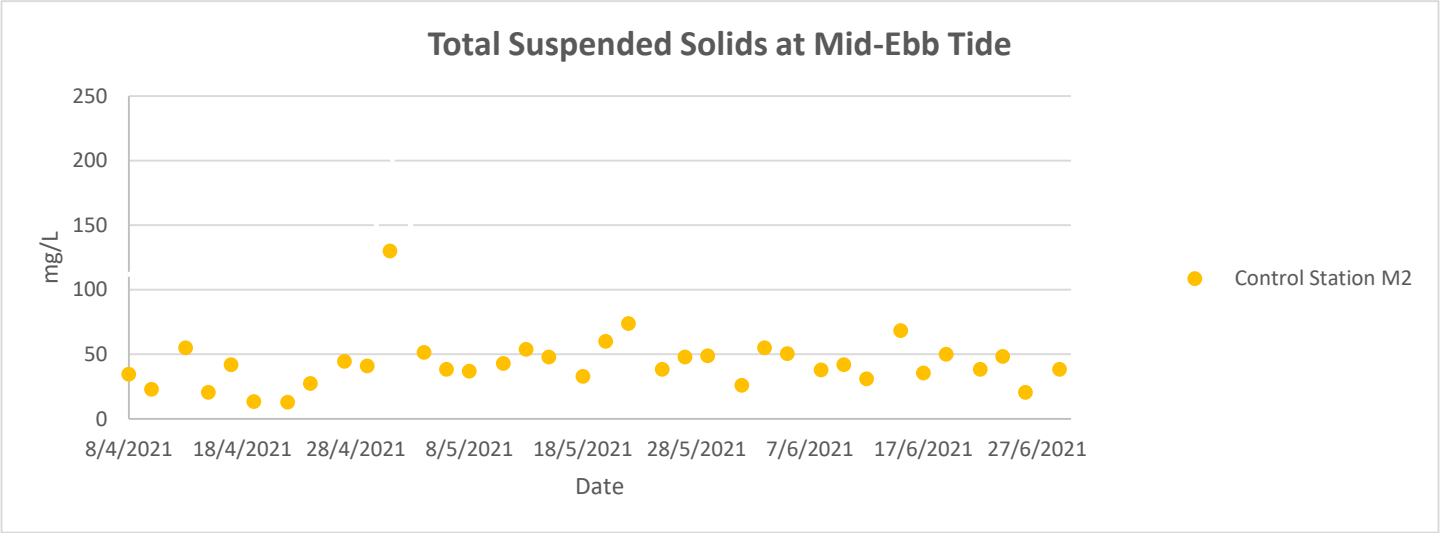
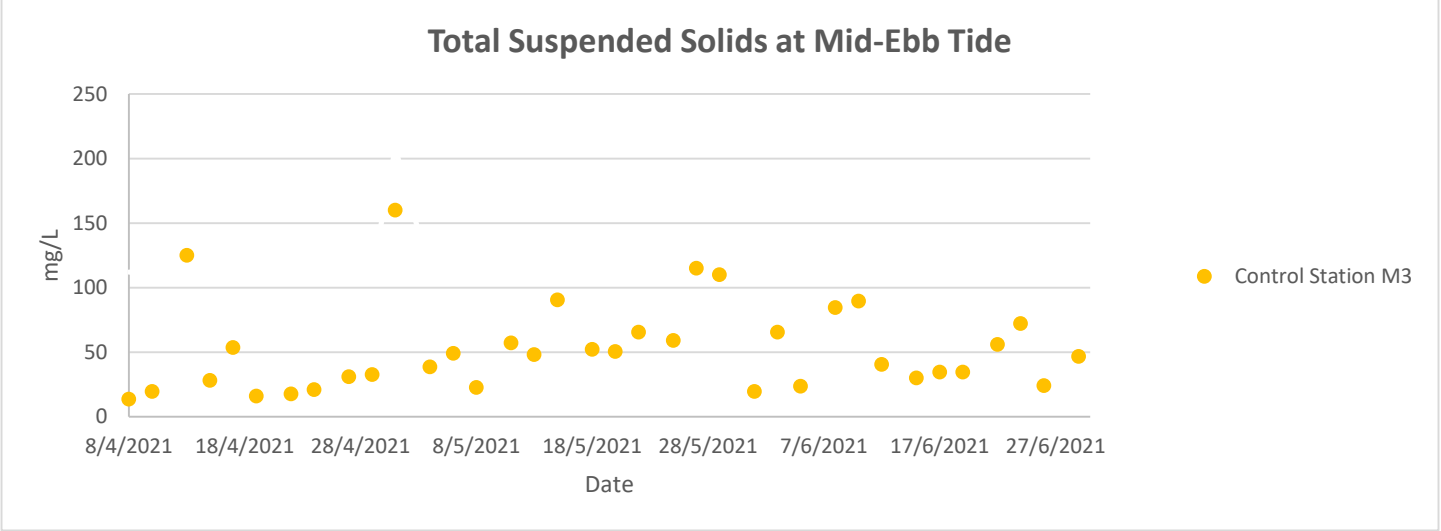
28/5/2021
7/6/2021
17/6/2021
27/6/2021
Date
Control Station M3


Total Suspended Solids at Mid-Ebb Tide
250
200
150
100
50
0
mg/L
8/4/2021
18/4/2021
28/4/2021
8/5/2021
18/5/2021
28/5/2021
7/6/2021
17/6/2021
27/6/2021
Date
Impact Station M1
Action Level
Limit Level


Total Suspended Solids at Mid-Ebb Tide
250
200
150
100
50
0
mg/L
8/4/2021
18/4/2021
28/4/2021
8/5/2021
18/5/2021
28/5/2021
7/6/2021
17/6/2021
27/6/2021
Date
Control Station M2


Total Suspended Solids at Mid-Ebb Tide
250
200
150
100
50
0
mg/L
8/4/2021
18/4/2021
28/4/2021
8/5/2021
18/5/2021
28/5/2021
7/6/2021
17/6/2021
27/6/2021
Date
Control Station M3

Ecology Monitoring Results

Appendix F.1 Supplemental Discussion

F.1.1 Active Ardeid Night Roost

For the final night roost, all three individuals utilized the canopy to emergent layers of the roosting substrate *Sonneratia apetala* and *S. caseolaris*. The night roost (ANR2) located at the northeast of the Project boundary, as noted to be active last April 2021, was not used by the ardeids during the current monitoring period, similar with the May 2021 results. This was, however, not caused by the Project's construction activities as the recorded noise level ((59.0 dB(A)) near ANR2 was lower with respect to the action limit level of 65.5 dB(A) which more likely to cause behavioural responses of some kind by the ardeids (Wright et al. 2010). Furthermore, ardeid night roosts are known for their highly changeable locations and roosting population. These roosting locations can change in temporal basis and even change from day to day on a small scale. In Hong Kong, fluctuation of roosting population, abandonment or change in locations of roosting site without major nearby environmental change has been observed in roosts and locations (HKJC, 2005; Lee et al., 2004; MTRC, 2010).

F.1.2 Ecological Monitoring of Birds

F.1.2.1 Abundance

F.1.2.1.1 All Avifauna Species

Point Count

Among the different species recorded, the Chinese Pond Heron *Ardeola bacchus* was noted with the highest abundance (88 ind.), followed by Barn Swallow *Hirundo rustica* (15 ind.) and Eurasian Tree Sparrow *Passer montanus* (15 ind.). The high abundance of Chinese Pond Heron was due to its concurrent breeding period. On the other hand, two species were noted with low abundances (only one ind.), these include the Black-collared Starling *Gracupica nigricollis* and Red-whiskered Bulbul *Pycnonotus jocosus*.

Transect Walk

Among the different species recorded, the Chinese Pond Heron was noted with the highest abundance (43 ind.), followed by Azure-winged Magpie *Cyanopica cyanus* (15 ind.) and Barn Swallow (13 ind.).

F.1.2.1.2 Avifauna Species of Conservation Importance

Point Count

Among the different species recorded, the Chinese Pond Heron was noted with the highest abundance (88 ind.) while the remaining species such as the Little Egret (12 ind.) followed by the Great Egret *Ardea alba* (5 ind.) and Little Grebe *Tachybaptus ruficollis* (3 ind.) were noted with low abundances.

Transect Walk

Among the different species recorded, the Chinese Pond Heron was noted with the highest abundance (43 ind.). The remaining species such as the Little Egret (6 ind.), Great Egret (4 ind.) and Black Kite *Milvus migrans* (2 ind.) were noted with low abundances.

F.1.2.2 Diversity (Species Richness and Shannon Diversity Index)

F.1.2.2.1 All Avifauna Species

Point Count

A significant current decline in the Shannon diversity index was noted relative to the baseline results of H'=3.93 at α=0.05. However, the significant decline was not caused by the construction works of the Project as noise levels (47.5 to 65.9 dB(A)) recorded from the different point count locations during the ecological bird monitoring are mostly low. The generally low noise levels are unlikely to cause significant impact to birds as behavioral response of some kind are more likely to occur at above 65.5 dB(A) (Wright et al. 2010). Only two stations, SP/NSW3 with 65.9 dB(A) and SP/NSW2 with 65.7 dB(A), have readings slightly above 65.5. dB(A). These stations are located across the Shan Pui River, relatively far from the construction works area; and are close to the roadsides with low to moderate traffic. During the monitoring period passing vehicles, barking dogs, and noisy insects were noted. The lower diversity during this period with respect to the baseline data could be due to the current dominance of Chinese Pond Heron in the community. The current dominance of this species was due to its concurrent breeding period. This dominant species could have decreased the performance of co-occurring species (Gilbert et al. 2009) and forced them to utilize other areas outside the survey area, thus, made the area less diverse. Furthermore, low diversity index usually results from high dominance in the community as these are inversely related (Shaukat et al., 1978).

Appendix F.2 Ecological Bird Monitoring Results (15 & 18 June 2021)

Date (dd/mm/yyyy)	Daytime/Night time	Season	Area	Transect/Point Count	Point Count (Location)/Transect Impact	Common Name	Scientific Name	Abundance	Habitat	Distribution in Hong Kong[2]	Principal Status[3]	Level of Concern[4]	Protection Status in China[5]	China Red Data Book [6]	Red List of China's Vertebrates [10]	IUCN Red List [7] (v.2020-3)	Species of Conservation Importance	Wetland Dependent	Remarks
15/06/2021	Daytime	Wet	FLW	Transect	FLW	Azure-winged Magpie	*Cyanopica cyanus*	10	Developed Area (Chinese Banyan Trees)	Introduced	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Transect	FLW	Chinese Pond Heron	*Ardeola bacchus*	38	Developed Area (Chinese Banyan Trees)	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Transect	FLW	Plain Prinia	*Prinia inornata*	2	Grassland-FLW	Common	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Transect	FLW	Yellow-bellied Prinia	*Prinia flaviventris*	2	Grassland-FLW	Common	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	Black Kite	*Milvus migrans*	1	In-flight	Common	R,WV	(RC)	Class II	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Transect	YLIE-CW	Little Egret	*Egretta garzetta*	1	Modified Watercourse	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Transect	YLIE-CW	White-breasted Waterhen	*Amaurornis phoenicurus*	1	Modified Watercourse	Common	R	-	-	-	LC	LC	N	Y	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	Great Egret	*Ardea alba*	2	Modified Watercourse	Common	R,WV	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	Barn Swallow	*Hirundo rustica*	7	Modified Watercourse	Abundant	PM,SV	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	Little Egret	*Egretta garzetta*	5	Modified Watercourse	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	Great Egret	*Ardea alba*	1	Modified Watercourse	Common	R,WV	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	White Wagtail	*Motacilla alba*	1	Modified Watercourse	Common	PM,WV	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	Chinese Pond Heron	*Ardeola bacchus*	1	Modified Watercourse	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	White Wagtail	*Motacilla alba*	3	Modified Watercourse	Common	PM,WV	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Transect	FLW	Azure-winged Magpie	*Cyanopica cyanus*	5	Plantation-FLW	Introduced	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Transect	FLW	Black-collared Starling	*Gracupica nigricollis*	5	Plantation-FLW	Common	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Transect	FLW	Chinese Bulbul	*Pycnonotus sinensis*	5	Plantation-FLW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	Crested Myna	*Acridotheres cristatellus*	2	Plantation-NSW	Common	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	Masked Laughingthrush	*Garrulax perspicillatus*	11	Plantation-NSW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Point Count	SP/NSW1	Masked Laughingthrush	*Garrulax perspicillatus*	4	Plantation-NSW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	Red-whiskered Bulbul	*Pycnonotus jocosus*	4	Plantation-NSW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Point Count	SP/NSW1	Red-whiskered Bulbul	*Pycnonotus jocosus*	1	Plantation-NSW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	Spotted Dove	*Spilopelia chinensis*	2	Plantation-NSW	Abundant	R	-	-	-	LC	LC	N	N	

15/06/2021	Daytime	Wet	FLW	Point Count	FLW1	Azure-winged Magpie	*Cyanopica cyanus*	6	Pond-FLW	Introduced	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Transect	FLW	Barn Swallow	*Hirundo rustica*	6	Pond-FLW	Abundant	PM,SV	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW1	Barn Swallow	*Hirundo rustica*	2	Pond-FLW	Abundant	PM,SV	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW4	Barn Swallow	*Hirundo rustica*	2	Pond-FLW	Abundant	PM,SV	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW6	Barn Swallow	*Hirundo rustica*	5	Pond-FLW	Abundant	PM,SV	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW7	Barn Swallow	*Hirundo rustica*	6	Pond-FLW	Abundant	PM,SV	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Transect	FLW	Black Kite	*Milvus migrans*	1	Pond-FLW	Common	R,WV	(RC)	Class II	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW3	Black-crowned Night Heron	*Nycticorax nycticorax*	1	Pond-FLW	Common	R,WV	-	-	-	LC	LC	N	Y	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW2	Chinese Bulbul	*Pycnonotus sinensis*	2	Pond-FLW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW1	Chinese Pond Heron	*Ardeola bacchus*	20	Pond-FLW	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW4	Chinese Pond Heron	*Ardeola bacchus*	1	Pond-FLW	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW6	Chinese Pond Heron	*Ardeola bacchus*	12	Pond-FLW	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW7	Chinese Pond Heron	*Ardeola bacchus*	11	Pond-FLW	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW3	Crested Myna	*Acridotheres cristatellus*	2	Pond-FLW	Common	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW5	Crested Myna	*Acridotheres cristatellus*	1	Pond-FLW	Common	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW7	Crested Myna	*Acridotheres cristatellus*	2	Pond-FLW	Common	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Transect	FLW	Eurasian Tree Sparrow	*Passer montanus*	9	Pond-FLW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW5	Eurasian Tree Sparrow	*Passer montanus*	4	Pond-FLW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW7	Eurasian Tree Sparrow	*Passer montanus*	3	Pond-FLW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Transect	FLW	Great Egret	*Ardea alba*	1	Pond-FLW	Common	R,WV	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW5	Great Egret	*Ardea alba*	2	Pond-FLW	Common	R,WV	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW6	Great Egret	*Ardea alba*	3	Pond-FLW	Common	R,WV	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW7	Little Egret	*Egretta garzetta*	3	Pond-FLW	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW4	Little Grebe	*Tachybaptus ruficollis*	1	Pond-FLW	Common	R	LC	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW5	Little Grebe	*Tachybaptus ruficollis*	1	Pond-FLW	Common	R	LC	-	-	LC	LC	Y	Y	

15/06/2021	Daytime	Wet	FLW	Point Count	FLW6	Little Grebe	*Tachybaptus ruficollis*	1	Pond-FLW	Common	R	LC	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW5	Masked Laughingthrush	*Garrulax perspicillatus*	5	Pond-FLW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW4	Plain Prinia	*Prinia inornata*	1	Pond-FLW	Common	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Transect	FLW	Spotted Dove	*Spilopelia chinensis*	3	Pond-FLW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Transect	FLW	Spotted Dove	*Spilopelia chinensis*	5	Pond-FLW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW1	Spotted Dove	*Spilopelia chinensis*	3	Pond-FLW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW3	Spotted Dove	*Spilopelia chinensis*	2	Pond-FLW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW4	Spotted Dove	*Spilopelia chinensis*	1	Pond-FLW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW5	Spotted Dove	*Spilopelia chinensis*	6	Pond-FLW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Transect	FLW	White Wagtail	*Motacilla alba*	2	Pond-FLW	Common	PM,WV	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW5	White-breasted Waterhen	*Amaurornis phoenicurus*	2	Pond-FLW	Common	R	-	-	-	LC	LC	N	Y	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW4	Yellow-bellied Prinia	*Prinia flaviventris*	2	Pond-FLW	Common	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW7	Black-collared Starling	*Gracupica nigricollis*	1	Pond-NSW	Common	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	Black-collared Starling	*Gracupica nigricollis*	1	Pond-NSW	Common	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Point Count	NSW1	Black-crowned Night Heron	*Nycticorax nycticorax*	1	Pond-NSW	Common	R,WV	-	-	-	LC	LC	N	Y	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	Chinese Pond Heron	*Ardeola bacchus*	2	Pond-NSW	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	NSW	Point Count	NSW1	Eurasian Tree Sparrow	*Passer montanus*	5	Pond-NSW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Point Count	NSW1	Eurasian Tree Sparrow	*Passer montanus*	3	Pond-NSW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Point Count	SP/NSW1	Little Egret	*Egretta garzetta*	1	Pond-NSW	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	NSW	Point Count	NSW1	Oriental Magpie Robin	*Copsychus saularis*	4	Pond-NSW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	White-shouldered Starling	*Sturnia sinensis*	2	Pond-NSW	Common	PM	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Point Count	NSW1	Chinese Pond Heron	*Ardeola bacchus*	1	Reedbed	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW4	Plain Prinia	*Prinia inornata*	1	Pond-FLW	Common	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Point Count	NSW1	Plain Prinia	*Prinia inornata*	2	Reedbed	Common	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Point Count	NSW1	Yellow-bellied Prinia	*Prinia flaviventris*	1	Reedbed	Common	R	-	-	-	LC	LC	N	N	
18/06/2021	Nighttime	Wet	FLW	Point Count	FLW1	Chinese Pond Heron	*Ardeola bacchus*	40	Developed Area (Chinese Banyan Trees)	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	Probably roosting

18/06/2021	Nighttime	Wet	FLW	Point Count	FLW1	Little Egret	*Egretta garzetta*	6	Developed Area (Chinese Banyan Trees)	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	Probably roosting
18/06/2021	Nighttime	Wet	NSW	Point Count	SP/NSW1	Chinese Pond Heron	*Ardeola bacchus*	1	In-flight	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
18/06/2021	Nighttime	Wet	NSW	Point Count	SP/NSW2	Little Egret	*Egretta garzetta*	2	In-flight	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
18/06/2021	Nighttime	Wet	NSW	Transect	NSW	Chinese Pond Heron	*Ardeola bacchus*	2	Mangrove	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
18/06/2021	Nighttime	Wet	NSW	Point Count	NSW1	Chinese Pond Heron	*Ardeola bacchus*	1	Pond-NSW	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
18/06/2021	Nighttime	Wet	NSW	Point Count	SP/NSW2	Chinese Pond Heron	*Ardeola bacchus*	1	Pond-NSW	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	

Notes:

(1) All wild birds are protected under Wild Animals Protection Ordinance (Cap. 170).

(2) AFCD (2021). Hong Kong Biodiversity Database.

(3) Carey et al. (2001): R=resident; WV=winter visitor; SV=summer visitor; PM=passage migrant; Sp=spring; A=autumn;

(4) Fellowes et al. (2002): GC=Global Concern; LC=Local Concern; RC=Regional Concern; PRC=Potential Regional Concern; PGC: Potential Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in nesting and/or roosting sites rather than in general occurrence.

(5) List of Wild Animals Under State Protection (promulgated by State Forestry Administration and Ministry of Agriculture on 14 January, 1989).

(6) Zheng, G. M. and Wang, Q. S. (1998). China Red Data Book

(7) IUCN 2021. The IUCN Red List of Threatened Species. Version 2020-3.

(9) Wetland-dependent species (including wetland-dependent species and waterbirds).

(10) Jiang et al. (2016). Red List of China's Vertebrates

Appendix F.3.1 Ecological Bird Monitoring Diversity (All avifauna species in Point Count Method) in All Habitats (15 & 18 June 2021)

Scientific Name	Count	P	Ln(P)	P*Ln(P)	$P*Ln(P)^2$
Ardeola bacchus	60	0.31746	-1.1474	-0.36425	0.417947
Cyanopica cyanus	6	0.031746	-3.44999	-0.10952	0.377854
Egretta garzetta	6	0.031746	-3.44999	-0.10952	0.377854
Hirundo rustica	2	0.010582	-4.5486	-0.04813	0.218939
Spilopelia chinensis	3	0.015873	-4.14313	-0.06576	0.272469
Pycnonotus sinensis	2	0.010582	-4.5486	-0.04813	0.218939
Acridotheres cristatellus	2	0.010582	-4.5486	-0.04813	0.218939
Nycticorax nycticorax	1	0.005291	-5.24175	-0.02773	0.145375
Spilopelia chinensis	2	0.010582	-4.5486	-0.04813	0.218939
Ardeola bacchus	1	0.005291	-5.24175	-0.02773	0.145375
Hirundo rustica	2	0.010582	-4.5486	-0.04813	0.218939
Prinia flaviventris	2	0.010582	-4.5486	-0.04813	0.218939
Prinia inornata	2	0.010582	-4.5486	-0.04813	0.218939
Spilopelia chinensis	1	0.005291	-5.24175	-0.02773	0.145375
Tachybaptus ruficollis	1	0.005291	-5.24175	-0.02773	0.145375
Acridotheres cristatellus	1	0.005291	-5.24175	-0.02773	0.145375
Amaurornis phoenicurus	2	0.010582	-4.5486	-0.04813	0.218939
Ardea alba	2	0.010582	-4.5486	-0.04813	0.218939
Garrulax perspicillatus	5	0.026455	-3.63231	-0.09609	0.349039
Passer montanus	4	0.021164	-3.85545	-0.0816	0.314593
Spilopelia chinensis	6	0.031746	-3.44999	-0.10952	0.377854
Tachybaptus ruficollis	1	0.005291	-5.24175	-0.02773	0.145375
Ardea alba	3	0.015873	-4.14313	-0.06576	0.272469
Ardeola bacchus	12	0.063492	-2.75684	-0.17504	0.48255
Hirundo rustica	5	0.026455	-3.63231	-0.09609	0.349039
Tachybaptus ruficollis	1	0.005291	-5.24175	-0.02773	0.145375
Acridotheres cristatellus	2	0.010582	-4.5486	-0.04813	0.218939
Ardeola bacchus	11	0.058201	-2.84385	-0.16552	0.470701
Egretta garzetta	3	0.015873	-4.14313	-0.06576	0.272469
Gracupica nigricollis	1	0.005291	-5.24175	-0.02773	0.145375
Hirundo rustica	6	0.031746	-3.44999	-0.10952	0.377854
Passer montanus	3	0.015873	-4.14313	-0.06576	0.272469
Ardeola bacchus	2	0.010582	-4.5486	-0.04813	0.218939
Copsychus saularis	4	0.021164	-3.85545	-0.0816	0.314593
Nycticorax nycticorax	1	0.005291	-5.24175	-0.02773	0.145375
Passer montanus	8	0.042328	-3.16231	-0.13385	0.423288
Prinia flaviventris	1	0.005291	-5.24175	-0.02773	0.145375
Prinia inornata	2	0.010582	-4.5486	-0.04813	0.218939
Ardeola bacchus	1	0.005291	-5.24175	-0.02773	0.145375
Egretta garzetta	1	0.005291	-5.24175	-0.02773	0.145375
Garrulax perspicillatus	4	0.021164	-3.85545	-0.0816	0.314593
Pycnonotus jocosus	1	0.005291	-5.24175	-0.02773	0.145375
Ardeola bacchus	1	0.005291	-5.24175	-0.02773	0.145375
Egretta garzetta	2	0.010582	-4.5486	-0.04813	0.218939

Total	189				
SS	10.9191				
SQ	8.944876				
H	2.9908				
S^2_H	0.011048				

Appendix F.3.2 Ecological Bird Monitoring Diversity (Avifauna species of conservation importance in Point Count Method) in All Habitats (15 & 18 June 2021)

Scientific Name	Count	P	Ln(P)	P*Ln(P)	$P*Ln(P)^2$
Ardeola bacchus	60	0.555556	-0.58779	-0.32655	0.191941
Egretta garzetta	6	0.055556	-2.89037	-0.16058	0.464125
Ardeola bacchus	1	0.009259	-4.68213	-0.04335	0.202985
Tachybaptus ruficollis	1	0.009259	-4.68213	-0.04335	0.202985
Ardea alba	2	0.018519	-3.98898	-0.07387	0.294667
Tachybaptus ruficollis	1	0.009259	-4.68213	-0.04335	0.202985
Ardea alba	3	0.027778	-3.58352	-0.09954	0.356711
Ardeola bacchus	12	0.111111	-2.19722	-0.24414	0.536422
Tachybaptus ruficollis	1	0.009259	-4.68213	-0.04335	0.202985
Ardeola bacchus	11	0.101852	-2.28424	-0.23265	0.531436
Egretta garzetta	3	0.027778	-3.58352	-0.09954	0.356711
Ardeola bacchus	2	0.018519	-3.98898	-0.07387	0.294667
Ardeola bacchus	1	0.009259	-4.68213	-0.04335	0.202985
Egretta garzetta	1	0.009259	-4.68213	-0.04335	0.202985
Ardeola bacchus	1	0.009259	-4.68213	-0.04335	0.202985
Egretta garzetta	2	0.018519	-3.98898	-0.07387	0.294667
Total	108				
SS	4.742239				
SQ	2.849615				
H	1.68808				
S^2_H	0.018167				

Appendix F.3.3 Appendix F.2c Ecological Bird Monitoring Diversity (All avifauna species in Transect Walk Method) in All Habitats (15 & 18 June 2021)

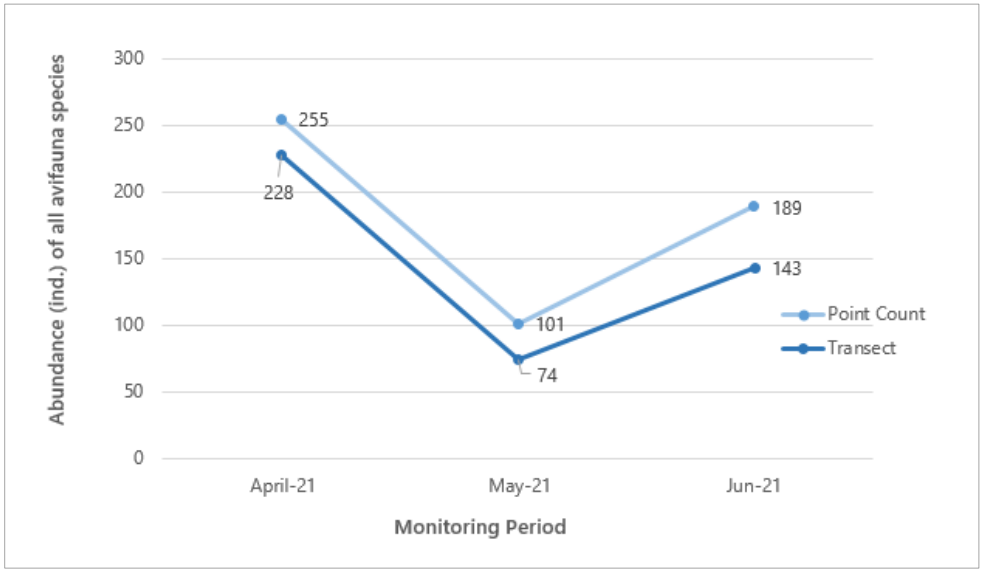
Scientific Name	Count	P	Ln(P)	P*Ln(P)	$P*Ln(P)^2$
Ardea alba	1	0.006993	-4.96284	-0.03471	0.172237
Ardeola bacchus	38	0.265734	-1.32526	-0.35217	0.466712
Cyanopica cyanus	15	0.104895	-2.25479	-0.23652	0.533297
Gracupica nigricollis	5	0.034965	-3.35341	-0.11725	0.393194
Hirundo rustica	6	0.041958	-3.17109	-0.13305	0.421921
Milvus migrans	1	0.006993	-4.96284	-0.03471	0.172237
Motacilla alba	2	0.013986	-4.2697	-0.05972	0.254969
Passer montanus	9	0.062937	-2.76562	-0.17406	0.481384
Prinia flaviventris	2	0.013986	-4.2697	-0.05972	0.254969
Prinia inornata	2	0.013986	-4.2697	-0.05972	0.254969
Pycnonotus sinensis	5	0.034965	-3.35341	-0.11725	0.393194
Spilopelia chinensis	8	0.055944	-2.8834	-0.16131	0.46512

Acridotheres cristatellus	2	0.013986	-4.2697	-0.05972	0.254969
Ardea alba	3	0.020979	-3.86423	-0.08107	0.313265
Ardeola bacchus	5	0.034965	-3.35341	-0.11725	0.393194
Egretta garzetta	5	0.034965	-3.35341	-0.11725	0.393194
Garrulax perspicillatus	11	0.076923	-2.56495	-0.1973	0.506074
Gracupica nigricollis	1	0.006993	-4.96284	-0.03471	0.172237
Hirundo rustica	7	0.048951	-3.01693	-0.14768	0.445547
Milvus migrans	1	0.006993	-4.96284	-0.03471	0.172237
Motacilla alba	4	0.027972	-3.57655	-0.10004	0.35781
Pycnonotus jocosus	4	0.027972	-3.57655	-0.10004	0.35781
Spilopelia chinensis	2	0.013986	-4.2697	-0.05972	0.254969
Sturnia sinensis	2	0.013986	-4.2697	-0.05972	0.254969
Amaurornis phoenicurus	1	0.006993	-4.96284	-0.03471	0.172237
Egretta garzetta	1	0.006993	-4.96284	-0.03471	0.172237
Total	143				
SS	8.48495				
SQ	7.391771				
H	2.71878				
S^2_H	0.008256				

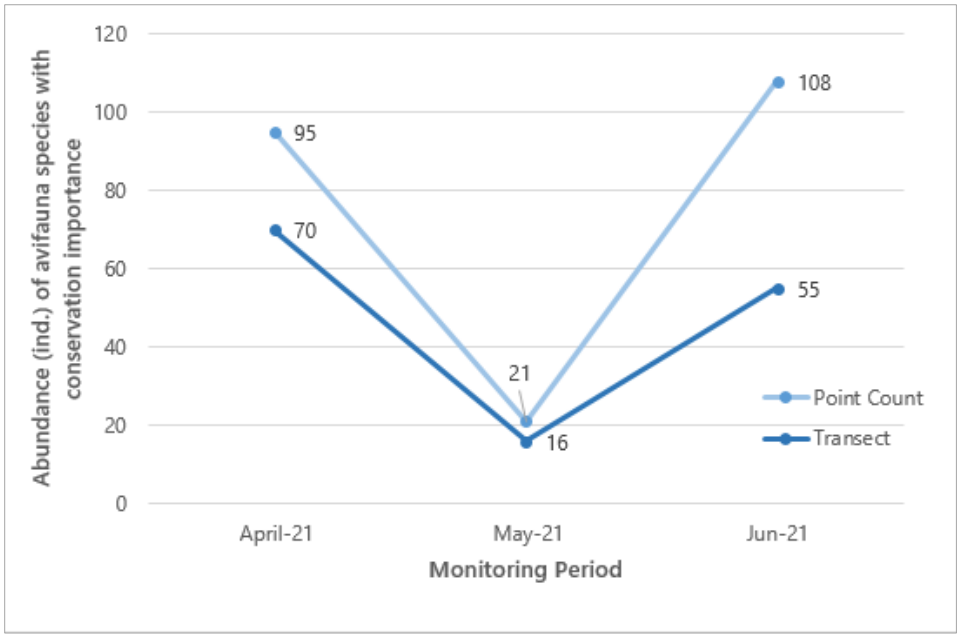
Appendix F.3.4 Appendix F.2d Ecological Bird Monitoring Diversity (Avifauna species of conservation importance in Transect Walk Method) in All Habitats (15 & 18 June 2021)

Scientific Name	**Count**	**P**	**Ln(P)**	**P*Ln(P)**	**P*Ln(P)^2**
Ardea alba	1	0.018182	-4.00733	-0.07286	0.291977
Ardeola bacchus	38	0.690909	-0.36975	-0.25546	0.094456
Milvus migrans	1	0.018182	-4.00733	-0.07286	0.291977
Ardea alba	3	0.054545	-2.90872	-0.15866	0.46149
Ardeola bacchus	5	0.090909	-2.3979	-0.21799	0.522718
Egretta garzetta	5	0.090909	-2.3979	-0.21799	0.522718
Milvus migrans	1	0.018182	-4.00733	-0.07286	0.291977
Egretta garzetta	1	0.018182	-4.00733	-0.07286	0.291977
Total	55				
SS	2.76929				
SQ	1.303119				
H	1.14154				
S^2_H	0.027815				

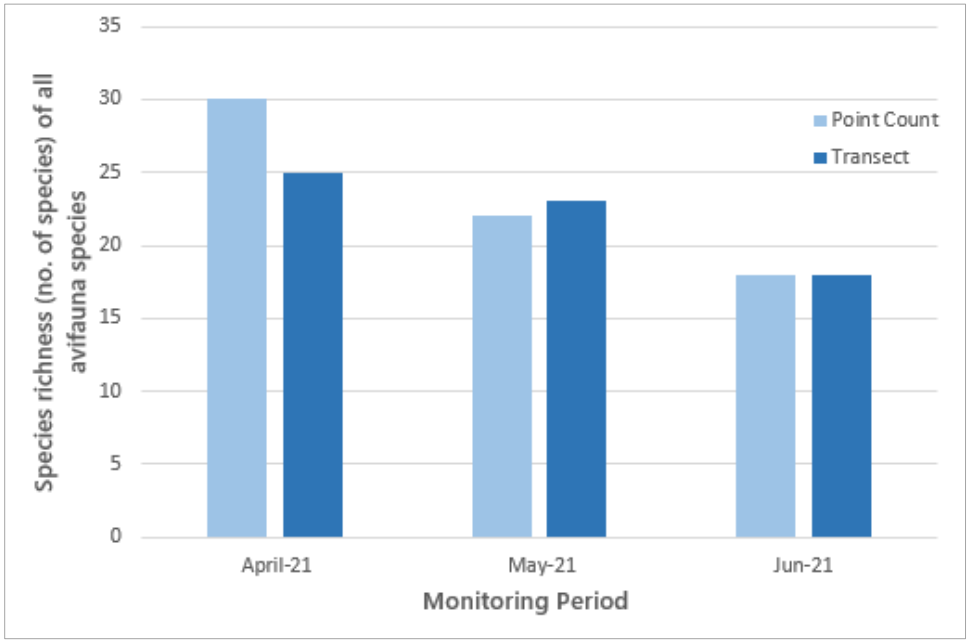
Appendix F.4.1 Abundance of all avifauna species throughout the monitoring period



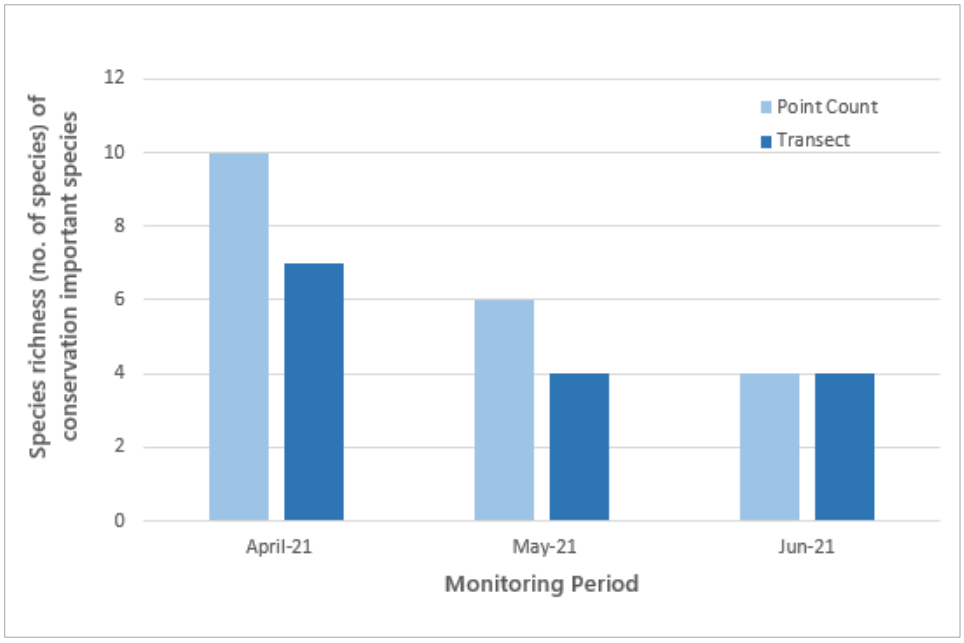
Appendix F.4.2 Abundance of avifauna species with conservation importance throughout the monitoring period



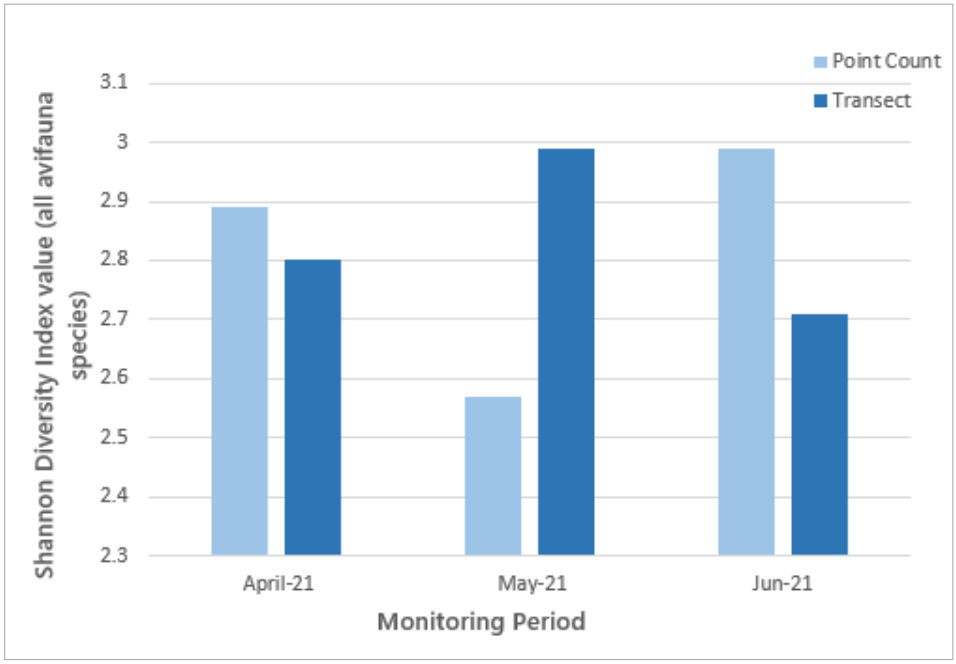
Appendix F.5.1 Species richness of all avifauna species throughout the monitoring period



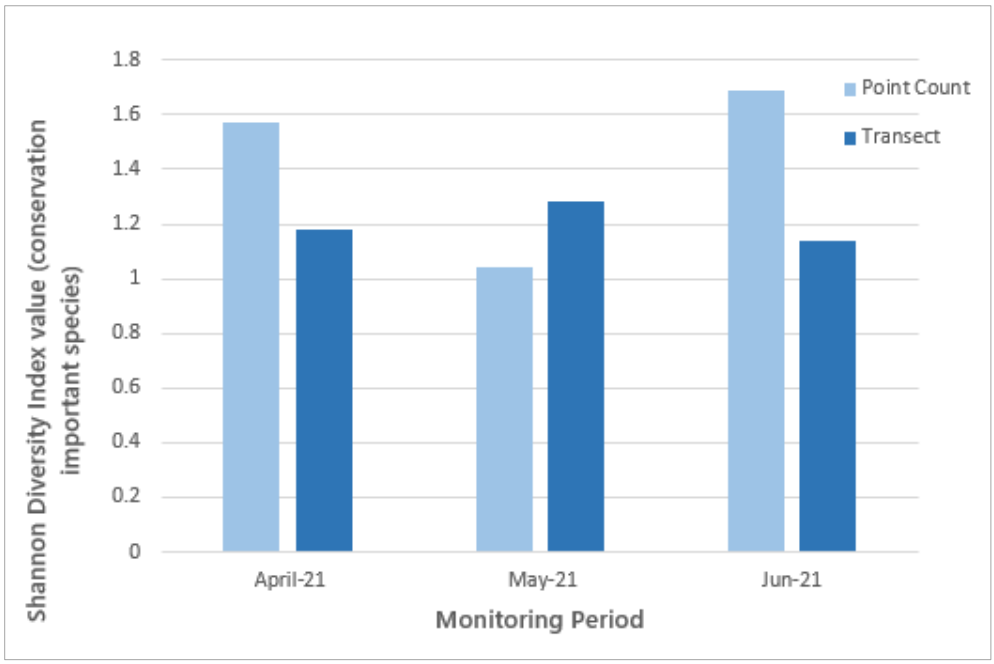
Appendix F.5.2 Species richness of avifauna species with conservation importance throughout the monitoring period



Appendix F.6.1 Shannon Diversity Index values of all avifauna species throughout the monitoring period



Appendix F.6.2 Shannon Diversity Index values of avifauna species with conservation importance throughout the monitoring period



Appendix F.7 Hutcheson t-test testing method and output

Formula:

$$t = \frac{H_a - H_b}{\sqrt{s_{H_a}^2 + s_{H_b}^2}}$$

Appendix F.7.1 Species diversity of all avifauna species – Point Count Method

Months	June 2017	June 2021
Total	121	189
H	3.93844	2.9908
S^2_H	0.006478	0.011048
t	7.15822	
df	309	
Crit	1.967671	
p	5.99E-12	
CI	0.160975	0.210214

Appendix F.7.2 Species diversity of avifauna species with conservation importance – Point Count Method

Months	June 2017	June 2021
Total	45	108
H	2.6933	1.68808
S^2_H	0.015166	0.018167
t	5.50581	
df	136	
Crit	1.977561	
p	1.77E-07	
CI	0.246303	0.269572

Appendix G

Wind Data

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

Date	Wind Speed	Wind Direction
01/06/2021 00:00	0.1	NE
01/06/2021 01:00	0.0	NEN
01/06/2021 02:00	0.0	NEN
01/06/2021 03:00	0.1	NW
01/06/2021 04:00	0.0	NWN
01/06/2021 05:00	0.0	NE
01/06/2021 06:00	0.0	SE
01/06/2021 07:00	0.0	S
01/06/2021 08:00	0.0	SEE
01/06/2021 09:00	0.0	SEE
01/06/2021 10:00	0.1	S
01/06/2021 11:00	0.3	SES
01/06/2021 12:00	0.0	S
01/06/2021 13:00	0.1	SES
01/06/2021 14:00	0.5	SES
01/06/2021 15:00	0.1	S
01/06/2021 16:00	0.0	SE
01/06/2021 17:00	0.0	SES
01/06/2021 18:00	0.2	SE
01/06/2021 19:00	0.6	W
01/06/2021 20:00	0.0	SES
01/06/2021 21:00	0.0	SE
01/06/2021 22:00	0.0	SW
01/06/2021 23:00	0.0	SE
01/06/2021 00:00	0.0	NEN
02/06/2021 01:00	0.0	NE
02/06/2021 02:00	0.0	NE
02/06/2021 03:00	0.0	NE
02/06/2021 04:00	0.0	E
02/06/2021 05:00	0.0	E
02/06/2021 06:00	0.0	NEN
02/06/2021 07:00	0.0	NEE
02/06/2021 08:00	0.0	S
02/06/2021 09:00	0.1	SE
02/06/2021 10:00	0.4	SES
02/06/2021 11:00	0.1	SE
02/06/2021 12:00	0.1	SE
02/06/2021 13:00	0.0	S

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

Date	Wind Speed	Wind Direction
02/06/2021 14:00	0.2	SES
02/06/2021 15:00	0.0	SW
02/06/2021 16:00	0.3	SWS
02/06/2021 17:00	0.0	SWS
02/06/2021 18:00	0.0	SWS
02/06/2021 19:00	0.0	SWS
02/06/2021 20:00	0.0	SE
02/06/2021 21:00	0.0	SE
02/06/2021 22:00	0.0	SE
02/06/2021 23:00	0.0	S
02/06/2021 00:00	0.0	SES
03/06/2021 01:00	0.0	SES
03/06/2021 02:00	0.0	NE
03/06/2021 03:00	0.0	NE
03/06/2021 04:00	0.0	NE
03/06/2021 05:00	0.0	N
03/06/2021 06:00	0.1	SEE
03/06/2021 07:00	0.0	SEE
03/06/2021 08:00	0.1	SWS
03/06/2021 09:00	0.1	SE
03/06/2021 10:00	0.1	SE
03/06/2021 11:00	0.3	SES
03/06/2021 12:00	0.1	SWS
03/06/2021 13:00	0.4	SEE
03/06/2021 14:00	0.3	SE
03/06/2021 15:00	1.0	S
03/06/2021 16:00	0.4	SE
03/06/2021 17:00	0.6	SES
03/06/2021 18:00	0.0	S
03/06/2021 19:00	0.1	SES
03/06/2021 20:00	0.6	SES
03/06/2021 21:00	0.1	SES
03/06/2021 22:00	0.2	S
03/06/2021 23:00	0.3	SES
03/06/2021 00:00	0.0	SE
04/06/2021 01:00	0.0	SES
04/06/2021 02:00	0.0	SES
04/06/2021 03:00	0.0	SES

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

Date	Wind Speed	Wind Direction
04/06/2021 04:00	0.0	E
04/06/2021 05:00	0.0	SE
04/06/2021 06:00	0.0	SES
04/06/2021 07:00	0.1	SEE
04/06/2021 08:00	0.2	SWS
04/06/2021 09:00	0.0	SW
04/06/2021 10:00	0.0	SWS
04/06/2021 11:00	0.2	NW
04/06/2021 12:00	0.1	W
04/06/2021 13:00	0.1	NWN
04/06/2021 14:00	0.0	NWW
04/06/2021 15:00	0.0	W
04/06/2021 16:00	0.1	W
04/06/2021 17:00	0.0	N
04/06/2021 18:00	0.0	NEN
04/06/2021 19:00	0.3	N
04/06/2021 20:00	0.0	N
04/06/2021 21:00	0.1	NEN
04/06/2021 22:00	0.0	NWN
04/06/2021 23:00	0.4	N
04/06/2021 00:00	0.0	NWN
05/06/2021 01:00	0.1	N
05/06/2021 02:00	0.0	NWN
05/06/2021 03:00	0.0	NEN
05/06/2021 04:00	0.0	NWN
05/06/2021 05:00	0.1	NWN
05/06/2021 06:00	0.0	NW
05/06/2021 07:00	0.0	NW
05/06/2021 08:00	0.0	NWW
05/06/2021 09:00	0.0	N
05/06/2021 10:00	0.0	SW
05/06/2021 11:00	0.1	NWN
05/06/2021 12:00	0.0	NWW
05/06/2021 13:00	0.1	NWW
05/06/2021 14:00	0.1	SES
05/06/2021 15:00	0.3	W
05/06/2021 16:00	0.0	N
05/06/2021 17:00	0.1	SWW

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

Date	Wind Speed	Wind Direction
05/06/2021 18:00	0.1	SWW
05/06/2021 19:00	0.0	SWW
05/06/2021 20:00	0.0	SES
05/06/2021 21:00	0.0	SE
05/06/2021 22:00	0.0	SE
05/06/2021 23:00	0.0	SE
06/06/2021 00:00	0.0	SE
06/06/2021 01:00	0.0	SE
06/06/2021 02:00	0.0	SE
06/06/2021 03:00	0.0	SE
06/06/2021 04:00	0.0	SE
06/06/2021 05:00	0.0	SWS
06/06/2021 06:00	0.0	SWS
06/06/2021 07:00	0.1	N
06/06/2021 08:00	0.1	N
06/06/2021 09:00	0.1	SWW
06/06/2021 10:00	0.0	N
06/06/2021 11:00	0.0	W
06/06/2021 12:00	0.0	NWN
06/06/2021 13:00	0.2	SWS
06/06/2021 14:00	0.2	SWW
06/06/2021 15:00	0.1	SE
06/06/2021 16:00	0.5	SES
06/06/2021 17:00	0.0	SE
06/06/2021 18:00	0.0	E
06/06/2021 19:00	0.1	NEE
06/06/2021 20:00	0.0	NE
06/06/2021 21:00	0.1	NE
06/06/2021 22:00	0.0	NE
06/06/2021 23:00	0.0	NE
07/06/2021 00:00	0.2	NEE
07/06/2021 01:00	0.1	NEE
07/06/2021 02:00	0.1	N
07/06/2021 03:00	0.2	NEN
07/06/2021 04:00	0.0	NEN
07/06/2021 05:00	0.0	NE
07/06/2021 06:00	0.0	SWS
07/06/2021 07:00	0.0	N

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

Date	Wind Speed	Wind Direction
07/06/2021 08:00	0.1	NEE
07/06/2021 09:00	0.0	NEE
07/06/2021 10:00	0.1	NEE
07/06/2021 11:00	0.8	NEN
07/06/2021 12:00	0.6	NEN
07/06/2021 13:00	0.2	NE
07/06/2021 14:00	0.3	NEE
07/06/2021 15:00	0.5	SEE
07/06/2021 16:00	0.2	N
07/06/2021 17:00	0.1	NE
07/06/2021 18:00	0.0	NE
07/06/2021 19:00	0.0	NE
07/06/2021 20:00	0.1	NE
07/06/2021 21:00	0.1	NEE
07/06/2021 22:00	0.0	E
07/06/2021 23:00	0.0	NE
08/06/2021 00:00	0.0	NEN
08/06/2021 01:00	0.0	NE
08/06/2021 02:00	0.0	NE
08/06/2021 03:00	0.1	NEN
08/06/2021 04:00	0.0	E
08/06/2021 05:00	0.1	NE
08/06/2021 06:00	0.0	NEE
08/06/2021 07:00	0.3	N
08/06/2021 08:00	0.3	NEE
08/06/2021 09:00	0.3	NEE
08/06/2021 10:00	0.2	N
08/06/2021 11:00	0.1	NE
08/06/2021 12:00	0.1	SES
08/06/2021 13:00	0.1	SEE
08/06/2021 14:00	0.0	SE
08/06/2021 15:00	0.1	S
08/06/2021 16:00	0.1	E
08/06/2021 17:00	0.0	E
08/06/2021 18:00	0.1	NEE
08/06/2021 19:00	0.0	NEN
08/06/2021 20:00	0.0	NE
08/06/2021 21:00	0.1	NE

Wind Data for
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Yuen Long Effluent Polishing Plant Stage 1

Date	Wind Speed	Wind Direction
08/06/2021 22:00	0.1	NEN
08/06/2021 23:00	0.0	NEN
09/06/2021 00:00	0.0	NEN
09/06/2021 01:00	0.0	NEN
09/06/2021 02:00	0.0	NEE
09/06/2021 03:00	0.0	NEE
09/06/2021 04:00	0.0	NEE
09/06/2021 05:00	0.1	NE
09/06/2021 06:00	0.0	NE
09/06/2021 07:00	0.0	NEE
09/06/2021 08:00	0.4	E
09/06/2021 09:00	0.3	N
09/06/2021 10:00	0.2	SEE
09/06/2021 11:00	0.0	NE
09/06/2021 12:00	0.2	N
09/06/2021 13:00	0.2	NEN
09/06/2021 14:00	0.0	SES
09/06/2021 15:00	0.0	SES
09/06/2021 16:00	0.0	E
09/06/2021 17:00	0.0	E
09/06/2021 18:00	0.0	NE
09/06/2021 19:00	0.0	SE
09/06/2021 20:00	0.0	NE
09/06/2021 21:00	0.0	E
09/06/2021 22:00	0.1	NEN
09/06/2021 23:00	0.0	NE
10/06/2021 00:00	0.0	NE
10/06/2021 01:00	0.0	NE
10/06/2021 02:00	0.1	N
10/06/2021 03:00	0.0	NE
10/06/2021 04:00	0.0	NWN
10/06/2021 05:00	0.0	NE
10/06/2021 06:00	0.1	NE
10/06/2021 07:00	0.2	NE
10/06/2021 08:00	0.3	NEE
10/06/2021 09:00	0.3	SEE
10/06/2021 10:00	0.6	NEE
10/06/2021 11:00	0.1	SEE

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

Date	Wind Speed	Wind Direction
10/06/2021 12:00	0.1	NE
10/06/2021 13:00	0.1	SEE
10/06/2021 14:00	0.1	SEE
10/06/2021 15:00	0.2	SEE
10/06/2021 16:00	0.1	SE
10/06/2021 17:00	0.1	NEE
10/06/2021 18:00	0.2	NEE
10/06/2021 19:00	0.3	NEE
10/06/2021 20:00	0.1	SEE
10/06/2021 21:00	0.1	NEE
10/06/2021 22:00	0.5	NE
10/06/2021 23:00	0.2	NE
11/06/2021 00:00	0.0	N
11/06/2021 01:00	0.2	NE
11/06/2021 02:00	0.1	NE
11/06/2021 03:00	0.0	NEN
11/06/2021 04:00	0.0	N
11/06/2021 05:00	0.1	N
11/06/2021 06:00	0.1	NE
11/06/2021 07:00	0.1	NEN
11/06/2021 08:00	0.2	N
11/06/2021 09:00	0.4	NEE
11/06/2021 10:00	0.1	SE
11/06/2021 11:00	0.2	NE
11/06/2021 12:00	1.5	NE
11/06/2021 13:00	0.4	N
11/06/2021 14:00	1.0	E
11/06/2021 15:00	0.6	NEN
11/06/2021 16:00	0.2	NEE
11/06/2021 17:00	0.3	NEE
11/06/2021 18:00	0.0	NEE
11/06/2021 19:00	0.1	NEN
11/06/2021 20:00	0.1	NE
11/06/2021 21:00	0.0	NE
11/06/2021 22:00	0.9	NEE
11/06/2021 23:00	0.4	NEE
12/06/2021 00:00	0.6	NE
12/06/2021 01:00	0.1	NE

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

Date	Wind Speed	Wind Direction
12/06/2021 02:00	0.1	NE
12/06/2021 03:00	0.3	NE
12/06/2021 04:00	0.0	NEE
12/06/2021 05:00	0.0	SEE
12/06/2021 06:00	0.0	SE
12/06/2021 07:00	0.0	S
12/06/2021 08:00	0.0	SEE
12/06/2021 09:00	0.0	SEE
12/06/2021 10:00	0.2	NE
12/06/2021 11:00	0.1	SEE
12/06/2021 12:00	0.0	SE
12/06/2021 13:00	0.2	SEE
12/06/2021 14:00	0.0	SE
12/06/2021 15:00	0.0	SE
12/06/2021 16:00	0.0	E
12/06/2021 17:00	0.0	SE
12/06/2021 18:00	0.0	NEN
12/06/2021 19:00	0.1	NE
12/06/2021 20:00	0.0	NEE
12/06/2021 21:00	0.0	NE
12/06/2021 22:00	0.0	NE
12/06/2021 23:00	0.0	SE
13/06/2021 00:00	0.0	SES
13/06/2021 01:00	0.0	NWW
13/06/2021 02:00	0.1	NEN
13/06/2021 03:00	0.0	NEN
13/06/2021 04:00	0.0	NEN
13/06/2021 05:00	0.0	N
13/06/2021 06:00	0.0	NEN
13/06/2021 07:00	0.0	SE
13/06/2021 08:00	0.0	SES
13/06/2021 09:00	0.0	SE
13/06/2021 10:00	0.3	SEE
13/06/2021 11:00	0.2	SE
13/06/2021 12:00	0.4	SE
13/06/2021 13:00	0.0	SE
13/06/2021 14:00	0.6	SES
13/06/2021 15:00	0.3	SES

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

Date	Wind Speed	Wind Direction
13/06/2021 16:00	0.2	SES
13/06/2021 17:00	0.2	SES
13/06/2021 18:00	0.0	SEE
13/06/2021 19:00	0.1	SEE
13/06/2021 20:00	0.0	SE
13/06/2021 21:00	0.0	NE
13/06/2021 22:00	0.0	SEE
13/06/2021 23:00	0.0	SES
14/06/2021 00:00	0.0	SE
14/06/2021 01:00	0.0	SES
14/06/2021 02:00	0.0	SE
14/06/2021 03:00	0.1	SE
14/06/2021 04:00	0.0	S
14/06/2021 05:00	0.0	SE
14/06/2021 06:00	0.1	SES
14/06/2021 07:00	0.1	SWS
14/06/2021 08:00	0.3	SW
14/06/2021 09:00	0.2	SE
14/06/2021 10:00	0.1	SES
14/06/2021 11:00	0.2	SE
14/06/2021 12:00	0.1	S
14/06/2021 13:00	0.8	SES
14/06/2021 14:00	0.4	SES
14/06/2021 15:00	0.2	SE
14/06/2021 16:00	0.1	SES
14/06/2021 17:00	0.2	SES
14/06/2021 18:00	0.0	SWS
14/06/2021 19:00	0.1	SES
14/06/2021 20:00	0.0	SE
14/06/2021 21:00	0.0	S
14/06/2021 22:00	0.2	SES
14/06/2021 23:00	0.0	SES
15/06/2021 00:00	0.2	SES
15/06/2021 01:00	0.5	SES
15/06/2021 02:00	0.0	SES
15/06/2021 03:00	0.0	S
15/06/2021 04:00	0.0	SE
15/06/2021 05:00	0.0	SE

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

Date	Wind Speed	Wind Direction
15/06/2021 06:00	0.4	SES
15/06/2021 07:00	0.2	SES
15/06/2021 08:00	0.0	SE
15/06/2021 09:00	0.2	SE
15/06/2021 10:00	0.3	SE
15/06/2021 11:00	0.2	SWS
15/06/2021 12:00	0.1	SW
15/06/2021 13:00	0.5	SWS
15/06/2021 14:00	0.2	SW
15/06/2021 15:00	0.1	SWS
15/06/2021 16:00	0.6	SES
15/06/2021 17:00	0.5	SWS
15/06/2021 18:00	0.0	S
15/06/2021 19:00	0.0	SE
15/06/2021 20:00	0.1	SES
15/06/2021 21:00	0.2	SES
15/06/2021 22:00	0.0	SES
15/06/2021 23:00	0.4	S
16/06/2021 00:00	0.0	S
16/06/2021 01:00	0.0	S
16/06/2021 02:00	0.0	S
16/06/2021 03:00	0.0	S
16/06/2021 04:00	0.0	SES
16/06/2021 05:00	0.0	S
16/06/2021 06:00	0.1	S
16/06/2021 07:00	0.3	S
16/06/2021 08:00	0.1	SE
16/06/2021 09:00	0.9	S
16/06/2021 10:00	0.1	SE
16/06/2021 11:00	0.8	SW
16/06/2021 12:00	0.4	SES
16/06/2021 13:00	0.1	SWS
16/06/2021 14:00	0.3	SWS
16/06/2021 15:00	0.1	SES
16/06/2021 16:00	0.1	SW
16/06/2021 17:00	0.2	S
16/06/2021 18:00	0.2	SE
16/06/2021 19:00	0.4	SES

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

Date	Wind Speed	Wind Direction
16/06/2021 20:00	0.0	SES
16/06/2021 21:00	0.7	SES
16/06/2021 22:00	0.0	SES
16/06/2021 23:00	0.2	SES
17/06/2021 00:00	0.0	SES
17/06/2021 01:00	0.1	S
17/06/2021 02:00	0.0	SES
17/06/2021 03:00	0.0	SES
17/06/2021 04:00	0.0	SES
17/06/2021 05:00	0.0	SES
17/06/2021 06:00	0.0	W
17/06/2021 07:00	0.0	SWW
17/06/2021 08:00	0.1	SES
17/06/2021 09:00	0.0	W
17/06/2021 10:00	0.1	SES
17/06/2021 11:00	0.4	SWS
17/06/2021 12:00	0.8	SES
17/06/2021 13:00	0.0	SE
17/06/2021 14:00	0.3	SES
17/06/2021 15:00	0.3	W
17/06/2021 16:00	0.2	SES
17/06/2021 17:00	0.1	SES
17/06/2021 18:00	0.2	SES
17/06/2021 19:00	0.1	SES
17/06/2021 20:00	0.0	SWS
17/06/2021 21:00	0.0	SWS
17/06/2021 22:00	0.1	SWS
17/06/2021 23:00	0.1	SWS
18/06/2021 00:00	0.3	S
18/06/2021 01:00	0.2	SWS
18/06/2021 02:00	0.1	SE
18/06/2021 03:00	0.4	SWS
18/06/2021 04:00	0.1	S
18/06/2021 05:00	0.1	S
18/06/2021 06:00	0.1	S
18/06/2021 07:00	0.0	SWW
18/06/2021 08:00	0.1	NWW
18/06/2021 09:00	0.1	W

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

Date	Wind Speed	Wind Direction
18/06/2021 10:00	0.0	NWN
18/06/2021 11:00	0.1	SWS
18/06/2021 12:00	0.5	S
18/06/2021 13:00	0.7	S
18/06/2021 14:00	0.5	SWS
18/06/2021 15:00	0.1	S
18/06/2021 16:00	0.6	SWS
18/06/2021 17:00	0.1	S
18/06/2021 18:00	0.0	S
18/06/2021 19:00	0.0	SW
18/06/2021 20:00	0.0	SES
18/06/2021 21:00	0.3	SES
18/06/2021 22:00	0.0	S
18/06/2021 23:00	0.0	SW
19/06/2021 00:00	0.0	SWS
19/06/2021 01:00	0.6	NWW
19/06/2021 02:00	0.0	SWS
19/06/2021 03:00	0.0	SES
19/06/2021 04:00	0.0	SWS
19/06/2021 05:00	0.2	SWW
19/06/2021 06:00	0.3	S
19/06/2021 07:00	0.1	SWS
19/06/2021 08:00	0.5	SW
19/06/2021 09:00	0.5	SW
19/06/2021 10:00	0.6	SW
19/06/2021 11:00	0.3	SW
19/06/2021 12:00	0.8	SW
19/06/2021 13:00	0.8	SW
19/06/2021 14:00	0.3	S
19/06/2021 15:00	0.0	S
19/06/2021 16:00	0.1	SE
19/06/2021 17:00	0.4	SWW
19/06/2021 18:00	0.3	SES
19/06/2021 19:00	0.0	SWS
19/06/2021 20:00	0.2	SES
19/06/2021 21:00	0.0	SES
19/06/2021 22:00	0.3	SE
19/06/2021 23:00	0.4	SW

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

Date	Wind Speed	Wind Direction
20/06/2021 00:00	0.1	SWS
20/06/2021 01:00	0.1	S
20/06/2021 02:00	0.1	SWS
20/06/2021 03:00	0.3	S
20/06/2021 04:00	0.0	S
20/06/2021 05:00	0.0	SWS
20/06/2021 06:00	0.0	SWS
20/06/2021 07:00	0.0	SW
20/06/2021 08:00	0.3	S
20/06/2021 09:00	0.0	SWS
20/06/2021 10:00	0.1	SE
20/06/2021 11:00	0.3	S
20/06/2021 12:00	0.6	SE
20/06/2021 13:00	0.1	SWS
20/06/2021 14:00	0.7	SWS
20/06/2021 15:00	0.8	SES
20/06/2021 16:00	0.2	SES
20/06/2021 17:00	0.4	SWS
20/06/2021 18:00	0.1	S
20/06/2021 19:00	0.1	SES
20/06/2021 20:00	0.1	S
20/06/2021 21:00	0.0	SES
20/06/2021 22:00	0.0	S
20/06/2021 23:00	0.0	SWS
21/06/2021 00:00	0.0	SE
21/06/2021 01:00	0.0	SWS
21/06/2021 02:00	0.0	SEE
21/06/2021 03:00	0.0	SW
21/06/2021 04:00	0.3	SES
21/06/2021 05:00	0.1	SWS
21/06/2021 06:00	0.3	SWS
21/06/2021 07:00	0.3	SWS
21/06/2021 08:00	0.5	SWS
21/06/2021 09:00	0.1	SWS
21/06/2021 10:00	0.3	SW
21/06/2021 11:00	0.6	SW
21/06/2021 12:00	0.9	S
21/06/2021 13:00	0.3	S

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

Date	Wind Speed	Wind Direction
21/06/2021 14:00	0.0	NEE
21/06/2021 15:00	0.0	SE
21/06/2021 16:00	0.1	SES
21/06/2021 17:00	0.0	S
21/06/2021 18:00	0.1	SES
21/06/2021 19:00	0.1	SWS
21/06/2021 20:00	0.1	SES
21/06/2021 21:00	0.0	SEE
21/06/2021 22:00	0.1	SES
21/06/2021 23:00	0.0	SES
22/06/2021 00:00	0.0	S
22/06/2021 01:00	0.0	SWW
22/06/2021 02:00	0.0	SWS
22/06/2021 03:00	0.0	SWS
22/06/2021 04:00	0.1	SES
22/06/2021 05:00	0.0	NEN
22/06/2021 06:00	0.0	NW
22/06/2021 07:00	0.0	SWW
22/06/2021 08:00	0.0	SEE
22/06/2021 09:00	0.0	SE
22/06/2021 10:00	0.0	SE
22/06/2021 11:00	0.2	SES
22/06/2021 12:00	0.0	W
22/06/2021 13:00	0.0	NW
22/06/2021 14:00	0.0	N
22/06/2021 15:00	0.0	N
22/06/2021 16:00	0.0	NWW
22/06/2021 17:00	0.0	SES
22/06/2021 18:00	0.7	SW
22/06/2021 19:00	0.6	SW
22/06/2021 20:00	0.0	SES
22/06/2021 21:00	0.0	SE
22/06/2021 22:00	0.0	SE
22/06/2021 23:00	0.0	SE
23/06/2021 00:00	0.0	SE
23/06/2021 01:00	0.0	SE
23/06/2021 02:00	0.0	SE
23/06/2021 03:00	0.0	SE

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

Date	Wind Speed	Wind Direction
23/06/2021 04:00	0.0	SE
23/06/2021 05:00	0.0	SE
23/06/2021 06:00	0.0	SE
23/06/2021 07:00	0.0	SW
23/06/2021 08:00	0.0	NEN
23/06/2021 09:00	0.0	N
23/06/2021 10:00	0.0	N
23/06/2021 11:00	0.5	NWW
23/06/2021 12:00	0.2	S
23/06/2021 13:00	0.3	SES
23/06/2021 14:00	0.0	S
23/06/2021 15:00	0.2	SES
23/06/2021 16:00	0.1	S
23/06/2021 17:00	0.0	NW
23/06/2021 18:00	0.1	NE
23/06/2021 19:00	0.0	NE
23/06/2021 20:00	0.0	SEE
23/06/2021 21:00	0.0	SW
23/06/2021 22:00	0.0	S
23/06/2021 23:00	0.0	SES
24/06/2021 00:00	0.0	S
24/06/2021 01:00	0.0	NEN
24/06/2021 02:00	0.0	NEN
24/06/2021 03:00	0.0	NE
24/06/2021 04:00	0.0	NEE
24/06/2021 05:00	0.0	NEE
24/06/2021 06:00	0.0	N
24/06/2021 07:00	0.0	SEE
24/06/2021 08:00	0.0	N
24/06/2021 09:00	0.1	NEE
24/06/2021 10:00	0.1	NEN
24/06/2021 11:00	0.0	SEE
24/06/2021 12:00	0.0	NE
24/06/2021 13:00	0.0	SE
24/06/2021 14:00	0.0	SES
24/06/2021 15:00	0.0	SWW
24/06/2021 16:00	0.0	E
24/06/2021 17:00	0.0	NEN

Wind Data for
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Date	Wind Speed	Wind Direction
24/06/2021 18:00	0.0	NEN
24/06/2021 19:00	0.0	NEN
24/06/2021 20:00	0.0	NEN
24/06/2021 21:00	0.0	N
24/06/2021 22:00	0.0	NEE
24/06/2021 23:00	0.0	NEE
25/06/2021 00:00	0.0	NEE
25/06/2021 01:00	0.0	N
25/06/2021 02:00	0.0	N
25/06/2021 03:00	0.0	NE
25/06/2021 04:00	0.0	NEN
25/06/2021 05:00	0.0	NEN
25/06/2021 06:00	0.0	NE
25/06/2021 07:00	0.1	NEE
25/06/2021 08:00	0.0	SE
25/06/2021 09:00	0.3	NEE
25/06/2021 10:00	0.3	SW
25/06/2021 11:00	0.3	SES
25/06/2021 12:00	0.2	SES
25/06/2021 13:00	0.0	SWS
25/06/2021 14:00	1.1	SES
25/06/2021 15:00	0.6	SES
25/06/2021 16:00	0.1	SES
25/06/2021 17:00	0.2	SES
25/06/2021 18:00	0.1	SE
25/06/2021 19:00	0.0	SES
25/06/2021 20:00	0.0	SES
25/06/2021 21:00	0.0	SES
25/06/2021 22:00	0.0	SES
25/06/2021 23:00	0.0	E
26/06/2021 00:00	0.0	NEN
26/06/2021 01:00	0.0	S
26/06/2021 02:00	0.0	N
26/06/2021 03:00	0.0	N
26/06/2021 04:00	0.1	NWN
26/06/2021 05:00	0.0	NE
26/06/2021 06:00	0.0	NE
26/06/2021 07:00	0.0	NE

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

Date	Wind Speed	Wind Direction
26/06/2021 08:00	0.0	N
26/06/2021 09:00	0.1	NEN
26/06/2021 10:00	0.0	NE
26/06/2021 11:00	0.0	SW
26/06/2021 12:00	0.1	SWS
26/06/2021 13:00	0.0	SES
26/06/2021 14:00	0.0	SE
26/06/2021 15:00	0.0	SES
26/06/2021 16:00	0.1	SES
26/06/2021 17:00	0.0	S
26/06/2021 18:00	0.0	SE
26/06/2021 19:00	0.0	SE
26/06/2021 20:00	0.1	SES
26/06/2021 21:00	0.0	SWS
26/06/2021 22:00	0.0	S
26/06/2021 23:00	0.0	S
27/06/2021 00:00	0.0	SES
27/06/2021 01:00	0.0	SES
27/06/2021 02:00	0.0	SEE
27/06/2021 03:00	0.2	S
27/06/2021 04:00	0.0	SES
27/06/2021 05:00	0.0	S
27/06/2021 06:00	0.1	SES
27/06/2021 07:00	0.0	SWS
27/06/2021 08:00	0.4	SW
27/06/2021 09:00	0.4	SWS
27/06/2021 10:00	0.7	S
27/06/2021 11:00	0.0	SES
27/06/2021 12:00	0.0	NEE
27/06/2021 13:00	0.0	S
27/06/2021 14:00	0.3	SWW
27/06/2021 15:00	0.0	S
27/06/2021 16:00	0.0	S
27/06/2021 17:00	0.0	SES
27/06/2021 18:00	0.0	SES
27/06/2021 19:00	0.0	SWS
27/06/2021 20:00	0.0	SE
27/06/2021 21:00	0.0	SES

Wind Data for
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Date	Wind Speed	Wind Direction
27/06/2021 22:00	0.1	S
27/06/2021 23:00	0.0	S
28/06/2021 00:00	0.0	SES
28/06/2021 01:00	0.1	SE
28/06/2021 02:00	0.0	SES
28/06/2021 03:00	0.0	SE
28/06/2021 04:00	0.1	SWS
28/06/2021 05:00	0.0	SES
28/06/2021 06:00	0.0	SES
28/06/2021 07:00	0.1	SWW
28/06/2021 08:00	0.0	S
28/06/2021 09:00	0.0	SEE
28/06/2021 10:00	0.0	SES
28/06/2021 11:00	0.0	E
28/06/2021 12:00	0.4	SES
28/06/2021 13:00	0.2	S
28/06/2021 14:00	0.0	SE
28/06/2021 15:00	0.0	SES
28/06/2021 16:00	0.2	SES
28/06/2021 17:00	0.0	E
28/06/2021 18:00	0.0	SES
28/06/2021 19:00	0.0	SES
28/06/2021 20:00	0.1	SE
28/06/2021 21:00	0.3	S
28/06/2021 22:00	0.0	S
28/06/2021 23:00	0.0	SES
29/06/2021 00:00	0.2	SES
29/06/2021 01:00	0.0	SES
29/06/2021 02:00	0.0	S
29/06/2021 03:00	0.0	S
29/06/2021 04:00	0.0	SWS
29/06/2021 05:00	0.0	SES
29/06/2021 06:00	0.2	S
29/06/2021 07:00	0.3	S
29/06/2021 08:00	0.1	S
29/06/2021 09:00	0.2	S
29/06/2021 10:00	0.1	SWS
29/06/2021 11:00	0.2	SW

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
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Date	Wind Speed	Wind Direction
29/06/2021 12:00	0.0	S
29/06/2021 13:00	0.1	S
29/06/2021 14:00	0.6	SWS
29/06/2021 15:00	0.1	SW
29/06/2021 16:00	0.0	SE
29/06/2021 17:00	0.0	SWS
29/06/2021 18:00	0.0	SES
29/06/2021 19:00	0.4	SES
29/06/2021 20:00	0.1	SEE
29/06/2021 21:00	0.0	SWS
29/06/2021 22:00	0.0	SE
29/06/2021 23:00	0.1	S
30/06/2021 00:00	0.0	SES
30/06/2021 01:00	0.0	SE
30/06/2021 02:00	0.2	SES
30/06/2021 03:00	0.0	S
30/06/2021 04:00	0.4	SES
30/06/2021 05:00	0.3	SE
30/06/2021 06:00	0.1	SES
30/06/2021 07:00	0.1	SE
30/06/2021 08:00	0.4	SE
30/06/2021 09:00	0.2	S
30/06/2021 10:00	0.3	SWS
30/06/2021 11:00	0.3	S
30/06/2021 12:00	0.8	SES
30/06/2021 13:00	0.4	S
30/06/2021 14:00	1.4	SWS
30/06/2021 15:00	1.0	S
30/06/2021 16:00	0.3	SE
30/06/2021 17:00	0.3	S
30/06/2021 18:00	0.0	SE
30/06/2021 19:00	0.0	S
30/06/2021 20:00	0.3	SES
30/06/2021 21:00	0.0	SE
30/06/2021 22:00	0.0	SES
30/06/2021 23:00	0.0	SES
01/07/2021 00:00	0.1	NEE

Appendix H

Event and Action Plan

Event and Action Plan for Air Quality (Construction Dust)

EVENT	ACTION			
	ET	IEC	ER	Contractor
Action level being exceeded by one sampling	1. Identify source, investigate the causes of complaint and propose remedial measures; 2. Inform Contractor, IEC and ER; 3. Repeat measurement to confirm finding; and 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; and 3. Review and advise the ET and ER on the effectiveness of the proposed remedial measures.	1. Notify Contractor.	1. Identify source(s), investigate the causes of exceedance and propose remedial measures; 2. Implement remedial measures; and 3. Amend working methods agreed with the ER as appropriate.
Action level being exceeded by two or more consecutive sampling	1. Identify source; 2. Inform Contractor, IEC and ER; 3. Advise the Contractor and ER on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with Contractor, IEC and ER; and 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET, ER and Contractor on possible remedial measures; 4. Advise the ET and ER on the effectiveness of the proposed remedial measures; and 5. Supervise Implementation of remedial measures.	1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Identify source and investigate the causes of exceedance; 2. Submit proposals for remedial measures to the ER with a copy to ET and IEC within three working days of notification; 3. Implement the agreed proposals; and 4. Amend proposal as appropriate.
Limit level being exceeded by one sampling	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform Contractor, IEC, ER, and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; and 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.	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; and 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Identify source(s) and investigate the causes of exceedance; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial measures to ER with a copy to ET and IEC within three working days of notification; 4. Implement the agreed proposals; and 5. Amend proposal if appropriate.
Limit level being exceeded by two or more consecutive sampling	1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; and 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by the ET; 2. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 3. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; and 4. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of exceedance in writing; 2. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented; 3. Supervise the implementation of remedial measures; and 4. 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. Identify source(s) and investigate the causes of exceedance; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial measures to the ER with a copy to the IEC and ET within three working days of notification; 4. Implement the agreed proposals; 5. Revise and resubmit proposals if problem still not under control; and 6. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event and Action Plan for Noise (Construction)

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, ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures; and 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review the analyzed results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; and 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analyzed noise problem; and 4. Ensure remedial measures are properly implemented.	1. Submit noise mitigation proposals to IEC; and 2. Implement noise mitigation proposals.
Limit Level	1. Identify source; 2. Inform IEC, ER, EPD and Contractor; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; and 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; and 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analyzed noise problem; 4. Ensure remedial measures properly implemented; and 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Take 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; and 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event and Action Plan for Water Quality Monitoring

EVENT	ACTION			
	ET	IEC	ER	Contractor
Action level being exceeded by one sampling day	1. Repeat in situ measurement on the next day of exceedance to confirm findings; 2. Check monitoring data, plant, equipment and Contractor(s)'s working methods; 3. Identify source(s) of impact and record in notification of exceedance; 4. Inform IEC, Contractor(s) and ER	1. Check monitoring data submitted by ET and Contractor(s)'s working methods; 2. Inform EPD and AFCD.	1. Confirm receipt of notification of exceedance in writing	1. Confirm receipt of notification of exceedance in writing; 2. Check plant and equipment and rectify unacceptable practice
Action level being exceeded by two or more consecutive sampling days	1. Repeat in situ measurement on the next day of exceedance to confirm findings; 2. Check monitoring data, plant, equipment and Contractor(s)'s working methods; 3. Identify source(s) of impact and record in notification of exceedance; 4. Inform IEC, Contractor(s) and ER; 5. Discuss with IEC and Contractor(s) on additional mitigation measures and ensure that they are implemented.	1. Check monitoring data submitted by ET and Contractor(s)'s working methods; 2. Inform EPD and AFCD; 3. Discuss with ET and Contractor(s) on additional mitigation measures and advise ER accordingly; 4. Assess the effectiveness of the implemented mitigation measures.	1. Confirm receipt of notification of exceedance in writing; 2. Discuss with the IEC on the proposed additional mitigation measures and agree on the mitigation measures to be implemented. 3. Ensure additional mitigation measures are properly implemented.	1. Confirm receipt of notification of exceedance in writing; 2. Check plant and equipment and rectify unacceptable practice; 3. Consider changes of working methods; 4. Discuss with ET and IEC on additional mitigation measures and propose them to ER within 3 working days; 5. Implement the agreed mitigation measures.

EVENT	ACTION			
	ET	IEC	ER	Contractor
Limit level being exceeded by one sampling day	1. Repeat in situ measurement on the next day of exceedance to confirm findings; 2. Check monitoring data, plant, equipment and Contractor(s)'s working methods; 3. Identify source(s) of impact and record in notification of exceedance; 4. Inform IEC, Contractor(s) and ER; 5. Discuss with IEC and Contractor(s) on additional mitigation measures and ensure that they are implemented.	1. Check monitoring data submitted by ET and Contractor(s)'s working methods; 2. Inform EPD and AFCD; 3. Discuss with ET and Contractor(s) on additional mitigation measures and advise ER accordingly; 4. Assess the effectiveness of the implemented mitigation measures.	1. Confirm receipt of notification of exceedance in writing; 2. Discuss with the IEC on the proposed additional mitigation measures and agree on the mitigation measures to be implemented. 3. Ensure additional mitigation measures are properly implemented. 4. Request Contractor(s) to critically review the working methods.	1. Confirm receipt of notification of exceedance in writing; 2. Check plant and equipment and rectify unacceptable practice; 3. Critically review the need to change working methods; 4. Discuss with ET and IEC on additional mitigation measures and propose them to ER within 3 working days; 5. Implement the agreed mitigation measures.
Limit level being exceeded by two or more consecutive sampling days	1. Repeat in situ measurement on the next day of exceedance to confirm findings; 2. Check monitoring data, plant, equipment and Contractor(s)'s working methods; 3. Identify source(s) of impact and record in notification of exceedance; 4. Inform IEC, Contractor(s) and ER; 5. Discuss with IEC and Contractor(s) on additional mitigation measures and ensure that they are implemented.	1. Check monitoring data submitted by ET and Contractor(s)'s working methods; 2. Inform EPD and AFCD; 3. Discuss with ET and Contractor(s) on additional mitigation measures and advise ER accordingly; 4. Assess the effectiveness of the implemented mitigation measures.	1. Confirm receipt of notification of exceedance in writing; 2. Discuss with the IEC on the proposed additional mitigation measures and agree on the mitigation measures to be implemented. 3. Ensure additional mitigation measures are properly implemented. 4. Request Contractor(s) to critically review the working methods.	1. Confirm receipt of notification of exceedance in writing; 2. Check plant and equipment and rectify unacceptable practice; 3. Critically review the need to change working methods; 4. Discuss with ET and IEC on additional mitigation measures and propose them to ER within 3 working days; 5. Implement the agreed mitigation measures.

Event and Action Plan for Ecology Monitoring

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, ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures; and 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review the analyzed results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; and 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analyzed noise problem; and 4. Ensure remedial measures are properly implemented.	1. Submit noise mitigation proposals to IEC; and 2. Implement noise mitigation proposals.
Limit Level	1. Identify source; 2. Inform IEC, ER, EPD and Contractor; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; and 8. If exceedance stops, cease additional monitoring.	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; and 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented; and 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Take 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; and 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Appendix I

Waste Flow Table

Waste Flow Table for Year 2021

Monthly Ending	Total Quantity Generated	Actual Quantities of Inert C&D Materials Generated Monthly					Actual Quantities of Non-inert C&D Wastes Generated Monthly				
		Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	Chemical Waste	Others, e.g. general refuse
	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)
2021 Jan	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
2021 Feb	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
2021 Mar	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
2021 Apr	216.92	Nil	Nil	Nil	152.94	Nil	Nil	Nil	Nil	Nil	63.98
2021 May	277.74	Nil	Nil	Nil	268.92	Nil	Nil	0.11	Nil	Nil	8.71
2021 Jun	715.93	Nil	Nil	Nil	551.41	Nil	146.74	0.11	Nil	Nil	17.67
2021 Jul											
2021 Aug											
2021 Sep											
2021 Oct											
2021 Nov											
2021 Dec											
Total	1210.59	0	0	0	972.35	0	0	0.22	0	0	90.36

Note:
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.

Appendix J

Implementation Status of Environment Mitigation Measures

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
Air Quality Impact			
Construction Phase			
3.6.1.6	Watering once per every two hours on active works areas to reduce dust emission.	All active works areas during construction phase	N/A
3.8.1.1	Dust suppression measures stipulated in the Air Pollution Control (Construction Dust) Regulation and good site practices listed below shall be carried out to further minimize construction dust impact: • Use of regular watering to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather. • Use of frequent watering for particularly dusty construction areas and areas close to ASRs. • Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines. • Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs. • Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations. • Establishment and use of vehicle wheel and body washing facilities at the exit points of the site. • Provision of wind shield and dust extraction units or similar dust mitigation measures at the loading area of barging point, and use of water sprinklers at the loading area where dust generation is likely during the loading process of loose material, particularly in dry seasons/ periods. • Provision of not less than 2.4m high hoarding from ground level along site boundary where adjoins a road, streets or other accessible to the public except for a site entrance or exit. • Imposition of speed controls for vehicles on site haul roads. • Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs. • Instigation of an environmental monitoring and auditing program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise.	Construction Sites	Implemented
Operation Phase			
3.5.2.4	Biogas generated will be stored in the biogas holders. The stored biogas will go through the sulphur absorption vessels to remove thehydrogen sulphide (H2S) before passing to the combined heat and power (CHP) generator.	YLEPP / Operation Phase	N/A
3.6.3.2 – 3.6.3.5	Install selective catalytic reduction (SCR) to control Nitrogen Dioxide (NO2) emission at the exhausts of the CHP, boiler and ammonia stripping unit.	YLEPP / Operation Phase	N/A
3.6.2.9 and 3.7.2.1	Install an activated carbon filter with odour (ammonia) removal efficiency of at least 70% at the ammonia stripping unit exhaust.	YLEPP / Operation Phase	N/A
3.7.2.1	All the odour sources in YLEPP should be covered and all odourous gas should be treated at the deodourizers (DOs) with 90% - 95% odour removal efficiency before venting to the atmosphere.	YLEPP / Operation Phase	N/A

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
Noise Impact			
Construction Phase			
4.8.1	Movable noise barriers are recommended for hydraulic breakers mounted on excavators to be adopted during construction. Good site practices listed below and the noise control requirements stated in EPD's "Recommended Pollution Control Clauses for Construction Contracts" should be included in the Contract Specification for the Contractors to follow and should be implemented to further minimize the potential noise impacts during the construction phase of the Project. • Quiet PME, such that those listed in EPD's Quality Powered Mechanical Equipment, should be considered for construction works to further minimize the potential construction noise impact. • Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme. • Silencers or mufflers on construction equipment should be utilised and should be properly maintained during the construction programme. • Mobile plant, if any, should be sited as far away from noise sensitive receivers (NSRs) as possible. • Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum. • Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs • Material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities.	Construction Sites	N/A
Operation Phase			
4.8.2	Fixed plant noise sources (except extraction fans) should be located within plantroom with silencers at air inlet and outlet and a sound proof door. Ventilation fans should be installed with silencers. Commissioning test should be conducted to ensure fixed plant noise impact would comply with the relevant noise standards	YLEPP / Operation Phase	N/A
Water Quality Impact			
Construction Phase			
5.8.1.2	Water used in ground boring and drilling for site investigation or rock / soil anchoring should as far as practicable be re-circulated after sedimentation. When there is a need for final disposal, the wastewater should be discharged into storm drains via silt removal facilities	Construction Sites / Construction Phase	Implemented
5.8.1.3	All vehicles and plant should be cleaned before they leave a construction site to minimise the deposition of earth, mud, debris on roads. A wheel washing bay should be provided at every site exit if practicable and wash-water should have sand and silt settled out or removed before discharging into storm drains. The section of construction road between the wheel washing bay and the public road should be paved with backfill to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.	Construction Sites / Construction Phase	N/A
5.8.1.4	Good site practices should be adopted to remove rubbish and litter from construction sites so as to prevent the rubbish and litter from spreading from the site area. It is recommended to clean the construction sites on a regular basis.	Construction Sites / Construction Phase	N/A

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
5.8.1.5 – 5.8.1.6	The site practices outlined in ProPECC PN 1/94 "Construction Site Drainage" should be followed where applicable to minimise surface run-off and the chance of erosion. Surface run-off from construction sites should be discharged into storm drains via adequately designed sand / silt removal facilities such as sand traps, silt traps and sedimentation basins. Channels, earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Perimeter channels at site boundaries should be provided as necessary to intercept storm run-off from outside the site so that it will not wash across the site. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks.	Construction Sites / Construction Phase	Partially Implemented
5.8.1.7	Silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be removed regularly (as well as at the onset of and after each rainstorm) to prevent overflows and localised flooding.	Construction Sites / Construction Phase	N/A
5.8.1.8	Construction works should be programmed to minimise soil excavation in the wet season (i.e. April to September). If soil excavation cannot be avoided in these months or at any time of year when rainstorms are likely, temporarily exposed slope surfaces should be covered e.g. by tarpaulin, and temporary access roads should be protected by crushed stone or gravel, as excavation proceeds. Intercepting channels should be provided (e.g. along the crest / edge of excavation) to prevent storm run-off from washing across exposed soil surfaces.	Construction Sites / Construction Phase	N/A
5.8.1.9	Earthworks final surfaces should be well compacted and the subsequent permanent work or surface protection should be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate drainage like intercepting channels should be provided where necessary	Construction Sites / Construction Phase	N/A
5.8.1.10	Measures should be taken to minimise the ingress of rainwater into trenches. If excavation of trenches in the wet season is necessary, they should be dug and backfilled in short sections. Rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.	Construction Sites / Construction Phase	Implemented
5.8.1.11	Construction materials (e.g. aggregates, sand and fill material) on sites should be covered with tarpaulin or similar fabric during rainstorms	Construction Sites / Construction Phase	Implemented
5.8.1.12	Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers. Discharge of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system.	Construction Sites / Construction Phase	N/A
5.8.1.13	The practices outlined in Environment, Transport and Works Bureau (ETWB) TC (Works) No. 5/2005 Protection of natural streams/rivers from adverse impacts arising from construction works" should also be adopted where applicable to minimise the water quality impacts upon any natural streams or surface water systems.	Construction Sites / Construction Phase	N/A
5.8.1.14	Sufficient chemical toilets should be provided in the works areas. A licensed waste collector should be deployed to clean the chemical toilets on a regular basis.	Construction Sites / Construction Phase	Implemented
5.8.1.15	Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the surrounding environment.	Construction Sites / Construction Phase	N/A
5.8.1.16	Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The WDO (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.	Construction Sites / Construction Phase	Implemented

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
5.8.1.17	Any service shop and maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.	Construction Sites / Construction Phase	N/A
5.8.1.18	Disposal of chemical wastes should be carried out in compliance with the WDO. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the WDO should be followed to avoid leakage or spillage of chemicals.	Construction Sites / Construction Phase	N/A
5.8.1.19	All the runoff and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the Technical Memorandum on Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters (TM-DSS).	Construction Sites / Construction Phase	N/A
Design and Operation Phases			
5.8.2	Best Management Practices (BMPs) to reduce storm water and non-point source pollution are also proposed as follows: <u>Design Measures</u> •Exposed surface shall be avoided within the the proposed development to minimise soil erosion. Development site shall be either hard paved or covered by landscaping area where appropriate to reduce soil erosion. •The existing watercourses in adjacent to the Project site will be retained to maintain the original flow path. The drainage system will be designed to avoid flooding. <u>Devices/ Facilities to Control Pollution</u> •Screening facilities such as standard gully grating and trash grille, with spacing which is capable of screening off large substances such as fallen leaves and rubbish should be provided at the inlet of drainage system. •Road gullies with standard design and silt traps should be provided to remove particles present in stormwater runoff, where appropriate. <u>Administrative Measures</u> •Good management measures such as regular cleaning and sweeping of road surface/ open areas are suggested. The road surface/open area cleaning should also be carried out prior to occurrence rainstorm. •Manholes, as well as stormwater gullies, ditches provided at the Project site should be regularly inspected and cleaned (e.g. monthly). Additional inspection and cleansing should be carried out before forecast heavy rainfall.	Project site / Design and Operation Phase	Partially Implemented
5.8.2.11	Chemical should be stored on site at bunded area and separate drainage system as appropriate should be provided to avoid any spilled chemicals from entering the storm drain in case of accidental spillage. Also, adequate tools for cleanup of spilled chemicals should be stored on site and appropriate training shall be provided to staffs to further prevent potential adverse water quality impacts from happening.	Project site / Design and Operation Phase	Implemented
Waste Management Implication Construction Phase			

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
6.6.1.3	<u>Good Site Practices</u> Recommendations for good site practices during the construction phase include: • Nomination of approved personnel, such as a site manager, to be responsible for good site practices, and making arrangements for collection of all wastes generated at the site and effective disposal to an appropriate facility; • Training of site personnel in proper waste management and chemical waste handling procedures; • Provision of sufficient waste reception/ disposal points, of a suitable vermin-proof design that minimises windblown litter; • Arrangement for regular collection of waste for transport off-site and final disposal; • Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; • Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; • A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be proposed; and • A WMP should be prepared and should be submitted to the Engineer for approval. One may make reference to ETWB TCW No. 19/2005 for details.	Construction Sites	Implemented
6.6.1.5	<u>Waste Reduction Measures</u> Recommendations to achieve waste reduction include: • Segregate and store different types of construction related waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal; • Provide separate labelled bins to segregate recyclable waste such as aluminium cans from other general refuse generated by the work force, and to encourage collection by individual collectors; • Any unused chemicals or those with remaining functional capacity shall be recycled; • Maximising the use of reusable steel formwork to reduce the amount of C&D material; • Prior to disposal of C&D waste, it is recommended that wood, steel and other metals shall be separated for re-use and / or recycling to minimise the quantity of waste to be disposed of to landfill; • Adopt proper storage and site practices to minimise the potential for damage to, or contamination of, construction materials; • Plan the delivery and stock of construction materials carefully to minimise the amount of surplus waste generated; • Adopt pre-cast construction method instead of cast-in-situ method for construction of concrete structures as much as possible; and • Minimise over ordering of concrete, mortars and cement grout by doing careful check before ordering.	Construction Sites	Implemented
6.6.1.7	<u>Storage of Waste</u> Recommendations to minimise the impacts include: • Waste, such as soil, should be handled and stored well to ensure secure containment, thus minimising the potential of pollution; • Maintain and clean storage areas routinely; • Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; and • Different locations should be designated to stockpile each material to enhance reuse.	Construction Sites	Implemented

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
6.6.1.8	Collection of Waste Licensed waste haulers should be employed for the collection and transportation of waste generated. The following measures should be enforced to minimise the potential adverse impacts: • Remove waste in timely manner; • Waste collectors should only collect wastes prescribed by their permits; • Impacts during transportation, such as dust and odour, should be mitigated by the use of covered trucks or in enclosed containers; • Obtain relevant waste disposal permits from the appropriate authorities, in accordance with the WDO (Cap. 354), Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 345) and the Land (Miscellaneous Provisions) Ordinance (Cap. 28); • Waste should be disposed of at licensed waste disposal facilities; and • Maintain records of quantities of waste generated, recycled and disposed.	Construction Sites	Implemented
6.6.1.10	Transportation of Waste In order to monitor the disposal of C&D materials at PFRFs and landfills and to control fly-tipping, a trip-ticket system should be established in accordance with DEVB TCW No. 6/2010. A recording system for the amount of waste generated, recycled and disposed, including the disposal sites, should also be set up. Warning signs should be put up to remind the designated disposal sites. CCTV should be installed at the vehicular entrance and exit of the site as additional measures to prevent fly-tipping.	Transportation Route of Waste / Construction Phase	N/A
6.6.1.12	Construction and Demolition Material Careful design, planning together with good site management can reduce over-ordering and generation of C&D materials such as concrete, mortar and cement grouts. Formwork should be designed to maximize the use of standard wooden panels, so that high reuse levels can be achieved. Alternatives such as steel formwork or plastic facing should be considered to increase the potential for reuse	Construction Sites	N/A
6.6.1.13	The excavated material arising from site formation and foundation works should be reused on-site as backfilling material and for landscaping works as far as practicable. Other mitigation requirements are listed below: • A WMP, which becomes part of the EMP, should be prepared in accordance with ETWB TCW No.19/2005; • A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be adopted for easy tracking; and • In order to monitor the disposal of C&D materials at public filling facilities and landfills and to control fly-tipping, a trip-ticket system should be adopted (refer to DEVB TCW 06/2010).	Construction Sites	Implemented
6.6.1.14	It is recommended that specific areas should be provided by the Contractors for sorting and to provide temporary storage areas (if required) for the sorted materials. Control measures for temporary stockpiles on-site should be taken in order to minimise the noise, generation of dust and pollution of water. These measures include: • Surface of stockpiled soil should be regularly wetted with water especially during dry season; • Disturbance of stockpile soil should be minimised; • Stockpiled soil should be properly covered with tarpaulin especially when heavy storms are predicted; and • Stockpiling areas should be enclosed where space is available.	Construction Sites	Implemented

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
6.6.1.15	The Contactor should prepare and implement an EMP in accordance with ETWB TCW No.19/2005, which describes the arrangements for avoidance, reuse, recovery, recycling, storage, collection, treatment and disposal of different categories of waste to be generated from construction activities. Such a management plan should incorporate site-specific factors, such as the designation of areas for segregation and temporary storage of reusable and recyclable materials. The EMP should be submitted to the Engineer for approval. The Contractor should implement waste management practices in the EMP throughout the construction stage of the Project. The EMP should be reviewed regularly and updated by the Contractor, preferably on a monthly basis.	Construction Sites	Implemented
6.6.1.16	The Contractor would be responsible for devising a system to work for on-site sorting of C&D materials and promptly removing all sorted and process materials arising from the construction activities to minimise temporary stockpiling on-site. The system should be included in the EMP identifying the source of generation, estimated quantity, arrangement for on-site sorting, collection, temporary storage areas and frequency of collection by recycling Contractors or frequency of removal off-site.	Construction Sites	N/A
6.6.1.17 – 6.6.1.18	The sediment should be excavated, handled, transported and disposed of in a manner that would minimise adverse environmental impacts. To minimise sediment disposal, it is proposed to reuse the Type 1 sediment generated (e.g. as backfilling materials) as far as possible. Requirements of the Air Pollution Control (Construction Dust) Regulation, where relevant, shall be adhered to during excavation, transportation and disposal of the sediment.	Construction Sites	N/A
6.6.1.19	Workers shall, if necessary, wear appropriate personal protective equipments (PPE) when handling contaminated sediments. Adequate washing and cleaning facilities shall also be provided on site.	Construction Sites	N/A
6.6.1.20	For off-site disposal, the basic requirements and procedures specified under ETWB TC(W) No. 34/2002 shall be followed.	Transportation Route of Waste / Construction Phase	N/A
6.6.1.24	Stockpiling of contaminated sediments should be avoided as far as possible. If temporary stockpiling of contaminated sediments is necessary, the excavated sediment should be covered by tarpaulin and the area should be placed within earth bunds or sand bags to prevent leachate from entering the ground, nearby drains and surrounding water bodies. The stockpiles should be completely paved or covered by linings in order to avoid contamination to underlying soil or groundwater. Separate and clearly defined areas should be provided for stockpiling of contaminated and uncontaminated materials. Leachate, if any, should be collected and discharged according to the Water Pollution Control Ordinance (WPCO).	Construction Sites	N/A
6.6.1.25	In order to minimise the potential odour / dust emissions during excavation and transportation of the sediment, the excavated sediments shall be wetted during excavation / material handling and shall be properly covered when placed on trucks or barges. Loading of the excavated sediment to the barge shall be controlled to avoid splashing and overflowing of the sediment slurry to the surrounding water.	Construction sites & transportation route of waste / Construction phase	N/A
6.6.1.26	The barge transporting the sediments to the designated disposal sites shall be equipped with tight fitting seals to prevent leakage and shall not be filled to a level that would cause overflow of materials or laden water during loading or transportation. In addition, monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the DEP.	Transportation route of waste / Construction phase	N/A

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
6.6.1.27	Suitable containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall employ a licensed collector to transport and dispose of the chemical wastes, to the licensed CWTC, or other licensed facilities, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	Construction and Operation Phases	N/A
6.6.1.28	It is recommended to place clearly labelled recycling bins at designated locations with convenient access. Other general refuse should be separated from chemical and industrial waste by providing separated bins or skips for storage to maximise the recyclable volume. A reputable licensed waste collector should be employed to remove general refuse on a daily basis to minimise odour, pest and litter impacts.	Construction and Operation Phases	Implemented
6.6.1.29	Should buildings are found with potential ACM, sufficient and reasonable lead time shall be allowed for preparation, vetting and implementation of Asbestos Investigation Report and Asbestos Abatement Plan in accordance with Air Pollution Control Ordinance before commencement of any demolition or site clearance work.	Demolition	N/A
Operation Phase			
6.6.2.2	The below good housekeeping practices for the proposed YLEPP should be followed to further ameliorate any odour impact from handling, collection, transportation and disposal of screenings, grits and sludge: • Screens should be cleaned regularly to remove any accumulated organic debris; • Screening and grit transfer systems should be flushed regularly with water to remove organic debris and grit; • Grit and screened materials should be transferred to closed containers; • Scum and grease collection wells and troughs should be emptied and flushed regularly to prevent putrefaction of accumulated organics; • Skim and remove floating solids and grease from primary clarifiers regularly; • Frequent sludge withdrawal from tanks is necessary to prevent the production of gases; • Organic waste should be transported to YLEPP by fully enclosed pipes or trucks to avoid odour nuisance; • Sludge should be transported to the STF by water-tight containers to avoid H2S/odour emission and ingress of water into the containers which would lower the sludge dryness during transportation; • Sludge cake should be transferred to closed containers ; • Sludge containers should be flushed with water regularly; and • Sludge trucks and containers should be washed thoroughly before leaving the YLEPP to avoid any odour nuisance during transportation.	Operation Phase	N/A
Land Contamination			

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
7.8.1.2 - 7.8.1.3; 7.8.2.1	Prior to the commencement of the SI works, a review of the Contamination Assessment Plan (CAP) should be conducted to confirm whether the proposed SI works (e.g. sampling locations, testing parameters etc.) are still valid. Supplementary CAP(s), presenting findings of the review, the latest site conditions and updated sampling strategy and testing protocol, should be submitted to EPD for endorsement. The SI works should be carried out according to EPD's agreed supplementary CAP(s). SI works should be carried out according to the supplementary CAP endorsed by EPD. Following completion of SI works and receipt of laboratory test results, Contamination Assessment Report(s) ((CAR)(s)) should be prepared to present the findings of the SI works and to discuss the presence, nature and extent of contamination. If contamination is identified, Remedial Action Plan(s) ((RAP)(s)) which provides details of the remedial actions for the identified contaminated soil and / or groundwater should be endorsed by EPD. The possible remediation methods are detailed in Section 5.2 of the CAP provided in Appendix 7.1 of the EIA Report. Remediation action, if necessary, will be carried out according to EPD endorsed RAP(s) and Remediation Report(s) (RR(s)) will be submitted after completion of the remediation action. The RR(s) should be endorsed by EPD prior to the commencement of construction works at the respective identified contaminated areas (if any).	Existing YLSTW / Construction Phase (after decommissioning of the concerned facilities / areas but prior to the construction works at the concerned facilities / areas)	N/A
7.8.3.1	The mitigation measures will be recommended in the RAP and would typically include the following: • Excavation profiles must be properly designed and executed with attention to the relevant requirements for environment, health and safety; • Excavation shall be carried out during dry season as far as possible to minimise contaminated runoff from contaminated soils; Supply of suitable clean backfill material (or treated soil) after excavation; • Stockpiling site(s) shall be lined with impermeable sheeting and bunded. Stockpiles shall be fully covered by impermeable sheeting to reduce dust emission. If this is not practicable due to frequent usage, regular watering shall be applied. However, watering shall be avoided on stockpiles of contaminated soil to minimise contaminated runoff. • Vehicles containing any excavated materials shall be suitably covered to limit potential dust emissions or contaminated wastewater run-off, and truck bodies and tailgates shall be sealed to prevent any discharge during transport or during wet conditions; • Speed control for the trucks carrying contaminated materials shall be enforced; • Vehicle wheel and body washing facilities at the site's exist points shall be established and used; and • Pollution control measures for air emissions (e.g. from biopile blower and handling of cement), noise emissions (e.g. from blower or earthmoving equipment), and water discharges (e.g. runoff control from treatment facility) shall be implemented and complied with relevant regulations and guidelines.	Project Site / Construction Phase	N/A
Ecological Impact (Terrestrial and Aquatic)			
Construction Phase			
8.10.2.1	<u>Avoidance of Recognised Site of Conservation Importance</u> Construction works are designed to be confined to the boundary of the existing YLSTW that direct impacts on all other sites of conservation importance within the assessment area, including the Ramsar Site, Priority Site, WCA, WBA, SSSI and CA would be avoided.	Project site / Construction Phase	N/A

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
8.10.2.3 – 8.10.2.4	Avoidance of Demolition Works Using Breakers Mounted on Excavators and Percussive Piling during Dry Season In order to minimise the construction noise disturbance on overwintering waterbirds, the noisy construction works, i.e. all percussive piling works and demolition using breakers mounted on excavators, would therefore be scheduled outside the dry season (i.e. November to March, which is the peak overwintering period of waterbirds).	Construction sites / Construction Phase	N/A
8.10.2.5	Restriction of Construction Hours No construction activities with the use of PME should be conducted within 100m from any night roost confirmed by the pre-construction survey after 18:00 during wet season and 17:30 during dry season to avoid disturbance to the nearby ardeids night roosts.	Construction sites / Construction Phase	N/A
8.10.3.2 – 8.10.3.3	Minimising Construction Noise Disturbance Impacts through Consideration of Alternative Construction Methods Demolition using concrete crusher is quieter than demolition using breaker that its construction noise level is comparable to other general construction activities and concrete crusher would be used for demolition works to be undertaken during dry season months. The quieter foundation methods, including bored piling, raft foundation and shallow foundation, would be adopted as far as possible.	Construction sites / Construction Phase	N/A
8.10.3.4 – 8.10.3.5	Minimising Construction Noise Disturbance Impacts Through Careful Phasing of Construction Activities Percussive piling works and demolition using breakers mounted on excavators would typically be completed over two wet seasons and not be undertaken in the same construction zone at the same time to localise the construction disturbance and to reduce the duration of high level of disturbances on sensitive wetland habitats and associated waterbirds nearby each construction zone. Facilities in the eastern side of the Project site (i.e. Phase 1A and Phase 1B) are scheduled to be developed first that the new structures could screen the works in the middle and western parts of the site in later stage of the construction phase after the structures in Phase 1A and Phase 1B are completed, hence minimising the construction noise and human disturbance on sensitive wetland habitats adjacent to the Project site in Shan Pui River, including the confluence of Shan Pui River and Kam Tin River and ardeid night roost to the immediate east of the Project site.	Project site / Construction Phase	N/A
8.10.3.6 – 8.10.3.8	Minimising Construction Noise Disturbance Impacts through Use of Noise Barriers Noise barriers with absorptive materials of about 4m high will be erected along the northern, eastern and western sides of the site, throughout the construction phase to screen the construction noise and human disturbance to the waterbirds foraging in ponds in Fung Lok Wai and Shan Pui River during construction phase. Adequate noise barriers should also be provided for demolition works using breakers mounted on excavators and percussive piling works, to further minimise the construction noise disturbance from these construction activities. Movable noise barriers should be provided to breaker mounted on excavator used for demolition works as discussed in Section 4.8 and acoustic mat should be provided to the piling plants around the rig. The contractor should provide enclosure for construction equipment, especially static plants, as appropriate to minimise the noise disturbance as far as practicable.	Construction sites / Construction Phase	Implemented
8.10.3.9	Use of Quality Powered Mechanical Equipment The contractor should source QPMEs for construction as far as practicable to further minimise the overall construction noise and other disturbance to the nearby wetland habitats and associated waterbirds to the maximum practical extent.	Construction sites / Construction Phase	N/A
Ecology & Fisheries Impact			

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
8.12.1.4, 9.7	Groundwater observation wells and recharge wells will be provided at the northern and western side of the site. Groundwater table will be closely monitored at the observation well. In case of any unlikely events of abnormal drawdown of groundwater table near the excavation area, groundwater dewatering will stop and water will be pumped into the recharge wells to recover the normal groundwater table as necessary.	Construction Phase	N/A
Fisheries Impact			
9.7	The implementation of good site practices during construction could minimise the potential water quality impacts from the land-based construction works. Mitigation measures recommended in the Water Quality Impact Assessment (Section 5) for controlling water quality impact would also serve to protect fisheries resources and activities from indirect impacts.	Construction and Operation Phase	N/A
Landscape and Visual Impact			
Table 10.11	Preservation of Existing Vegetation (CM1) All the existing Trees to be retained and not to be affected by the Project shall be carefully protected during construction accordance with DEVB TCW No. 7/2015 - Tree Preservation and the latest Guidelines on Tree Preservation during Development issued by GLTM Section of DevB. Any existing vegetation in landscaped areas and natural terrain not to be affected by the Project shall be carefully preserved.	Project site / Construction Phase	Implemented
Table 10.11	Transplanting of Affected Trees (CM2) Trees unavoidably affected by the works shall be transplanted as far as possible in accordance with DEVB TCW No. 7/2015 - Tree Preservation and the latest Guidelines on Tree Transplanting issued by GLTM Section of DevB.	Project site / Construction Phase	Implemented
Table 10.11	Compensatory Tree Planting (CM3) Any trees to be felled under the Project shall be compensated in accordance with DEVB TCW No. 7/2015 - Tree Preservation. For trees to be compensated on slopes, the guidelines for tree planting stipulated in GEO Publication No. 1/2011 will be followed.	Project site / Construction Phase	N/A
Table 10.11	Control of Night-time Lighting Glare (CM4) All the night time lighting shall be avoided except for safety purpose. No light glare shall illuminate directly outside the site.	Project site / Construction Phase	N/A
Table 10.11	Erection of Decorative Screen Hoarding (CM5) Site hoardings, if any, shall be painted in dull green colour	Project site / Construction Phase	N/A
Table 10.11	Management of Construction Activities and Facilities (CM6) Construction activities shall be well scheduled and avoid powered mechanical equipment's operating simultaneously. All stockpiling areas and idled area shall be covered by tarpaulin sheet or hydroseeded as far as possible.	Project site / Construction Phase	N/A
Table 10.12	Roadside and Amenity Planting (OM1) Roadside amenity trees and understory planting to be planted along EVA and access roads within YLEPP	YLEPP / Operational Phase	N/A
Table 10.12	Infill Planting Proposals (OM2) Infill planting of trees, shrubs and/ or groundcovers shall be incorporated into the YLEPP layout where space is available.	YLEPP / Operational Phase	N/A
Table 10.12	Enhancement of Landscape Buffer (OM3) With the retained existing trees surrounding the YLSTW perimeter, thickening of understory plantings and/ or moundings in YLEPP will be created as landscape buffer to the surroundings as much as possible.	YLEPP / Operational Phase	N/A

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
Table 10.12	Control of Night-time Lighting Glare (OM4) All the night time lighting shall be avoided except for safety purpose. No light glare shall illuminate directly outside the YLEPP.	YLEPP / Operational Phase	N/A
Table 10.12	Responsive Design of Building (OM5) Aesthetically pleasing design as regard to the form, material and finishes shall be incorporated to all buildings, engineering structures and associated infrastructure facilities so as to blend in the buildings and structures to the adjacent landscape and visual context.	YLEPP	N/A
Hazard to Life Construction Phase			
11.5.6.9-11.5.6.12	• Implementation of those major construction works and movement of plants and vehicles would be stringently controlled to have a setback of at least 15m clear distance, or physical barrier with an empty digester / gas holder from the digesters / gas holders in operation; • For those construction works to be carried out in close proximity to the 15m zone from digesters / gas holders in operation, the height of plants for those major construction shall be limited to 15m such that the plants would not damage digesters /gas holders in such incident as plant collapse or overturning; • Whenever practicable, the construction sequence shall be arranged with empty unit(s) for separating the major construction works from these digesters / gas holders in use; and • Physical barriers such as concrete blocks shall be set up at the 15m zone in order to avoid those construction plants or vehicles from colliding to the digester / gas holder units in use.	Project site / Construction Phase	N/A
11.5.8	• Method statements and risk assessments shall be prepared and safety control measures shall be in place before commencement of work • All work procedures shall be complied with the operating plant procedures or guidelines and regulatory requirements; • Work permit system, on-site pre-work risk assessment and emergency response procedure shall be in place before commencement of work; • All construction workers shall equip with appropriate personal protective equipment (PPE) when working at the Project Site; • Safety training and briefings shall be provided to all construction workers; • Regular site safety inspections shall be conducted during the construction phase of the Project;	Project site / Construction Phase	Implemented

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
11.9.1.2	• Ensure speed limit enforcement is specified in the contractor's method statement to limit the speed of construction vehicles onsite; • Conduct speed checks to ensure enforcement of speed limits and to ensure adequate site access control ; • A lifting plan, with detailed risk assessment, should be prepared and endorsed for heavy lifting of large equipment; • Vehicle crash barriers should be provided between the construction site and the operating biogas facilities; • Ensure that a hazardous are classification study is conducted and hazardous area maps are updated before the start of the construction activities to ensure ignition sources are controlled during both construction and operation phases; • Ensure work permit system for hot work activities within the Project Site is specified in the contractor's method statement to minimize and control the ignition sources during the construction phase; • Ensure effective communication system / protocol is in place between the contractors and the operation staff; • Ensure the Project Construction Emergency Response Plan is integrated with the Emergency Response Plan for the YLEPP during construction phase. The plan should address stop work instructions to be promptly communicated to all construction workers performing hot works in case a confirmed biogas detection at the Project Site; • Ensure that the construction activities do not impede the functions of fire and gas detection system, fire protection system, muster areas, fire-fighting vehicle access and escape routes; • Ensure a Job Safety Analysis is conducted for construction activities of the Project during the construction phase, to identify and analyze hazards associated with the construction activities (e.g. lifting operations by cranes) onto the operating biogas facilities. Potential risks of the construction activities shall be assessed, and risk precautionary measures shall be implemented in Contractor's works procedures.	Project site / Construction Phase	Implemented
Operation Phase			
11.9.1.1	• Process plant building should be provided with adequate number of gas detectors distributed over various areas of potential leak sources to provide adequate coverage. • All electrical equipment inside the building should be classified in accordance with the electrical area classification requirements. No unclassified electrical equipment should be used during operations or maintenance. • All safety valves should be designed to discharge the released fluid to a safe location and stop misdirection of fluid flows in order to avoid hazardous outcome. • Safety markings and crash barriers should be provided to the aboveground piping, digesters and gas holders near the entrance. • Fixed crash barriers should be provided in areas where process equipment is adjacent to the internal roadway to protect against vehicle collision. Adequate warning signage and lighting should also be provided and maximum speed limit should also be in place. • Lightning protection installations should be installed following IEC 62305, BS EN 62305, AS/NZS 1768, NFPA 780 or equivalent standards. • Suitable fire extinguishers should be provided within the site. An External Water Spray System (EWSS) should be installed in appropriate areas, such as around the gasholders, digester and sulphur removal vessels. The facilities should also be equipped with fire and gas detection system and fire suppression system. • Stringent procedures should be implemented to prohibit smoking or naked flames to be used on-site.	YLEPP / Operational Phase	N/A

Note:
Implementation status: Implemented / Partially Implemented / Not Implemented / Not Applicable (N/A)

Appendix K

Weather and Meteorological Conditions

May 2021 Weather

Station: Wetland Park

Date	Mean Pressure (hPa)	Air Temperature			Mean Relative Humidity (%)	Total Rainfall (mm)
		Maximum (deg. C)	Mean (deg. C)	Minimum (deg. C)		
May 2021						
01	1012.1	31.1	26.0	21.9	77	0.0
02	1012.9	31.7	25.6	21.2	83	4.5
03	1012.3	26.9#	24.0	20.7#	88	3.0
04	1011.0	32.5	26.4	22.2	85	34.0
05	1013.0	31.9	26.6	22.5	83	4.0
06	1015.0	29.9#	25.6	22.7#	79	0.0
07	1013.1	31.1#	26.4	22.0#	81	0.0
08	1009.6	32.8	27.7	23.4	81	0.0
09	1008.7	32.8	28.1	25.0	83	0.0
10	1008.5	33.0#	28.2	24.6#	79	0.0
11	1008.1	32.9#	28.9	26.5#	78	0.0
12	1008.2	32.8#	29.3	26.5#	82	0.0
13	1008.3	32.4	29.4	27.2	81	0.0
14	1008.8	31.8	28.6	26.9	86	7.5
15	1008.7	33.7#	29.3	26.3#	79	0.0
16	1008.8	34.3	29.8	26.7	76	0.0
17	1009.5	34.6#	30.0	27.1#	79	0.0
18	1008.9	33.2#	30.1	27.5#	76	0.0
19	1007.6	34.0#	30.1	27.5#	76	0.0
20	1007.8	35.1#	30.3	27.5#	75	0.0
21	1007.5	34.3#	30.3	27.7#	76	0.0
22	1006.6	34.2	30.2	27.1	78	0.0
23	1007.5	35.5	30.6	27.3	76	0.0
24	1009.5	31.9#	29.2	27.7#	84	1.5
25	1010.1	31.9	27.8	24.3	90	55.5
26	1009.3	32.3	28.4	25.9	87	8.0
27	1009.4	33.8	30.0	26.3	78	0.0
28	1009.4	33.7#	30.4	27.5#	77	0.0
29	1006.8	33.3	30.3	28.8	79	0.0
30	1004.7	33.3	30.6	29.0	80	0.0
31	1003.9	33.2	29.5	25.1	84	4.0

Note (From Hong Kong Observatory):

1. # Data incomplete
2. Rainfall measured in increment of 0.5 mm. Amount of < 0.5 mm cannot be detected

Source: Hong Kong Observatory

June 2021 Weather

Station: Hong Kong Observatory

Date	Mean Pressure (hPa)	Air Temperature			Mean Relative Humidity (%)	Total Rainfall (mm)
		Maximum (deg. C)	Mean (deg. C)	Minimum (deg. C)		
June 2021						
01	1006.6	29.3	26.5	24.1	91	45.8
02	1006.9	31.3	28.3	25.0	85	2.4
03	1006.3	34.0	30.3	27.9	77	0.0
04	1004.7	29.8	28.4	26.7	84	7.5
05	1004.3	29.2	27.3	25.6	73	Trace
06	1004.6	31.4	28.2	26.4	74	Trace
07	1007.3	32.2	28.7	26.6	78	Trace
08	1008.0	33.5	29.3	26.5	79	0.9
09	1007.2	29.9	27.9	26.4	87	48.6
10	1005.6	32.8	28.8	25.5	83	29.4
11	1005.4	32.9	29.1	26.7	82	31.2
12	1007.5	29.5	27.7	26.2	89	30.3
13	1008.5	32.0	28.9	26.0	85	2.8
14	1006.1	31.1	29.3	27.8	81	0.3
15	1004.4	31.8	29.6	27.2	79	6.2
16	1006.3	33.3	30.6	29.1	76	0.0
17	1007.7	32.8	30.4	27.7	77	9.6
18	1006.9	32.8	30.6	29.0	77	3.9
19	1004.8	33.0	30.6	29.5	77	Trace
20	1003.0	32.8	30.7	29.4	78	0.0
21	1003.1	32.4	30.4	29.4	80	1.2
22	1005.1	30.2	27.0	24.7	87	75.3
23	1005.9	29.0	26.4	25.1	88	66.4
24	1006.0	26.7	26.0	25.1	91	20.8
25	1006.3	29.0	27.1	26.0	87	6.8
26	1007.2	29.9	27.9	25.9	90	61.3
27	1006.4	30.0	29.4	28.4	84	5.8
28	1005.2	29.6	27.7	24.0	89	166.5
29	1005.2	30.7	29.6	28.8	82	4.6
30	1006.1	32.6	30.1	29.0	79	0.4

Note (From Hong Kong Observatory):
Trace means rainfall less than 0.05 mm

Source: Hong Kong Observatory

Remark: The corresponding weather station at Wetland Park were unavailable at the time of preparation of this report. The corresponding month's weather will be provided in the next reporting month.

Appendix L

Cumulative Statistics on Environmental Complaints, Notifications of Summons and Successful Prosecutions

Environmental Complaints Log

Reference No.	Date of Complaint Received	Received From	Received By	Nature of Complaint	Date of Investigation	Outcome	Date of Reply

Cumulative Statistics on Complaints

Environmental Parameters	Cumulative No. Brought Forward	No. of Complaints This Month	Cumulative Project-to-Date
Air	0	0	0
Noise	0	0	0
Water	0	0	0
Waste	0	0	0
Total	0	0	0

Cumulative Statistics on Notification of Summons and Successful Prosecutions

Environmental Parameters	Cumulative No. Brought Forward	No. of Notification of Summons and Prosecutions This Month	Cumulative Project-to-Date
Air	0	0	0
Noise	0	0	0
Water	0	0	0
Waste	0	0	0
Total	0	0	0

Appendix M

Summary of Observations and Findings in the Report Month

Summary of Observations and Findings in the Reporting Month

Parameters	Date	Observations and Recommendations	Follow-up
Air Quality	NA		
Noise	2 June 2021	Reminder 2: The contractor was reminded to properly maintain the function of the noise barrier. (Portion 1)	NA
Water Quality	2 June 2021	Observation: Mitigation measures (eg. sandbags / coverings) should be provided to prevent runoff from the temporary administration building works area flowing out to the nullah. (Portion 1)	3 June 2021
	2 June 2021	Reminder 1: Mitigation measure (eg. sandbags) should be provided at inlet / outlet of channel at catchpit to prevent discharge of water. (Portion 1- Piling Area)	NA
	16 June 2021	Reminder: Enhance the mitigation measure to prevent runoff flowing out to the nullah at area near temporary administration building. (Portion 1)	NA
	30 June 2021	Reminder: The contractor is reminded to provide mitigation measure to prevent silt / silty runoff getting into storm drain and / or checking the existing pipe network for temporarily sealing up manhole at excavation near piling area. (Portion 1)	NA
Chemical and Waste Management	NA		
Land Contamination	NA		
Landscape and Visual Impact	16 June 2021	Recommendation: Establish protective barrier for retain trees T250 & T251. (Portion 1)	NA
	30 June 2021	Recommendation: Retain trees T252, T253 – Trench work within tree protection zone has to be reviewed and follow specification of works and exercise care when doing Work. (Portion 1 near temporary workshop)	NA
Permit / Licenses	NA		
Others	NA		

Appendix N

Outstanding Issues and Deficiencies

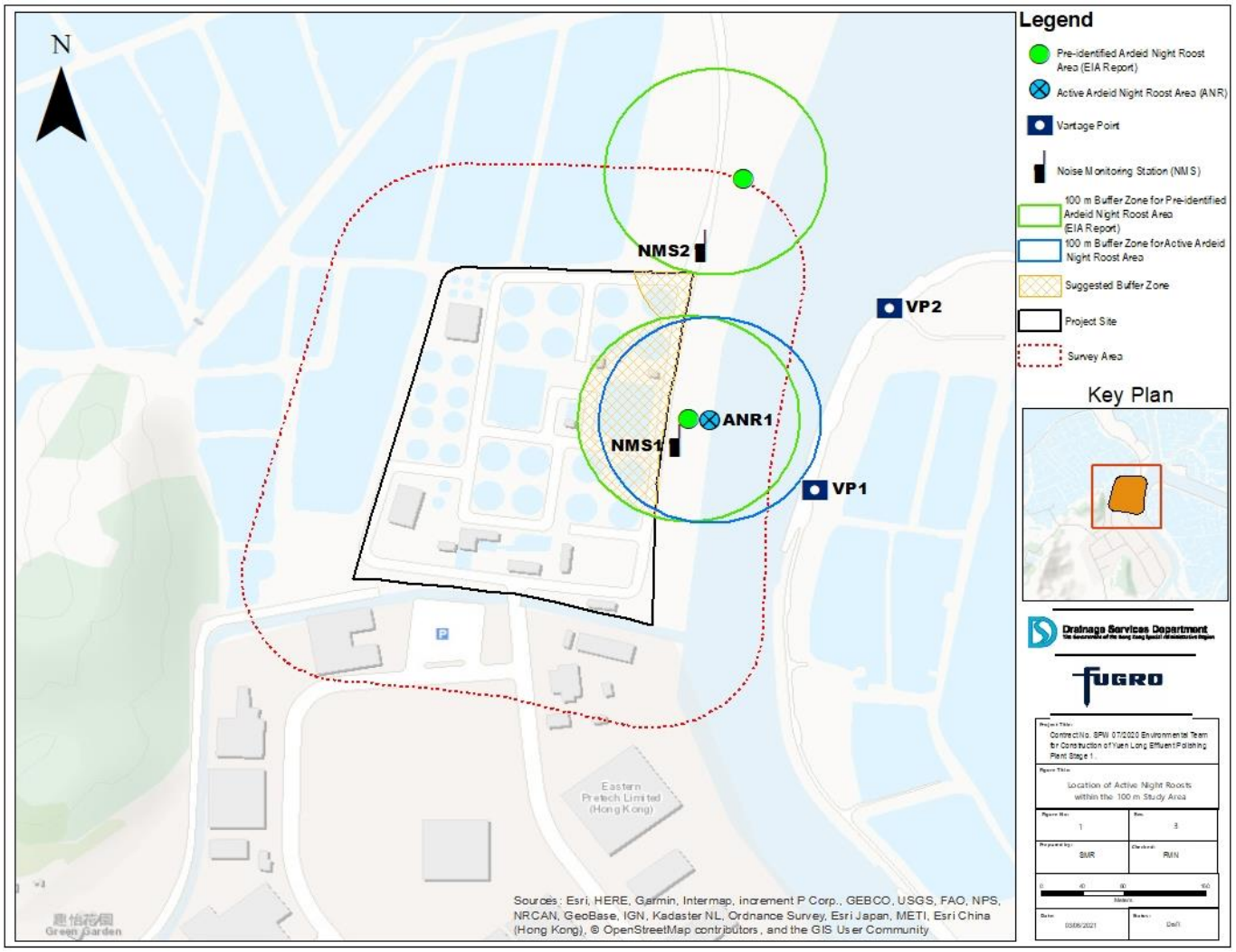
Summary of Outstanding Issues and Deficiencies in the Reporting Month

Parameters	Outstanding Issues	Deficiencies
Air Quality	NA	Any items of deficiencies can be referred to **Appendix M**.
Noise	NA	
Water Quality	NA	
Chemical and Waste Management	NA	
Land Contamination	NA	
Landscape and Visual Impact	NA	
Permit / Licenses	NA	
Others	NA	

Appendix O

Active Night Roost Monitoring Area and Vantage Points; and Noise Monitoring Stations

O.1 Map of the Monitoring Area, Vantage Points for Observation of Active Night Roost and Noise Monitoring Stations



Appendix O.1: Monitoring Area, Vantage Points for Observation of Active Night Roost and Noise Monitoring Stations

O.2 Survey Photos

O.2.1 Pre-roosting Aggregate

Appendix O.2.1a: Pre-roost aggregate of the Little Egret in the mudflat area east of the Project boundary observed on 11 June 2021 around 18:22

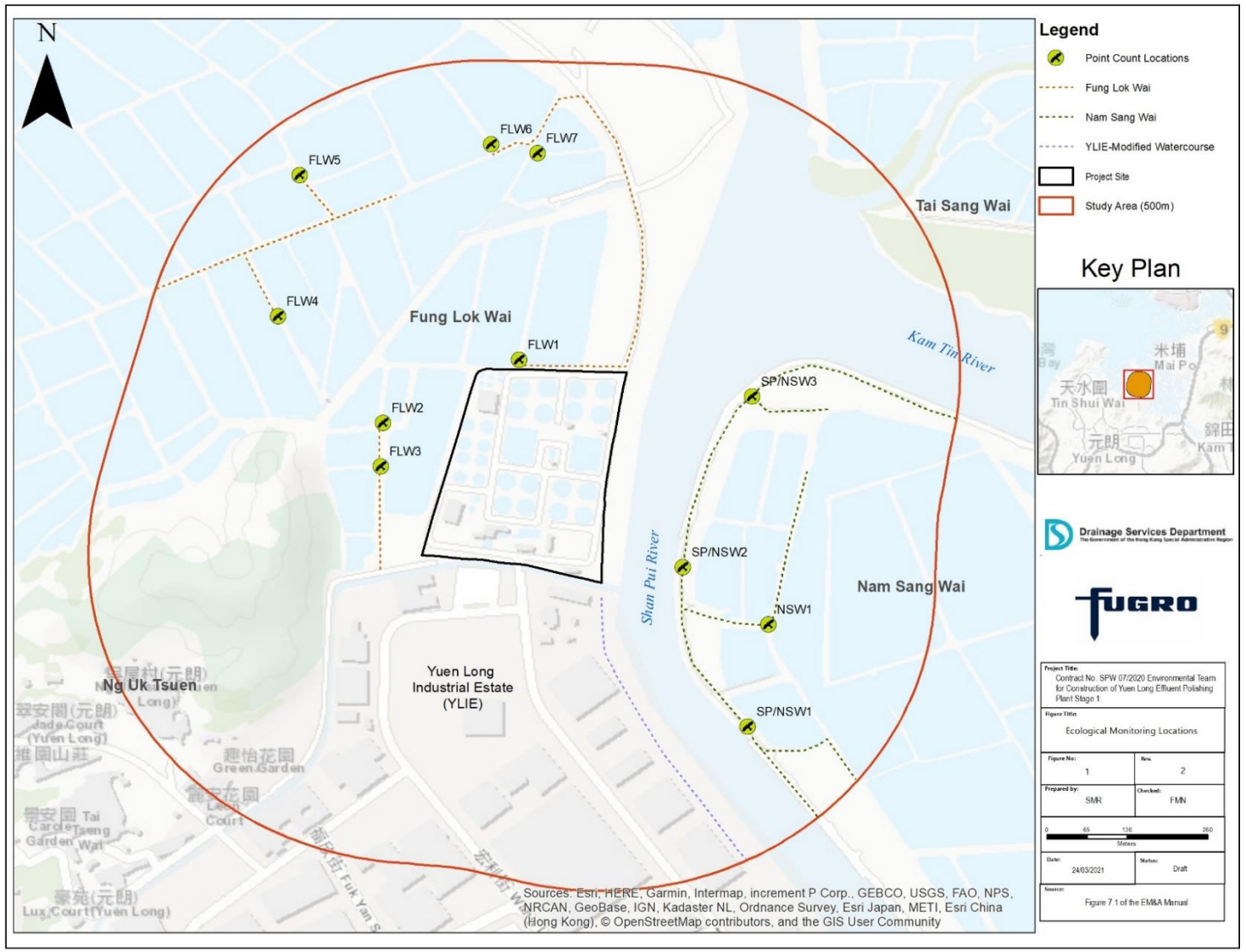
Appendix O.2.1b: Pre-roost aggregate of the Little Egret in the mudflat area northeast of the Project boundary observed on 11 June 2021 around 18:22

O.2.2 Active Night Roosting Site and Roosting Substrates

Appendix O.2.2: Active night roost on *Sonneratia apetala* and *S. caseolaris* mangrove roosting substrate located east of the Project boundary observed on 11 June 2021 around 18:50

Appendix P

Ecological Bird Monitoring Area with Locations of Point Count Sites and Transect Routes



Appendix P: Ecological bird monitoring area with the locations of point count sites and transect routes

Appendix Q

Notification of Exceedance

Notification of Water Quality Monitoring Exceedance

Incident Report on Action/ Limit Level Exceedance

Reference No.:	IR20210608_M1_SS
Project:	Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1
Date:	2021/06/08
Time: (hh:mm)	**(Ebb Tide)** M1: 13:00 M2: M3:

Action level / Limit level: **(For Flood Tide)**

	DO (mg/L)		Turbidity (NTU)		SS (mg/L)	
	AL	**LL**	**AL**	**LL**	**AL**	**LL**
M1	2.25	1.91	48.4	50.4	59	68
M2	1.88	1.79	43.0	52.4	81	112
M3	3.28	3.14	74.3	78.0	104	167

Measured level of exceeded parameter: (fill in / circle as appropriate)

M1	DO (AL / LL) : _____	**M3**	DO (AL / LL) : _____
	NTU (AL / LL) : _____		NTU (AL / LL) : _____
	SS (~~AL~~ / LL) : 87		SS (AL / LL) : _____
M2	DO (AL / LL) : _____		
	NTU (AL / LL) : _____		
	SS (AL / LL) : _____		

Action taken / to be taken: (tick / circle / fill in as appropriate)

Inspection :
☑ER / IEC / Contractor is/are informed.
☑ Monitoring equipment & monitoring data are checked and confirmed without problem.
☐ In-situ measurement is repeated.
☐ Other _____

Possible reason for action or Limit level Non-compliance: (tick / fill in as appropriate)

	DO	Turbidity	SS
Finding / Evidences			
☐ Upstream Control Station exceeded AL/LL			
☐ Station was polluted by the inflow of other construction site			
☐ Station was polluted by the inflow of residential discharge			
☐ Station was polluted by the inflow of surface runoff from rainstorm and storm water drainage			
☑ No construction activities were carried out in the vicinity of station			M1
☐ Other _____			

Notification of Water Quality Monitoring Exceedance

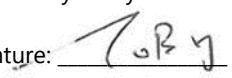
Incident Report on Action/ Limit Level Exceedance

<table>
<tr><td>Reference No.:</td><td colspan="4">IR20210608_M1_SS</td></tr>
<tr><td>Project:</td><td colspan="4">Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1</td></tr>
<tr><td>Date:</td><td colspan="4">2021/06/08</td></tr>
<tr><td rowspan="3">Conclusion:</td><td></td><td>DO</td><td>Turbidity</td><td>SS</td></tr>
<tr><td>☑ Due to change or/and influences of ambient condition in the vicinity, not Project related</td><td></td><td></td><td>M1</td></tr>
<tr><td>☐ Due to influences of construction activities under this project in the vicinity, considered to be Project related</td><td></td><td></td><td></td></tr>
<tr><td>Mitigation Measures:</td><td colspan="4">The following mitigation measures have be taken:

1. Channels, earth bunds or sand bag barriers were provided on site to properly direct stormwater to silt removal facilities;
2. The surfaces of construction site areas near the drainages was paved;
3. Manholes were adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and;
4. Channels and manholes were maintained and the deposited silt and grit were removed after rainstorm to prevent overflows and localised flooding.</td></tr>
<tr><td rowspan="4">Remarks: (tick / fill in as appropriate)</td><td colspan="4">☐ Repeat in-situ measurement was done.</td></tr>
<tr><td>M1</td><td>DO : _____
NTU : _____</td><td>M3</td><td>DO : _____
NTU : _____</td></tr>
<tr><td>M2</td><td>DO : _____
NTU : _____</td><td></td><td></td></tr>
<tr><td colspan="4">☑ No major observation of upstream area was found</td></tr>
<tr><td>Attachment</td><td colspan="4">Annex A – Location of Water Quality Monitoring Stations
Annex B – Water Quality Monitoring Results
Annex C – Photo of Investigation</td></tr>
</table>

Note: The box is checked ☑ to represent the statement is applicable, and vice versa.

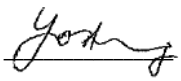
Prepared by: Toby Wan

Signature: 

Date (dd/mm/yyyy): 22/6/2021

Certified by: David Hung

Designation: Environmental Team Leader

Signature: 

Date (dd/mm/yyyy): 22/6/2021

Notes:
- Abbreviation:
DO – Dissolved Oxygen
NTU - Turbidity
SS – Suspended Solids
AL – Action Level
LL – Limit Level
ER – Engineer's Representative
IEC – Independent Checker

Annex A – Location of Water Quality Monitoring Stations

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

820400 E

820800 E

837200 N

836600 N

836000 N

LEGEND:

- SITE BOUNDARY
- 500m ASSESSMENT AREA
- PONDS
- WATER BODIES
- EXISTING AND PLANNED SEWAGE OUTFALL
- MONITORING STATION

N

M1

M2

M3

KAM TIN RIVER

SHAN PUI RIVER

YUEN LONG INDUSTRIAL ESTATE

FUK SHUN STREET

MANG LOK STREET

TAI TSENG WAI

CLIENT
客戶

渠務署
Drainage Services Department

SHEET TITLE
圖紙名稱

LOCATIONS OF WATER QUALITY MONITORING STATIONS FOR CONSTRUCTION PHASE

Plot File by: GaoYU 12/18
PATH: P:\PROJECTS\60305478\DRAWING\REPORTEM&AEM&A_704.dgn

Annex B – Water Quality Monitoring Results

Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Monitoring Location	Date	Tide Mode	Weather	Sea Condition	Time	Water Depth (m)	Monitoring Level	Monitoring Level (m)	Replicate	In-situ Measurement												Laboratory Analysis	
										Current Speed (m/s)	Current Direction (°)	pH		Salinity (ppt)		Temperature (degree C)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total Suspended Solids (mg/L)	
										Value	Value	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.
M1	8/6/2021	Mid-Flood	Fine	Calm	06:13	1.2	M	0.6	1	0.026	113	7.99	7.99	3.20	3.20	30.11	30.12	116.3	116.2	8.60	8.60	37.6	37.6	33	32
M1	8/6/2021	Mid-Flood	Fine	Calm	06:13	1.2	M	0.6	2			7.98		3.19		30.12		116.0		8.59		37.6		30	
M2	8/6/2021	Mid-Flood	Fine	Calm	06:33	0.9	M	0.45	1	0.028	105	7.73	7.74	1.91	1.92	30.63	30.64	107.0	107.1	7.94	7.94	36.8	37.0	37	38
M2	8/6/2021	Mid-Flood	Fine	Calm	06:33	0.9	M	0.45	2			7.74		1.92		30.64		107.1		7.93		37.1		39	
M3	8/6/2021	Mid-Flood	Fine	Calm	06:20	0.8	M	0.4	1	0.107	280	7.33	7.33	2.61	2.61	29.20	29.25	69.3	68.4	5.23	5.12	56.2	57.9	87	85
M3	8/6/2021	Mid-Flood	Fine	Calm	06:20	0.8	M	0.4	2			7.33		2.61		29.30		67.4		5.01		59.6		82	
M1	8/6/2021	Mid-Ebb	Fine	Calm	13:00	1	M	0.5	1	0.019	72	7.70	7.70	2.38	2.38	30.93	30.94	103.1	103.3	7.59	7.61	41.0	41.1	83	**87**
M1	8/6/2021	Mid-Ebb	Fine	Calm	13:00	1	M	0.5	2			7.69		2.37		30.94		103.4		7.63		41.2		90	
M2	8/6/2021	Mid-Ebb	Fine	Calm	12:41	0.8	M	0.4	1	0.02	58	8.05	8.05	2.00	2.00	32.01	32.02	124.5	123.6	9.26	9.22	39.3	39.2	59	58
M2	8/6/2021	Mid-Ebb	Fine	Calm	12:41	0.8	M	0.4	2			8.04		1.99		32.02		122.7		9.17		39.1		56	
M3	8/6/2021	Mid-Ebb	Fine	Calm	12:58	0.5	M	0.25	1	0.085	90	7.53	7.54	2.44	2.44	31.50	31.40	115.1	115.9	8.46	8.48	25.0	25.0	35	33
M3	8/6/2021	Mid-Ebb	Fine	Calm	12:58	0.5	M	0.25	2			7.54		2.44		31.30		116.6		8.49		25.0		31	

Remark

1. Orange and Bold: Action Level Exceedance (For Impact Station Only)
2. Red and Bold: Limit Level Exceedance (For Impact Station Only)
3. Action Level for Turbidity: 95%-ile of baseline data or 120% of upstream control station's turbidity recorded on the same day.
4. Limti Level for Turbidity: 99%-ile of baseline data or 130% of upstream control station's turbidity recorded on the same day.
5. Action Level for SS: 95%-ile of baseline data or 120% of upstream control station's SS recorded on the same day.
6. Limti Level for SS: 99%-ile of baseline data or 130% of upstream control station's SS recorded on the same day.

For Flood Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M1	2.25	1.91	48.4	50.4	59	68
M2	1.88	1.79	45.1	52.4	81	112
M3	3.28	3.14	74.3	78.0	104	167

For Ebb Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M1	2.25	1.91	48.4	50.4	59	68
M2	1.88	1.79	43.0	52.4	81	112
M3	3.28	3.14	74.3	78.0	104	167

Annex C – Photo of investigation

Date of investigation: 08 June 2021 **(Ebb Tide)**
Monitoring Station: M1

Annex D – Site Inspection

Date of site inspection: 8 June 2021
Gullies were bunded by sand bags to prevent surface runoff.

Date of site inspection: 8 June 2021
The surrounding of the construction site areas were covered by impermeable sheeting to prevent surface runoff.

Notification of Water Quality Monitoring Exceedance

Incident Report on Action/ Limit Level Exceedance

Reference No.:	IR20210610_M1_SS
Project:	Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1
Date:	2021/06/10
Time: (hh:mm)	**(Ebb Tide)** M1: 14:04 M2: M3:

Action level / Limit level: **(For Flood Tide)**

	DO (mg/L)		Turbidity (NTU)		SS (mg/L)	
	AL	**LL**	**AL**	**LL**	**AL**	**LL**
M1	2.25	1.91	48.4	50.4	70	76
M2	1.88	1.79	43.0	52.4	81	112
M3	3.28	3.14	74.3	78.0	104	167

Measured level of exceeded parameter: (fill in / circle as appropriate)

M1	DO (AL / LL) : _____	**M3**	DO (AL / LL) : _____
	NTU (AL / LL) : _____		NTU (AL / LL) : _____
	SS (AL / ~~LL~~) : 73		SS (AL / LL) : _____
M2	DO (AL / LL) : _____		
	NTU (AL / LL) : _____		
	SS (AL / LL) : _____		

Action taken / to be taken: (tick / circle / fill in as appropriate)

Inspection :
☑ER / IEC / Contractor is/are informed.
☑ Monitoring equipment & monitoring data are checked and confirmed without problem.
☐ In-situ measurement is repeated.
☐ Other _____
_____
_____

Possible reason for action or Limit level Non-compliance: (tick / fill in as appropriate)

	DO	Turbidity	SS
Finding / Evidences			
☐ Upstream Control Station exceeded AL/LL			
☐ Station was polluted by the inflow of other construction site			
☐ Station was polluted by the inflow of residential discharge			
☐ Station was polluted by the inflow of surface runoff from rainstorm and storm water drainage			
☑ No construction activities were carried out in the vicinity of station			M1
☐ Other _____ _____			

Notification of Water Quality Monitoring Exceedance

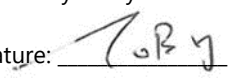
Incident Report on Action/ Limit Level Exceedance

<table>
<tr><td>Reference No.:</td><td colspan="4">IR20210610_M1_SS</td></tr>
<tr><td>Project:</td><td colspan="4">Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1</td></tr>
<tr><td>Date:</td><td colspan="4">2021/06/10</td></tr>
<tr><td rowspan="3">Conclusion:</td><td></td><td>DO</td><td>Turbidity</td><td>SS</td></tr>
<tr><td>☑ Due to change or/and influences of ambient condition in the vicinity, not Project related</td><td></td><td></td><td>M1</td></tr>
<tr><td>☐ Due to influences of construction activities under this project in the vicinity, considered to be Project related</td><td></td><td></td><td></td></tr>
<tr><td>Mitigation Measures:</td><td colspan="4">The following mitigation measures have be taken:

1. Channels, earth bunds or sand bag barriers were provided on site to properly direct stormwater to silt removal facilities;
2. The surfaces of construction site areas near the drainages was paved;
3. Manholes were adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and;
4. Channels and manholes were maintained and the deposited silt and grit were removed after rainstorm to prevent overflows and localised flooding.</td></tr>
<tr><td rowspan="4">Remarks: (tick / fill in as appropriate)</td><td colspan="4">☐ Repeat in-situ measurement was done.</td></tr>
<tr><td>M1</td><td>DO : _____
NTU : _____</td><td>M3</td><td>DO : _____
NTU : _____</td></tr>
<tr><td>M2</td><td>DO : _____
NTU : _____</td><td></td><td></td></tr>
<tr><td colspan="4">☑ No major observation of upstream area was found</td></tr>
<tr><td>Attachment</td><td colspan="4">Annex A – Location of Water Quality Monitoring Stations
Annex B – Water Quality Monitoring Results
Annex C – Photo of Investigation</td></tr>
</table>

Note: The box is checked ☑ to represent the statement is applicable, and vice versa.

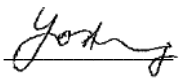
Prepared by: Toby Wan

Signature: 

Date (dd/mm/yyyy): 22/6/2021

Certified by: David Hung

Designation: Environmental Team Leader

Signature: 

Date (dd/mm/yyyy): 22/6/2021

Notes:
- Abbreviation:
DO – Dissolved Oxygen
NTU - Turbidity
SS – Suspended Solids
AL – Action Level
LL – Limit Level
ER – Engineer's Representative
IEC – Independent Checker

Annex A – Location of Water Quality Monitoring Stations

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

820400 E

820800 E

837200 N

836600 N

836000 N

LEGEND:

- SITE BOUNDARY
- 500m ASSESSMENT AREA
- PONDS
- WATER BODIES
- EXISTING AND PLANNED SEWAGE OUTFALL
- MONITORING STATION

N

M1

M2

M3

KAM TIN RIVER

SHAN PUI RIVER

YUEN LONG INDUSTRIAL ESTATE

FUK SHUN STREET

MANG LOK STREET

TAI TSENG WAI

CLIENT
客戶

渠務署
Drainage Services Department

SHEET TITLE
圖紙名稱

LOCATIONS OF WATER QUALITY MONITORING STATIONS FOR CONSTRUCTION PHASE

Plot File by: GaoYU 12/18
PATH: P:\PROJECTS\60305478\DRAWING\REPORTEM&AEM&A_704.dgn

Annex B – Water Quality Monitoring Results

Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Monitoring Location	Date	Tide Mode	Weather	Sea Condition	Time	Water Depth (m)	Monitoring Level	Monitoring Level (m)	Replicate	In-situ Measurement												Laboratory Analysis	
										Current Speed (m/s)	Current Direction (°)	pH		Salinity (ppt)		Temperature (degree C)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total Suspended Solids (mg/L)	
										Value	Value	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.
M1	10/6/2021	Mid-Flood	Fine	Moderate	07:07	1.1	M	0.55	1	0.021	144	7.88	7.85	5.87	5.88	29.85	29.87	131.2	131.5	9.64	9.65	24.2	24.3	56	58
M1	10/6/2021	Mid-Flood	Fine	Moderate	07:07	1.1	M	0.55	2			7.81		5.88		29.88		131.7		9.66		24.4		59	
M2	10/6/2021	Mid-Flood	Fine	Moderate	07:20	0.9	M	0.45	1	0.029	81	7.74	7.75	3.49	3.49	29.99	30.00	94.5	94.6	6.99	6.99	33.1	33.1	39	42
M2	10/6/2021	Mid-Flood	Fine	Moderate	07:20	0.9	M	0.45	2			7.75		3.48		30.00		94.6		6.98		33.1		45	
M3	10/6/2021	Mid-Flood	Fine	Calm	07:25	1	M	0.5	1	0.101	268	7.21	7.22	3.38	3.38	29.40	29.40	54.2	53.6	4.06	4.01	63.0	63.3	90	90
M3	10/6/2021	Mid-Flood	Fine	Calm	07:25	1	M	0.5	2			7.22		3.38		29.40		52.9		3.96		63.5		89	
M1	10/6/2021	Mid-Ebb	Fine	Moderate	14:04	0.9	M	0.45	1	0.042	156	7.54	7.59	3.65	3.65	30.41	30.41	82.4	82.7	6.06	6.12	44.9	44.9	76	**73**
M1	10/6/2021	Mid-Ebb	Fine	Moderate	14:04	0.9	M	0.45	2			7.63		3.64		30.40		82.9		6.17		44.9		70	
M2	10/6/2021	Mid-Ebb	Fine	Moderate	13:50	0.7	M	0.35	1	0.037	217	7.44	7.45	3.58	3.59	30.29	30.30	66.8	66.8	4.92	4.91	42.9	42.8	77	77
M2	10/6/2021	Mid-Ebb	Fine	Moderate	13:50	0.7	M	0.35	2			7.46		3.59		30.30		66.7		4.90		42.6		76	
M3	10/6/2021	Mid-Ebb	Fine	Calm	14:00	0.3	M	0.15	1	0.108	86	7.15	7.16	2.19	2.20	29.30	29.30	59.7	59.2	4.52	4.47	26.7	27.2	41	40
M3	10/6/2021	Mid-Ebb	Fine	Calm	14:00	0.3	M	0.15	2			7.16		2.20		29.30		58.6		4.41		27.6		39	

Remark

1. Orange and Bold: Action Level Exceedance (For Impact Station Only)
2. Red and Bold: Limit Level Exceedance (For Impact Station Only)
3. Action Level for Turbidity: 95%-ile of baseline data or 120% of upstream control station's turbidity recorded on the same day.
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For Flood Tide

Monitoring Location	DO		NTU		SS	
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For Ebb Tide

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M3	3.28	3.14	74.3	78.0	104	167

Annex C – Photo of investigation

Date of investigation: 10 June 2021 **(Ebb Tide)**
Monitoring Station: M1

Annex D – Site Inspection

Date of site inspection: 16 June 2021
Gullies were bunded by sand bags to prevent surface runoff.

Date of site inspection: 16 June 2021
The surrounding of gullies near the construction site areas were temporarily sealed.

Notification of Ecological Monitoring of Birds Exceedance

Incident Report on Action/ Limit Level Exceedance

Reference No.:	IR202106_Species Diversity_Rev2			
Project:	Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1			
Survey Date:	15/06/2021 (Daytime survey) and 18/06/2021 (Nighttime survey)			
	Method	Parameters	Action Level	Limit Level
Action level / Limit level: (For Avifauna Communities**)**	Transect	Abundance of all avifauna species (including but not limited to overwintering waterbirds) in the community	Significant decline[1,2] in any of these parameters during the current monitoring month relative to the corresponding month during the baseline survey	Significant decline in any of these parameters for three consecutive months
		Species diversity of all avifauna species (including but not limited to overwintering waterbirds) in the community		
		Abundance of species with conservation importance only		
		Species diversity of species with conservation importance only		
	Point Count	Abundance of all avifauna species (including but not limited to overwintering waterbirds) in the community		
		Species diversity of all avifauna species (including but not limited to overwintering waterbirds) in the community		
		Abundance of species with conservation importance only		
		Species diversity of species with conservation importance only		
Measured significant decline in abundance and/or species diversity (fill in as appropriate)	Transect	Abundance of all avifauna species (including but not limited to overwintering waterbirds) in the community	☐	☐
		Species diversity of all avifauna species (including but not limited to overwintering waterbirds) in the community	☐	☐
		Abundance of species with conservation importance only	☐	☐
		Species diversity of species with conservation importance only	☐	☐
	Point Count	Abundance of all avifauna species (including but not limited to overwintering waterbirds) in the community	☐	☐
		Species diversity of all avifauna species (including but not limited to overwintering waterbirds) in the community	☑	☐
		Abundance of species with conservation importance only	☐	☐
		Species diversity of species with conservation importance only	☑	☐
Action taken / to be taken[3]: (tick / circle / fill in as appropriate)	Responses: ☑ Informed IEC, ER, and Contractor. ☑ Reviewed monitoring data. ☑ Investigated possible causes of decline and identified possible source (s) of impact. Recorded in notification. ☑ Check Contractor's working methods.			

	☐ Other
Possible reason/s[4] for action or limit level Non-compliance: (tick / fill in as appropriate)	**Findings / Evidences** ☐ Construction noise disturbance ☐ Vibration disturbance from potential percussive piling works ☐ Construction lighting/glare disturbance ☐ Increased human activities ☐ Construction dust disturbance ☑ Others: The lower diversity during this period with respect to the baseline data could be due to the current dominance of Chinese Pond Heron in the community. The current dominance of this species was due to its concurrent breeding period. This dominant species could have decreased the performance of co-occurring species (Gilbert et al. 2009)[5] and forced them to utilize other areas outside the survey area, thus, made the area less diverse. Furthermore, low diversity index usually results from high dominance in the community as these are inversely related (Shaukat et al., 1978)[6].
Observations	☑ Noise levels (47.5 to 65.9 dB(A)) recorded from the different point count locations during the ecological bird monitoring are mostly low. The generally low noise levels are unlikely to cause significant impact to birds as behavioral response of some kind are more likely to occur at above 65.5 dB(A) (Wright et al. 2010)[7]. Only two stations, SP/NSW3 with 65.9 dB(A) and SP/NSW2 with 65.7 dB(A), have readings slightly above 65.5. dB(A). These stations are located across the Shan Pui River, relatively far from the construction works area; and are close to the roadsides with low to moderate traffic. During the monitoring period passing vehicles, barking dogs, and noisy insects were noted. ☑ Environmental site audits indicated that the recommended environmental protection measures/mitigation measures to mitigate ecological impacts have been implemented. ☑ Increase in abundance of all avifauna species (including but not limited to overwintering waterbirds) in the community was observed for Transect/Point Count survey. ☑ Increase in species diversity of all avifauna species (including but not limited to overwintering waterbirds) in the community was observed for Transect/~~Point Count~~ survey. ☑ Increase in abundance of species with conservation importance only was observed for Transect/Point Count survey. ☑ Increase in number and dominance of Chinese Pond Heron due to breeding activities
Conclusion	☑ Due to influences of external factors/ other threats, not Project related ☐ Due to influences of construction activities under this project in the vicinity, considered to be Project related
Mitigation measures	☑ Avoidance of recognized site of conservation importance ☑ Restriction of construction hours ☑ Minimizing construction noise disturbance impacts through the use of noise barriers ☑ Establishment of bird curtain
Attachment	Annex A – Ecological Monitoring of Birds Transect Routes and Point Count Locations Annex B – Ecological Monitoring of Birds Results the Different Transect Routes and Point Count Locations (June 2021) Annex C – Shannon Diversity Index Values in the Different Transect Routes and Point Count Locations (June 2021) Annex D – Hutcheson T-test Analyses (June 2021) Annex E – Abundance Tables Annex F – Noise Monitoring Results in Point Count Locations during the Ecological Monitoring of Birds (June 2021) Annex G – Site Photos showing no project-related disturbance during the Ecological Monitoring of Birds (June 2021)

Notes:

1. Significant decline in abundance determined using two-tailed t-test, $\alpha = 0.05$
2. Significant decline in species diversity determined using the Hutcheson t-test, two-tailed
3. In accordance with Table 4.2 "Responses to Alert and Action Level for Avifauna Communities" of the Baseline Bird Survey Report
4. With reference to Table 8.34 "Summary of Potential Impacts and Mitigation Measures Requirements of the Construction of the Project" of the approved EIA Report

5. Benjamin, G., Turkington, R. and Diane S. Srivastava, D.S. 2009. Dominant Species and Diversity: Linking Relative Abundance to Controls of Species Establishment. Am. Nat. 174: 850–862.

6. Shaukat, S.S, Khairi. M.A and Khan M.A. 1978. The relationship amongst dominance, diversity and community maturity in a desert vegetation. Pak. J. Bot. 10(2):183-196

7. Wright, M.D., Goodman, P. and Cameron, T. 2010. Exploring behavioural responses of shorebirds to impulsive noise. Wildfowl. 60:150-167

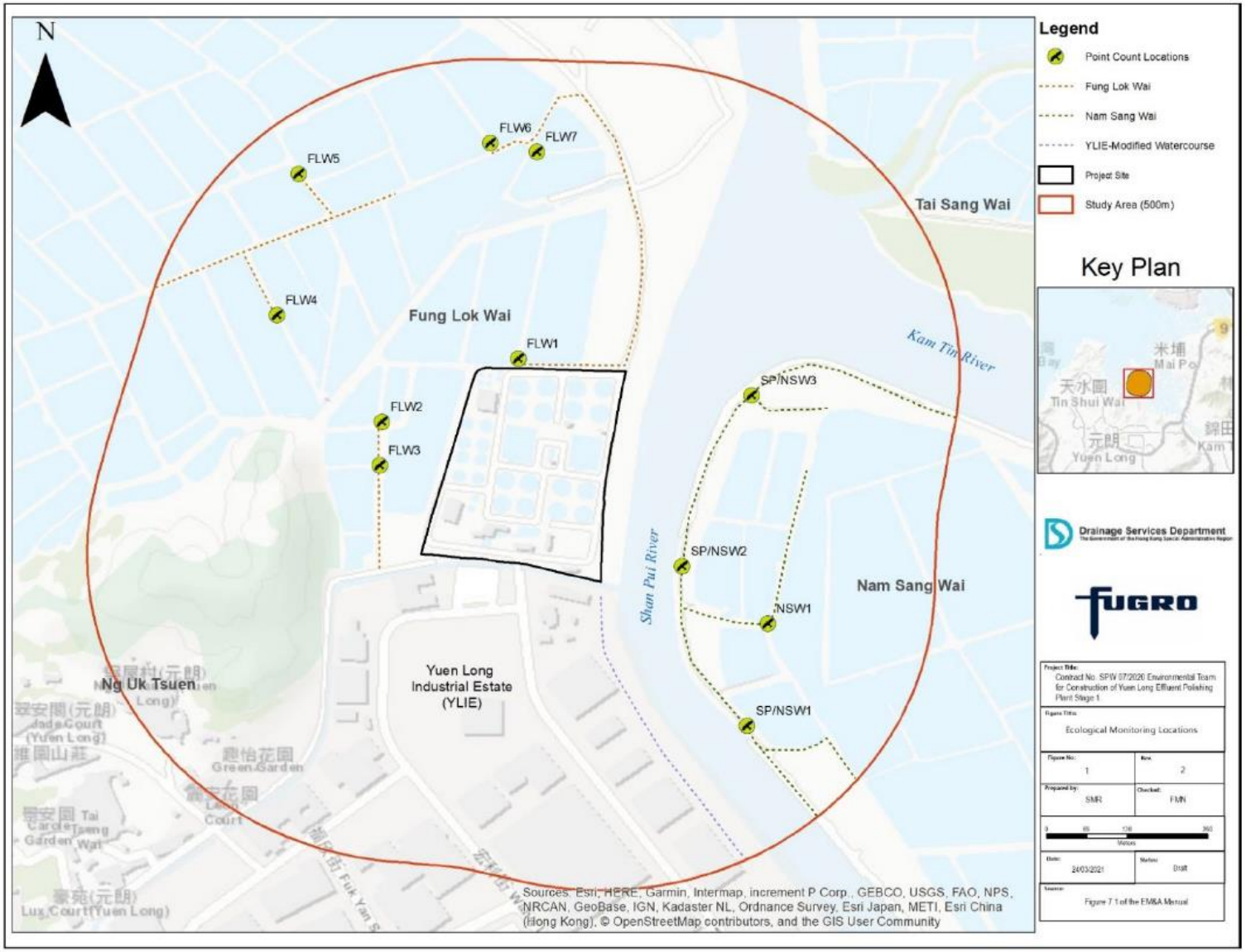
The box is checked ☑ to represent the statement is applicable, and vice versa

Abbreviation: ER – Engineer's Representative, IEC – Independent Checker

Prepared by: Fenelyn Nabuab
Designation: Ecologist
Signature: _____
Date (dd/mm/yyyy): 13/07/2021

Certified by: David Hung
Designation: Environmental Team Leader
Signature: _____
Date (dd/mm/yyyy): 13/07/2021

Annex A – Ecological Monitoring of Birds Transect Routes and Point Count Locations


N
FLW6
FLW7
FLW5
FLW4
FLW1
FLW2
FLW3
Fung Lok Wai
Tai Sang Wai
Kam Tin River
SP/NSW3
SP/NSW2
NSW1
SP/NSW1
Shan Pui River
Nam Sang Wai
Yuen Long Industrial Estate (YLIE)
Ng Uk Tsuen
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), © OpenStreetMap contributors, and the GIS User Community
Legend
Point Count Locations
Fung Lok Wai
Nam Sang Wai
YLIE-Modified Watercourse
Project Site
Study Area (500m)
Key Plan
Drainage Services Department
FUGRO
Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1
Ecological Monitoring Locations
1
2
SMR
FMN
24/03/2021
Draft
Figure 7.1 of the EM&A Manual

FUGRO

Annex B – Ecological Monitoring of Birds Results the Different Transect Routes and Point Count Locations (June 2021)

Date (dd/mm/yyyy)	Daytime/Night time	Season	Area	Transect/Point Count	Point Count (Location)/Transect Impact	Common Name	Scientific Name	Abundance	Habitat	Distribution in Hong Kong[2]	Principal Status[3]	Level of Concern[4]	Protection Status in China[5]	China Red Data Book [6]	Red List of China's Vertebrates [10]	IUCN Red List [7] (v.2020-3)	Species of Conservation Importance	Wetland Dependent	Remarks
15/06/2021	Daytime	Wet	FLW	Transect	FLW	Azure-winged Magpie	*Cyanopica cyanus*	10	Developed Area (Chinese Banyan Trees)	Introduced	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Transect	FLW	Chinese Pond Heron	*Ardeola bacchus*	38	Developed Area (Chinese Banyan Trees)	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Transect	FLW	Plain Prinia	*Prinia inornata*	2	Grassland-FLW	Common	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Transect	FLW	Yellow-bellied Prinia	*Prinia flaviventris*	2	Grassland-FLW	Common	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	Black Kite	*Milvus migrans*	1	In-flight	Common	R,WV	(RC)	Class II	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Transect	YLIE-CW	Little Egret	*Egretta garzetta*	1	Modified Watercourse	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Transect	YLIE-CW	White-breasted Waterhen	*Amaurornis phoenicurus*	1	Modified Watercourse	Common	R	-	-	-	LC	LC	N	Y	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	Great Egret	*Ardea alba*	2	Modified Watercourse	Common	R,WV	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	Barn Swallow	*Hirundo rustica*	7	Modified Watercourse	Abundant	PM,SV	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	Little Egret	*Egretta garzetta*	5	Modified Watercourse	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	Great Egret	*Ardea alba*	1	Modified Watercourse	Common	R,WV	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	White Wagtail	*Motacilla alba*	1	Modified Watercourse	Common	PM,WV	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	Chinese Pond Heron	*Ardeola bacchus*	1	Modified Watercourse	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	White Wagtail	*Motacilla alba*	3	Modified Watercourse	Common	PM,WV	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Transect	FLW	Azure-winged Magpie	*Cyanopica cyanus*	5	Plantation-FLW	Introduced	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Transect	FLW	Black-collared Starling	*Gracupica nigricollis*	5	Plantation-FLW	Common	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Transect	FLW	Chinese Bulbul	*Pycnonotus sinensis*	5	Plantation-FLW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	Crested Myna	*Acridotheres cristatellus*	2	Plantation-NSW	Common	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	Masked Laughingthrush	*Garrulax perspicillatus*	11	Plantation-NSW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Point Count	SP/NSW1	Masked Laughingthrush	*Garrulax perspicillatus*	4	Plantation-NSW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	Red-whiskered Bulbul	*Pycnonotus jocosus*	4	Plantation-NSW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Point Count	SP/NSW1	Red-whiskered Bulbul	*Pycnonotus jocosus*	1	Plantation-NSW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	Spotted Dove	*Spilopelia chinensis*	2	Plantation-NSW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW1	Azure-winged Magpie	*Cyanopica cyanus*	6	Pond-FLW	Introduced	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Transect	FLW	Barn Swallow	*Hirundo rustica*	6	Pond-FLW	Abundant	PM,SV	-	-	-	LC	LC	N	N	

15/06/2021	Daytime	Wet	FLW	Point Count	FLW1	Barn Swallow	*Hirundo rustica*	2	Pond-FLW	Abundant	PM,SV	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW4	Barn Swallow	*Hirundo rustica*	2	Pond-FLW	Abundant	PM,SV	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW6	Barn Swallow	*Hirundo rustica*	5	Pond-FLW	Abundant	PM,SV	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW7	Barn Swallow	*Hirundo rustica*	6	Pond-FLW	Abundant	PM,SV	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Transect	FLW	Black Kite	*Milvus migrans*	1	Pond-FLW	Common	R,WV	(RC)	Class II	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW3	Black-crowned Night Heron	*Nycticorax nycticorax*	1	Pond-FLW	Common	R,WV	-	-	-	LC	LC	N	Y	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW2	Chinese Bulbul	*Pycnonotus sinensis*	2	Pond-FLW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW1	Chinese Pond Heron	*Ardeola bacchus*	20	Pond-FLW	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW4	Chinese Pond Heron	*Ardeola bacchus*	1	Pond-FLW	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW6	Chinese Pond Heron	*Ardeola bacchus*	12	Pond-FLW	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW7	Chinese Pond Heron	*Ardeola bacchus*	11	Pond-FLW	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW3	Crested Myna	*Acridotheres cristatellus*	2	Pond-FLW	Common	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW5	Crested Myna	*Acridotheres cristatellus*	1	Pond-FLW	Common	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW7	Crested Myna	*Acridotheres cristatellus*	2	Pond-FLW	Common	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Transect	FLW	Eurasian Tree Sparrow	*Passer montanus*	9	Pond-FLW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW5	Eurasian Tree Sparrow	*Passer montanus*	4	Pond-FLW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW7	Eurasian Tree Sparrow	*Passer montanus*	3	Pond-FLW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Transect	FLW	Great Egret	*Ardea alba*	1	Pond-FLW	Common	R,WV	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW5	Great Egret	*Ardea alba*	2	Pond-FLW	Common	R,WV	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW6	Great Egret	*Ardea alba*	3	Pond-FLW	Common	R,WV	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW7	Little Egret	*Egretta garzetta*	3	Pond-FLW	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW4	Little Grebe	*Tachybaptus ruficollis*	1	Pond-FLW	Common	R	LC	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW5	Little Grebe	*Tachybaptus ruficollis*	1	Pond-FLW	Common	R	LC	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW6	Little Grebe	*Tachybaptus ruficollis*	1	Pond-FLW	Common	R	LC	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW5	Masked Laughingthrush	*Garrulax perspicillatus*	5	Pond-FLW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW4	Plain Prinia	*Prinia inornata*	1	Pond-FLW	Common	R	-	-	-	LC	LC	N	N	

15/06/2021	Daytime	Wet	FLW	Transect	FLW	Spotted Dove	*Spilopelia chinensis*	3	Pond-FLW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Transect	FLW	Spotted Dove	*Spilopelia chinensis*	5	Pond-FLW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW1	Spotted Dove	*Spilopelia chinensis*	3	Pond-FLW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW3	Spotted Dove	*Spilopelia chinensis*	2	Pond-FLW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW4	Spotted Dove	*Spilopelia chinensis*	1	Pond-FLW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW5	Spotted Dove	*Spilopelia chinensis*	6	Pond-FLW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Transect	FLW	White Wagtail	*Motacilla alba*	2	Pond-FLW	Common	PM,WV	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW5	White-breasted Waterhen	*Amaurornis phoenicurus*	2	Pond-FLW	Common	R	-	-	-	LC	LC	N	Y	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW4	Yellow-bellied Prinia	*Prinia flaviventris*	2	Pond-FLW	Common	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW7	Black-collared Starling	*Gracupica nigricollis*	1	Pond-NSW	Common	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	Black-collared Starling	*Gracupica nigricollis*	1	Pond-NSW	Common	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Point Count	NSW1	Black-crowned Night Heron	*Nycticorax nycticorax*	1	Pond-NSW	Common	R,WV	-	-	-	LC	LC	N	Y	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	Chinese Pond Heron	*Ardeola bacchus*	2	Pond-NSW	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	NSW	Point Count	NSW1	Eurasian Tree Sparrow	*Passer montanus*	5	Pond-NSW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Point Count	NSW1	Eurasian Tree Sparrow	*Passer montanus*	3	Pond-NSW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Point Count	SP/NSW1	Little Egret	*Egretta garzetta*	1	Pond-NSW	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	NSW	Point Count	NSW1	Oriental Magpie Robin	*Copsychus saularis*	4	Pond-NSW	Abundant	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Transect	NSW	White-shouldered Starling	*Sturnia sinensis*	2	Pond-NSW	Common	PM	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Point Count	NSW1	Chinese Pond Heron	*Ardeola bacchus*	1	Reedbed	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
15/06/2021	Daytime	Wet	FLW	Point Count	FLW4	Plain Prinia	*Prinia inornata*	1	Pond-FLW	Common	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Point Count	NSW1	Plain Prinia	*Prinia inornata*	2	Reedbed	Common	R	-	-	-	LC	LC	N	N	
15/06/2021	Daytime	Wet	NSW	Point Count	NSW1	Yellow-bellied Prinia	*Prinia flaviventris*	1	Reedbed	Common	R	-	-	-	LC	LC	N	N	
18/06/2021	Nighttime	Wet	FLW	Point Count	FLW1	Chinese Pond Heron	*Ardeola bacchus*	40	Developed Area (Chinese Banyan Trees)	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	Probably roosting
18/06/2021	Nighttime	Wet	FLW	Point Count	FLW1	Little Egret	*Egretta garzetta*	6	Developed Area (Chinese Banyan Trees)	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	Probably roosting
18/06/2021	Nighttime	Wet	NSW	Point Count	SP/NSW1	Chinese Pond Heron	*Ardeola bacchus*	1	In-flight	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
18/06/2021	Nighttime	Wet	NSW	Point Count	SP/NSW2	Little Egret	*Egretta garzetta*	2	In-flight	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
18/06/2021	Nighttime	Wet	NSW	Transect	NSW	Chinese Pond Heron	*Ardeola bacchus*	2	Mangrove	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	

18/06/2021	Nighttime	Wet	NSW	Point Count	NSW1	Chinese Pond Heron	*Ardeola bacchus*	1	Pond-NSW	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	
18/06/2021	Nighttime	Wet	NSW	Point Count	SP/NSW2	Chinese Pond Heron	*Ardeola bacchus*	1	Pond-NSW	Common	R	PRC (RC)	-	-	LC	LC	Y	Y	

Notes:
(1) All wild birds are Protected under Wild Animals Protection Ordinance (Cap. 170).
(2) AFCD (2021). Hong Kong Biodiversity Database.
(3) Carey et al. (2001): R=resident; WV=winter visitor; SV=summer visitor; PM=passage migrant; Sp=spring; A=autumn;
(4) Fellowes et al. (2002): GC=Global Concern; LC=Local Concern; RC=Regional Concern; PRC=Potential Regional Concern; PGC: Potential Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in nesting and/or roosting sites rather than in general occurrence.
(5) List of Wild Animals Under State Protection (promulgated by State Forestry Administration and Ministry of Agriculture on 14 January, 1989).
(6) Zheng, G. M. and Wang, Q. S. (1998). China Red Data Book
(7) IUCN 2021. The IUCN Red List of Threatened Species. Version 2020-3.
(9) Wetland-dependent species (including wetland-dependent species and waterbirds).
(10) Jiang et al. (2016). Red List of China's Vertebrates
Species of conservation importance is in bold type face

Annex C – Shannon Diversity Index Values in the Different Transect Routes and Point Count Locations (June 2021)

Annex C.1. Shannon Diversity Index Values of All Avifauna Species in the Different Transect Routes and Point Count Locations

Shannon Diversity Index Value of all Avifauna Species				
Point Count Method				
EIA Report ID	EM&A Manual ID	Jun-17	Jun-21	Remarks
P1	FLW1	1.04	0.81	-
P2	FLW2	0.64	0	-
P3	FLW3	1.28	1.05	-
P4	FLW4	2.20	1.74	-
P5	FLW5	2.39	1.75	-
P6	FLW6	0.87	1.08	+
P7	FLW7	1.89	1.52	-
P9	SP/NSW3	1.09	**	-
P10	SP/NSW2	1.17	0.64	-
P11	NSW1	1.85	1.50	-
P12	SP/NSW1	1.49	1.15	-
Transect Walk Method				
EIA Report ID	EM&A Manual ID	Jun-17	Jun-21	Remarks
Fung Lok Wai	FLW	1.99	1.92	-
Nam Sang Wai	NSW	0.69	2.26	+
YLIE-CW	YLIE-CW	**	0.69	+

Note:

** no species recorded

Annex C.2. Shannon Diversity Index Values of Avifauna Species with Conservation Importance in the Different Transect Routes and Point Count Locations

Shannon Diversity Index Value of Species with Conservation Importance				
Point Count Method				
EIA Report ID	EM&A Manual ID	Jun-17	Jun-21	Remarks
P1	FLW1	0.69	0.30	-
P2	FLW2	**	**	=
P3	FLW3	**	**	=
P4	FLW4	0.64	0.69	+
P5	FLW5	0.95	0.64	-
P6	FLW6	0.50	0.70	+

Shannon Diversity Index Value of Species with Conservation Importance				
P7	FLW7	0	0.52	+
P9	SP/NSW3	0.68	**	-
P10	SP/NSW2	0.95	0.64	-
P11	NSW1	0	0	=
P12	SP/NSW1	1.01	0.69	-
Transect Walk Method				
EIA Report ID	EM&A Manual ID	Jun-17	Jun-21	Remarks
Fung Lok Wai	FLW	1.04	0.69	-
Nam Sang Wai	NSW	**	0.23	+
YLIE-CW	YLIE-CW	**	0	+

Note:

** no species recorded

Annex D – Summary of Hutcheson T-test Analyses (June 2021)

Hutcheson T-test formula:

$$t = \frac{H_a - H_b}{\sqrt{s^2_{H_a} + s^2_{H_b}}}$$

Annex D.1 Species Diversity of All Avifauna Species – Point Count Method

Months	June 2017	June 2021
Total	121	189
H	3.93844	2.9908
S^2_H	0.006478	0.011048
t	7.15822	
df	309	
Crit	1.967671	
p	5.99E-12	
CI	0.160975	0.210214

Annex D.2 Species Diversity of Avifauna Species with Conservation Importance – Point Count Method

Months	June 2017	June 2021
Total	45	108
H	2.6933	1.68808
S^2_H	0.015166	0.018167
t	5.50581	
df	136	
Crit	1.977561	
p	1.77E-07	
CI	0.246303	0.269572

Annex E – Abundance Tables

Annex E.1 Baseline (June 2017) consolidated abundance data of all avifauna species for point count method

Scientific Name	Abundance
Acridotheres cristatellus	3
Alcedo atthis	1
Amaurornis phoenicurus	2
Ardea alba	7
Ardeola bacchus	11
Bubulcus coromandus	2
Caprimulgus affinis	1
Copsychus saularis	2
Dicrurus macrocercus	4
Egretta garzetta	18
Gracupica nigricollis	1
Hirundo rustica	4
Lanius schach	3
Milvus migrans	2
Motacilla alba	2
Nycticorax nycticorax	2
Parus cinereus	1
Passer montanus	4
Prinia flaviventris	15
Prinia inornata	3
Pycnonotus sinensis	7
Spilopelia chinensis	12
Streptopelia decaocto	3
Sturnia sinensis	4
Tachybaptus ruficollis	7
Grand Total	**121**

Annex E.2 Impact monitoring (June 2021) consolidated abundance data of all avifauna species for point count method

Scientific Name	Abundance
Acridotheres cristatellus	5
Amaurornis phoenicurus	2
Ardea alba	5
Ardeola bacchus	88
Copsychus saularis	4
Cyanopica cyanus	6

Scientific Name	Abundance
Egretta garzetta	12
Garrulax perspicillatus	9
Gracupica nigricollis	1
Hirundo rustica	15
Nycticorax nycticorax	2
Passer montanus	15
Prinia flaviventris	3
Prinia inornata	4
Pycnonotus jocosus	1
Pycnonotus sinensis	2
Spilopelia chinensis	12
Tachybaptus ruficollis	3
Grand Total	**189**

Annex E.3 Baseline (June 2017) consolidated abundance data of conservation important avifauna species for point count method

Scientific Name	Abundance
Ardea alba	7
Ardeola bacchus	11
Egretta garzetta	18
Milvus migrans	2
Tachybaptus ruficollis	7
Grand Total	**45**

Annex E.4 Impact monitoring (June 2021) consolidated abundance data of conservation important avifauna species for point count method

Scientific Name	Abundance
Ardea alba	5
Ardeola bacchus	88
Egretta garzetta	12
Tachybaptus ruficollis	3
Grand Total	**108**

Annex E.5 Baseline (June 2017) consolidated abundance data of all avifauna species for transect walk method

Scientific Name	Abundance
Acridotheres cristatellus	1

Scientific Name	Abundance
Amaurornis phoenicurus	2
Ardea alba	20
Ardeola bacchus	10
Bubulcus coromandus	1
Cyanopica cyanus	10
Dicrurus macrocercus	1
Egretta garzetta	10
Garrulax perspicillatus	1
Gracupica nigricollis	6
Prinia flaviventris	2
Pycnonotus jocosus	1
Spilopelia chinensis	4
Grand Total	**69**

Annex E.6 Impact monitoring (June 2021) consolidated abundance data of all avifauna species for transect walk method

Scientific Name	Abundance
Acridotheres cristatellus	2
Amaurornis phoenicurus	1
Ardea alba	4
Ardeola bacchus	43
Cyanopica cyanus	15
Egretta garzetta	6
Garrulax perspicillatus	11
Gracupica nigricollis	6
Hirundo rustica	13
Milvus migrans	2
Motacilla alba	6
Passer montanus	9
Prinia flaviventris	2
Prinia inornata	2
Pycnonotus jocosus	4
Pycnonotus sinensis	5
Spilopelia chinensis	10
Sturnia sinensis	2
Grand Total	**143**

Annex E.7 Baseline (June 2017) consolidated abundance data of conservation important avifauna species for transect walk method

Scientific Name	Abundance
Ardea alba	20
Ardeola bacchus	10
Egretta garzetta	10
Grand Total	**40**

Annex E.8 Impact monitoring (June 2021) consolidated abundance data of conservation important avifauna species for transect walk method

Scientific Name	Abundance
Ardea alba	4
Ardeola bacchus	43
Egretta garzetta	6
Milvus migrans	2
Grand Total	**55**

Annex F – Noise Monitoring Results in Point Count Locations during the Ecological Monitoring of Birds (June 2021)

Frequency and Period	Location	Daytime (15/06/2021)		Night time (18/06/2021)	
		Start Time	L_{Aeq} (30 min) dB(A)	Start Time	L_{Aeq} (30 min) dB(A)
Monthly in concurrence with the ecological monitoring of birds	FLW1	0940	47.8	2110	48.9
	FLW2	0930	53	2120	49.3
	FLW3	0930	57.4	2120	51.1
	FLW4	1015	52	2001	51.3
	FLW5	1015	57.1	2046	56.4
	FLW6	1004	47.5	2055	48.9
	FLW7	1004	52.4	2055	51.2
	SP/NSW3	0740	65.9[1]	1917	57.3
	SP/NSW2	0740	50.6	1925	65.7[1]
	NSW1	0810	55	1925	52.9
	SP/NSW1	0745	51.6	1917	62

Note:

1. Close to the roadsides with low to moderate traffic. Passing vehicles, barking dogs, and noisy insects were noted during the monitoring period.

Annex G – Site Photos showing no project-related disturbance during the Ecological Monitoring of Birds (June 2021)

Annex F.1. Active Pond at Fung Lok Wai, north of the Project Site

Annex F.2. Active Pond at Fung Lok Wai, west of the Project Site

Annex F.3. Mangrove habitat and modified watercourse east of the Project Site

Annex F.4. Active Pond at Nam Sang Wai, far east of the Project Site