Monthly EM&A Report (February 2022)

0120/20/ED/0446 02

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

RAMBOLL

Ref.: DSDYLSTWEM00_0_0273L.22

14 March 2022

By E-mail and By Hand

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 (February 2022)

Reference is made to the Monthly EM&A Report (February 2022) by the ET with Fugro Document No. (0120/20/ED/0446 02) (the Report), which was received via e-mail dated 14 March 2022.

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,

WONG Fu Nam
Independent Environmental Checker

c.c.

DSD	Mr LAM Yu Wang	By E-mail
Fugro	Mr YU Lap Bong	By E-mail

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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 11th Monthly EM&A Report for the Contract which summaries findings of the EM&A programme during the reporting period from 1 February 2022 to 28 February 2022. As informed by the Contractor, major activities in the reporting month were:

- Temp. road pavement at PST no. 5 & 6;
- Demolition of FST no. 5-8 by excavator mounted crusher;
- Pre-drill work at A.tank by 2 rigs;
- Installation of sheet pile at IW & PST;
- Pile load test at IW & PST;
- Diversion work at Zone 2B;
- Construction of 1600A temp. transformer room;
- Reinstatement of road pavement at Zone 1 & Zone 2A;
- Pipe laying for Zone 3;
- Construction RC structure at Zone 3;
  a. Temp. Gravity thickening tank;
  b. Temp. Sludge Holding Tank;
  c. Temp. water heater house;
  d. Temp. digested sludge pump;
- Overhaul work at Sludge Digestion Tank;
- Ground investigation at Sludge Thinkening Building by 2 rigs;
- Site formation works at CLP substation;
- Site formation works at MIC office;
- Pipe laying for Zone 3 diversion;
- Installation of CCTV and Wifi; and
- Env. Drill holes inside Air Flotation Thickener.

Breaches of Environmental Quality Performance Limits (AL levels)

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

iv. No Action and Limit Level exceedance was recorded for water quality monitoring in the reporting month.

v. No Action / Limit exceedance was recorded for noise levels at stations (NMS1 and NMS2) in close proximity to the two active ardeid night roosts (ANR1 and ANR2) observed within the Survey Area during the reporting month.

vi. No Action / Limit exceedance for the ecological monitoring of birds in the reporting month.

vii. No corrective actions were required according to the Event-Action Plans.

Land Contamination

viii. Regular site inspection was carried out to ensure the recommended mitigation measures are properly implemented. Site investigation (SI) work was completed by 6th January 2022 and the signed final Contamination Assessment Report (CAR) for Main Storeroom & Workshops was submitted to EPD on 1 November 2021. The signed final Contamination Assessment Report (CAR) for Mechanical Workshop was submitted to EPD on 23rd November 2021. No contaminated soil and ground water was found within the Main Storeroom & Workshop and the Mechanical Workshop, and no remedial action is required for both locations. While the laboratory results of sampling works show that there is no contaminated soil or groundwater within the Waste Storage Area, the findings are summarized in the draft CAR for the area which is under review and will be submitted to EPD.

Complaint Log

ix. No complaints were received in the reporting period.

Notifications of any Summons and Successful Prosecutions

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

Reporting Change

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

Future Key Issues

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

- Demolition of FST no. 5-8, Settled Sewage Overflow Chamber, Sludge Holding Tanks no. 3 & 4 (below ground), Return Activated Sludge Screw Pump Pumping station, Air Floatation Thickener and Auxiliary Pumping Station;
- Sheet Pile installation, pipe Laying and construction of RC chamber at Zone 2B and subsequence diversion work;
- Sheet pile installation, excavation work and RC structure at IW & PST;
- Piling work at IW & PST;
- Drilling and installation of dewatering well and observation well at IW & PST;
- ELS works at IW & PST;
- Sheet pile installation and construction of RC structure at Zone 3 (Location D -Temp. Primary Sludge Pumping Station & Location E – Temp. Thickened Sludge Station);
- Pipe laying for Zone diversion;
- Installation of sheet pile or pipe pile wall for demolition of Aeration Tank no. 5-8 at AGS;
- Construction of CLP Substation;
- Demolition of PST no. 4;
- Cone Penetration Test at Sludge Thickening Building;
- Ground investigation at SDT & STB; and
- Construction of PST structure.

Contents

1.	**INTRODUCTION**	**7**
1.1	Background	7
1.2	Project Organization	8
1.3	Construction Programme and Activities	8
1.4	Works undertaken during the month	8
1.5	Status of Environmental Licences, Notification and Permits	9
2.	**AIR QUALITY**	**10**
2.1	Monitoring Requirement	10
2.2	Monitoring Equipment	10
2.3	Monitoring Methodology for Direct Reading Dust Meter	10
2.4	Maintenance and Calibration for Direct Reading Dust Meter	11
2.5	Monitoring Locations	11
2.6	Monitoring Results	11
2.7	Comparison of 1-hr TSP Monitoring Results with EIA Predictions	12
3.	**NOISE**	**13**
3.1	Monitoring Requirement	13
3.2	Monitoring Equipment	13
3.3	Monitoring Parameters and Frequency	13
3.4	Monitoring Methodology	14
3.5	Maintenance and Calibration	14
3.6	Monitoring Locations	15
3.7	Monitoring Results	15
3.8	Comparison of Noise Monitoring data with EIA Predictions	16
4.	**WATER QUALITY**	**17**
4.1	Monitoring Requirement	17
4.2	Monitoring Equipment	17
4.3	Equipment Calibration	18
4.4	Monitoring Parameters	18
4.5	Monitoring Operation	18
4.6	Laboratory Measurement / Analysis	19
4.7	Monitoring Locations	19
4.8	Monitoring Results	20
5.	**ECOLOGY MONITORING**	**21**
5.1	Ardeid Night Roost Monitoring	21
5.2	Ecological Monitoring of Birds	25
6.	**LANDSCAPE AND VISUAL**	**35**

6.1	Audit Requirements	35
6.2	Results and Observations	35
7.	**LAND CONTAMINATION**	**36**
7.1	Contamination Assessment Report	36
8.	**SITE INSPECTION AND AUDIT**	**37**
8.1	Site Inspection	37
8.2	Advice on the Solid and Liquid Waste Management Status	37
9.	**NON-COMPLIANCE, COMPLAINTS, NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTIONS**	**38**
9.1	Non-compliance (Exceedances of AL levels)	38
9.2	Complaints, Notification of Summons and Prosecution	38
10.	**IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURE**	**39**
10.1	Implementation Status	39
11.	**FUTURE KEY ISSUES**	**41**
11.1	Construction Programme for the Next Three Month	41
11.2	Key Issues for the Coming Month	41
11.3	Monitoring Schedules for the Next Three Month	41
12.	**CONCLUSION AND RECOMMENDATION**	**42**
12.1	Conclusions	42
12.2	Comment and Recommendations	43

Tables

Table 1.1 Contact Information of Key Personnel
Table 1.2 Environmental Licenses, Notification and Permits Summary
Table 2.1 Air Quality Monitoring Equipment
Table 2.2 Air Quality Monitoring Location
Table 2.3 Summary of Air Quality Monitoring Results
Table 2.4 Comparison of 1-hr TSP data with EIA predictions
Table 3.1 Construction Noise Monitoring Equipment
Table 3.2 Monitoring Parameters and Frequencies of Noise Monitoring
Table 3.3 Construction Noise Monitoring Location
Table 3.4 Summary of Construction Noise Monitoring Results
Table 3.5 Comparison of Noise monitoring data with EIA predictions
Table 4.1 Water Quality Monitoring and Sampling Equipment
Table 4.2 Monitoring Parameters and Frequency
Table 4.3 Coordinates of Water Quality Monitoring Locations
Table 4.4 Summary of Water Quality Exceedance
Table 5.1 Noise Monitoring Parameters (For Active Ardeid Night Roost Survey)
Table 5.2 Active Ardeid Night Roost Survey Findings
Table 5.3 Noise Monitoring Results (For Active Ardeid Night Roost Survey)
Table 5.4 Noise Monitoring Parameters
Table 5.5 Abundance of all Avifauna Species
Table 5.6 Abundance of Species of Conservation Importance
Table 5.7 Shannon Diversity Index Value of all Avifauna Species
Table 5.8 Shannon Diversity Index Value of Species with Conservation Importance
Table 5.9 Wetland habitat utilization of all avifauna species
Table 5.10 Wetland habitat utilization of avifauna species of conservation importance
Table 5.11 Wetland habitat utilization of overwintering avifauna species
Table 5.12 Noise Monitoring Results (For Ecological Monitoring of Birds)
Table 8.1 – Waste Generated by the Construction and Disposal Ground
Table 10.1 – Summary of EP Submissions Status

Figures

Figure 1	Location of Proposed Yuen Long Effluent Polishing Plant
Figure 2	Location of Construction Dust Monitoring Stations
Figure 3	Noise Monitoring Locations
Figure 4	Water Quality Monitoring Locations
Figure 5	Ecology Monitoring Locations

Appendices

Appendix A	Construction Programme
Appendix B	Project Organization Chart
Appendix C	Action and Limit Levels
Appendix D	Calibration Certificates/ Reports of Monitoring Equipments
Appendix E	Environmental Monitoring Schedule
Appendix F	Environmental Monitoring Results
Appendix G	Wind Data
Appendix H	Event and Action Plan
Appendix I	Waste Flow Table
Appendix J	Implementation Status of Environment Mitigation Measures
Appendix K	Weather and Meteorological Conditions
Appendix L	Cumulative statistics on Environmental Complaints, Notifications of Summons and Successful Prosecutions
Appendix M	Summary of the ET Leader's Site Environmental Audit in the Reporting Month
Appendix N	Outstanding Issues and Deficiencies
Appendix O	Active Night Roost Monitoring Area and Vantage Points; and Noise Monitoring Stations
Appendix P	Ecological Bird Monitoring Area with Locations of Point Count Sites and Transect Route

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 Location of Proposed Yuen Long Effluent Polishing Plant 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 11th Monthly EM&A report to document the findings of site inspection activities and EM&A programme for this project from 1 February 2022 to 28 February 2022 (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. Alvin Yu	3565 4373

1.3 Construction Programme and Activities

1.3.1 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:

- Temp. road pavement at PST no. 5 & 6;
- Demolition of FST no. 5-8 by excavator mounted crusher;
- Pre-drill work at A.tank by 2 rigs;
- Installation of sheet pile at IW & PST;
- Pile load test at IW & PST;
- Diversion work at Zone 2B;
- Construction of 1600A temp. transformer room;
- Reinstatement of road pavement at Zone 1 & Zone 2A;
- Pipe laying for Zone 3;
- Construction RC structure at Zone 3;
  a. Temp. Gravity thickening tank;
  b. Temp. Sludge Holding Tank;
  c. Temp. water heater house;
  d. Temp. digested sludge pump;
- Overhaul work at Sludge Digestion Tank;
- Ground investigation at Sludge Thinkening Building by 2 rigs;
- Site formation works at CLP substation;
- Site formation works at MIC office;
- Pipe laying for Zone 3 diversion;
- Installation of CCTV and Wifi; and
- Env. Drill holes inside Air Flotation Thickener.

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-RN0720-21	18-Oct-2021	17-Apr-2022 (Superseded by GW-RN0935-21)
Construction Noise Permit	GW-RN0928-21	16-Dec-2021	26-Feb-2022
Construction Noise Permit	GW-RN0935-21	20-Dec-2021	19-Jun-2022
Water Pollution Control Ordinance (CAP. 358) Licence pursuant to Section 20	WT00038102-2021	4-Aug-2021	31-Aug-2026
Marine Dumping Permit Type 1 – Open Sea Disposal (Dedicated Site) and Type 2 – Confined Marine Disposal	EP/MD/22-029	10-Mar-2022	09-Apr-2022
Marine Dumping Permit Type 1 – Open Sea Disposal	EP/MD/22-030	10-Mar-2022	09-Sep-2022

Notes:

NA = Not Applicable

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 ensure that any deteriorating air quality could be readily detected and timely action shall be undertaken to rectify such situation. Impact 1-hour TSP monitoring was conducted for at least three times every 6 days when the highest dust impact occurs.

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 LD-5R Digital Dust Indicator	155716
2	AM2		Model LD-5R		155717
3		Global Water	GL500-7-2	Wind Station	2012000974

2.3 Monitoring Methodology for Direct Reading Dust Meter

2.3.1 SIBATA LD-5R Digital Dust Indicator 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 YLSTW

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 special phenomena and work progress of the concerned site was noted during the current monitoring month.

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

2.6.5 The Air Quality Monitoring Results 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	75	60-95	291	500
AM2	80	46-112	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 February 2022 (µg/ m^3)
1-hour TSP			
AM1	ASR09	205-451	95
AM2	ASR11		112

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 Manual, 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 (94 dB ± 0.1 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	Casella 63x Digital Sound Level Meter	0873599
2	Casella	CEL-63X Series	Casella 63x Digital Sound Level Meter	1488272
3	Casella	CEL-120/1	Casella 120 Acoustic Calibrator	4358251
4	Casella	CEL-120/1	Casella 120 Acoustic Calibrator	2383707
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) (L10 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 YLSTW	Free Field
CM2	Squatter house at the west of YLSTW	Free Field
CM3	Squatter house at the east of YLSTW	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 special phenomena and work progress of the concerned site 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 and meteorological conditions during the monitoring month are provided in **Appendix K**.

3.7.5 The Construction Noise Monitoring Results 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	53-55	When one documented complaint is received	75
	CM2	62-64		75
	CM3	61-69		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 Construction Noise have been set and are presented in **Appendix C**.

3.7.7 The Event and Action Plan for Construction 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 February 2022 L_{eq} (30min) dB(A)
CM1	NSR1	72	55
CM2	NSR2	74	64
CM3	NSR3	75	69

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 Manual, 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	YSI Water Quality Multiparameter Sonde	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)	19A105807
					19A105808
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,	NA	NA	NA

Parameter	Equipment	Model	Range	Equipment Accuracy	Serial No.
		Horizontal, 3.2L / 4.2L			
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

Sampling Location		Easting	Northing
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 and meteorological conditions during the monitoring are provided in **Appendix K**.

4.8.4 Number of Action/ Limit 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	0	0	0
	Limit	0	0	0	0	0	0	0	0
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	0	0	
	Limit	0	0	0	0	0	0	0	

4.8.5 During the reporting period, no Action and Limit Level exceedance was recorded for water quality monitoring.

4.8.6 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 Ardeid Night Roost Monitoring 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 (Survey Area) 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 Ardeid Night Roost Monitoring Survey focused on the two active night roosts within the Survey Area (100 m from the Project boundary) 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 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 18 February 2022.

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 as 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 18:03, 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 18 February 2022 and started around 17:22 (one hour before sunset) on a low tide condition. During the pre-roost period (PRP), the period when avian individuals gather first before flying into a night roost, 20 individuals of Eastern Cattle Egret *Bubulcus coromandos* were observed in pre-roost aggregate (PRA) around 17:50 at the mudflat northeast (ANR2) of the Project boundary while no PRA was noted at the mudflat east side (ANR1) of the Project boundary during the period (**Table 5.2**).

For the final night roost at around 18:03, Chinese Pond Heron *Ardeola bacchus* individuals were observed at both the roosting areas ANR1 (2 individuals) and ANR2 (8 individuals) utilizing the inside portions of the understory to canopy layers of the roosting substrate *Sonneratia apetala* and *S. caseolaris*; while individuals of Eastern Cattle Egret (25 individuals) and Intermediate Egret *Egretta intermedia* (7 individuals) as only noted at ANR2 utilized the canopy layer of the aforementioned roosting substrate.

No disturbance (construction related and/or otherwise) to the active night roost areas was 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><th colspan="6">Date: 18 February 2022 Sunset Time: 18:22
Tidal Condition: Low Tide</th></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">Eastern Cattle Egret Bubulcus coromandos (17:50)</td><td>Time of Return:</td><td colspan="2">Chinese Pond Heron Ardeola bacchus, Eastern Cattle Egret Bubulcus coromandos and Intermediate Egret Egretta intermedia (18:03)</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>N</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>Eastern Cattle Egret Bubulcus coromandos</td><td>-</td><td>20</td><td>Chinese Pond Heron Ardeola bacchus</td><td>2</td><td>8</td></tr>
<tr><td></td><td></td><td></td><td>Eastern Cattle Egret Bubulcus coromandos</td><td>-</td><td>25</td></tr>
<tr><td></td><td></td><td></td><td>Intermediate Egret Egretta intermedia</td><td>-</td><td>7</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
-: not recorded

5.1.3.2 Noise Monitoring

Noise monitoring activities were conducted on 18 February 2022 in concurrence with the construction phase monthly monitoring of the pre-identified active night roosts. Noise monitoring started at 18:03 and lasted for 30 minutes, until 18:33.

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	18:03	44.2	65.5 dB(A)[1]	72.2 dB(A)[2]
	NMS2	18:03	41.3		

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

Two active ardeid night roost areas (ANR1 and ANR2) were observed within the Survey Area during the February 2022 monitoring period. These roosts were located at the mangrove strips in the east and northeast portions of the Project boundary. These were used by individuals of Chinese Pond Heron, Eastern Cattle Egret, and Intermediate Egret.

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) was conducted 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 included 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

Daytime time avifauna survey on the different wetland habitats using the transect count and point count methods was conducted on 15 February 2022 (daytime) which started around 07:45 and 18 February 2022 (night time) around 18:22. For the survey overlooking the mudflats and mangroves in the Shan Pui River, it was concurrently conducted on the same date with the day time survey during the low tide (generally 1.5m or below) period at also around 08:57. 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 were 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 February 2022 (daytime) and 18 February 2022 (night time) are presented in **Sections 5.2.3.1** and **5.2.3.2.** Meanwhile, results for the surveys overlooking the mudflats and mangroves in the Shan Pui River, with monitoring activities conducted on similar date with the daytime survey during the low tide (generally 1.5m or below) period which started around 08:57 had results presented in **Section 5.2.3.3.**

5.2.3.1 Abundance

5.2.3.1.1 All Avifauna Species

An overall total of 778 avifauna individuals was recorded in the monitoring area during the February 2022 monitoring period, of which 672 individuals were recorded from the point count method and 106 individuals from the transect walk method. Relative to the February 2017 baseline data (point count method = 642; and transect walk = 2), current increases in total

abundance for both the point count method and transect walk method results were noted. Details of 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**	**Feb-17**	**Feb-22**	**Remarks**
P1	FLW1	0	18	+
P2	FLW2	1	14	+
P3	FLW3	7	40	+
P4	FLW4	39	25	-
P5	FLW5	93	58	-
P6	FLW6	36	63	+
P7	FLW7	62	59	-
P9	SP/NSW3	224	54	-
P10	SP/NSW2	86	128	+
P11	NSW1	9	106	+
P12	SP/NSW1	85	107	+
	Total	**642**	**672**	+
	Mean	**58**	**61**	+
Transect Walk Method				
EIA Report ID	**EM&A Manual ID**	**Feb-17**	**Feb-22**	**Remarks**
Fung Lok Wai	FLW	2	9	+
Nam Sang Wai	NSW	0	13	+
YLIE-CW	YLIE-CW	0	84	+
	Total	**2**	**106**	+
	Mean	**0.67**	**35**	+

5.2.3.1.2 Avifauna Species of Conservation Importance

Of the 778 avifauna individuals recorded in the monitoring area during the February 2022 monitoring period, 410 individuals (point count method = 334 individuals; transect walk method = 76 individuals) were of conservation importance. With reference to February 2017 data, current results showed an insignificant decrease in total abundance of point count method (t-value = -0.25; p-value = 0.81; α = 0.05) while an increase in transect walk method was noted. Details of these findings are summarized in **Table 5.6** and **Appendix F.7**.1.

Table 5.6 – Abundance of Species of Conservation Importance

Abundance of Species of Conservation Importance				
Point Count Method				

Abundance of Species of Conservation Importance				
EIA Report ID	**EM&A Manual ID**	**Feb-17**	**Feb-22**	**Remarks**
P1	FLW1	0	4	+
P2	FLW2	0	1	+
P3	FLW3	2	20	+
P4	FLW4	9	13	+
P5	FLW5	36	12	-
P6	FLW6	30	6	-
P7	FLW7	17	16	-
P9	SP/NSW3	201	45	-
P10	SP/NSW2	83	92	+
P11	NSW1	4	49	+
P12	SP/NSW1	65	76	+
	Total	**447**	**334**	-
	Mean	**41**	**30**	-
Transect Walk Method				
EIA Report ID	**EM&A Manual ID**	**Feb-17**	**Feb-22**	**Remarks**
Fung Lok Wai	FLW	2	1	-
Nam Sang Wai	NSW	0	13	+
YLIE-CW	YLIE-CW	0	62	+
	Total	**2**	**76**	+
	Mean	**0.67**	**25**	+

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

5.2.3.2.1 All Avifauna Species

A total of 48 avifauna species (species richness) were recorded during the February 2022 monitoring period, of which, 46 species were recorded by the point count method while 20 species were noted by the transect walk method. Relative to the baseline data (point count method = 58 species; transect walk method = 1 species), decrease in total species richness for both the point count method was noted. In terms of Shannon diversity index (H'), an increases from baseline reference values were observed in both point count and transect walk methods. Details of these findings are summarized in **Table 5.7.**

Table 5.7 – Shannon Diversity Index Value of all Avifauna Species

Shannon Diversity Index Value of all Avifauna Species				
Point Count Method				

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

Shannon Diversity Index Value of all Avifauna Species				
EIA Report ID	**EM&A Manual ID**	**Feb-17**	**Feb-22**	**Remarks**
P1	FLW1	**	1.83	+
P2	FLW2	0	1.83	+
P3	FLW3	1.75	1.72	-
P4	FLW4	1.72	2.17	+
P5	FLW5	1.28	1.98	+
P6	FLW6	1.52	2.31	+
P7	FLW7	2.21	1.76	-
P9	SP/NSW3	2.76	1.87	-
P10	SP/NSW2	2.14	2.57	+
P11	NSW1	1.89	2.28	+
P12	SP/NSW1	2.71	2.42	-
	Overall H'	**3.32**	**3.41**	+
	Species Richness	**58**	**46**	-
Transect Walk Method				
EIA Report ID	**EM&A Manual ID**	**Feb-17**	**Feb-22**	**Remarks**
Fung Lok Wai	FLW	0	0.35	+
Nam Sang Wai	NSW	**	1.48	+
YLIE-CW	YLIE-CW	**	2.53	+
	Overall H'	**0**	**2.70**	+
	Species Richness	**1**	**20**	+

Note:
** no species recorded

5.2.3.2.2 Avifauna Species of Conservation Importance

Of the 48 species of avifauna identified during the February 2022 monitoring period, 21 species were of conservation importance (point count method = 20 species; transect walk method = 11 species). Relative to the baseline values in February 2017, decrease in the number of species with conservation importance was recorded from the point count method while an increase in the number of species with conservation importance for the transect walk method was noted. In terms of Shannon diversity index (H'), an insignificant decrease (t-value = 1.09; t-crit = 1.96; p-value =0.28; α = 0.05) from baseline reference value was observed in point count method; while an increase was noted in transect walk method. Details of these findings are summarized in **Table 5.8** and **Appendix 7.8.1.**

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

Shannon Diversity Index Value of Species with Conservation Importance				
Point Count Method				

Shannon Diversity Index Value of Species with Conservation Importance				
EIA Report ID	**EM&A Manual ID**	**Feb-17**	**Feb-22**	**Remarks**
P1	FLW1	**	1.04	+
P2	FLW2	**	0	+
P3	FLW3	0.69	0	-
P4	FLW4	1.21	1.29	+
P5	FLW5	0.66	1.47	+
P6	FLW6	1.09	0.64	-
P7	FLW7	1.76	1.33	-
P9	SP/NSW3	2.42	1.59	-
P10	SP/NSW2	2.04	2.51	+
P11	NSW1	1.04	0.37	-
P12	SP/NSW1	2.16	1.74	-
	Overall H'	**2.68**	**2.62**	-
	Species Richness	**26**	**20**	-
Transect Walk Method				
EIA Report ID	**EM&A Manual ID**	**Feb-17**	**Feb-22**	**Remarks**
Fung Lok Wai	FLW	0	0	=
Nam Sang Wai	NSW	**	1.48	+
YLIE-CW	YLIE-CW	**	1.96	+
	Overall H'	**0**	**2.15**	+
	Species Richness	**1**	**11**	+

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. mangrove, modified watercourse, and ponds.

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, the different wetland habitats such as Shan Pui River adjacent to Project site; Upper course of Shan Pui River along YLIE; Active Ponds North to Nullah 2 in Fung Lok Wai; and Active and Inactive Ponds in Nam Sang Wai were observed with low to moderate (L-M) abundance. In terms of species richness, the Upper course of Shan Pui River along YLIE; Active Ponds adjacent to Project site in Fung Lok Wai; and Active Ponds North to Nullah 2 in Fung Lok Wai were noted with very high (VH) number of species among the other habitats during the period (**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-L	L-M
	Shan Pui River adjacent to Project site	L-M	M-H
	Upper course of Shan Pui River along YLIE	L-M	VH
Ponds	Active Ponds adjacent to Project site in Fung Lok Wai	VL-L	VH
	Active Ponds North to Nullah 2 in Fung Lok Wai	L-M	VH
	Inactive Ponds in Fung Lok Wai	VL	L
	Active and Inactive Ponds in Nam Sang Wai	L-M	H-VH
Mangrove	Mangrove within Assessment Area	VL	VL
Reedbed	Reedbed in Nam Sang Wai	-	-

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)

-: no recorded individuals

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

5.2.3.3.2 Avifauna Species of Conservation Importance

Among the different wetland habitats, only the Upper course of Shan Pui River along YLIE was observed with low to moderate (L-M) abundance. In terms of species richness, only the Upper course of Shan Pui River along YLIE was utilized by moderate to high (M-H) number of species, while the rest of wetland habitats had very low (VL); and low to moderate (L-M) number 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-L	L-M
	Shan Pui River adjacent to Project site	VL-L	L-M
	Upper course of Shan Pui River along YLIE	L-M	M-H
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-M
	Inactive Ponds in Fung Lok Wai	VL	VL
	Active and Inactive Ponds in Nam Sang Wai	VL	VL

Mangrove	Mangrove within Assessment Area	-	-
Reedbed	Reedbed in Nam Sang Wai	-	-

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)

-: no recorded individuals
Source: approved EIA Report (AEIAR-220/2019)

5.2.3.3.3 Overwintering Avifauna Species

A total of 18 winter visitor species were observed utilizing the wetland habitats within the survey area during this monitoring period. Among these wetland habitats, the Shan Pui River adjacent to Project site; Upper course of Shan Pui River along YLIE; and Active and Inactive Ponds in Nam Sang Wai were noted with very low to low (VL-L) abundances. Moreover, low to moderate (L-M) species richness of overwintering avifauna species were observed in Shan Pui River adjacent to Project site; and Upper course of Shan Pui River along YLIE (**Table 5.11**).

Table 5.11 – Wetland habitat utilization of overwintering avifauna species

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

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)

-: no recorded individuals
Source: approved EIA Report (AEIAR-220/2019)

5.2.3.4 Noise Levels

Noise levels L_{Aeq} (30 min) recorded on 15 February 2022 (day time) and 18 February 2022 (night time) from each of the point count locations during the ecological bird monitoring are shown in **Table 5.12**.

Table 5.12 – Noise Monitoring Results (For Ecological Monitoring of Birds)

Frequency and Period	Location	Day time (15/02/2022)		Night time (18/02/2022)	
		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	10:52	53.4	20:15	41.3
	FLW2	10:35	54.7	19:45	45.3
	FLW3	10:31	46	19:40	45.1
	FLW4	11:08	48.2	20:17	41.3
	FLW5	12:05	57.6	20:46	43.7
	FLW6	11:31	57	20:50	42.3
	FLW7	11:48	55.3	21:25	40.5
	SP/NSW3	08:57	53.9	19:08	50.6
	SP/NSW2	08:55	45.8	18:52	50.3
	NSW1	08:40	58.9	18:25	44.5
	SP/NSW1	08:33	48.9	18:22	45.5

6. LANDSCAPE AND VISUAL

6.1 Audit Requirements

6.1.1 According to the EM&A Manual, a Landscape Architect or related professional shall be employed to audit the implementation of landscape construction works particularly during site clearance operations when the proposed tree felling and transplanting will take place and subsequent maintenance operations. 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. The mitigation measure recommended in the EIA Report as the audit requirements for landscape and visual, including: preservation of existing vegetation, transplanting of affected trees, compensatory tree planting, control of night-time lighting glare, erection of decorative screen hoarding and management of construction activities and facilities are summarized in **Appendix J**.

6.2 Results and Observations

6.2.1 To monitor and audit the implementation of landscape and visual mitigation measures, three weekly landscape and visual site audits were carried out on 4, 9, and 23 February 2022 (site audit of 15 February 2022 was cancelled and rescheduled to 23 February 2022).

6.2.2 No outstanding issues were reported during the reporting month. The ET Leader's Site Environmental Audit are summarized in **Appendix M**.

7. LAND CONTAMINATION

7.1 Contamination Assessment Report

7.1.1 Risk-Based Remediation Goals (RBRGs) for Industrial have been adopted for the "Main Storeroom & Workshops" and the laboratory results for the sampling works (conducted between 30 June 2021 to 16 July 2021) show that there are no exceedances of the adopted RBRGs for the "Main Storeroom & Workshops". As no contaminated soil and groundwater was found within the "Main Storeroom & Workshops", no remediation actions are required for contaminated soil and groundwater for the scheduled land use of the "Main Storeroom & Workshops". Their findings are summarized in Contamination Assessment Report (CAR) and submitted to EPD on 1 November 2021.

7.1.2 Risk-Based Remediation Goals (RBRGs) for Industrial have been adopted for the "Mechanical Workshop" and the laboratory results for the sampling works (conducted between 23 July 2021 to 4 August 2021) show that there are no exceedances of the adopted RBRGs for the "Mechanical Workshop". As no contaminated soil and groundwater was found within the "Mechanical Workshop", no remediation actions are required for contaminated soil and groundwater for the scheduled land use of the "Mechanical Workshop". Their findings are summarized in Contamination Assessment Report (CAR) and submitted to EPD on 23 November 2021.

7.1.3 Risk-Based Remediation Goals (RBRGs) for Industrial have been adopted for the "Waste Storage Area" and the laboratory results for the sampling works (conducted between 24 November 2021 to 26 January 2022) show that there are no exceedances of the adopted RBRGs for the "Waste Storage Area", hence no contaminated soil or groundwater is found within the "Waste Storage Area". Their findings are summarized in draft Contamination Assessment Report (CAR) which is under review and will be submitted to EPD.

8. SITE INSPECTION AND AUDIT

8.1 Site Inspection

8.1.1 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.

8.1.2 In the reporting month, three site inspections were carried out on 4, 9, and 23 February 2022 (site audit of 15 February 2022 was cancelled and rescheduled to 23 February 2022).

8.1.3 No outstanding issues were reported during the reporting month. The ET Leader's Site Environmental Audit are summarized in **Appendix M**.

8.2 Advice on the Solid and Liquid Waste Management Status

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

8.2.2 The management of waste generated by the construction is presented in **Table 8.1**.

Table 8.1 – 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)
Sludge	West New Territories Landfill (WENT)
Marine Sediment	Type 1 – Open Sea Disposal: South Cheung Chau Open Sea Sediment Disposal Area Type 1 – Open Sea Disposal (Dedicate Site) and Type 2 – Confined Marine Disposal: Contaminated Mud Pit Vb of the Confined Marine Disposal Facilities to the East of Sha Chau

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

8.2.4 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.

8.2.5 The Contractor was reminded that chemical waste 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.

9. NON-COMPLIANCE, COMPLAINTS, NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTIONS

9.1 Non-compliance (Exceedances of AL levels)

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

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

9.1.3 No Action and Limit Level exceedance were recorded for water quality at M1, M2 and M3 in the reporting month.

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

9.1.5 No Action / Limit exceedance was noted for the ecological monitoring of birds in the reporting month.

9.1.6 No corrective actions were required according to the Even-Action Plans.

9.2 Complaints, Notification of Summons and Prosecution

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

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

9.2.3 No corrective actions were required.

10. IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURE

10.1 Implementation Status

The Contractor had implemented environmental mitigation measures and requirements as stated in the EIA Report, the EP and EM&A Manual. **Appendix J summarized the Implementation Status of Environment Mitigation Measures.**

The status of required submissions under the EP as of the reporting period are summarized in **Table 10.1**.

Table 10.1 – Summary of EP Submissions Status

EP Condition (EP-565/2019)	Submission Title	Submission Status
Condition 2.9	Construction Phase Emergency Response Plan	Submitted to EPD with ET certification and IEC verification, to be finalised and made available for public inspection via the dedicated website.
Condition 2.11	Pre-construction Ardeid Night Roost Survey Report	Submitted to EPD with ET certification and IEC verification, finalised and available for public inspection via the dedicated website.
EM&A Manual Sec. 7.3.3 & 7.3.4	Baseline Bird Survey Report	Submitted to EPD with ET certification and IEC verification, finalised and available for public inspection via the dedicated website.
Condition 2.12	Noise Mitigation Measures Plan	Submitted to EPD with ET certification and IEC verification, to be finalised and made available for public inspection via the dedicated website.
Condition 2.13	Proposal for Minimization of Overspill Light to Ecological Sensitive Areas	Submitted to EPD with ET certification and IEC verification, finalised and available for public inspection via the dedicated website.
Condition 2.14	Supplementary Contamination Assessment Plan	Submitted to EPD with ET certification and IEC verification, finalised and available for public inspection via the dedicated website.
Condition 2.14	Contamination Assessment Report for Main Storeroom & Workshops	Submitted to EPD with ET certification and IEC verification, to be finalised and made available for public inspection via the dedicated website.
Condition 2.14	Contamination Assessment Report for Mechanical Workshop	Submitted to EPD with ET certification and IEC verification, to be finalised and made available for public inspection via the dedicated website.
Condition 2.15	Landscape and Visual Mitigation Plan	Submitted to EPD with ET certification and IEC verification, to be finalised and made available for public inspection via the dedicated website.
Condition 3.3	Baseline Monitoring Report	Submitted to EPD with ET certification and IEC verification, finalised and available for public inspection via the dedicated website.
Condition 3.4	Monthly EM&A Report (from April 2021 to January 2022)	Submitted to EPD with ET certification and IEC verification, finalised and available for public inspection via the dedicated website.

EP Condition (EP-565/2019)	Submission Title	Submission Status
Condition 3.5	Quarterly EM&A Report (from April to December 2021)	Submitted to EPD with ET certification and IEC verification, finalised and available for public inspection via the dedicated website.
Condition 4.2	Environmental Monitoring Data from April 2021 to January 2022	Submitted to EPD with ET certification and IEC verification, finalised and available for public inspection via the dedicated website.

11. FUTURE KEY ISSUES

11.1 Construction Programme for the Next Three Month

- Demolition of FST no. 5-8, Settled Sewage Overflow Chamber, Sludge Holding Tanks no. 3 & 4 (below ground), Return Activated Sludge Screw Pump Pumping station, Air Floatation Thickener and Auxiliary Pumping Station;
- Sheet Pile installation, pipe Laying and construction of RC chamber at Zone 2B and subsequence diversion work;
- Sheet pile installation, excavation work and RC structure at IW & PST;
- Piling work at IW & PST;
- Drilling and installation of dewatering well and observation well at IW & PST;
- ELS works at IW & PST;
- Sheet pile installation and construction of RC structure at Zone 3 (Location D -Temp. Primary Sludge Pumping Station & Location E – Temp. Thickened Sludge Station);
- Pipe laying for Zone diversion;
- Installation of sheet pile or pipe pile wall for demolition of Aeration Tank no. 5-8 at AGS;
- Construction of CLP Substation;
- Demolition of PST no. 4;
- Cone Penetration Test at Sludge Thickening Building;
- Ground investigation at SDT & STB; and
- Construction of PST structure.

11.2 Key Issues for the Coming Month

11.2.1 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.

11.3 Monitoring Schedules for the Next Three Month

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

12. CONCLUSION AND RECOMMENDATION

12.1 Conclusions

12.1.1 1-hour TSP impact monitoring was carried out in the reporting month. No Action / Limit Level exceedance at AM1 and AM2 was recorded during the period.

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

12.1.3 No Action and Limit Level exceedance was recorded for water quality at M1, M2 and M3 in the reporting month.

12.1.4 Ardeid night roost monitoring was carried out in the reporting month. Two active ardeid night roost areas (ANR1 and ANR2) were observed within the Survey Area. These roosts were located at the mangrove strips in the east and northeast portions of the Project boundary. No Action / Limit Level exceedance at NMS1 and NMS2 was recorded during the period.

12.1.5 Ecological bird monitoring was carried out in the reporting month. No Action / Limit Level exceedance was recorded for the ecological monitoring of birds on this period.

12.1.6 Three 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.

12.1.7 Three landscape and visual site audits 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.

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

12.2 Comment and Recommendations

12.2.1 The recommended environmental mitigation measures, as proposed in the EIA report and EM&A Manual 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.

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

Air Quality Impact

- The Contractor is reminded to increase watering for dust suppression during the demolition of sediment tank.

Construction Noise Impact

- No specific observation was identified in the reporting month.

Water Quality Impact

- No specific observation was identified in the reporting month .

Chemical Waste and Construction Waste Management

- No specific observation was identified in the reporting month .

Land Contamination

- No specific observation was identified in the reporting month.

Ecological Impact

- No specific observation was identified in the reporting month.

Landscape and Visual Impact

- Recommend to keep tree protection zone free of construction materials.
- Recommend to provide regular maintenance check on dead branches and remove where necessary.
- Please exercise caution when operating heavy machinery close to existing trees.

Hazard to Life

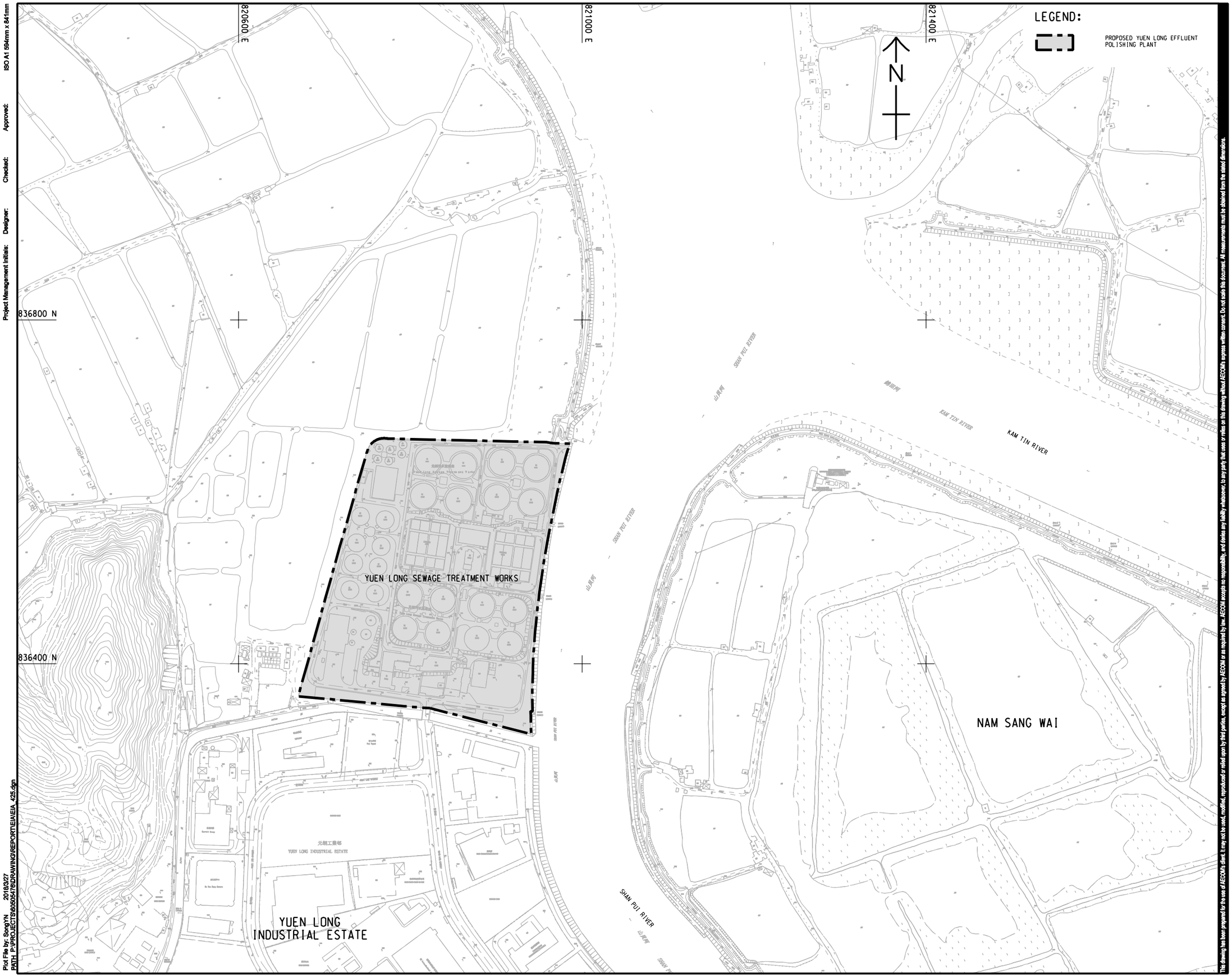
- No specific observation was identified in the reporting month.

Permit/ Licenses

- No specific observation was identified in the reporting month.

Figure 1

Location of Proposed Yuen Long Effluent Polishing Plant



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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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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

Location of Construction Dust Monitoring Stations

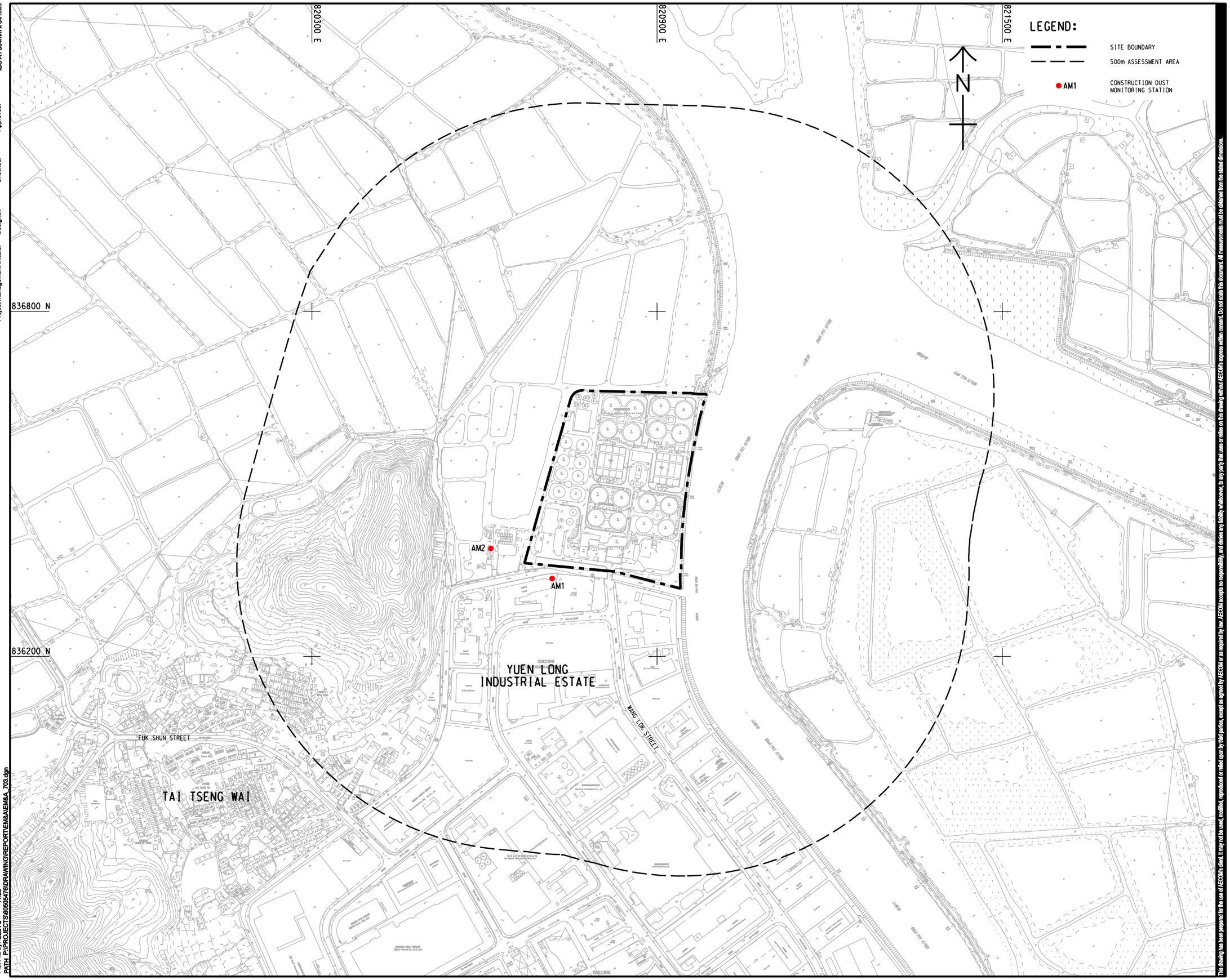
ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:



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STATUS
階段

SCALE **比例**	**DIMENSION UNIT** **尺寸單位**
A1 1 : 3000	METRES

KEY PLAN
索引圖

PROJECT NO. **項目編號**	**CONTRACT NO.** **合約編號**
60505476	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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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

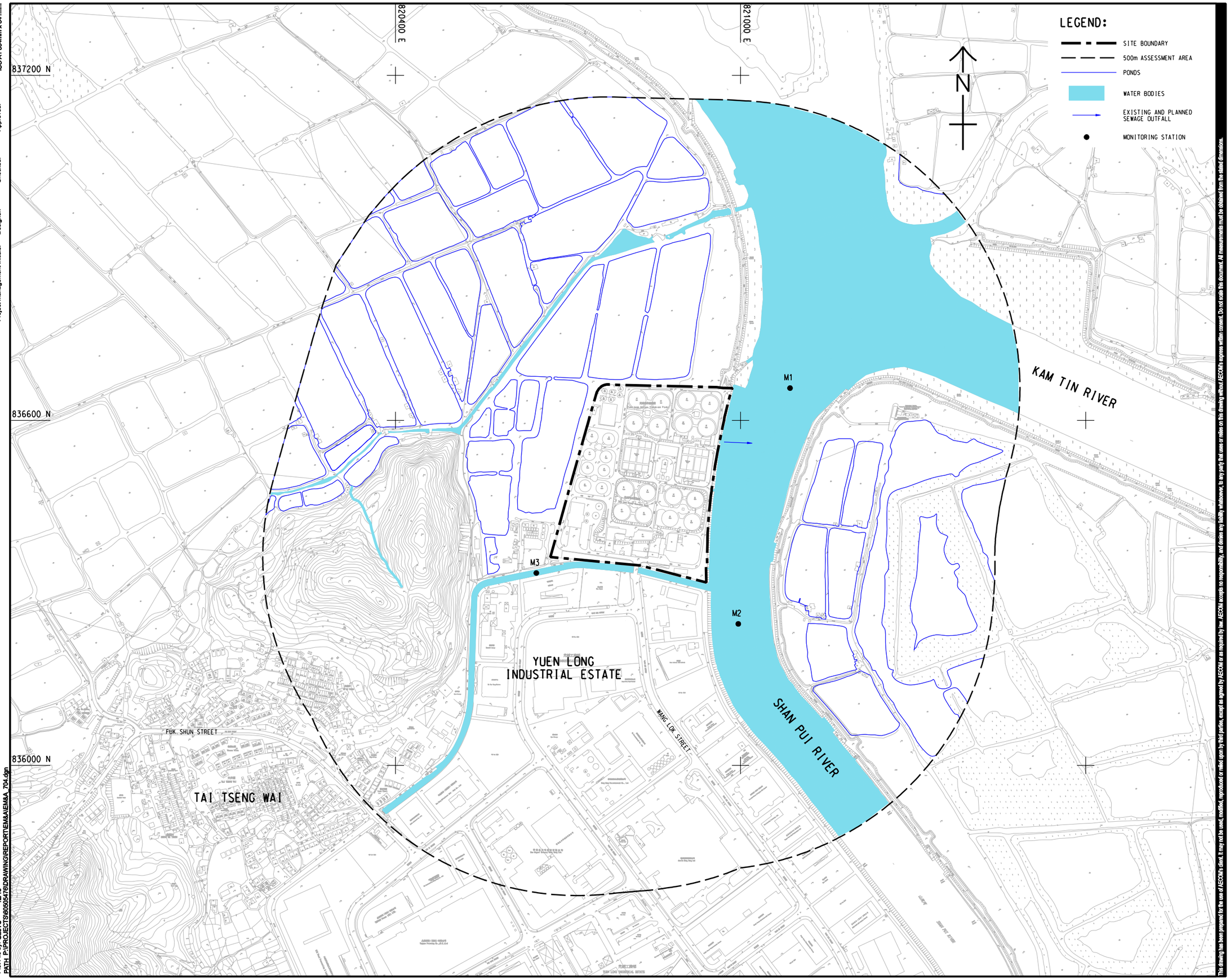
ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:



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分判工程顧問公司

ISSUE/REVISION
修訂

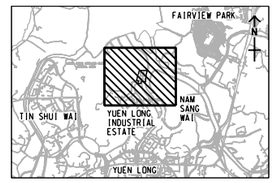
I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核核

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

Plot File by: ZENGFX 2018/8/30
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)

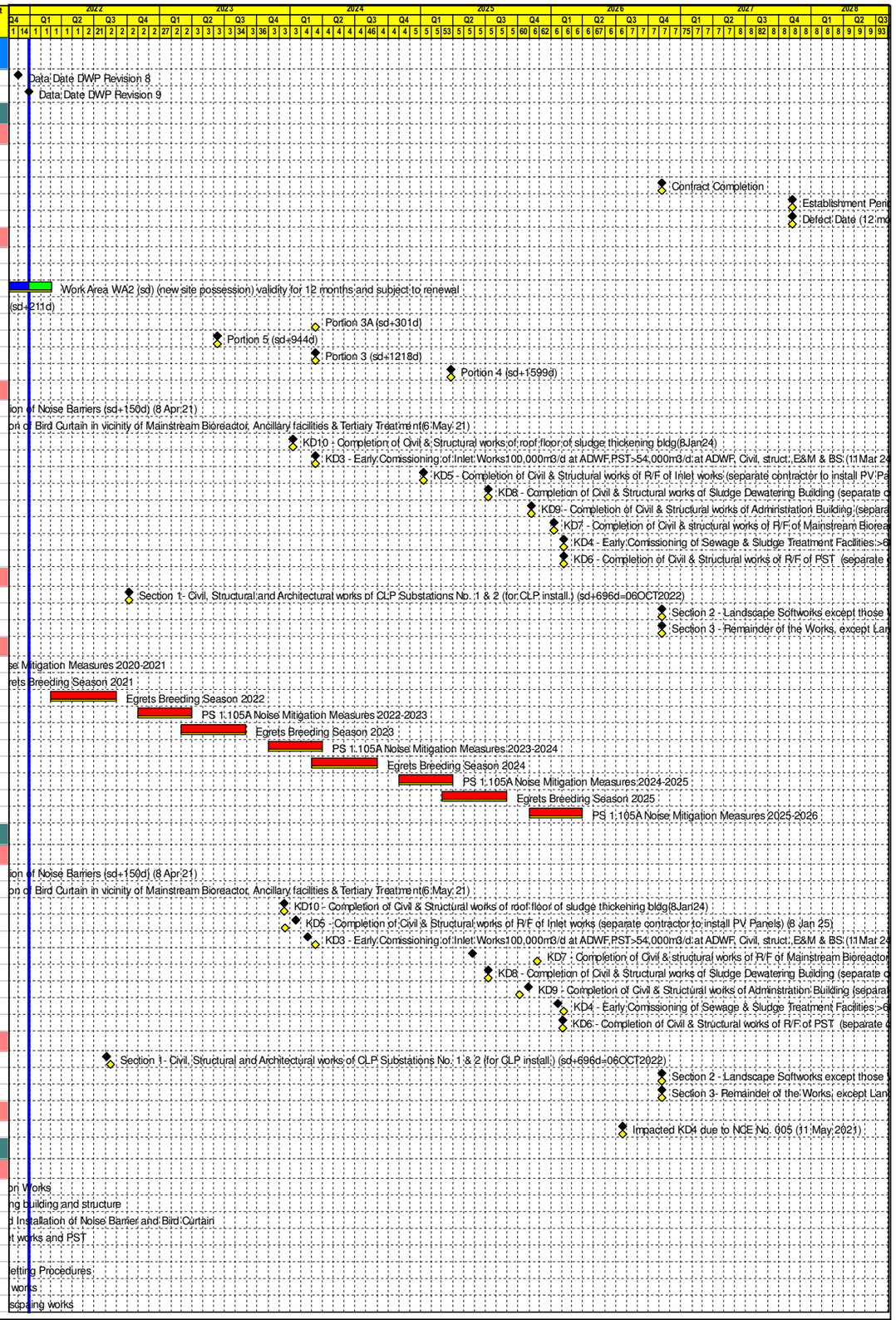
SHEET TITLE
圖紙名稱
ECOLOGICAL MONITORING LOCATIONS

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 DWP rev.9		2202	27-Oct-20 A	09-Nov-27	31-Dec-21	09-Nov-27	0
UPDATE-R7	Data Date DWP Revision 8	0		30-Nov-21 A			
UPDATE-R18	Data Date DWP Revision 9	0		31-Dec-21 A			
Contract Data Part 1		2569	27-Oct-20 A	09-Nov-27	31-Dec-21	09-Nov-27	0
Commencement Date		2569	27-Oct-20 A	09-Nov-27	09-Nov-26	09-Nov-27	0
CD1	Contract Date	0	27-Oct-20 A				
CD2	Starting Date	0	09-Nov-20 A				
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 A	27-Mar-25	31-Dec-21	27-Mar-25	957
ADP1	Portion 1 (sd)	0	09-Nov-20 A				
ADWA1	Work Area WA1 (sd)	0	09-Nov-20 A				
ADWA2	Work Area WA2 (sd) (new site possession) validity for 12 months and subject to renewal	365	05-Mar-21 A	04-Mar-22*	31-Dec-21	04-Mar-22	0
ADP2	Portion 2 (sd+211d)	0	08-Jun-21 A				
ADP3A	Portion 3A (sd+301d)	0	06-Sep-21 A				
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		1765	07-Apr-21 A	05-Feb-26	08-Jan-24	05-Feb-26	641
CKD1	KD1 - Completion of Noise Barriers (sd+150d) (8 Apr 21)	0		07-Apr-21 A			
CKD2	KD2 - Erection of Bird Curtain in vicinity of Mainstream Bioreactor, Ancillary facilities & Tertiary Treatment(6 May 21)	0		06-May-21 A			
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 A	31-Mar-26	01-Mar-22	31-Mar-26	587
NMM-2135	PS 1.105A Noise Mitigation Measures 2020-2021	143	09-Nov-20 A	31-Mar-21 A			
EBS-2145	Egrets Breeding Season 2021	184	01-Mar-21 A	31-Aug-21 A			
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		2041	07-Apr-21 A	08-Nov-26	06-Oct-22	08-Nov-26	365
Planned Key Dates		1764	07-Apr-21 A	04-Feb-26	08-Jan-24	05-Feb-26	642
PKD1	KD1 - Completion of Noise Barriers (sd+150d) (8 Apr 21)	0		07-Apr-21 A			
PKD2	KD2 - Erection of Bird Curtain in vicinity of Mainstream Bioreactor, Ancillary facilities & Tertiary Treatment(6 May 21)	0		06-May-21 A			
PKD10	KD10 - Completion of Civil & Structural works of roof floor of sludge thickening bldg(8Jan24)	0		16-Dec-23*		08-Jan-24	23
PKD5	KD5 - Completion of Civil & Structural works of R/F of Inlet works (separate contractor to install PV Panels) (8 Jan 25)	0		16-Jan-24*		08-Jan-25	358
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		20-Feb-24*		11-Mar-24	20
PKD7	KD7 - Completion of Civil & structural works of R/F of Mainstream Bioreactor system and Ancillary facilties (8 Jan 26)	0		27-May-25*		08-Jan-26	226
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		31-Oct-25*		06-Nov-25	6
PPKD4	KD4 - Early Comissioning of Sewage & Sludge Treatment Facilities >60,000m3/d at AWDF (5 Feb 26) (include TTS)	0		20-Jan-26*		05-Feb-26	16
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
Planned Section Completion		1558	03-Aug-22	08-Nov-26	06-Oct-22	08-Nov-26	0
PSC1	Section 1- Civil, Structural and Architectural works of CLP Substations No. 1 & 2 (for CLP install.) (sd+696d=06OCT2022)	0		03-Aug-22*		06-Oct-22	64
PSC2	Section 2 - Landscape Softworks except those Works under other sections (sd+2190d=08NOV2026)	0		07-Nov-26*		08-Nov-26	1
PSC3	Section 3- Remainder of the Works, except Landscape Softworks & Establishment Works (sd+2190d=08NOV2026)	0		08-Nov-26*		08-Nov-26	0
Notificaton of Compensation Events		0	22-Jul-26	22-Jul-26	22-Jul-26	22-Jul-26	0
NCE5	Impacted KD4 due to NCE No. 005 (11 May 2021)	0		22-Jul-26*		22-Jul-26	0
Preliminary and Preparation Works		1751	27-Oct-20 A	31-May-26	31-Dec-21	08-Nov-27	451
Subletting		712	27-Oct-20 A	08-Oct-22	03-Jan-22	13-Jan-26	1857
SUB-110	Prebid - Ground Investigation Works	0		27-Oct-20 A			
SUB-120	Prebid - Demolition of existing building and structure	0		27-Oct-20 A			
SUB-130	Prebid - Design, Supply and Installation of Noise Barrier and Bird Curtain	0		27-Oct-20 A			
SUB-140	Prebid - Piling works for Inlet works and PST	0		27-Oct-20 A			
SUB-150	Prebid - E&M works	0		27-Oct-20 A			
SUB-160	Submit/Approve Sub-letting Procedures	60	09-Nov-20 A	07-Jan-21 A			
SUB-180	Subletting for MIC works	40	08-Jan-21 A	16-Feb-21 A			
SUB-190	Subletting for Landscpaing works	30	08-Jan-21 A	06-Feb-21 A			



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- Remaining Level of Effort
- DWP Rev.8
- Actual Work
- Remaining Work
- Critical Remaining Work

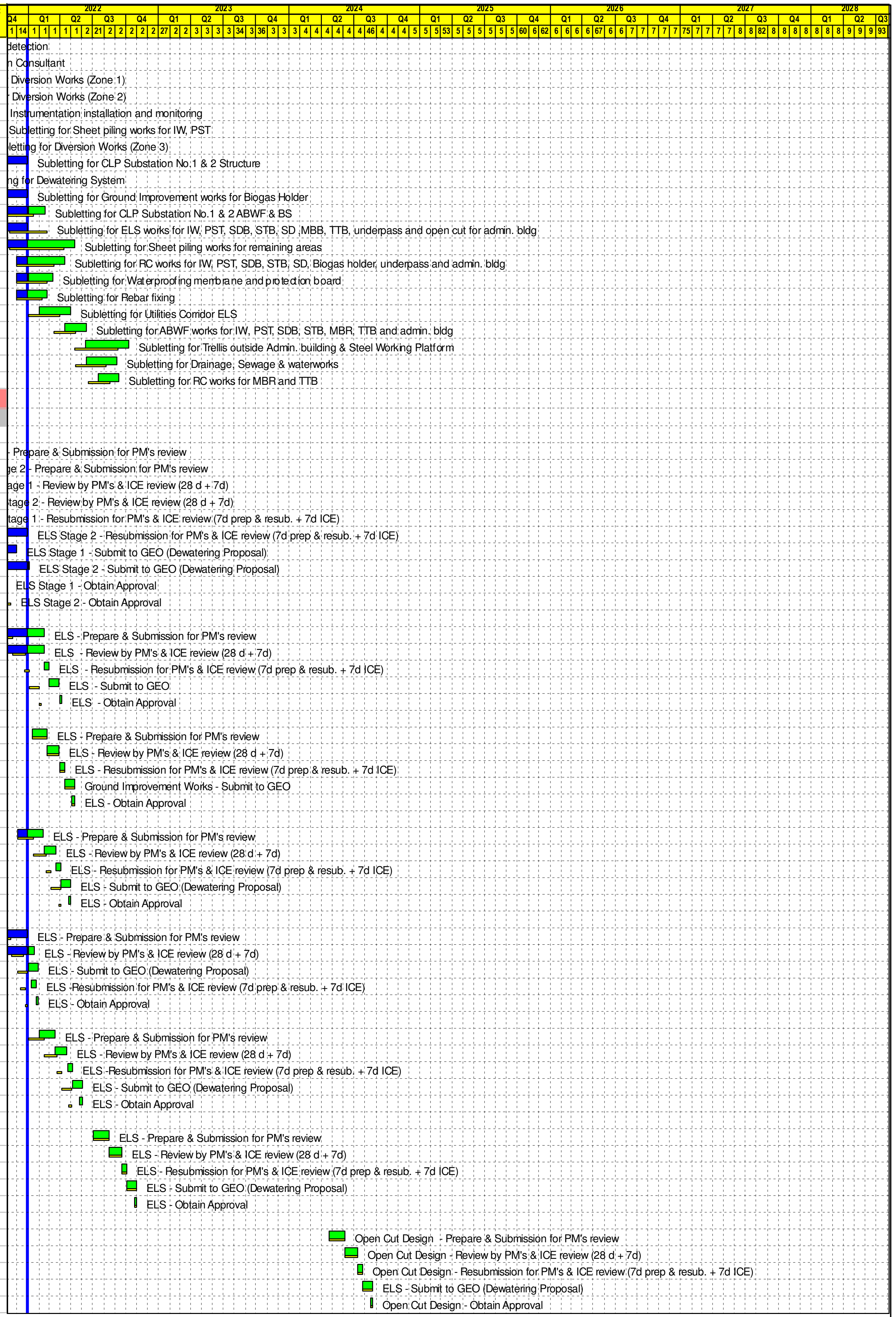
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr9_220111
Layout : DC201910 DWP rev.9

Detailed Works Programme

Date	Revision	Checked	Approved
31-Dec-21	Rev. 9		
30-Nov-21	Rev. 8		
31-Oct-21	Rev. 7		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
SUB-200	Subletting for UU detection	44	08-Jan-21 A	20-Feb-21 A			
SUB-210	Subletting for Design Consultant	22	08-Jan-21 A	29-Jan-21 A			
SUB-100	Subletting for Diversion Works (Zone 1)	84	30-Jan-21 A	22-Apr-21 A			
SUB-170	Subletting for Diversion Works (Zone 2)	84	30-Jan-21 A	23-Apr-21 A			
SUB-370	Subletting for Instrumentation installation and monitoring	67	11-Feb-21 A	18-Apr-21 A			
SUB-220	Subletting for Sheet piling works for IW, PST	150	15-May-21 A	11-Oct-21 A			
SUB-260	Subletting for Diversion Works (Zone 3)	80	01-Jun-21 A	23-Jul-21 A			
SUB-230	Subletting for CLP Substation No.1 & 2 Structure	100	01-Jun-21 A	31-Dec-21	05-May-22	05-May-22	125
SUB-330	Subletting for Dewatering System	30	02-Jun-21 A	01-Jul-21 A			
SUB-250	Subletting for Ground Improvement works for Biogas Holder	86	07-Jul-21 A	31-Dec-21	07-Mar-22	07-Mar-22	66
SUB-240	Subletting for CLP Substation No.1 & 2 ABWF & BS	100	30-Aug-21 A	16-Feb-22	23-Jun-22	08-Aug-22	173
SUB-270	Subletting for ELS works for IW, PST, SDB, STB, SD ,MBB, TTB, underpass and open cut for admin. bldg	50	12-Oct-21 A	31-Dec-21	03-Jul-22	03-Jul-22	184
SUB-380	Subletting for Sheet piling works for remaining areas	150	12-Oct-21 A	10-May-22	19-Feb-22	29-Jun-22	50
SUB-280	Subletting for RC works for IW, PST, SDB, STB, SD, Biogas holder, underpass and admin. bldg	105	29-Nov-21 A	13-Apr-22	03-Jan-22	17-Apr-22	3
SUB-350	Subletting for Waterproofing membrane and protection board	86	29-Nov-21 A	10-Mar-22	29-Jul-22	05-Oct-22	209
SUB-360	Subletting for Rebar fixing	86	29-Nov-21 A	24-Feb-22	03-Jan-22	27-Feb-22	3
SUB-310	Subletting for Utilities Corridor ELS	90	31-Jan-22	30-Apr-22	26-Feb-22	26-May-22	26
SUB-290	Subletting for ABWF works for IW, PST, SDB, STB, MBR, TTB and admin. bldg	60	14-Apr-22	12-Jun-22	03-Jan-23	03-Mar-23	264
SUB-320	Subletting for Trellis outside Admin. building & Steel Working Platform	120	11-Jun-22	08-Oct-22	09-Feb-25	08-Jun-25	974
SUB-340	Subletting for Drainage, Sewage & waterworks	86	13-Jun-22	06-Sep-22	20-Oct-25	13-Jan-26	1225
SUB-300	Subletting for RC works for MBR and TTB	60	15-Jul-22	12-Sep-22	15-May-23	13-Jul-23	304
Design Submission		1562	30-Jan-21 A	10-May-25	03-Jan-22	31-Mar-26	912
Temporary Works Design		1269	02-Mar-21 A	21-Aug-24	26-Jan-22	05-Nov-25	1174
Inlet Work and Primary Sedimentation Tank		256	02-Mar-21 A	04-Jan-22	08-Sep-22	12-Sep-22	2134
TWD-100	ELS Stage 1 - Prepare & Submission for PM's review	46	02-Mar-21 A	16-Apr-21 A			
TWD-420	ELS Stage 2 - Prepare & Submission for PM's review	72	05-Apr-21 A	15-Jun-21 A			
TWD-110	ELS Stage 1 - Review by PM's & ICE review (28 d + 7d)	36	02-Jun-21 A	07-Jul-21 A			
TWD-430	ELS Stage 2 - Review by PM's & ICE review (28 d + 7d)	36	16-Jun-21 A	21-Jul-21 A			
TWD-120	ELS Stage 1 - Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE)	15	03-Jul-21 A	17-Jul-21 A			
TWD-440	ELS Stage 2 - Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE)	15	22-Jul-21 A	31-Dec-21	08-Sep-22	08-Sep-22	251
TWD-500	ELS Stage 1 - Submit to GEO (Dewatering Proposal)	29	23-Aug-21 A	30-Nov-21 A			
TWD-510	ELS Stage 2 - Submit to GEO (Dewatering Proposal)	30	05-Sep-21 A	04-Jan-22	09-Sep-22	12-Sep-22	251
TWD-130	ELS Stage 1 - Obtain Approval	8	29-Sep-21 A	30-Oct-21 A			
TWD-450	ELS Stage 2 - Obtain Approval	8	05-Oct-21 A	30-Oct-21 A			
Mainstream Bio-Reactor System		183	01-Sep-21 A	05-Apr-22	28-Jul-22	31-Oct-22	209
TWD-220	ELS - Prepare & Submission for PM's review	45	01-Sep-21 A	14-Feb-22	29-Jul-22	12-Sep-22	210
TWD-230	ELS - Review by PM's & ICE review (28 d + 7d)	35	16-Oct-21 A	15-Feb-22	28-Jul-22	12-Sep-22	209
TWD-240	ELS - Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE)	14	16-Feb-22	01-Mar-22	13-Sep-22	26-Sep-22	209
TWD-520	ELS - Submit to GEO	28	02-Mar-22	29-Mar-22	27-Sep-22	24-Oct-22	209
TWD-250	ELS - Obtain Approval	7	30-Mar-22	05-Apr-22	25-Oct-22	31-Oct-22	209
Sludge Thickening Building		119	12-Jan-22	10-May-22	02-Apr-22	29-Jul-22	80
TWD-180	ELS - Prepare & Submission for PM's review	42	12-Jan-22*	22-Feb-22	02-Apr-22	13-May-22	80
TWD-190	ELS - Review by PM's & ICE review (28 d + 7d)	35	23-Feb-22	29-Mar-22	14-May-22	17-Jun-22	80
TWD-200	ELS - Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE)	14	30-Mar-22	12-Apr-22	18-Jun-22	01-Jul-22	80
TWD-540	Ground Improvement Works - Submit to GEO	28	13-Apr-22	10-May-22	02-Jul-22	29-Jul-22	80
TWD-210	ELS - Obtain Approval	7	04-May-22	10-May-22	23-Jul-22	29-Jul-22	80
Tertiary Treatment System		151	02-Dec-21 A	01-May-22	28-Feb-22	29-Jun-22	59
TWD-140	ELS - Prepare & Submission for PM's review	45	02-Dec-21 A	13-Feb-22	28-Feb-22	13-Apr-22	59
TWD-150	ELS - Review by PM's & ICE review (28 d + 7d)	35	14-Feb-22	20-Mar-22	14-Apr-22	18-May-22	59
TWD-160	ELS - Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE)	14	21-Mar-22	03-Apr-22	19-May-22	01-Jun-22	59
TWD-550	ELS - Submit to GEO (Dewatering Proposal)	28	04-Apr-22	01-May-22	02-Jun-22	29-Jun-22	59
TWD-170	ELS - Obtain Approval	7	25-Apr-22	01-May-22	23-Jun-22	29-Jun-22	59
Utilities Corridor		123	31-Aug-21 A	30-Jan-22	26-Jan-22	05-Mar-22	34
TWD-340	ELS - Prepare & Submission for PM's review	45	31-Aug-21 A	31-Dec-21	26-Jan-22	26-Jan-22	26
TWD-350	ELS - Review by PM's & ICE review (28 d + 7d)	35	15-Oct-21 A	19-Jan-22	27-Jan-22	14-Feb-22	26
TWD-560	ELS - Submit to GEO (Dewatering Proposal)	28	03-Jan-22	30-Jan-22	06-Feb-22	05-Mar-22	34
TWD-360	ELS -Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE)	14	10-Jan-22	23-Jan-22	05-Feb-22	18-Feb-22	26
TWD-370	ELS - Obtain Approval	7	24-Jan-22	30-Jan-22	19-Feb-22	25-Feb-22	26
Sludge Digester		122	31-Jan-22	01-Jun-22	24-Feb-23	25-Jun-23	389
TWD-460	ELS - Prepare & Submission for PM's review	45	31-Jan-22	16-Mar-22	24-Feb-23	09-Apr-23	389
TWD-470	ELS - Review by PM's & ICE review (28 d + 7d)	35	17-Mar-22	20-Apr-22	10-Apr-23	14-May-23	389
TWD-480	ELS -Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE)	14	21-Apr-22	04-May-22	15-May-23	28-May-23	389
TWD-570	ELS - Submit to GEO (Dewatering Proposal)	28	05-May-22	01-Jun-22	29-May-23	25-Jun-23	389
TWD-490	ELS - Obtain Approval	7	26-May-22	01-Jun-22	19-Jun-23	25-Jun-23	389
Sludge Dewatering and Underpass		122	02-Jul-22	31-Oct-22	13-Mar-24	12-Jul-24	620
TWD-260	ELS - Prepare & Submission for PM's review	45	02-Jul-22*	15-Aug-22	13-Mar-24	26-Apr-24	620
TWD-270	ELS - Review by PM's & ICE review (28 d + 7d)	35	16-Aug-22	19-Sep-22	27-Apr-24	31-May-24	620
TWD-280	ELS - Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE)	14	20-Sep-22	03-Oct-22	01-Jun-24	14-Jun-24	620
TWD-580	ELS - Submit to GEO (Dewatering Proposal)	28	04-Oct-22	31-Oct-22	15-Jun-24	12-Jul-24	620
TWD-290	ELS - Obtain Approval	7	25-Oct-22	31-Oct-22	06-Jul-24	12-Jul-24	620
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
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	ELS - Submit to GEO (Dewatering Proposal)	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



Remaining Level of Effort
DWP Rev.8
Actual Work
Remaining Work
Critical Remaining Work

保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

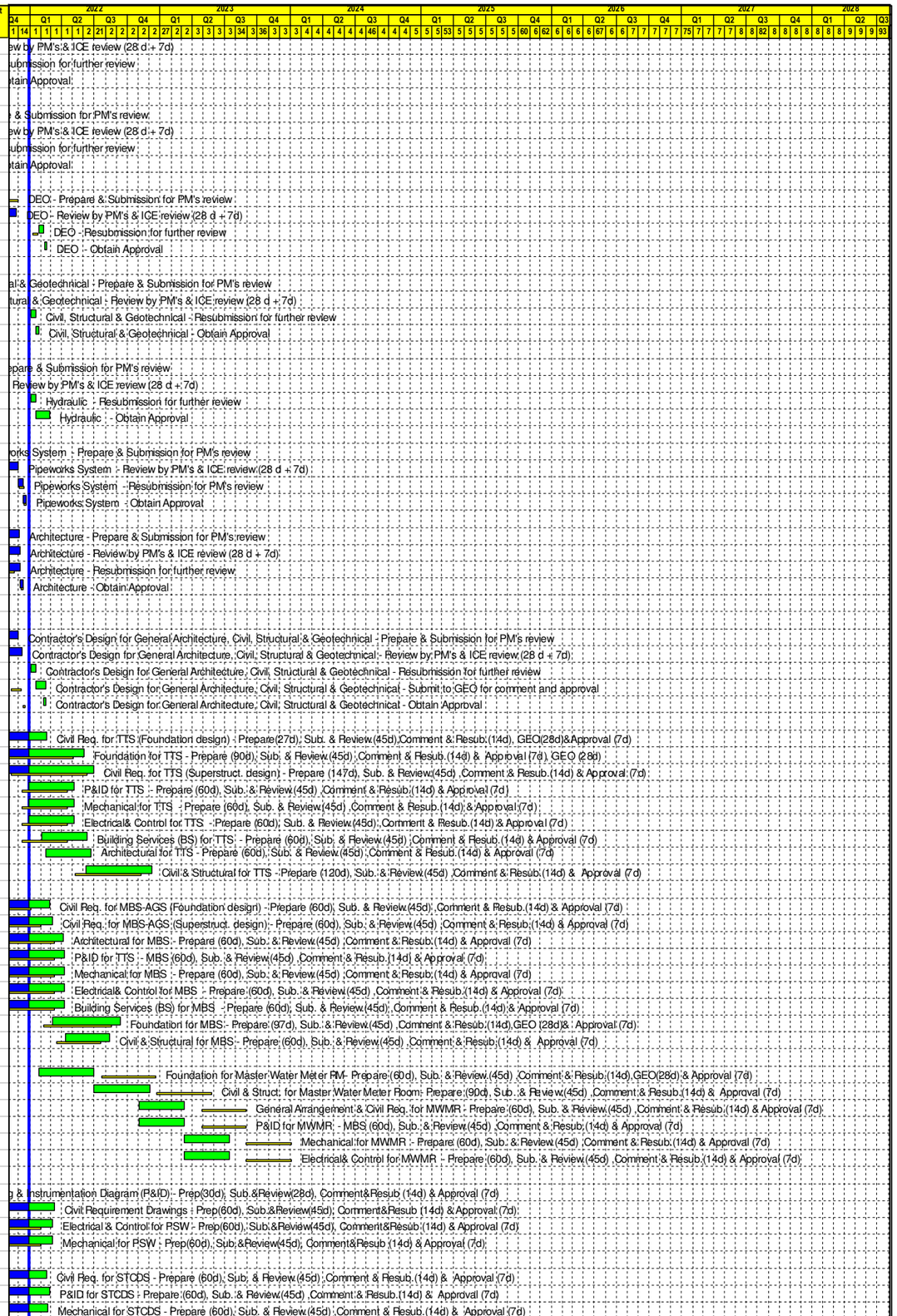
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr9_220111
Layout : DC201910 DWP rev.9

Detailed Works Programme			
Date	Revision	Checked	Approved
31-Dec-21	Rev. 9		
30-Nov-21	Rev. 8		
31-Oct-21	Rev. 7		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
Walkway		122	22-Apr-24	21-Aug-24	07-Jul-25	05-Nov-25	441
TWD-600	Walkway - Prepare & Submission for PM's review	45	22-Apr-24	05-Jun-24	07-Jul-25	20-Aug-25	441
TWD-610	Walkway - Review by PM's & ICE review (28 d + 7d)	35	06-Jun-24	10-Jul-24	21-Aug-25	24-Sep-25	441
TWD-620	Walkway - Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE)	14	11-Jul-24	24-Jul-24	25-Sep-25	08-Oct-25	441
TWD-630	ELS - Submit to GEO (Dewatering Proposal)	28	25-Jul-24	21-Aug-24	09-Oct-25	05-Nov-25	441
TWD-640	Walkway - Obtain Approval	7	15-Aug-24	21-Aug-24	30-Oct-25	05-Nov-25	441
Contractor 's Permanent Works Design (include ATAL)		1562	30-Jan-21 A	10-May-25	03-Jan-22	31-Mar-26	912
AIP		434	30-Jan-21 A	08-Apr-22	28-Apr-22	12-Sep-23	2040
Package 1A - Mainstream Bio-Reactor System (AGS)		101	30-Jan-21 A	28-May-21 A			
AIP-420	E&M AIP Report for Mainstream Bio-Reactor System (AGS) - Prepare & Submission for PM's review	45	30-Jan-21 A	15-Mar-21 A			
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 A	19-Apr-21 A			
AIP-440	E&M AIP Report for Mainstream Bio-Reactor System (AGS) - Resubmission for further review	14	20-Apr-21 A	03-May-21 A			
AIP-450	E&M AIP Report for Mainstream Bio-Reactor System (AGS) - Obtain Approval	7	04-May-21 A	28-May-21 A			
Package 2A - Tertiary Treatment System (TTS)		289	28-Apr-21 A	10-Feb-22	19-Dec-22	08-Jan-23	332
AIP-460	E&M AIP Report for Tertiary Treatment System (TTS) - Prepare & Submission for PM's review	45	28-Apr-21 A	11-Jun-21 A			
AIP-470	E&M AIP Report for Tertiary Treatment System (TTS) - Review by PM's & ICE review (28 d + 7d)	35	19-May-21 A	10-Nov-21 A			
AIP-480	E&M AIP Report for Tertiary Treatment System (TTS) - Resubmission for further review	14	21-Jan-22*	03-Feb-22	19-Dec-22	01-Jan-23	332
AIP-490	E&M AIP Report for Tertiary Treatment System (TTS) - Obtain Approval	7	04-Feb-22	10-Feb-22	02-Jan-23	08-Jan-23	332
Package 3A - Plant Service Water		307	03-Apr-21 A	03-Feb-22	26-Jul-23	15-Aug-23	558
AIP-500	E&M AIP Report for Plant Service Water - Prepare & Submission for PM's review	45	03-Apr-21 A	17-May-21 A			
AIP-510	E&M AIP Report for Plant Service Water - Review by PM's & ICE review (28 d + 7d)	35	19-May-21 A	22-Jun-21 A			
AIP-520	E&M AIP Report for Plant Service Water - Resubmission for further review	14	14-Jan-22*	27-Jan-22	26-Jul-23	08-Aug-23	558
AIP-530	E&M AIP Report for Plant Service Water - Obtain Approval	7	28-Jan-22	03-Feb-22	09-Aug-23	15-Aug-23	558
Package 4A - E&M Report for Temp. Diversion Chamber and Pumping Station		303	23-Feb-21 A	22-Dec-21 A			
AIP-540	Advance Works - E&M Report for Temporary Diversion Chamber and Pumping Station - Prepare & Submission for PM's review	35	23-Feb-21 A	29-Mar-21 A			
AIP-550	Advance Works - E&M Report for Temporary Diversion Chamber and Pumping Station - Review by PM's & ICE review (28 d + 7d)	35	06-Mar-21 A	29-Oct-21 A			
AIP-560	Advance Works - E&M Report for Temporary Diversion Chamber and Pumping Station - Resubmission for further review	14	01-Dec-21 A	15-Dec-21 A			
AIP-570	Advance Works - E&M Report for Temporary Diversion Chamber and Pumping Station - Obtain Approval	7	16-Dec-21 A	22-Dec-21 A			
Package 4B - E&M Report for SCADA Relocation		119	30-Jan-21 A	28-May-21 A			
AIP-580	E&M AIP Report for Advance Works (SCADA Relocation) - Prepare & Submission for PM's review	63	30-Jan-21 A	02-Apr-21 A			
AIP-590	E&M AIP Report for Advance Works (SCADA Relocation) - Review by PM's & ICE review (28 d + 7d)	35	03-Apr-21 A	07-May-21 A			
AIP-600	E&M AIP Report for Advance Works (SCADA Relocation) - Resubmission for further review	14	08-May-21 A	21-May-21 A			
AIP-610	E&M AIP Report for Advance Works (SCADA Relocation) - Obtain Approval	7	22-May-21 A	28-May-21 A			
Package 4C - E&M Report for AGS Pilot Plant		89	01-Mar-21 A	28-May-21 A			
AIP-630	E&M AIP Report for Advance Works (AGS) - Prepare & Submission for PM's review	33	01-Mar-21 A	02-Apr-21 A			
AIP-640	E&M AIP Report for Advance Works (AGS) - Review by PM's & ICE review (28 d + 7d)	35	03-Apr-21 A	07-May-21 A			
AIP-650	E&M AIP Report for Advance Works (AGS) - Resubmission for further review	14	08-May-21 A	21-May-21 A			
AIP-660	E&M AIP Report for Advance Works (AGS) - Obtain Approval	7	22-May-21 A	28-May-21 A			
Package 5A - Electrical Power Supply System for Advance Works		98	20-Feb-21 A	28-May-21 A			
AIP-100	Electrical Power Supply System for Advance Works - Prepare & Submission for PM's review	42	20-Feb-21 A	02-Apr-21 A			
AIP-110	Electrical Power Supply System for Advance Works - Review by PM's & ICE review (28 d + 7d)	35	03-Apr-21 A	07-May-21 A			
AIP-120	Electrical Power Supply System for Advance Works - Resubmission for further review	14	08-May-21 A	21-May-21 A			
AIP-130	Electrical Power Supply System for Advance Works - Obtain Approval	7	22-May-21 A	28-May-21 A			
Package 5B - Electrical Power Supply System for YLEPP		39	20-Apr-21 A	28-May-21 A			
AIP-140	Electrical Power Supply System for YLEPP - Prepare & Submission for PM's review	11	20-Apr-21 A	30-Apr-21 A			
AIP-150	Electrical Power Supply System for YLEPP - Review by PM's review	14	01-May-21 A	14-May-21 A			
AIP-160	Electrical Power Supply System for YLEPP - Resubmission for PM's review	14	08-May-21 A	21-May-21 A			
AIP-170	Electrical Power Supply System for YLEPP - Obtain Approval	7	22-May-21 A	28-May-21 A			
Package 6A - Control & Monitoring System		92	07-Jan-22	08-Apr-22	28-Apr-22	29-Jul-22	112
AIP-180	Control & Monitoring System - Prepare & Submission for PM's review	36	07-Jan-22*	11-Feb-22	28-Apr-22	03-Jun-22	112
AIP-190	Control & Monitoring System - Review by PM's & ICE review (28 d + 7d)	35	12-Feb-22	18-Mar-22	03-Jun-22	08-Jul-22	112
AIP-200	Control & Monitoring System - Resubmission for further review	14	19-Mar-22	01-Apr-22	08-Jul-22	22-Jul-22	112
AIP-620	Control & Monitoring System - Obtain Approval	7	02-Apr-22	08-Apr-22	22-Jul-22	29-Jul-22	112
Package 7A - Building Services System		311	30-Mar-21 A	03-Feb-22	08-Aug-22	28-Aug-22	206
AIP-220	BS System - Prepare & Submission for PM's review	7	30-Mar-21 A	05-Apr-21 A			
AIP-230	BS System - Review by PM's & ICE review (28 d + 7d)	35	06-Apr-21 A	23-Jul-21 A			
AIP-240	BS System - Resubmission for further review	14	14-Jan-22*	27-Jan-22	08-Aug-22	21-Aug-22	206
AIP-250	BS System - Obtain Approval	7	28-Jan-22	03-Feb-22	22-Aug-22	28-Aug-22	206
Package 8A - E&M AIP Report for Sludge Thickening Building & Chemical System		102	01-Mar-21 A	10-Jun-21 A			
AIP-260	STB - Prepare & Submission for PM's review	46	01-Mar-21 A	15-Apr-21 A			
AIP-270	STB - Review by PM's & ICE review (28 d + 7d)	35	16-Apr-21 A	20-May-21 A			
AIP-280	STB - Resubmission for further review	14	21-May-21 A	03-Jun-21 A			
AIP-290	STB - Obtain Approval	7	04-Jun-21 A	10-Jun-21 A			
Package 9A - E&M AIP Report for Inlet Work (IW)		340	01-Mar-21 A	03-Feb-22	30-Dec-22	19-Jan-23	350
AIP-670	IW - Prepare & Submission for PM's review	46	01-Mar-21 A	15-Apr-21 A			
AIP-680	IW - Review by PM's & ICE review (28 d + 7d)	35	16-Apr-21 A	23-Nov-21 A			
AIP-690	IW - Resubmission for further review	14	14-Jan-22*	27-Jan-22	30-Dec-22	12-Jan-23	350
AIP-700	IW - Obtain Approval	7	28-Jan-22	03-Feb-22	13-Jan-23	19-Jan-23	350
Package 10A - E&M AIP Report for Primary Sedimentation Tank (PST)		333	01-Mar-21 A	27-Jan-22	31-Oct-22	20-Nov-22	297
AIP-710	IW - Prepare & Submission for PM's review	46	01-Mar-21 A	15-Apr-21 A			
AIP-720	IW - Review by PM's & ICE review (28 d + 7d)	35	16-Apr-21 A	21-Sep-21 A			
AIP-730	IW - Resubmission for further review	14	07-Jan-22*	20-Jan-22	31-Oct-22	13-Nov-22	297
AIP-740	IW - Obtain Approval	7	21-Jan-22	27-Jan-22	14-Nov-22	20-Nov-22	297
Package 11A - E&M AIP Report for Sludge Anaerobic Digestion System (SDT)		102	01-Mar-21 A	10-Jun-21 A			
AIP-750	SDT - Prepare & Submission for PM's review	46	01-Mar-21 A	15-Apr-21 A			

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
AIP-760	SDT - Review by PM's & ICE review (28 d + 7d)	35	16-Apr-21 A	20-May-21 A			
AIP-770	SDT - Resubmission for further review	14	21-May-21 A	03-Jun-21 A			
AIP-780	SDT - Obtain Approval	7	04-Jun-21 A	10-Jun-21 A			
Package 13A - E&M AIP Report for Biogas H2S Removal, Storage and Delivery System		102	01-Mar-21 A	10-Jun-21 A			
AIP-790	H2S - Prepare & Submission for PM's review	46	01-Mar-21 A	15-Apr-21 A			
AIP-800	H2S - Review by PM's & ICE review (28 d + 7d)	35	16-Apr-21 A	20-May-21 A			
AIP-810	H2S - Resubmission for further review	14	21-May-21 A	03-Jun-21 A			
AIP-820	H2S - Obtain Approval	7	04-Jun-21 A	10-Jun-21 A			
Package 14A - E&M AIP Report for Deodorization Unit System		223	23-Jun-21 A	17-Feb-22	31-Oct-22	20-Nov-22	276
AIP-830	DEO - Prepare & Submission for PM's review	46	23-Jun-21 A	09-Jul-21 A			
AIP-840	DEO - Review by PM's & ICE review (28 d + 7d)	46	10-Jul-21 A	24-Nov-21 A			
AIP-850	DEO - Resubmission for further review	14	28-Jan-22*	10-Feb-22	31-Oct-22	13-Nov-22	276
AIP-860	DEO - Obtain Approval	7	11-Feb-22	17-Feb-22	14-Nov-22	20-Nov-22	276
Package 15A - Civil, Structural & Geotechnical		302	30-Mar-21 A	25-Jan-22	28-Nov-22	18-Dec-22	327
AIP-380	Civil, Structural & Geotechnical - Prepare & Submission for PM's review	25	30-Mar-21 A	23-Apr-21 A			
AIP-390	Civil, Structural & Geotechnical - Review by PM's & ICE review (28 d + 7d)	35	24-Apr-21 A	28-May-21 A			
AIP-400	Civil, Structural & Geotechnical - Resubmission for further review	14	05-Jan-22*	18-Jan-22	28-Nov-22	11-Dec-22	327
AIP-410	Civil, Structural & Geotechnical - Obtain Approval	7	19-Jan-22	25-Jan-22	11-Dec-22	18-Dec-22	327
Package 16A - E&M AIP Report for Hydraulic Design		362	01-Mar-21 A	25-Feb-22	23-Jul-23	12-Sep-23	564
AIP-870	Hydraulic - Prepare & Submission for PM's review	46	01-Mar-21 A	15-Apr-21 A			
AIP-880	Hydraulic - Review by PM's & ICE review (28 d + 7d)	35	16-Apr-21 A	20-May-21 A			
AIP-890	Hydraulic - Resubmission for further review	14	05-Jan-22*	18-Jan-22	23-Jul-23	05-Aug-23	564
AIP-900	Hydraulic - Obtain Approval	38	19-Jan-22	25-Feb-22	06-Aug-23	12-Sep-23	564
Pipeworks System		204	01-Jun-21 A	21-Dec-21 A			
AIP-300	Pipeworks System - Prepare & Submission for PM's review	57	01-Jun-21 A	27-Jul-21 A			
AIP-310	Pipeworks System - Review by PM's & ICE review (28 d + 7d)	35	28-Jul-21 A	30-Nov-21 A			
AIP-320	Pipeworks System - Resubmission for PM's review	14	01-Dec-21 A	14-Dec-21 A			
AIP-330	Pipeworks System - Obtain Approval	7	15-Dec-21 A	21-Dec-21 A			
Architecture		165	01-Jul-21 A	12-Dec-21 A			
AIP-340	Architecture - Prepare & Submission for PM's review	38	01-Jul-21 A	02-Dec-21 A			
AIP-350	Architecture - Review by PM's & ICE review (28 d + 7d)	28	07-Sep-21 A	04-Dec-21 A			
AIP-360	Architecture - Resubmission for further review	14	05-Oct-21 A	05-Dec-21 A			
AIP-370	Architecture - Obtain Approval	7	06-Dec-21 A	12-Dec-21 A			
DDA		1475	27-Apr-21 A	10-May-25	03-Jan-22	31-Mar-26	325
Package 1 - General Architecture, Civil, Structural & Geotechnical		242	19-Jun-21 A	15-Feb-22	28-Nov-22	08-Jan-23	327
DDA-100	Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Prepare & Submission for PM's review	73	19-Jun-21 A	30-Nov-21 A			
DDA-110	Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Review by PM's & ICE review (28 d + 7d)	35	31-Aug-21 A	10-Dec-21 A			
DDA-120	Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Resubmission for further review	14	05-Jan-22*	19-Jan-22	28-Nov-22	11-Dec-22	327
DDA-1080	Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Submit to GEO for comment and approval	28	19-Jan-22	15-Feb-22	12-Dec-22	08-Jan-23	327
DDA-130	Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Obtain Approval	7	09-Feb-22	15-Feb-22	02-Jan-23	08-Jan-23	327
Package 2 - Tertiary Treatment System		545	13-Jun-21 A	09-Dec-22	09-Jul-22	19-Dec-23	375
DDA-170	Civil Req. for TTS (Foundation design) - Prepare(27d), Sub. & Review.(45d),Comment & Resub.(14d), GEO(28d)&Approval (7d)	121	13-Jun-21 A	18-Feb-22	11-Oct-22	29-Nov-22	284
DDA-150	Foundation for TTS - Prepare (90d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d), GEO (28d)	184	08-Oct-21 A	02-Jun-22	08-Dec-22	10-May-23	342
DDA-180	Civil Req. for TTS (Superstruct. design) - Prepare (147d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	213	11-Oct-21 A	30-Jun-22	09-Jul-22	06-Jan-23	190
DDA-190	P&ID for TTS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	31-Dec-21 A	05-May-22	16-Aug-23	19-Dec-23	593
DDA-200	Mechanical for TTS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	31-Dec-21 A	05-May-22	16-Aug-23	19-Dec-23	593
DDA-210	Electrical& Control for TTS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	31-Dec-21 A	05-May-22	16-Aug-23	19-Dec-23	593
DDA-220	Building Services (BS) for TTS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	04-Feb-22	09-Jun-22	16-Aug-23	19-Dec-23	558
DDA-140	Architectural for TTS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	16-Feb-22	21-Jun-22	09-Jan-23	14-May-23	327
DDA-160	Civil & Structural for TTS - Prepare (120d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	186	07-Jun-22	09-Dec-22	15-May-23	16-Nov-23	342
Package 3 - Mainstream Bio-Reactor System		378	09-Jun-21 A	12-Sep-22	01-Sep-22	09-Jan-24	484
DDA-260	Civil Req. for MBS-AGS (Foundation design) - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	09-Jun-21 A	25-Feb-22	05-Sep-22	31-Oct-22	248
DDA-270	Civil Req. for MBS-AGS (Superstruct. design) - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	15-Sep-21 A	05-Mar-22	24-Dec-22	26-Feb-23	358
DDA-230	Architectural for MBS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	05-Oct-21 A	05-Apr-22	01-Sep-22	05-Dec-22	244
DDA-280	P&ID for TTS - MBS (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	08-Oct-21 A	09-Apr-22	02-Oct-23	09-Jan-24	640
DDA-290	Mechanical for MBS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	08-Oct-21 A	09-Apr-22	02-Oct-23	09-Jan-24	640
DDA-300	Electrical& Control for MBS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	08-Oct-21 A	09-Apr-22	02-Oct-23	09-Jan-24	640
DDA-310	Building Services (BS) for MBS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	08-Oct-21 A	09-Apr-22	02-Oct-23	09-Jan-24	640
DDA-240	Foundation for MBS - Prepare (97d), Sub. & Review.(45d) ,Comment & Resub.(14d),GEO (28d)& Approval (7d)	191	06-Mar-22	12-Sep-22	05-Nov-22	14-May-23	244
DDA-250	Civil & Structural for MBS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	10-Apr-22	13-Aug-22	10-Mar-23	13-Jul-23	334
Package 5A - Master Water Meter Room		532	28-Jan-22	13-Jul-23	16-Oct-24	31-Mar-26	992
DDA-360	Foundation for Master Water Meter RM- Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d),GEO(28d) & Approval (7d)	154	28-Jan-22*	30-Jun-22	16-Oct-24	18-Mar-25	992
DDA-370	Civil & Struct. for Master Water Meter Room- Prepare (90d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	156	01-Jul-22	03-Dec-22	19-Mar-25	21-Aug-25	992
DDA-380	General Arrangement & Civil Req. for MWMR - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	04-Nov-22	09-Mar-23	26-Nov-25	31-Mar-26	1118
DDA-390	P&ID for MWMR - MBS (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	04-Nov-22	09-Mar-23	23-Jul-25	25-Nov-25	992
DDA-400	Mechanical for MWMR - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	10-Mar-23	13-Jul-23	26-Nov-25	31-Mar-26	992
DDA-410	Electrical& Control for MWMR - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	10-Mar-23	13-Jul-23	26-Nov-25	31-Mar-26	992
Package 5B - Plant Service Water (PSW)		282	27-Apr-21 A	11-Mar-22	05-Mar-23	19-Dec-23	648
DDA-1040	Piping & Instrumentation Diagram (P&ID) - Prep(30d), Sub.&Review(28d), Comment&Resub (14d) & Approval (7d)	96	27-Apr-21 A	31-Jul-21 A			
DDA-1050	Civil Requirement Drawings - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	126	12-Jun-21 A	11-Mar-22	05-Mar-23	14-May-23	429
DDA-1060	Electrical & Control for PSW - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	126	31-Aug-21 A	05-Mar-22	16-Oct-23	19-Dec-23	654
DDA-1070	Mechanical for PSW - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	126	31-Aug-21 A	05-Mar-22	16-Oct-23	19-Dec-23	654
Package 6 - Sludge Thickening Chemical and Dosing System		377	28-Jun-21 A	09-Jul-22	26-May-22	21-Feb-23	227
DDA-440B	Civil Req. for STCDS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	28-Jun-21 A	18-Feb-22	03-Jan-23	21-Feb-23	368
DDA-1120	P&ID for STCDS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	28-Jun-21 A	25-Feb-22	27-Dec-22	21-Feb-23	361
DDA-1130	Mechanical for STCDS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	28-Jun-21 A	21-Feb-22	31-Dec-22	21-Feb-23	365



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

- Remaining Level of Effort
- DWP Rev.8
- Actual Work
- Remaining Work
- Critical Remaining Work

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

Project ID : DWP.DPr9_220111
Layout : DC201910 DWP rev.9

Detailed Works Programme

Date	Revision	Checked	Approved
31-Dec-21	Rev. 9		
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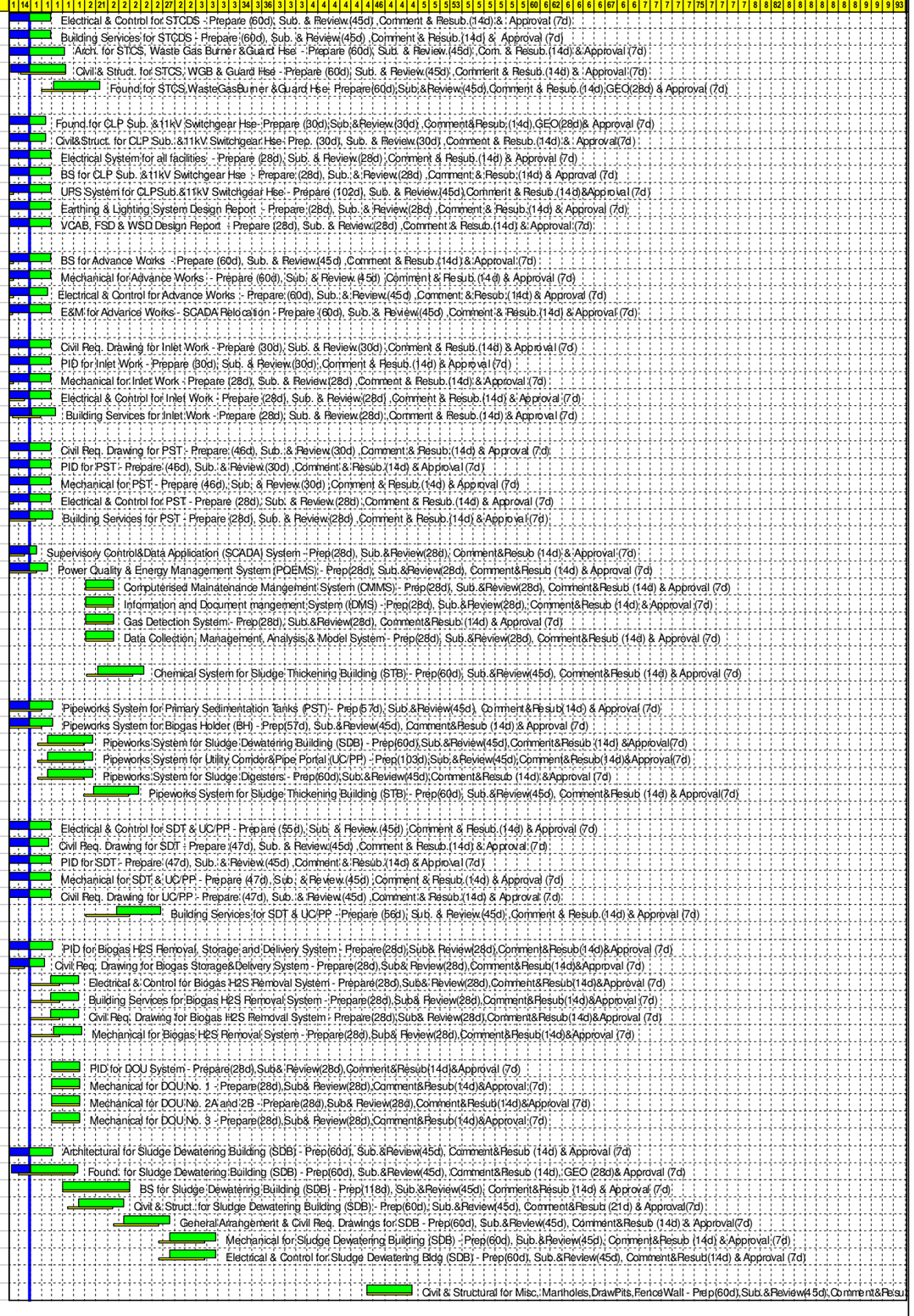
Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
DDA-1140	Electrical & Control for STCDS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	28-Jun-21 A	25-Feb-22	27-Dec-22	21-Feb-23	361
DDA-1150	Building Services for STCDS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	28-Jun-21 A	25-Feb-22	27-Dec-22	21-Feb-23	361
DDA-420	Arch. for STCS, Waste Gas Burner &Guard Hse - Prepare (60d), Sub. & Review.(45d) ,Com. & Resub.(14d) & Approval (7d)	126	05-Oct-21 A	04-Apr-22	26-May-22	28-Aug-22	146
DDA-440	Civil & Struct. for STCS, WGB & Guard Hse - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	09-Nov-21 A	09-Apr-22	14-Nov-22	21-Feb-23	318
DDA-430	Found.for STCS,WasteGasBurner &Guard Hse- Prepare(60d),Sub.&Review.(45d),Comment & Resub.(14d),GEO(28d) & Approval (7d	126	06-Mar-22	09-Jul-22	30-Jul-22	02-Dec-22	146
Package 7 - CLP Substation and 11kV Switchgear House		170	01-Jun-21 A	25-Feb-22	15-Mar-22	04-Oct-22	221
DDA-450	Found.for CLP Sub. &11kV Switchgear Hse- Prepare (30d),Sub.&Review.(30d) ,Comment&Resub.(14d),GEO(28d)& Approval (7d)	82	01-Jun-21 A	11-Feb-22	15-Mar-22	26-Apr-22	74
DDA-460	Civil&Struct. for CLP Sub. &11kV Switchgear Hse- Prep. (30d), Sub. & Review.(30d) ,Comment & Resub.(14d) & Approval(7d)	82	01-Jun-21 A	11-Feb-22	15-Mar-22	26-Apr-22	74
DDA-470	Electrical System for all facilities - Prepare (28d), Sub. & Review.(28d) ,Comment & Resub.(14d) & Approval (7d)	78	01-Jun-21 A	25-Feb-22	15-Mar-22	10-May-22	74
DDA-490	BS for CLP Sub. &11kV Switchgear Hse - Prepare (28d), Sub. & Review.(28d) ,Comment & Resub.(14d) & Approval (7d)	78	01-Jun-21 A	25-Feb-22	13-Jun-22	08-Aug-22	164
DDA-480	UPS System for CLPSub.&11kV Switchgear Hse - Prepare (102d), Sub. & Review.(45d),Comment & Resub.(14d)&Approval (7d)	168	03-Jun-21 A	25-Feb-22	09-Aug-22	04-Oct-22	221
DDA-1160	Earthing & Lighting System Design Report - Prepare (28d), Sub. & Review.(28d) ,Comment & Resub.(14d) & Approval (7d)	78	02-Jul-21 A	25-Feb-22	15-Mar-22	10-May-22	74
DDA-1450	VCAB, FSD & WSD Design Report - Prepare (28d), Sub. & Review.(28d) ,Comment & Resub.(14d) & Approval (7d)	78	02-Jul-21 A	25-Feb-22	15-Mar-22	10-May-22	74
Package 8 - Advance Works and SCADA Relocation		78	04-May-21 A	25-Feb-22	04-Feb-22	01-Apr-22	35
DDA-520	BS for Advance Works - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	78	04-May-21 A	25-Feb-22	04-Feb-22	01-Apr-22	35
DDA-500	Mechanical for Advance Works - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	78	22-May-21 A	25-Feb-22	04-Feb-22	01-Apr-22	35
DDA-510	Electrical & Control for Advance Works - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	78	04-Jun-21 A	18-Feb-22	11-Feb-22	01-Apr-22	42
DDA-530	E&M for Advance Works - SCADA Relocation - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	76	24-Jun-21 A	25-Feb-22	04-Feb-22	01-Apr-22	35
Package 9 - Inlet Work (IW)		233	10-Jun-21 A	10-Mar-22	24-Nov-22	03-Mar-23	358
DDA-1170	Civil Req. Drawing for Inlet Work - Prepare (30d), Sub. & Review.(30d) ,Comment & Resub.(14d) & Approval (7d)	82	10-Jun-21 A	25-Feb-22	24-Nov-22	19-Jan-23	328
DDA-1180	PID for Inlet Work - Prepare (30d), Sub. & Review.(30d) ,Comment & Resub.(14d) & Approval (7d)	82	10-Jun-21 A	25-Feb-22	24-Nov-22	19-Jan-23	328
DDA-1190	Mechanical for Inlet Work - Prepare (28d), Sub. & Review.(28d) ,Comment & Resub.(14d) & Approval (7d)	78	09-Aug-21 A	25-Feb-22	24-Nov-22	19-Jan-23	328
DDA-1200	Electrical & Control for Inlet Work - Prepare (28d), Sub. & Review.(28d) ,Comment & Resub.(14d) & Approval (7d)	78	31-Aug-21 A	25-Feb-22	24-Nov-22	19-Jan-23	328
DDA-1210	Building Services for Inlet Work - Prepare (28d), Sub. & Review.(28d) ,Comment & Resub.(14d) & Approval (7d)	76	15-Oct-21 A	10-Mar-22	30-Dec-22	03-Mar-23	358
Package 10 - Primary Sedimentation Tank (PST)		230	01-Jun-21 A	04-Mar-22	16-Aug-23	18-Oct-23	593
DDA-1220	Civil Req. Drawing for PST - Prepare (46d), Sub. & Review.(30d) ,Comment & Resub.(14d) & Approval (7d)	98	01-Jun-21 A	25-Feb-22	16-Aug-23	11-Oct-23	593
DDA-1230	PID for PST - Prepare (46d), Sub. & Review.(30d) ,Comment & Resub.(14d) & Approval (7d)	98	01-Jun-21 A	25-Feb-22	16-Aug-23	11-Oct-23	593
DDA-1240	Mechanical for PST - Prepare (46d), Sub. & Review.(30d) ,Comment & Resub.(14d) & Approval (7d)	98	01-Jun-21 A	25-Feb-22	16-Aug-23	11-Oct-23	593
DDA-1250	Electrical & Control for PST - Prepare (28d), Sub. & Review.(28d) ,Comment & Resub.(14d) & Approval (7d)	48	31-Aug-21 A	25-Feb-22	16-Aug-23	11-Oct-23	593
DDA-1260	Building Services for PST - Prepare (28d), Sub. & Review.(28d) ,Comment & Resub.(14d) & Approval (7d)	78	01-Oct-21 A	04-Mar-22	16-Aug-23	18-Oct-23	593
Package 11 - Control and Monitoring System		322	31-Aug-21 A	17-Aug-22	08-Dec-22	24-Feb-23	191
DDA-550	Supervisory Control&Data Application (SCADA) System - Prep(28d), Sub.&Review(28d), Comment&Resub (14d) & Approval (7d)	78	31-Aug-21 A	17-Jan-22	07-Jan-23	25-Jan-23	373
DDA-580	Power Quality & Energy Management System (PQEMS) - Prep(28d), Sub.&Review(28d), Comment&Resub (14d) & Approval (7d)	78	02-Oct-21 A	16-Feb-22	07-Jan-23	24-Feb-23	373
DDA-560	Computerised Mainatenance Mangement System (CMMS) - Prep(28d), Sub.&Review(28d), Comment&Resub (14d) & Approval (7d)	78	01-Jun-22*	17-Aug-22	08-Dec-22	24-Feb-23	191
DDA-570	Information and Document mangement System (IDMS) - Prep(28d), Sub.&Review(28d), Comment&Resub (14d) & Approval (7d)	78	01-Jun-22	17-Aug-22	08-Dec-22	24-Feb-23	191
DDA-1270	Gas Detection System - Prep(28d), Sub.&Review(28d), Comment&Resub (14d) & Approval (7d)	78	01-Jun-22	17-Aug-22	08-Dec-22	24-Feb-23	191
DDA-1280	Data Collection, Management, Analysis,& Model System - Prep(28d), Sub.&Review(28d), Comment&Resub (14d) & Approval (7d)	78	01-Jun-22	17-Aug-22	08-Dec-22	24-Feb-23	191
Package 12 - Chemical System for STB		126	06-Jul-22	08-Nov-22	29-Oct-22	03-Mar-23	115
DDA-650	Chemical System for Sludge Thickening Building (STB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	126	06-Jul-22	08-Nov-22	29-Oct-22	03-Mar-23	115
Package 13 - Pipework System		389	18-Sep-21 A	26-Oct-22	21-Jul-22	03-Jun-24	586
DDA-670	Pipeworks System for Primary Sedimentation Tanks (PST) - Prep(57d), Sub.&Review(45d), Comment&Resub(14d) & Approval (7d)	123	18-Sep-21 A	02-Mar-22	21-Jul-22	20-Sep-22	202
DDA-680	Pipeworks System for Biogas Holder (BH) - Prep(57d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	123	18-Sep-21 A	02-Mar-22	21-Jul-22	20-Sep-22	202
DDA-690	Pipeworks System for Sludge Dewatering Building (SDB) - Prep(60d),Sub.&Review(45d),Comment&Resub (14d) &Approval(7d)	126	17-Feb-22	22-Jun-22	08-Nov-22	13-Mar-23	264
DDA-700	Pipeworks System for Utility Corridor&Pipe Portal (UC/PP) - Prep(103d),Sub.&Review(45d),Comment&Resub(14d)&Approval(7d)	126	17-Feb-22	22-Jun-22	08-Nov-22	13-Mar-23	264
DDA-1030	Pipeworks System for Sludge Digesters - Prep(60d),Sub.&Review(45d),Comment&Resub (14d) &Approval (7d)	126	17-Feb-22	22-Jun-22	26-Sep-23	29-Jan-24	586
DDA-660	Pipeworks System for Sludge Thickening Building (STB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	126	23-Jun-22	26-Oct-22	30-Jan-24	03-Jun-24	586
Package 14 - Sludge Anaerobic Digestion System (SDT)		543	02-Jul-21 A	26-Dec-22	03-Jan-22	25-Sep-24	639
DDA-1320	Electrical & Control for SDT & UC/PP - Prepare (55d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	121	02-Jul-21 A	25-Feb-22	31-Mar-24	26-May-24	821
DDA-1290	Civil Req. Drawing for SDT - Prepare (47d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	113	10-Jul-21 A	21-Feb-22	03-Jan-22	24-Feb-22	3
DDA-1300	PID for SDT - Prepare (47d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	113	10-Jul-21 A	25-Feb-22	10-Dec-23	04-Feb-24	709
DDA-1310	Mechanical for SDT & UC/PP - Prepare (47d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	113	10-Jul-21 A	25-Feb-22	10-Dec-23	04-Feb-24	709
DDA-1340	Civil Req. Drawing for UC/PP - Prepare (47d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	113	10-Jul-21 A	25-Feb-22	01-Oct-23	26-Nov-23	639
DDA-1330	Building Services for SDT & UC/PP - Prepare (56d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	122	27-Aug-22	26-Dec-22	27-May-24	25-Sep-24	639
Package 15 - Biogas H2S Removal, Storage and Delivery System		313	13-Jul-21 A	21-May-22	03-Jan-22	20-Sep-22	122
DDA-1360	PID for Biogas H2S Removal, Storage and Delivery System - Prepare(28d),Sub& Review(28d),Comment&Resub(14d)&Approval (7d)	75	13-Jul-21 A	04-Mar-22	03-Jan-22	07-Mar-22	3
DDA-1350	Civil Req. Drawing for Biogas Storage&Delivery System - Prepare(28d),Sub& Review(28d),Comment&Resub(14d)&Approval (7d)	78	31-Aug-21 A	09-Feb-22	03-Jan-22	12-Feb-22	3
DDA-1380	Electrical & Control for Biogas H2S Removal System - Prepare(28d),Sub& Review(28d),Comment&Resub(14d)&Approval (7d)	78	25-Feb-22	13-May-22	05-Jul-22	20-Sep-22	130
DDA-1390	Building Services for Biogas H2S Removal System - Prepare(28d),Sub& Review(28d),Comment&Resub(14d)&Approval (7d)	78	25-Feb-22	13-May-22	05-Jul-22	20-Sep-22	130
DDA-1400	Civil Req. Drawing for Biogas H2S Removal System - Prepare(28d),Sub& Review(28d),Comment&Resub(14d)&Approval (7d)	78	25-Feb-22	13-May-22	05-Jul-22	20-Sep-22	130
DDA-1370	Mechanical for Biogas H2S Removal System - Prepare(28d),Sub& Review(28d),Comment&Resub(14d)&Approval (7d)	78	05-Mar-22	21-May-22	05-Jul-22	20-Sep-22	122
Package 16 - Deodorization Unit System		78	28-Feb-22	16-May-22	25-Dec-23	11-Mar-24	665
DDA-1410	PID for DOU System - Prepare(28d),Sub& Review(28d),Comment&Resub(14d)&Approval (7d)	78	28-Feb-22*	16-May-22	25-Dec-23	11-Mar-24	665
DDA-1420	Mechanical for DOU No. 1 - Prepare(28d),Sub& Review(28d),Comment&Resub(14d)&Approval (7d)	78	28-Feb-22	16-May-22	25-Dec-23	11-Mar-24	665
DDA-1430	Mechanical for DOU No. 2A and 2B - Prepare(28d),Sub& Review(28d),Comment&Resub(14d)&Approval (7d)	78	28-Feb-22	16-May-22	25-Dec-23	11-Mar-24	665
DDA-1440	Mechanical for DOU No. 3 - Prepare(28d),Sub& Review(28d),Comment&Resub(14d)&Approval (7d)	78	28-Feb-22	16-May-22	25-Dec-23	11-Mar-24	665
Package 17 - Sludge Dewatering Building (SDB)		718	07-Jun-21 A	25-May-23	27-Sep-23	17-Feb-25	634
DDA-890	Architectural for Sludge Dewatering Building (SDB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	126	07-Jun-21 A	04-Mar-22	16-Dec-24	17-Feb-25	1081
DDA-900	Found. for Sludge Dewatering Building (SDB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d), GEO (28d)& Approval (7d)	154	10-Nov-21 A	12-May-22	27-Sep-23	05-Feb-24	634
DDA-950	BS for Sludge Dewatering Building (SDB) - Prep(118d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	184	31-Mar-22	30-Sep-22	18-Aug-24	17-Feb-25	871
DDA-910	Civil & Struct. for Sludge Dewatering Building (SDB) - Prep(60d), Sub.&Review(45d), Comment&Resub (21d) & Approval(7d)	126	13-May-22	15-Sep-22	06-Feb-24	10-Jun-24	634
DDA-920	General Arrangement & Civil Req. Drawings for SDB - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	126	16-Sep-22	19-Jan-23	11-Jun-24	14-Oct-24	634
DDA-930	Mechanical for Sludge Dewatering Building (SDB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	126	20-Jan-23	25-May-23	15-Oct-24	17-Feb-25	634
DDA-940	Electrical & Control for Sludge Dewatering Bldg (SDB) - Prep(60d), Sub.&Review(45d), Comment&Resub(14d) & Approval (7d)	126	20-Jan-23	25-May-23	15-Oct-24	17-Feb-25	634
Package 18 - Miscellaneous		126	13-Jul-24	15-Nov-24	03-Mar-25	06-Jul-25	233
DDA-540	Civil & Structural for Misc, Manholes,DrawPits,FenceWall - Prep(60d),Sub.&Review(45d),Comment&Resub(14d) & Approval(7d)	126	13-Jul-24*	15-Nov-24	03-Mar-25	06-Jul-25	233



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

Remaining Level of Effort
DWP Rev.8
Actual Work
Remaining Work
Critical Remaining Work

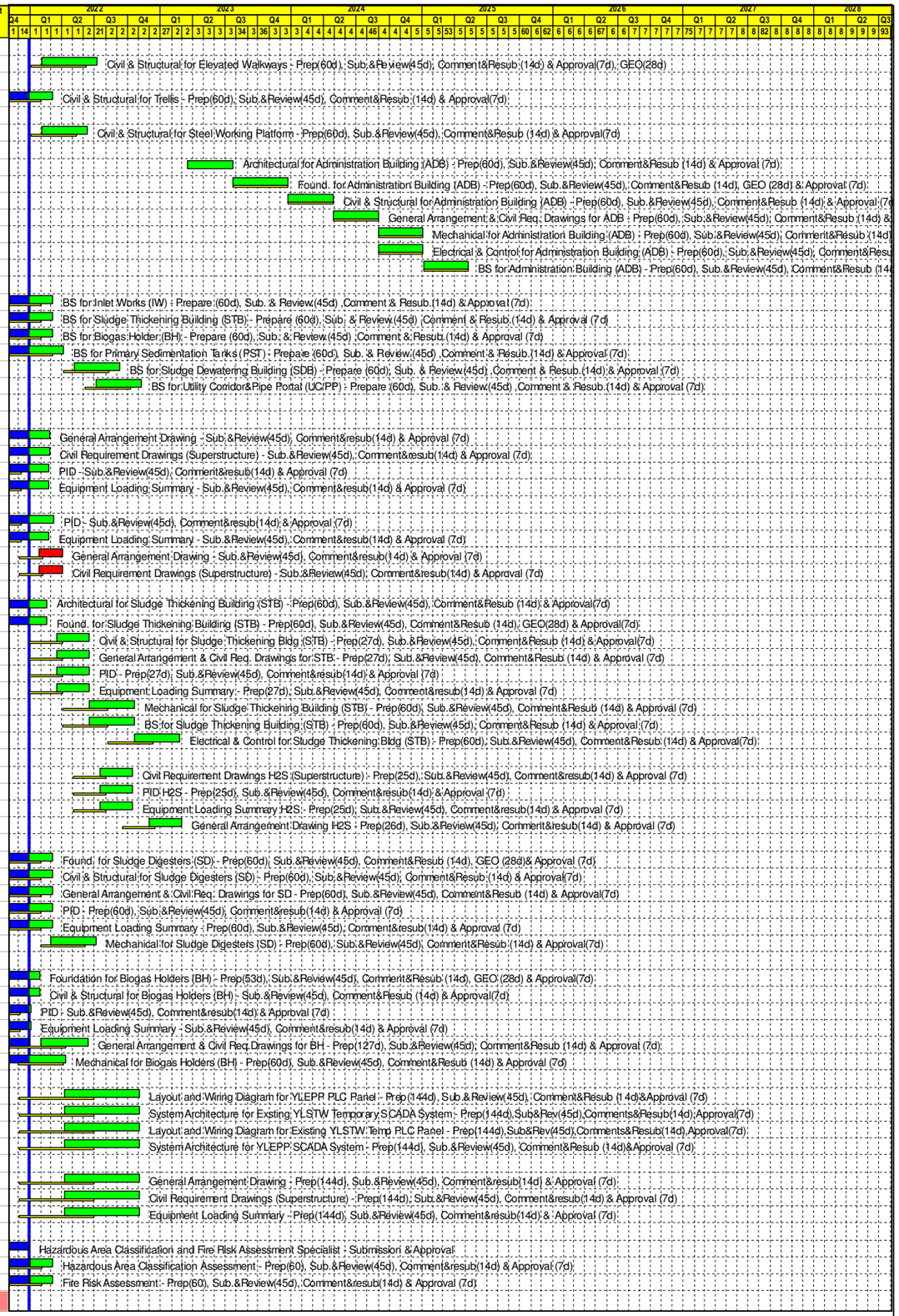
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr9_220111
Layout : DC201910 DWP rev.9

Detailed Works Programme

Date	Revision	Checked	Approved
31-Dec-21	Rev. 9		
30-Nov-21	Rev. 8		
31-Oct-21	Rev. 7		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
Package 19 - Elevated Walkways		154	05-Feb-22	08-Jul-22	06-Oct-24	08-Mar-25	974
DDA-710	Civil & Structural for Elevated Walkways - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d), GEO(28d)	154	05-Feb-22	08-Jul-22	06-Oct-24	08-Mar-25	974
Package 20 - Trellis		126	31-Aug-21 A	06-Mar-22	31-Aug-24	04-Nov-24	974
DDA-720	Civil & Structural for Trellis - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	126	31-Aug-21 A	06-Mar-22	31-Aug-24	04-Nov-24	974
Package 21 - Steel Working Platform		126	05-Feb-22	10-Jun-22	06-Oct-24	08-Feb-25	974
DDA-730	Civil & Structural for Steel Working Platform - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	126	05-Feb-22	10-Jun-22	06-Oct-24	08-Feb-25	974
Administration Building (ADB)		784	19-Mar-23	10-May-25	26-Sep-23	06-Jan-26	241
DDA-0960	Architectural for Administration Building (ADB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	126	19-Mar-23	22-Jul-23	26-Sep-23	29-Jan-24	191
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	30-Jan-24	01-Jul-24	191
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	25-Dec-24	29-Apr-25	241
DDA-1000	Mechanical for Administration Building (ADB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	126	01-Sep-24	04-Jan-25	03-Sep-25	06-Jan-26	367
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	30-Apr-25	02-Sep-25	241
DDA-1020	BS for Administration Building (ADB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	126	05-Jan-25	10-May-25	03-Sep-25	06-Jan-26	241
Building Services		405	31-Aug-21 A	08-Nov-22	25-Apr-22	03-Mar-23	115
DDA-590	BS for Inlet Works (IW) - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	31-Aug-21 A	06-Mar-22	28-Dec-22	03-Mar-23	362
DDA-600	BS for Sludge Thickening Building (STB) - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	31-Aug-21 A	06-Mar-22	24-Aug-22	28-Oct-22	236
DDA-620	BS for Biogas Holder (BH) - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	31-Aug-21 A	06-Mar-22	24-Jun-22	28-Aug-22	175
DDA-610	BS for Primary Sedimentation Tanks (PST) - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	30-Sep-21 A	05-Apr-22	25-Apr-22	29-Jul-22	115
DDA-630	BS for Sludge Dewatering Building (SDB) - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	06-May-22	08-Sep-22	29-Aug-22	01-Jan-23	115
DDA-640	BS for Utility Corridor&Pipe Portal (UC/PP) - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	06-Jul-22	08-Nov-22	29-Oct-22	03-Mar-23	115
Technical Submission		641	30-May-21 A	01-Mar-23	28-Jan-22	22-May-25	813
Inlet Works (IW)		192	30-May-21 A	25-Feb-22	28-Jan-22	19-Jan-23	328
TS-910	General Arrangement Drawing - Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	66	30-May-21 A	25-Feb-22	24-Nov-22	19-Jan-23	328
TS-920	Civil Requirement Drawings (Superstructure) - Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	66	30-May-21 A	25-Feb-22	24-Nov-22	19-Jan-23	328
TS-890	PID - Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	66	03-Sep-21 A	22-Feb-22	28-Jan-22	22-Mar-22	28
TS-900	Equipment Loading Summary - Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	66	03-Sep-21 A	22-Feb-22	28-Jan-22	22-Mar-22	28
Primary Sedimentation Tank (PST)		183	03-Sep-21 A	03-Apr-22	28-Jan-22	05-Apr-22	2
TS-940	PID - Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	66	03-Sep-21 A	08-Mar-22	28-Jan-22	05-Apr-22	28
TS-930	Equipment Loading Summary - Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	66	03-Sep-21 A	22-Feb-22	28-Jan-22	22-Mar-22	28
TS-950	General Arrangement Drawing - Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	66	28-Jan-22*	03-Apr-22	28-Jan-22	03-Apr-22	0
TS-960	Civil Requirement Drawings (Superstructure) - Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	66	28-Jan-22*	03-Apr-22	28-Jan-22	03-Apr-22	0
Sludge Thickening Building (STB)		633	01-Jun-21 A	23-Feb-23	03-Apr-22	03-Jun-24	466
TS-820	Architectural for Sludge Thickening Building (STB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	126	01-Jun-21 A	18-Feb-22	07-Sep-22	26-Oct-22	250
TS-830	Found. for Sludge Thickening Building (STB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d), GEO(28d) & Approval(7d)	154	01-Jun-21 A	18-Feb-22	03-Apr-22	22-May-22	93
TS-840	Civil & Structural for Sludge Thickening Bldg (STB) - Prep(27d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	93	16-Mar-22	16-Jun-22	21-Nov-22	21-Feb-23	250
TS-850	General Arrangement & Civil Req. Drawings for STB - Prep(27d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	93	16-Mar-22	16-Jun-22	25-Jun-23	25-Sep-23	466
TS-970	PID - Prep(27d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	93	16-Mar-22	16-Jun-22	21-Nov-22	21-Feb-23	250
TS-980	Equipment Loading Summary - Prep(27d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	93	16-Mar-22	16-Jun-22	10-Dec-23	11-Mar-24	634
TS-860	Mechanical for Sludge Thickening Building (STB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	126	17-Jun-22	20-Oct-22	26-Sep-23	29-Jan-24	466
TS-880	BS for Sludge Thickening Building (STB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	126	17-Jun-22	20-Oct-22	30-Jan-24	03-Jun-24	592
TS-870	Electrical & Control for Sludge Thickening Bldg (STB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	126	21-Oct-22	23-Feb-23	30-Jan-24	03-Jun-24	466
H2S Removal System (H2S)		228	17-Jul-22	01-Mar-23	07-Oct-24	22-May-25	813
TS-1000	Civil Requirement Drawings H2S (Superstructure) - Prep(25d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	91	17-Jul-22	15-Oct-22	07-Oct-24	05-Jan-25	813
TS-1020	PID H2S - Prep(25d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	91	17-Jul-22	15-Oct-22	07-Oct-24	05-Jan-25	813
TS-1010	Equipment Loading Summary H2S - Prep(25d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	91	17-Jul-22	15-Oct-22	07-Oct-24	05-Jan-25	813
TS-990	General Arrangement Drawing H2S - Prep(26d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	92	30-Nov-22	01-Mar-23	20-Feb-25	22-May-25	813
Sludge Digesters (SD)		279	25-Sep-21 A	05-Jul-22	06-Feb-23	25-Sep-24	813
TS-740	Found. for Sludge Digesters (SD) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d), GEO (28d)& Approval (7d)	126	25-Sep-21 A	06-Mar-22	06-Feb-23	12-Apr-23	402
TS-750	Civil & Structural for Sludge Digesters (SD) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	126	25-Sep-21 A	06-Mar-22	01-Dec-23	04-Feb-24	700
TS-760	General Arrangement & Civil Req. Drawings for SD - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	126	25-Sep-21 A	06-Mar-22	23-Mar-24	27-May-24	813
TS-1030	PID - Prep(60d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	126	25-Sep-21 A	06-Mar-22	22-Jul-24	25-Sep-24	934
TS-1040	Equipment Loading Summary - Prep(60d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	126	25-Sep-21 A	06-Mar-22	22-Jul-24	25-Sep-24	934
TS-770	Mechanical for Sludge Digesters (SD) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	126	02-Mar-22	05-Jul-22	23-May-24	25-Sep-24	813
Biogas Holders (BH)		304	12-Jun-21 A	12-Jun-22	05-Feb-22	20-Sep-22	100
TS-780	Foundation for Biogas Holders (BH) - Prep(53d), Sub.&Review(45d), Comment&Resub (14d), GEO (28d) & Approval(7d)	147	12-Jun-21 A	30-Jan-22	05-Feb-22	07-Mar-22	36
TS-790	Civil & Structural for Biogas Holders (BH) - Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	66	12-Jun-21 A	30-Jan-22	10-Apr-22	10-May-22	100
TS-1050	PID - Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	66	31-Aug-21 A	05-Jan-22	12-Jun-22	17-Jun-22	163
TS-1060	Equipment Loading Summary - Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	66	31-Aug-21 A	05-Jan-22	12-Jun-22	17-Jun-22	163
TS-800	General Arrangement & Civil Req.Drawings for BH - Prep(127d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	193	16-Sep-21 A	12-Jun-22	11-May-22	20-Sep-22	100
TS-810	Mechanical for Biogas Holders (BH) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	126	05-Nov-21 A	10-Apr-22	12-Jun-22	20-Sep-22	163
SCADA		210	09-Apr-22	04-Nov-22	29-Jul-22	24-Feb-23	112
TS-1070	Layout and Wiring Diagram for YLEPP PLC Panel - Prep(144d), Sub.&Review(45d), Comment&Resub (14d)&Approval (7d)	210	09-Apr-22	04-Nov-22	29-Jul-22	24-Feb-23	112
TS-1080	System Architecture for Exsting YLSTW Temporary SCADA System - Prep(144d),Sub&Rev(45d),Comments&Resub(14d),Approval(7d)	210	09-Apr-22	04-Nov-22	29-Jul-22	24-Feb-23	112
TS-1090	Layout and Wiring Diagram for Existing YLSTW Temp PLC Panel - Prep(144d),Sub&Rev(45d),Comments&Resub(14d),Approval(7d)	210	09-Apr-22	04-Nov-22	29-Jul-22	24-Feb-23	112
TS-1100	System Architecture for YLEPP SCADA System - Prep(144d), Sub.&Review(45d), Comment&Resub (14d)&Approval (7d)	210	09-Apr-22	04-Nov-22	29-Jul-22	24-Feb-23	112
Utility Corridor and Pipe Portal		210	09-Apr-22	04-Nov-22	13-Oct-23	09-May-24	552
TS-1110	General Arrangement Drawing - Prep(144d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	210	09-Apr-22	04-Nov-22	13-Oct-23	09-May-24	552
TS-1120	Civil Requirement Drawings (Superstructure) - Prep(144d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	210	09-Apr-22	04-Nov-22	13-Oct-23	09-May-24	552
TS-1140	Equipment Loading Summary - Prep(144d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	210	09-Apr-22	04-Nov-22	13-Oct-23	09-May-24	552
Hazardous Area Classification and Fire Risk Assessment		127	31-Aug-21 A	07-Mar-22	16-Jul-22	20-Sep-22	197
TS-1800	Hazardous Area Classification and Fire Risk Assessment Specialist - Submission & Approval	20	31-Aug-21 A	31-Dec-21	16-Jul-22	16-Jul-22	197
TS-1810	Hazardous Area Classification Assessment - Prep(60), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	126	20-Sep-21 A	07-Mar-22	17-Jul-22	20-Sep-22	197
TS-1820	Fire Risk Assessment - Prep(60), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	126	20-Sep-21 A	07-Mar-22	17-Jul-22	20-Sep-22	197
Material Submission, Procurement, Manufacturing and Delivery		300	09-Nov-20 A	04-Jan-22	19-Dec-23	11-Mar-24	797



Remaining Level of Effort
DWP Rev.8
Actual Work
Remaining Work
Critical Remaining Work

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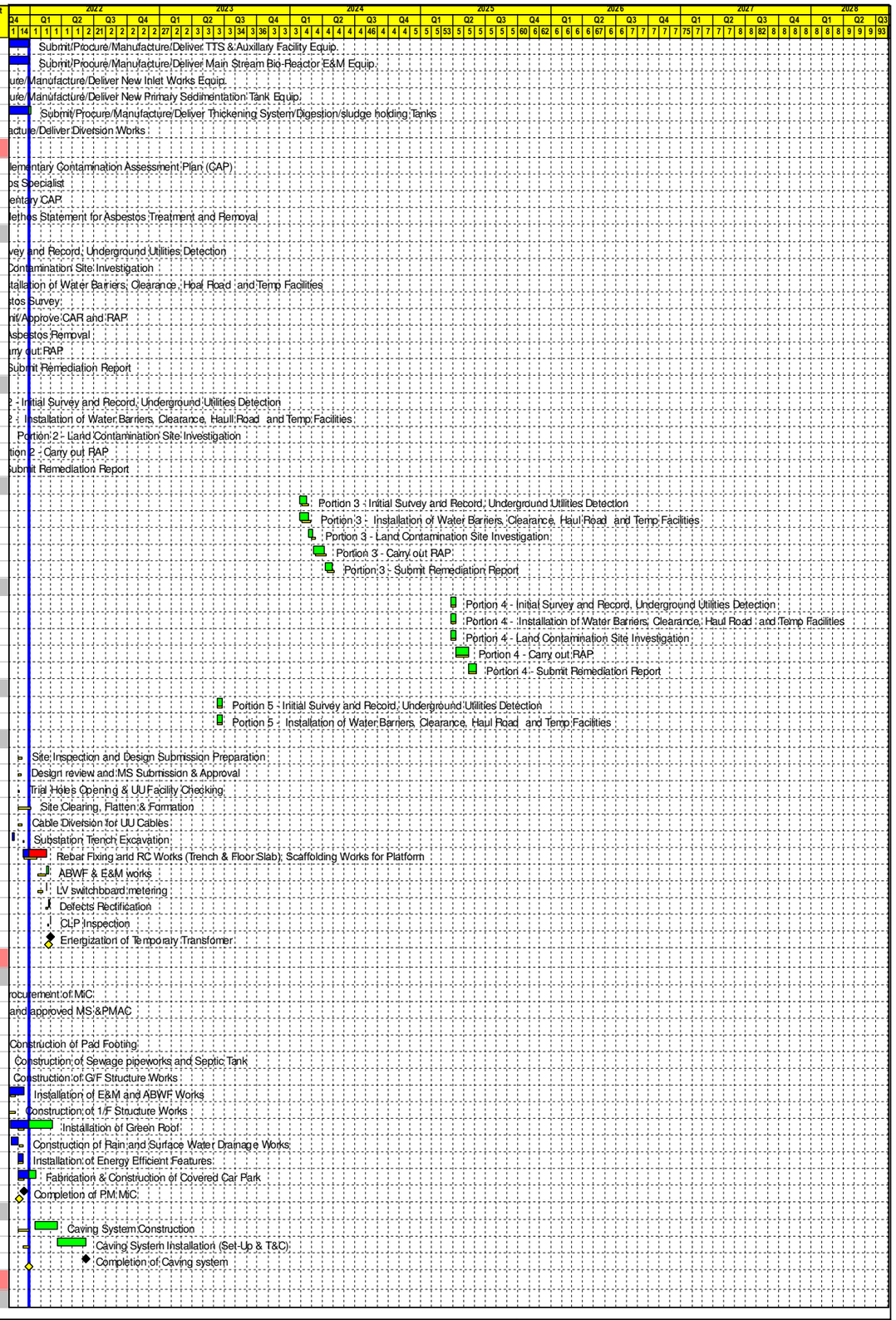
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr9_220111
Layout : DC201910 DWP rev.9

Detailed Works Programme

Date	Revision	Checked	Approved
31-Dec-21	Rev. 9		
30-Nov-21	Rev. 8		
31-Oct-21	Rev. 7		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
PRE-240	Submit/Procure/Manufacture/Deliver TTS & Auxillary Facility Equip.	270	09-Nov-20 A	31-Dec-21	19-Dec-23	19-Dec-23	718
PRE-230	Submit/Procure/Manufacture/Deliver Main Stream Bio-Reactor E&M Equip.	270	09-Nov-20 A	31-Dec-21	09-Jan-24	09-Jan-24	739
PRE-210	Submit/Procure/Manufacture/Deliver New Inlet Works Equip.	180	09-Nov-20 A	07-May-21 A			
PRE-220	Submit/Procure/Manufacture/Deliver New Primary Sedimentation Tank Equip.	180	09-Nov-20 A	07-May-21 A			
PRE-250	Submit/Procure/Manufacture/Deliver Thickening System/Digestion/sludge holding Tanks	300	09-Nov-20 A	04-Jan-22	07-Mar-24	11-Mar-24	797
PRE-260	Submit/Procure/Manufacture/Deliver Diversion Works	44	09-Nov-20 A	22-Dec-20 A			
Site Establishment Works		1432	09-Nov-20 A	05-Jun-25	31-Dec-21	20-Jun-26	759
PG-100	Prepare/Submit Supplementary Contamination Assessment Plan (CAP)	12	21-Dec-20 A	06-Jan-21 A			
PG-120	Procurement Asbestos Specialist	30	21-Dec-20 A	19-Jan-21 A			
PG-110	Approved Supplementary CAP	30	07-Jan-21 A	05-Feb-21 A			
PG-130	Submit/Approve Methos Statement for Asbestos Treatment and Removal	30	20-Jan-21 A	18-Feb-21 A			
Portion 1 - IW Stage 1, PST, MBR, AF, TTS, STCS, Utilities Corridor, Pipe Portal		147	09-Nov-20 A	14-May-21 A			
P1-100	Portion 1 - Initial Survey and Record, Underground Utilities Detection	60	09-Nov-20 A	20-Jan-21 A			
P1-120	Portion 1 - Land Contamination Site Investigation	13	06-Feb-21 A	27-Feb-21 A			
P1-110	Portion 1 - Installation of Water Barriers, Clearance, Hoal Road and Temp Facilities	48	08-Feb-21 A	15-Apr-21 A			
P1-200	Portion 1 - Asbestos Survey	18	19-Feb-21 A	11-Mar-21 A			
P1-130	Portion 1 - Submit/Approve CAR and RAP	18	01-Mar-21 A	20-Mar-21 A			
P1-210	Portion 1 - Asbestos Removal	48	12-Mar-21 A	12-May-21 A			
P1-140	Portion 1 - Carry out RAP	24	22-Mar-21 A	22-Apr-21 A			
P1-150	Portion 1 - Submit Remediation Report	18	23-Apr-21 A	14-May-21 A			
Portion 2 - IW Stage 2		92	08-Jun-21 A	30-Oct-21 A			
P2-100	Portion 2 - Initial Survey and Record, Underground Utilities Detection	12	08-Jun-21 A	22-Jun-21 A			
P2-110	Portion 2 - Installation of Water Barriers, Clearance, Haull Road and Temp Facilities	12	08-Jun-21 A	22-Jun-21 A			
P2-120	Portion 2 - Land Contamination Site Investigation	18	14-Jul-21 A	30-Oct-21 A			
P2-140	Portion 2 - Carry out RAP	24	19-Jul-21 A	26-Aug-21 A			
P2-150	Submit Remediation Report	7	27-Aug-21 A	27-Aug-21 A			
Portion 3 - PST, SDB, Admin. Bldg		69	27-Jan-24	27-Apr-24	17-Feb-24	13-May-24	12
P3-100	Portion 3 - Initial Survey and Record, Underground Utilities Detection	12	27-Jan-24	16-Feb-24	17-Feb-24	01-Mar-24	12
P3-110	Portion 3 - Installation of Water Barriers, Clearance, Haul Road and Temp Facilities	17	27-Jan-24	22-Feb-24	17-Feb-24	07-Mar-24	12
P3-120	Portion 3 - Land Contamination Site Investigation	10	23-Feb-24	05-Mar-24	08-Mar-24	19-Mar-24	12
P3-140	Portion 3 - Carry out RAP	24	06-Mar-24	06-Apr-24	20-Mar-24	20-Apr-24	12
P3-150	Portion 3 - Submit Remediation Report	18	08-Apr-24	27-Apr-24	22-Apr-24	13-May-24	12
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	22-Oct-25	05-Nov-25	697
P5-100	Portion 5 - Initial Survey and Record, Underground Utilities Detection	12	12-Jun-23	26-Jun-23	22-Oct-25	05-Nov-25	697
P5-110	Portion 5 - Installation of Water Barriers, Clearance, Haul Road and Temp Facilities	12	12-Jun-23	26-Jun-23	22-Oct-25	05-Nov-25	697
Temporary Transformer 1600A		69	23-Aug-21 A	28-Feb-22	31-Dec-21	01-Mar-22	1
1600A-0010	Site Inspection and Design Submission Preparation	10	23-Aug-21 A	03-Sep-21 A			
1600A-0020	Design review and MS Submission & Approval	8	30-Aug-21 A	08-Sep-21 A			
1600A-0030	Trial Holes Opening & UU Facility Checking	2	08-Sep-21 A	10-Sep-21 A			
1600A-0040	Site Clearing, Flatten & Formation	27	10-Sep-21 A	15-Oct-21 A			
1600A-0050	Cable Diversion for UU Cables	11	18-Oct-21 A	30-Oct-21 A			
1600A-0060	Substation Trench Excavation	3	15-Nov-21 A	18-Nov-21 A			
1600A-0070	Rebar Fixing and RC Works (Trench & Floor Slab); Scaffolding Works for Platform	28	14-Dec-21 A	16-Feb-22	31-Dec-21	16-Feb-22	0
1600A-0080	ABWF & E&M works	6	17-Feb-22	23-Feb-22	18-Feb-22	24-Feb-22	1
P5-160	LV switchboard metering	2	17-Feb-22	18-Feb-22*	17-Feb-22	18-Feb-22	0
1600A-0090	Defects Rectification	3	24-Feb-22	26-Feb-22	25-Feb-22	28-Feb-22	1
P5-140	CLP Inspection	1	28-Feb-22	28-Feb-22	01-Mar-22	01-Mar-22	1
P5-150	Energization of Temporary Transfomer	0		28-Feb-22*		01-Mar-22	1
PM and Contractor Accomodation		406	18-Feb-21 A	07-Jun-22	07-Jan-22	08-Nov-27	1698
Project Manager's & Contractor Site Accommodation		273	18-Feb-21 A	05-Mar-22	07-Jan-22	08-Nov-27	1686
PMCA-110	Design and Procurement of MiC	45	18-Feb-21 A	15-Apr-21 A			
PMCA-140	Submission and approved MS &PMAC	18	16-Apr-21 A	07-May-21 A			
MiC Section		90	31-Aug-21 A	05-Mar-22	07-Jan-22	08-Nov-27	1686
PMCA-150	Construction of Pad Footing	6	31-Aug-21 A	06-Sep-21 A			
PMCA-160	Construction of Sewage pipeworks and Septic Tank	17	07-Sep-21 A	27-Sep-21 A			
PMCA-170	Construction of G/F Structure Works	16	09-Sep-21 A	20-Oct-21 A			
PMCA-210	Installation of E&M and ABWF Works	12	11-Oct-21 A	16-Dec-21 A			
PMCA-180	Construction of 1/F Structure Works	18	18-Oct-21 A	31-Oct-21 A			
PMCA-190	Installation of Green Roof	16	09-Nov-21 A	05-Mar-22	13-Sep-27	08-Nov-27	1686
PMCA-230	Construction of Rain and Surface Water Drainage Works	10	12-Nov-21 A	30-Nov-21 A			
PMCA-220	Installation of Energy Efficient Features	12	01-Dec-21 A	14-Dec-21 A			
PMCA-200	Fabrication & Construction of Covered Car Park	39	01-Dec-21 A	18-Jan-22	07-Jan-22	24-Jan-22	5
PMCA-260	Completion of PM MiC	0		16-Dec-21 A			
Caving System		121	17-Jan-22	07-Jun-22	17-Jan-22	07-Jun-22	1
PMCA-240	Caving System Construction	48	17-Jan-22*	19-Mar-22	17-Jan-22	21-Mar-22	1
PMCA-250	Caving System Installation (Set-Up & T&C)	60	21-Mar-22	06-Jun-22	21-Mar-22	07-Jun-22	1
PMCA-270	Completion of Caving system	0		07-Jun-22*		07-Jun-22	1
FSI, FSD and OP Requirements		614	15-Oct-21 A	16-Oct-23	24-Nov-22	11-Mar-24	1272
FSI Submission & Approval		411	15-Oct-21 A	21-Feb-23	24-Nov-22	15-Jan-24	1475



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PAUL Y.-CREC JOINT VENTURE

Remaining Level of Effort
DWP Rev.8
Actual Work
Remaining Work
Critical Remaining Work

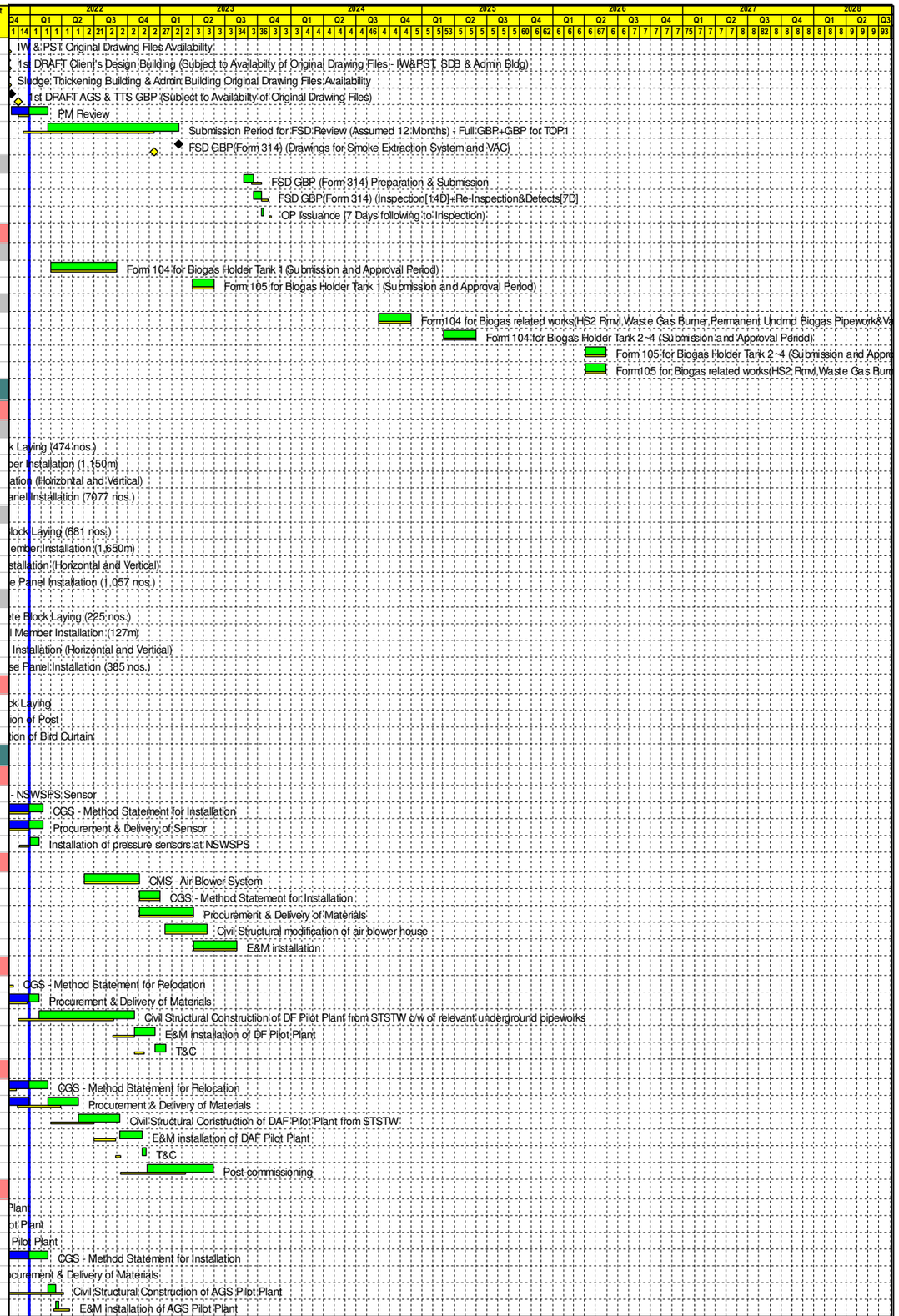
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr9_220111
Layout : DC201910 DWP rev.9

Detailed Works Programme

Date	Revision	Checked	Approved
31-Dec-21	Rev. 9		
30-Nov-21	Rev. 8		
31-Oct-21	Rev. 7		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
FSD-1012	IW & PST Original Drawing Files Availability	0	15-Oct-21 A				
FSD-1010	1st DRAFT Client's Design Building (Subject to Availabilty of Original Drawing Files - IW&PST, SDB & Admin Bldg)	0	29-Oct-21 A				
FSD-1014	Sludge Thickening Building & Admin Building Original Drawing Files Availability	0	29-Oct-21 A				
FSD-1020	1st DRAFT AGS & TTS GBP (Subject to Availabilty of Original Drawing Files)	0	12-Nov-21 A				
FSD-1030	PM Review	31	12-Nov-21 A	19-Feb-22	24-Nov-22	13-Jan-23	328
FSD-1040	Submission Period for FSD Review (Assumed 12 Months) - Full GBP+GBP for TOP1	367	20-Feb-22	21-Feb-23	14-Jan-23	15-Jan-24	328
FSD-1050	FSD GBP(Form 314) (Drawings for Smoke Extraction System and VAC)	0		21-Feb-23		15-Jan-24	328
FSD OP Submission & Approval		56	22-Aug-23	16-Oct-23	16-Jan-24	11-Mar-24	147
FSD-1060	FSD GBP (Form 314) Preparation & Submission	28	22-Aug-23	18-Sep-23	16-Jan-24	12-Feb-24	147
FSD-1070	FSD GBP(Form 314) (Inspection[14D]+Re-Inspection&Defects[7D]	21	19-Sep-23	09-Oct-23	13-Feb-24	04-Mar-24	147
FSD-1080	OP Issuance (7 Days following to Inspection)	7	10-Oct-23	16-Oct-23	05-Mar-24	11-Mar-24	147
Application Form Schedule EMSD (ATAL)		1553	01-Mar-22	31-May-26	07-Jan-26	08-Nov-26	161
Phase 1		457	01-Mar-22	31-May-23	07-Jan-26	08-Sep-26	1196
ATAL-FS-0010	Form 104 for Biogas Holder Tank 1 (Submission and Approval Period)	184	01-Mar-22*	31-Aug-22	07-Jan-26	09-Jul-26	1408
ATAL-FS-0020	Form 105 for Biogas Holder Tank 1 (Submission and Approval Period)	61	01-Apr-23*	31-May-23	10-Jul-26	08-Sep-26	1196
Phase 2		638	01-Sep-24	31-May-26	09-Aug-26	08-Nov-26	161
ATAL-FS-0050	Form104 for Biogas related works(HS2 Rmvl,Waste Gas Burner,Permanent Undrnd Biogas Pipework&Valve(Submission & Approval)	91	01-Sep-24*	30-Nov-24	10-Aug-26	08-Nov-26	708
ATAL-FS-0030	Form 104 for Biogas Holder Tank 2~4 (Submission and Approval Period)	92	01-Mar-25*	31-May-25	09-Aug-26	08-Nov-26	526
ATAL-FS-0040	Form 105 for Biogas Holder Tank 2~4 (Submission and Approval Period)	61	01-Apr-26*	31-May-26	09-Sep-26	08-Nov-26	161
ATAL-FS-0060	Form105 for Biogas related works(HS2 Rmvl,Waste Gas Burner,Permanent Undrnd Biogas Pipework&Valve(Submission & Approval)	61	01-Apr-26*	31-May-26	09-Sep-26	08-Nov-26	161
Environmental Mitigation Measures for KD1 & 2		129	09-Nov-20 A	06-May-21 A			
Noise Barrier		117	09-Nov-20 A	08-Apr-21 A			
NB Northern Side		75	09-Nov-20 A	06-Feb-21 A			
NBN-00	NB North - Concrete Block Laying (474 nos.)	12	09-Nov-20 A	21-Nov-20 A			
NBN-10	NB North - Steel Member Installation (1,150m)	30	23-Nov-20 A	29-Dec-20 A			
NBN-20	NB North - Rails Installation (Horizontal and Vertical)	30	23-Nov-20 A	29-Dec-20 A			
NBN-30	NB North - Noise Panel Installation (7077 nos.)	33	30-Dec-20 A	06-Feb-21 A			
NB Eastern Side		75	30-Dec-20 A	08-Apr-21 A			
NBE-00	NB East - Concrete Block Laying (681 nos.)	12	30-Dec-20 A	13-Jan-21 A			
NBE-10	NB East - Steel Member Installation (1,650m)	30	14-Jan-21 A	24-Feb-21 A			
NBE-20	NB East - Rails Installation (Horizontal and Vertical)	30	14-Jan-21 A	24-Feb-21 A			
NBE-30	NB East - Noise Panel Installation (1,057 nos.)	33	25-Feb-21 A	08-Apr-21 A			
NB Western Side		42	08-Feb-21 A	08-Apr-21 A			
NBW-00B	NB West - Concrete Block Laying (225 nos.)	12	08-Feb-21 A	27-Feb-21 A			
NBW-10	NB West - Steel Member Installation (127m)	20	01-Mar-21 A	23-Mar-21 A			
NBW-20	NB West - Rails Installation (Horizontal and Vertical)	20	01-Mar-21 A	23-Mar-21 A			
NBW-30	NB North - Noise Panel Installation (385 nos.)	10	24-Mar-21 A	08-Apr-21 A			
Bird Curtain		75	30-Dec-20 A	06-May-21 A			
BC-10	BC - Concrete Block Laying	24	30-Dec-20 A	18-Feb-21 A			
BC-20	BC - Installation of Post	32	18-Mar-21 A	29-Apr-21 A			
BC-30	BC - Installation of Bird Curtain	19	26-Apr-21 A	06-May-21 A			
General Advance Works		720	18-Feb-21 A	03-Aug-23	20-Oct-22	14-Mar-24	181
NSWSPS Sensors		199	01-Jun-21 A	07-Feb-22	07-Feb-24	14-Mar-24	617
ATALGA-1130	CMS - NSWSPS Sensor	51	01-Jun-21 A	02-Aug-21 A			
ATALGA-1160	CGS - Method Statement for Installation	101	03-Aug-21 A	07-Feb-22	07-Feb-24	14-Mar-24	617
ATALGA-1170	Procurement & Delivery of Sensor	101	03-Aug-21 A	07-Feb-22	07-Feb-24	14-Mar-24	617
ATALGA-1260	Installation of pressure sensors at NSWSPS	22	03-Jan-22	27-Jan-22	08-Feb-24	11-Mar-24	617
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
Disc Filter (DF) Pilot Plant		406	15-Jul-21 A	16-Jan-23	25-Feb-23	11-Mar-24	334
ATALGA-1080	CGS - Method Statement for Relocation	63	15-Jul-21 A	03-Aug-21 A			
ATALGA-1090	Procurement & Delivery of Materials	97	04-Aug-21 A	26-Jan-22	25-Feb-23	23-Mar-23	334
ATALGA-1000	Civil Structural Construction of DF Pilot Plant from STSTW c/w of relevant underground pipeworks	211	27-Jan-22*	19-Oct-22	23-Mar-23	07-Dec-23	334
ATALGA-1140	E&M installation of DF Pilot Plant	51	20-Oct-22	17-Dec-22	07-Dec-23	07-Feb-24	334
ATALGA-1190	T&C	22	17-Dec-22	16-Jan-23	08-Feb-24	11-Mar-24	334
Dissolved Air Flotation (DAF) Pilot Plant		482	31-Aug-21 A	27-May-23	20-Oct-22	11-Mar-24	233
ATALGA-1100	CGS - Method Statement for Relocation	47	31-Aug-21 A	19-Feb-22	20-Oct-22	01-Dec-22	233
ATALGA-1110	Procurement & Delivery of Materials	97	28-Oct-21 A	16-May-22	02-Dec-22	28-Feb-23	233
ATALGA-1070	Civil Structural Construction of DAF Pilot Plant from STSTW	97	17-May-22*	08-Sep-22	01-Mar-23	29-Jun-23	233
ATALGA-1150	E&M installation of DAF Pilot Plant	51	09-Sep-22	10-Nov-22	30-Jun-23	29-Aug-23	233
ATALGA-1200	T&C	11	11-Nov-22	23-Nov-22	30-Aug-23	11-Sep-23	233
ATALGA-1220	Post-commissioning	144	24-Nov-22	27-May-23	12-Sep-23	11-Mar-24	233
Aerobic Granular Sludge (AGS) Pilot Plant		511	18-Feb-21 A	11-Nov-22	04-May-23	11-Mar-24	387
ATALGA-1030	AIP - AGS Pilot Plant	20	18-Feb-21 A	12-Mar-21 A			
ATALGA-1040	DDA - AGS Pilot Plant	21	13-Mar-21 A	10-Apr-21 A			
ATALGA-1050	CMS - AGS Pilot Plant	48	13-Mar-21 A	13-May-21 A			
ATALGA-1060	CGS - Method Statement for Installation	15	25-Mar-21 A	19-Feb-22	04-May-23	16-Jun-23	387
ATALGA-1120	Procurement & Delivery of Materials	100	28-Apr-21 A	31-Aug-21 A			
ATALGA-1010	Civil Structural Construction of AGS Pilot Plant	19	21-Feb-22*	14-Mar-22	17-Jun-23	11-Jul-23	387
ATALGA-1180	E&M installation of AGS Pilot Plant	6	15-Mar-22	21-Mar-22	12-Jul-23	18-Jul-23	387



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

- Remaining Level of Effort
- DWP Rev.8
- Actual Work
- Remaining Work
- Critical Remaining Work

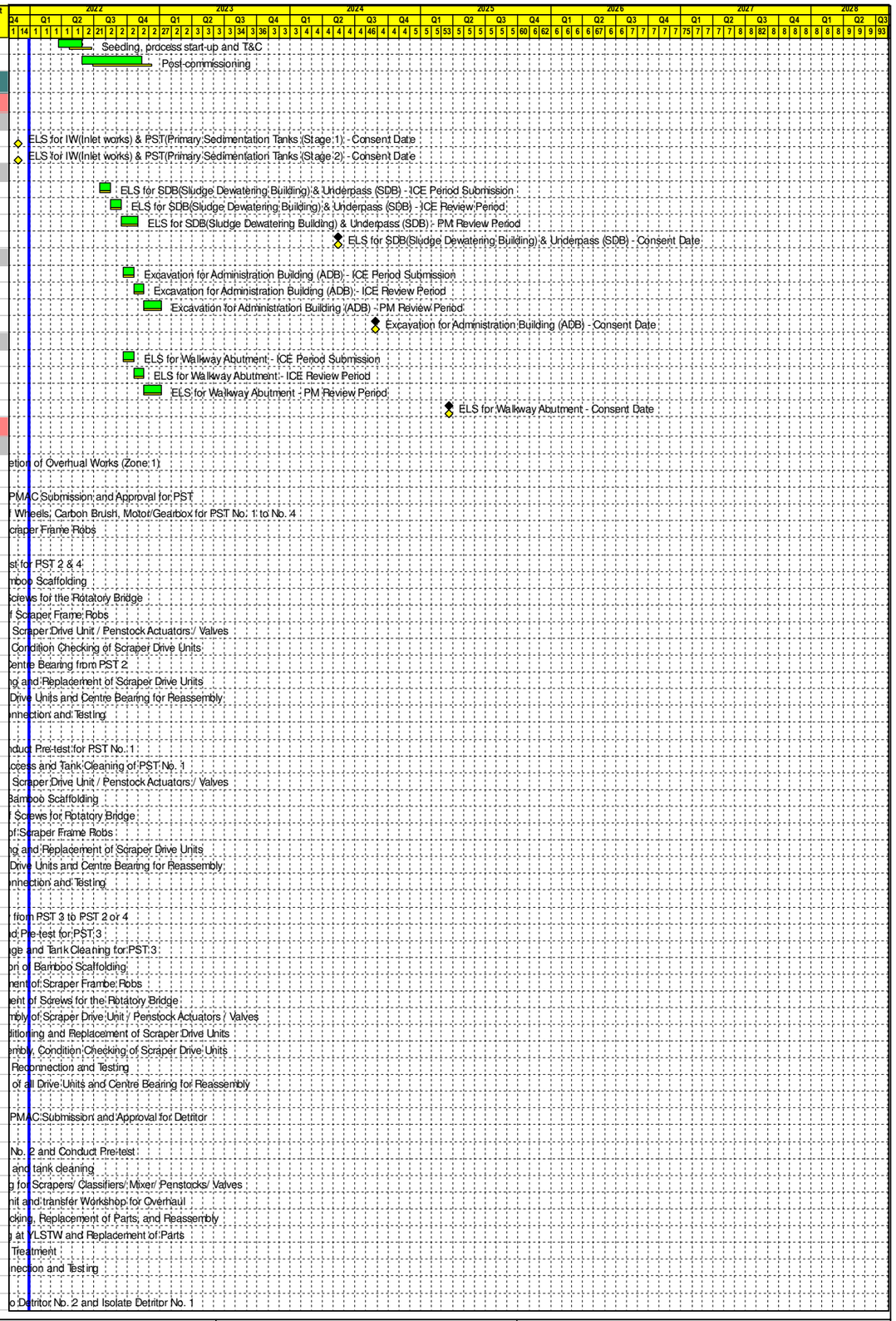
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr9_220111
Layout : DC201910 DWP rev.9

Detailed Works Programme

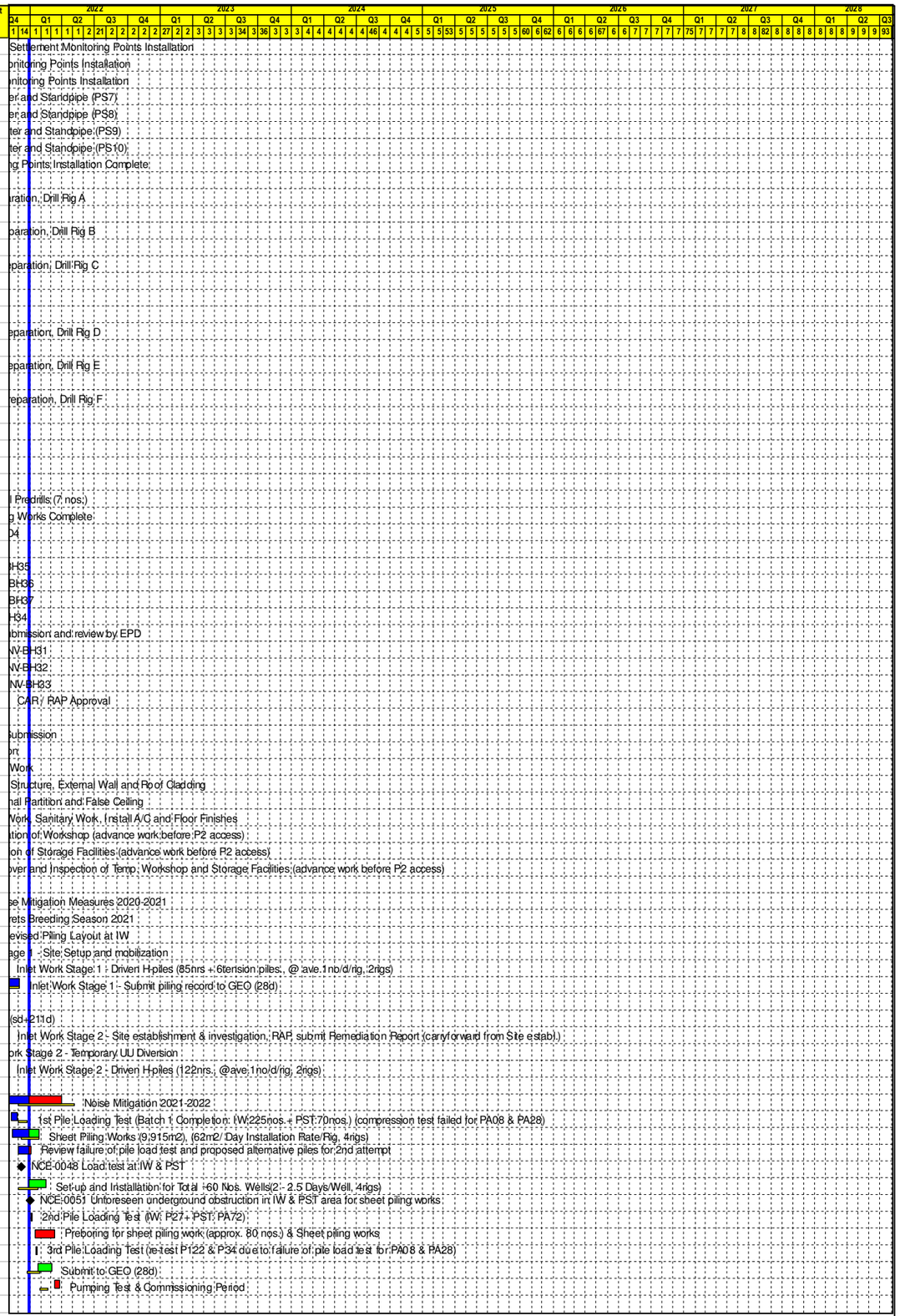
Date	Revision	Checked	Approved
31-Dec-21	Rev. 9		
30-Nov-21	Rev. 8		
31-Oct-21	Rev. 7		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
ATALGA-1210	Seeding, process start-up and T&C	52	22-Mar-22	27-May-22	19-Jul-23	16-Sep-23	387
ATALGA-1270	Post-commissioning	139	28-May-22	11-Nov-22	18-Sep-23	11-Mar-24	387
Zone 1 Construction		1878	09-Nov-20 A	08-Nov-26	31-Dec-21	08-Nov-27	313
Temporary Works Design		1037	03-Oct-21 A	22-Mar-25	09-Sep-22	08-Nov-27	823
IW and PST		0	03-Oct-21 A	25-Oct-21 A			
TWD-1010	ELS for IW(Inlet works) & PST(Primary Sedimentation Tanks (Stage 1) - Consent Date	0		03-Oct-21 A			
TWD-1020	ELS for IW(Inlet works) & PST(Primary Sedimentation Tanks (Stage 2) - Consent Date	0		25-Oct-21 A			
SDB		668	16-Jul-22	13-May-24	09-Sep-22	07-Jul-24	55
TWD-1030	ELS for SDB(Sludge Dewatering Building) & Underpass (SDB) - ICE Period Submission	31	16-Jul-22*	15-Aug-22	09-Sep-22	09-Oct-22	55
TWD-1060	ELS for SDB(Sludge Dewatering Building) & Underpass (SDB) - ICE Review Period	31	16-Aug-22	15-Sep-22	10-Oct-22	09-Nov-22	55
TWD-1070	ELS for SDB(Sludge Dewatering Building) & Underpass (SDB) - PM Review Period	46	16-Sep-22	31-Oct-22	10-Nov-22	25-Dec-22	55
TWD-1080	ELS for SDB(Sludge Dewatering Building) & Underpass (SDB) - Consent Date	0		13-May-24*		07-Jul-24	55
ADB		707	21-Sep-22	27-Aug-24	16-Nov-22	22-Oct-24	56
TWD-1040	Excavation for Administration Building (ADB) - ICE Period Submission	30	21-Sep-22*	20-Oct-22	16-Nov-22	15-Dec-22	56
TWD-1090	Excavation for Administration Building (ADB) - ICE Review Period	28	21-Oct-22	17-Nov-22	16-Dec-22	12-Jan-23	56
TWD-1100	Excavation for Administration Building (ADB) - PM Review Period	49	18-Nov-22	05-Jan-23	13-Jan-23	02-Mar-23	56
TWD-1110	Excavation for Administration Building (ADB) - Consent Date	0		27-Aug-24*		22-Oct-24	56
Walkway Abutment		914	21-Sep-22	22-Mar-25	25-Jul-27	08-Nov-27	961
TWD-1050	ELS for Walkway Abutment - ICE Period Submission	30	21-Sep-22*	20-Oct-22	25-Jul-27	23-Aug-27	1768
TWD-1120	ELS for Walkway Abutment - ICE Review Period	28	21-Oct-22	17-Nov-22	24-Aug-27	20-Sep-27	1768
TWD-1130	ELS for Walkway Abutment - PM Review Period	49	18-Nov-22	05-Jan-23	21-Sep-27	08-Nov-27	1768
TWD-1140	ELS for Walkway Abutment - Consent Date	0		22-Mar-25*		08-Nov-27	961
Demolition and Temporary Modification/Diversion Works		311	09-Nov-20 A	13-Nov-21 A			
PST Overhaul Works		199	09-Nov-20 A	17-Jul-21 A			
ATALPST-5130	Completion of Overhual Works (Zone 1)	0		17-Jul-21 A			
PST Existing Primary Sedimentation Tanks (PST)		199	09-Nov-20 A	14-Jul-21 A			
ATALPST-1000	Method Statement / PMAC Submission and Approval for PST	55	09-Nov-20 A	14-Jan-21 A			
ATALPST-1030	Procurement of Wheels, Carbon Brush, Motor/Gearbox for PST No. 1 to No. 4	60	15-Jan-21 A	01-Apr-21 A			
ATALPST-1040	Procurement of Scraper Frame Robs	32	15-Jan-21 A	27-Feb-21 A			
PST No. 2 & 4		84	15-Jan-21 A	13-May-21 A			
ATALPST-1020	Isolation and Pre-test for PST 2 & 4	14	15-Jan-21 A	30-Jan-21 A			
ATALPST-1070	Construction of Bamboo Scaffolding	7	01-Feb-21 A	08-Feb-21 A			
ATALPST-1090	Replacement of Screws for the Rotatory Bridge	11	09-Feb-21 A	27-Feb-21 A			
ATALPST-1120	Replacement of Scraper Frame Robs	25	01-Mar-21 A	29-Mar-21 A			
ATALPST-1160	Disassembly of Scraper Drive Unit / Penstock Actuators / Valves	3	30-Mar-21 A	01-Apr-21 A			
ATALPST-1170	Disassembly, Condition Checking of Scraper Drive Units	17	07-Apr-21 A	26-Apr-21 A			
ATALPST-1180	Removal of Centre Bearing from PST 2	17	07-Apr-21 A	26-Apr-21 A			
ATALPST-1190	Reconditioning and Replacement of Scraper Drive Units	17	07-Apr-21 A	26-Apr-21 A			
ATALPST-1230	Return of all Drive Units and Centre Bearing for Reassembly	4	27-Apr-21 A	30-Apr-21 A			
ATALPST-1260	Power Reconnection and Testing	3	03-May-21 A	13-May-21 A			
PST No. 1		52	01-Mar-21 A	13-May-21 A			
ATALPST-1440	Isolation and Conduct Pre-test for PST No. 1	4	01-Mar-21 A	04-Mar-21 A			
ATALPST-1450	Construction of Access and Tank Cleaning of PST No. 1	3	05-Mar-21 A	08-Mar-21 A			
ATALPST-1460	Disassembly of Scraper Drive Unit / Penstock Actuators / Valves	21	09-Mar-21 A	01-Apr-21 A			
ATALPST-1470	Construction of Bamboo Scaffolding	5	09-Mar-21 A	13-Mar-21 A			
ATALPST-1480	Replacement of Screws for Rotatory Bridge	12	15-Mar-21 A	27-Mar-21 A			
ATALPST-1490	Replacement of Scraper Frame Robs	8	29-Mar-21 A	10-Apr-21 A			
ATALPST-1500	Reconditioning and Replacement of Scraper Drive Units	13	12-Apr-21 A	26-Apr-21 A			
ATALPST-1510	Return of all Drive Units and Centre Bearing for Reassembly	4	27-Apr-21 A	30-Apr-21 A			
ATALPST-1520	Power Reconnection and Testing	3	03-May-21 A	13-May-21 A			
PST No. 3		53	14-May-21 A	14-Jul-21 A			
ATALPST-1280	Switch Duty from PST 3 to PST 2 or 4	2	14-May-21 A	15-May-21 A			
ATALPST-1300	Isolation and Pre-test for PST 3	1	17-May-21 A	17-May-21 A			
ATALPST-1310	Drain Sewage and Tank Cleaning for PST 3	4	18-May-21 A	22-May-21 A			
ATALPST-1320	Construction of Bamboo Scaffolding	6	24-May-21 A	29-May-21 A			
ATALPST-1360	Replacement of Scraper Frambe Robs	18	26-May-21 A	16-Jun-21 A			
ATALPST-1330	Replacement of Screws for the Rotatory Bridge	7	31-May-21 A	07-Jun-21 A			
ATALPST-1380	Disassembly of Scraper Drive Unit / Penstock Actuators / Valves	3	24-Jun-21 A	26-Jun-21 A			
ATALPST-1390	Reconditioning and Replacement of Scraper Drive Units	14	24-Jun-21 A	10-Jul-21 A			
ATALPST-1400	Disassembly, Condition Checking of Scraper Drive Units	11	28-Jun-21 A	10-Jul-21 A			
ATALPST-1430	Power Reconnection and Testing	3	07-Jul-21 A	07-Jul-21 A			
ATALPST-1420	Return of all Drive Units and Centre Bearing for Reassembly	3	12-Jul-21 A	14-Jul-21 A			
Detritors 1 & 2		178	09-Nov-20 A	22-Jun-21 A			
ATALPST-1010	Method Statement / PMAC Submission and Approval for Detritor	57	09-Nov-20 A	16-Jan-21 A			
Detritor No. 2		73	18-Jan-21 A	23-Apr-21 A			
ATALPST-1050	Isolation of Detritor No. 2 and Conduct Pre-test	17	18-Jan-21 A	05-Feb-21 A			
ATALPST-1080	Pump out sewage and tank cleaning	6	06-Feb-21 A	19-Feb-21 A			
ATALPST-1100	Condition checking for Scrapers/ Classifiers/ Mixer/ Penstocks/ Valves	2	20-Feb-21 A	22-Feb-21 A			
ATALPST-1110	Disassembly of Unit and transfer Workshop for Overhaul	8	23-Feb-21 A	03-Mar-21 A			
ATALPST-1140	Condition Checking, Replacement of Parts, and Reassembly	29	04-Mar-21 A	10-Apr-21 A			
ATALPST-1150	Reconditioning at YLSTW and Replacement of Parts	29	04-Mar-21 A	10-Apr-21 A			
ATALPST-1200	Final Surface Treatment	8	12-Apr-21 A	20-Apr-21 A			
ATALPST-1210	Power Reconnection and Testing	3	21-Apr-21 A	23-Apr-21 A			
Detritor No. 1		48	24-Apr-21 A	22-Jun-21 A			
ATALPST-1220	Switch Duty to Detritor No. 2 and Isolate Detritor No. 1	2	24-Apr-21 A	26-Apr-21 A			



Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
ATALPST-1240	Pre-test for Detritor No. 1	1	27-Apr-21 A	27-Apr-21 A			
ATALPST-1250	Pump out sewage and tank cleaning	4	28-Apr-21 A	03-May-21 A			
ATALPST-1270	Condition Checking	3	04-May-21 A	06-May-21 A			
ATALPST-1290	Disassembly of Unit and Transfer Workshop for Overhaul	8	07-May-21 A	15-May-21 A			
ATALPST-1340	Reconditioning at YLSTW and Replacement of Parts	21	17-May-21 A	10-Jun-21 A			
ATALPST-1350	Condition Checking, Replacement of Parts, and Reassembly	21	17-May-21 A	10-Jun-21 A			
ATALPST-1370	Final Surface Treatment	8	10-Jun-21 A	19-Jun-21 A			
ATALPST-1410	Power Reconnection and Testing	2	21-Jun-21 A	22-Jun-21 A			
PST Temporary Diversion		122	11-May-21 A	11-Sep-21 A			
PSTD-00A	Method Statement for Cutting of Existing Cantilever Walkway and Detritor Top Slab	22	01-Jun-21 A	26-Jun-21 A			
PSTD-00B	Method Statement for Cutting of Detritor wall	22	01-Jun-21 A	26-Jun-21 A			
PST Temporary Diversion 1 - Detritor to PST		115	11-May-21 A	11-Sep-21 A			
PSTTD1-00	Concrete Paving Removal and Planter Removal	7	11-May-21 A	19-May-21 A			
PSTD105	Trial Trench for Sheetpile	6	20-May-21 A	26-May-21 A			
PSTD100	Pipe Material Procurement	50	20-May-21 A	19-Jul-21 A			
PSTTD1-45	Divert Sewage Flow to PST 5,6 (PST 1-4 Standby)	1	27-May-21 A	27-May-21 A			
PSTTD1-10	Sheetpile Installation	12	12-Jun-21 A	26-Jun-21 A			
PSTTD1-60	Concrete Slab Cutting No. 1 and 2	8	28-Jun-21 A	07-Jul-21 A			
PSTTD1-15B	Inlet Manhole and Flow Meter Chamber Construction (Base Slab)	4	03-Jul-21 A	07-Jul-21 A			
PSTTD1-15A	Excavation and Blinding	7	13-Jul-21 A	20-Jul-21 A			
PSTTD1-20	Pipe Installation (Inlet Manhole to Section Before Connection)	10	22-Jul-21 A	03-Aug-21 A			
PSTTD1-25	Pipe Installation and Existing Pipe Cutting (Pipe Connection Section)	8	04-Aug-21 A	12-Aug-21 A			
PSTTD1-15B2	Inlet Manhole and Flow Meter Chamber Construction (Wall)	8	11-Aug-21 A	13-Aug-21 A			
PSTTD1-30A	Flowmeter Installation	4	13-Aug-21 A	17-Aug-21 A			
PSTTD1-35	1st Night Work (Seal Up Channel to Detroiter 3C)	1	18-Aug-21 A	20-Aug-21 A			
PSTTD1-50	Disable Detroiter 3C and Divert Sewage to PST 1-4	1	18-Aug-21 A	20-Aug-21 A			
PSTTD1-30B	Flowmeter Calibration and Function Test	7	18-Aug-21 A	20-Aug-21 A			
PSTTD1-40A	Pipe Installation & Existing Pipe Cutting (Pipe Connection Section)	3	18-Aug-21 A	19-Aug-21 A			
PSTTD1-30	Pipe Hydraulic Testing	3	18-Aug-21 A	20-Aug-21 A			
PSTTD1-40	Wall Opening at Inlet Manhole	3	19-Aug-21 A	20-Aug-21 A			
PSTTD1-61	Temporary Diversion Zone 1 Complete	0		20-Aug-21 A			
PSTTD1-15C	Backfill Pipeline to Ground Level	6	21-Aug-21 A	11-Sep-21 A			
Temporary Flowmeter Chamber (F)		116	11-May-21 A	31-Aug-21 A			
PSTTD1-4020	CMS - Electromagnetic Flowmeter (EMF) & Valves	24	11-May-21 A	08-Jun-21 A			
PSTTD1-4030	Procurement and Delivery of Materials	40	12-May-21 A	29-Jun-21 A			
PSTTD1-4040	Flow Meter Chamber Base Slab	6	16-Jul-21 A	22-Jul-21 A			
PSTTD1-4050	E&M installation of EMF & valves & cabling	19	23-Jul-21 A	20-Aug-21 A			
PSTTD1-4070	T&C (Functional test for EMF)	12	21-Aug-21 A	31-Aug-21 A			
PST Demolition Stage 1		167	07-Apr-21 A	20-Sep-21 A			
PSTTD1-55	Demolish Detritor 3C	14	13-Sep-21 A	20-Sep-21 A			
PSTTD1-56	Demolish Screened Sewage/Return Effluent Chamber(30), Flow Measurement Chamber(34),Covered Car Parks(28)	14	13-Sep-21 A	20-Sep-21 A			
Demolition of PST 7 and 8		127	07-Apr-21 A	25-Aug-21 A			
PST-1121	Purchasing Air Plug/End Cap	11	07-Apr-21 A	19-Apr-21 A			
PST-1122	Subletting Work for rench Excavation for Plug 800mm	12	12-Apr-21 A	24-Apr-21 A			
PST-1124	Trial Pit for 800mm Pipe	4	13-Apr-21 A	16-Apr-21 A			
PST-1126	Diversion Lighting Cable	1	15-Apr-21 A	15-Apr-21 A			
PST-1127	Termination of Signal Cable	1	15-Apr-21 A	15-Apr-21 A			
PST-1125	Excavate Trench for Plug 800mm and Plug 350mm and 300m Pipe	8	17-Apr-21 A	26-Apr-21 A			
PST-1123	Plug 350mm and 300mm Pipe Inside Chamber	3	20-Apr-21 A	22-Apr-21 A			
PST-1128	Mobilisation and Setup of Plants	2	20-Apr-21 A	21-Apr-21 A			
PST-1129	Commencement of Breaking Works	1	26-Apr-21 A	26-Apr-21 A			
PST-3021	Demolish PST No. 7	28	26-Apr-21 A	29-May-21 A			
PST-3023	Demolish PST No. 8	24	30-Apr-21 A	29-May-21 A			
PST-3022	Site Formation works for PST no. 7	4	09-Jul-21 A	13-Jul-21 A			
PST-3024	Site Formation works for PST no. 8	4	26-Jul-21 A	29-Jul-21 A			
PST-3025	Demolish Primary Sludge Draw-off Chamber "34D"	6	03-Aug-21 A	25-Aug-21 A			
PST Demolition Stage 2		30	13-Sep-21 A	13-Nov-21 A			
PSTTD1-4080	Demolition of Existing PST 6	30	13-Sep-21 A	13-Nov-21 A			
PSTTD1-4090	Demolition of Existing PST 5	30	13-Sep-21 A	13-Nov-21 A			
Inlet Works (IW)		1045	09-Nov-20 A	11-Mar-24	31-Dec-21	11-Mar-24	1146
IW Temporary Workshop, Storage Facil. and Haul Road		78	15-Dec-20 A	25-Mar-21 A			
IW-2010	Submit/Approve Method Statement	48	15-Dec-20 A	18-Feb-21 A			
IW-2020	Equipment and Material Procurement	78	15-Dec-20 A	25-Mar-21 A			
IW Footprint Demolition Works		87	16-Apr-21 A	28-Aug-21 A			
IW-2350	Inlet Work Stage 1 - Site Clearance	7	16-Apr-21 A	23-Apr-21 A			
IW-2950	Demolition of Main Store (26)	6	18-Jun-21 A	24-Jun-21 A			
IW-2410	Demolition of Workshop (25)	10	20-Jul-21 A	28-Aug-21 A			
IW Foundation & ELS Works		682	09-Nov-20 A	12-Jan-23	31-Dec-21	02-Mar-23	1509
IW-2000	IW - Predrilling Works Method Statement Preparation	44	09-Nov-20 A	31-Dec-20 A			
IW-2030	IW - Predrilling Works Method Statement Submission and Approval	12	02-Jan-21 A	15-Jan-21 A			
IW-2050	IW - GI Monitoring Points Installation Method Statement Submission and Approval	45	16-Jan-21 A	16-Mar-21 A			
IW-2060	IW - GI Piezometer and Standpipe Installation Method Statement Submission and Approval	42	16-Jan-21 A	12-Mar-21 A			
IW GI - Monitoring Points Installation		29	16-Mar-21 A	22-Apr-21 A			
IW-2230	IW - Piezometer and Standpipe (PS6)	9	16-Mar-21 A	25-Mar-21 A			
IW-2240	IW - Ground Settlement Markers Installation	28	17-Mar-21 A	22-Apr-21 A			
IW-2250	IW - Vibration Monitoring Points Installation	28	17-Mar-21 A	22-Apr-21 A			

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
IW-2260	IW - Building Settlement Monitoring Points Installation	28	17-Mar-21 A	22-Apr-21 A			
IW-2270	IW - Tilting Monitoring Points Installation	28	17-Mar-21 A	22-Apr-21 A			
IW-2280	IW - Utility Monitoring Points Installation	28	17-Mar-21 A	22-Apr-21 A			
IW-2290	IW - Piezometer and Standpipe (PS7)	9	26-Mar-21 A	09-Apr-21 A			
IW-2330	IW - Piezometer and Standpipe (PS8)	9	26-Mar-21 A	09-Apr-21 A			
IW-2340	IW - Piezometer and Standpipe (PS9)	10	10-Apr-21 A	21-Apr-21 A			
IW-2360	IW - Piezometer and Standpipe (PS10)	10	10-Apr-21 A	21-Apr-21 A			
IW-2370	IW - Monitoring Points Installation Complete	0		22-Apr-21 A			
IW GI - Predrilling Works		118	16-Jan-21 A	14-Jul-21 A			
IW-2040	IW - Predrilling Preparation, Drill Rig A	2	16-Jan-21 A	18-Jan-21 A			
IW-2070	IW - PD10	18	19-Jan-21 A	08-Feb-21 A			
IW-2080	IW - Predrilling Preparation, Drill Rig B	15	25-Jan-21 A	10-Feb-21 A			
IW-2100	IW - PD1	15	06-Feb-21 A	02-Mar-21 A			
IW-2110	IW - Predrilling Preparation, Drill Rig C	5	06-Feb-21 A	18-Feb-21 A			
IW-2090	IW - PD11	5	09-Feb-21 A	20-Feb-21 A			
IW-2130	IW - PD12	14	19-Feb-21 A	06-Mar-21 A			
IW-2140	IW - PD6	15	19-Feb-21 A	08-Mar-21 A			
IW-2150	IW - Predrilling Preparation, Drill Rig D	5	19-Feb-21 A	24-Feb-21 A			
IW-2160	IW - PD13	14	25-Feb-21 A	12-Mar-21 A			
IW-2170	IW - Predrilling Preparation, Drill Rig E	2	25-Feb-21 A	26-Feb-21 A			
IW-2180	IW - PD8	15	27-Feb-21 A	16-Mar-21 A			
IW-2190	IW - Predrilling Preparation, Drill Rig F	6	27-Feb-21 A	05-Mar-21 A			
IW-2200	IW - PD7	18	03-Mar-21 A	23-Mar-21 A			
IW-2210	IW - PD9	15	08-Mar-21 A	24-Mar-21 A			
IW-2220	IW - PD5	13	09-Mar-21 A	23-Mar-21 A			
IW-2300	IW - PD2	14	24-Mar-21 A	13-Apr-21 A			
IW-2320	IW - PD3	14	24-Mar-21 A	13-Apr-21 A			
IW-2940	IW - Additional Predrills (7 nos.)	14	24-Mar-21 A	13-Apr-21 A			
IW-2890	IW - Pre-drilling Works Complete	0		13-Apr-21 A			
IW-2310	IW - PD4	14	01-Jun-21 A	14-Jul-21 A			
IW GI - Environmental		62	03-Jul-21 A	30-Oct-21 A			
IW-2460	ENV-BH35	7	03-Jul-21 A	07-Jul-21 A			
IW-2490	ENV-BH36	7	08-Jul-21 A	10-Jul-21 A			
IW-2510	ENV-BH37	7	10-Jul-21 A	12-Jul-21 A			
IW-2440	ENV-BH34	7	12-Jul-21 A	13-Jul-21 A			
IW-2900	Submission and review by EPD	44	20-Jul-21 A	20-Aug-21 A			
IW-2430	ENV-BH31	7	12-Aug-21 A	18-Aug-21 A			
IW-2450	ENV-BH32	7	12-Aug-21 A	18-Aug-21 A			
IW-2480	ENV-BH33	7	12-Aug-21 A	19-Aug-21 A			
IW-2910	CAR / RAP Approval	1	21-Aug-21 A	30-Oct-21 A			
Temporary Workshop and Storage		96	02-Feb-21 A	24-Jul-21 A			
IW-2120A	Design and Submission	7	02-Feb-21 A	24-Apr-21 A			
IW-2120B	Site Formation	10	26-Apr-21 A	03-May-21 A			
IW-2120C	Foundation Work	7	04-May-21 A	08-May-21 A			
IW-2120D	Erect Steel Structure, External Wall and Roof Cladding	10	10-May-21 A	17-May-21 A			
IW-2120E	Erect Internal Partition and False Ceiling	6	18-May-21 A	24-May-21 A			
IW-2120F	Electrical Work, Sanitary Work, Install A/C and Floor Finishes	10	18-May-21 A	29-May-21 A			
IW-2390	Relocation of Workshop (advance work before P2 access)	20	25-Jun-21 A	19-Jul-21 A			
IW-2390B	Relocation of Storage Facilities (advance work before P2 access)	5	25-Jun-21 A	30-Jun-21 A			
IW-2400	Handover and Inspection of Temp. Workshop and Storage Facilities (advance work before P2 access)	8	16-Jul-21 A	24-Jul-21 A			
IW Foundation - Stage 1		334	09-Nov-20 A	01-Dec-21 A			
NMM-2020	PS 1.105A Noise Mitigation Measures 2020-2021	143	09-Nov-20 A	31-Mar-21 A			
EBS-2021	Egrets Breeding Season 2021	184	01-Mar-21 A	31-Aug-21 A			
PMI014	PMI No. 014 - Revised Piling Layout at IW	0	15-Mar-21 A				
IW-2850	Inlet Work Stage 1 - Site Setup and mobilization	7	14-Apr-21 A	21-Apr-21 A			
IW-2380	Inlet Work Stage 1 - Driven H-piles (85nrs + 6tension piles., @ ave.1no/d/rig, 2rigs)	65	04-May-21 A	27-Oct-21 A			
IW-2880	Inlet Work Stage 1 - Submit piling record to GEO (28d)	30	01-Nov-21 A	01-Dec-21 A			
IW Foundation - Stage 2		88	08-Jun-21 A	30-Oct-21 A			
PP2	Portion 2 (sd+211d)	0	08-Jun-21 A				
IW-2860	Inlet Work Stage 2 - Site establishment & investigation, RAP, submit Remediation Report (carryforward from Site establ.)	53	22-Jun-21 A	30-Oct-21 A			
IW-2861	Inlet Work Stage 2 - Temporary UU Diversion	14	22-Jun-21 A	08-Jul-21 A			
IW-2530	Inlet Work Stage 2 - Driven H-piles (122nrs., @ave.1no/d/rig, 2rigs)	61	09-Jul-21 A	27-Oct-21 A			
IW Basement		327	01-Nov-21 A	12-Jan-23	31-Dec-21	02-Mar-23	1432
Z1-IW-4290	Noise Mitigation 2021-2022	121	01-Nov-21 A	31-Mar-22*	31-Dec-21	31-Mar-22	0
Z1-IW-4070	1st Pile Loading Test (Batch 1 Completion: IW:225nos.+ PST:70nos.) (compression test failed for PA08 & PA28)	20	12-Nov-21 A	28-Nov-21 A			
Z1-IW-3930	Sheet Piling Works (9,915m2), (62m2/ Day Installation Rate/Rig, 4rigs)	40	15-Nov-21 A	27-Jan-22	12-Feb-22	10-Mar-22	30
Z1-IW-4660	Review failure of pile load test and proposed alternative piles for 2nd attempt	20	29-Nov-21 A	03-Jan-22	31-Dec-21	03-Jan-22	0
Z1-IW-4690	NCE-0048 Load test at IW & PST	0	08-Dec-21 A				
Z1-IW-3940	Set-up and Installation for Total ~60 Nos. Wells(2 - 2.5 Days/Well, 4rigs)	33	31-Dec-21	15-Feb-22	25-Jan-22	10-Mar-22	20
Z1-IW-4700	NCE-0051 Unforeseen underground obstruction in IW & PST area for sheet piling works	0	03-Jan-22*		31-Dec-21		0
Z1-IW-4650	2nd Pile Loading Test (IW: P27+ PST: PA72)	5	04-Jan-22*	08-Jan-22	04-Jan-22	08-Jan-22	0
Z1-IW-4680	Preboring for sheet piling work (approx. 80 nos.) & Sheet piling works	40	17-Jan-22*	10-Mar-22	17-Jan-22	10-Mar-22	0
Z1-IW-4670	3rd Pile Loading Test (re-test P122 & P34 due to failure of pile load test for PA08 & PA28)	5	18-Jan-22*	22-Jan-22	18-Jan-22	22-Jan-22	0
Z1-IW-4300	Submit to GEO (28d)	28	24-Jan-22	03-Mar-22	23-Feb-22	26-Mar-22	20
Z1-IW-3950	Pumping Test & Commissioning Period	14	11-Mar-22	26-Mar-22	11-Mar-22	26-Mar-22	0
Excavation Works & ELS (Excavation Volume: 32,857m3)		104	28-Mar-22	04-Aug-22	28-Mar-22	04-Aug-22	0



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

- Remaining Level of Effort
- DWP Rev.8
- Actual Work
- Remaining Work
- Critical Remaining Work

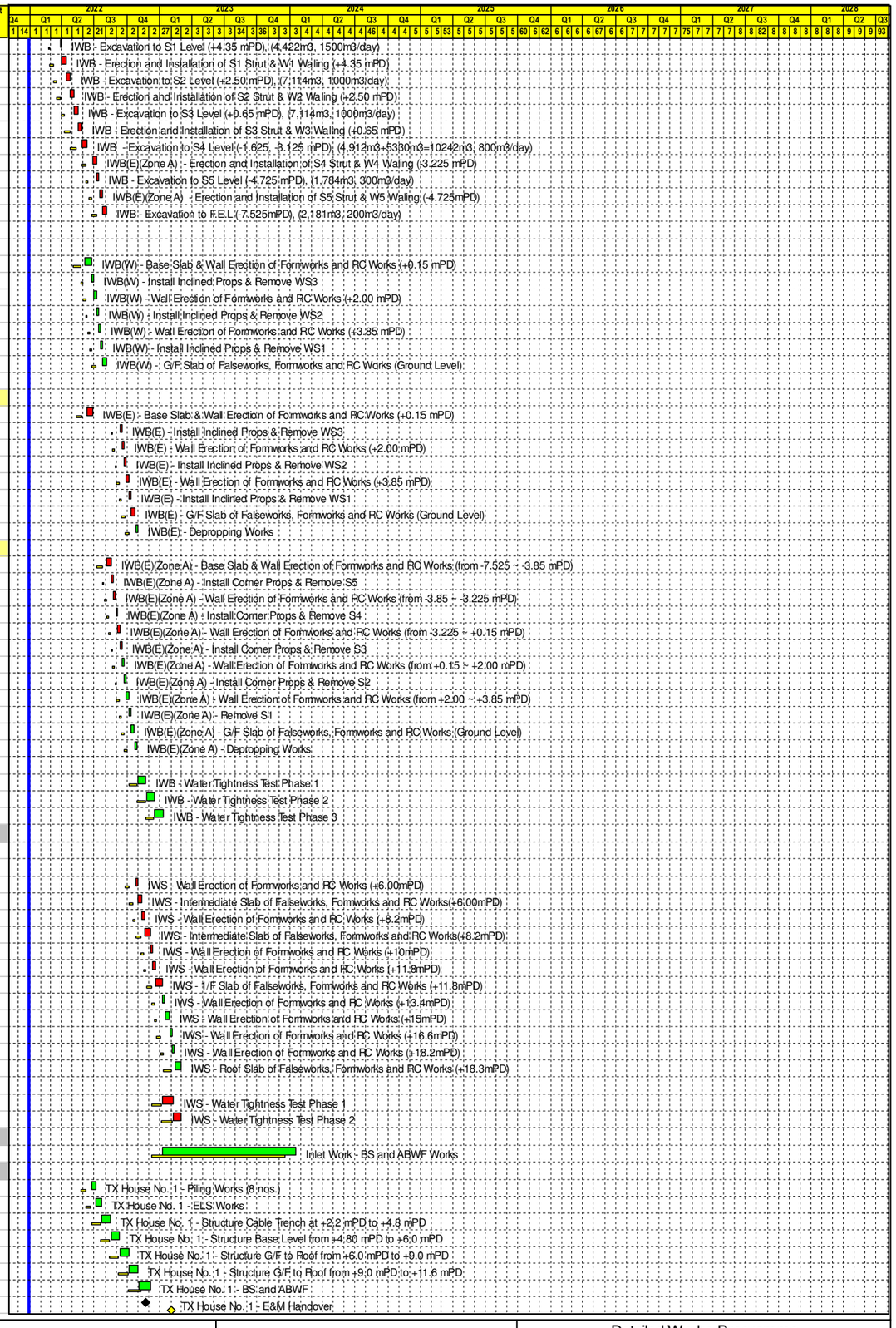
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr9_220111
Layout : DC201910 DWP rev.9

Detailed Works Programme

Date	Revision	Checked	Approved
31-Dec-21	Rev. 9		
30-Nov-21	Rev. 8		
31-Oct-21	Rev. 7		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
Z1-IW-4450	IWB - Excavation to S1 Level (+4.35 mPD), (4,422m3, 1500m3/day)	4	28-Mar-22	31-Mar-22	28-Mar-22	31-Mar-22	0
Z1-IW-4460	IWB - Erection and Installation of S1 Strut & W1 Waling (+4.35 mPD)	9	01-Apr-22	12-Apr-22	01-Apr-22	12-Apr-22	0
Z1-IW-4470	IWB - Excavation to S2 Level (+2.50 mPD), (7,114m3, 1000m3/day)	7	13-Apr-22	23-Apr-22	13-Apr-22	23-Apr-22	0
Z1-IW-4480	IWB - Erection and Installation of S2 Strut & W2 Waling (+2.50 mPD)	9	25-Apr-22	05-May-22	25-Apr-22	05-May-22	0
Z1-IW-4490	IWB - Excavation to S3 Level (+0.65 mPD), (7,114m3, 1000m3/day)	8	06-May-22	16-May-22	06-May-22	16-May-22	0
Z1-IW-4500	IWB - Erection and Installation of S3 Strut & W3 Waling (+0.65 mPD)	9	17-May-22	26-May-22	17-May-22	26-May-22	0
Z1-IW-4510	IWB - Excavation to S4 Level (-1.625, -3.125 mPD), (4,912m3+5330m3=10242m3, 800m3/day)	12	27-May-22	10-Jun-22	27-May-22	10-Jun-22	0
Z1-IW-4630	IWB(E)(Zone A) - Erection and Installation of S4 Strut & W4 Waling (-3.225 mPD)	8	28-Jun-22	07-Jul-22	28-Jun-22	07-Jul-22	0
Z1-IW-4600	IWB - Excavation to S5 Level (-4.725 mPD), (1,784m3, 300m3/day)	6	08-Jul-22	14-Jul-22	08-Jul-22	14-Jul-22	0
Z1-IW-4640	IWB(E)(Zone A) - Erection and Installation of S5 Strut & W5 Waling (-4.725mPD)	8	15-Jul-22	23-Jul-22	15-Jul-22	23-Jul-22	0
Z1-IW-4610	IWB - Excavation to F.E.L (-7.525mPD), (2,181m3, 200m3/day)	10	25-Jul-22	04-Aug-22	25-Jul-22	04-Aug-22	0
Basement RC Works		124	04-Jun-22	31-Oct-22	11-Jun-22	12-Dec-22	36
West Portion - GL 1~5/A~K		52	04-Jun-22	04-Aug-22	22-Aug-22	24-Oct-22	66
Z1-IW-4380	IWB(W) - Base Slab & Wall Erection of Formworks and RC Works (+0.15 mPD)	18	04-Jun-22	24-Jun-22	22-Aug-22	12-Sep-22	66
Z1-IW-4390	IWB(W) - Install Inclined Props & Remove WS3	4	25-Jun-22	29-Jun-22	13-Sep-22	16-Sep-22	66
Z1-IW-4400	IWB(W) - Wall Erection of Formworks and RC Works (+2.00 mPD)	6	30-Jun-22	07-Jul-22	17-Sep-22	23-Sep-22	66
Z1-IW-4410	IWB(W) - Install Inclined Props & Remove WS2	4	08-Jul-22	12-Jul-22	24-Sep-22	28-Sep-22	66
Z1-IW-4420	IWB(W) - Wall Erection of Formworks and RC Works (+3.85 mPD)	6	13-Jul-22	19-Jul-22	29-Sep-22	07-Oct-22	66
Z1-IW-4430	IWB(W) - Install Inclined Props & Remove WS1	4	20-Jul-22	23-Jul-22	08-Oct-22	12-Oct-22	66
Z1-IW-4440	IWB(W) - G/F Slab of Falseworks, Formworks and RC Works (Ground Level)	10	25-Jul-22	04-Aug-22	13-Oct-22	24-Oct-22	66
East Portion - GL 1~6/A~E		118	11-Jun-22	31-Oct-22	11-Jun-22	12-Dec-22	36
Zone C (East Portion)		118	11-Jun-22	31-Oct-22	11-Jun-22	12-Dec-22	36
Z1-IW-4520	IWB(E) - Base Slab & Wall Erection of Formworks and RC Works (+0.15 mPD)	14	11-Jun-22	27-Jun-22	11-Jun-22	27-Jun-22	0
Z1-IW-4530	IWB(E) - Install Inclined Props & Remove WS3	4	13-Sep-22	16-Sep-22	13-Sep-22	16-Sep-22	0
Z1-IW-4540	IWB(E) - Wall Erection of Formworks and RC Works (+2.00 mPD)	6	17-Sep-22	23-Sep-22	17-Sep-22	23-Sep-22	0
Z1-IW-4550	IWB(E) - Install Inclined Props & Remove WS2	4	24-Sep-22	28-Sep-22	24-Sep-22	28-Sep-22	0
Z1-IW-4560	IWB(E) - Wall Erection of Formworks and RC Works (+3.85 mPD)	6	29-Sep-22	07-Oct-22	29-Sep-22	07-Oct-22	0
Z1-IW-4570	IWB(E) - Install Inclined Props & Remove WS1	4	08-Oct-22	12-Oct-22	08-Oct-22	12-Oct-22	0
Z1-IW-4580	IWB(E) - G/F Slab of Falseworks, Formworks and RC Works (Ground Level)	10	13-Oct-22	24-Oct-22	13-Oct-22	24-Oct-22	0
Z1-IW-4590	IWB(E) - Depropping Works	6	25-Oct-22	31-Oct-22	06-Dec-22	12-Dec-22	36
Zone A Lower Portion		70	05-Aug-22	28-Oct-22	05-Aug-22	12-Dec-22	38
Z1-IW-3960	IWB(E)(Zone A) - Base Slab & Wall Erection of Formworks and RC Works (from -7.525 ~ -3.85 mPD)	12	05-Aug-22	18-Aug-22	05-Aug-22	18-Aug-22	0
Z1-IW-3970	IWB(E)(Zone A) - Install Corner Props & Remove S5	4	19-Aug-22	23-Aug-22	19-Aug-22	23-Aug-22	0
Z1-IW-3980	IWB(E)(Zone A) - Wall Erection of Formworks and RC Works (from -3.85 ~ -3.225 mPD)	6	24-Aug-22	30-Aug-22	24-Aug-22	30-Aug-22	0
Z1-IW-3990	IWB(E)(Zone A) - Install Corner Props & Remove S4	4	31-Aug-22	03-Sep-22	31-Aug-22	03-Sep-22	0
Z1-IW-4000	IWB(E)(Zone A) - Wall Erection of Formworks and RC Works (from -3.225 ~ +0.15 mPD)	6	05-Sep-22	12-Sep-22	05-Sep-22	12-Sep-22	0
Z1-IW-4010	IWB(E)(Zone A) - Install Corner Props & Remove S3	4	13-Sep-22	16-Sep-22	13-Sep-22	16-Sep-22	0
Z1-IW-4020	IWB(E)(Zone A) - Wall Erection of Formworks and RC Works (from +0.15 ~ +2.00 mPD)	6	17-Sep-22	23-Sep-22	20-Sep-22	26-Sep-22	2
Z1-IW-4030	IWB(E)(Zone A) - Install Corner Props & Remove S2	4	24-Sep-22	28-Sep-22	27-Sep-22	30-Sep-22	2
Z1-IW-4040	IWB(E)(Zone A) - Wall Erection of Formworks and RC Works (from +2.00 ~ +3.85 mPD)	6	29-Sep-22	07-Oct-22	03-Oct-22	10-Oct-22	2
Z1-IW-4050	IWB(E)(Zone A) - Remove S1	4	08-Oct-22	12-Oct-22	11-Oct-22	14-Oct-22	2
Z1-IW-4060	IWB(E)(Zone A) - G/F Slab of Falseworks, Formworks and RC Works (Ground Level)	8	13-Oct-22	21-Oct-22	15-Oct-22	24-Oct-22	2
Z1-IW-4130	IWB(E)(Zone A) - Depropping Works	6	22-Oct-22	28-Oct-22	06-Dec-22	12-Dec-22	38
Water Tightness Test for IW Basement		60	01-Nov-22	12-Jan-23	13-Dec-22	02-Mar-23	36
Z1-IW-4100	IWB - Water Tightness Test Phase 1	20	01-Nov-22	23-Nov-22	13-Dec-22	07-Jan-23	36
Z1-IW-4110	IWB - Water Tightness Test Phase 2	20	24-Nov-22	16-Dec-22	09-Jan-23	07-Feb-23	36
Z1-IW-4120	IWB - Water Tightness Test Phase 3	20	17-Dec-22	12-Jan-23	08-Feb-23	02-Mar-23	36
IW Civil and Structural Works		102	25-Oct-22	02-Mar-23	25-Oct-22	02-Mar-23	0
IW Superstructure		102	25-Oct-22	02-Mar-23	25-Oct-22	02-Mar-23	0
RC Works		100	25-Oct-22	28-Feb-23	25-Oct-22	02-Mar-23	2
Z1-IW-4080	IWS - Wall Erection of Formworks and RC Works (+6.00mPD)	6	25-Oct-22	31-Oct-22	25-Oct-22	31-Oct-22	0
Z1-IW-4090	IWS - Intermediate Slab of Falseworks, Formworks and RC Works(+6.00mPD)	10	01-Nov-22	11-Nov-22	01-Nov-22	11-Nov-22	0
Z1-IW-4140	IWS - Wall Erection of Formworks and RC Works (+8.2mPD)	6	12-Nov-22	18-Nov-22	12-Nov-22	18-Nov-22	0
Z1-IW-4150	IWS - Intermediate Slab of Falseworks, Formworks and RC Works(+8.2mPD)	14	19-Nov-22	05-Dec-22	19-Nov-22	05-Dec-22	0
Z1-IW-4160	IWS - Wall Erection of Formworks and RC Works (+10mPD)	6	06-Dec-22	12-Dec-22	06-Dec-22	12-Dec-22	0
Z1-IW-4170	IWS - Wall Erection of Formworks and RC Works (+11.8mPD)	6	13-Dec-22	19-Dec-22	13-Dec-22	19-Dec-22	0
Z1-IW-4180	IWS - 1/F Slab of Falseworks, Formworks and RC Works (+11.8mPD)	14	20-Dec-22	07-Jan-23	20-Dec-22	07-Jan-23	0
Z1-IW-4190	IWS - Wall Erection of Formworks and RC Works (+13.4mPD)	6	09-Jan-23	14-Jan-23	11-Jan-23	17-Jan-23	2
Z1-IW-4200	IWS - Wall Erection of Formworks and RC Works (+15mPD)	6	16-Jan-23	28-Jan-23	18-Jan-23	31-Jan-23	2
Z1-IW-4210	IWS - Wall Erection of Formworks and RC Works (+16.6mPD)	6	30-Jan-23	04-Feb-23	01-Feb-23	07-Feb-23	2
Z1-IW-4220	IWS - Wall Erection of Formworks and RC Works (+18.2mPD)	6	06-Feb-23	11-Feb-23	08-Feb-23	14-Feb-23	2
Z1-IW-4230	IWS - Roof Slab of Falseworks, Formworks and RC Works (+18.3mPD)	14	13-Feb-23	28-Feb-23	15-Feb-23	02-Mar-23	2
Water Tightness Test for IW Superstructure		40	09-Jan-23	02-Mar-23	09-Jan-23	02-Mar-23	0
Z1-IW-4240	IWS - Water Tightness Test Phase 1	20	09-Jan-23	07-Feb-23	09-Jan-23	07-Feb-23	0
Z1-IW-4250	IWS - Water Tightness Test Phase 2	20	08-Feb-23	02-Mar-23	08-Feb-23	02-Mar-23	0
IW ABWF and BS Works		300	09-Jan-23	16-Jan-24	04-Mar-23	11-Mar-24	41
IW-2780	Inlet Work - BS and ABWF Works	300	09-Jan-23	16-Jan-24	04-Mar-23	11-Mar-24	41
IW Transformer House No. 1		224	23-Jun-22	10-Mar-23	01-Sep-22	25-May-23	65
IW-2785	TX House No. 1 - Piling Works (8 nos.)	10	23-Jun-22	05-Jul-22	01-Sep-22	14-Sep-22	60
IW-2930	TX House No. 1 - ELS Works	14	06-Jul-22	21-Jul-22	14-Sep-22	30-Sep-22	60
IW-2790	TX House No. 1 - Structure Cable Trench at +2.2 mPD to +4.8 mPD	21	23-Jul-22	16-Aug-22	03-Oct-22	28-Oct-22	60
IW-2800	TX House No. 1 - Structure Base Level from +4.80 mPD to +6.0 mPD	21	17-Aug-22	09-Sep-22	28-Oct-22	22-Nov-22	60
IW-2810	TX House No. 1 - Structure G/F to Roof from +6.0 mPD to +9.0 mPD	21	12-Sep-22	07-Oct-22	22-Nov-22	16-Dec-22	60
IW-2820	TX House No. 1 - Structure G/F to Roof from +9.0 mPD to +11.6 mPD	21	08-Oct-22	01-Nov-22	16-Dec-22	13-Jan-23	60
IW-2830	TX House No. 1 - BS and ABWF	30	02-Nov-22	06-Dec-22	13-Jan-23	24-Feb-23	60
IW-2831	TX House No. 1 - E&M Handover	0	22-Nov-22		24-Feb-23		72



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- Remaining Level of Effort
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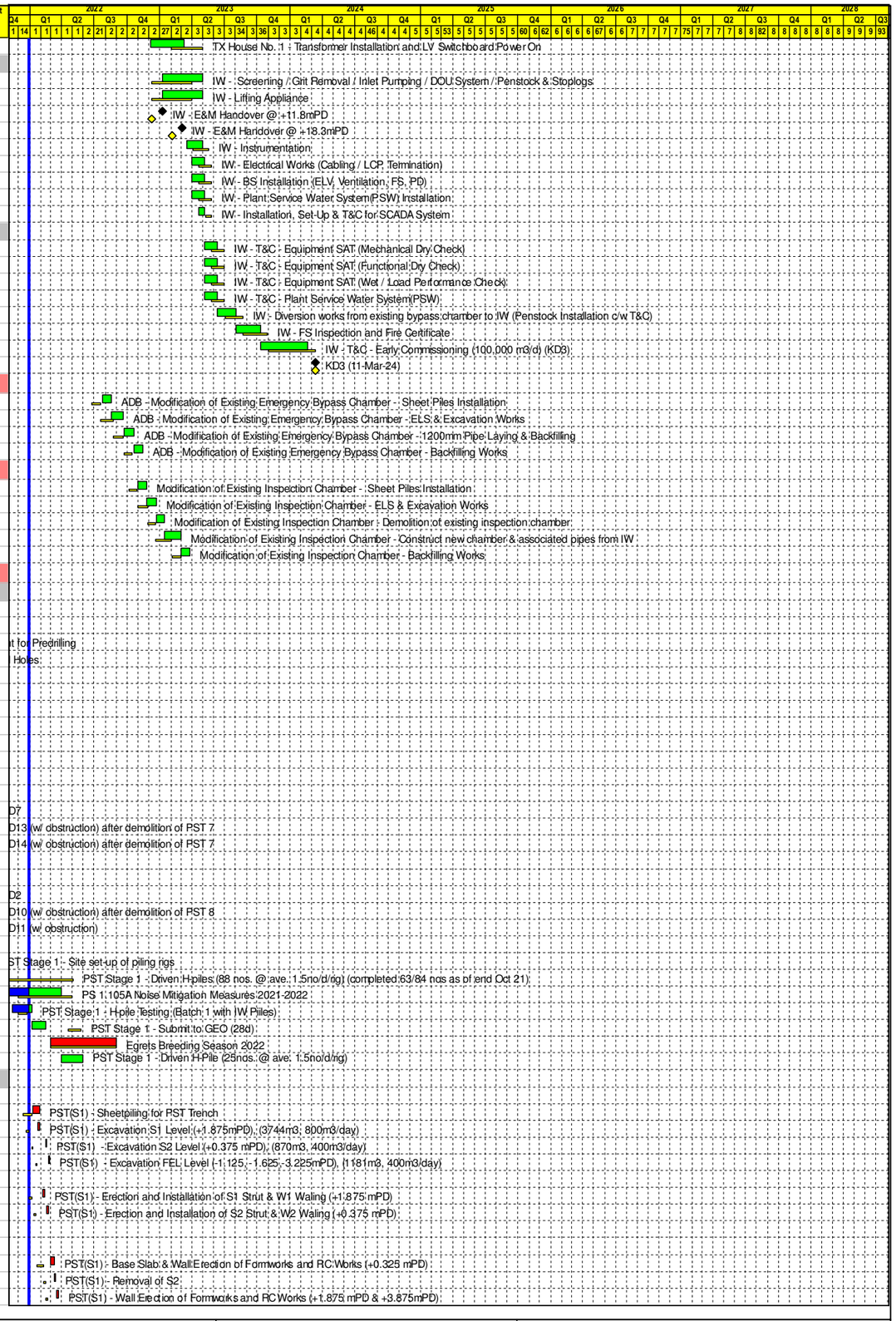
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr9_220111
Layout : DC201910 DWP rev.9

Detailed Works Programme

Date	Revision	Checked	Approved
31-Dec-21	Rev. 9		
30-Nov-21	Rev. 8		
31-Oct-21	Rev. 7		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
IW-2840	TX House No. 1 - Transformer Installation and LV Switchboard Power On	72	07-Dec-22	10-Mar-23	24-Feb-23	25-May-23	60
IW E&M Works		90	09-Jan-23	05-May-23	19-Jan-23	25-May-23	17
ATAL-1000	IW - Screening / Grit Removal / Inlet Pumping / DOU System / Penstock & Stoplogs	86	09-Jan-23	01-May-23	19-Jan-23	12-May-23	10
ATAL-1010	IW - Lifting Appliance	86	09-Jan-23	01-May-23	23-Jan-23	16-May-23	13
ATAL-0000	IW - E&M Handover @ +11.8mPD	0	09-Jan-23		19-Jan-23		10
ATAL-1140	IW - E&M Handover @ +18.3mPD	0	03-Mar-23*		03-Mar-23		0
ATAL-1020	IW - Instrumentation	33	18-Mar-23	02-May-23	01-Apr-23	16-May-23	13
ATAL-1030	IW - Electrical Works (Cabling / LCP, Termination)	25	01-Apr-23	05-May-23	20-Apr-23	25-May-23	17
ATAL-1040	IW - BS Installation (ELV, Ventilation, FS, PD)	25	01-Apr-23	05-May-23	20-Apr-23	25-May-23	17
ATAL-1120	IW - Plant Service Water System(PSW) Installation	25	01-Apr-23	05-May-23	20-Apr-23	25-May-23	17
ATAL-1110	IW - Installation, Set-Up & T&C for SCADA System	14	19-Apr-23	05-May-23	09-May-23	25-May-23	17
IW E&M T&C		266	06-May-23	11-Mar-24	25-May-23	11-Mar-24	0
ATAL-1050	IW - T&C - Equipment SAT (Mechanical Dry Check)	30	06-May-23	10-Jun-23	25-May-23	30-Jun-23	16
ATAL-1060	IW - T&C - Equipment SAT (Functional Dry Check)	30	06-May-23	10-Jun-23	25-May-23	30-Jun-23	16
ATAL-1070	IW - T&C - Equipment SAT (Wet / Load Performance Check)	30	06-May-23	10-Jun-23	25-May-23	30-Jun-23	16
ATAL-1130	IW - T&C - Plant Service Water System(PSW)	30	06-May-23	10-Jun-23	25-May-23	30-Jun-23	16
ATAL-1090	IW - Diversion works from existing bypass chamber to IW (Penstock Installation c/w T&C)	42	12-Jun-23	01-Aug-23	30-Jun-23	21-Aug-23	17
ATAL-1080	IW - FS Inspection and Fire Certificate	57	02-Aug-23	09-Oct-23	21-Aug-23	28-Oct-23	16
ATAL-1100	IW - T&C - Early Commissioning (100,000 m3/d) (KD3)	105	10-Oct-23	20-Feb-24*	28-Oct-23	11-Mar-24	17
IW-995	KD3 (11-Mar-24)	0		11-Mar-24*		11-Mar-24	0
Modification of Existing Emergency Bypass Chamber		97	25-Jul-22	14-Nov-22	20-Nov-23	11-Mar-24	414
IW-1260	ADB - Modification of Existing Emergency Bypass Chamber - Sheet Piles Installation	21	25-Jul-22	17-Aug-22	20-Nov-23	13-Dec-23	391
IW-1270	ADB - Modification of Existing Emergency Bypass Chamber - ELS & Excavation Works	30	18-Aug-22	21-Sep-22	14-Dec-23	17-Jan-24	414
IW-1280	ADB - Modification of Existing Emergency Bypass Chamber - 1200mm Pipe Laying & Backfilling	25	22-Sep-22	20-Oct-22	18-Jan-24	15-Feb-24	414
IW-1290	ADB - Modification of Existing Emergency Bypass Chamber - Backfilling Works	21	21-Oct-22	14-Nov-22	16-Feb-24	11-Mar-24	414
Modification of Existing Inspection Chamber & Inlet Effluent Pipes from NSWSPS		125	01-Nov-22	25-Mar-23	17-Oct-23	11-Mar-24	301
IW-1310	Modification of Existing Inspection Chamber - Sheet Piles Installation	21	01-Nov-22	24-Nov-22	17-Oct-23	10-Nov-23	281
IW-1320	Modification of Existing Inspection Chamber - ELS & Excavation Works	25	25-Nov-22	23-Dec-22	11-Nov-23	09-Dec-23	301
IW-1330	Modification of Existing Inspection Chamber - Demolition of existing inspection chamber	18	24-Dec-22	13-Jan-23	11-Dec-23	30-Dec-23	301
IW-2980	Modification of Existing Inspection Chamber - Construct new chamber & associated pipes from IW	40	14-Jan-23	01-Mar-23	01-Jan-24	15-Feb-24	301
IW-1340	Modification of Existing Inspection Chamber - Backfilling Works	21	02-Mar-23	25-Mar-23	16-Feb-24	11-Mar-24	301
Primary Sedimentation Tank (PST)		1878	09-Nov-20 A	08-Nov-26	31-Dec-21	08-Nov-26	313
PST Stage 1 of Works		567	09-Nov-20 A	31-Aug-22	31-Dec-21	31-Aug-22	0
PST-1000	Preparation	44	09-Nov-20 A	31-Dec-20 A			
PST-1010	UU Detection	3	22-Feb-21 A	24-Feb-21 A			
PST-1020	Method Statement for Predrilling	1	25-Feb-21 A	25-Feb-21 A			
PST-1030	Setting out of Drill Holes	2	26-Feb-21 A	27-Feb-21 A			
PST-1040	UU Report	1	01-Mar-21 A	01-Mar-21 A			
PST-1050	Site Clearance	6	02-Mar-21 A	08-Mar-21 A			
PST Stage 1 - GI - Proposed Predrilling for Piling Works		144	10-May-21 A	19-Aug-21 A			
Predrilling at Existing PST 8 (including Trial Pit Excavation, Level Checking, Core Inspection, SPT)		144	10-May-21 A	19-Aug-21 A			
PST-1090	PD9	14	10-May-21 A	22-May-21 A			
PST-1080	PD6	14	26-May-21 A	02-Jun-21 A			
PST-1110	PD12	14	14-Jul-21 A	29-Jul-21 A			
PST-1060	PD4	14	16-Jul-21 A	31-Jul-21 A			
PST-1070	PD7	14	02-Aug-21 A	17-Aug-21 A			
PST-1150	PD13 (w/ obstruction) after demolition of PST 7	14	04-Aug-21 A	19-Aug-21 A			
PST-1160	PD14 (w/ obstruction) after demolition of PST 7	14	04-Aug-21 A	19-Aug-21 A			
Predrilling at Existing PST 7 (including Trial Pit Excavation, Level Checking, Core Inspection, SPT)		107	11-May-21 A	19-Aug-21 A			
PST-1190	PD8	49	11-May-21 A	09-Jul-21 A			
PST-1140	PD2	14	02-Aug-21 A	17-Aug-21 A			
PST-1200	PD10 (w/ obstruction) after demolition of PST 8	14	04-Aug-21 A	19-Aug-21 A			
PST-1130	PD11 (w/ obstruction)	14	04-Aug-21 A	19-Aug-21 A			
PST Stage 1 - Foundation (At First 3 Tanks, PST 7-8 Footprint)		314	24-Aug-21 A	31-Aug-22	31-Dec-21	31-Aug-22	0
PST-1175	PST Stage 1 - Site set-up of piling rigs	12	24-Aug-21 A	27-Aug-21 A			
PST-1180	PST Stage 1 - Driven H-piles (88 nos. @ ave. 1.5no/d/rig) (completed 63/84 nos as of end Oct 21)	41	28-Aug-21 A	30-Oct-21 A			
NMM-2021	PS 1.105A Noise Mitigation Measures 2021-2022	151	01-Nov-21 A	30-Mar-22*	31-Dec-21	30-Mar-22	1
PST-1210	PST Stage 1 - H-pile Testing (Batch 1 with IW Piles)	21	15-Nov-21 A	06-Jan-22	13-Jan-22	18-Jan-22	10
PST-3020	PST Stage 1 - Submit to GEO (28d)	28	07-Jan-22	15-Feb-22	19-Jan-22	26-Feb-22	10
EBS-2022	Egrets Breeding Season 2022	184	01-Mar-22*	31-Aug-22	01-Mar-22	31-Aug-22	0
PST-1220	PST Stage 1 - Driven H-Pile (25nos. @ ave. 1.5no/d/rig)	45	01-Apr-22	30-May-22	28-Apr-22	22-Jun-22	19
PST Stage 1		168	10-Jan-22	09-Aug-22	10-Jan-22	09-Aug-22	0
Excavation Works (South Portion), (Excavation Volume: 5,795m3)		36	10-Jan-22	26-Feb-22	10-Jan-22	26-Feb-22	0
Z1-PST-4270	PST(S1) - Sheetpiling for PST Trench	18	10-Jan-22*	29-Jan-22	10-Jan-22	29-Jan-22	0
Z1-PST-3580	PST(S1) - Excavation S1 Level (+1.875mPD), (3744m3, 800m3/day)	5	25-Jan-22	29-Jan-22	25-Jan-22	29-Jan-22	0
Z1-PST-3840	PST(S1) - Excavation S2 Level (+0.375 mPD), (870m3, 400m3/day)	3	14-Feb-22	16-Feb-22	14-Feb-22	16-Feb-22	0
Z1-PST-3600	PST(S1) - Excavation FEL Level (-1.125, -1.625,-3.225mPD), (1181m3, 400m3/day)	3	24-Feb-22	26-Feb-22	24-Feb-22	26-Feb-22	0
ELS Erection Works		15	07-Feb-22	23-Feb-22	07-Feb-22	23-Feb-22	0
Z1-PST-3590	PST(S1) - Erection and Installation of S1 Strut & W1 Waling (+1.875 mPD)	6	07-Feb-22	12-Feb-22	07-Feb-22	12-Feb-22	0
Z1-PST-3850	PST(S1) - Erection and Installation of S2 Strut & W2 Waling (+0.375 mPD)	6	17-Feb-22	23-Feb-22	17-Feb-22	23-Feb-22	0
Basement RC Works (Stage 1 - Southern Portion)		52	28-Feb-22	04-May-22	28-Feb-22	04-May-22	0
Excavation for Southern Trench (Lower Portion)		34	28-Feb-22	08-Apr-22	28-Feb-22	12-Apr-22	3
Z1-PST-3860	PST(S1) - Base Slab & Wall Erection of Formworks and RC Works (+0.325 mPD)	10	28-Feb-22	10-Mar-22	28-Feb-22	10-Mar-22	0
Z1-PST-3870	PST(S1) - Removal of S2	4	11-Mar-22	15-Mar-22	11-Mar-22	15-Mar-22	0
Z1-PST-3880	PST(S1) - Wall Erection of Formworks and RC Works (+1.875 mPD & +3.875mPD)	6	16-Mar-22	22-Mar-22	16-Mar-22	22-Mar-22	0



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

- Remaining Level of Effort
- DWP Rev.8
- Actual Work
- Remaining Work
- Critical Remaining Work

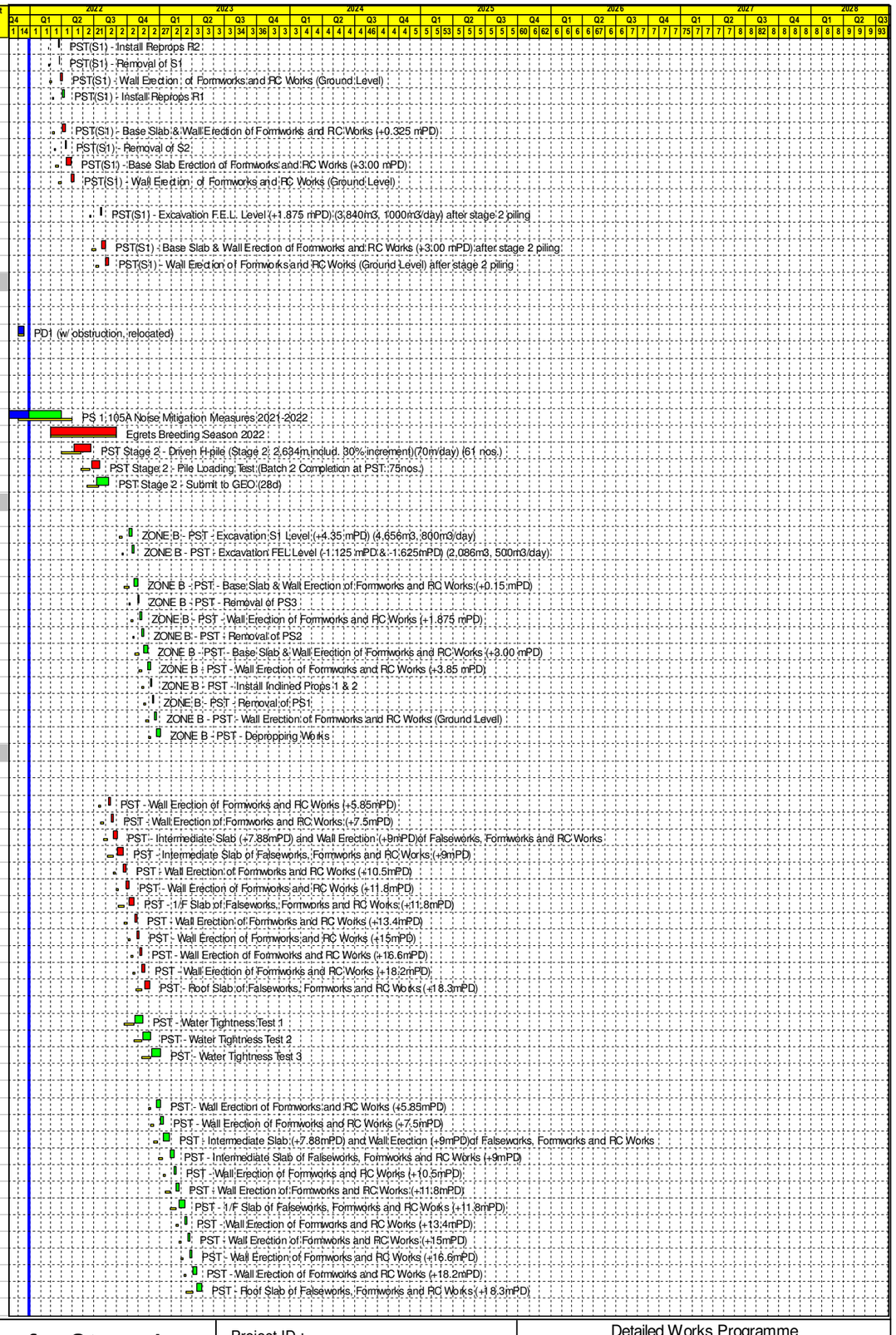
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr9_220111
Layout : DC201910 DWP rev.9

Detailed Works Programme

Date	Revision	Checked	Approved
31-Dec-21	Rev. 9		
30-Nov-21	Rev. 8		
31-Oct-21	Rev. 7		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
Z1-PST-3610	PST(S1) - Install Reprops R2	2	23-Mar-22	24-Mar-22	23-Mar-22	24-Mar-22	0
Z1-PST-3800	PST(S1) - Removal of S1	2	25-Mar-22	26-Mar-22	25-Mar-22	26-Mar-22	0
Z1-PST-3640	PST(S1) - Wall Erection of Formworks and RC Works (Ground Level)	6	28-Mar-22	02-Apr-22	28-Mar-22	02-Apr-22	0
Z1-PST-3630	PST(S1) - Install Reprops R1	4	04-Apr-22	08-Apr-22	08-Apr-22	12-Apr-22	3
Excavation for Northern Trench (Lower Portion)		22	04-Apr-22	04-May-22	04-Apr-22	04-May-22	0
Z1-PST-3620	PST(S1) - Base Slab & Wall Erection of Formworks and RC Works (+0.325 mPD)	6	04-Apr-22	11-Apr-22	04-Apr-22	11-Apr-22	0
Z1-PST-4240	PST(S1) - Removal of S2	2	12-Apr-22	13-Apr-22	12-Apr-22	13-Apr-22	0
Z1-PST-4250	PST(S1) - Base Slab Erection of Formworks and RC Works (+3.00 mPD)	8	14-Apr-22	26-Apr-22	14-Apr-22	26-Apr-22	0
Z1-PST-4260	PST(S1) - Wall Erection of Formworks and RC Works (Ground Level)	6	27-Apr-22	04-May-22	27-Apr-22	04-May-22	0
Excavation Works (North Portion), (Excavation Volume: 3,840m3)		4	18-Jul-22	21-Jul-22	18-Jul-22	21-Jul-22	0
Z1-PST-4180	PST(S1) - Excavation F.E.L. Level (+1.875 mPD) (3,840m3, 1000m3/day) after stage 2 piling	4	18-Jul-22	21-Jul-22	18-Jul-22	21-Jul-22	0
Basement RC Works (North Portion)		16	22-Jul-22	09-Aug-22	22-Jul-22	09-Aug-22	0
Z1-PST-4190	PST(S1) - Base Slab & Wall Erection of Formworks and RC Works (+3.00 mPD) after stage 2 piling	10	22-Jul-22	02-Aug-22	22-Jul-22	02-Aug-22	0
Z1-PST-4200	PST(S1) - Wall Erection of Formworks and RC Works (Ground Level) after stage 2 piling	6	03-Aug-22	09-Aug-22	03-Aug-22	09-Aug-22	0
PST Stage 2 of Works		389	04-Jun-21 A	31-Aug-22	03-Feb-22	12-Jan-23	1624
PST GI - Propose Predrilling for Piling Works		162	04-Jun-21 A	15-Dec-21 A			
Pre-drilling @ Existing PST 6 (including Trial Pit Excavation, Level Checking, Core Inspection, SPT)		14	30-Nov-21 A	15-Dec-21 A			
PST-2000	PD1 (w/ obstruction, relocated)	14	30-Nov-21 A	15-Dec-21 A			
Pre-drilling @ Existing PST 5 (including Trial Pit Excavation, Level Checking, Core Inspection, SPT)		21	04-Jun-21 A	29-Jun-21 A			
PST-2020	PD5	7	04-Jun-21 A	11-Jun-21 A			
PST-2010	PD3	14	12-Jun-21 A	29-Jun-21 A			
PST Foundation - Stage 2 (At Remaining 2 Tanks, PST 5-6 Footprint)		236	01-Nov-21 A	31-Aug-22	03-Feb-22	12-Jan-23	115
NMM-2105	PS 1.105A Noise Mitigation Measures 2021-2022	151	01-Nov-21 A	31-Mar-22	03-Feb-22	04-May-22	34
EBS-2115	Egrets Breeding Season 2022	184	01-Mar-22*	31-Aug-22	01-Mar-22	31-Aug-22	0
Z1-PST-3890	PST Stage 2 - Driven H-pile (Stage 2: 2,634m,includ. 30% increment)(70m/day) (61 nos.)	40	05-May-22	22-Jun-22	05-May-22	22-Jun-22	0
Z1-PST-3980	PST Stage 2 - Pile Loading Test (Batch 2 Completion at PST: 75nos.)	20	23-Jun-22	16-Jul-22	23-Jun-22	16-Jul-22	0
Z1-PST-4230	PST Stage 2 - Submit to GEO (28d)	28	09-Jul-22	10-Aug-22	08-Dec-22	12-Jan-23	127
PST Stage 2 Basement Construction Works		72	08-Oct-22	03-Jan-23	13-Jan-23	04-Jul-23	142
Excavation Works (Excavation Volume: 6,742m3)		10	08-Oct-22	19-Oct-22	13-Jan-23	31-Jan-23	80
Z1-PST-3900	ZONE B - PST - Excavation S1 Level (+4.35 mPD) (4,656m3, 800m3/day)	6	08-Oct-22	14-Oct-22	13-Jan-23	19-Jan-23	80
Z1-PST-3910	ZONE B - PST - Excavation FEL Level (-1.125 mPD & -1.625mPD) (2,086m3, 500m3/day)	4	15-Oct-22	19-Oct-22	27-Jan-23	31-Jan-23	80
Basement RC Works		62	20-Oct-22	03-Jan-23	01-Feb-23	04-Jul-23	142
Z1-PST-4000	ZONE B - PST - Base Slab & Wall Erection of Formworks and RC Works (+0.15 mPD)	10	20-Oct-22	31-Oct-22	01-Feb-23	11-Feb-23	80
Z1-PST-4010	ZONE B - PST - Removal of PS3	4	01-Nov-22	04-Nov-22	13-Feb-23	16-Feb-23	80
Z1-PST-4020	ZONE B - PST - Wall Erection of Formworks and RC Works (+1.875 mPD)	6	05-Nov-22	11-Nov-22	17-Feb-23	23-Feb-23	80
Z1-PST-3920	ZONE B - PST - Removal of PS2	4	12-Nov-22	16-Nov-22	24-Feb-23	28-Feb-23	80
Z1-PST-3930	ZONE B - PST - Base Slab & Wall Erection of Formworks and RC Works (+3.00 mPD)	10	17-Nov-22	28-Nov-22	01-Mar-23	11-Mar-23	80
Z1-PST-3940	ZONE B - PST - Wall Erection of Formworks and RC Works (+3.85 mPD)	7	29-Nov-22	06-Dec-22	13-Mar-23	20-Mar-23	80
Z1-PST-3950	ZONE B - PST - Install Inclined Props 1 & 2	4	07-Dec-22	10-Dec-22	21-Mar-23	24-Mar-23	80
Z1-PST-3990	ZONE B - PST - Removal of PS1	4	12-Dec-22	15-Dec-22	25-Mar-23	29-Mar-23	80
Z1-PST-3960	ZONE B - PST - Wall Erection of Formworks and RC Works (Ground Level)	7	16-Dec-22	23-Dec-22	30-Mar-23	11-Apr-23	80
Z1-PST-3970	ZONE B - PST - Depropping Works	6	24-Dec-22	03-Jan-23	27-Jun-23	04-Jul-23	142
PST Superstructure		1094	10-Aug-22	05-Feb-26	10-Aug-22	05-Feb-26	0
Stage 1		120	10-Aug-22	03-Jan-23	10-Aug-22	04-Jul-23	142
RC Works		97	10-Aug-22	03-Dec-22	10-Aug-22	03-Dec-22	0
Z1-PST-3650	PST - Wall Erection of Formworks and RC Works (+5.85mPD)	6	10-Aug-22	16-Aug-22	10-Aug-22	16-Aug-22	0
Z1-PST-3660	PST - Wall Erection of Formworks and RC Works (+7.5mPD)	6	17-Aug-22	23-Aug-22	17-Aug-22	23-Aug-22	0
Z1-PST-3670	PST - Intermediate Slab (+7.88mPD) and Wall Erection (+9mPD)of Falseworks, Formworks and RC Works	10	24-Aug-22	03-Sep-22	24-Aug-22	03-Sep-22	0
Z1-PST-3680	PST - Intermediate Slab of Falseworks, Formworks and RC Works (+9mPD)	13	05-Sep-22	20-Sep-22	05-Sep-22	20-Sep-22	0
Z1-PST-3690	PST - Wall Erection of Formworks and RC Works (+10.5mPD)	6	21-Sep-22	27-Sep-22	21-Sep-22	27-Sep-22	0
Z1-PST-3700	PST - Wall Erection of Formworks and RC Works (+11.8mPD)	6	28-Sep-22	06-Oct-22	28-Sep-22	06-Oct-22	0
Z1-PST-3710	PST - 1/F Slab of Falseworks, Formworks and RC Works (+11.8mPD)	13	07-Oct-22	21-Oct-22	07-Oct-22	21-Oct-22	0
Z1-PST-3720	PST - Wall Erection of Formworks and RC Works (+13.4mPD)	6	22-Oct-22	28-Oct-22	22-Oct-22	28-Oct-22	0
Z1-PST-3730	PST - Wall Erection of Formworks and RC Works (+15mPD)	6	29-Oct-22	04-Nov-22	29-Oct-22	04-Nov-22	0
Z1-PST-3740	PST - Wall Erection of Formworks and RC Works (+16.6mPD)	6	05-Nov-22	11-Nov-22	05-Nov-22	11-Nov-22	0
Z1-PST-3750	PST - Wall Erection of Formworks and RC Works (+18.2mPD)	6	12-Nov-22	18-Nov-22	12-Nov-22	18-Nov-22	0
Z1-PST-3760	PST - Roof Slab of Falseworks, Formworks and RC Works (+18.3mPD)	13	19-Nov-22	03-Dec-22	19-Nov-22	03-Dec-22	0
Water Tightness Test for PST		60	22-Oct-22	03-Jan-23	28-Oct-22	04-Jul-23	142
Z1-PST-3770	PST - Water Tightness Test 1	20	22-Oct-22	14-Nov-22	28-Oct-22	19-Nov-22	5
Z1-PST-3780	PST - Water Tightness Test 2	20	15-Nov-22	07-Dec-22	16-May-23	08-Jun-23	142
Z1-PST-4040	PST - Water Tightness Test 3	20	08-Dec-22	03-Jan-23	09-Jun-23	04-Jul-23	142
Stage 2		977	24-Dec-22	05-Feb-26	12-Apr-23	05-Feb-26	0
RC Works		96	24-Dec-22	29-Apr-23	12-Apr-23	19-Aug-23	92
Z1-PST-4060	PST - Wall Erection of Formworks and RC Works (+5.85mPD)	6	24-Dec-22	03-Jan-23	12-Apr-23	18-Apr-23	80
Z1-PST-4070	PST - Wall Erection of Formworks and RC Works (+7.5mPD)	6	04-Jan-23	10-Jan-23	19-Apr-23	25-Apr-23	80
Z1-PST-4080	PST - Intermediate Slab (+7.88mPD) and Wall Erection (+9mPD)of Falseworks, Formworks and RC Works	10	11-Jan-23	28-Jan-23	26-Apr-23	08-May-23	80
Z1-PST-4090	PST - Intermediate Slab of Falseworks, Formworks and RC Works (+9mPD)	10	30-Jan-23	09-Feb-23	09-May-23	19-May-23	80
Z1-PST-4100	PST - Wall Erection of Formworks and RC Works (+10.5mPD)	6	10-Feb-23	16-Feb-23	20-May-23	27-May-23	80
Z1-PST-4110	PST - Wall Erection of Formworks and RC Works (+11.8mPD)	6	17-Feb-23	23-Feb-23	29-May-23	03-Jun-23	80
Z1-PST-4120	PST - 1/F Slab of Falseworks, Formworks and RC Works (+11.8mPD)	14	24-Feb-23	11-Mar-23	05-Jun-23	20-Jun-23	80
Z1-PST-4130	PST - Wall Erection of Formworks and RC Works (+13.4mPD)	6	13-Mar-23	18-Mar-23	21-Jun-23	28-Jun-23	80
Z1-PST-4140	PST - Wall Erection of Formworks and RC Works (+15mPD)	6	20-Mar-23	25-Mar-23	29-Jun-23	06-Jul-23	80
Z1-PST-4150	PST - Wall Erection of Formworks and RC Works (+16.6mPD)	6	27-Mar-23	01-Apr-23	07-Jul-23	13-Jul-23	80
Z1-PST-4160	PST - Wall Erection of Formworks and RC Works (+18.2mPD)	6	03-Apr-23	13-Apr-23	14-Jul-23	20-Jul-23	80
Z1-PST-4170	PST - Roof Slab of Falseworks, Formworks and RC Works (+18.3mPD)	14	14-Apr-23	29-Apr-23	04-Aug-23	19-Aug-23	92
Water Tightness Test for PST		910	13-Mar-23	05-Feb-26	05-Jul-23	05-Feb-26	0



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

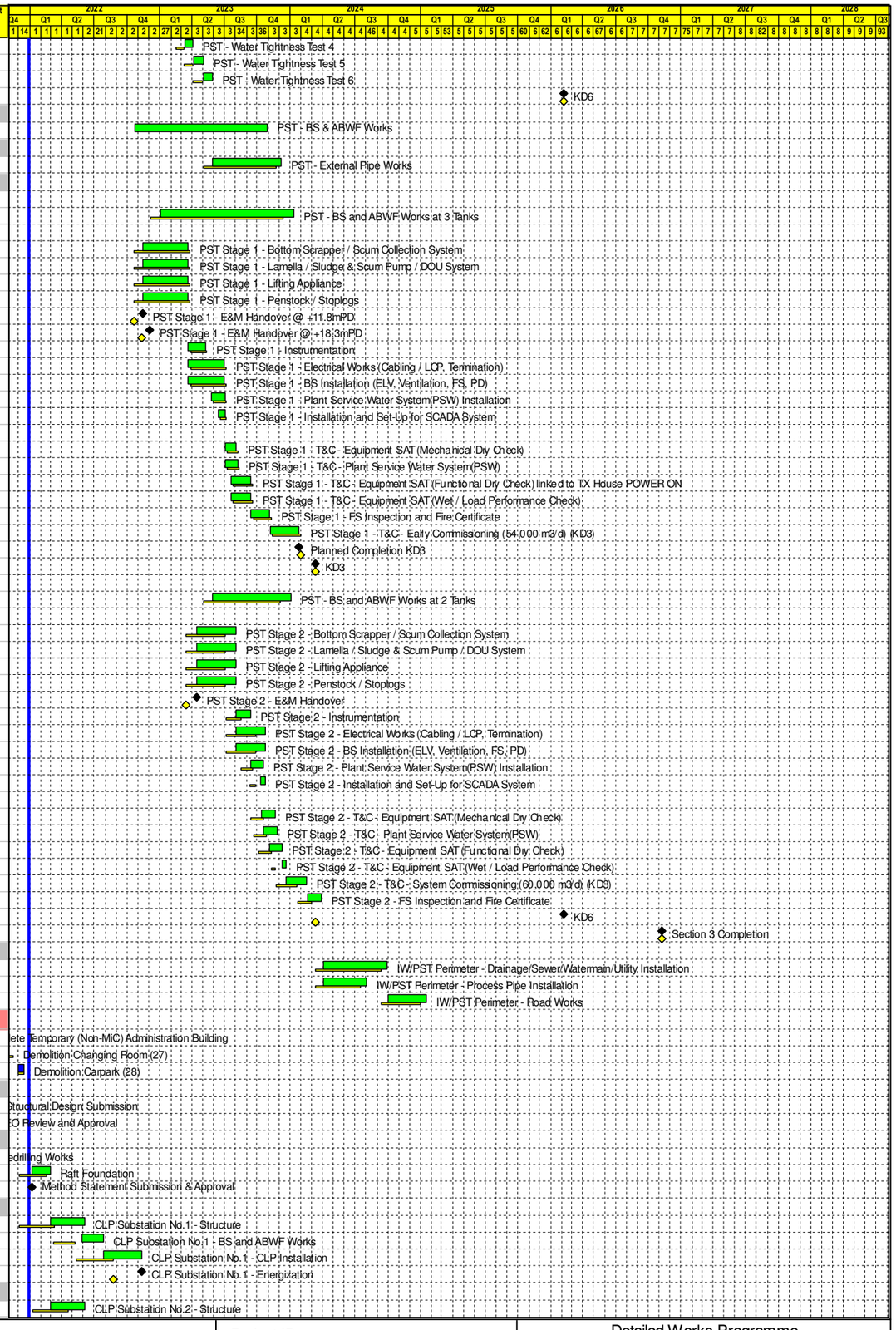
Remaining Level of Effort
DWP Rev.8
Actual Work
Remaining Work
Critical Remaining Work

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

Project ID : DWP.DPr9_220111
Layout : DC201910 DWP rev.9

Detailed Works Programme			
Date	Revision	Checked	Approved
31-Dec-21	Rev. 9		
30-Nov-21	Rev. 8		
31-Oct-21	Rev. 7		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
Z1-PST-3790	PST - Water Tightness Test 4	20	13-Mar-23	04-Apr-23	05-Jul-23	27-Jul-23	90
Z1-PST-4030	PST - Water Tightness Test 5	20	06-Apr-23	03-May-23	28-Jul-23	19-Aug-23	90
Z1-PST-4050	PST - Water Tightness Test 6	20	04-May-23	27-May-23	21-Aug-23	12-Sep-23	90
CDKD6	KD6	0		05-Feb-26*		05-Feb-26	0
PST BS & ABWF Works		300	22-Oct-22	30-Oct-23	08-Feb-23	08-Feb-24	84
Z1-PST-3810	PST - BS & ABWF Works	300	22-Oct-22	30-Oct-23	08-Feb-23	08-Feb-24	84
PST External Pipeworks		160	29-May-23	06-Dec-23	13-Sep-23	03-Apr-24	90
ATALPST-5120	PST - External Pipe Works	160	29-May-23	06-Dec-23	13-Sep-23	03-Apr-24	90
ABWF, E&M & T&C		1247	15-Nov-22	08-Nov-26	21-Nov-22	08-Nov-26	0
PST Stage 1 - ABWF & BS Works		300	04-Jan-23	11-Jan-24	19-Oct-23	26-Oct-24	231
PST-1370	PST - BS and ABWF Works at 3 Tanks	300	04-Jan-23	11-Jan-24	19-Oct-23	26-Oct-24	231
PST Stage 1 - E&M Installation Works at New PST 1,2,3		181	15-Nov-22	03-Jul-23	21-Nov-22	06-Oct-23	80
ATALPST-3000	PST Stage 1 - Bottom Scrapper / Scum Collection System	100	15-Nov-22	21-Mar-23	21-Nov-22	27-Mar-23	5
ATALPST-3010	PST Stage 1 - Lamella / Sludge & Scum Pump / DOU System	100	15-Nov-22	21-Mar-23	21-Nov-22	27-Mar-23	5
ATALPST-3020	PST Stage 1 - Lifting Appliance	100	15-Nov-22	21-Mar-23	21-Nov-22	27-Mar-23	5
ATALPST-3030	PST Stage 1 - Penstock / Stoplogs	100	15-Nov-22	21-Mar-23	21-Nov-22	27-Mar-23	5
ATALPST-0000	PST Stage 1 - E&M Handover @ +11.8mPD	0	15-Nov-22		21-Nov-22		5
ATALPST-5310	PST Stage 1 - E&M Handover @ +18.3mPD	0		03-Dec-22*		03-Dec-22	0
ATALPST-3040	PST Stage 1 - Instrumentation	36	22-Mar-23	08-May-23	28-Mar-23	13-May-23	5
ATALPST-3050	PST Stage 1 - Electrical Works (Cabling / LCP, Termination)	80	22-Mar-23	01-Jul-23	28-Mar-23	07-Jul-23	5
ATALPST-3060	PST Stage 1 - BS Installation (ELV, Ventilation, FS, PD)	80	22-Mar-23	01-Jul-23	28-Mar-23	07-Jul-23	5
ATALPST-3120	PST Stage 1 - Plant Service Water System(PSW) Installation	30	27-May-23	03-Jul-23	31-Aug-23	06-Oct-23	80
ATALPST-3065	PST Stage 1 - Installation and Set-Up for SCADA System	14	14-Jun-23	03-Jul-23	20-Jun-23	07-Jul-23	5
PST Stage 1 - Testing and Commissioning at New PST 1,2,3		217	03-Jul-23	11-Mar-24	08-Jul-23	11-Mar-24	0
ATALPST-3070	PST Stage 1 - T&C - Equipment SAT (Mechanical Dry Check)	28	03-Jul-23	03-Aug-23	08-Jul-23	09-Aug-23	5
ATALPST-5280	PST Stage 1 - T&C - Plant Service Water System(PSW)	30	04-Jul-23	07-Aug-23	07-Oct-23	10-Nov-23	79
ATALPST-3080	PST Stage 1 - T&C - Equipment SAT (Functional Dry Check) linked to TX House POWER ON	48	20-Jul-23	13-Sep-23	26-Jul-23	19-Sep-23	5
ATALPST-3090	PST Stage 1 - T&C - Equipment SAT (Wet / Load Performance Check)	48	20-Jul-23	13-Sep-23	26-Jul-23	19-Sep-23	5
ATALPST-3100	PST Stage 1 - FS Inspection and Fire Certificate	42	14-Sep-23	04-Nov-23	20-Sep-23	10-Nov-23	5
ATALPST-3110	PST Stage 1 - T&C - Early Commissioning (54,000 m3/d) (KD3)	68	06-Nov-23	26-Jan-24	11-Nov-23	01-Feb-24	5
PKD3	Planned Completion KD3	0		26-Jan-24		15-Feb-24	20
CDKD3	KD3	0		11-Mar-24*		11-Mar-24	0
PST Stage 2 - ABWF & BS Works		180	29-May-23	02-Jan-24	19-Oct-23	03-Jun-24	119
PST-2190	PST - BS and ABWF Works at 2 Tanks	180	29-May-23	02-Jan-24	19-Oct-23	03-Jun-24	119
PST Stage 2 - E&M Installation Works at New PST 4,5		160	14-Apr-23	25-Oct-23	21-Jul-23	24-Feb-24	96
ATALPST-5000	PST Stage 2 - Bottom Scrapper / Scum Collection System	91	14-Apr-23	02-Aug-23	21-Jul-23	08-Nov-23	81
ATALPST-5010	PST Stage 2 - Lamella / Sludge & Scum Pump / DOU System	91	14-Apr-23	02-Aug-23	21-Jul-23	08-Nov-23	81
ATALPST-5020	PST Stage 2 - Lifting Appliance	91	14-Apr-23	02-Aug-23	21-Jul-23	08-Nov-23	81
ATALPST-5030	PST Stage 2 - Penstock / Stoplogs	91	14-Apr-23	02-Aug-23	21-Jul-23	08-Nov-23	81
ATALPST-0001	PST Stage 2 - E&M Handover	0	14-Apr-23		21-Jul-23		80
ATALPST-5040	PST Stage 2 - Instrumentation	36	03-Aug-23	13-Sep-23	09-Nov-23	20-Dec-23	81
ATALPST-5050	PST Stage 2 - Electrical Works (Cabling / LCP, Termination)	69	03-Aug-23	25-Oct-23	25-Nov-23	16-Feb-24	89
ATALPST-5060	PST Stage 2 - BS Installation (ELV, Ventilation, FS, PD)	69	03-Aug-23	25-Oct-23	25-Nov-23	16-Feb-24	89
ATALPST-5290	PST Stage 2 - Plant Service Water System(PSW) Installation	28	14-Sep-23	18-Oct-23	22-Jan-24	24-Feb-24	101
ATALPST-5065	PST Stage 2 - Installation and Set-Up for SCADA System	14	09-Oct-23	25-Oct-23	25-Jan-24	16-Feb-24	89
PST Stage 2 - Testing and Commissioning at New PST 4,5		961	14-Oct-23	08-Nov-26	22-Jan-24	08-Nov-26	0
ATALPST-5070	PST Stage 2 - T&C - Equipment SAT (Mechanical Dry Check)	31	14-Oct-23	20-Nov-23	22-Jan-24	27-Feb-24	76
ATALPST-5300	PST Stage 2 - T&C - Plant Service Water System(PSW)	32	19-Oct-23	25-Nov-23	26-Feb-24	03-Apr-24	99
ATALPST-5080	PST Stage 2 - T&C - Equipment SAT (Functional Dry Check)	31	04-Nov-23	09-Dec-23	17-Feb-24	23-Mar-24	81
ATALPST-5090	PST Stage 2 - T&C - Equipment SAT (Wet / Load Performance Check)	9	11-Dec-23	20-Dec-23	25-Mar-24	03-Apr-24	78
ATALPST-5100	PST Stage 2 - T&C - System Commissioning (60,000 m3/d) (KD3)	42	21-Dec-23	17-Feb-24	05-Apr-24	03-Jun-24	85
ATALPST-5110	PST Stage 2 - FS Inspection and Fire Certificate	34	19-Feb-24	28-Mar-24	04-Jun-24	12-Jul-24	83
CDKD3a	KD6	0		05-Feb-26*		05-Feb-26	0
CS3	Section 3 Completion	0		08-Nov-26*		08-Nov-26	0
External Works - Inlet Work and Primary Sedimentation Tank Perimeter		240	02-Apr-24	18-Jan-25	14-Jan-26	07-Nov-26	529
EW-1080	IW/PST Perimeter - Drainage/Sewer/Watermain/Utility Installation	150	02-Apr-24	30-Sep-24	14-Jan-26	22-Jul-26	529
EW-1050	IW/PST Perimeter - Process Pipe Installation	102	02-Apr-24	03-Aug-24	18-Mar-26	22-Jul-26	577
EW-1090	IW/PST Perimeter - Road Works	90	02-Oct-24	18-Jan-25	23-Jul-26	07-Nov-26	529
CLP Substations No. 1 & 2		1168	01-Jun-21 A	24-May-25	07-Jan-22	07-Nov-26	432
CLP-0900	Complete Temporary (Non-MiC) Administration Building	0		22-Jul-21 A			
CLP-1000	Demolition Changing Room (27)	14	30-Sep-21 A	23-Oct-21 A			
CLP-1240	Demolition Carpark (28)	14	01-Dec-21 A	16-Dec-21 A			
Submissions		69	01-Jun-21 A	03-Sep-21 A			
CLP-1180	Raft & Structural Design Submission	25	01-Jun-21 A	30-Jun-21 A			
CLP-1190	GEO Review and Approval	44	02-Jul-21 A	03-Sep-21 A			
Foundation		183	16-Jul-21 A	28-Feb-22	07-Jan-22	05-May-22	52
CLP-1210	Predrilling Works	24	16-Jul-21 A	06-Sep-21 A			
CLP-1200	Raft Foundation	38	07-Jan-22	28-Feb-22	17-Mar-22	05-May-22	52
CLP-1250	Method Statement Submission & Approval	0		07-Jan-22*		07-Jan-22	0
CLP Substation No. 1		209	28-Feb-22	11-Nov-22	06-May-22	24-Feb-23	81
CLP-1010	CLP Substation No.1 - Structure	76	28-Feb-22	04-Jun-22	06-May-22	05-Aug-22	52
CLP-1040	CLP Substation No.1 - BS and ABWF Works	48	28-May-22	26-Jul-22	09-Aug-22	06-Oct-22	59
CLP-1070	CLP Substation No.1 - CLP Installation	90	26-Jul-22	11-Nov-22	29-Oct-22	22-Feb-23	79
CLP-1090	CLP Substation No.1 - Energization	0		11-Nov-22		24-Feb-23	81
CLP Substation No. 2		214	28-Feb-22	17-Nov-22	06-May-22	24-Feb-23	76
CLP-1020	CLP Substation No.2 - Structure	76	28-Feb-22	04-Jun-22	06-May-22	05-Aug-22	52



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

- Remaining Level of Effort
- DWP Rev.8
- Actual Work
- Remaining Work
- Critical Remaining Work

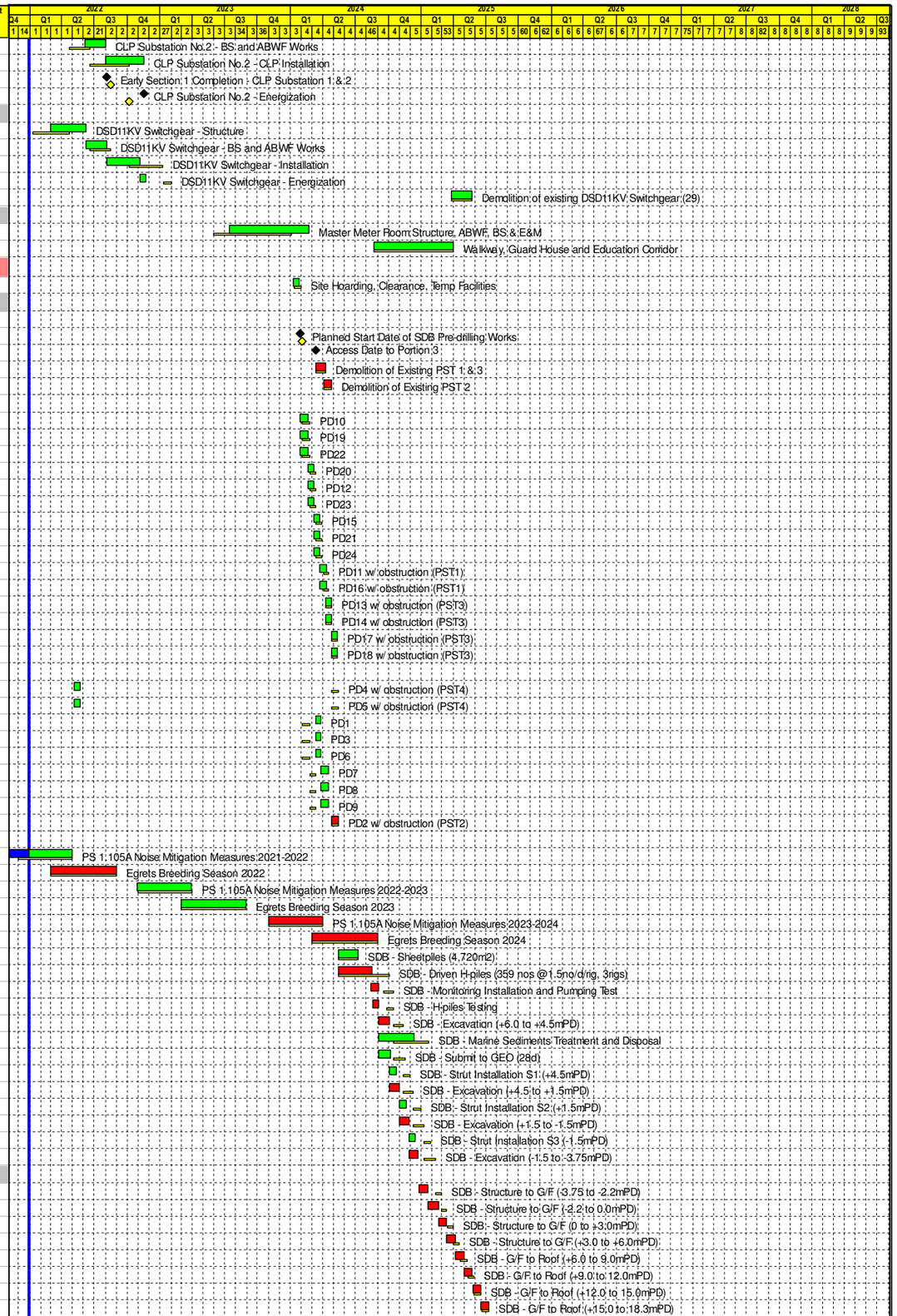
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr9_220111
Layout : DC201910 DWP rev.9

Detailed Works Programme

Date	Revision	Checked	Approved
31-Dec-21	Rev. 9		
30-Nov-21	Rev. 8		
31-Oct-21	Rev. 7		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
CLP-1050	CLP Substation No.2 - BS and ABWF Works	48	04-Jun-22	01-Aug-22	09-Aug-22	06-Oct-22	54
CLP-1080	CLP Substation No.2 - CLP Installation	90	01-Aug-22	17-Nov-22	29-Oct-22	22-Feb-23	74
CLP-1140	Early Section 1 Completion - CLP Substation 1 & 2	0		03-Aug-22*		06-Oct-22	52
CLP-1100	CLP Substation No.2 - Energization	0		17-Nov-22		24-Feb-23	76
DSD 11kV Switchgear		948	28-Feb-22	24-May-25	06-May-22	20-Jun-26	316
CLP-1030	DSD11KV Switchgear - Structure	78	28-Feb-22	07-Jun-22	06-May-22	08-Aug-22	52
CLP-1060	DSD11KV Switchgear - BS and ABWF Works	48	07-Jun-22	03-Aug-22	09-Aug-22	06-Oct-22	52
CLP-1110	DSD11KV Switchgear - Installation	78	03-Aug-22	05-Nov-22	29-Oct-22	08-Feb-23	72
CLP-1220	DSD11KV Switchgear - Energization	14	05-Nov-22	22-Nov-22	08-Feb-23	24-Feb-23	72
CLP-1230	Demolition of existing DSD11KV Switchgear (29)	45	27-Mar-25	24-May-25	27-Apr-26	20-Jun-26	316
Walkway & Master Meter Room		507	14-Jul-23	01-Apr-25	06-Nov-25	07-Nov-26	472
CLP-1130	Master Meter Room Structure, ABWF, BS & E&M	180	14-Jul-23	22-Feb-24	01-Apr-26	07-Nov-26	799
CLP-1120	Walkway, Guard House and Education Corridor	180	22-Aug-24	01-Apr-25	06-Nov-25	20-Jun-26	356
Sludge Dewatering Building (SDB)		1504	01-Nov-21 A	18-Sep-26	01-Mar-22	07-Nov-26	43
SDB-1000	Site Hoarding, Clearance, Temp Facilities	17	08-Jan-24	26-Jan-24	20-Jan-24	08-Feb-24	11
SDB Foundation & ELS - Stage 1		961	01-Nov-21 A	24-Dec-24	01-Mar-22	24-Dec-24	0
SDB GI - Pre-drilling Works		633	05-May-22	13-May-24	16-Feb-24	13-May-24	0
SDB-1220	Planned Start Date of SDB Pre-drilling Works	0	27-Jan-24		16-Feb-24		20
SDB-1310	Access Date to Portion 3	0		11-Mar-24		09-Apr-24	30
SDB-1100	Demolition of Existing PST 1 & 3	20	12-Mar-24	08-Apr-24	12-Mar-24	08-Apr-24	0
SDB-1320	Demolition of Existing PST 2	20	02-Apr-24	25-Apr-24	02-Apr-24	25-Apr-24	0
SDB At PST 1,3 Footprint		80	27-Jan-24	11-May-24	16-Feb-24	13-May-24	1
SDB-1010	PD10	14	27-Jan-24	19-Feb-24	20-Mar-24	09-Apr-24	39
SDB-1020	PD19	14	27-Jan-24	19-Feb-24	20-Mar-24	09-Apr-24	39
SDB-1030	PD22	14	27-Jan-24	19-Feb-24	16-Feb-24	02-Mar-24	11
SDB-1040	PD20	14	20-Feb-24	06-Mar-24	10-Apr-24	25-Apr-24	39
SDB-1050	PD12	14	20-Feb-24	06-Mar-24	10-Apr-24	25-Apr-24	39
SDB-1060	PD23	14	20-Feb-24	06-Mar-24	04-Mar-24	19-Mar-24	11
SDB-1070	PD15	14	07-Mar-24	22-Mar-24	26-Apr-24	13-May-24	39
SDB-1080	PD21	14	07-Mar-24	22-Mar-24	26-Apr-24	13-May-24	39
SDB-1090	PD24	14	07-Mar-24	22-Mar-24	20-Mar-24	09-Apr-24	11
SDB-1110	PD11 w/ obstruction (PST1)	14	23-Mar-24	12-Apr-24	10-Apr-24	25-Apr-24	11
SDB-1140	PD16 w/ obstruction (PST1)	14	23-Mar-24	12-Apr-24	10-Apr-24	25-Apr-24	11
SDB-1120	PD13 w/ obstruction (PST3)	14	09-Apr-24	24-Apr-24	10-Apr-24	25-Apr-24	1
SDB-1130	PD14 w/ obstruction (PST3)	14	09-Apr-24	24-Apr-24	10-Apr-24	25-Apr-24	1
SDB-1150	PD17 w/ obstruction (PST3)	14	25-Apr-24	11-May-24	26-Apr-24	13-May-24	1
SDB-1160	PD18 w/ obstruction (PST3)	14	25-Apr-24	11-May-24	26-Apr-24	13-May-24	1
SDB At PST 2,4 Footprint		593	05-May-22	13-May-24	10-Apr-24	13-May-24	0
SDB-1350	PD4 w/ obstruction (PST4)	14	05-May-22	23-May-22	26-Apr-24	13-May-24	579
SDB-1360	PD5 w/ obstruction (PST4)	14	05-May-22	23-May-22	26-Apr-24	13-May-24	579
SDB-1230	PD1	14	11-Mar-24	26-Mar-24	10-Apr-24	25-Apr-24	22
SDB-1240	PD3	14	11-Mar-24	26-Mar-24	10-Apr-24	25-Apr-24	22
SDB-1250	PD6	14	11-Mar-24	26-Mar-24	10-Apr-24	25-Apr-24	22
SDB-1290	PD7	14	27-Mar-24	16-Apr-24	26-Apr-24	13-May-24	22
SDB-1260	PD8	14	27-Mar-24	16-Apr-24	26-Apr-24	13-May-24	22
SDB-1300	PD9	14	27-Mar-24	16-Apr-24	26-Apr-24	13-May-24	22
SDB-1370	PD2 w/ obstruction (PST2)	14	26-Apr-24	13-May-24	26-Apr-24	13-May-24	0
SDB Foundation - PST 1-4 Footprint		961	01-Nov-21 A	24-Dec-24	01-Mar-22	24-Dec-24	0
NMM-2095	PS 1.105A Noise Mitigation Measures 2021-2022	151	01-Nov-21 A	30-Apr-22	03-Jul-22	31-Oct-22	184
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	30-Oct-22	30-Mar-23	01-Nov-22	31-Mar-23	2
EBS-2023	Egrets Breeding Season 2023	184	01-Mar-23	31-Aug-23	23-Mar-23	22-Sep-23	22
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	14-May-24	08-Jul-24	13-Jul-24	03-Sep-24	49
SDB-1170	SDB - Driven H-piles (359 nos @1.5no/d/rig, 3rigs)	80	14-May-24	17-Aug-24	14-May-24	17-Aug-24	0
SDB-1610	SDB - Monitoring Installation and Pumping Test	21	14-Aug-24	03-Sep-24	14-Aug-24	03-Sep-24	0
SDB-1180	SDB - H-piles Testing	14	19-Aug-24	03-Sep-24	19-Aug-24	03-Sep-24	0
SDB-1200	SDB - Excavation (+6.0 to +4.5mPD)	24	04-Sep-24	03-Oct-24	04-Sep-24	03-Oct-24	0
SDB-1210	SDB - Marine Sediments Treatment and Disposal	83	04-Sep-24	12-Dec-24	16-Sep-24	24-Dec-24	10
SDB-1620	SDB - Submit to GEO (28d)	28	04-Sep-24	08-Oct-24	22-Nov-24	24-Dec-24	65
SDB-1270	SDB - Strut Installation S1 (+4.5mPD)	16	04-Oct-24	23-Oct-24	30-Oct-24	16-Nov-24	21
SDB-1280	SDB - Excavation (+4.5 to +1.5mPD)	23	04-Oct-24	31-Oct-24	04-Oct-24	31-Oct-24	0
SDB-1330	SDB - Strut Installation S2 (+1.5mPD)	16	01-Nov-24	19-Nov-24	18-Nov-24	05-Dec-24	14
SDB-1340	SDB - Excavation (+1.5 to -1.5mPD)	23	01-Nov-24	27-Nov-24	01-Nov-24	27-Nov-24	0
SDB-1390	SDB - Strut Installation S3 (-1.5mPD)	16	28-Nov-24	16-Dec-24	06-Dec-24	24-Dec-24	7
SDB-1400	SDB - Excavation (-1.5 to -3.75mPD)	23	28-Nov-24	24-Dec-24	28-Nov-24	24-Dec-24	0
SDB Structure		166	27-Dec-24	08-Jul-25	27-Dec-24	08-Jul-25	0
SDB-1510	SDB - Structure to G/F (-3.75 to -2.2mPD)	20	27-Dec-24	20-Jan-25	27-Dec-24	20-Jan-25	0
SDB-1530	SDB - Structure to G/F (-2.2 to 0.0mPD)	20	21-Jan-25	18-Feb-25	21-Jan-25	18-Feb-25	0
SDB-1540	SDB - Structure to G/F (0 to +3.0mPD)	20	19-Feb-25	13-Mar-25	19-Feb-25	13-Mar-25	0
SDB-1550	SDB - Structure to G/F (+3.0 to +6.0mPD)	20	14-Mar-25	07-Apr-25	14-Mar-25	07-Apr-25	0
SDB-1560	SDB - G/F to Roof (+6.0 to 9.0mPD)	18	08-Apr-25	02-May-25	08-Apr-25	02-May-25	0
SDB-1570	SDB - G/F to Roof (+9.0 to 12.0mPD)	18	03-May-25	24-May-25	03-May-25	24-May-25	0
SDB-1580	SDB - G/F to Roof (+12.0 to 15.0mPD)	18	26-May-25	16-Jun-25	26-May-25	16-Jun-25	0
SDB-1590	SDB - G/F to Roof (+15.0 to 18.3mPD)	18	17-Jun-25	08-Jul-25	17-Jun-25	08-Jul-25	0



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

Remaining Level of Effort
DWP Rev.8
Actual Work
Remaining Work
Critical Remaining Work

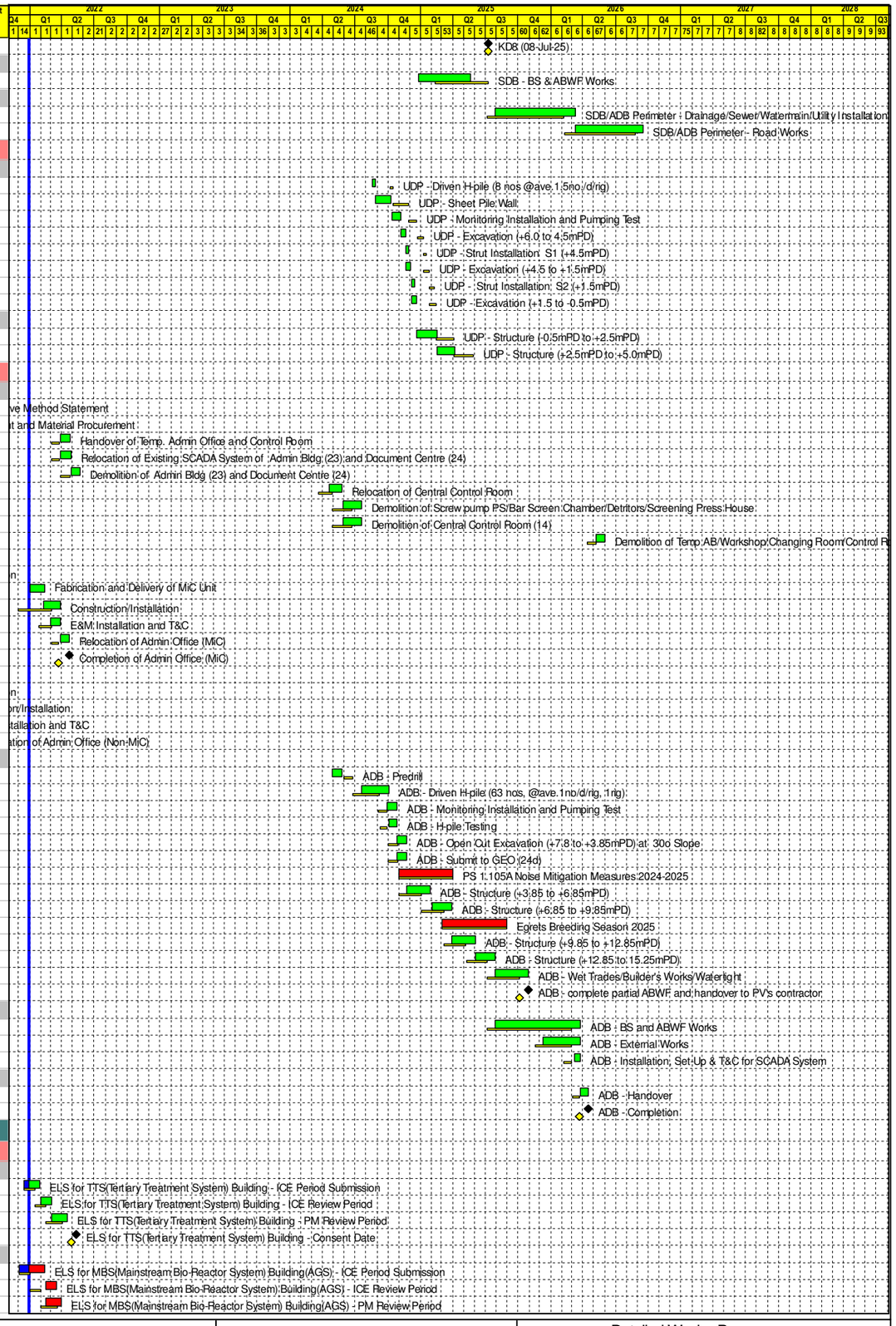
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr9_220111
Layout : DC201910 DWP rev.9

Detailed Works Programme

Date	Revision	Checked	Approved
31-Dec-21	Rev. 9		
30-Nov-21	Rev. 8		
31-Oct-21	Rev. 7		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
SDB-1600	KD8 (08-Jul-25)	0		08-Jul-25*		08-Jul-25	0
SDB ABWF Works		113	27-Dec-24	21-May-25	18-Feb-25	08-Jul-25	39
SDB-1520	SDB - BS & ABWF Works	113	27-Dec-24	21-May-25	18-Feb-25	08-Jul-25	39
External Works -Sludge Dewatering and Administration Buildings Perimeter		338	30-Jul-25	18-Sep-26	15-Sep-25	07-Nov-26	40
EW-1110	SDB/ADB Perimeter - Drainage/Sewer/Watermain/Utility Installation	180	30-Jul-25	10-Mar-26	15-Sep-25	29-Apr-26	40
EW-1130	SDB/ADB Perimeter - Road Works	158	11-Mar-26	18-Sep-26	30-Apr-26	07-Nov-26	40
Underpass		199	19-Aug-24	07-Apr-25	23-Oct-24	08-Jul-25	79
UDP Foundation and ELS Works		106	19-Aug-24	19-Dec-24	23-Oct-24	22-Mar-25	80
UDP-1010	UDP - Driven H-pile (8 nos @ave.1.5no./d/rig)	8	19-Aug-24	27-Aug-24	23-Oct-24	31-Oct-24	53
UDP-1000	UDP - Sheet Pile Wall	36	28-Aug-24	10-Oct-24	23-Nov-24	07-Jan-25	72
UDP-1090	UDP - Monitoring Installation and Pumping Test	21	12-Oct-24	05-Nov-24	08-Jan-25	06-Feb-25	72
UDP-1020	UDP - Excavation (+6.0 to 4.5mPD)	12	06-Nov-24	19-Nov-24	07-Feb-25	20-Feb-25	72
UDP-1030	UDP - Strut Installation S1 (+4.5mPD)	8	20-Nov-24	28-Nov-24	05-Mar-25	13-Mar-25	82
UDP-1040	UDP - Excavation (+4.5 to +1.5mPD)	14	20-Nov-24	05-Dec-24	21-Feb-25	08-Mar-25	72
UDP-1050	UDP - Strut Installation S2 (+1.5mPD)	8	06-Dec-24	14-Dec-24	14-Mar-25	22-Mar-25	76
UDP-1060	UDP - Excavation (+1.5 to -0.5mPD)	12	06-Dec-24	19-Dec-24	10-Mar-25	22-Mar-25	72
UDP Structure		84	20-Dec-24	07-Apr-25	24-Mar-25	08-Jul-25	72
UDP-1070	UDP - Structure (-0.5mPD to +2.5mPD)	42	20-Dec-24	15-Feb-25	24-Mar-25	17-May-25	72
UDP-1080	UDP - Structure (+2.5mPD to +5.0mPD)	42	17-Feb-25	07-Apr-25	19-May-25	08-Jul-25	72
Administration Building (ADB)		1654	18-Feb-21 A	01-Jun-26	08-Jan-22	07-Nov-26	137
Temporary Admin Office and Control Room		1654	18-Feb-21 A	01-Jun-26	08-Jan-22	07-Nov-26	137
ADB-1000	Submit/Approve Method Statement	48	18-Feb-21 A	19-Apr-21 A			
ADB-1010	Equipment and Material Procurement	88	18-Feb-21 A	07-Jun-21 A			
ADB-1040	Handover of Temp. Admin Office and Control Room	20	29-Mar-22	25-Apr-22	04-Apr-22	30-Apr-22	5
ADB-1250	Relocation of Existing SCADA System of Admin Bldg (23) and Document Centre (24)	21	29-Mar-22	26-Apr-22	04-Apr-22	03-May-22	5
ADB-1050	Demolition of Admin Bldg (23) and Document Centre (24)	20	27-Apr-22*	21-May-22	04-May-22	27-May-22	5
ADB-1060	Relocation of Central Control Room	30	19-Apr-24	25-May-24	25-Apr-24	31-May-24	5
ADB-1070	Demolition of Screw pump PS/Bar Screen Chamber/Detritors/Screening Press House	45	27-May-24	19-Jul-24	01-Jun-24	25-Jul-24	5
ADB-1080	Demolition of Central Control Room (14)	45	27-May-24	19-Jul-24	01-Jun-24	25-Jul-24	5
ADB-1210	Demolition of Temp AB/Workshop/Changing Room/Control Room	21	07-May-26	01-Jun-26	14-Oct-26	07-Nov-26	132
Temp Admin Office - MiC Section		316	20-Apr-21 A	22-Apr-22	08-Jan-22	03-May-22	9
ADB-1020A10	Site Formation	6	20-Apr-21 A	26-Apr-21 A			
ADB-1020A100	Fabrication and Delivery of MiC Unit	36	03-Jan-22	12-Feb-22	08-Jan-22	18-Feb-22	5
ADB-1020A20	Construction/Installation	41	09-Feb-22	28-Mar-22	15-Feb-22	02-Apr-22	5
ADB-1020A30	E&M Installation and T&C	24	01-Mar-22	28-Mar-22	07-Mar-22	02-Apr-22	5
ADB-1020A40	Relocation of Admin Office (MiC)	18	29-Mar-22	22-Apr-22	07-Apr-22	30-Apr-22	7
ADB-1020A90	Completion of Admin Office (MiC)	0		22-Apr-22		03-May-22	8
Temp Admin Office - Non-MiC Section		74	20-Apr-21 A	20-Jul-21 A			
ADB-1020A50	Site Formation	6	20-Apr-21 A	26-Apr-21 A			
ADB-1020A60	Construction/Installation	24	27-Apr-21 A	26-May-21 A			
ADB-1020A70	E&M Installation and T&C	20	01-Jun-21 A	24-Jun-21 A			
ADB-1020A80	Relocation of Admin Office (Non-MiC)	20	25-Jun-21 A	20-Jul-21 A			
ADB Construction of New AB and Demolition		473	29-Apr-24	31-Oct-25	02-Jul-24	06-Nov-25	5
ADB-1220	ADB - Predrill	21	29-Apr-24	24-May-24	02-Jul-24	25-Jul-24	51
ADB-1090	ADB - Driven H-pile (63 nos, @ave.1no/d/rig, 1rig)	63	20-Jul-24	03-Oct-24	26-Jul-24	09-Oct-24	5
ADB-1230	ADB - Monitoring Installation and Pumping Test	21	30-Sep-24	25-Oct-24	07-Oct-24	31-Oct-24	5
ADB-1100	ADB - H-pile Testing	18	04-Oct-24	25-Oct-24	10-Oct-24	31-Oct-24	5
ADB-1110	ADB - Open Cut Excavation (+7.8 to +3.85mPD) at 30o Slope	24	26-Oct-24	22-Nov-24	01-Nov-24	28-Nov-24	5
ADB-1240	ADB - Submit to GEO (24d)	24	26-Oct-24	22-Nov-24	01-Nov-24	28-Nov-24	5
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-1120	ADB - Structure (+3.85 to +6.85mPD)	53	23-Nov-24	27-Jan-25	29-Nov-24	07-Feb-25	5
ADB-1130	ADB - Structure (+6.85 to +9.85mPD)	48	03-Feb-25	29-Mar-25	08-Feb-25	04-Apr-25	5
EBS-2025	Egrets Breeding Season 2025	184	01-Mar-25*	31-Aug-25	01-Mar-25	31-Aug-25	0
ADB-1140	ADB - Structure (+9.85 to +12.85mPD)	48	31-Mar-25	02-Jun-25	07-Apr-25	07-Jun-25	5
ADB-1150	ADB - Structure (+12.85 to 15.25mPD)	48	03-Jun-25	29-Jul-25	09-Jun-25	04-Aug-25	5
ADB-1160	ADB - Wet Trades/Builder's Works/Watertight	78	30-Jul-25	31-Oct-25	05-Aug-25	06-Nov-25	5
ADB-1310	ADB - complete partial ABWF and handover to PV's contractor	0		31-Oct-25		06-Nov-25	5
ADB E&M Installation		192	30-Jul-25	24-Mar-26	07-Jan-26	23-Sep-26	150
ADB-1170	ADB - BS and ABWF Works	192	30-Jul-25	24-Mar-26	07-Jan-26	02-Sep-26	132
ADB-1190	ADB - External Works	80	11-Dec-25	24-Mar-26	22-Jun-26	23-Sep-26	150
ADB-1185	ADB - Installation, Set-Up & T&C for SCADA System	14	09-Mar-26	24-Mar-26	08-Sep-26	23-Sep-26	150
ADB Handover and Inspection		18	25-Mar-26	17-Apr-26	03-Sep-26	13-Oct-26	147
ADB-1200	ADB - Handover	18	25-Mar-26	17-Apr-26	03-Sep-26	23-Sep-26	132
ADB-1300	ADB - Completion	0		17-Apr-26		13-Oct-26	147
Zone 2 Construction		1628	09-Nov-20 A	20-Jan-26	31-Dec-21	07-Nov-26	563
Temporary Works Design		162	02-Dec-21 A	12-May-22	31-Dec-21	20-Jun-22	39
TTS Building		148	16-Dec-21 A	12-May-22	08-Feb-22	20-Jun-22	39
TWD-1150	ELS for TTS(Tertiary Treatment System) Building - ICE Period Submission	31	16-Dec-21 A	30-Jan-22	08-Feb-22	10-Mar-22	39
TWD-1160	ELS for TTS(Tertiary Treatment System) Building - ICE Review Period	31	31-Jan-22	02-Mar-22	11-Mar-22	10-Apr-22	39
TWD-1170	ELS for TTS(Tertiary Treatment System) Building - PM Review Period	46	03-Mar-22	17-Apr-22	11-Apr-22	26-May-22	39
TWD-1180	ELS for TTS(Tertiary Treatment System) Building - Consent Date	0		12-May-22*		20-Jun-22	39
MBS Building (AGS)		120	02-Dec-21 A	31-Mar-22	31-Dec-21	31-Mar-22	0
TWD-1190	ELS for MBS(Mainstream Bio-Reactor System) Building(AGS) - ICE Period Submission	45	02-Dec-21 A	13-Feb-22	31-Dec-21	13-Feb-22	0
TWD-1200	ELS for MBS(Mainstream Bio-Reactor System) Building(AGS) - ICE Review Period	31	14-Feb-22	16-Mar-22	14-Feb-22	16-Mar-22	0
TWD-1210	ELS for MBS(Mainstream Bio-Reactor System) Building(AGS) - PM Review Period	46	14-Feb-22	31-Mar-22	14-Feb-22	31-Mar-22	0



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

- Remaining Level of Effort
- DWP Rev.8
- Actual Work
- Remaining Work
- Critical Remaining Work

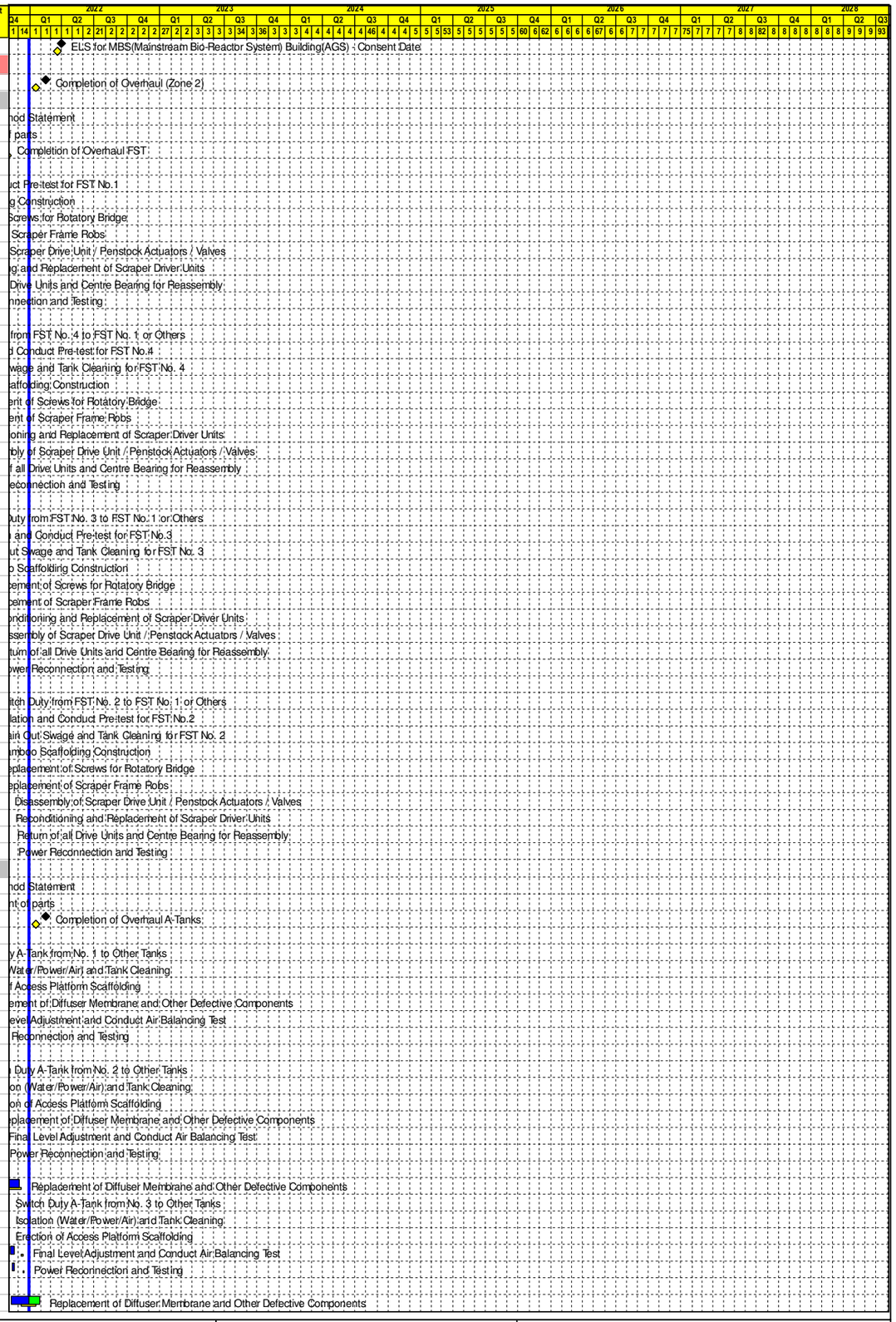
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr9_220111
Layout : DC201910 DWP rev.9

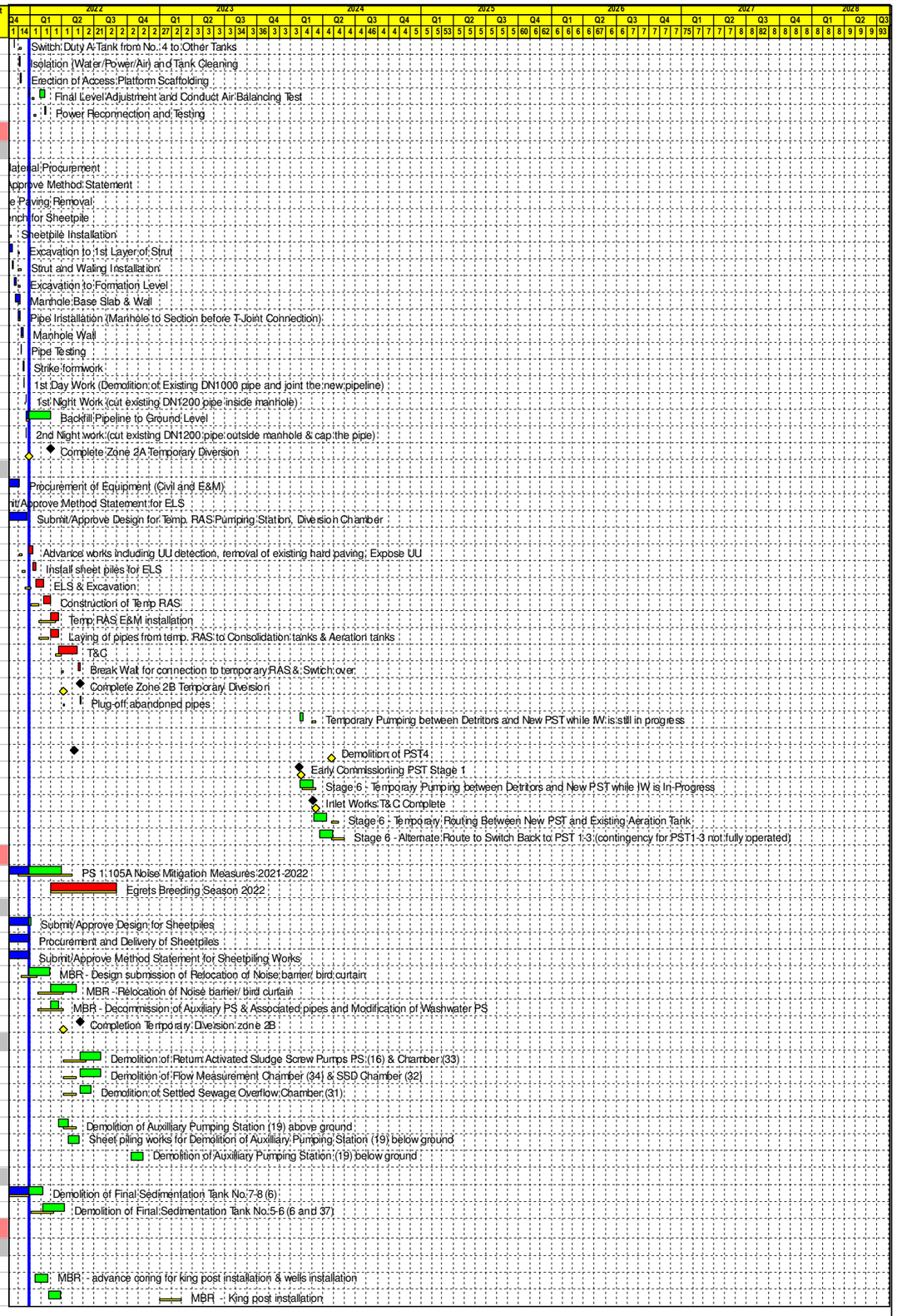
Detailed Works Programme

Date	Revision	Checked	Approved
31-Dec-21	Rev. 9		
30-Nov-21	Rev. 8		
31-Oct-21	Rev. 7		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
TWD-1220	ELS for MBS(Mainstream Bio-Reactor System) Building(AGS) - Consent Date	0		31-Mar-22*		31-Mar-22	0
Overhaul, Relocation and Diversion Works		368	09-Nov-20 A	15-Feb-22	31-Dec-21	15-Feb-22	1
Z2D-4240	Completion of Overhaul (Zone 2)	0		15-Feb-22		15-Feb-22	1
Overhaul Works for FST Nos.1, 2, 3 & 4		289	09-Nov-20 A	04-Oct-21 A			
Z2D-1000	Submit/Approve Method Statement	55	09-Nov-20 A	14-Jan-21 A			
Z2D-1010	Procurement of parts	115	09-Nov-20 A	01-Apr-21 A			
Z2D-4250	Completion of Overhaul FST	0		04-Oct-21 A			
FST No. 1		83	15-Jan-21 A	04-May-21 A			
Z2D-3000	Isolation and Conduct Pre-test for FST No.1	14	15-Jan-21 A	30-Jan-21 A			
Z2D-3010	Bamboo Scaffolding Construction	7	01-Feb-21 A	08-Feb-21 A			
Z2D-3020	Replacement of Screws for Rotatory Bridge	17	09-Feb-21 A	06-Mar-21 A			
Z2D-3030	Replacement of Scraper Frame Robs	12	08-Mar-21 A	20-Mar-21 A			
Z2D-3040	Disassembly of Scraper Drive Unit / Penstock Actuators / Valves	4	22-Mar-21 A	25-Mar-21 A			
Z2D-3050	Reconditioning and Replacement of Scraper Driver Units	22	26-Mar-21 A	24-Apr-21 A			
Z2D-3060	Return of all Drive Units and Centre Bearing for Reassembly	5	26-Apr-21 A	30-Apr-21 A			
Z2D-3070	Power Reconnection and Testing	2	03-May-21 A	04-May-21 A			
FST No. 4		42	05-May-21 A	24-Jun-21 A			
Z2D-3080	Switch Duty from FST No. 4 to FST No. 1 or Others	2	05-May-21 A	06-May-21 A			
Z2D-3085	Isolation and Conduct Pre-test for FST No.4	2	07-May-21 A	08-May-21 A			
Z2D-3090	Drain Out Swage and Tank Cleaning for FST No. 4	4	10-May-21 A	13-May-21 A			
Z2D-3095	Bamboo Scaffolding Construction	2	14-May-21 A	15-May-21 A			
Z2D-3100	Replacement of Screws for Rotatory Bridge	10	17-May-21 A	28-May-21 A			
Z2D-3110	Replacement of Scraper Frame Robs	12	17-May-21 A	31-May-21 A			
Z2D-3130	Reconditioning and Replacement of Scraper Driver Units	15	29-May-21 A	16-Jun-21 A			
Z2D-3120	Disassembly of Scraper Drive Unit / Penstock Actuators / Valves	13	01-Jun-21 A	16-Jun-21 A			
Z2D-3140	Return of all Drive Units and Centre Bearing for Reassembly	4	17-Jun-21 A	21-Jun-21 A			
Z2D-3150	Power Reconnection and Testing	3	22-Jun-21 A	24-Jun-21 A			
FST No. 3		67	25-Jun-21 A	11-Aug-21 A			
Z2D-3160	Switch Duty from FST No. 3 to FST No. 1 or Others	2	25-Jun-21 A	26-Jun-21 A			
Z2D-3240	Isolation and Conduct Pre-test for FST No.3	2	28-Jun-21 A	29-Jun-21 A			
Z2D-3250	Drain Out Swage and Tank Cleaning for FST No. 3	4	30-Jun-21 A	05-Jul-21 A			
Z2D-3170	Bamboo Scaffolding Construction	2	06-Jul-21 A	07-Jul-21 A			
Z2D-3180	Replacement of Screws for Rotatory Bridge	10	08-Jul-21 A	19-Jul-21 A			
Z2D-3190	Replacement of Scraper Frame Robs	12	08-Jul-21 A	21-Jul-21 A			
Z2D-3210	Reconditioning and Replacement of Scraper Driver Units	15	20-Jul-21 A	11-Aug-21 A			
Z2D-3200	Disassembly of Scraper Drive Unit / Penstock Actuators / Valves	13	22-Jul-21 A	11-Aug-21 A			
Z2D-3220	Return of all Drive Units and Centre Bearing for Reassembly	4	11-Aug-21 A	11-Aug-21 A			
Z2D-3230	Power Reconnection and Testing	3	11-Aug-21 A	11-Aug-21 A			
FST No. 2		53	14-Aug-21 A	04-Oct-21 A			
Z2D-3260	Switch Duty from FST No. 2 to FST No. 1 or Others	2	14-Aug-21 A	16-Aug-21 A			
Z2D-3340	Isolation and Conduct Pre-test for FST No.2	2	17-Aug-21 A	18-Aug-21 A			
Z2D-3350	Drain Out Swage and Tank Cleaning for FST No. 2	4	19-Aug-21 A	23-Aug-21 A			
Z2D-3270	Bamboo Scaffolding Construction	2	24-Aug-21 A	25-Aug-21 A			
Z2D-3280	Replacement of Screws for Rotatory Bridge	10	26-Aug-21 A	10-Sep-21 A			
Z2D-3290	Replacement of Scraper Frame Robs	12	26-Aug-21 A	13-Sep-21 A			
Z2D-3300	Disassembly of Scraper Drive Unit / Penstock Actuators / Valves	13	07-Sep-21 A	21-Sep-21 A			
Z2D-3310	Reconditioning and Replacement of Scraper Driver Units	15	07-Sep-21 A	24-Sep-21 A			
Z2D-3320	Return of all Drive Units and Centre Bearing for Reassembly	4	25-Sep-21 A	29-Sep-21 A			
Z2D-3330	Power Reconnection and Testing	3	30-Sep-21 A	04-Oct-21 A			
Overhaul Works for Aeration Tanks (A-Tank)		368	09-Nov-20 A	15-Feb-22	31-Dec-21	15-Feb-22	1
Z2D-3360	Submit/Approve Method Statement	55	09-Nov-20 A	14-Jan-21 A			
Z2D-3370	Procurement of parts	98	15-Jan-21 A	22-May-21 A			
Z2D-4260	Completion of Overhaul A-Tanks	0		15-Feb-22*		15-Feb-22	1
A-Tank No. 1		47	24-May-21 A	19-Jul-21 A			
Z2D-4000	Switch Duty A-Tank from No. 1 to Other Tanks	3	24-May-21 A	26-May-21 A			
Z2D-4010	Isolation (Water/Power/Air) and Tank Cleaning	3	27-May-21 A	29-May-21 A			
Z2D-4020	Erection of Access Platform Scaffolding	3	31-May-21 A	02-Jun-21 A			
Z2D-4030	Replacement of Diffuser Membrane and Other Defective Components	31	03-Jun-21 A	10-Jul-21 A			
Z2D-4040	Final Level Adjustment and Conduct Air Balancing Test	5	12-Jul-21 A	16-Jul-21 A			
Z2D-4050	Power Reconnection and Testing	2	17-Jul-21 A	19-Jul-21 A			
A-Tank No. 2		69	20-Jul-21 A	18-Sep-21 A			
Z2D-4060	Switch Duty A-Tank from No. 2 to Other Tanks	3	20-Jul-21 A	22-Jul-21 A			
Z2D-4070	Isolation (Water/Power/Air) and Tank Cleaning	3	23-Jul-21 A	26-Jul-21 A			
Z2D-4080	Erection of Access Platform Scaffolding	3	27-Jul-21 A	29-Jul-21 A			
Z2D-4090	Replacement of Diffuser Membrane and Other Defective Components	36	30-Jul-21 A	09-Sep-21 A			
Z2D-4100	Final Level Adjustment and Conduct Air Balancing Test	5	10-Sep-21 A	15-Sep-21 A			
Z2D-4110	Power Reconnection and Testing	3	16-Sep-21 A	18-Sep-21 A			
A-Tank No. 3		49	12-Aug-21 A	01-Dec-21 A			
Z2D-4150	Replacement of Diffuser Membrane and Other Defective Components	32	12-Aug-21 A	01-Dec-21 A			
Z2D-4120	Switch Duty A-Tank from No. 3 to Other Tanks	3	20-Sep-21 A	23-Sep-21 A			
Z2D-4130	Isolation (Water/Power/Air) and Tank Cleaning	3	24-Sep-21 A	27-Sep-21 A			
Z2D-4140	Erection of Access Platform Scaffolding	3	28-Sep-21 A	30-Sep-21 A			
Z2D-4160	Final Level Adjustment and Conduct Air Balancing Test	5	09-Nov-21 A	18-Nov-21 A			
Z2D-4170	Power Reconnection and Testing	3	15-Nov-21 A	18-Nov-21 A			
A-Tank No. 4		54	10-Nov-21 A	15-Feb-22	31-Dec-21	15-Feb-22	1
Z2D-4210	Replacement of Diffuser Membrane and Other Defective Components	34	10-Nov-21 A	29-Jan-22	31-Dec-21	29-Jan-22	1



Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
Z2D-4180	Switch Duty A-Tank from No. 4 to Other Tanks	3	18-Nov-21 A	20-Nov-21 A			
Z2D-4190	Isolation (Water/Power/Air) and Tank Cleaning	2	03-Dec-21 A	04-Dec-21 A			
Z2D-4200	Erection of Access Platform Scaffolding	2	06-Dec-21 A	07-Dec-21 A			
Z2D-4220	Final Level Adjustment and Conduct Air Balancing Test	5	30-Dec-21 A	11-Feb-22	07-Feb-22	11-Feb-22	1
Z2D-4230	Power Reconnection and Testing	3	11-Feb-22	15-Feb-22	12-Feb-22	15-Feb-22	1
Temporary Diversion		873	07-May-21 A	27-Apr-24	31-Dec-21	29-Jun-24	1058
Zone 2A : PST To Aeration Tanks		240	07-May-21 A	28-Feb-22	09-Apr-22	06-Jun-22	77
Z2A-1000	Pipe Material Procurement	56	07-May-21 A	14-Jul-21 A			
Z2A-1010	Submit/Approve Method Statement	18	01-Jun-21 A	22-Jun-21 A			
Z2A-1020	Concrete Paving Removal	7	23-Jun-21 A	30-Jun-21 A			
Z2A-1030	Trial Trench for Sheetpile	6	02-Jul-21 A	08-Jul-21 A			
Z2A-1050	Sheetpile Installation	10	30-Sep-21 A	04-Nov-21 A			
Z2A-1060	Excavation to 1st Layer of Strut	2	05-Nov-21 A	13-Nov-21 A			
Z2A-1070	Strut and Waling Installation	7	15-Nov-21 A	17-Nov-21 A			
Z2A-1080	Excavation to Formation Level	5	18-Nov-21 A	26-Nov-21 A			
Z2A-1090	Manhole Base Slab & Wall	5	22-Nov-21 A	06-Dec-21 A			
Z2A-1100	Pipe Installation (Manhole to Section before T-Joint Connection)	4	01-Dec-21 A	06-Dec-21 A			
Z2A-1110	Manhole Wall	5	07-Dec-21 A	13-Dec-21 A			
Z2A-1130	Pipe Testing	1	07-Dec-21 A	08-Dec-21 A			
Z2A-1180	Strike formwork	1	14-Dec-21 A	15-Dec-21 A			
Z2A-1140	1st Day Work (Demolition of Existing DN1000 pipe and joint the new pipeline)	1	18-Dec-21 A	18-Dec-21 A			
Z2A-1190	1st Night Work (cut existing DN1200 pipe inside manhole)	0	21-Dec-21 A	21-Dec-21 A			
Z2A-1160	Backfill Pipeline to Ground Level	6	23-Dec-21 A	28-Feb-22	09-Apr-22	06-Jun-22	77
Z2A-1200	2nd Night work (cut existing DN1200 pipe outside manhole & cap the pipe)	0	23-Dec-21 A	23-Dec-21 A			
Z2A-1170	Complete Zone 2A Temporary Diversion	0		28-Feb-22		06-Jun-22	77
Zone 2B : FST, Temporary RAS to Aeration Tanks		868	13-May-21 A	27-Apr-24	31-Dec-21	29-Jun-24	1058
Z2D-1110	Procurement of Equipment (Civil and E&M)	90	13-May-21 A	02-Dec-21 A			
Z2D-1100	Submit/Approve Method Statement for ELS	52	01-Jun-21 A	17-Jun-21 A			
Z2D-4300	Submit/Approve Design for Temp. RAS Pumping Station, Diversion Chamber	56	01-Jun-21 A	24-Dec-21 A			
Temporary RAS		617	31-Dec-21	06-Feb-24	31-Dec-21	11-Mar-24	23
Z2B-1000	Advance works including UU detection, removal of existing hard paving, Expose UU	8	31-Dec-21*	10-Jan-22	31-Dec-21	10-Jan-22	0
Z2B-1010	Install sheet piles for ELS	7	11-Jan-22	18-Jan-22	11-Jan-22	18-Jan-22	0
Z2B-1020	ELS & Excavation	12	19-Jan-22	08-Feb-22	19-Jan-22	08-Feb-22	0
Z2B-1030	Construction of Temp RAS	17	09-Feb-22	28-Feb-22	09-Feb-22	28-Feb-22	0
Z2B-1040	Temp RAS E&M installation	19	01-Mar-22	22-Mar-22	01-Mar-22	22-Mar-22	0
Z2B-1200	Laying of pipes from temp. RAS to Consolidation tanks & Aeration tanks	19	01-Mar-22	22-Mar-22	01-Mar-22	22-Mar-22	0
Z2B-1210	T&C	40	23-Mar-22	14-May-22	23-Mar-22	14-May-22	0
Z2B-1190	Break Wall for connection to temporary RAS & Swtich over	6	16-May-22	21-May-22	16-May-22	21-May-22	0
Z2B-1180	Complete Zone 2B Temporary Diversion	0		21-May-22		21-May-22	0
Z2B-1220	Plug-off abandoned pipes	2	23-May-22	24-May-22	12-Aug-22	13-Aug-22	68
Z2D-4330	Temporary Pumping between Detritors and New PST while IW is still in progress	9	27-Jan-24	06-Feb-24	29-Feb-24	11-Mar-24	23
Temporary Sewage Routing		581	05-May-22	27-Apr-24	13-Aug-22	29-Jun-24	51
Z2D-2160	Demolition of PST4	0		05-May-22		13-Aug-22	83
Z2D-2140	Early Commissioning PST Stage 1	0		26-Jan-24		11-Mar-24	32
Z2D-2130	Stage 6 - Temporary Pumping between Detritors and New PST while IW is In-Progress	27	27-Jan-24	05-Mar-24	02-Feb-24	11-Mar-24	5
Z2D-2150	Inlet Works T&C Complete	0		05-Mar-24		11-Mar-24	5
Z2D-2170	Stage 6 - Temporary Routing Between New PST and Existing Aeration Tank	28	06-Mar-24	11-Apr-24	10-May-24	13-Jun-24	51
Z2D-2180	Stage 6 - Alternate Route to Switch Back to PST 1-3 (contingency for PST1-3 not fully operated)	28	22-Mar-24	27-Apr-24	28-May-24	29-Jun-24	51
Demolition Works		456	01-Jun-21 A	14-Nov-22	24-Feb-22	21-Apr-23	136
NMM-2115	PS 1.105A Noise Mitigation Measures 2021-2022	151	01-Nov-21 A	31-Mar-22	16-Apr-22	15-Jul-22	106
EBS-2125	Egrets Breeding Season 2022	184	01-Mar-22*	31-Aug-22	01-Mar-22	31-Aug-22	0
Advance Works		285	01-Jun-21 A	21-May-22	24-Feb-22	29-Jun-22	32
Z2D-4290	Submit/Approve Design for Sheetpiles	55	01-Jun-21 A	05-Jan-22	01-Jun-22	06-Jun-22	117
Z2D-4310	Procurement and Delivery of Sheetpiles	21	04-Sep-21 A	31-Dec-21	14-Jun-22	14-Jun-22	127
Z2D-4280	Submit/Approve Method Statement for Sheetpiling Works	15	11-Sep-21 A	31-Dec-21	14-Jun-22	14-Jun-22	127
MBR-1520	MBR - Design submission of Relocation of Noise barrier/ bird curtain	43	31-Dec-21	26-Feb-22	24-Feb-22	19-Apr-22	40
MBR-1480	MBR - Relocation of Noise barrier/ bird curtain	58	28-Feb-22	12-May-22	20-Apr-22	29-Jun-22	40
MBR-1490	MBR - Decommission of Auxiliary PS & Associated pipes and Modification of Washwater PS	20	28-Feb-22	22-Mar-22	20-Apr-22	14-May-22	40
Z2D-4270	Completion Temporary Diversion zone 2B	0		21-May-22*		21-May-22	0
Other Existing Pumping Stations		192	23-Mar-22	14-Nov-22	16-May-22	21-Apr-23	123
Z2T-152	Demolition of Return Activated Sludge Screw Pumps PS (16) & Chamber (33)	48	23-May-22	19-Jul-22	16-Jul-22	09-Sep-22	45
Z2T-154	Demolition of Flow Measurement Chamber (34) & SSD Chamber (32)	48	23-May-22	19-Jul-22	16-Jul-22	09-Sep-22	45
Z2T-154B	Demolition of Settled Sewage Overflow Chamber (31)	25	23-May-22	21-Jun-22	16-Jul-22	13-Aug-22	45
Auxilliary Pumping Stations		192	23-Mar-22	14-Nov-22	16-May-22	21-Apr-23	123
Z2T-150B	Demolition of Auxilliary Pumping Station (19) above ground	20	23-Mar-22	19-Apr-22	16-May-22	08-Jun-22	40
Z2T-150B10	Sheet piling works for Demolition of Auxilliary Pumping Station (19) below ground	25	20-Apr-22	20-May-22	13-Feb-23	13-Mar-23	240
Z2T-150B20	Demolition of Auxilliary Pumping Station (19) below ground	30	11-Oct-22	14-Nov-22	14-Mar-23	21-Apr-23	123
Final Sedimentation Tanks		127	25-Oct-21 A	07-Apr-22	04-Mar-22	08-Jun-22	47
Z2T-190	Demolition of Final Sedimentation Tank No.7-8 (6)	50	25-Oct-21 A	07-Feb-22	04-Mar-22	02-Apr-22	47
Z2T-180	Demolition of Final Sedimentation Tank No.5-6 (6 and 37)	50	08-Feb-22	07-Apr-22	04-Apr-22	08-Jun-22	47
Mainstream Bio-Reactor & Auxillary Facility (MBR and AF)		1222	17-Jan-22	11-Dec-25	07-Jun-22	07-Nov-26	284
MBR Stage 1 and AF Structure		840	17-Jan-22	27-Nov-24	07-Jun-22	08-Jan-26	327
A-Tanks Demolition and ELS Works		338	17-Jan-22	16-Mar-23	07-Jun-22	13-May-23	45
MBR-1540	MBR - advance coring for king post installation & wells installation	25	17-Jan-22*	21-Feb-22	01-Aug-22	29-Aug-22	154
MBR-1550	MBR - King post installation	30	22-Feb-22	28-Mar-22	30-Aug-22	06-Oct-22	154



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

Remaining Level of Effort
DWP Rev.8
Actual Work
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Critical Remaining Work

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

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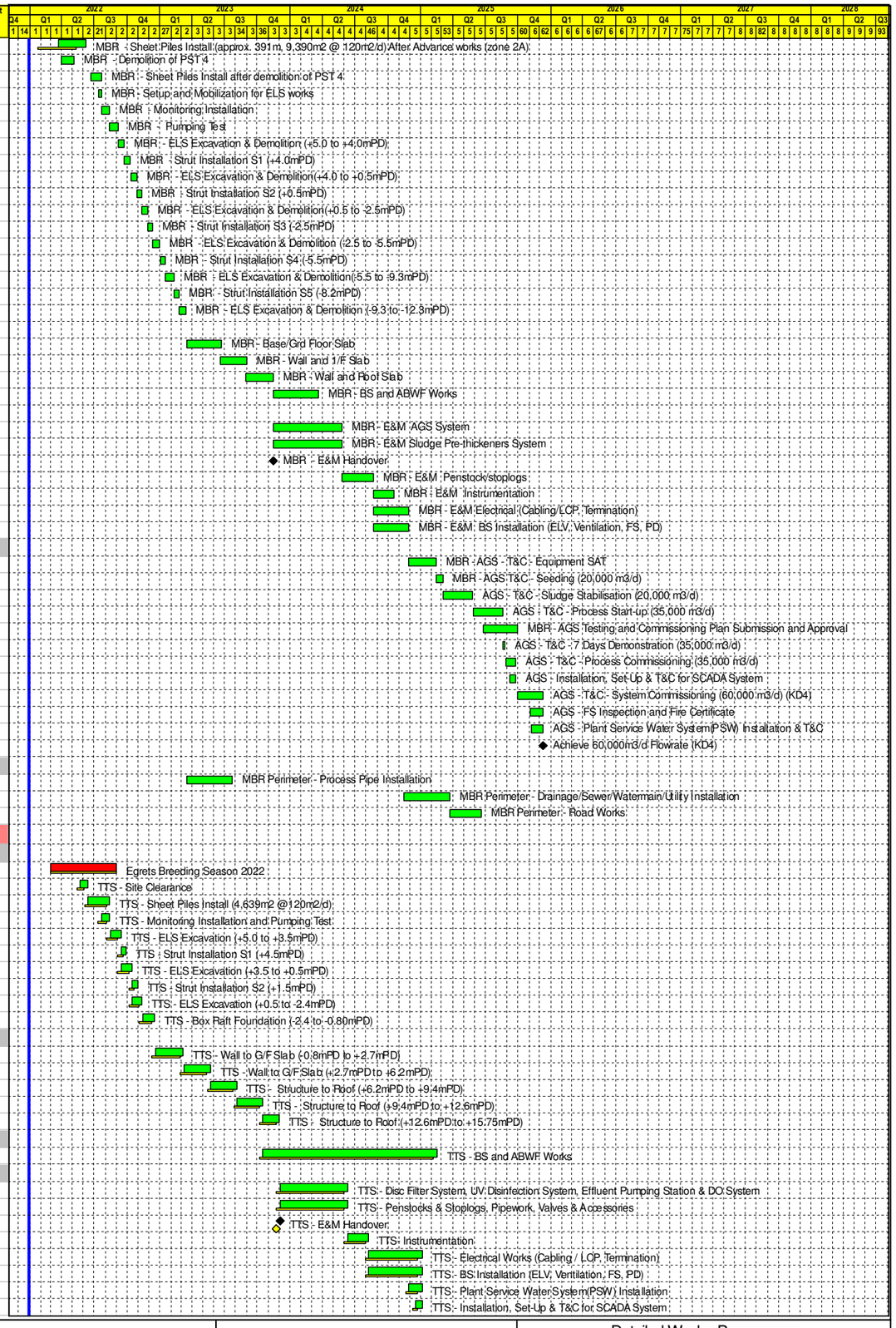
Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
MBR-1010	MBR - Sheet Piles Install (approx. 391m, 9,390m2 @ 120m2/d) After Advance works (zone 2A)	58	23-Mar-22	06-Jun-22	07-Jun-22	13-Aug-22	58
MBR-1500	MBR - Demolition of PST 4	25	31-Mar-22	05-May-22	16-Jul-22	13-Aug-22	83
MBR-1510	MBR - Sheet Piles Install after demolition of PST 4	25	22-Jun-22	21-Jul-22	15-Aug-22	13-Sep-22	45
MBR-1440	MBR - Setup and Mobilization for ELS works	7	14-Jul-22	21-Jul-22	05-Sep-22	13-Sep-22	45
MBR-1460	MBR - Monitoring Installation	18	22-Jul-22	11-Aug-22	14-Sep-22	06-Oct-22	45
MBR-1530	MBR - Pumping Test	21	12-Aug-22	05-Sep-22	07-Oct-22	31-Oct-22	45
MBR-1030	MBR - ELS Excavation & Demolition (+5.0 to +4.0mPD)	15	06-Sep-22	23-Sep-22	01-Nov-22	17-Nov-22	45
MBR-1040	MBR - Strut Installation S1 (+4.0mPD)	12	24-Sep-22	10-Oct-22	18-Nov-22	01-Dec-22	45
MBR-1050	MBR - ELS Excavation & Demolition(+4.0 to +0.5mPD)	15	11-Oct-22	27-Oct-22	02-Dec-22	19-Dec-22	45
MBR-1060	MBR - Strut Installation S2 (+0.5mPD)	12	28-Oct-22	10-Nov-22	20-Dec-22	05-Jan-23	45
MBR-1070	MBR - ELS Excavation & Demolition(+0.5 to -2.5mPD)	15	11-Nov-22	28-Nov-22	06-Jan-23	30-Jan-23	45
MBR-1080	MBR - Strut Installation S3 (-2.5mPD)	12	29-Nov-22	12-Dec-22	31-Jan-23	13-Feb-23	45
MBR-1090	MBR - ELS Excavation & Demolition (-2.5 to -5.5mPD)	15	13-Dec-22	31-Dec-22	14-Feb-23	02-Mar-23	45
MBR-1100	MBR - Strut Installation S4 (-5.5mPD)	12	03-Jan-23	16-Jan-23	03-Mar-23	16-Mar-23	45
MBR-1110	MBR - ELS Excavation & Demolition(-5.5 to -9.3mPD)	15	17-Jan-23	09-Feb-23	17-Mar-23	03-Apr-23	45
MBR-1120	MBR - Strut Installation S5 (-8.2mPD)	12	10-Feb-23	23-Feb-23	04-Apr-23	21-Apr-23	45
MBR-1130	MBR - ELS Excavation & Demolition (-9.3 to -12.3mPD)	18	24-Feb-23	16-Mar-23	22-Apr-23	13-May-23	45
MBR Structure Stage 1		297	17-Mar-23	20-Mar-24	15-May-23	08-Jan-26	532
MBR-1140	MBR - Base/Grd Floor Slab	77	17-Mar-23	21-Jun-23	15-May-23	15-Aug-23	45
MBR-1160	MBR - Wall and 1/F Slab	62	20-Jun-23	01-Sep-23	14-Aug-23	27-Oct-23	45
MBR-1180	MBR - Wall and Roof Slab	62	31-Aug-23	14-Nov-23	26-Oct-23	09-Jan-24	45
MBR-1200	MBR - BS and ABWF Works	100	15-Nov-23	20-Mar-24	08-Sep-25	08-Jan-26	532
MBR Stage 1 E&M Installation		305	15-Nov-23	27-Nov-24	10-Jan-24	22-Jan-25	45
MBR-1210	MBR - E&M AGS System	150	15-Nov-23	24-May-24	10-Jan-24	18-Jul-24	45
MBR-1220	MBR - E&M Sludge Pre-thickeners System	150	15-Nov-23	24-May-24	10-Jan-24	18-Jul-24	45
MBR-1209	MBR - E&M Handover	0	15-Nov-23		10-Jan-24		45
MBR-1230	MBR - E&M Penstock/stoplogs	75	25-May-24	22-Aug-24	19-Jul-24	17-Oct-24	45
MBR-1250	MBR - E&M Instrumentation	45	23-Aug-24	17-Oct-24	18-Oct-24	09-Dec-24	45
MBR-1260	MBR - E&M Electrical (Cabling/LCP, Termination)	80	23-Aug-24	27-Nov-24	18-Oct-24	22-Jan-25	45
MBR-1270	MBR - E&M BS Installation (ELV, Ventilation, FS, PD)	80	23-Aug-24	27-Nov-24	18-Oct-24	22-Jan-25	45
MBR and AF E&M T&C		325	28-Nov-24	11-Dec-25	23-Jan-25	05-Feb-26	48
ATALMBR-1000	MBR - AGS - T&C - Equipment SAT	60	28-Nov-24	14-Feb-25	23-Jan-25	09-Apr-25	45
ATALMBR-1010	MBR - AGS T&C - Seeding (20,000 m3/d)	16	15-Feb-25	05-Mar-25	10-Apr-25	02-May-25	45
ATALMBR-1020	AGS - T&C - Sludge Stabilisation (20,000 m3/d)	65	06-Mar-25	27-May-25	03-May-25	21-Jul-25	45
ATALMBR-1090	AGS - T&C - Process Start-up (35,000 m3/d)	70	28-May-25	19-Aug-25	28-Jul-25	18-Oct-25	50
ATALMBR-1150	MBR - AGS Testing and Commissioning Plan Submission and Approval	80	27-Jun-25	29-Sep-25	20-Aug-25	24-Nov-25	45
ATALMBR-1110	AGS - T&C - 7 Days Demonstration (35,000 m3/d)	6	20-Aug-25	26-Aug-25	20-Oct-25	25-Oct-25	50
ATALMBR-1120	AGS - T&C - Process Commissioning (35,000 m3/d)	24	27-Aug-25	23-Sep-25	27-Oct-25	24-Nov-25	50
ATALMBR-1145	AGS - Installation, Set-Up & T&C for SCADA System	14	08-Sep-25	23-Sep-25	08-Nov-25	24-Nov-25	50
ATALMBR-1130	AGS - T&C - System Commissioning (60,000 m3/d) (KD4)	60	30-Sep-25	11-Dec-25	25-Nov-25	05-Feb-26	45
ATALMBR-1140	AGS - FS Inspection and Fire Certificate	32	05-Nov-25	11-Dec-25	30-Dec-25	05-Feb-26	45
ATALMBR-1160	AGS - Plant Service Water System(PSW) Installation & T&C	30	07-Nov-25	11-Dec-25	02-Jan-26	05-Feb-26	45
PKD4	Achieve 60,000m3/d Flowrate (KD4)	0		11-Dec-25		05-Feb-26	56
External Works - Mainstream Bio-Reactor System Perimeter		664	17-Mar-23	21-Jun-25	14-Apr-26	07-Nov-26	409
EW-1010	MBR Perimeter - Process Pipe Installation	102	17-Mar-23	22-Jul-23	14-Apr-26	14-Aug-26	901
EW-1000	MBR Perimeter - Drainage/Sewer/Watermain/Utility Installation	102	16-Nov-24	24-Mar-25	14-Apr-26	14-Aug-26	409
EW-1030	MBR Perimeter - Road Works	70	25-Mar-25	21-Jun-25	15-Aug-26	07-Nov-26	409
Tertriary Treatment System (TTS)		1219	01-Mar-22	20-Jan-26	01-Mar-22	29-Apr-26	85
Foundation and ELS		251	01-Mar-22	17-Dec-22	01-Mar-22	06-Jan-23	17
EBS-2135	Egrets Breeding Season 2022	184	01-Mar-22*	31-Aug-22	01-Mar-22	31-Aug-22	0
TTS-1000	TTS - Site Clearance	18	23-May-22	13-Jun-22	09-Jun-22	29-Jun-22	14
TTS-1010	TTS - Sheet Piles Install (4,639m2 @120m2/d)	52	14-Jun-22	13-Aug-22	30-Jun-22	30-Aug-22	14
TTS-1230	TTS - Monitoring Installation and Pumping Test	21	21-Jul-22	13-Aug-22	06-Aug-22	30-Aug-22	14
TTS-1020	TTS - ELS Excavation (+5.0 to +3.5mPD)	25	15-Aug-22	13-Sep-22	31-Aug-22	29-Sep-22	14
TTS-1030	TTS - Strut Installation S1 (+4.5mPD)	14	14-Sep-22	29-Sep-22	28-Oct-22	12-Nov-22	36
TTS-1040	TTS - ELS Excavation (+3.5 to +0.5mPD)	25	14-Sep-22	14-Oct-22	30-Sep-22	31-Oct-22	14
TTS-1050	TTS - Strut Installation S2 (+1.5mPD)	14	15-Oct-22	31-Oct-22	14-Nov-22	29-Nov-22	25
TTS-1060	TTS - ELS Excavation (+0.5 to -2.4mPD)	25	15-Oct-22	12-Nov-22	01-Nov-22	29-Nov-22	14
TTS-1070	TTS - Box Raft Foundation (-2.4 to -0.80mPD)	30	14-Nov-22	17-Dec-22	30-Nov-22	06-Jan-23	14
Structure		280	19-Dec-22	02-Dec-23	07-Jan-23	19-Dec-23	14
TTS-1080	TTS - Wall to G/F Slab (-0.8mPD to +2.7mPD)	60	19-Dec-22	08-Mar-23	07-Jan-23	24-Mar-23	14
TTS-1090	TTS - Wall to G/F Slab (+2.7mPD to +6.2mPD)	60	09-Mar-23	23-May-23	25-Mar-23	09-Jun-23	14
TTS-1100	TTS - Structure to Roof (+6.2mPD to +9.4mPD)	60	24-May-23	04-Aug-23	10-Jun-23	21-Aug-23	14
TTS-1110	TTS - Structure to Roof (+9.4mPD to +12.6mPD)	60	05-Aug-23	16-Oct-23	22-Aug-23	02-Nov-23	14
TTS-1120	TTS - Structure to Roof (+12.6mPD to +15.75mPD)	40	17-Oct-23	02-Dec-23	03-Nov-23	19-Dec-23	14
BS & ABWF Works		390	17-Oct-23	15-Feb-25	14-Oct-24	05-Feb-26	290
TTS-1130	TTS - BS and ABWF Works	390	17-Oct-23	15-Feb-25	14-Oct-24	05-Feb-26	290
E&M Installation Works		320	04-Dec-23	06-Jan-25	20-Dec-23	31-Dec-25	290
TTS-1140	TTS - Disc Filter System, UV Disinfection System, Effluent Pumping Station & DO System	148	04-Dec-23	11-Jun-24	20-Dec-23	27-Jun-24	14
TTS-1150	TTS - Penstocks & Stoplogs, Pipework, Valves & Accessories	148	04-Dec-23	11-Jun-24	20-Dec-23	27-Jun-24	14
TTS-1139	TTS - E&M Handover	0	04-Dec-23		20-Dec-23		14
TTS-1160	TTS- Instrumentation	48	12-Jun-24	07-Aug-24	28-Jun-24	23-Aug-24	14
TTS-1170	TTS - Electrical Works (Cabling / LCP, Termination)	124	08-Aug-24	06-Jan-25	24-Aug-24	22-Jan-25	14
TTS-1180	TTS - BS Installation (ELV, Ventilation, FS, PD)	124	08-Aug-24	06-Jan-25	24-Aug-24	22-Jan-25	14
TTS-1240	TTS - Plant Service Water System(PSW) Installation	30	29-Nov-24	06-Jan-25	25-Nov-25	31-Dec-25	290
TTS-1185	TTS - Installation, Set-Up & T&C for SCADA System	14	18-Dec-24	06-Jan-25	07-Jan-25	22-Jan-25	14



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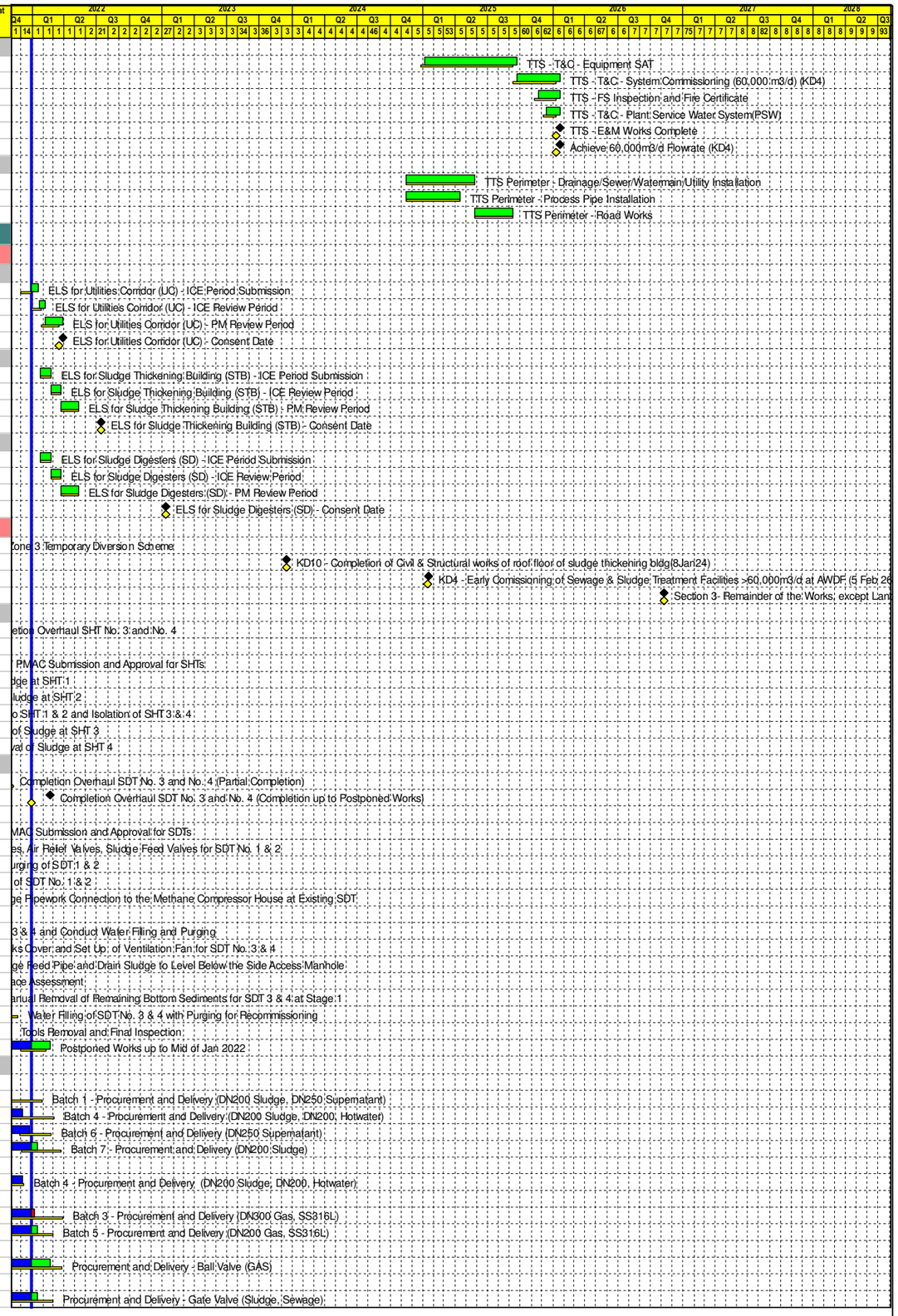
Testing and Commissioning (T&C) - KD4		325	07-Jan-25	20-Jan-26	23-Jan-25	05-Feb-26	14
TTS-1190	TTS - T&C - Equipment SAT	208	07-Jan-25	20-Sep-25	23-Jan-25	09-Oct-25	14
TTS-1200	TTS - T&C - System Commissioning (60,000 m3/d) (KD4)	98	22-Sep-25	20-Jan-26	10-Oct-25	05-Feb-26	14
TTS-1210	TTS - FS Inspection and Fire Certificate	50	20-Nov-25	20-Jan-26	06-Dec-25	05-Feb-26	14
TTS-1250	TTS - T&C - Plant Service Water System(PSW)	30	13-Dec-25	20-Jan-26	02-Jan-26	05-Feb-26	14
TTS-1220	TTS - E&M Works Complete	0		20-Jan-26		05-Feb-26	14
PKD4a	Achieve 60,000m3/d Flowrate (KD4)	0		20-Jan-26		05-Feb-26	16
External Works -Tertiary Treatment System Perimeter		240	16-Nov-24	10-Sep-25	07-Jul-25	29-Apr-26	183
EW-1100	TTS Perimeter - Drainage/Sewer/Watermain/Utility Installation	150	16-Nov-24	26-May-25	07-Jul-25	03-Jan-26	183
EW-1070	TTS Perimeter - Process Pipe Installation	120	16-Nov-24	15-Apr-25	07-Jul-25	26-Nov-25	183
EW-1120	TTS Perimeter - Road Works	90	27-May-25	10-Sep-25	05-Jan-26	29-Apr-26	183
Zone 3 Construction		1878	09-Nov-20 A	08-Nov-26	31-Dec-21	08-Nov-27	313
Temporary Works Design		377	31-Dec-21	11-Jan-23	01-Jan-22	31-Jan-23	20
UC (Utilities Corridor)		87	31-Dec-21	27-Mar-22	01-Jan-22	28-Mar-22	1
TWD-1230	ELS for Utilities Corridor (UC) - ICE Period Submission	20	31-Dec-21*	19-Jan-22	01-Jan-22	20-Jan-22	1
TWD-1240	ELS for Utilities Corridor (UC) - ICE Review Period	18	20-Jan-22	06-Feb-22	21-Jan-22	07-Feb-22	1
TWD-1250	ELS for Utilities Corridor (UC) - PM Review Period	49	07-Feb-22	27-Mar-22	08-Feb-22	28-Mar-22	1
TWD-1260	ELS for Utilities Corridor (UC) - Consent Date	0		27-Mar-22*		28-Mar-22	1
Sludge Thickening Building (STB)		170	24-Jan-22	12-Jul-22	28-Jan-22	16-Jul-22	4
TWD-1270	ELS for Sludge Thickening Building (STB) - ICE Period Submission	30	24-Jan-22*	22-Feb-22	28-Jan-22	26-Feb-22	4
TWD-1280	ELS for Sludge Thickening Building (STB) - ICE Review Period	28	23-Feb-22	22-Mar-22	27-Feb-22	26-Mar-22	4
TWD-1290	ELS for Sludge Thickening Building (STB) - PM Review Period	49	23-Mar-22	10-May-22	27-Mar-22	14-May-22	4
TWD-1300	ELS for Sludge Thickening Building (STB) - Consent Date	0		12-Jul-22*		16-Jul-22	4
Sludge Digester (SD)		353	24-Jan-22	11-Jan-23	13-Feb-22	31-Jan-23	20
TWD-1350	ELS for Sludge Digesters (SD) - ICE Period Submission	30	24-Jan-22*	22-Feb-22	13-Feb-22	14-Mar-22	20
TWD-1360	ELS for Sludge Digesters (SD) - ICE Review Period	28	23-Feb-22	22-Mar-22	15-Mar-22	11-Apr-22	20
TWD-1370	ELS for Sludge Digesters (SD) - PM Review Period	49	23-Mar-22	10-May-22	12-Apr-22	30-May-22	20
TWD-1380	ELS for Sludge Digesters (SD) - Consent Date	0		11-Jan-23*		31-Jan-23	20
Stage 1		1878	09-Nov-20 A	07-Nov-26	31-Dec-21	08-Nov-26	313
Z3S1	Confirm Zone 3 Temporary Diversion Scheme	0		16-Jun-21 A			
PKD20	KD10 - Completion of Civil & Structural works of roof floor of sludge thickening bldg(8Jan24)	0		16-Dec-23*		08-Jan-24	23
PPKD14	KD4 - Early Comissioning of Sewage & Sludge Treatment Facilities >60,000m3/d at AWDF (5 Feb 26)	0		18-Jan-25*		05-Feb-26	383
PSC13	Section 3- Remainder of the Works, except Landscape Softworks & Establishment Works (sd+2190d=08NOV2026)	0		07-Nov-26*		08-Nov-26	1
Overhaul Works At Existing SHT Footprint		202	09-Nov-20 A	21-Jul-21 A			
Z3S1a.7-40	Completion Overhaul SHT No. 3 and No. 4	0		21-Jul-21 A			
Overhaul at SHT		202	09-Nov-20 A	21-Jul-21 A			
ATALZ3S1A-2000	Method Statement / PMAC Submission and Approval for SHTs	67	09-Nov-20 A	28-Jan-21 A			
ATALZ3S1A-2010	Removal of Sludge at SHT 1	41	29-Jan-21 A	24-Mar-21 A			
ATALZ3S1A-2020	Removal of Sludge at SHT 2	36	09-Mar-21 A	23-Apr-21 A			
ATALZ3S1A-2030	Switch Duty to SHT 1 & 2 and Isolation of SHT 3 & 4	2	24-Apr-21 A	26-Apr-21 A			
ATALZ3S1A-2040	Removal of Sludge at SHT 3	38	27-Apr-21 A	11-Jun-21 A			
ATALZ3S1A-2050	Removal of Sludge at SHT 4	49	24-May-21 A	21-Jul-21 A			
Overhaul Works At Existing SDT Footprint		373	09-Nov-20 A	19-Feb-22	08-Apr-22	26-May-22	76
Z3S1a.7-30	Completion Overhaul SDT No. 3 and No. 4 (Partial Completion)	0		02-Oct-21 A			
Z3S1a.7-80	Completion Overhaul SDT No. 3 and No. 4 (Completion up to Postponed Works)	0		19-Feb-22		26-May-22	76
SDT No. 1 and 2		105	09-Nov-20 A	20-Mar-21 A			
ATALZ3S1-1000	Method Statement / PMAC Submission and Approval for SDTs	40	09-Nov-20 A	24-Dec-20 A			
ATALZ3S1-1010	Overhaul of Bell Valves, Air Relief Valves, Sludge Feed Valves for SDT No. 1 & 2	16	28-Dec-20 A	15-Jan-21 A			
ATALZ3S1-1020	Water Filling and Purging of SDT 1 & 2	17	16-Jan-21 A	04-Feb-21 A			
ATALZ3S1-1060	Recommissioning of SDT No. 1 & 2	14	05-Feb-21 A	27-Feb-21 A			
Z3S1A-2040	Temporary Sludge Pipework Connection to the Methane Compressor House at Existing SDT	18	01-Mar-21 A	20-Mar-21 A			
SDT No. 3 and 4		276	01-Mar-21 A	19-Feb-22	08-Apr-22	26-May-22	76
ATALZ3S1-1070	Isolation of No. 3 & 4 and Conduct Water Filling and Purging	19	01-Mar-21 A	22-Mar-21 A			
ATALZ3S1-1080	Removal of Tanks Cover and Set Up of Ventilation Fan for SDT No. 3 & 4	5	23-Mar-21 A	27-Mar-21 A			
ATALZ3S1-1090	Modify Sludge Feed Pipe and Drain Sludge to Level Below the Side Access Manhole	32	29-Mar-21 A	10-May-21 A			
ATALZ3S1-1100	Confine Space Assessment	4	11-May-21 A	14-May-21 A			
ATALZ3S1-1110	Manual Removal of Remaining Bottom Sediments for SDT 3 & 4 at Stage 1	96	15-May-21 A	07-Sep-21 A			
ATALZ3S1-1130	Water Filling of SDT No. 3 & 4 with Purging for Recommissioning	16	11-Sep-21 A	02-Oct-21 A			
ATALZ3S1-1120	Tools Removal and Final Inspection	4	30-Sep-21 A	02-Oct-21 A			
ATALZ3S1-2220	Postponed Works up to Mid of Jan 2022	52	30-Oct-21 A	19-Feb-22	08-Apr-22	26-May-22	76
Procurment and Delivery		119	09-Jul-21 A	19-Feb-22	31-Dec-21	23-Mar-22	27
Pipe & Fittings - DI (Zone 3A & Zone 3B)		114	09-Jul-21 A	15-Jan-22	27-Jan-22	17-Feb-22	22
Z3-000010	Batch 1 - Procurement and Delivery (DN200 Sludge, DN250 Supernatant)	75	09-Jul-21 A	20-Oct-21 A			
Z3-000020	Batch 4 - Procurement and Delivery (DN200 Sludge, DN200, Hotwater)	97	06-Aug-21 A	06-Dec-21 A			
Z3-000030	Batch 6 - Procurement and Delivery (DN250 Supernatant)	67	08-Sep-21 A	24-Dec-21 A			
Z3-000040	Batch 7 - Procurement and Delivery (DN200 Sludge)	84	21-Sep-21 A	15-Jan-22	27-Jan-22	17-Feb-22	22
Pipe & Fittings - Hotwater: MS->GI*>DI (Zone 3A)		34	06-Aug-21 A	06-Dec-21 A			
Z3-000060	Batch 4 - Procurement and Delivery (DN200 Sludge, DN200, Hotwater)	34	06-Aug-21 A	06-Dec-21 A			
Pipe & Fittings - SS316L (Zone 3A)		119	30-Jul-21 A	15-Jan-22	31-Dec-21	15-Feb-22	20
Z3-000070	Batch 3 - Procurement and Delivery (DN300 Gas, SS316L)	119	30-Jul-21 A	07-Jan-22	31-Dec-21	07-Jan-22	0
Z3-000080	Batch 5 - Procurement and Delivery (DN200 Gas, SS316L)	95	27-Aug-21 A	15-Jan-22	25-Jan-22	15-Feb-22	20
Valve - Ball Valve (GAS) (Zone 3A)		116	27-Aug-21 A	19-Feb-22	05-Jan-22	23-Feb-22	3
Z3-000090	Procurement and Delivery - Ball Valve (GAS)	116	27-Aug-21 A	19-Feb-22	05-Jan-22	23-Feb-22	3
Valve - Gate Valve (Sludge, Sewage) (Zone 3A & Zone 3B)		96	06-Sep-21 A	15-Jan-22	09-Mar-22	23-Mar-22	51
Z3-000100	Procurement and Delivery - Gate Valve (Sludge, Sewage)	96	06-Sep-21 A	15-Jan-22	09-Mar-22	23-Mar-22	51



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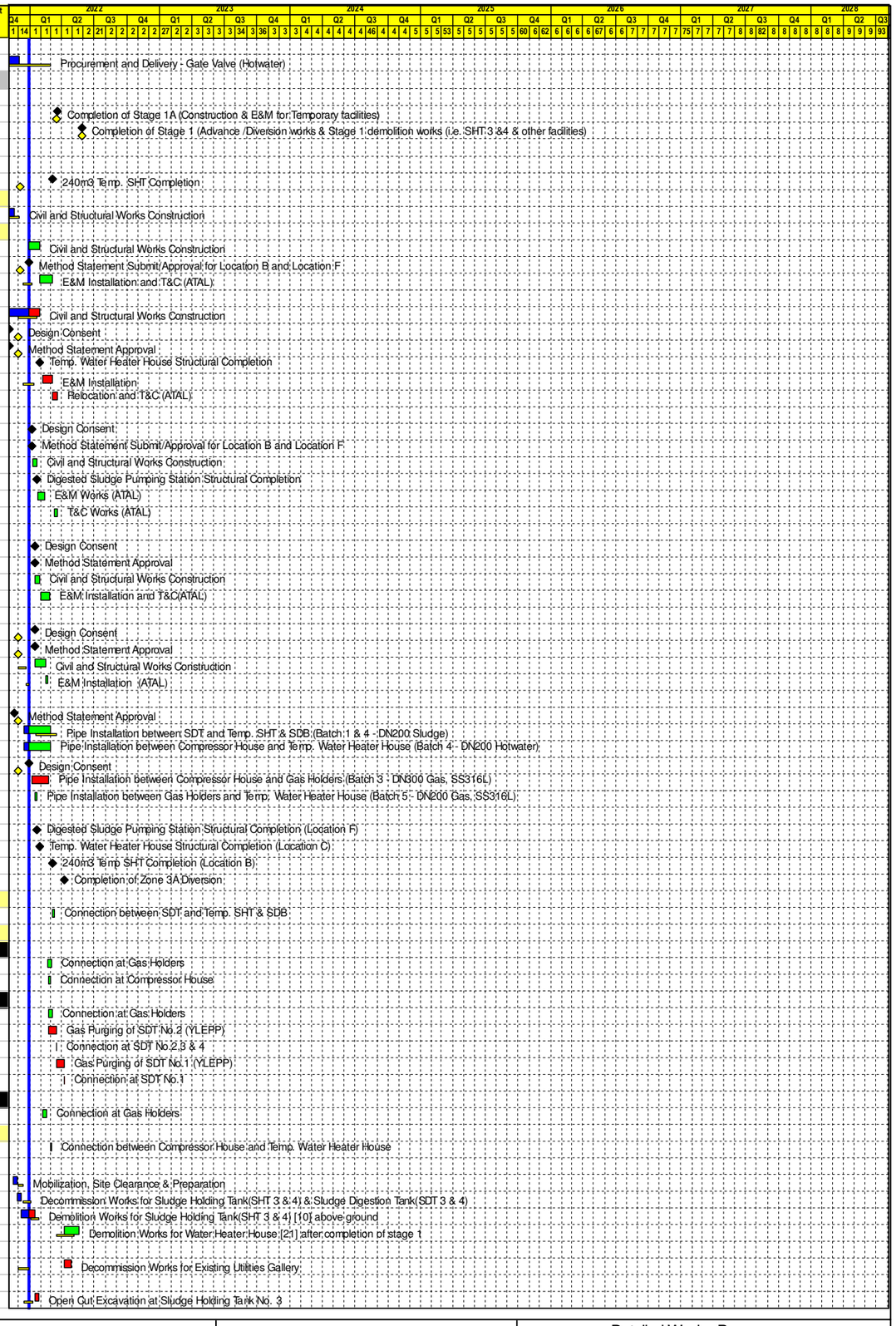
31-Oct-21	Rev. 7		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
Valve - Gate Valve (Hotwater) (Zone 3A)		96	30-Sep-21 A	03-Dec-21 A			
Z3-000110	Procurement and Delivery - Gate Valve (Hotwater)	96	30-Sep-21 A	03-Dec-21 A			
Stage 1		183	09-Aug-21 A	31-May-22	31-Dec-21	31-May-22	0
Advance Works		183	09-Aug-21 A	31-May-22	31-Dec-21	31-May-22	0
Z3S1A-3010	Completion of Stage 1A (Construction & E&M for Temporary facilities)	0		19-Mar-22*		19-Mar-22	0
Z3S1-3000	Completion of Stage 1 (Advance /Diversion works & Stage 1 demolition works (i.e. SHT 3 &4 & other facilities)	0		26-May-22*		26-May-22	0
Zone 3A (at SHT)		183	11-Sep-21 A	31-May-22	31-Dec-21	31-May-22	0
240m3 Temporary Sludge Holding Tank(SHT) (Location B)		99	11-Sep-21 A	05-Mar-22	31-Dec-21	23-Mar-22	16
Z3A-000100	240m3 Temp. SHT Completion	0		05-Mar-22		23-Mar-22	16
240m3 Temporary Sludge Holding Tank		30	11-Sep-21 A	19-Nov-21 A			
Z3A-000060	Civil and Structural Works Construction	30	11-Sep-21 A	19-Nov-21 A			
Sludge Forward Pump Station		47	31-Dec-21 A	05-Mar-22	31-Dec-21	19-Mar-22	13
Z3A-000080	Civil and Structural Works Construction	35	31-Dec-21 A	29-Jan-22	17-Jan-22	19-Feb-22	13
Z3A-000090	Method Statement Submit/Approval for Location B and Location F	0		31-Dec-21*		31-Dec-21	0
Z3A-000070	E&M Installation and T&C (ATAL)	24	29-Jan-22	05-Mar-22	21-Feb-22	19-Mar-22	13
Relocation of Heater Room (Location C)		117	04-Nov-21 A	19-Mar-22	31-Dec-21	19-Mar-22	0
Z3A-000170	Civil and Structural Works Construction	50	04-Nov-21 A	29-Jan-22	31-Dec-21	29-Jan-22	0
Z3A-000150	Design Consent	0		04-Nov-21 A			
Z3A-000160	Method Statement Approval	0		04-Nov-21 A			
Z3A-000320	Temp. Water Heater House Structural Completion	0		29-Jan-22		22-Feb-22	14
Z3A-000180	E&M Installation	24	07-Feb-22	05-Mar-22	07-Feb-22	05-Mar-22	0
Z3A-000550	Relocation and T&C (ATAL)	12	07-Mar-22	19-Mar-22	07-Mar-22	19-Mar-22	0
Digested Sludge Pumping Station (Location F)		54	08-Jan-22	21-Mar-22	08-Jan-22	08-Apr-22	16
Z3B-290	Design Consent	0		08-Jan-22*		08-Jan-22	0
Z3B-300	Method Statement Submit/Approval for Location B and Location F	0		08-Jan-22*		08-Jan-22	0
Z3B-310	Civil and Structural Works Construction	12	10-Jan-22	22-Jan-22	02-Mar-22	15-Mar-22	38
Z3B-340	Digested Sludge Pumping Station Structural Completion	0		22-Jan-22		23-Mar-22	45
Z3B-320	E&M Works (ATAL)	12	24-Jan-22	12-Feb-22	16-Mar-22	29-Mar-22	38
Z3B-330	T&C Works (ATAL)	8	11-Mar-22	21-Mar-22	30-Mar-22	08-Apr-22	16
Micro Turbine Relocation		36	15-Jan-22	26-Feb-22	15-Jan-22	26-May-22	76
Z3A-000510	Design Consent	0		15-Jan-22*		15-Jan-22	0
Z3A-000520	Method Statement Approval	0		15-Jan-22*		15-Jan-22	0
Z3A-000530	Civil and Structural Works Construction	12	17-Jan-22	29-Jan-22	15-Apr-22	28-Apr-22	76
Z3A-000540	E&M Installation and T&C(ATAL)	24	31-Jan-22	26-Feb-22	29-Apr-22	26-May-22	76
AGS Pilot Plant		25	15-Jan-22	21-Feb-22	15-Jan-22	26-May-22	75
Z3A-000220	Design Consent	0		15-Jan-22*		15-Jan-22	0
Z3A-000230	Method Statement Approval	0		15-Jan-22		25-Apr-22	75
Z3A-000240	Civil and Structural Works Construction	19	17-Jan-22	14-Feb-22	26-Apr-22	19-May-22	75
Z3A-000250	E&M Installation (ATAL)	6	15-Feb-22	21-Feb-22	20-May-22	26-May-22	75
Pipe Laying		65	18-Nov-21 A	28-Feb-22	04-Jan-22	23-Mar-22	20
Z3A-000200	Method Statement Approval	0		18-Nov-21 A			
Z3A-000210	Pipe Installation between SDT and Temp. SHT & SDB (Batch 1 & 4 - DN200 Sludge)	30	17-Dec-21 A	28-Feb-22	25-Jan-22	23-Mar-22	20
Z3A-000340	Pipe Installation between Compressor House and Temp. Water Heater House (Batch 4 - DN200 Hotwater)	30	17-Dec-21 A	28-Feb-22	05-Jan-22	03-Mar-22	3
Z3A-000190	Design Consent	0		31-Dec-21*		04-Jan-22	3
Z3A-000330	Pipe Installation between Compressor House and Gas Holders (Batch 3 - DN300 Gas, SS316L)	34	08-Jan-22	23-Feb-22	08-Jan-22	23-Feb-22	0
Z3A-000350	Pipe Installation between Gas Holders and Temp. Water Heater House (Batch 5 - DN200 Gas, SS316L)	6	17-Jan-22	22-Jan-22	16-Feb-22	22-Feb-22	20
Pipe Connection		65	22-Jan-22	08-Apr-22	22-Feb-22	08-Apr-22	0
Z3A-000390	Digested Sludge Pumping Station Structural Completion (Location F)	0		22-Jan-22		23-Mar-22	45
Z3A-000400	Temp. Water Heater House Structural Completion (Location C)	0		29-Jan-22		22-Feb-22	14
Z3A-000370	240m3 Temp SHT Completion (Location B)	0		05-Mar-22		23-Mar-22	16
Z3A-000410	Completion of Zone 3A Diversion	0		08-Apr-22		08-Apr-22	0
Sludge/Supernatant DI Pipe		5	05-Mar-22	11-Mar-22	24-Mar-22	29-Mar-22	16
Z3A-000360	Connection between SDT and Temp. SHT & SDB	5	05-Mar-22	11-Mar-22	24-Mar-22	29-Mar-22	16
Gas Pipe - SS316L		53	07-Feb-22	08-Apr-22	23-Feb-22	08-Apr-22	0
DN300 from Gas Holders to Compressor House		10	21-Feb-22	03-Mar-22	28-Mar-22	08-Apr-22	30
Z3A-000380	Connection at Gas Holders	10	21-Feb-22	03-Mar-22	28-Mar-22	08-Apr-22	30
Z3A-000420	Connection at Compressor House	5	24-Feb-22	01-Mar-22	02-Apr-22	08-Apr-22	32
DN300 from SDT, Compressor House to Gas Holders		38	24-Feb-22	08-Apr-22	24-Feb-22	08-Apr-22	0
Z3A-000450	Connection at Gas Holders	10	24-Feb-22	07-Mar-22	28-Mar-22	08-Apr-22	27
Z3A-000460	Gas Purging of SDT No.2 (YLEPP)	21	24-Feb-22	16-Mar-22	24-Feb-22	16-Mar-22	0
Z3A-000470	Connection at SDT No.2,3 & 4	1	17-Mar-22	17-Mar-22	17-Mar-22	17-Mar-22	0
Z3A-000480	Gas Purging of SDT No.1 (YLEPP)	21	18-Mar-22	07-Apr-22	18-Mar-22	07-Apr-22	0
Z3A-000490	Connection at SDT No.1	1	08-Apr-22	08-Apr-22	08-Apr-22	08-Apr-22	0
DN200 from Gas Holder to Temp. Water Heater House		10	07-Feb-22	17-Feb-22	23-Feb-22	05-Mar-22	14
Z3A-000440	Connection at Gas Holders	10	07-Feb-22	17-Feb-22	23-Feb-22	05-Mar-22	14
Hotwater DI Pipe		2	01-Mar-22	02-Mar-22	04-Mar-22	05-Mar-22	3
Z3A-000500	Connection between Compressor House and Temp. Water Heater House	2	01-Mar-22	02-Mar-22	04-Mar-22	05-Mar-22	3
Demoiltion Works above ground		145	15-Nov-21 A	19-May-22	31-Dec-21	26-May-22	6
Z3A-000005	Mobilization, Site Clearance & Preparation	11	15-Nov-21 A	26-Nov-21 A			
Z3A-000050	Decommission Works for Sludge Holding Tank(SHT 3 & 4) & Sludge Digestion Tank(SDT 3 & 4)	10	27-Nov-21 A	08-Dec-21 A			
Z3A-000010	Demolition Works for Sludge Holding Tank(SHT 3 & 4) [10] above ground	30	09-Dec-21 A	15-Jan-22	31-Dec-21	15-Jan-22	0
Z3A-000040	Demolition Works for Water Heater House [21] after completion of stage 1	30	09-Apr-22	19-May-22	20-Apr-22	26-May-22	6
Decommission Works		12	09-Apr-22	26-Apr-22	09-Apr-22	26-Apr-22	0
Z3A-000110	Decommission Works for Existing Utilities Gallery	12	09-Apr-22	26-Apr-22	09-Apr-22	26-Apr-22	0
Demolition Works below ground		104	17-Jan-22	31-May-22	17-Jan-22	31-May-22	0
Z3A-000120	Open Cut Excavation at Sludge Holding Tank No. 3	10	17-Jan-22	27-Jan-22	17-Jan-22	27-Jan-22	0



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

Remaining Level of Effort
DWP Rev.8
Actual Work
Remaining Work
Critical Remaining Work

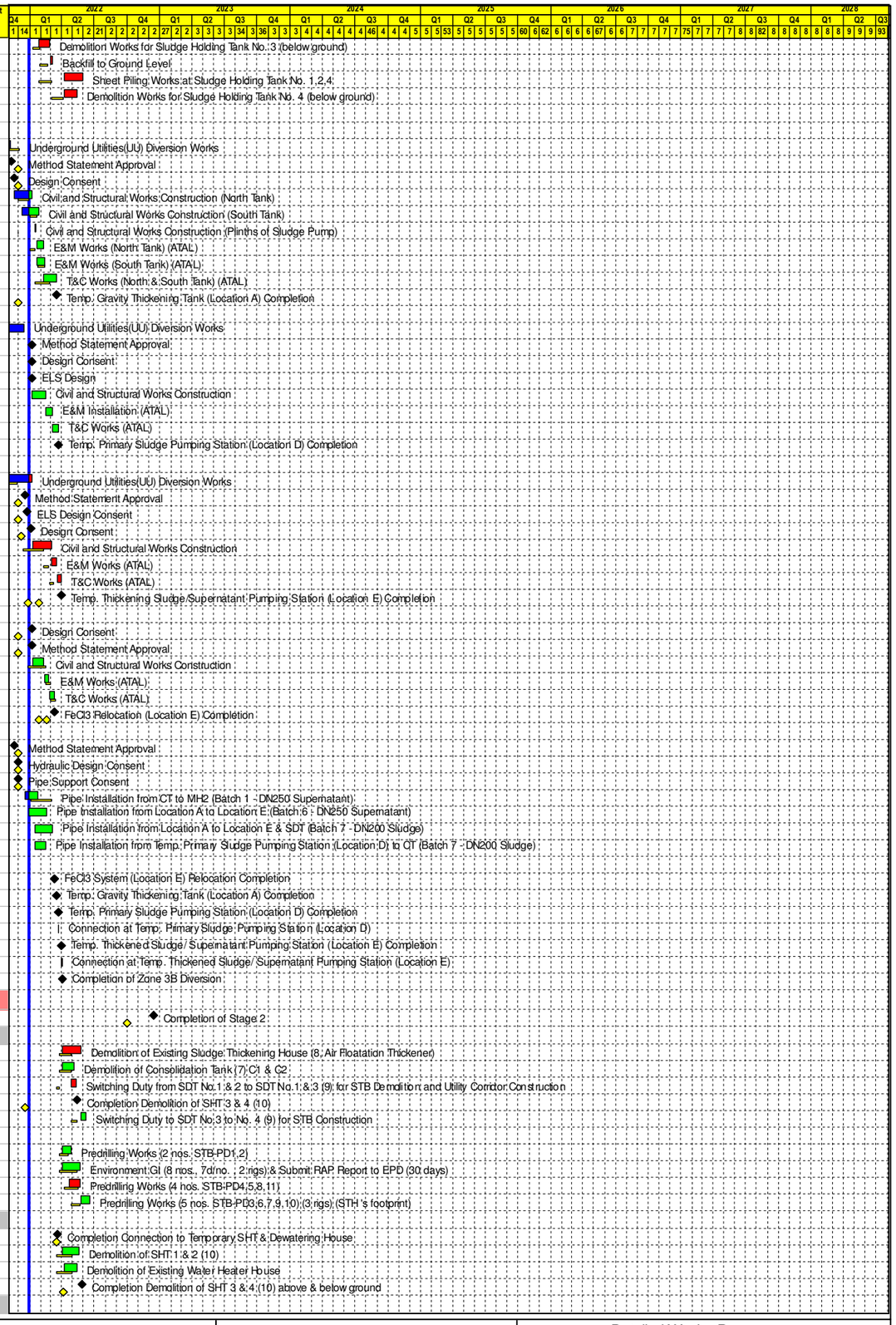
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr9_220111
Layout : DC201910 DWP rev.9

Detailed Works Programme

Date	Revision	Checked	Approved
31-Dec-21	Rev. 9		
30-Nov-21	Rev. 8		
31-Oct-21	Rev. 7		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
Z3A-000130	Demolition Works for Sludge Holding Tank No. 3 (below ground)	20	28-Jan-22	26-Feb-22	28-Jan-22	26-Feb-22	0
Z3A-000140	Backfill to Ground Level	7	28-Feb-22	07-Mar-22	28-Feb-22	07-Mar-22	0
Z3A-000020	Sheet Piling Works at Sludge Holding Tank No. 1,2,4	40	09-Apr-22	31-May-22	09-Apr-22	31-May-22	0
Z3A-000030	Demolition Works for Sludge Holding Tank No. 4 (below ground)	25	09-Apr-22	13-May-22	09-Apr-22	13-May-22	0
Zone 3B (at STB)		123	09-Aug-21 A	01-Apr-22	31-Dec-21	01-Apr-22	0
Gravity Thickening Tank (Location A)		103	09-Aug-21 A	16-Mar-22	05-Jan-22	31-Mar-22	13
Z3B-000060	Underground Utilities(UU) Diversion Works	22	09-Aug-21 A	09-Nov-21 A			
Z3B-000050	Method Statement Approval	0		12-Nov-21 A			
Z3B-000040	Design Consent	0		19-Nov-21 A			
Z3B-000070	Civil and Structural Works Construction (North Tank)	25	20-Nov-21 A	06-Jan-22	05-Jan-22	10-Jan-22	3
Z3B-000080	Civil and Structural Works Construction (South Tank)	40	11-Dec-21 A	25-Jan-22	05-Jan-22	28-Jan-22	3
Z3B-000250	Civil and Structural Works Construction (Plinths of Sludge Pump)	4	15-Jan-22	19-Jan-22	19-Jan-22	22-Jan-22	3
Z3B-000090	E&M Works (North Tank) (ATAL)	12	20-Jan-22	09-Feb-22	24-Jan-22	12-Feb-22	3
Z3B-000100	E&M Works (South Tank) (ATAL)	12	22-Jan-22	11-Feb-22	07-Mar-22	19-Mar-22	31
Z3B-000110	T&C Works (North & South Tank) (ATAL)	30	10-Feb-22	16-Mar-22	14-Feb-22	19-Mar-22	3
Z3B-000260	Temp. Gravity Thickening Tank (Location A) Completion	0		16-Mar-22		31-Mar-22	13
Temporary Primary Sludge Pumping Station (Location D)		87	22-Oct-21 A	21-Mar-22	18-Jan-22	31-Mar-22	9
Z3A-280	Underground Utilities(UU) Diversion Works	24	22-Oct-21 A	16-Dec-21 A			
Z3A-250	Method Statement Approval	0		08-Jan-22*		18-Jan-22	9
Z3A-260	Design Consent	0		08-Jan-22		18-Jan-22	9
Z3A-270	ELS Design	0		08-Jan-22		18-Jan-22	9
Z3A-290	Civil and Structural Works Construction	27	08-Jan-22	15-Feb-22	19-Jan-22	25-Feb-22	9
Z3A-300	E&M Installation (ATAL)	16	16-Feb-22	05-Mar-22	26-Feb-22	16-Mar-22	9
Z3A-310	T&C Works (ATAL)	13	07-Mar-22	21-Mar-22	17-Mar-22	31-Mar-22	9
Z3A-430	Temp. Primary Sludge Pumping Station (Location D) Completion	0		21-Mar-22		31-Mar-22	9
Temporary Thickened Sludge / Supernatant Pumping Station (Location E)		122	15-Oct-21 A	31-Mar-22	31-Dec-21	31-Mar-22	0
Z3B-000130	Underground Utilities(UU) Diversion Works	10	15-Oct-21 A	07-Jan-22	31-Dec-21	07-Jan-22	0
Z3B-000117	Method Statement Approval	0		20-Dec-21 A			
Z3B-000115	ELS Design Consent	0		24-Dec-21 A			
Z3B-000120	Design Consent	0		03-Jan-22		08-Jan-22	5
Z3B-000140	Civil and Structural Works Construction	40	10-Jan-22	03-Mar-22	10-Jan-22	03-Mar-22	0
Z3B-000150	E&M Works (ATAL)	13	04-Mar-22	18-Mar-22	04-Mar-22	18-Mar-22	0
Z3B-000160	T&C Works (ATAL)	11	19-Mar-22	31-Mar-22	19-Mar-22	31-Mar-22	0
Z3B-000270	Temp. Thickening Sludge/Supernatant Pumping Station (Location E) Completion	0		31-Mar-22		31-Mar-22	0
Relocation of Ferrie Chloride (FeCl3) Dosing System & LV Switchboard (Location E)		46	08-Jan-22	10-Mar-22	29-Jan-22	31-Mar-22	18
Z3B-000170	Design Consent	0		08-Jan-22*		29-Jan-22	18
Z3B-000180	Method Statement Approval	0		08-Jan-22		29-Jan-22	18
Z3B-000190	Civil and Structural Works Construction	22	10-Jan-22	10-Feb-22	07-Feb-22	03-Mar-22	18
Z3B-000200	E&M Works (ATAL)	12	11-Feb-22	24-Feb-22	04-Mar-22	17-Mar-22	18
Z3B-000210	T&C Works (ATAL)	12	25-Feb-22	10-Mar-22	18-Mar-22	31-Mar-22	18
Z3B-000280	FeCl3 Relocation (Location E) Completion	0		10-Mar-22		31-Mar-22	18
Pipe Laying		74	18-Nov-21 A	05-Mar-22	18-Feb-22	01-Apr-22	23
Z3B-000230	Method Statement Approval	0		18-Nov-21 A			
Z3B-000220	Hydraulic Design Consent	0		30-Nov-21 A			
Z3B-000215	Pipe Support Consent	0		30-Nov-21 A			
Z3B-000240	Pipe Installation from CT to MH2 (Batch 1 - DN250 Supernatant)	20	18-Dec-21 A	24-Jan-22	10-Mar-22	01-Apr-22	52
Z3B-000350	Pipe Installation from Location A to Location E (Batch 6 - DN250 Supernatant)	36	31-Dec-21	18-Feb-22	18-Feb-22	31-Mar-22	35
Z3B-000360	Pipe Installation from Location A to Location E & SDT (Batch 7 - DN200 Sludge)	36	17-Jan-22	05-Mar-22	18-Feb-22	31-Mar-22	22
Z3B-000370	Pipe Installation from Temp. Primary Sludge Pumping Station (Location D) to CT (Batch 7 - DN200 Sludge)	20	17-Jan-22	15-Feb-22	09-Mar-22	31-Mar-22	38
Pipe Connection		19	10-Mar-22	01-Apr-22	31-Mar-22	01-Apr-22	0
Z3B-000420	FeCl3 System (Location E) Relocation Completion	0		10-Mar-22		31-Mar-22	18
Z3B-000390	Temp. Gravity Thickening Tank (Location A) Completion	0		16-Mar-22		31-Mar-22	13
Z3B-000400	Temp. Primary Sludge Pumping Station (Location D) Completion	0		21-Mar-22		31-Mar-22	9
Z3B-000410	Connection at Temp. Primary Sludge Pumping Station (Location D)	1	22-Mar-22	22-Mar-22	01-Apr-22	01-Apr-22	9
Z3B-000430	Temp. Thickened Sludge/ Supernatant Pumping Station (Location E) Completion	0		31-Mar-22		31-Mar-22	0
Z3B-000380	Connection at Temp. Thickened Sludge/ Supernatant Pumping Station (Location E)	1	01-Apr-22	01-Apr-22	01-Apr-22	01-Apr-22	0
Z3B-000440	Completion of Zone 3B Diversion	0		01-Apr-22		01-Apr-22	0
Stage 2		230	08-Mar-22	13-Dec-22	08-Mar-22	17-Feb-23	48
Z3S2-3020	Completion of Stage 2	0		13-Dec-22*		13-Dec-22	0
Stage 2 : New Sludge Thickening Building (STB) at		59	02-Apr-22	18-Jun-22	02-Apr-22	14-Oct-22	98
Z3S2-2030	Demolition of Existing Sludge Thickening House (8, Air Floatation Thickener)	39	02-Apr-22	25-May-22	02-Apr-22	25-May-22	0
Z3S2-2040	Demolition of Consolidation Tank (7) C1 & C2	24	02-Apr-22	05-May-22	21-Apr-22	20-May-22	12
ATALZ3S1-1050	Switching Duty from SDT No.1 & 2 to SDT No.1 & 3 (9) for STB Demolition and Utility Corridor Construction	12	27-Apr-22	12-May-22	27-Apr-22	12-May-22	0
Z3S2-3080	Completion Demolition of SHT 3 & 4 (10)	0		13-May-22*		13-May-22	0
ATALZ3S1-2210	Switching Duty to SDT No.3 to No. 4 (9) for STB Construction	12	25-May-22	09-Jun-22	24-Jun-22	08-Jul-22	25
Stage 2 : STB Pre-drilling Works		59	02-Apr-22	18-Jun-22	08-Apr-22	14-Oct-22	98
Z3S3-3050	Predrilling Works (2 nos. STB-PD1,2)	18	02-Apr-22	27-Apr-22	21-Apr-22	13-May-22	12
Z3S3-3400	Environment GI (8 nos., 7d/no. , 2 rigs) & Submit RAP Report to EPD (30 days)	37	02-Apr-22	21-May-22	08-Apr-22	26-May-22	4
Z3S3-2020	Predrilling Works (4 nos. STB-PD4,5,8,11)	25	21-Apr-22	21-May-22	21-Apr-22	21-May-22	0
Z3S3-2030	Predrilling Works (5 nos. STB-PD3,6,7,9,10) (3 rigs) (STH 's footprint)	20	25-May-22	18-Jun-22	20-Sep-22	14-Oct-22	98
Stage 2 : Existing Sludge Holding Tanks		53	19-Mar-22	27-May-22	19-Mar-22	17-Feb-23	214
Z3S1a.7-60	Completion Connection to Temporary SHT & Dewatering House	0		19-Mar-22*		19-Mar-22	0
Z3S2-2010	Demolition of SHT 1 & 2 (10)	35	02-Apr-22	19-May-22	28-Dec-22	14-Feb-23	218
Z3S2.5-10	Demolition of Existing Water Heater House	25	09-Apr-22	13-May-22	13-Jan-23	17-Feb-23	226
Z3S1a.7-50	Completion Demolition of SHT 3 & 4 (10) above & below ground	0		27-May-22*		27-May-22	0
Stage 2 : Biogas Holder No. 1		160	08-Mar-22	20-Sep-22	08-Mar-22	20-Sep-22	0



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

- Remaining Level of Effort
- DWP Rev.8
- Actual Work
- Remaining Work
- Critical Remaining Work

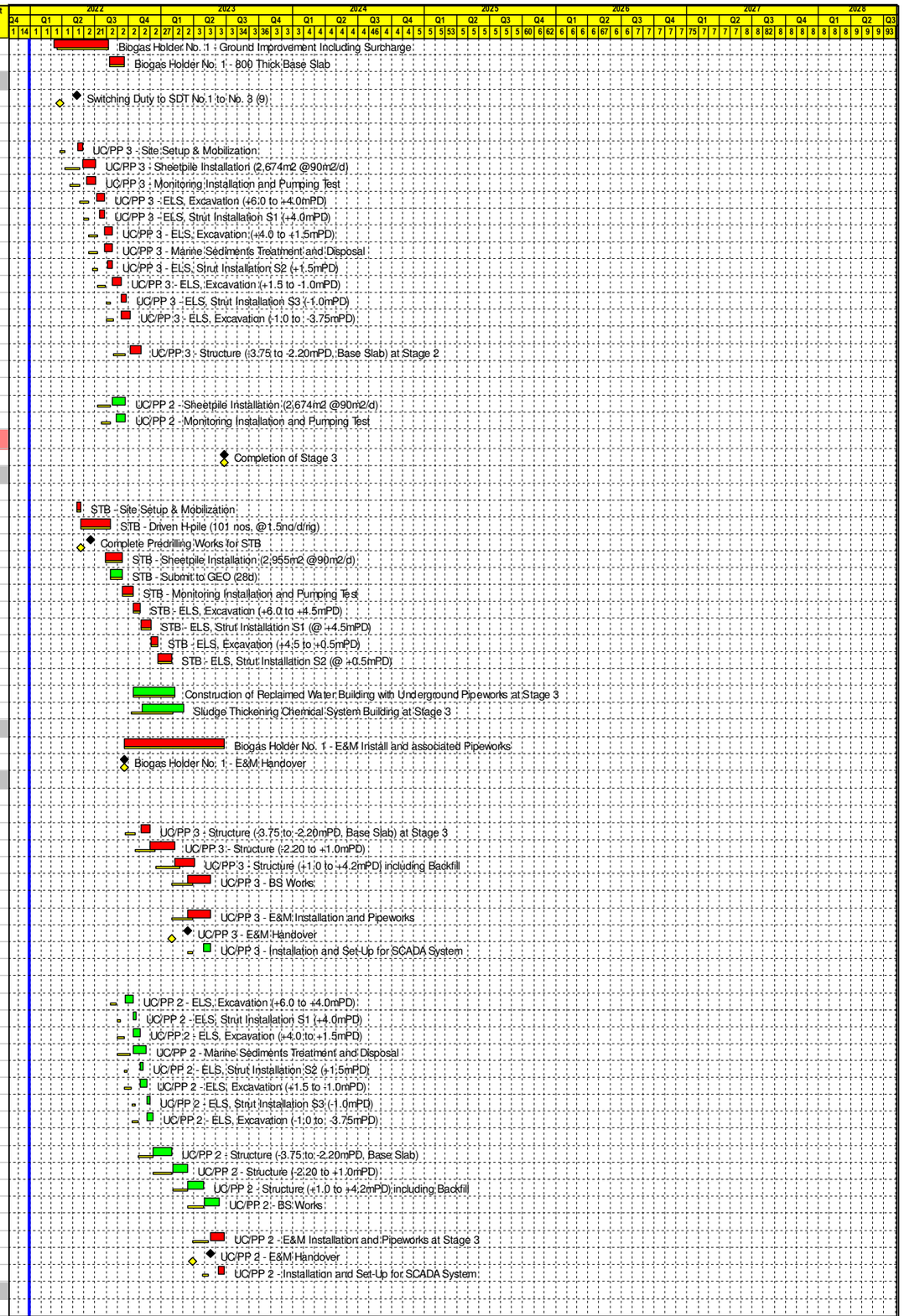
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr9_220111
Layout : DC201910 DWP rev.9

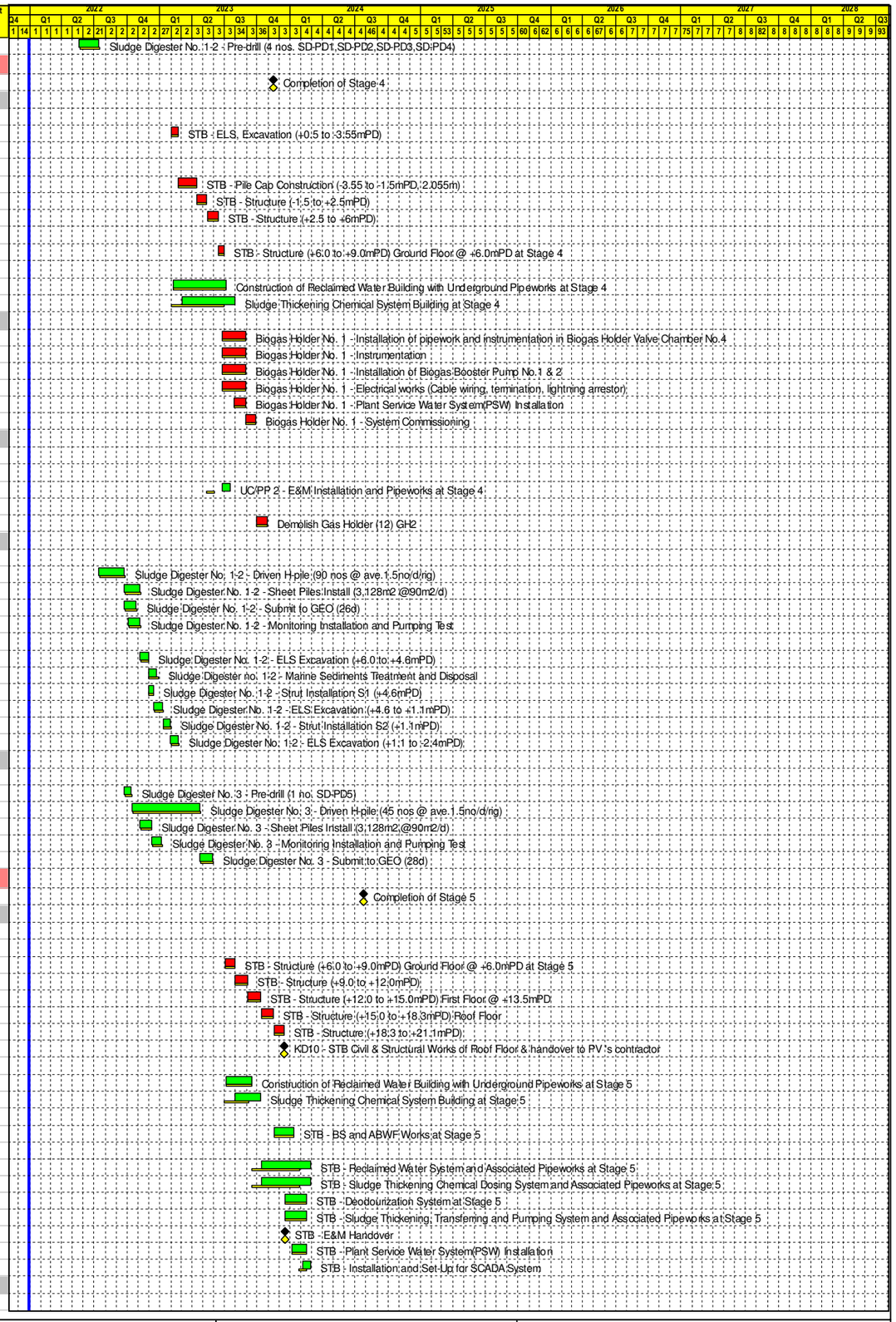
Detailed Works Programme

Date	Revision	Checked	Approved
31-Dec-21	Rev. 9		
30-Nov-21	Rev. 8		
31-Oct-21	Rev. 7		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
Z3BH-1000	Biogas Holder No. 1 - Ground Improvement Including Surcharge	124	08-Mar-22	08-Aug-22	08-Mar-22	08-Aug-22	0
Z3BH-1010	Biogas Holder No. 1 - 800 Thick Base Slab	36	09-Aug-22	20-Sep-22	09-Aug-22	20-Sep-22	0
Stage 2 : Utility Corridor Construction		147	12-May-22	05-Nov-22	12-May-22	05-Nov-22	0
Z3S2-2350	Switching Duty to SDT No.1 to No. 3 (9)	0		12-May-22		12-May-22	0
Stage 2 : Utility Corridor No. 3		147	13-May-22	05-Nov-22	13-May-22	05-Nov-22	0
S2 : UC/PP3 Foundation and ELS Works		120	13-May-22	05-Oct-22	13-May-22	05-Oct-22	0
Z3S2-2340	UC/PP 3 - Site Setup & Mobilization	12	13-May-22	26-May-22	13-May-22	26-May-22	0
Z3S2-2060	UC/PP 3 - Sheetpile Installation (2,674m2 @90m2/d)	30	27-May-22	02-Jul-22	27-May-22	02-Jul-22	0
Z3S2-3050	UC/PP 3 - Monitoring Installation and Pumping Test	21	08-Jun-22	02-Jul-22	08-Jun-22	02-Jul-22	0
Z3S2-2070	UC/PP 3 - ELS, Excavation (+6.0 to +4.0mPD)	20	04-Jul-22	26-Jul-22	04-Jul-22	26-Jul-22	0
Z3S2-2080	UC/PP 3 - ELS, Strut Installation S1 (+4.0mPD)	12	13-Jul-22	26-Jul-22	13-Jul-22	26-Jul-22	0
Z3S2-2090	UC/PP 3 - ELS, Excavation (+4.0 to +1.5mPD)	20	27-Jul-22	18-Aug-22	27-Jul-22	18-Aug-22	0
Z3S2-2160	UC/PP 3 - Marine Sediments Treatment and Disposal	20	27-Jul-22	18-Aug-22	27-Jul-22	18-Aug-22	0
Z3S2-2100	UC/PP 3 - ELS, Strut Installation S2 (+1.5mPD)	12	05-Aug-22	18-Aug-22	05-Aug-22	18-Aug-22	0
Z3S2-2110	UC/PP 3 - ELS, Excavation (+1.5 to -1.0mPD)	20	19-Aug-22	12-Sep-22	19-Aug-22	12-Sep-22	0
Z3S2-2120	UC/PP 3 - ELS, Strut Installation S3 (-1.0mPD)	12	13-Sep-22	26-Sep-22	13-Sep-22	26-Sep-22	0
Z3S2-2130	UC/PP 3 - ELS, Excavation (-1.0 to -3.75mPD)	18	13-Sep-22	05-Oct-22	13-Sep-22	05-Oct-22	0
S2 : UC/PP3 Civil and Structural Works		27	06-Oct-22	05-Nov-22	06-Oct-22	05-Nov-22	0
Z3S2-2370	UC/PP 3 - Structure (-3.75 to -2.20mPD, Base Slab) at Stage 2	27	06-Oct-22	05-Nov-22	06-Oct-22	05-Nov-22	0
Stage 2 : Utility Corridor No. 2		30	19-Aug-22	23-Sep-22	03-Sep-22	11-Oct-22	13
S2 : UC/PP2 Foundation and ELS Works		30	19-Aug-22	23-Sep-22	03-Sep-22	11-Oct-22	13
Z3S2-2150	UC/PP 2 - Sheetpile Installation (2,674m2 @90m2/d)	30	19-Aug-22	23-Sep-22	03-Sep-22	11-Oct-22	13
Z3S2-3060	UC/PP 2 - Monitoring Installation and Pumping Test	21	30-Aug-22	23-Sep-22	15-Sep-22	11-Oct-22	13
Stage 3		352	11-May-22	24-Jun-23	11-May-22	28-Jun-23	3
Z3S3-3030	Completion of Stage 3	0		24-Jun-23*		24-Jun-23	0
Stage 3 : New Sludge Thickening Building (STB) (Continued)		255	11-May-22	03-Mar-23	11-May-22	24-Jun-23	97
Stage 3 : STB Foundation and ELS		228	11-May-22	31-Jan-23	11-May-22	31-Jan-23	0
Z3S3-3010	STB - Site Setup & Mobilization	10	11-May-22	21-May-22	11-May-22	21-May-22	0
Z3S3-2090	STB - Driven H-pile (101 nos, @1.5no/d/rig)	68	23-May-22	11-Aug-22	23-May-22	11-Aug-22	0
Z3S1a.7-70	Complete Predrilling Works for STB	0		18-Jun-22		14-Oct-22	98
Z3S3-2180	STB - Sheetpile Installation (2,955m2 @90m2/d)	40	30-Jul-22	15-Sep-22	30-Jul-22	15-Sep-22	0
Z3S3-3370	STB - Submit to GEO (28d)	28	12-Aug-22	14-Sep-22	27-Sep-22	31-Oct-22	38
Z3S3-3340	STB - Monitoring Installation and Pumping Test	23	16-Sep-22	14-Oct-22	16-Sep-22	14-Oct-22	0
Z3S3-2250	STB - ELS, Excavation (+6.0 to +4.5mPD)	18	15-Oct-22	04-Nov-22	15-Oct-22	04-Nov-22	0
Z3S3-2290	STB - ELS, Strut Installation S1 (@ +4.5mPD)	24	05-Nov-22	02-Dec-22	05-Nov-22	02-Dec-22	0
Z3S3-2360	STB - ELS, Excavation (+4.5 to +0.5mPD)	18	03-Dec-22	23-Dec-22	03-Dec-22	23-Dec-22	0
Z3S3-2420	STB - ELS, Strut Installation S2 (@ +0.5mPD)	24	24-Dec-22	31-Jan-23	24-Dec-22	31-Jan-23	0
Stage 3 : Chemical Building and Reclaimed Water Building		111	15-Oct-22	03-Mar-23	04-Mar-23	24-Jun-23	90
Z3S3-2170	Construction of Reclaimed Water Building with Underground Pipeworks at Stage 3	90	15-Oct-22	07-Feb-23	04-Mar-23	24-Jun-23	111
Z3S3-2160	Sludge Thickening Chemical System Building at Stage 3	90	09-Nov-22	03-Mar-23	04-Mar-23	24-Jun-23	90
Stage 3 : Biogas Holder No. 1 (Continued)		220	21-Sep-22	24-Jun-23	21-Sep-22	24-Jun-23	0
ATALZ3BH-1000	Biogas Holder No. 1 - E&M Install and associated Pipeworks	220	21-Sep-22	24-Jun-23	21-Sep-22	24-Jun-23	0
ATALZ3BH-0900	Biogas Holder No. 1 - E&M Handover	0	21-Sep-22		21-Sep-22		0
Stage 3 : Utility Corridor Construction (Continued)		217	24-Sep-22	24-Jun-23	12-Oct-22	28-Jun-23	3
Stage 3 : Utility Corridor No. 3		150	07-Nov-22	16-May-23	07-Nov-22	24-Jun-23	32
S3 : UC/PP3 Civil and Structural Works		150	07-Nov-22	16-May-23	07-Nov-22	16-May-23	0
Z3S2-2140	UC/PP 3 - Structure (-3.75 to -2.20mPD, Base Slab) at Stage 3	22	07-Nov-22	01-Dec-22	07-Nov-22	01-Dec-22	0
Z3S2-2180	UC/PP 3 - Structure (-2.20 to +1.0mPD)	48	02-Dec-22	06-Feb-23	02-Dec-22	06-Feb-23	0
Z3S2-2250	UC/PP 3 - Structure (+1.0 to +4.2mPD) including Backfill	48	07-Feb-23	03-Apr-23	07-Feb-23	03-Apr-23	0
Z3S2-3040	UC/PP 3 - BS Works	50	14-Mar-23	16-May-23	14-Mar-23	16-May-23	0
S3 : UC/PP3 E&M Installation		50	14-Mar-23	16-May-23	14-Mar-23	24-Jun-23	32
Z3S2-2280	UC/PP 3 - E&M Installation and Pipeworks	50	14-Mar-23	16-May-23	14-Mar-23	16-May-23	0
Z3S2-2279	UC/PP 3 - E&M Handover	0	14-Mar-23		14-Mar-23		0
Z3S2-2285	UC/PP 3 - Installation and Set-Up for SCADA System	14	29-Apr-23	16-May-23	08-Jun-23	24-Jun-23	32
Stage 3 : Utility Corridor No. 2		217	24-Sep-22	24-Jun-23	12-Oct-22	28-Jun-23	3
S3 : UC/PP2 Foundation and ELS Works		64	24-Sep-22	09-Dec-22	12-Oct-22	24-Dec-22	13
Z3S2-2170	UC/PP 2 - ELS, Excavation (+6.0 to +4.0mPD)	16	24-Sep-22	14-Oct-22	12-Oct-22	29-Oct-22	13
Z3S2-2190	UC/PP 2 - ELS, Strut Installation S1 (+4.0mPD)	8	15-Oct-22	24-Oct-22	26-Nov-22	05-Dec-22	36
Z3S2-2200	UC/PP 2 - ELS, Excavation (+4.0 to +1.5mPD)	16	15-Oct-22	02-Nov-22	31-Oct-22	17-Nov-22	13
Z3S2-2260	UC/PP 2 - Marine Sediments Treatment and Disposal	30	15-Oct-22	18-Nov-22	02-Nov-22	06-Dec-22	15
Z3S2-2210	UC/PP 2 - ELS, Strut Installation S2 (+1.5mPD)	8	03-Nov-22	11-Nov-22	06-Dec-22	14-Dec-22	28
Z3S2-2220	UC/PP 2 - ELS, Excavation (+1.5 to -1.0mPD)	16	03-Nov-22	21-Nov-22	18-Nov-22	06-Dec-22	13
Z3S2-2230	UC/PP 2 - ELS, Strut Installation S3 (-1.0mPD)	9	22-Nov-22	01-Dec-22	15-Dec-22	24-Dec-22	20
Z3S2-2240	UC/PP 2 - ELS, Excavation (-1.0 to -3.75mPD)	16	22-Nov-22	09-Dec-22	07-Dec-22	24-Dec-22	13
S3 : UC/PP2 Civil and Structural Works		143	10-Dec-22	12-Jun-23	28-Dec-22	28-Jun-23	13
Z3S2-2270	UC/PP 2 - Structure (-3.75 to -2.20mPD, Base Slab)	36	10-Dec-22	31-Jan-23	28-Dec-22	15-Feb-23	13
Z3S2-2290	UC/PP 2 - Structure (-2.20 to +1.0mPD)	36	01-Feb-23	14-Mar-23	16-Feb-23	29-Mar-23	13
Z3S2-2300	UC/PP 2 - Structure (+1.0 to +4.2mPD) including Backfill	36	15-Mar-23	29-Apr-23	30-Mar-23	16-May-23	13
Z3S2-3030	UC/PP 2 - BS Works	35	02-May-23	12-Jun-23	17-May-23	28-Jun-23	13
S3 : UC/PP2 E&M Installation		32	17-May-23	24-Jun-23	17-May-23	24-Jun-23	0
Z3S2-2320	UC/PP 2 - E&M Installation and Pipeworks at Stage 3	32	17-May-23	24-Jun-23	17-May-23	24-Jun-23	0
Z3S2-2319	UC/PP 2 - E&M Handover	0	17-May-23		17-May-23		0
Z3S2-2325	UC/PP 2 - Installation and Set-Up for SCADA System	14	08-Jun-23	24-Jun-23	08-Jun-23	24-Jun-23	0
Stage 3 : New Sludge Digester No. 1 and 2 (Continued)		45	20-May-22	13-Jul-22	15-Feb-23	12-Apr-23	218
Stage 3 : SD 1,2 Pre-drilling Works		45	20-May-22	13-Jul-22	15-Feb-23	12-Apr-23	218



Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
Z3S3-2010	Sludge Digester No. 1-2 - Pre-drill (4 nos. SD-PD1,SD-PD2,SD-PD3,SD-PD4)	45	20-May-22	13-Jul-22	15-Feb-23	12-Apr-23	218
Stage 4		421	14-Jul-22	16-Nov-23	01-Feb-23	20-Jun-24	186
Z3S4-3340	Completion of Stage 4	0		16-Nov-23*		16-Nov-23	0
Stage 4 : New Sludge Thickening Building (STB) (Continued)		147	01-Feb-23	31-Jul-23	01-Feb-23	16-Nov-23	90
Stage 4 : STB Foundation and ELS		18	01-Feb-23	21-Feb-23	01-Feb-23	21-Feb-23	0
Z3S3-2450	STB - ELS, Excavation (+0.5 to -3.55mPD)	18	01-Feb-23	21-Feb-23	01-Feb-23	21-Feb-23	0
Stage 4 : STB Civil and Structural Works		141	08-Feb-23	31-Jul-23	22-Feb-23	16-Nov-23	90
S4 : STB Substructure		90	22-Feb-23	13-Jun-23	22-Feb-23	13-Jun-23	0
Z3S3-2500	STB - Pile Cap Construction (-3.55 to -1.5mPD, 2.055m)	40	22-Feb-23	13-Apr-23	22-Feb-23	13-Apr-23	0
Z3S3-2600	STB - Structure (-1.5 to +2.5mPD)	25	14-Apr-23	13-May-23	14-Apr-23	13-May-23	0
Z3S3-2630	STB - Structure (+2.5 to +6mPD)	25	15-May-23	13-Jun-23	15-May-23	13-Jun-23	0
S4 : STB Superstructure		14	14-Jun-23	30-Jun-23	14-Jun-23	30-Jun-23	0
Z3S3-3100	STB - Structure (+6.0 to +9.0mPD) Ground Floor @ +6.0mPD at Stage 4	14	14-Jun-23	30-Jun-23	14-Jun-23	30-Jun-23	0
S4 : Chemical Building and Reclaimed Water Building		141	08-Feb-23	31-Jul-23	26-Jun-23	16-Nov-23	90
Z3S3-3080	Construction of Reclaimed Water Building with Underground Pipeworks at Stage 4	120	08-Feb-23	06-Jul-23	26-Jun-23	16-Nov-23	111
Z3S3-3070	Sludge Thickening Chemical System Building at Stage 4	120	04-Mar-23	31-Jul-23	26-Jun-23	16-Nov-23	90
Stage 4 : Biogas Holder No. 1 (Continued)		80	26-Jun-23	27-Sep-23	26-Jun-23	27-Sep-23	0
ATALZ3BH-1010	Biogas Holder No. 1 - Installation of pipework and instrumentation in Biogas Holder Valve Chamber No.4	56	26-Jun-23	30-Aug-23	26-Jun-23	30-Aug-23	0
ATALZ3BH-1020	Biogas Holder No. 1 - Instrumentation	56	26-Jun-23	30-Aug-23	26-Jun-23	30-Aug-23	0
ATALZ3BH-1030	Biogas Holder No. 1 - Installation of Biogas Booster Pump No.1 & 2	56	26-Jun-23	30-Aug-23	26-Jun-23	30-Aug-23	0
ATALZ3BH-1040	Biogas Holder No. 1 - Electrical works (Cable wiring, termination, lightning arrestor)	56	26-Jun-23	30-Aug-23	26-Jun-23	30-Aug-23	0
ATALZ3BH-1060	Biogas Holder No. 1 - Plant Service Water System(PSW) Installation	30	27-Jul-23	30-Aug-23	27-Jul-23	30-Aug-23	0
ATALZ3BH-1050	Biogas Holder No. 1 - System Commissioning	24	31-Aug-23	27-Sep-23	31-Aug-23	27-Sep-23	0
Stage 4 : Utility Corridor Construction (Continued)		104	26-Jun-23	28-Oct-23	28-Sep-23	16-Nov-23	16
Stage 4 : Utility Corridor No. 2		18	26-Jun-23	17-Jul-23	27-Oct-23	16-Nov-23	102
S4 : UC/PP2 E&M Installation		18	26-Jun-23	17-Jul-23	27-Oct-23	16-Nov-23	102
Z3S2-2380	UC/PP 2 - E&M Installation and Pipeworks at Stage 4	18	26-Jun-23	17-Jul-23	27-Oct-23	16-Nov-23	102
Stage 4 : Utility Corridor No. 1		24	28-Sep-23	28-Oct-23	28-Sep-23	28-Oct-23	0
Z3S4-2000	Demolish Gas Holder (12) GH2	24	28-Sep-23	28-Oct-23	28-Sep-23	28-Oct-23	0
Stage 4 : New Sludge Digester No. 1 and 2 (Continued)		192	14-Jul-22	22-Feb-23	13-Apr-23	03-Feb-24	297
Stage 4 : SD 1,2 Foundation and ELS		192	14-Jul-22	22-Feb-23	13-Apr-23	03-Feb-24	297
Z3S3-2050	Sludge Digester No. 1-2 - Driven H-pile (90 nos @ ave.1.5no/d/rig)	60	14-Jul-22	22-Sep-22	13-Apr-23	24-Jun-23	97
Z3S3-2060	Sludge Digester No. 1-2 - Sheet Piles Install (3,128m2 @90m2/d)	36	23-Sep-22	05-Nov-22	26-Jun-23	07-Aug-23	218
Z3S3-3390	Sludge Digester No. 1-2 - Submit to GEO (26d)	26	23-Sep-22	25-Oct-22	05-Jan-24	03-Feb-24	377
Z3S3-3350	Sludge Digester No. 1-2 - Monitoring Installation and Pumping Test	28	05-Oct-22	05-Nov-22	06-Jul-23	07-Aug-23	218
S4 : Excavation and Strut Installation		84	07-Nov-22	22-Feb-23	08-Aug-23	16-Nov-23	218
Z3S3-2110	Sludge Digester No. 1-2 - ELS Excavation (+6.0 to +4.6mPD)	20	07-Nov-22	29-Nov-22	08-Aug-23	30-Aug-23	218
Z3S3-2130	Sludge Digester no. 1-2 - Marine Sediments Treatment and Disposal	21	30-Nov-22	23-Dec-22	27-Sep-23	24-Oct-23	241
Z3S3-2140	Sludge Digester No. 1-2 - Strut Installation S1 (+4.6mPD)	12	30-Nov-22	13-Dec-22	31-Aug-23	13-Sep-23	218
Z3S3-2150	Sludge Digester No. 1-2 - ELS Excavation (+4.6 to +1.1mPD)	20	14-Dec-22	09-Jan-23	14-Sep-23	09-Oct-23	218
Z3S3-2190	Sludge Digester No. 1-2 - Strut Installation S2 (+1.1mPD)	12	10-Jan-23	30-Jan-23	10-Oct-23	24-Oct-23	218
Z3S3-2200	Sludge Digester No. 1-2 - ELS Excavation (+1.1 to -2.4mPD)	20	31-Jan-23	22-Feb-23	25-Oct-23	16-Nov-23	218
Stage 4 : New Sludge Digester No. 3 (Continued)		212	23-Sep-22	27-May-23	05-Sep-23	20-Jun-24	334
Stage 4 : SD 3 Foundation and ELS Works		212	23-Sep-22	27-May-23	05-Sep-23	20-Jun-24	334
Z3S3-2080	Sludge Digester No. 3 - Pre-drill (1 no. SD-PD5)	16	23-Sep-22	13-Oct-22	05-Sep-23	22-Sep-23	278
Z3S3-2070	Sludge Digester No. 3 - Driven H-pile (45 nos @ ave.1.5no/d/rig)	30	14-Oct-22	22-Apr-23	23-Sep-23	31-Oct-23	157
Z3S3-2120	Sludge Digester No. 3 - Sheet Piles Install (3,128m2,@90m2/d)	28	07-Nov-22	08-Dec-22	14-Oct-23	16-Nov-23	274
Z3S3-3360	Sludge Digester No. 3 - Monitoring Installation and Pumping Test	21	09-Dec-22	05-Jan-23	03-Feb-24	05-Mar-24	338
Z3S3-3380	Sludge Digester No. 3 - Submit to GEO (28d)	28	24-Apr-23	27-May-23	18-May-24	20-Jun-24	313
Stage 5		430	09-Feb-23	26-Jul-24	03-Jul-23	20-Aug-24	21
Z3S5-3350	Completion of Stage 5	0		26-Jul-24*		26-Jul-24	0
Stage 5 : New Sludge Thickening Building (STB) (Continued)		195	03-Jul-23	28-Feb-24	03-Jul-23	26-Jul-24	120
Stage 5 : STB Civil and Structural Works		160	03-Jul-23	11-Jan-24	03-Jul-23	26-Jul-24	155
S5 : STB Superstructure		141	03-Jul-23	16-Dec-23	03-Jul-23	08-Jan-24	16
Z3S3-2660	STB - Structure (+6.0 to +9.0mPD) Ground Floor @ +6.0mPD at Stage 5	25	03-Jul-23	31-Jul-23	03-Jul-23	31-Jul-23	0
Z3S3-2700	STB - Structure (+9.0 to +12.0mPD)	30	01-Aug-23	04-Sep-23	01-Aug-23	04-Sep-23	0
Z3S3-2710	STB - Structure (+12.0 to +15.0mPD) First Floor @ +13.5mPD	30	05-Sep-23	11-Oct-23	05-Sep-23	11-Oct-23	0
Z3S3-2740	STB - Structure (+15.0 to +18.3mPD) Roof Floor	30	12-Oct-23	16-Nov-23	12-Oct-23	16-Nov-23	0
Z3S3-2770	STB - Structure (+18.3 to +21.1mPD)	26	17-Nov-23	16-Dec-23*	17-Nov-23	16-Dec-23	0
Z3S3-2780	KD10 - STB Civil & Structural Works of Roof Floor & handover to PV 's contractor	0		16-Dec-23*		08-Jan-24	16
S5 : Chemical Building and Reclaimed Water Building		81	07-Jul-23	11-Oct-23	22-Dec-23	11-Mar-24	120
Z3S3-3180	Construction of Reclaimed Water Building with Underground Pipeworks at Stage 5	60	07-Jul-23	14-Sep-23	22-Dec-23	11-Mar-24	141
Z3S3-3170	Sludge Thickening Chemical System Building at Stage 5	60	01-Aug-23	11-Oct-23	22-Dec-23	11-Mar-24	120
S5 : STB ABWF and BS Works		45	17-Nov-23	11-Jan-24	03-Jun-24	26-Jul-24	155
Z3S3-2790	STB - BS and ABWF Works at Stage 5	45	17-Nov-23	11-Jan-24	03-Jun-24	26-Jul-24	155
Stage 5 : STB E&M Installation		110	12-Oct-23	28-Feb-24	12-Mar-24	26-Jul-24	120
Z3S3-2720	STB - Reclaimed Water System and Associated Pipeworks at Stage 5	110	12-Oct-23	28-Feb-24	12-Mar-24	26-Jul-24	120
Z3S3-2730	STB - Sludge Thickening Chemical Dosing System and Associated Pipeworks at Stage 5	110	12-Oct-23	28-Feb-24	12-Mar-24	26-Jul-24	120
Z3S3-2800	STB - Deodourization System at Stage 5	44	18-Dec-23	16-Feb-24	04-Jun-24	26-Jul-24	130
Z3S3-2810	STB - Sludge Thickening, Transferring and Pumping System and Associated Pipeworks at Stage 5	44	18-Dec-23	16-Feb-24	04-Jun-24	26-Jul-24	130
Z3S3-2799	STB - E&M Handover	0	18-Dec-23		04-Jun-24		130
Z3S3-2990	STB - Plant Service Water System(PSW) Installation	30	06-Jan-24	16-Feb-24	21-Jun-24	26-Jul-24	130
Z3S3-2815	STB - Installation and Set-Up for SCADA System	14	06-Feb-24	28-Feb-24	11-Jul-24	26-Jul-24	120
Stage 5 : Utility Corridor Construction (Continued)		102	12-Oct-23	19-Feb-24	12-Oct-23	26-Jul-24	128
Stage 5 : Utility Corridor No. 1		102	12-Oct-23	19-Feb-24	12-Oct-23	26-Jul-24	128



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

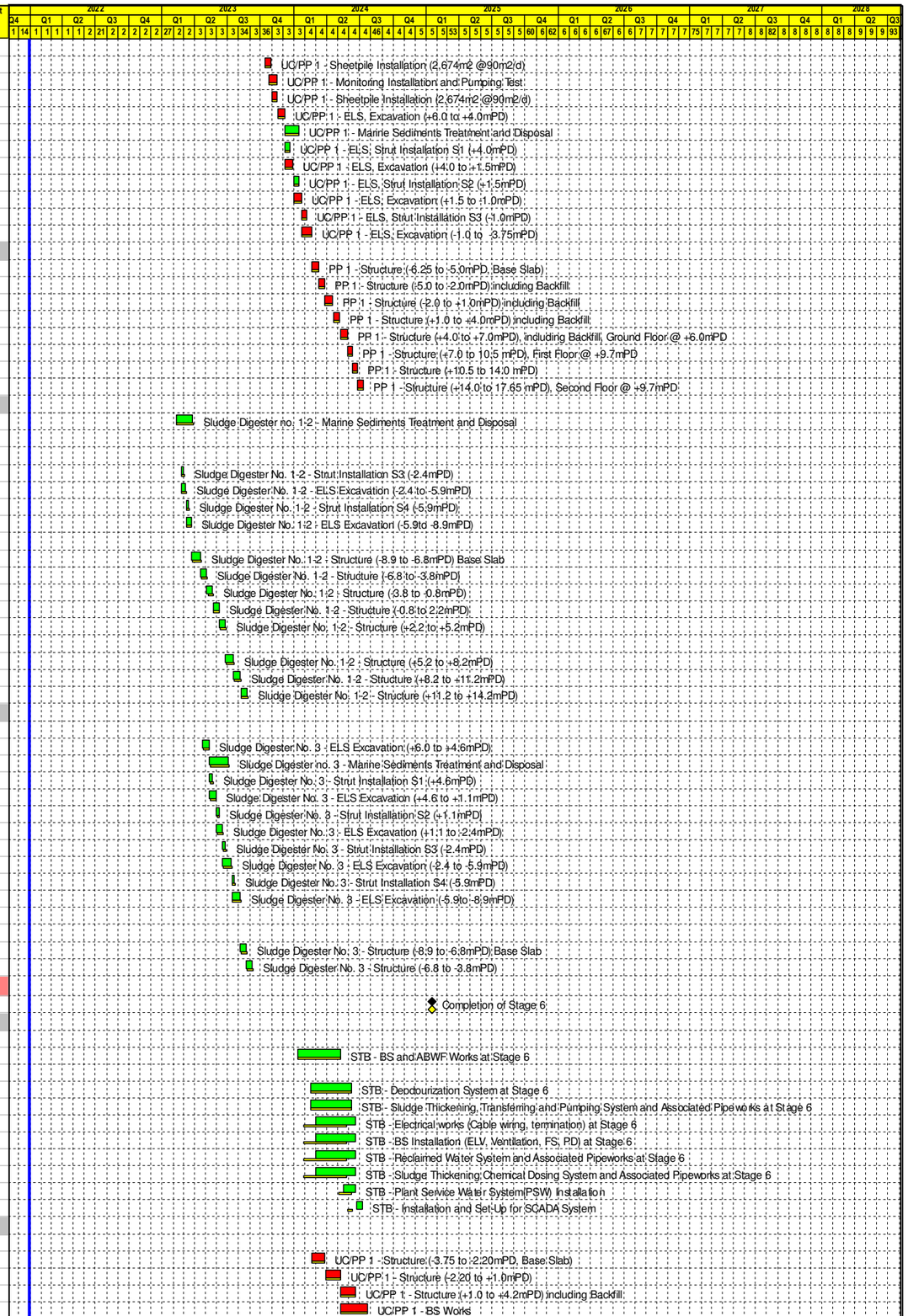
- Remaining Level of Effort
- DWP Rev.8
- Actual Work
- Remaining Work
- Critical Remaining Work

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

Project ID : DWP.DPr9_220111
Layout : DC201910 DWP rev.9

Detailed Works Programme			
Date	Revision	Checked	Approved
31-Dec-21	Rev. 9		
30-Nov-21	Rev. 8		
31-Oct-21	Rev. 7		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
S5 : UC/PP 1 Foundation and ELS Works		102	12-Oct-23	19-Feb-24	12-Oct-23	26-Jul-24	128
Z3S5UC1-2000	UC/PP 1 - Sheetpile Installation (2,674m2 @90m2/d)	15	12-Oct-23	30-Oct-23	12-Oct-23	30-Oct-23	0
Z3S5UC1-2160	UC/PP 1 - Monitoring Installation and Pumping Test	21	24-Oct-23	16-Nov-23	24-Oct-23	16-Nov-23	0
Z3S5UC1-2140	UC/PP 1 - Sheetpile Installation (2,674m2 @90m2/d)	15	31-Oct-23	16-Nov-23	31-Oct-23	16-Nov-23	0
Z3S5UC1-2010	UC/PP 1 - ELS, Excavation (+6.0 to +4.0mPD)	18	17-Nov-23	07-Dec-23	17-Nov-23	07-Dec-23	0
Z3S5UC1-2080	UC/PP 1 - Marine Sediments Treatment and Disposal	30	08-Dec-23	15-Jan-24	21-Jun-24	26-Jul-24	152
Z3S5UC1-2020	UC/PP 1 - ELS, Strut Installation S1 (+4.0mPD)	12	08-Dec-23	21-Dec-23	22-Dec-23	08-Jan-24	12
Z3S5UC1-2030	UC/PP 1 - ELS, Excavation (+4.0 to +1.5mPD)	18	08-Dec-23	30-Dec-23	08-Dec-23	30-Dec-23	0
Z3S5UC1-2040	UC/PP 1 - ELS, Strut Installation S2 (+1.5mPD)	12	02-Jan-24	15-Jan-24	09-Jan-24	22-Jan-24	6
Z3S5UC1-2050	UC/PP 1 - ELS, Excavation (+1.5 to -1.0mPD)	18	02-Jan-24	22-Jan-24	02-Jan-24	22-Jan-24	0
Z3S5UC1-2060	UC/PP 1 - ELS, Strut Installation S3 (-1.0mPD)	12	23-Jan-24	05-Feb-24	23-Jan-24	05-Feb-24	0
Z3S5UC1-2070	UC/PP 1 - ELS, Excavation (-1.0 to -3.75mPD)	18	23-Jan-24	19-Feb-24	23-Jan-24	19-Feb-24	0
Stage 5 : Pipe Portal No. 1		114	20-Feb-24	10-Jul-24	20-Feb-24	10-Jul-24	0
Z3S5-2010	PP 1 - Structure (-6.25 to -5.0mPD, Base Slab)	16	20-Feb-24	08-Mar-24	20-Feb-24	08-Mar-24	0
Z3S5-2020	PP 1 - Structure (-5.0 to -2.0mPD) including Backfill	15	09-Mar-24	26-Mar-24	09-Mar-24	26-Mar-24	0
Z3S5-2030	PP 1 - Structure (-2.0 to +1.0mPD) including Backfill	16	27-Mar-24	18-Apr-24	27-Mar-24	18-Apr-24	0
Z3S5-2040	PP 1 - Structure (+1.0 to +4.0mPD) including Backfill	15	19-Apr-24	07-May-24	19-Apr-24	07-May-24	0
Z3S5-2050	PP 1 - Structure (+4.0 to +7.0mPD), including Backfill, Ground Floor @ +6.0mPD	16	08-May-24	27-May-24	08-May-24	27-May-24	0
Z3S5-2060	PP 1 - Structure (+7.0 to 10.5 mPD), First Floor @ +9.7mPD	12	28-May-24	11-Jun-24	28-May-24	11-Jun-24	0
Z3S5-2070	PP 1 - Structure (+10.5 to 14.0 mPD)	12	12-Jun-24	25-Jun-24	12-Jun-24	25-Jun-24	0
Z3S5-2080	PP 1 - Structure (+14.0 to 17.65 mPD), Second Floor @ +9.7mPD	12	26-Jun-24	10-Jul-24	26-Jun-24	10-Jul-24	0
Stage 5 : New Sludge Digester No. 1 and 2 (Continued)		162	09-Feb-23	25-Aug-23	08-Jan-24	20-Aug-24	289
Z3S3-3020	Sludge Digester no. 1-2 - Marine Sediments Treatment and Disposal	39	09-Feb-23	25-Mar-23	06-Jul-24	20-Aug-24	412
Stage 5 : Civil and Structural Works		150	23-Feb-23	25-Aug-23	08-Jan-24	16-Jul-24	259
S5 : SD 1,2 Foundation and ELS		24	23-Feb-23	22-Mar-23	08-Jan-24	03-Feb-24	259
Z3S3-2210	Sludge Digester No. 1-2 - Strut Installation S3 (-2.4mPD)	7	23-Feb-23	02-Mar-23	19-Jan-24	26-Jan-24	269
Z3S3-2220	Sludge Digester No. 1-2 - ELS Excavation (-2.4 to -5.9mPD)	12	23-Feb-23	08-Mar-23	08-Jan-24	20-Jan-24	259
Z3S3-2230	Sludge Digester No. 1-2 - Strut Installation S4 (-5.9mPD)	7	09-Mar-23	16-Mar-23	27-Jan-24	03-Feb-24	264
Z3S3-2240	Sludge Digester No. 1-2 - ELS Excavation (-5.9to -8.9mPD)	12	09-Mar-23	22-Mar-23	22-Jan-24	03-Feb-24	259
S5 : Substructure		74	23-Mar-23	24-Jun-23	05-Feb-24	13-May-24	259
Z3S3-2270	Sludge Digester No. 1-2 - Structure (-8.9 to -6.8mPD) Base Slab	18	23-Mar-23	17-Apr-23	05-Feb-24	02-Mar-24	259
Z3S3-2350	Sludge Digester No. 1-2 - Structure (-6.8 to -3.8mPD)	14	18-Apr-23	04-May-23	04-Mar-24	19-Mar-24	259
Z3S3-2390	Sludge Digester No. 1-2 - Structure (-3.8 to -0.8mPD)	14	05-May-23	20-May-23	20-Mar-24	09-Apr-24	259
Z3S3-2440	Sludge Digester No. 1-2 - Structure (-0.8 to 2.2mPD)	14	22-May-23	07-Jun-23	10-Apr-24	25-Apr-24	259
Z3S3-2470	Sludge Digester No. 1-2 - Structure (+2.2 to +5.2mPD)	14	08-Jun-23	24-Jun-23	26-Apr-24	13-May-24	259
S5 : Superstructure		52	26-Jun-23	25-Aug-23	14-May-24	16-Jul-24	259
Z3S3-2520	Sludge Digester No. 1-2 - Structure (+5.2 to +8.2mPD)	18	26-Jun-23	17-Jul-23	14-May-24	04-Jun-24	259
Z3S3-2550	Sludge Digester No. 1-2 - Structure (+8.2 to +11.2mPD)	17	18-Jul-23	05-Aug-23	05-Jun-24	25-Jun-24	259
Z3S3-2580	Sludge Digester No. 1-2 - Structure (+11.2 to +14.2mPD)	17	07-Aug-23	25-Aug-23	26-Jun-24	16-Jul-24	259
Stage 5 : New Sludge Digester No. 3 (Continued)		115	24-Apr-23	08-Sep-23	06-Mar-24	26-Jul-24	256
Stage 5 : Excavation and Strut Installation		85	24-Apr-23	04-Aug-23	06-Mar-24	20-Jun-24	256
Z3S3-2280	Sludge Digester No. 3 - ELS Excavation (+6.0 to +4.6mPD)	15	24-Apr-23	11-May-23	06-Mar-24	22-Mar-24	256
Z3S3-2300	Sludge Digester no. 3 - Marine Sediments Treatment and Disposal	42	12-May-23	03-Jul-23	30-Apr-24	20-Jun-24	284
Z3S3-2310	Sludge Digester No. 3 - Strut Installation S1 (+4.6mPD)	7	12-May-23	19-May-23	18-May-24	25-May-24	298
Z3S3-2320	Sludge Digester No. 3 - ELS Excavation (+4.6 to +1.1mPD)	15	12-May-23	30-May-23	23-Mar-24	13-Apr-24	256
Z3S3-2330	Sludge Digester No. 3 - Strut Installation S2 (+1.1mPD)	7	31-May-23	07-Jun-23	27-May-24	03-Jun-24	290
Z3S3-2340	Sludge Digester No. 3 - ELS Excavation (+1.1 to -2.4mPD)	15	31-May-23	16-Jun-23	15-Apr-24	02-May-24	256
Z3S3-2370	Sludge Digester No. 3 - Strut Installation S3 (-2.4mPD)	7	17-Jun-23	26-Jun-23	04-Jun-24	12-Jun-24	282
Z3S3-2380	Sludge Digester No. 3 - ELS Excavation (-2.4 to -5.9mPD)	20	17-Jun-23	12-Jul-23	03-May-24	27-May-24	256
Z3S3-2400	Sludge Digester No. 3 - Strut Installation S4 (-5.9mPD)	7	13-Jul-23	20-Jul-23	13-Jun-24	20-Jun-24	269
Z3S3-2410	Sludge Digester No. 3 - ELS Excavation (-5.9to -8.9mPD)	20	13-Jul-23	04-Aug-23	28-May-24	20-Jun-24	256
Stage 5 : SD 3 Civil and Structural Works		30	05-Aug-23	08-Sep-23	21-Jun-24	26-Jul-24	256
S5 : SD 3 Substructure		30	05-Aug-23	08-Sep-23	21-Jun-24	26-Jul-24	256
Z3S3-2430	Sludge Digester No. 3 - Structure (-8.9 to -6.8mPD) Base Slab	15	05-Aug-23	22-Aug-23	21-Jun-24	09-Jul-24	256
Z3S3-2460	Sludge Digester No. 3 - Structure (-6.8 to -3.8mPD)	15	23-Aug-23	08-Sep-23	10-Jul-24	26-Jul-24	256
Stage 6		412	26-Aug-23	17-Jan-25	20-Feb-24	28-May-25	101
Z3S6-3360	Completion of Stage 6	0		17-Jan-25*		17-Jan-25	0
Stage 6 : New Sludge Thickening Building (STB) (Continued)		139	12-Jan-24	08-Jul-24	06-Sep-24	28-May-25	261
Stage 6 : STB ABWF and BS Works		90	12-Jan-24	08-May-24	25-Sep-24	13-Jan-25	205
Z3S3-3210	STB - BS and ABWF Works at Stage 6	90	12-Jan-24	08-May-24	25-Sep-24	13-Jan-25	205
Stage 6 : STB E&M Installation		114	17-Feb-24	08-Jul-24	06-Sep-24	28-May-25	261
Z3S3-3190	STB - Deodourization System at Stage 6	90	17-Feb-24	07-Jun-24	30-Sep-24	17-Jan-25	184
Z3S3-3200	STB - Sludge Thickening, Transferring and Pumping System and Associated Pipeworks at Stage 6	90	17-Feb-24	07-Jun-24	06-Sep-24	23-Dec-24	165
Z3S3-2850	STB - Electrical works (Cable wiring, termination) at Stage 6	90	29-Feb-24	20-Jun-24	30-Sep-24	17-Jan-25	174
Z3S3-2860	STB - BS Installation (ELV, Ventilation, FS, PD) at Stage 6	90	29-Feb-24	20-Jun-24	12-Sep-24	31-Dec-24	160
Z3S3-3150	STB - Reclaimed Water System and Associated Pipeworks at Stage 6	90	29-Feb-24	20-Jun-24	12-Sep-24	31-Dec-24	160
Z3S3-3160	STB - Sludge Thickening Chemical Dosing System and Associated Pipeworks at Stage 6	90	29-Feb-24	20-Jun-24	12-Sep-24	31-Dec-24	160
Z3S3-3430	STB - Plant Service Water System(PSW) Installation	30	16-May-24	20-Jun-24	22-Apr-25	28-May-25	275
Z3S3-3410	STB - Installation and Set-Up for SCADA System	14	21-Jun-24	08-Jul-24	02-Jan-25	17-Jan-25	160
Stage 6 : Utility Corridor No. 1		124	20-Feb-24	22-Jul-24	20-Feb-24	17-Jan-25	148
Stage 6 : UC/PP 1 Civil and Structural Works		124	20-Feb-24	22-Jul-24	20-Feb-24	22-Jul-24	0
Z3S5UC1-2090	UC/PP 1 - Structure (-3.75 to -2.20mPD, Base Slab)	32	20-Feb-24	27-Mar-24	20-Feb-24	27-Mar-24	0
Z3S5UC1-2100	UC/PP 1 - Structure (-2.20 to +1.0mPD)	32	28-Mar-24	09-May-24	28-Mar-24	09-May-24	0
Z3S5UC1-2110	UC/PP 1 - Structure (+1.0 to +4.2mPD) including Backfill	32	10-May-24	18-Jun-24	10-May-24	18-Jun-24	0
Z3S5UC1-2150	UC/PP 1 - BS Works	60	10-May-24	22-Jul-24	10-May-24	22-Jul-24	0



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

- Remaining Level of Effort
- DWP Rev.8
- Actual Work
- Remaining Work
- Critical Remaining Work

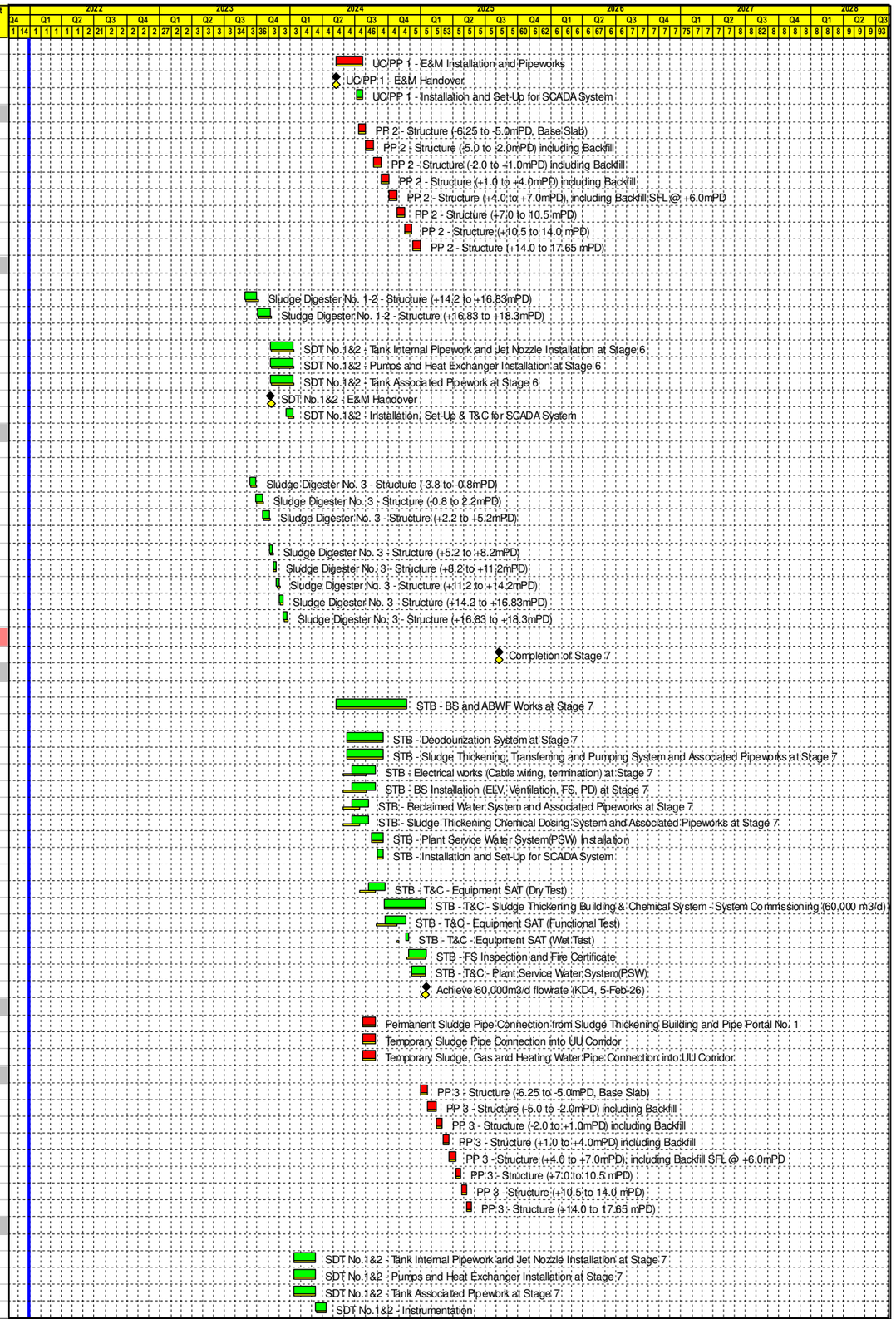
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr9_220111
Layout : DC201910 DWP rev.9

Detailed Works Programme

Date	Revision	Checked	Approved
31-Dec-21	Rev. 9		
30-Nov-21	Rev. 8		
31-Oct-21	Rev. 7		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
Stage 6 : UC/PP 1 E&M Installation		60	10-May-24	22-Jul-24	10-May-24	17-Jan-25	148
Z3S5UC1-2120	UC/PP 1 - E&M Installation and Pipeworks	60	10-May-24	22-Jul-24	10-May-24	22-Jul-24	0
Z3S5UC1-2119	UC/PP 1 - E&M Handover	0	10-May-24		10-May-24		0
Z3S5UC1-2125	UC/PP 1 - Installation and Set-Up for SCADA System	14	06-Jul-24	22-Jul-24	02-Jan-25	17-Jan-25	148
Stage 6 : Pipe Portal No. 2		144	11-Jul-24	31-Dec-24	11-Jul-24	31-Dec-24	0
Z3S6PP2-2000	PP 2 - Structure (-6.25 to -5.0mPD, Base Slab)	18	11-Jul-24	31-Jul-24	11-Jul-24	31-Jul-24	0
Z3S6PP2-2010	PP 2 - Structure (-5.0 to -2.0mPD) including Backfill	18	01-Aug-24	21-Aug-24	01-Aug-24	21-Aug-24	0
Z3S6PP2-2020	PP 2 - Structure (-2.0 to +1.0mPD) including Backfill	18	22-Aug-24	11-Sep-24	22-Aug-24	11-Sep-24	0
Z3S6PP2-2030	PP 2 - Structure (+1.0 to +4.0mPD) including Backfill	18	12-Sep-24	04-Oct-24	12-Sep-24	04-Oct-24	0
Z3S6PP2-2040	PP 2 - Structure (+4.0 to +7.0mPD), including Backfill SFL @ +6.0mPD	18	05-Oct-24	26-Oct-24	05-Oct-24	26-Oct-24	0
Z3S6PP2-2050	PP 2 - Structure (+7.0 to 10.5 mPD)	18	28-Oct-24	16-Nov-24	28-Oct-24	16-Nov-24	0
Z3S6PP2-2060	PP 2 - Structure (+10.5 to 14.0 mPD)	18	18-Nov-24	07-Dec-24	18-Nov-24	07-Dec-24	0
Z3S6PP2-2070	PP 2 - Structure (+14.0 to 17.65 mPD)	18	09-Dec-24	31-Dec-24	09-Dec-24	31-Dec-24	0
Stage 6 : New Sludge Digester No. 1 and 2 (Continued)		112	26-Aug-23	10-Jan-24	17-Jul-24	17-Jan-25	300
Stage 6 : SD 1,2 Superstructure		60	26-Aug-23	07-Nov-23	17-Jul-24	25-Sep-24	259
Z3S3-2620	Sludge Digester No. 1-2 - Structure (+14.2 to +16.83mPD)	30	26-Aug-23	29-Sep-23	17-Jul-24	20-Aug-24	259
Z3S3-2640	Sludge Digester No. 1-2 - Structure (+16.83 to +18.3mPD)	30	03-Oct-23	07-Nov-23	21-Aug-24	25-Sep-24	259
Stage 6 : SD 1,2 E&M Installation		52	08-Nov-23	10-Jan-24	26-Sep-24	17-Jan-25	300
Z3S3-2670	SDT No.1&2 - Tank Internal Pipework and Jet Nozzle Installation at Stage 6	52	08-Nov-23	10-Jan-24	26-Sep-24	27-Nov-24	259
Z3S3-2680	SDT No.1&2 - Pumps and Heat Exchanger Installation at Stage 6	52	08-Nov-23	10-Jan-24	26-Sep-24	27-Nov-24	259
Z3S3-2690	SDT No.1&2 - Tank Associated Pipework at Stage 6	52	08-Nov-23	10-Jan-24	26-Sep-24	27-Nov-24	259
Z3S3-2669	SDT No.1&2 - E&M Handover	0	08-Nov-23		26-Sep-24		259
Z3S3-2675	SDT No.1&2 - Installation, Set-Up & T&C for SCADA System	14	22-Dec-23	10-Jan-24	02-Jan-25	17-Jan-25	300
Stage 6 : New Sludge Digester No. 3 (Continued)		87	09-Sep-23	22-Dec-23	04-Oct-24	17-Jan-25	313
Stage 6 : SD 3 Civil and Structural Works		87	09-Sep-23	22-Dec-23	04-Oct-24	17-Jan-25	313
S6 : SD 3 Substructure		45	09-Sep-23	03-Nov-23	04-Oct-24	26-Nov-24	313
Z3S3-2480	Sludge Digester No. 3 - Structure (-3.8 to -0.8mPD)	15	09-Sep-23	26-Sep-23	04-Oct-24	22-Oct-24	313
Z3S3-2490	Sludge Digester No. 3 - Structure (-0.8 to 2.2mPD)	15	27-Sep-23	16-Oct-23	23-Oct-24	08-Nov-24	313
Z3S3-2530	Sludge Digester No. 3 - Structure (+2.2 to +5.2mPD)	15	17-Oct-23	03-Nov-23	09-Nov-24	26-Nov-24	313
S6 : SD 3 Superstructure		42	04-Nov-23	22-Dec-23	27-Nov-24	17-Jan-25	313
Z3S3-2540	Sludge Digester No. 3 - Structure (+5.2 to +8.2mPD)	8	04-Nov-23	13-Nov-23	27-Nov-24	05-Dec-24	313
Z3S3-2560	Sludge Digester No. 3 - Structure (+8.2 to +11.2mPD)	8	14-Nov-23	22-Nov-23	06-Dec-24	14-Dec-24	313
Z3S3-2570	Sludge Digester No. 3 - Structure (+11.2 to +14.2mPD)	8	23-Nov-23	01-Dec-23	16-Dec-24	24-Dec-24	313
Z3S3-2590	Sludge Digester No. 3 - Structure (+14.2 to +16.83mPD)	8	02-Dec-23	11-Dec-23	27-Dec-24	06-Jan-25	313
Z3S3-2610	Sludge Digester No. 3 - Structure (+16.83 to +18.3mPD)	10	12-Dec-23	22-Dec-23	07-Jan-25	17-Jan-25	313
Stage 7		494	11-Jan-24	08-Aug-25	23-Jul-24	11-May-26	236
Z3S7-3370	Completion of Stage 7	0		08-Aug-25*		08-Aug-25	0
Stage 7 : New Sludge Thickening Building (STB) (Continued)		219	09-May-24	18-Jan-25	24-Dec-24	08-Aug-25	173
Stage 7 : STB ABWF and BS Works		165	09-May-24	23-Nov-24	14-Jan-25	08-Aug-25	205
Z3S3-3090	STB - BS and ABWF Works at Stage 7	165	09-May-24	23-Nov-24	14-Jan-25	08-Aug-25	205
Stage 7 : STB E&M Installation		86	08-Jun-24	19-Sep-24	24-Dec-24	04-Jul-25	229
Z3S3-3260	STB - Deodourization System at Stage 7	86	08-Jun-24	19-Sep-24	04-Mar-25	19-Jun-25	217
Z3S3-3270	STB - Sludge Thickening, Transferring and Pumping System and Associated Pipeworks at Stage 7	86	08-Jun-24	19-Sep-24	24-Dec-24	12-Apr-25	165
Z3S3-3220	STB - Electrical works (Cable wiring, termination) at Stage 7	56	21-Jun-24	26-Aug-24	09-Apr-25	19-Jun-25	237
Z3S3-3230	STB - BS Installation (ELV, Ventilation, FS, PD) at Stage 7	56	21-Jun-24	26-Aug-24	09-Apr-25	19-Jun-25	237
Z3S3-3240	STB - Reclaimed Water System and Associated Pipeworks at Stage 7	40	21-Jun-24	07-Aug-24	02-Jan-25	22-Feb-25	160
Z3S3-3250	STB - Sludge Thickening Chemical Dosing System and Associated Pipeworks at Stage 7	40	21-Jun-24	07-Aug-24	02-Jan-25	22-Feb-25	160
Z3S3-3440	STB - Plant Service Water System(PSW) Installation	30	15-Aug-24	19-Sep-24	29-May-25	04-Jul-25	229
Z3S3-3275	STB - Installation and Set-Up for SCADA System	14	03-Sep-24	19-Sep-24	04-Jun-25	19-Jun-25	217
Stage 7 : STB Testing & Commissioning		141	08-Aug-24	18-Jan-25	24-Feb-25	08-Aug-25	173
Z3S3-2910	STB - T&C - Equipment SAT (Dry Test)	39	08-Aug-24	23-Sep-24	24-Feb-25	10-Apr-25	160
Z3S3-2940	STB - T&C - Sludge Thickening Building & Chemical System - System Commissioning (60,000 m3/d) (KD4)	94	20-Sep-24	13-Jan-25	14-Apr-25	08-Aug-25	165
Z3S3-2920	STB - T&C - Equipment SAT (Functional Test)	48	24-Sep-24	20-Nov-24	11-Apr-25	12-Jun-25	160
Z3S3-2960	STB - T&C - Equipment SAT (Wet Test)	6	21-Nov-24	27-Nov-24	13-Jun-25	19-Jun-25	160
Z3S3-2970	STB - FS Inspection and Fire Certificate	42	28-Nov-24	18-Jan-25	20-Jun-25	08-Aug-25	160
Z3S3-3450	STB - T&C - Plant Service Water System(PSW)	30	06-Dec-24	13-Jan-25	05-Jul-25	08-Aug-25	165
Z3S3-2980	Achieve 60,000m3/d flowrate (KD4, 5-Feb-26)	0		18-Jan-25		08-Aug-25	202
Stage 7 : UC/PP Connection		30	23-Jul-24	26-Aug-24	23-Jul-24	26-Aug-24	0
Z3S7-2000	Permanent Sludge Pipe Connection from Sludge Thickening Building and Pipe Portal No. 1	30	23-Jul-24	26-Aug-24	23-Jul-24	26-Aug-24	0
Z3S7-2010	Temporary Sludge Pipe Connection into UU Corridor	30	23-Jul-24	26-Aug-24	23-Jul-24	26-Aug-24	0
Z3S7-2020	Temporary Sludge, Gas and Heating Water Pipe Connection into UU Corridor	30	23-Jul-24	26-Aug-24	23-Jul-24	26-Aug-24	0
Stage 7 : Pipe Portal No. 3		110	02-Jan-25	22-May-25	02-Jan-25	22-May-25	0
Z3S8PP3-2000	PP 3 - Structure (-6.25 to -5.0mPD, Base Slab)	16	02-Jan-25	20-Jan-25	02-Jan-25	20-Jan-25	0
Z3S8PP3-2010	PP 3 - Structure (-5.0 to -2.0mPD) including Backfill	15	21-Jan-25	12-Feb-25	21-Jan-25	12-Feb-25	0
Z3S8PP3-2020	PP 3 - Structure (-2.0 to +1.0mPD) including Backfill	16	13-Feb-25	03-Mar-25	13-Feb-25	03-Mar-25	0
Z3S8PP3-2030	PP 3 - Structure (+1.0 to +4.0mPD) including Backfill	15	04-Mar-25	20-Mar-25	04-Mar-25	20-Mar-25	0
Z3S8PP3-2040	PP 3 - Structure (+4.0 to +7.0mPD), including Backfill SFL @ +6.0mPD	15	21-Mar-25	08-Apr-25	21-Mar-25	08-Apr-25	0
Z3S8PP3-2050	PP 3 - Structure (+7.0 to 10.5 mPD)	11	09-Apr-25	24-Apr-25	09-Apr-25	24-Apr-25	0
Z3S8PP3-2060	PP 3 - Structure (+10.5 to 14.0 mPD)	11	25-Apr-25	09-May-25	25-Apr-25	09-May-25	0
Z3S8PP3-2070	PP 3 - Structure (+14.0 to 17.65 mPD)	11	10-May-25	22-May-25	10-May-25	22-May-25	0
Stage 7 : New Sludge Digester Nos. 1 and 2 (Continued)		202	11-Jan-24	19-Sep-24	28-Nov-24	08-Aug-25	259
Stage 7 : E&M Installation		68	11-Jan-24	10-Apr-24	28-Nov-24	24-Feb-25	259
Z3S3-3280	SDT No.1&2 - Tank Internal Pipework and Jet Nozzle Installation at Stage 7	46	11-Jan-24	11-Mar-24	28-Nov-24	23-Jan-25	259
Z3S3-3290	SDT No.1&2 - Pumps and Heat Exchanger Installation at Stage 7	46	11-Jan-24	11-Mar-24	28-Nov-24	23-Jan-25	259
Z3S3-3300	SDT No.1&2 - Tank Associated Pipework at Stage 7	46	11-Jan-24	11-Mar-24	28-Nov-24	23-Jan-25	259
Z3S3-2750	SDT No.1&2 - Instrumentation	22	12-Mar-24	10-Apr-24	24-Jan-25	24-Feb-25	259



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

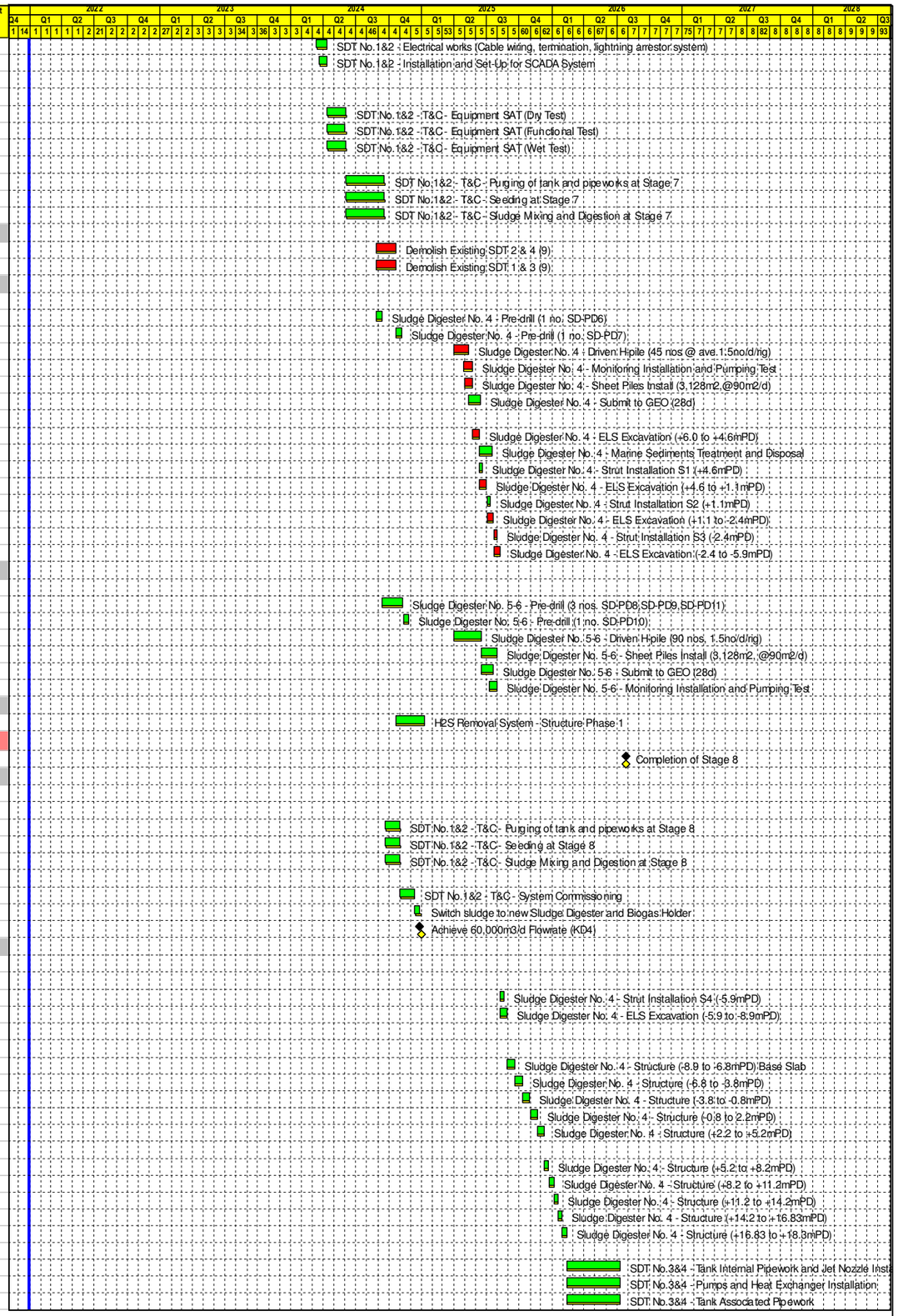
- Remaining Level of Effort
- DWP Rev.8
- Actual Work
- Remaining Work
- Critical Remaining Work

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

Project ID : DWP.DPr9_220111
Layout : DC201910 DWP rev.9

Detailed Works Programme			
Date	Revision	Checked	Approved
31-Dec-21	Rev. 9		
30-Nov-21	Rev. 8		
31-Oct-21	Rev. 7		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
Z3S3-2760	SDT No.1&2 - Electrical works (Cable wiring, termination, lightning arrestor system)	22	12-Mar-24	10-Apr-24	24-Jan-25	24-Feb-25	259
Z3S3-3420	SDT No.1&2 - Installation and Set-Up for SCADA System	14	21-Mar-24	10-Apr-24	08-Feb-25	24-Feb-25	259
Stage 7 : Testing & Commissioning		134	11-Apr-24	19-Sep-24	25-Feb-25	08-Aug-25	259
S7 : Equipment SAT		44	11-Apr-24	03-Jun-24	25-Feb-25	17-Apr-25	259
Z3S3-2820	SDT No.1&2 - T&C - Equipment SAT (Dry Test)	44	11-Apr-24	03-Jun-24	25-Feb-25	17-Apr-25	259
Z3S3-2830	SDT No.1&2 - T&C - Equipment SAT (Functional Test)	43	11-Apr-24	01-Jun-24	26-Feb-25	17-Apr-25	260
Z3S3-2840	SDT No.1&2 - T&C - Equipment SAT (Wet Test)	44	11-Apr-24	03-Jun-24	25-Feb-25	17-Apr-25	259
S7 : Process Start-Up		90	04-Jun-24	19-Sep-24	22-Apr-25	08-Aug-25	259
Z3S3-2870	SDT No.1&2 - T&C - Purging of tank and pipeworks at Stage 7	90	04-Jun-24	19-Sep-24	22-Apr-25	08-Aug-25	259
Z3S3-2880	SDT No.1&2 - T&C - Seeding at Stage 7	90	04-Jun-24	19-Sep-24	22-Apr-25	08-Aug-25	259
Z3S3-2890	SDT No.1&2 - T&C - Sludge Mixing and Digestion at Stage 7	90	04-Jun-24	19-Sep-24	22-Apr-25	08-Aug-25	259
Stage 7 : Demolition of SDT 1-4		45	27-Aug-24	21-Oct-24	27-Aug-24	21-Oct-24	0
Z3S7-2030	Demolish Existing SDT 2 & 4 (9)	45	27-Aug-24	21-Oct-24	27-Aug-24	21-Oct-24	0
Z3S7-2040	Demolish Existing SDT 1 & 3 (9)	45	27-Aug-24	21-Oct-24	27-Aug-24	21-Oct-24	0
Stage 7: New Sludge Digester No. 4		298	27-Aug-24	08-Aug-25	03-Jan-25	05-Sep-25	24
Stage 7 : SD 4 Foundation and ELS Works		298	27-Aug-24	08-Aug-25	03-Jan-25	05-Sep-25	24
Z3S8SD-2000	Sludge Digester No. 4 - Pre-drill (1 no. SD-PD6)	14	27-Aug-24	11-Sep-24	03-Jan-25	18-Jan-25	105
Z3S8SD-2020	Sludge Digester No. 4 - Pre-drill (1 no. SD-PD7)	14	22-Oct-24	06-Nov-24	06-Mar-25	21-Mar-25	108
Z3S8SD-2030	Sludge Digester No. 4 - Driven H-pile (45 nos @ ave.1.5no/d/rig)	30	01-Apr-25	12-May-25	01-Apr-25	12-May-25	0
Z3S8SD-2250	Sludge Digester No. 4 - Monitoring Installation and Pumping Test	21	28-Apr-25	23-May-25	28-Apr-25	23-May-25	0
Z3S8SD-2040	Sludge Digester No. 4 - Sheet Piles Install (3,128m2,@90m2/d)	18	02-May-25	23-May-25	02-May-25	23-May-25	0
Z3S8SD-2270	Sludge Digester No. 4 - Submit to GEO (28d)	28	13-May-25	14-Jun-25	05-Aug-25	05-Sep-25	70
S7 : Excavation and Strut Installation		64	24-May-25	08-Aug-25	24-May-25	08-Aug-25	0
Z3S8SD-2050	Sludge Digester No. 4 - ELS Excavation (+6.0 to +4.6mPD)	16	24-May-25	12-Jun-25	24-May-25	12-Jun-25	0
Z3S8SD-2060	Sludge Digester No. 4 - Marine Sediments Treatment and Disposal	30	13-Jun-25	18-Jul-25	16-Jun-25	21-Jul-25	2
Z3S8SD-2070	Sludge Digester No. 4 - Strut Installation S1 (+4.6mPD)	8	13-Jun-25	21-Jun-25	03-Jul-25	11-Jul-25	16
Z3S8SD-2080	Sludge Digester No. 4 - ELS Excavation (+4.6 to +1.1mPD)	16	13-Jun-25	02-Jul-25	13-Jun-25	02-Jul-25	0
Z3S8SD-2090	Sludge Digester No. 4 - Strut Installation S2 (+1.1mPD)	8	03-Jul-25	11-Jul-25	12-Jul-25	21-Jul-25	8
Z3S8SD-2100	Sludge Digester No. 4 - ELS Excavation (+1.1 to -2.4mPD)	16	03-Jul-25	21-Jul-25	03-Jul-25	21-Jul-25	0
Z3S8SD-2110	Sludge Digester No. 4 - Strut Installation S3 (-2.4mPD)	8	22-Jul-25	30-Jul-25	22-Jul-25	30-Jul-25	0
Z3S8SD-2120	Sludge Digester No. 4 - ELS Excavation (-2.4 to -5.9mPD)	16	22-Jul-25	08-Aug-25	22-Jul-25	08-Aug-25	0
Stage 7 : New Sludge Digester No. 5 and 6		259	12-Sep-24	01-Aug-25	20-Jan-25	11-May-26	226
Stage 7 : SD 5,6 Foundation and ELS Works		259	12-Sep-24	01-Aug-25	20-Jan-25	11-May-26	226
Z3S8SD-1000	Sludge Digester No. 5-6 - Pre-drill (3 nos. SD-PD8,SD-PD9,SD-PD11)	48	12-Sep-24	09-Nov-24	20-Jan-25	21-Mar-25	105
Z3S8SD-1010	Sludge Digester No. 5-6 - Pre-drill (1 no. SD-PD10)	14	11-Nov-24	26-Nov-24	22-Mar-25	08-Apr-25	105
Z3S8SD-1030	Sludge Digester No. 5-6 - Driven H-pile (90 nos, 1.5no/d/rig)	60	01-Apr-25	17-Jun-25	09-Apr-25	24-Jun-25	6
Z3S8SD-1040	Sludge Digester No. 5-6 - Sheet Piles Install (3,128m2, @90m2/d)	38	18-Jun-25	01-Aug-25	25-Jun-25	08-Aug-25	6
Z3S8SD-2280	Sludge Digester No. 5-6 - Submit to GEO (28d)	28	18-Jun-25	21-Jul-25	08-Apr-26	11-May-26	236
Z3S8SD-2260	Sludge Digester No. 5-6 - Monitoring Installation and Pumping Test	21	09-Jul-25	01-Aug-25	12-Nov-25	05-Dec-25	105
Stage 7 : H2S System		65	22-Oct-24	08-Jan-25	23-May-25	08-Aug-25	169
H2S-180	H2S Removal System - Structure Phase 1	65	22-Oct-24	08-Jan-25	23-May-25	08-Aug-25	169
Stage 8		579	20-Sep-24	27-Jul-26	22-Oct-24	08-Nov-27	402
Z3S8-3380	Completion of Stage 8	0		27-Jul-26		08-Nov-27	397
Stage 8 : New Sludge Digester No. 1 and 2 (Continued)		81	20-Sep-24	27-Dec-24	31-Oct-25	05-Feb-26	327
Stage 8 : Testing & Commissioning		81	20-Sep-24	27-Dec-24	31-Oct-25	05-Feb-26	327
S8 : Process Start-Up		35	20-Sep-24	01-Nov-24	31-Oct-25	10-Dec-25	327
Z3S3-3310	SDT No.1&2 - T&C - Purging of tank and pipeworks at Stage 8	35	20-Sep-24	01-Nov-24	31-Oct-25	10-Dec-25	327
Z3S3-3320	SDT No.1&2 - T&C - Seeding at Stage 8	35	20-Sep-24	01-Nov-24	31-Oct-25	10-Dec-25	327
Z3S3-3330	SDT No.1&2 - T&C - Sludge Mixing and Digestion at Stage 8	35	20-Sep-24	01-Nov-24	31-Oct-25	10-Dec-25	327
S8 : System Commissioning		46	02-Nov-24	27-Dec-24	11-Dec-25	05-Feb-26	327
Z3S3-2900	SDT No.1&2 - T&C - System Commissioning	34	02-Nov-24	11-Dec-24	11-Dec-25	22-Jan-26	327
Z3S3-2930	Switch sludge to new Sludge Digester and Biogas Holder	12	12-Dec-24	27-Dec-24	23-Jan-26	05-Feb-26	327
Z3S3-2950	Achieve 60,000m3/d Flowrate (KD4)	0		27-Dec-24		05-Feb-26	327
Stage 8 : New Sludge Digester No. 4 (Continued)		283	09-Aug-25	27-Jul-26	18-Aug-25	08-Nov-27	397
Stage 8 : SD 4 Foundation and ELS Works		17	09-Aug-25	28-Aug-25	18-Aug-25	05-Sep-25	7
S8 : Excavation and Strut Installation		17	09-Aug-25	28-Aug-25	18-Aug-25	05-Sep-25	7
Z3S8SD-2130	Sludge Digester No. 4 - Strut Installation S4 (-5.9mPD)	8	09-Aug-25	18-Aug-25	28-Aug-25	05-Sep-25	16
Z3S8SD-2140	Sludge Digester No. 4 - ELS Excavation (-5.9 to -8.9mPD)	17	09-Aug-25	28-Aug-25	18-Aug-25	05-Sep-25	7
Stage 8 : SD 4 Civil and Structural Works		137	29-Aug-25	11-Feb-26	06-Sep-25	26-Feb-26	7
S8 : SD 4 Substructure		86	29-Aug-25	10-Dec-25	06-Sep-25	18-Dec-25	7
Z3S8SD-2150	Sludge Digester No. 4 - Structure (-8.9 to -6.8mPD) Base Slab	18	29-Aug-25	18-Sep-25	06-Sep-25	26-Sep-25	7
Z3S8SD-2160	Sludge Digester No. 4 - Structure (-6.8 to -3.8mPD)	17	19-Sep-25	10-Oct-25	27-Sep-25	18-Oct-25	7
Z3S8SD-2170	Sludge Digester No. 4 - Structure (-3.8 to -0.8mPD)	17	11-Oct-25	31-Oct-25	20-Oct-25	08-Nov-25	7
Z3S8SD-2180	Sludge Digester No. 4 - Structure (-0.8 to 2.2mPD)	17	01-Nov-25	20-Nov-25	10-Nov-25	28-Nov-25	7
Z3S8SD-2190	Sludge Digester No. 4 - Structure (+2.2 to +5.2mPD)	17	21-Nov-25	10-Dec-25	29-Nov-25	18-Dec-25	7
S8 : SD 4 Superstructure		51	11-Dec-25	11-Feb-26	19-Dec-25	26-Feb-26	7
Z3S8SD-2200	Sludge Digester No. 4 - Structure (+5.2 to +8.2mPD)	10	11-Dec-25	22-Dec-25	19-Dec-25	02-Jan-26	7
Z3S8SD-2210	Sludge Digester No. 4 - Structure (+8.2 to +11.2mPD)	10	23-Dec-25	06-Jan-26	03-Jan-26	14-Jan-26	7
Z3S8SD-2220	Sludge Digester No. 4 - Structure (+11.2 to +14.2mPD)	10	07-Jan-26	17-Jan-26	15-Jan-26	26-Jan-26	7
Z3S8SD-2230	Sludge Digester No. 4 - Structure (+14.2 to +16.83mPD)	10	19-Jan-26	29-Jan-26	27-Jan-26	06-Feb-26	7
Z3S8SD-2240	Sludge Digester No. 4 - Structure (+16.83 to +18.3mPD)	11	30-Jan-26	11-Feb-26	07-Feb-26	26-Feb-26	7
Stage 8 : E&M Works SDT No.3 & No.4		129	12-Feb-26	27-Jul-26	27-Feb-26	08-Nov-27	397
ATALZ3S8-2000	SDT No.3&4 - Tank Internal Pipework and Jet Nozzle Installation	115	12-Feb-26	10-Jul-26	27-Feb-26	18-Jul-26	7
ATALZ3S8-2010	SDT No.3&4 - Pumps and Heat Exchanger Installation	115	12-Feb-26	10-Jul-26	27-Feb-26	18-Jul-26	7
ATALZ3S8-2020	SDT No.3&4 - Tank Associated Pipework	115	12-Feb-26	10-Jul-26	27-Feb-26	18-Jul-26	7



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

- Remaining Level of Effort
- DWP Rev.8
- Actual Work
- Remaining Work
- Critical Remaining Work

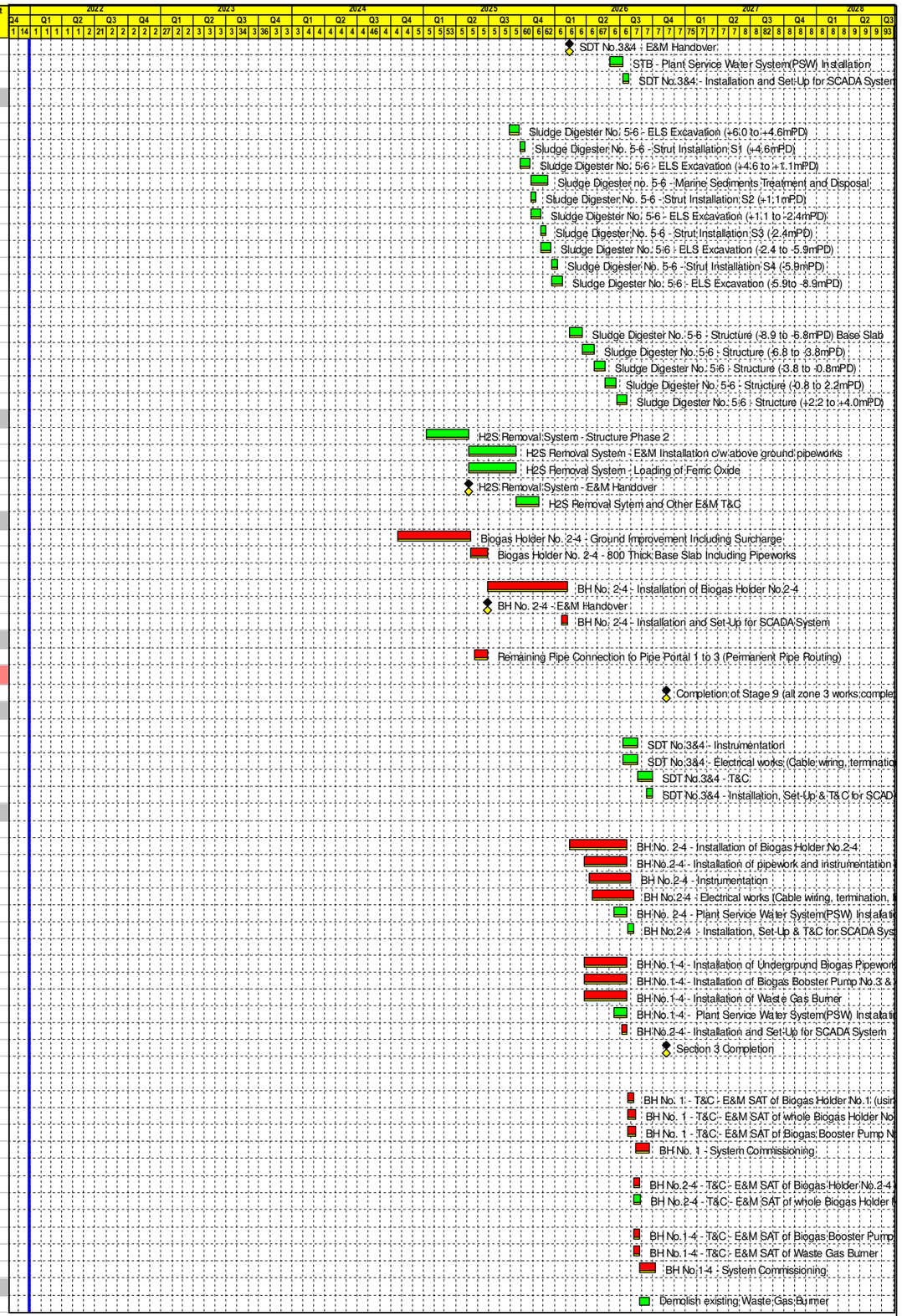
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr9_220111
Layout : DC201910 DWP rev.9

Detailed Works Programme

Date	Revision	Checked	Approved
31-Dec-21	Rev. 9		
30-Nov-21	Rev. 8		
31-Oct-21	Rev. 7		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
ATALZ3S8-2001	SDT No.3&4 - E&M Handover	0	12-Feb-26		27-Feb-26		7
ATALZ3S8-2060	STB - Plant Service Water System(PSW) Installation	30	04-Jun-26	10-Jul-26	05-Oct-27	08-Nov-27	411
ATALZ3S8-2025	SDT No.3&4 - Installation and Set-Up for SCADA System	14	11-Jul-26	27-Jul-26	23-Oct-27	08-Nov-27	397
Stage 8 : New Sludge Digester No. 5 and 6 (Continued)		262	29-Aug-25	22-Jul-26	06-Dec-25	09-Oct-26	66
Stage 8 : SD 5,6 Foundation and ELS Works		121	29-Aug-25	23-Jan-26	06-Dec-25	11-May-26	82
Z3S8SD-1060	Sludge Digester No. 5-6 - ELS Excavation (+6.0 to +4.6mPD)	24	29-Aug-25	25-Sep-25	06-Dec-25	06-Jan-26	82
Z3S8SD-1070	Sludge Digester No. 5-6 - Strut Installation S1 (+4.6mPD)	12	26-Sep-25	11-Oct-25	25-Feb-26	10-Mar-26	118
Z3S8SD-1080	Sludge Digester No. 5-6 - ELS Excavation (+4.6 to +1.1mPD)	24	26-Sep-25	25-Oct-25	07-Jan-26	03-Feb-26	82
Z3S8SD-1090	Sludge Digester no. 5-6 - Marine Sediments Treatment and Disposal	40	27-Oct-25	12-Dec-25	13-Feb-26	10-Apr-26	90
Z3S8SD-1100	Sludge Digester No. 5-6 - Strut Installation S2 (+1.1mPD)	12	27-Oct-25	10-Nov-25	11-Mar-26	24-Mar-26	106
Z3S8SD-1110	Sludge Digester No. 5-6 - ELS Excavation (+1.1 to -2.4mPD)	24	27-Oct-25	24-Nov-25	04-Feb-26	10-Mar-26	82
Z3S8SD-1120	Sludge Digester No. 5-6 - Strut Installation S3 (-2.4mPD)	12	25-Nov-25	08-Dec-25	25-Mar-26	10-Apr-26	94
Z3S8SD-1130	Sludge Digester No. 5-6 - ELS Excavation (-2.4 to -5.9mPD)	24	25-Nov-25	22-Dec-25	11-Mar-26	10-Apr-26	82
Z3S8SD-1140	Sludge Digester No. 5-6 - Strut Installation S4 (-5.9mPD)	12	23-Dec-25	08-Jan-26	11-Apr-26	24-Apr-26	82
Z3S8SD-1150	Sludge Digester No. 5-6 - ELS Excavation (-5.9to -8.9mPD)	25	23-Dec-25	23-Jan-26	11-Apr-26	11-May-26	82
Stage 8 : SD 5,6 Civil and Structural Works		125	12-Feb-26	22-Jul-26	12-May-26	09-Oct-26	66
S8 : SD 5,6 Substructure		125	12-Feb-26	22-Jul-26	12-May-26	09-Oct-26	66
Z3S8SD-1170	Sludge Digester No. 5-6 - Structure (-8.9 to -6.8mPD) Base Slab	25	12-Feb-26	19-Mar-26	12-May-26	10-Jun-26	66
Z3S8SD-1180	Sludge Digester No. 5-6 - Structure (-6.8 to -3.8mPD)	25	20-Mar-26	21-Apr-26	11-Jun-26	11-Jul-26	66
Z3S8SD-1190	Sludge Digester No. 5-6 - Structure (-3.8 to -0.8mPD)	25	22-Apr-26	21-May-26	13-Jul-26	10-Aug-26	66
Z3S8SD-1200	Sludge Digester No. 5-6 - Structure (-0.8 to 2.2mPD)	25	22-May-26	22-Jun-26	11-Aug-26	08-Sep-26	66
Z3S8SD-1210	Sludge Digester No. 5-6 - Structure (+2.2 to +4.0mPD)	25	23-Jun-26	22-Jul-26	09-Sep-26	09-Oct-26	66
Stage 8 : H2S System (Continued)		253	09-Jan-25	18-Nov-25	28-Nov-25	09-Oct-26	261
H2S-170	H2S Removal System - Structure Phase 2	91	09-Jan-25	07-May-25	28-Nov-25	24-Mar-26	261
H2S-150	H2S Removal System - E&M Installation c/w above ground pipeworks	110	08-May-25	15-Sep-25	25-Mar-26	07-Aug-26	261
H2S-155	H2S Removal System - Loading of Ferric Oxide	110	08-May-25	15-Sep-25	25-Mar-26	07-Aug-26	261
H2S-149	H2S Removal System - E&M Handover	0	08-May-25		25-Mar-26		261
H2S-160	H2S Removal Sytem and Other E&M T&C	52	16-Sep-25	18-Nov-25	08-Aug-26	09-Oct-26	261
Stage 8 : Biogas Holders No. 2,3 and 4		383	22-Oct-24	05-Feb-26	22-Oct-24	05-Feb-26	0
Z3BH-1020	Biogas Holder No. 2-4 - Ground Improvement Including Surcharge	160	22-Oct-24	12-May-25	22-Oct-24	12-May-25	0
Z3BH-1030	Biogas Holder No. 2-4 - 800 Thick Base Slab Including Pipeworks	39	13-May-25	27-Jun-25	13-May-25	27-Jun-25	0
Stage 8 : E&M Installation Works BH 2,3,4		184	28-Jun-25	05-Feb-26	28-Jun-25	05-Feb-26	0
ATALZ3BH-2260	BH No. 2-4 - Installation of Biogas Holder No.2-4	184	28-Jun-25	05-Feb-26	28-Jun-25	05-Feb-26	0
ATALZ3BH-2259	BH No. 2-4 - E&M Handover	0	28-Jun-25		28-Jun-25		0
ATALZ3BH-2265	BH No. 2-4 - Installation and Set-Up for SCADA System	14	21-Jan-26	05-Feb-26	21-Jan-26	05-Feb-26	0
Stage 8 : Remaining Works		30	23-May-25	27-Jun-25	23-May-25	27-Jun-25	0
ATALZ3BH-2210	Remaining Pipe Connection to Pipe Portal 1 to 3 (Permanent Pipe Routing)	30	23-May-25	27-Jun-25	23-May-25	27-Jun-25	0
Stage 9		232	11-Feb-26	07-Nov-26	11-Feb-26	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)		69	11-Jul-26	30-Sep-26	20-Jul-26	09-Oct-26	7
Stage 9 : E&M Works SDT No. 3 & No. 4		69	11-Jul-26	30-Sep-26	20-Jul-26	09-Oct-26	7
ATALZ3S8-2030	SDT No.3&4 - Instrumentation	34	11-Jul-26	19-Aug-26	20-Jul-26	27-Aug-26	7
ATALZ3S8-2040	SDT No.3&4 - Electrical works (Cable wiring, termination, lightning arrestor)	34	11-Jul-26	19-Aug-26	20-Jul-26	27-Aug-26	7
ATALZ3S8-2050	SDT No.3&4 - T&C	35	20-Aug-26	30-Sep-26	28-Aug-26	09-Oct-26	7
ATALZ3S8-2055	SDT No.3&4 - Installation, Set-Up & T&C for SCADA System	14	14-Sep-26	30-Sep-26	22-Sep-26	09-Oct-26	7
Stage 9 : Biogas Holders No. 2,3 and 4 (Continued)		232	11-Feb-26	07-Nov-26	11-Feb-26	07-Nov-26	0
Stage 9 : E&M Installation Works BH 2,3,4		142	11-Feb-26	10-Aug-26	11-Feb-26	07-Nov-26	74
ATALZ3BH-2000	BH No. 2-4 - Installation of Biogas Holder No.2-4	126	11-Feb-26	22-Jul-26	11-Feb-26	22-Jul-26	0
ATALZ3BH-2010	BH No.2-4 - Installation of pipework and instrumentation in Biogas Holder Valve Chamber No.2-4	95	26-Mar-26	22-Jul-26	26-Mar-26	22-Jul-26	0
ATALZ3BH-2020	BH No.2-4 - Instrumentation	95	08-Apr-26	31-Jul-26	08-Apr-26	31-Jul-26	0
ATALZ3BH-2030	BH No.2-4 - Electrical works (Cable wiring, termination, lightning arrestor)	95	16-Apr-26	08-Aug-26	16-Apr-26	08-Aug-26	0
ATALZ3BH-2140	BH No. 2-4 - Plant Service Water System(PSW) Installation	30	16-Jun-26	22-Jul-26	03-Oct-26	07-Nov-26	90
ATALZ3BH-2035	BH No.2-4 - Installation, Set-Up & T&C for SCADA System	14	25-Jul-26	10-Aug-26	23-Oct-26	07-Nov-26	74
Stage 9 : E&M Installation Works for Biogas Holders No. 1-4		195	26-Mar-26	07-Nov-26	26-Mar-26	07-Nov-26	0
ATALZ3BH-2040	BH No.1-4 - Installation of Underground Biogas Pipework	95	26-Mar-26	22-Jul-26	26-Mar-26	22-Jul-26	0
ATALZ3BH-2050	BH No.1-4 - Installation of Biogas Booster Pump No.3 & 4 and Transfer Pump	95	26-Mar-26	22-Jul-26	26-Mar-26	22-Jul-26	0
ATALZ3BH-2060	BH No.1-4 - Installation of Waste Gas Burner	95	26-Mar-26	22-Jul-26	26-Mar-26	22-Jul-26	0
ATALZ3BH-2275	BH No.1-4 - Plant Service Water System(PSW) Installation	30	16-Jun-26	22-Jul-26	03-Oct-26	07-Nov-26	90
ATALZ3BH-2175	BH No.2-4 - Installation and Set-Up for SCADA System	14	07-Jul-26	22-Jul-26	07-Jul-26	22-Jul-26	0
ATALZ3BH-2170	Section 3 Completion	0		07-Nov-26*		07-Nov-26	0
Stage 9 : Testing and Commissioning (T&C)		66	23-Jul-26	09-Oct-26	23-Jul-26	09-Oct-26	0
S9 : BH No.1		52	23-Jul-26	21-Sep-26	23-Jul-26	21-Sep-26	0
ATALZ3BH-2070	BH No. 1 - T&C - E&M SAT of Biogas Holder No.1 (using Air to test membrane only)	15	23-Jul-26	08-Aug-26	23-Jul-26	08-Aug-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	23-Jul-26	14-Aug-26	23-Jul-26	14-Aug-26	0
ATALZ3BH-2100	BH No. 1 - T&C - E&M SAT of Biogas Booster Pump No.1 & 2	20	23-Jul-26	14-Aug-26	23-Jul-26	14-Aug-26	0
ATALZ3BH-2160	BH No. 1 - System Commissioning	32	15-Aug-26	21-Sep-26	15-Aug-26	21-Sep-26	0
S9 : BH No.2, 3 & 4		18	10-Aug-26	29-Aug-26	10-Aug-26	09-Oct-26	33
ATALZ3BH-2080	BH No.2-4 - T&C - E&M SAT of Biogas Holder No.2-4 (using Air to test membrane only)	14	10-Aug-26	25-Aug-26	10-Aug-26	25-Aug-26	0
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	10-Aug-26	29-Aug-26	17-Sep-26	09-Oct-26	33
S9 : BH No.1, 2, 3 & 4		51	10-Aug-26	09-Oct-26	10-Aug-26	09-Oct-26	0
ATALZ3BH-2120	BH No.1-4 - T&C - E&M SAT of Biogas Booster Pump No.3 & 4 and Transfer Pump	15	10-Aug-26	26-Aug-26	10-Aug-26	26-Aug-26	0
ATALZ3BH-2130	BH No.1-4 - T&C - E&M SAT of Waste Gas Burner	15	10-Aug-26	26-Aug-26	10-Aug-26	26-Aug-26	0
ATALZ3BH-2150	BH No.1-4 - System Commissioning	36	27-Aug-26	09-Oct-26	27-Aug-26	09-Oct-26	0
Stage 9 : Remaining Works		63	27-Aug-26	07-Nov-26	10-Oct-26	07-Nov-26	0
ATALZ3BH-2270	Demolish existing Waste Gas Burner	24	27-Aug-26	23-Sep-26	12-Oct-26	07-Nov-26	39



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

- Remaining Level of Effort
- DWP Rev.8
- Actual Work
- Remaining Work
- Critical Remaining Work

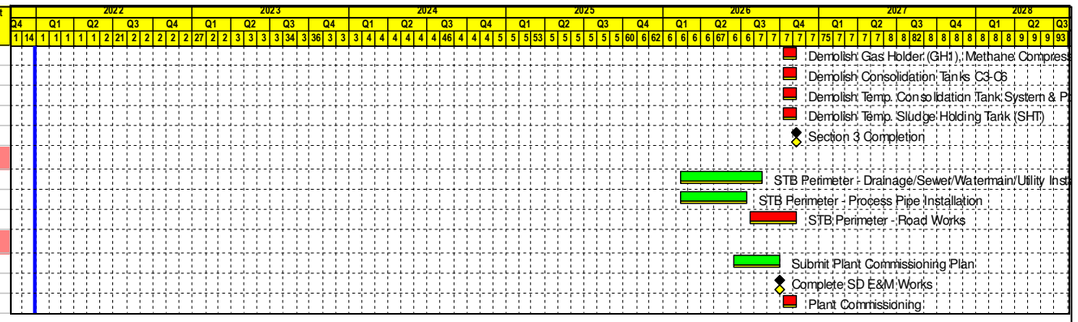
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Detailed Works Programme

Project ID : DWP.DPr9_220111
Layout : DC201910 DWP rev.9

Detailed Works Programme

Date	Revision	Checked	Approved
31-Dec-21	Rev. 9		
30-Nov-21	Rev. 8		
31-Oct-21	Rev. 7		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
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	11-Feb-26	07-Nov-26	01-Apr-26	07-Nov-26	0
EW-1020	STB Perimeter - Drainage/Sewer/Watermain/Utility Installation	150	11-Feb-26	19-Aug-26	01-Apr-26	02-Oct-26	36
EW-1040	STB Perimeter - Process Pipe Installation	120	11-Feb-26	15-Jul-26	01-Apr-26	26-Aug-26	36
EW-1060	STB Perimeter - Road Works	90	23-Jul-26	07-Nov-26	23-Jul-26	07-Nov-26	0
Plant Commissioning		126	15-Jun-26	08-Nov-26	24-Jun-26	08-Nov-26	0
PC-110	Submit Plant Commissioning Plan	90	15-Jun-26	30-Sep-26	24-Jun-26	09-Oct-26	7
PC-100	Complete SD E&M Works	0		30-Sep-26		09-Oct-26	7
PC-120	Plant Commissioning	30	10-Oct-26	08-Nov-26	10-Oct-26	08-Nov-26	0



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

Remaining Level of Effort
DWP Rev.8
Actual Work
Remaining Work
Critical Remaining Work

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

Project ID :
DWP.DPr9_220111
Layout : DC201910 DWP rev.9

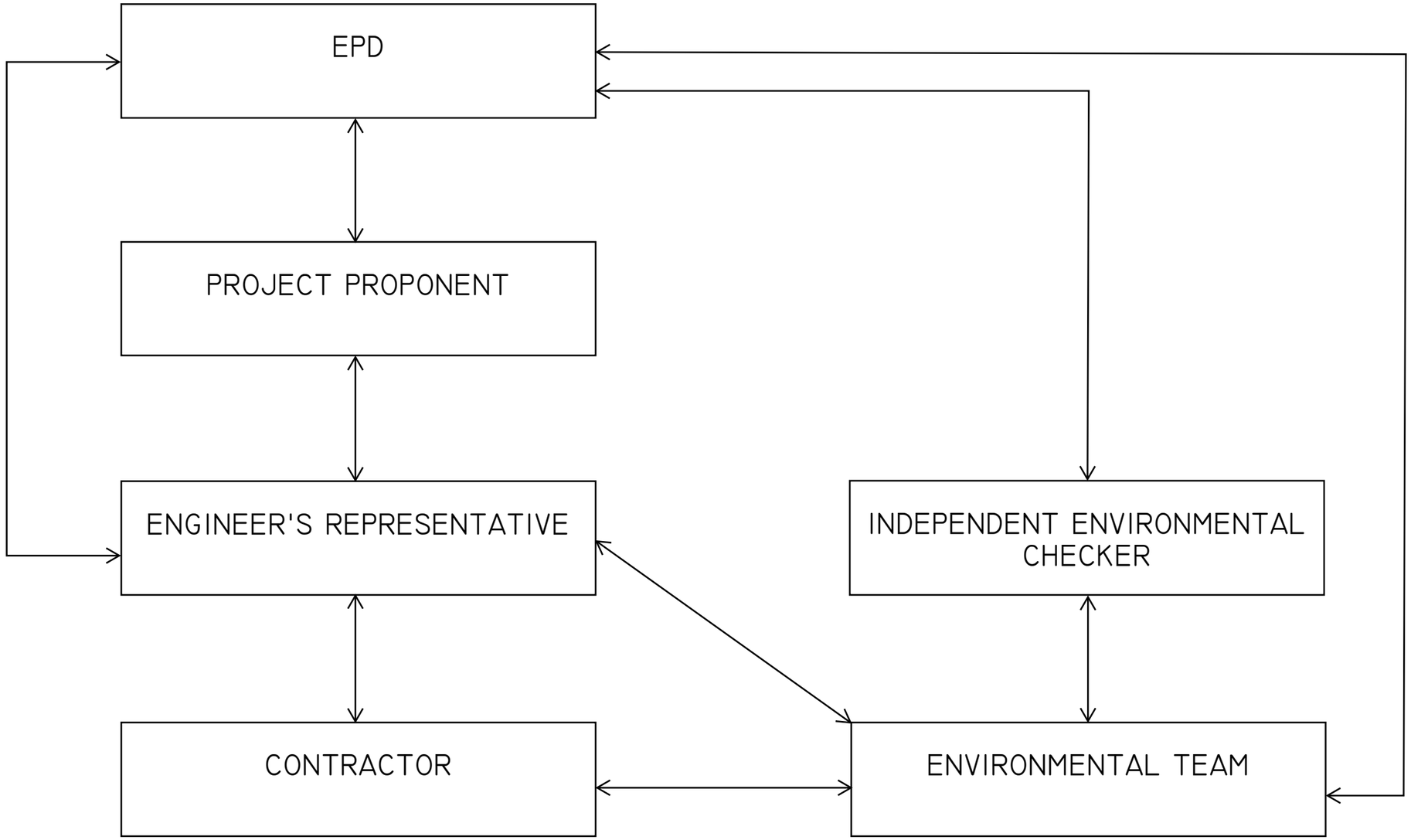
Detailed Works Programme			
Date	Revision	Checked	Approved
31-Dec-21	Rev. 9		
30-Nov-21	Rev. 8		
31-Oct-21	Rev. 7		

Appendix B

Project Organization Chart

LEGEND:

LINE OF COMMUNICATION



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

Plot File by: Chanws 5/28/2018
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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
階段

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 Levels

Action and 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 Certificates/ reports of Monitoring Equipments

Air Quality Monitoring Equipments

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

Report no. : 940891CA212394(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.	: 155716
Specification Limit	: NA
Next Calibration Date	: 02-Sep-2022

Laboratory Information

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

Equipment ID. / Serial no. : 1. C-065-9 2. 4350

Date of Calibration : 03-Sep-2021 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)
0.0416	631	10.52
0.0388	626	10.43
0.0266	598	9.97

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 = 0.003460
3. Correlation coefficient (r) : 0.9992

Checked by : _____ Date : 28-9-2021 Certified by : _____ Date : 28.9.2021

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

Chan Chun Wai (Manager)

** End of Report **

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

Report no. : 940891CA212394

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.	: 155717
Specification Limit	: NA
Next Calibration Date	: 02-Sep-2022

Laboratory Information

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

Equipment ID. / Serial no. : 1. C-065-9 2. 4350

Date of Calibration : 03-Sep-2021 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)
0.0416	672	11.20
0.0388	650	10.83
0.0266	597	9.95

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 = 0.003345
3. Correlation coefficient (r) : 0.9940

Checked by : Date : 28-9-2021 Certified by : Date : 28.9.2021

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

Chan Chun Wai (Manager)

** End of Report **

FUGRO TECHNICAL SERVICES LIMITED
19/F, Fugro House – KCC2,
1 Kwai On Rd, Kwai Chung,
NT, Hong Kong

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

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

Date of Calibration: 26-Jul-21
Next Calibration Date: 30-Oct-21
Technician: Herman Wang

CONDITIONS

Sea Level Pressure (hPa):	998.1	Corrected Pressure (mm Hg):	749
Temperature (℃):	34.0	Temperature (K):	307

CALIBRATION ORIFICE

Make:	Tisch	Qstd Slope:	2.11508
Model:	TE-5025A	Qstd Intercept:	-0.02962
Calibration Date:	11-Sep-20	Expiry Date:	11-Sep-21

CALIBRATIONS

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m^3/min)	I (chart)	IC (corrected)	LINEAR REGRESSION
18	5.50	-6.50	12.000	1.616	57.00	55.74	Slope = 28.3811
13	4.30	-5.40	9.700	1.454	52.00	50.85	Intercept = 9.9481
10	2.90	-4.50	7.400	1.272	48.00	46.94	Corr. coeff.= 0.9979
7	1.90	-2.80	4.700	1.016	39.00	38.14	
5	1.00	-2.00	3.000	0.815	34.00	33.25	

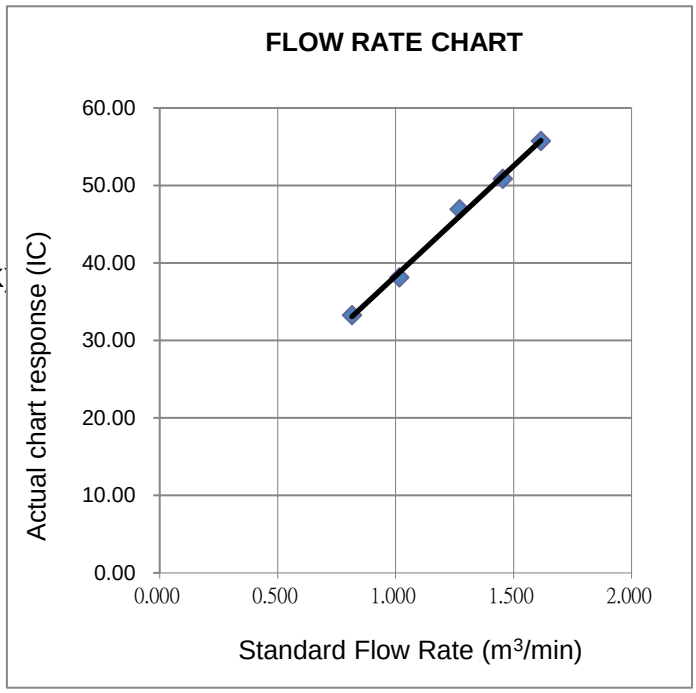
Calculations:

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

13/F, Fugro House - KCC2,
1 Kwai On Rd, Kwai Chung,
NT, Hong Kong.

CALIBRATION REPORT OF WIND METER

Project: Contract No. SPW 07/2020 — **Date of Calibration: 27-Sep-2021**
Location: Yuen Long Sewage Treatment Works — **Next Calibration Date: 26-Mar-2022**
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)
1.7	1.5
2.5	2.4
1.4	1.6

Wind Direction Test:

	Marine Compass (o)
137	135
98	96
205	204
314	316

Report Date: 29/9/2021

Wan Ka Ho
Project Consultant

Noise Monitoring Equipments

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

Report no.: 203258CA211142

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. :	0873599	02374	003916

Equipment ID : N-45
Next Calibration Date : 27-May-2022
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 : 28-May-2021
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	1.4	2.6 to -0.6
	2000Hz	1.3	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	-16.2	-14.6 to -17.6
	63Hz	-26.2	-24.7 to -27.7
	31.5Hz	-39.2	-37.4 to -41.4
Differential level linearity	94dB-104dB	0.1	± 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 unit under test and the values measured at the time of the test. 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 : 1-6-2021 Certified by : K T Leung Date : 1.6.2021

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.: 212769CA212463(1)

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. :	1488272	03876	002752

Equipment ID : N/A

Next Calibration Date : 27-Oct-2022

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 : 28-Oct-2021

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	1.8	2.6 to -0.6
	2000Hz	1.5	2.8 to -0.4
	1000Hz	0.2	1.1 to -1.1
	500Hz	-3.2	-1.8 to -4.6
	250Hz	-8.7	-7.2 to -10.0
	125Hz	-16.1	-14.6 to -17.6
	63Hz	-26.2	-24.7 to -27.7
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 unit under test and the values measured at the time of the test. 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 ;

Checked by : _____ Date : 3-11-2021 Certified by : K.T. Leung Date : 4.11.2021

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.: 203258CA210891

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.	:	4358251
Equipment ID	:	N-34

Next Calibration Date : 10-May-2022

Specification Limit : EN 60942: 2003 Class 1

Laboratory Information

Details of Calibration Equipment

Description	:	Reference Sound level meter
Equipment ID.	:	R-119-2

Date of Calibration : 11-May-2021

Calibration Location : Calibration Laboratory of FTS

Ambient Temperature : 20±2 °C

Method Used : By direct comparison

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	-0.1 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 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 : 12-5-2021 Certified by : K.T. Leung Date : 12-5-2021

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.: 212769CA212069(3)

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.	:	2383707
Equipment ID	:	N/A
Next Calibration Date	:	25-Aug-2022
Specification Limit	:	EN 60942: 2003 Class 1

Laboratory Information

Details of Calibration Equipment

Description	:	Reference Sound level meter
Equipment ID.	:	R-119-2
Date of Calibration	:	26-Aug-2021
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	-0.4 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 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 : Date : 27-8-2021 Certified by : Date : 27-8-2021

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 : Lwilliam 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 Equipments

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

Report No. : 142626WA212610

Report on Calibration of YSI EXO-1 Multi-parameter Water Quality Meter

Information Supplied by Client

Client	:	Fugro Technical Services Limited (MCL)
Client's address	:	13/F, Fugro House – KCC2, No. 1 Kwai On Road, Kwai Chung, N.T., H.K.
Sample description	:	One YSI EXO-3 Multi-parameter Water Quality Meter
Client sample ID	:	Serial No. 19A105807
Test required	:	Calibration of the YSI EXO-3 Multi-parameter Water Quality Meter

Laboratory Information

Lab. sample ID	:	WA212610/1
Date sample received	:	01/12/2021
Date of calibration	:	02/12/2021
Next calibration date	:	01/03/2022
Test method used	:	In-house comparison method

Note : This report refers only to the sample(s) tested and the result(s) applied to the sample(s) as received.

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

Report No. : 142626WA212610

Results :

A. pH calibration

pH reading at 25°C for Q.C. solution(6.86) and at 25°C for Q.C. solution(9.18)		
Theoretical	Measured	Deviation
9.18	9.19	+0.01
6.86	6.90	+0.04

B. Salinity calibration

Salinity, ppt			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
1	1.0	0.0	± 0.1
10	9.96	-0.04	± 0.5
20	20.04	+0.04	± 1.0
30	30.01	+0.01	± 1.5
40	39.71	-0.29	± 2.0

C. Dissolved Oxygen calibration

Trial No.	Dissolved oxygen content, mg/L	
	By Titration	By D.O. meter
1	8.50	8.54
2	8.50	8.49
3	8.45	8.52
Average	8.48	8.52

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 : 29-12-2021

Note : This report refers only to the sample(s) tested and the result(s) applied to the sample(s) as received.

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

Report No. : 142626WA212610

Results :

D. Temperature calibration

Thermometer reading, °C	Meter reading, °C
19.9	19.613

E. Turbidity calibration

Turbidity, N.T.U.			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
4	4.34	+0.34	± 0.6
8	8.49	+0.49	± 0.8
40	42.49	+2.49	± 3.0
80	80.44	+0.44	± 4.0

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

Date : 29-12-2021

** End of Report **

Note : This report refers only to the sample(s) tested and the result(s) applied to the sample(s) as received.

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

Report No. : 142626WA212610(1)

Report on Calibration of YSI EXO-1 Multi-parameter Water Quality Meter

Information Supplied by Client

Client	:	Fugro Technical Services Limited (MCL)
Client's address	:	13/F, Fugro House – KCC2, No. 1 Kwai On Road, Kwai Chung, N.T., H.K.
Sample description	:	One YSI EXO-3 Multi-parameter Water Quality Meter
Client sample ID	:	Serial No. 19A105808
Test required	:	Calibration of the YSI EXO-3 Multi-parameter Water Quality Meter

Laboratory Information

Lab. sample ID	:	WA212610(1)/1
Date sample received	:	01/12/2021
Date of calibration	:	02/12/2021
Next calibration date	:	01/03/2022
Test method used	:	In-house comparison method

Note : This report refers only to the sample(s) tested and the result(s) applied to the sample(s) as received.

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

Report No. : 142626WA212610(1)

Results :

A. pH calibration

pH reading at 25°C for Q.C. solution(6.86) and at 25°C for Q.C. solution(9.18)		
Theoretical	Measured	Deviation
9.18	9.20	+0.02
6.86	6.93	+0.07

B. Salinity calibration

Salinity, ppt			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
1	1.0	0.0	± 0.1
10	9.94	-0.06	± 0.5
20	19.92	-0.08	± 1.0
30	29.95	-0.05	± 1.5
40	39.65	-0.35	± 2.0

C. Dissolved Oxygen calibration

Trial No.	Dissolved oxygen content, mg/L	
	By Titration	By D.O. meter
1	8.48	8.47
2	8.38	8.46
3	8.33	8.40
Average	8.40	8.44

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 : 29-IX-2021

Note : This report refers only to the sample(s) tested and the result(s) applied to the sample(s) as received.

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

Report No. : 142626WA212610(1)

Results :

D. Temperature calibration

Thermometer reading, °C	Meter reading, °C
19.9	19.849

E. Turbidity calibration

Turbidity, N.T.U.			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
4	4.36	+0.36	± 0.6
8	8.50	+0.50	± 0.8
40	38.48	-1.52	± 3.0
80	79.40	-0.60	± 4.0

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

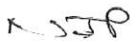
Date : 29-12-2021

** End of Report **

Note : This report refers only to the sample(s) tested and the result(s) applied to the sample(s) as received.

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.

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Registered in England No: 1950444

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.

ATTENTION: New Warranty Terms as of March 4, 2013:

This system is covered under a two year limited warranty that extends to all parts and labor for any malfunction due to workmanship or errors in the manufacturing process. The warranty is valid only if you properly maintain and operate this system under normal use as outlined in the User's Manual. The warranty does not cover shortcomings that are due to the design, or any incidental damages as a result of errors in the measurements.

SonTek will repair and/or replace, at its sole option, any product established to be defective with a product of like type. CLAIMS FOR LABOR COSTS AND/OR OTHER CHARGES RESULTING FROM THE USE OF SonTek GOODS AND/OR PRODUCTS ARE NOT COVERED BY THIS LIMITED WARRANTY.

SonTek DISCLAIMS ALL EXPRESS WARRANTIES OTHER THAN THOSE CONTAINED ABOVE AND ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE. SonTek DISCLAIMS AND WILL NOT BE LIABLE, UNDER ANY CIRCUMSTANCE, IN CONTRACT, TORT OR WARRANTY, FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND, INCLUDING BUT NOT LIMITED TO LOST PROFITS, BUSINESS INTERRUPTION LOSSES, LOSS OF GOODWILL, OR LOSS OF BUSINESS OR CUSTOMER RELATIONSHIPS.

If your system is not functioning properly, first try to identify the source of the problem. If additional support is required, we encourage you to contact us immediately. We will work to resolve the problem as quickly as possible.

If the system needs to be returned to the factory, please contact SonTek to obtain a Service Request (SR) number. We reserve the right to refuse receipt of shipments without SRs. We require the system to be shipped back in the original shipping container using the original packing material with all delivery costs covered by the customer (including all taxes and duties). If the system is returned without appropriate packing, the customer will be required to cover the cost of a new packaging crate and material.

The warranty for repairs performed at an authorized SonTek Service Center is one year.

Appendix E

Environmental Monitoring Schedule

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

Environmental Monitoring Schedule (February 2022)

Sun	Mon	Tue	Wed	Thur	Fri	Sat
		1	2	3	4	5 **AQM** **WQM** Mid Flood(11:17) Mid Ebb(17:03)
6	7 **WQM** Mid Flood(11:47) Mid Ebb(5:16)	8	9 **WQM** Mid Flood(12:41) Mid Ebb(6:22)	10	11 **AQM, NM**	12 **WQM** Mid Flood(15:47) Mid Ebb(11:31)
13	14	15 **EMB** (Day Time), **WQM** Mid Flood(8:20) Mid Ebb(13:13)	16	17 **AQM, NM** **WQM** Mid Flood(9:12) Mid Ebb(14:24)	18 **ANRM,** **EMB** (Night Time)	19 **WQM** Mid Flood(10:01) Mid Ebb(15:36)
20	21	22 **WQM** Mid Flood(11:12) Mid Ebb(17:25)	23 **AQM, NM**	24 **WQM** Mid Flood(12:26) Mid Ebb(19:24)	25	26 **WQM** Mid Flood(15:00) Mid Ebb(10:55)
27	28					

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
9. The impact monitoring is suspended from 1 Feb to 3 Feb, due to no construction works during the Chinese New Year Holidays

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

Environmental Monitoring Schedule (March 2022)

Sun	Mon	Tue	Wed	Thur	Fri	Sat
		1 **AQM, NM** **WQM** Mid Flood(8:05) Mid Ebb(13:35)	2	3 **WQM** Mid Flood(9:06) Mid Ebb(14:44)	4	5 **WQM** Mid Flood(9:52) Mid Ebb(15:44)
6	7 **AQM, NM**	8 **WQM** Mid Flood(10:38) Mid Ebb(17:10)	9	10 **WQM** Mid Flood(11:05) Mid Ebb(18:43)	11	12 **AQM** **WQM** Mid Flood(9:09) Mid Ebb(21:50)
13	14	15 **WQM** Mid Flood(7:14) Mid Ebb(12:27)	16	17 **WQM** Mid Flood(8:00) Mid Ebb(13:34)	18 **AQM, NM**	19 **WQM** Mid Flood(8:49) Mid Ebb(14:39)
20	21	22 **WQM** Mid Flood(9:59) Mid Ebb(16:20)	23	24 **AQM, NM** **WQM** Mid Flood(10:55) Mid Ebb(17:54)	25	26 **WQM** Mid Flood(7:47) Mid Ebb(20:34)
27	28	29 **WQM** Mid Flood(6:55) Mid Ebb(12:38)	30 **AQM, NM**	31 **WQM** Mid Flood(7:53) Mid Ebb(13:44)		

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

Environmental Monitoring Schedule (April 2022)

Sun	Mon	Tue	Wed	Thur	Fri	Sat
					1	2 **WQM** Mid Flood(8:36) Mid Ebb(14:38)
3	4	5 **AQM, NM** **WQM** Mid Flood(9:23) Mid Ebb(16:01)	6	7 **WQM** Mid Flood(9:55) Mid Ebb(17:10)	8	9 **WQM** Mid Flood(6:20) Mid Ebb(18:59)
10	11 **AQM, NM**	12 **WQM** Mid Flood(5:50) Mid Ebb(11:26)	13	14 **WQM** Mid Flood(6:40) Mid Ebb(12:32)	15	16 **AQM** **WQM** Mid Flood(7:33) Mid Ebb(13:37)
17	18	19 **WQM** Mid Flood(8:51) Mid Ebb(15:23)	20	21 **WQM** Mid Flood(9:46) Mid Ebb(16:52)	22 **AQM, NM**	23 **WQM** Mid Flood(11:08) Mid Ebb(18:53)
24	25	26 **WQM** Mid Flood(5:27) Mid Ebb(11:24)	27	28 **AQM, NM** **WQM** Mid Flood(6:38) Mid Ebb(12:42)	29	30 **WQM** Mid Flood(7:20) Mid Ebb(13:35)

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

Environmental Monitoring Schedule (May 2022)

Sun	Mon	Tue	Wed	Thur	Fri	Sat
1	2	3 **WQM** Mid Flood(8:12) Mid Ebb(15:04)	4 **AQM, NM**	5 **WQM** Mid Flood(8:53) Mid Ebb(16:11)	6	7 **WQM** Mid Flood(9:43) Mid Ebb(17:34)
8	9	10 **AQM, NM** **WQM** Mid Flood(14:16) Mid Ebb(9:46)	11	12 **WQM** Mid Flood(16:57) Mid Ebb(11:10)	13	14 **WQM** Mid Flood(18:46) Mid Ebb(12:28)
15	16 **AQM, NM**	17 **WQM** Mid Flood(7:41) Mid Ebb(14:28)	18	19 **WQM** Mid Flood(8:42) Mid Ebb(15:59)	20	21 **AQM** **WQM** Mid Flood(10:07) Mid Ebb(5:30)
22	23	24 **WQM** Mid Flood(14:54) Mid Ebb(9:55)	25	26 **WQM** Mid Flood(17:09) Mid Ebb(11:33)	27 **AQM, NM**	28 **WQM** Mid Flood(18:57) Mid Ebb(12:32)
29	30	31 **WQM** Mid Flood(7:01) Mid Ebb(14:12)				

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

Environmental Monitoring Results

Air Quality Monitoring Results

Air Quality Monitoring Results for

Contract No. SPW 07/2020

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

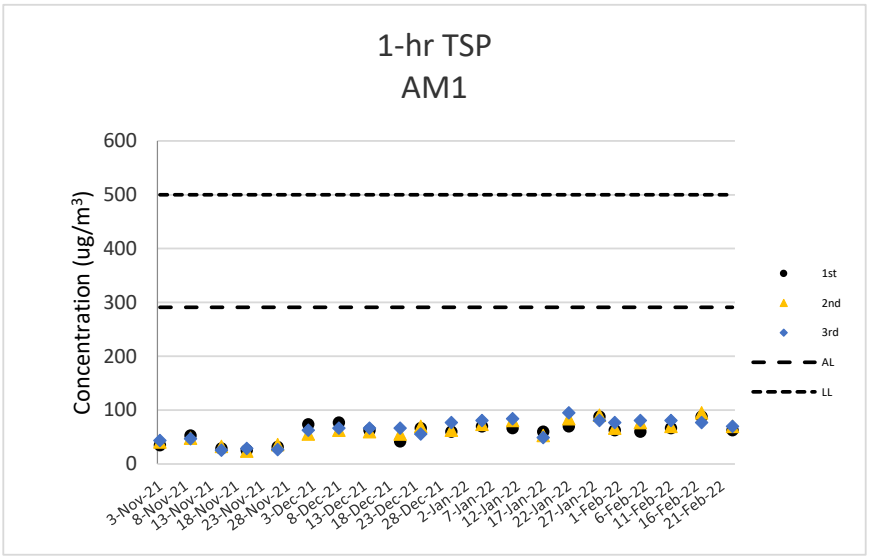
AM1 - Topfine Machinery (China) Co. Ltd.

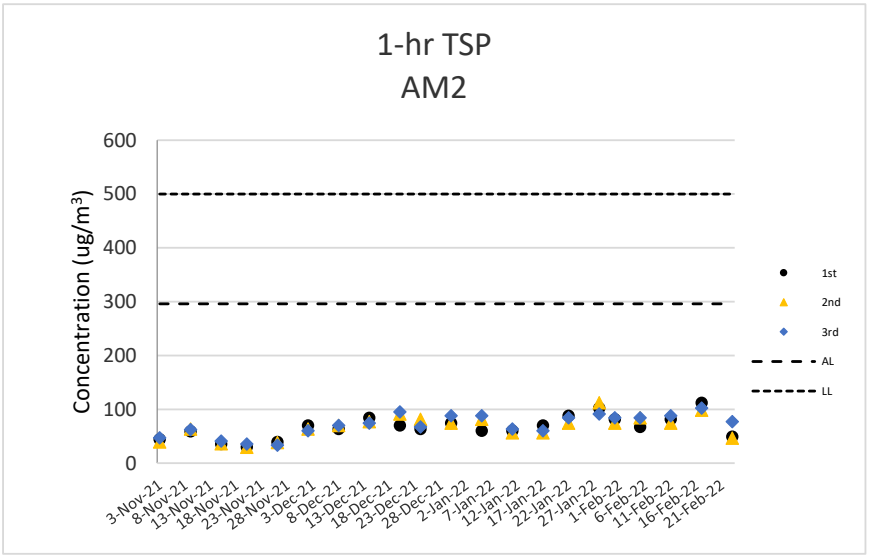
Date	Weather Condition	Start Time	1-hour TSP (µg/m³) 1st Measurement	2nd Measurement	3rd Measurement	Action Level (ug/m^3)	Limit Level (ug/m^3)
5-Feb-22	Cloudy	8:39	60	77	81	291	500
11-Feb-22	Fine	8:31	67	70	81		
17-Feb-22	Cloudy	8:35	88	95	77		
23-Feb-22	Fine	8:27	63	70	70		
		Min	60				
		Max	95				
		Average	75				

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)
5-Feb-22	Cloudy	8:49	67	84	84	296	500
11-Feb-22	Fine	8:44	81	74	88		
17-Feb-22	Cloudy	8:49	112	98	102		
23-Feb-22	Fine	9:10	49	46	77		
		Min	46				
		Max	112				
		Average	80				

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





Air Quality Monitoring Results

Noise Monitoring Results

Noise Monitoring Results 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)
11-Feb-22	10:06	55	57	54	0.2	Fine	75
17-Feb-22	11:28	54	56	51	0.2	Cloudy	75
23-Feb-22	10:49	53	58	48	0.4	Fine	75
	Max	55					
	Min	53					

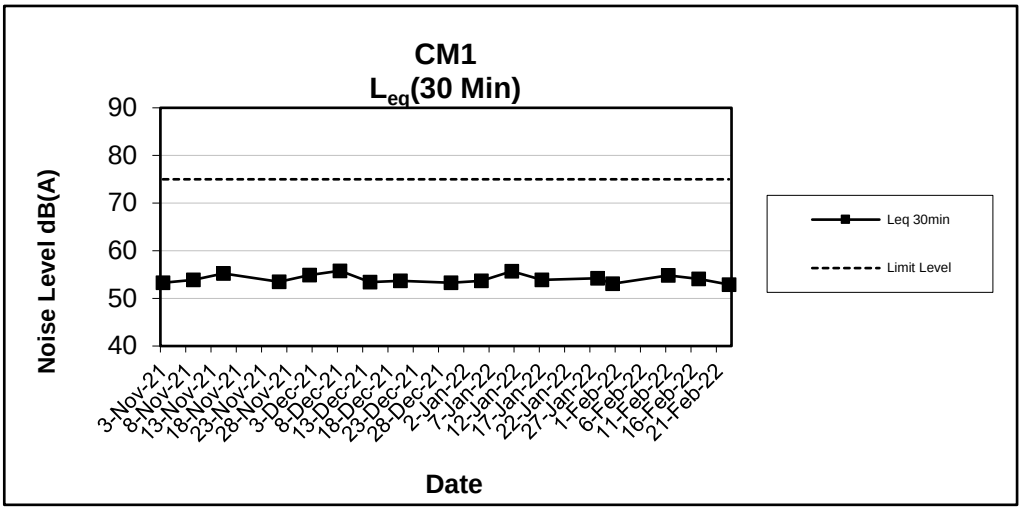
CM2 - Squatter house to the west of YLSTW

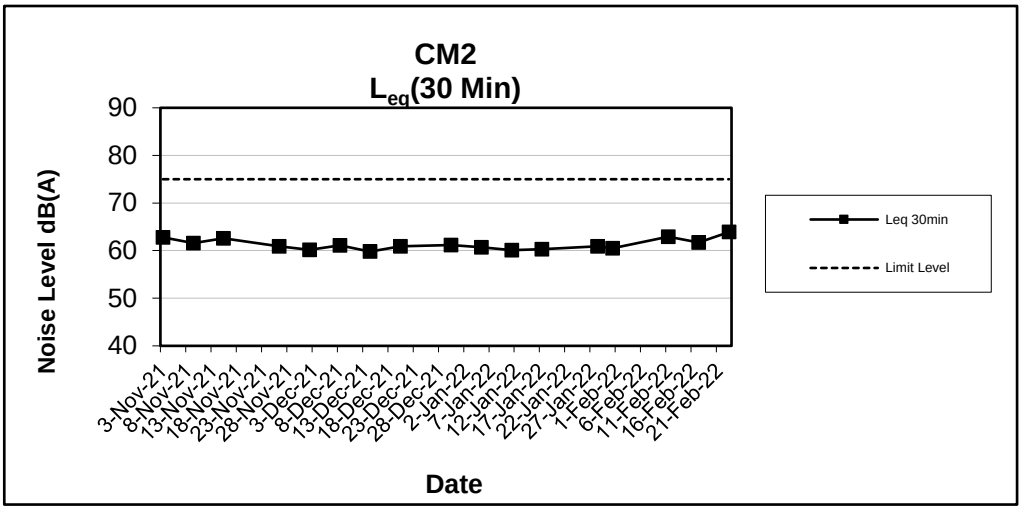
Date	Start Time	L_{eq} 30min dB(A)	L_{10} dB(A)	L_{90} dB(A)	Wind Speed (m/s)	Weather	Limit Level dB(A)
11-Feb-22	8:50	63	67	56	0.4	Fine	75
17-Feb-22	8:56	62	65	56	0.4	Cloudy	75
23-Feb-22	9:27	64	66	61	0.8	Fine	75
	Max	64					
	Min	62					

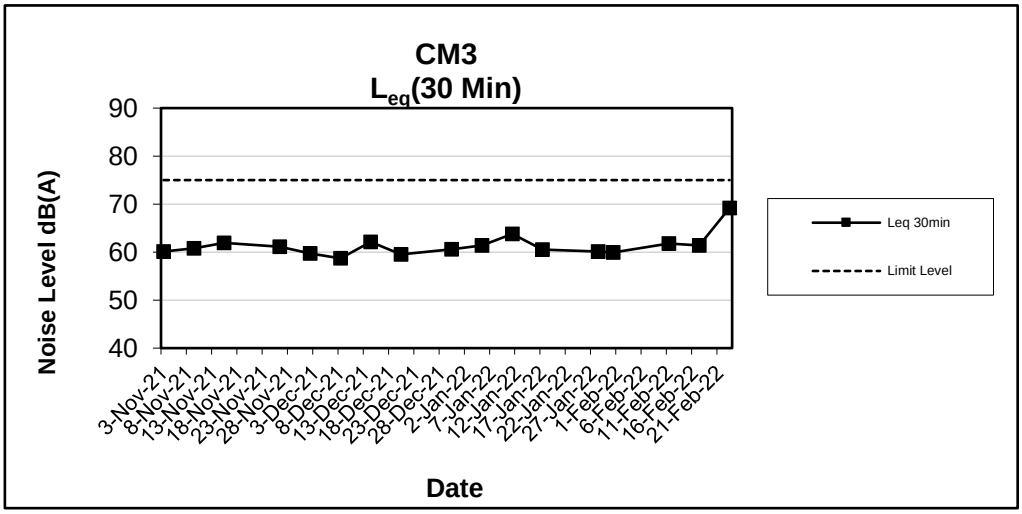
CM3 - Squatter house to the east of YLSTW

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)
11-Feb-22	11:23	62	66	55	0.3	Fine	75
17-Feb-22	13:01	61	65	55	0.4	Cloudy	75
23-Feb-22	10:09	69	73	66	0.4	Fine	75
	Max	69					
	Min	61					

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.







Noise Monitoring Results

Water Quality Monitoring Results

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

Water Quality Monitoring Results

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	5/2/2022	Mid-Flood	Cloudy	Smooth	11:33	1.1	M	0.55	1	0.099	221	7.14	7.14	8.90	8.90	15.65	15.66	47.4	47.3	4.46	4.45	31.7	31.7	37	36
M1	5/2/2022	Mid-Flood	Cloudy	Smooth	11:33	1.1	M	0.55	2			7.14		8.89		15.66		47.2		4.44		31.8		35	
M2	5/2/2022	Mid-Flood	Cloudy	Smooth	11:49	1.3	M	0.65	1	128	222	7.46	7.46	8.50	8.50	15.52	15.52	49.5	49.4	4.69	4.68	27.2	27.2	36	37
M2	5/2/2022	Mid-Flood	Cloudy	Smooth	11:49	1.3	M	0.65	2			7.45		8.49		15.52		49.3		4.67		27.2		38	
M3	5/2/2022	Mid-Flood	Cloudy	Smooth	11:18	0.2	M	0.1	1	0.209	80	7.05	7.06	8.67	8.68	15.76	15.78	49.5	50.1	4.66	4.72	24.5	23.9	35	34
M3	5/2/2022	Mid-Flood	Cloudy	Smooth	11:18	0.2	M	0.1	2			7.07		8.68		15.79		50.7		4.77		23.2		33	
M1	5/2/2022	Mid-Ebb	Cloudy	Smooth	17:21	0.9	M	0.45	1	0.103	195	7.48	7.48	9.30	9.30	17.02	17.02	48.6	48.5	4.59	4.58	28.4	28.4	45	44
M1	5/2/2022	Mid-Ebb	Cloudy	Smooth	17:21	0.9	M	0.45	2			7.48		9.30		17.03		48.4		4.57		28.5		43	
M2	5/2/2022	Mid-Ebb	Cloudy	Smooth	17:06	1	M	0.5	1	0.122	111	7.40	7.40	8.52	8.52	16.82	16.83	47.3	47.2	4.45	4.45	25.7	25.7	35	36
M2	5/2/2022	Mid-Ebb	Cloudy	Smooth	17:06	1	M	0.5	2			7.39		8.51		16.83		47.1		4.44		25.7		36	
M3	5/2/2022	Mid-Ebb	Cloudy	Smooth	17:05	0.6	M	0.3	1	0.193	257	7.26	7.25	9.18	9.19	17.96	17.97	44.4	44.7	4.15	4.17	27.7	27.4	31	30
M3	5/2/2022	Mid-Ebb	Cloudy	Smooth	17:05	0.6	M	0.3	2			7.24		9.19		17.98		44.9		4.19		27.2		29	

Remark

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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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5. Action Level for SS: 95%-ile of baseline data or 120% of upstream control station's SS recorded on the same day.
6. Limit 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
M2(Impact Station)	1.88	1.79	43.0	52.4	81	112
M3(Impact Station)	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(Impact Station)	2.25	1.91	48.4	50.4	59	68

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

Water Quality Monitoring Results

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	7/2/2022	Mid-Flood	Cloudy	Smooth	12:09	2.2	M	1.1	1	0.251	348	7.38	7.38	8.05	8.05	18.24	18.25	40.8	41.1	3.68	3.71	26.2	26.8	38	37
M1	7/2/2022	Mid-Flood	Cloudy	Smooth	12:09	2.2	M	1.1	2			7.37		8.04		18.25		41.3		3.73		27.5		35	
M2	7/2/2022	Mid-Flood	Cloudy	Smooth	11:50	1.2	M	0.6	1	0.264	257	7.41	7.42	8.62	8.61	17.72	17.71	44.5	44.3	4.05	4.04	21.8	21.2	31	30
M2	7/2/2022	Mid-Flood	Cloudy	Smooth	11:50	1.2	M	0.6	2			7.43		8.60		17.70		44.1		4.02		20.7		28	
M3	7/2/2022	Mid-Flood	Cloudy	Smooth	11:54	1.1	M	0.55	1	0.047	244	7.38	7.38	7.28	7.28	20.71	20.71	50.9	50.8	4.64	4.63	19.9	19.9	26	29
M3	7/2/2022	Mid-Flood	Cloudy	Smooth	11:54	1.1	M	0.55	2			7.37		7.28		20.71		50.6		4.62		19.9		31	
M1	7/2/2022	Mid-Ebb	Cloudy	Smooth	5:32	2.2	M	1.1	1	0.239	285	7.24	7.25	7.73	7.72	16.30	16.30	56.8	56.5	5.19	5.16	15.0	15.1	10	11
M1	7/2/2022	Mid-Ebb	Cloudy	Smooth	5:32	2.2	M	1.1	2			7.25		7.71		16.30		56.1		5.12		15.2		11	
M2	7/2/2022	Mid-Ebb	Cloudy	Smooth	5:48	1.2	M	0.6	1	0.228	217	7.34	7.33	7.40	7.40	16.67	16.66	52.9	52.6	4.89	4.86	17.4	17.6	21	22
M2	7/2/2022	Mid-Ebb	Cloudy	Smooth	5:48	1.2	M	0.6	2			7.32		7.39		16.65		52.2		4.83		17.7		22	
M3	7/2/2022	Mid-Ebb	Cloudy	Smooth	5:29	0.9	M	0.45	1	0.046	93	7.28	7.29	7.06	7.06	19.05	19.06	43.6	43.5	4.05	4.04	24.2	24.2	21	22
M3	7/2/2022	Mid-Ebb	Cloudy	Smooth	5:29	0.9	M	0.45	2			7.29		7.06		19.06		43.3		4.03		24.2		23	

Remark

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For Flood Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M2(Impact Station)	1.88	1.79	43.0	52.4	81	112
M3(Impact Station)	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(Impact Station)	2.25	1.91	48.4	50.4	59	68

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

Water Quality Monitoring Results

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	9/2/2022	Mid-Flood	Cloudy	Smooth	13:09	1	M	0.5	1	0.114	222	7.53	7.53	5.52	5.52	16.12	16.13	50.5	50.4	4.81	4.80	20.3	20.3	21	22
M1	9/2/2022	Mid-Flood	Cloudy	Smooth	13:09	1	M	0.5	2			7.53		5.52		16.13		50.2		4.79		20.3		22	
M2	9/2/2022	Mid-Flood	Cloudy	Smooth	12:50	1.2	M	0.6	1	0.131	241	7.44	7.44	5.47	5.47	16.61	16.61	58.2	58.1	5.60	5.59	19.2	19.2	29	28
M2	9/2/2022	Mid-Flood	Cloudy	Smooth	12:50	1.2	M	0.6	2			7.44		5.47		16.61		58.0		5.58		19.3		27	
M3	9/2/2022	Mid-Flood	Cloudy	Calm	12:43	0.4	M	0.2	1	0.22	90	7.26	7.27	6.49	6.48	18.03	18.04	45.8	45.6	4.29	4.27	16.1	16.0	15	16
M3	9/2/2022	Mid-Flood	Cloudy	Calm	12:43	0.4	M	0.2	2			7.28		6.47		18.04		45.3		4.24		15.8		16	
M1	9/2/2022	Mid-Ebb	Cloudy	Smooth	6:34	0.8	M	0.4	1	0.119	111	7.17	7.17	5.73	5.73	16.11	16.12	44.8	44.7	4.31	4.30	16.0	16.0	16	15
M1	9/2/2022	Mid-Ebb	Cloudy	Smooth	6:34	0.8	M	0.4	2			7.17		5.73		16.12		44.5		4.29		16.0		13	
M2	9/2/2022	Mid-Ebb	Cloudy	Smooth	6:49	1	M	0.5	1	0.12	199	7.46	7.46	5.42	5.42	15.68	15.68	56.5	56.4	5.46	5.45	19.6	19.6	22	24
M2	9/2/2022	Mid-Ebb	Cloudy	Smooth	6:49	1	M	0.5	2			7.46		5.42		15.68		56.2		5.43		19.7		25	
M3	9/2/2022	Mid-Ebb	Cloudy	Calm	6:36	0.2	M	0.1	1	0.19	272	7.08	7.08	5.09	5.10	15.17	15.18	38.0	38.5	3.57	3.61	19.4	19.3	12	12
M3	9/2/2022	Mid-Ebb	Cloudy	Calm	6:36	0.2	M	0.1	2			7.08		5.10		15.18		38.9		3.64		19.2		12	

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For Flood Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M2(Impact Station)	1.88	1.79	43.0	52.4	81	112
M3(Impact Station)	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(Impact Station)	2.25	1.91	48.4	50.4	59	68

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

Water Quality Monitoring Results

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	12/2/2022	Mid-Flood	Cloudy	Smooth	16:09	0.9	M	0.45	1	0.137	237	7.49	7.49	13.40	13.40	21.53	21.54	42.0	41.9	3.56	3.55	16.6	16.6	15	15
M1	12/2/2022	Mid-Flood	Cloudy	Smooth	16:09	0.9	M	0.45	2			7.49		13.40		21.54		41.7		3.53		16.7		14	
M2	12/2/2022	Mid-Flood	Cloudy	Smooth	15:48	1.1	M	0.55	1	0.126	228	7.42	7.42	10.60	10.60	21.19	21.19	45.9	45.8	3.90	3.89	13.3	13.3	18	18
M2	12/2/2022	Mid-Flood	Cloudy	Smooth	15:48	1.1	M	0.55	2			7.42		10.60		21.19		45.6		3.88		13.3		17	
M3	12/2/2022	Mid-Flood	Fine	Calm	15:52	0.6	M	0.3	1	0.214	79	7.18	7.18	10.76	10.75	22.89	22.89	51.0	51.3	4.36	4.37	13.5	13.0	16	16
M3	12/2/2022	Mid-Flood	Fine	Calm	15:52	0.6	M	0.3	2			7.17		10.74		22.88		51.6		4.37		12.5		15	
M1	12/2/2022	Mid-Ebb	Cloudy	Smooth	11:46	0.7	M	0.35	1	0.1	107	7.24	7.24	11.83	11.83	19.61	19.62	40.2	40.1	3.43	3.42	11.6	11.6	14	14
M1	12/2/2022	Mid-Ebb	Cloudy	Smooth	11:46	0.7	M	0.35	2			7.24		11.83		19.63		40.0		3.41		11.6		13	
M2	12/2/2022	Mid-Ebb	Cloudy	Smooth	12:03	0.9	M	0.45	1	0.125	209	7.45	7.45	10.57	10.57	20.07	20.07	51.4	51.2	4.39	4.38	12.0	12.0	16	16
M2	12/2/2022	Mid-Ebb	Cloudy	Smooth	12:03	0.9	M	0.45	2			7.45		10.57		20.07		51.0		4.36		12.1		15	
M3	12/2/2022	Mid-Ebb	Fine	Calm	11:33	0.2	M	0.1	1	0.171	257	7.27	7.28	6.25	6.25	20.04	20.05	46.7	46.6	4.26	4.25	16.5	16.7	13	12
M3	12/2/2022	Mid-Ebb	Fine	Calm	11:33	0.2	M	0.1	2			7.29		6.24		20.06		46.4		4.23		16.9		11	

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For Flood Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M2(Impact Station)	1.88	1.79	43.0	52.4	81	112
M3(Impact Station)	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(Impact Station)	2.25	1.91	48.4	50.4	59	68

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

Water Quality Monitoring Results

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	15/2/2022	Mid-Flood	Fine	Smooth	8:33	2	M	1	1	0.242	319.7	7.27	7.27	12.26	12.27	16.92	16.93	61.9	61.6	5.35	5.32	23.2	23.0	30	31
M1	15/2/2022	Mid-Flood	Fine	Smooth	8:33	2	M	1	2			7.27		12.27		16.93		61.2		5.29		22.8		32	
M2	15/2/2022	Mid-Flood	Fine	Smooth	8:51	1	M	0.5	1	0.26	286	7.36	7.35	12.01	12.02	17.24	17.25	58.7	58.5	5.09	5.07	29.0	28.9	46	48
M2	15/2/2022	Mid-Flood	Fine	Smooth	8:51	1	M	0.5	2			7.34		12.03		17.26		58.3		5.05		28.8		50	
M3	15/2/2022	Mid-Flood	Cloudy	Smooth	8:26	1.3	M	0.65	1	0.04	94	7.49	7.49	12.32	12.32	18.23	18.23	69.5	69.4	6.04	6.03	28.5	28.5	54	54
M3	15/2/2022	Mid-Flood	Cloudy	Smooth	8:26	1.3	M	0.65	2			7.49		12.32		18.23		69.2		6.02		28.5		53	
M1	15/2/2022	Mid-Ebb	Fine	Smooth	13:33	2.2	M	1.1	1	0.215	237	7.30	7.31	10.57	10.58	21.35	21.36	45.8	45.5	3.97	3.94	20.6	20.6	35	36
M1	15/2/2022	Mid-Ebb	Fine	Smooth	13:33	2.2	M	1.1	2			7.31		10.58		21.37		45.2		3.91		20.5		37	
M2	15/2/2022	Mid-Ebb	Fine	Smooth	13:15	1.2	M	0.6	1	0.232	253	7.42	7.43	10.25	10.24	21.04	21.04	40.4	40.2	3.49	3.47	18.9	18.8	43	42
M2	15/2/2022	Mid-Ebb	Fine	Smooth	13:15	1.2	M	0.6	2			7.43		10.23		21.03		39.9		3.45		18.8		41	
M3	15/2/2022	Mid-Ebb	Cloudy	Smooth	13:18	1	M	0.5	1	0.028	237	7.45	7.45	14.68	14.68	18.63	18.63	68.1	67.9	5.93	5.92	35.4	35.5	52	52
M3	15/2/2022	Mid-Ebb	Cloudy	Smooth	13:18	1	M	0.5	2			7.45		14.68		18.63		67.7		5.91		35.5		52	

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For Flood Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M2(Impact Station)	1.88	1.79	43.0	52.4	81	112
M3(Impact Station)	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(Impact Station)	2.25	1.91	48.4	50.4	59	68

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

Water Quality Monitoring Results

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	17/2/2022	Mid-Flood	Cloudy	Smooth	9:28	2	M	1	1	0.256	333	7.24	7.25	12.47	12.46	18.24	18.24	59.2	58.9	5.14	5.11	21.1	20.7	27	25
M1	17/2/2022	Mid-Flood	Cloudy	Smooth	9:28	2	M	1	2			7.26		12.45		18.23		58.6		5.08		20.4		22	
M2	17/2/2022	Mid-Flood	Cloudy	Smooth	9:43	1	M	0.5	1	0.242	299	7.36	7.36	12.79	12.79	18.59	18.60	52.2	51.5	4.52	4.46	26.7	26.7	33	32
M2	17/2/2022	Mid-Flood	Cloudy	Smooth	9:43	1	M	0.5	2			7.36		12.78		18.61		50.7		4.39		26.6		30	
M3	17/2/2022	Mid-Flood	Cloudy	Smooth	9:45	0.2	M	0.1	1	0.13	77	7.18	7.19	7.60	7.61	18.55	18.55	57.8	57.2	5.17	5.12	31.3	31.4	36	37
M3	17/2/2022	Mid-Flood	Cloudy	Smooth	9:45	0.2	M	0.1	2			7.19		7.61		18.54		56.6		5.06		31.5		38	
M1	17/2/2022	Mid-Ebb	Cloudy	Smooth	14:48	2.2	M	1.1	1	0.205	206	7.39	7.39	10.74	10.75	19.46	19.47	45.5	45.3	3.94	3.93	22.1	22.5	25	26
M1	17/2/2022	Mid-Ebb	Cloudy	Smooth	14:48	2.2	M	1.1	2			7.39		10.75		19.47		45.1		3.91		22.9		26	
M2	17/2/2022	Mid-Ebb	Cloudy	Smooth	14:29	1.2	M	0.6	1	0.222	271	7.43	7.44	10.88	10.89	19.04	19.05	47.9	48.1	4.15	4.17	24.4	24.3	31	32
M2	17/2/2022	Mid-Ebb	Cloudy	Smooth	14:29	1.2	M	0.6	2			7.44		10.89		19.06		48.3		4.19		24.1		32	
M3	17/2/2022	Mid-Ebb	Cloudy	Smooth	14:30	0.6	M	0.3	1	0.184	260	7.20	7.21	8.06	8.07	18.81	18.82	58.1	57.8	5.20	5.17	31.0	31.1	31	33
M3	17/2/2022	Mid-Ebb	Cloudy	Smooth	14:30	0.6	M	0.3	2			7.21		8.08		18.83		57.5		5.14		31.1		34	

Remark

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For Flood Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M2(Impact Station)	1.88	1.79	43.0	52.4	81	112
M3(Impact Station)	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(Impact Station)	2.25	1.91	48.4	50.4	59	68

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

Water Quality Monitoring Results

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	19/2/2022	Mid-Flood	Cloudy	Smooth	10:12	1.1	M	0.55	1	0.126	230	7.20	7.20	12.83	12.83	16.87	16.88	60.7	60.5	5.44	5.43	27.2	27.3	38	40
M1	19/2/2022	Mid-Flood	Cloudy	Smooth	10:12	1.1	M	0.55	2			7.20		12.83		16.88		60.3		5.42		27.3		42	
M2	19/2/2022	Mid-Flood	Cloudy	Smooth	10:27	1.2	M	0.6	1	0.115	227	7.43	7.43	12.17	12.17	17.25	17.25	54.8	54.7	4.90	4.89	22.7	22.7	34	35
M2	19/2/2022	Mid-Flood	Cloudy	Smooth	10:27	1.2	M	0.6	2			7.43		12.17		17.25		54.5		4.88		22.7		35	
M3	19/2/2022	Mid-Flood	Fine	Moderate	10:05	1.5	M	0.75	1	0.064	236	6.94	6.97	11.86	11.85	17.64	17.64	54.9	54.8	4.88	4.87	27.6	27.6	31	29
M3	19/2/2022	Mid-Flood	Fine	Moderate	10:05	1.5	M	0.75	2			6.99		11.84		17.64		54.6		4.85		27.5		27	
M1	19/2/2022	Mid-Ebb	Cloudy	Smooth	16:01	0.9	M	0.45	1	0.118	197	7.54	7.54	12.95	12.95	17.54	17.55	63.1	63.0	5.75	5.74	34.2	34.2	56	57
M1	19/2/2022	Mid-Ebb	Cloudy	Smooth	16:01	0.9	M	0.45	2			7.54		12.95		17.55		62.8		5.73		34.2		57	
M2	19/2/2022	Mid-Ebb	Cloudy	Smooth	15:43	1	M	0.5	1	0.097	112	7.44	7.44	12.23	12.23	18.29	18.30	54.3	54.2	4.85	4.85	22.1	22.1	32	33
M2	19/2/2022	Mid-Ebb	Cloudy	Smooth	15:43	1	M	0.5	2			7.44		12.23		18.30		54.1		4.84		22.1		34	
M3	19/2/2022	Mid-Ebb	Fine	Moderate	15:45	1.2	M	0.6	1	0.048	141	6.99	6.98	11.89	11.88	17.81	17.82	51.1	51.2	4.53	4.54	25.8	25.8	37	39
M3	19/2/2022	Mid-Ebb	Fine	Moderate	15:45	1.2	M	0.6	2			6.97		11.87		17.82		51.2		4.55		25.7		40	

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For Flood Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M2(Impact Station)	1.88	1.79	43.0	52.4	81	112
M3(Impact Station)	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(Impact Station)	2.25	1.91	48.4	50.4	59	68

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

Water Quality Monitoring Results

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	22/2/2022	Mid-Flood	Cloudy	Moderate	11:13	1.2	M	0.6	1	0.136	208	7.67	7.67	0.69	0.69	12.03	12.03	72.6	72.5	7.78	7.77	24.0	24.0	23	24
M1	22/2/2022	Mid-Flood	Cloudy	Moderate	11:13	1.2	M	0.6	2			7.67		0.69		12.03		72.4		7.76		24.0		24	
M2	22/2/2022	Mid-Flood	Cloudy	Moderate	11:29	1.1	M	0.55	1	0.157	212	7.63	7.63	0.65	0.65	12.40	12.39	71.2	71.1	7.57	7.56	25.8	25.8	21	21
M2	22/2/2022	Mid-Flood	Cloudy	Moderate	11:29	1.1	M	0.55	2			7.63		0.65		12.39		71.0		7.55		25.8		20	
M3	22/2/2022	Mid-Flood	Fine	Moderate	11:20	1.1	M	0.55	1	0.068	143	7.71	7.73	0.66	0.65	12.01	12.02	79.7	79.8	8.55	8.56	28.8	28.8	14	15
M3	22/2/2022	Mid-Flood	Fine	Moderate	11:20	1.1	M	0.55	2			7.74		0.64		12.03		79.8		8.57		28.8		15	
M1	22/2/2022	Mid-Ebb	Cloudy	Moderate	17:48	1	M	0.5	1	0.115	208	7.63	7.63	1.01	1.01	13.97	13.98	75.4	75.3	7.96	7.95	28.3	28.3	29	28
M1	22/2/2022	Mid-Ebb	Cloudy	Moderate	17:48	1	M	0.5	2			7.63		1.01		13.98		75.2		7.94		28.3		27	
M2	22/2/2022	Mid-Ebb	Cloudy	Moderate	17:30	0.9	M	0.45	1	0.112	119	7.69	7.69	0.81	0.81	13.26	13.27	69.0	68.9	7.37	7.36	22.7	22.8	14	14
M2	22/2/2022	Mid-Ebb	Cloudy	Moderate	17:30	0.9	M	0.45	2			7.69		0.81		13.28		68.7		7.35		22.8		13	
M3	22/2/2022	Mid-Ebb	Fine	Moderate	17:35	0.9	M	0.45	1	0.046	74	7.68	7.69	0.67	0.67	12.27	12.28	72.1	72.3	7.69	7.70	22.5	22.5	21	19
M3	22/2/2022	Mid-Ebb	Fine	Moderate	17:35	0.9	M	0.45	2			7.69		0.66		12.28		72.4		7.70		22.5		17	

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For Flood Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M2(Impact Station)	1.88	1.79	43.0	52.4	81	112
M3(Impact Station)	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(Impact Station)	2.25	1.91	48.4	50.4	59	68

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

Water Quality Monitoring Results

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	24/2/2022	Mid-Flood	Fine	Moderate	12:32	1.1	M	0.55	1	0.063	72	7.46	7.46	0.82	0.82	14.62	14.63	55.8	55.5	5.64	5.61	20.9	21.0	30	31
M1	24/2/2022	Mid-Flood	Fine	Moderate	12:32	1.1	M	0.55	2			7.45		0.82		14.63		55.1		5.57		21.1		32	
M2	24/2/2022	Mid-Flood	Fine	Moderate	12:48	0.9	M	0.45	1	0.058	56	7.44	7.47	0.77	0.80	14.72	14.72	54.6	54.4	5.52	5.50	21.2	21.3	23	23
M2	24/2/2022	Mid-Flood	Fine	Moderate	12:48	0.9	M	0.45	2			7.49		0.82		14.73		54.2		5.48		21.3		22	
M3	24/2/2022	Mid-Flood	Cloudy	Smooth	12:31	1.3	M	0.65	1	0.024	257	7.42	7.42	1.73	1.73	14.74	14.74	56.0	55.9	5.62	5.61	24.2	24.2	19	20
M3	24/2/2022	Mid-Flood	Cloudy	Smooth	12:31	1.3	M	0.65	2			7.42		1.73		14.74		55.8		5.60		24.1		21	
M1	24/2/2022	Mid-Ebb	Fine	Moderate	19:52	0.9	M	0.45	1	0.042	134	7.53	7.53	1.09	1.10	14.77	14.70	68.7	68.4	6.59	6.58	23.8	23.8	20	21
M1	24/2/2022	Mid-Ebb	Fine	Moderate	19:52	0.9	M	0.45	2			7.52		1.10		14.64		68.1		6.57		23.7		22	
M2	24/2/2022	Mid-Ebb	Fine	Moderate	19:30	0.7	M	0.35	1	0.033	94	7.47	7.47	1.01	1.02	14.65	14.64	64.2	64.5	6.49	6.51	21.9	21.9	23	23
M2	24/2/2022	Mid-Ebb	Fine	Moderate	19:30	0.7	M	0.35	2			7.46		1.03		14.64		64.7		6.52		21.9		23	
M3	24/2/2022	Mid-Ebb	Cloudy	Smooth	19:33	0.9	M	0.45	1	0.015	241	7.41	7.42	1.07	1.07	14.63	14.63	60.6	60.9	6.12	6.15	22.5	22.4	17	19
M3	24/2/2022	Mid-Ebb	Cloudy	Smooth	19:33	0.9	M	0.45	2			7.42		1.07		14.62		61.1		6.18		22.4		20	

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For Flood Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M2(Impact Station)	1.88	1.79	43.0	52.4	81	112
M3(Impact Station)	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(Impact Station)	2.25	1.91	48.4	50.4	59	68

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

Water Quality Monitoring Results

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	26/2/2022	Mid-Flood	Fine	Smooth	15:20	1.3	M	0.65	1	0.132	217	7.74	7.74	5.41	5.41	19.73	19.74	64.8	64.6	5.98	5.97	16.1	16.1	12	13
M1	26/2/2022	Mid-Flood	Fine	Smooth	15:20	1.3	M	0.65	2			7.74		5.41		19.74		64.4		5.95		16.1		13	
M2	26/2/2022	Mid-Flood	Fine	Smooth	15:04	1.2	M	0.6	1	0.155	197	7.49	7.49	4.70	4.70	19.89	19.88	56.9	56.8	5.25	5.24	14.5	14.5	16	16
M2	26/2/2022	Mid-Flood	Fine	Smooth	15:04	1.2	M	0.6	2			7.49		4.70		19.88		56.6		5.23		14.6		16	
M3	26/2/2022	Mid-Flood	Fine	Moderate	15:05	1.2	M	0.6	1	0.117	71	7.14	7.15	1.00	1.01	15.89	15.90	57.9	57.7	5.70	5.69	11.4	11.4	11	11
M3	26/2/2022	Mid-Flood	Fine	Moderate	15:05	1.2	M	0.6	2			7.15		1.01		15.90		57.4		5.68		11.3		10	
M1	26/2/2022	Mid-Ebb	Fine	Smooth	10:57	1	M	0.5	1	0.106	159	7.29	7.29	5.24	5.24	17.58	17.58	59.5	59.4	5.51	5.50	15.9	15.9	16	17
M1	26/2/2022	Mid-Ebb	Fine	Smooth	10:57	1	M	0.5	2			7.29		5.24		17.57		59.3		5.49		15.8		18	
M2	26/2/2022	Mid-Ebb	Fine	Smooth	11:14	0.9	M	0.45	1	0.121	143	7.53	7.53	4.69	4.69	17.91	17.91	60.9	60.7	5.62	5.60	14.1	14.2	16	17
M2	26/2/2022	Mid-Ebb	Fine	Smooth	11:14	0.9	M	0.45	2			7.53		4.69		17.91		60.5		5.58		14.2		17	
M3	26/2/2022	Mid-Ebb	Fine	Moderate	11:08	0.9	M	0.45	1	0.063	104	7.12	7.12	0.99	0.99	15.88	15.88	59.2	59.2	5.82	5.82	11.8	11.8	11	12
M3	26/2/2022	Mid-Ebb	Fine	Moderate	11:08	0.9	M	0.45	2			7.11		0.99		15.88		59.1		5.81		11.8		13	

Remark

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For Flood Tide

Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
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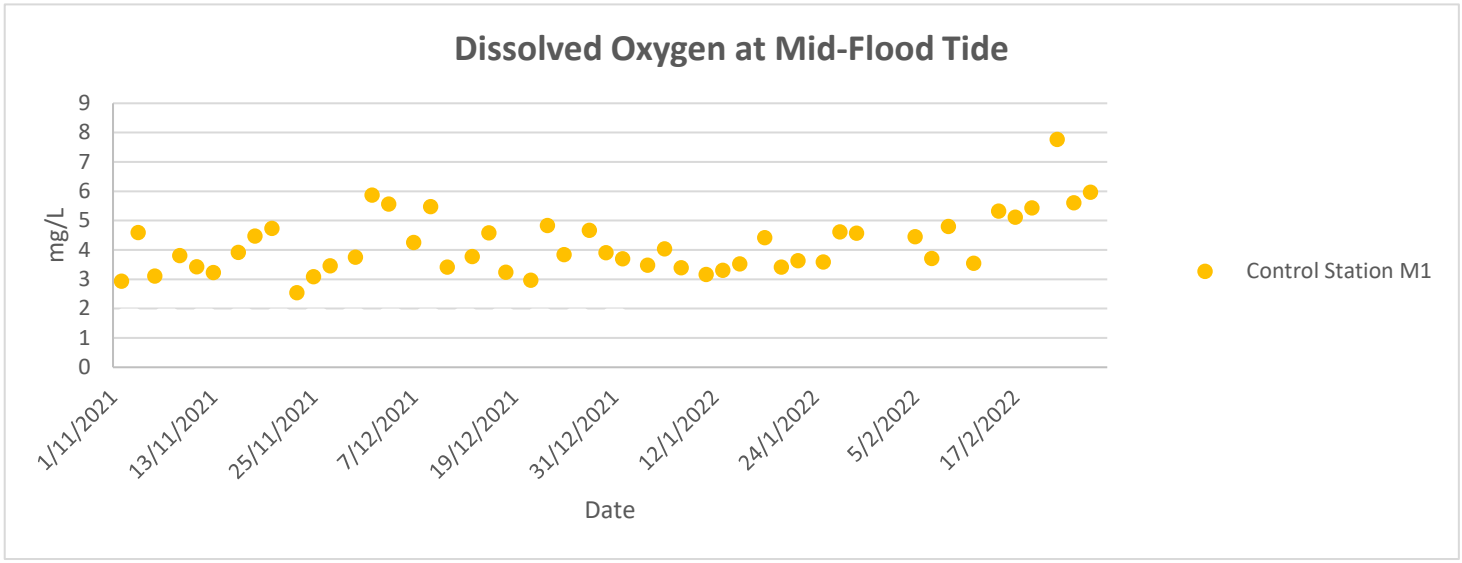
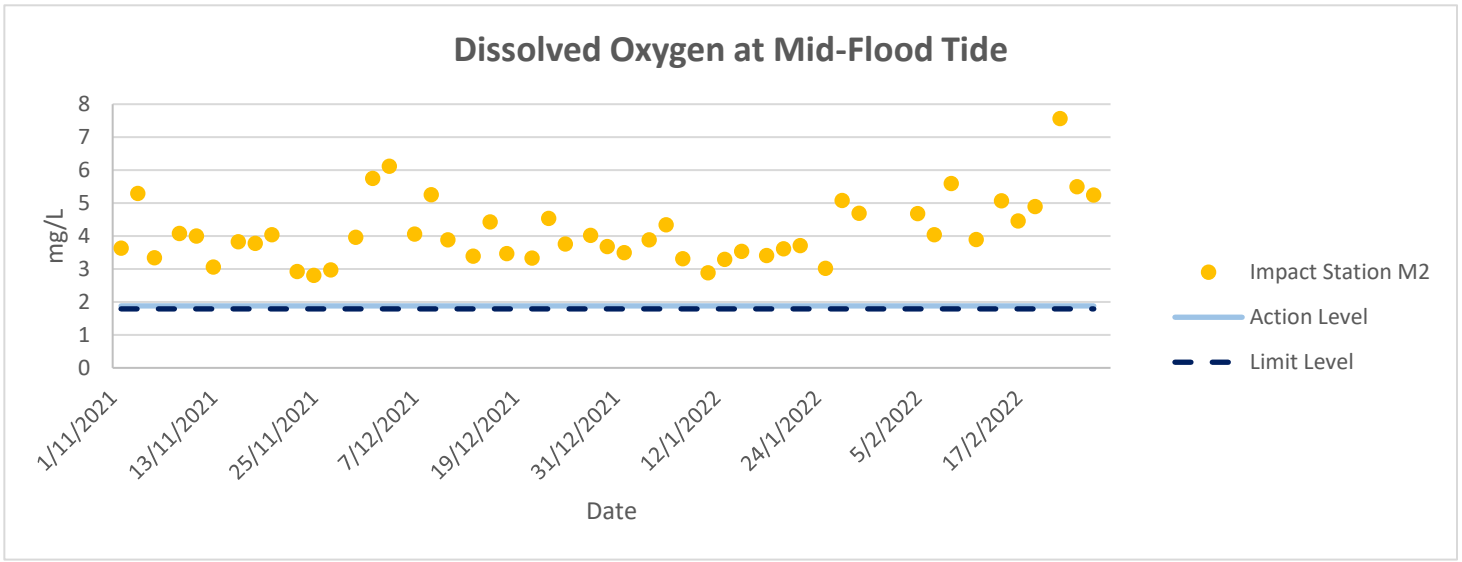
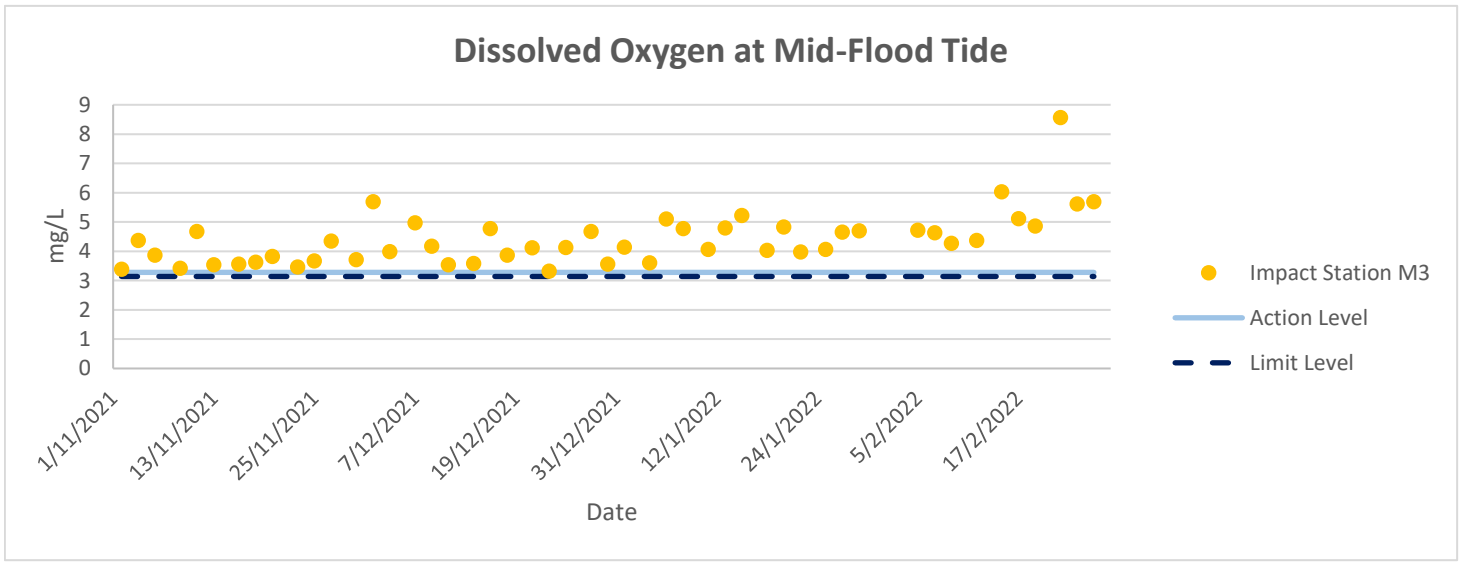
For Ebb Tide

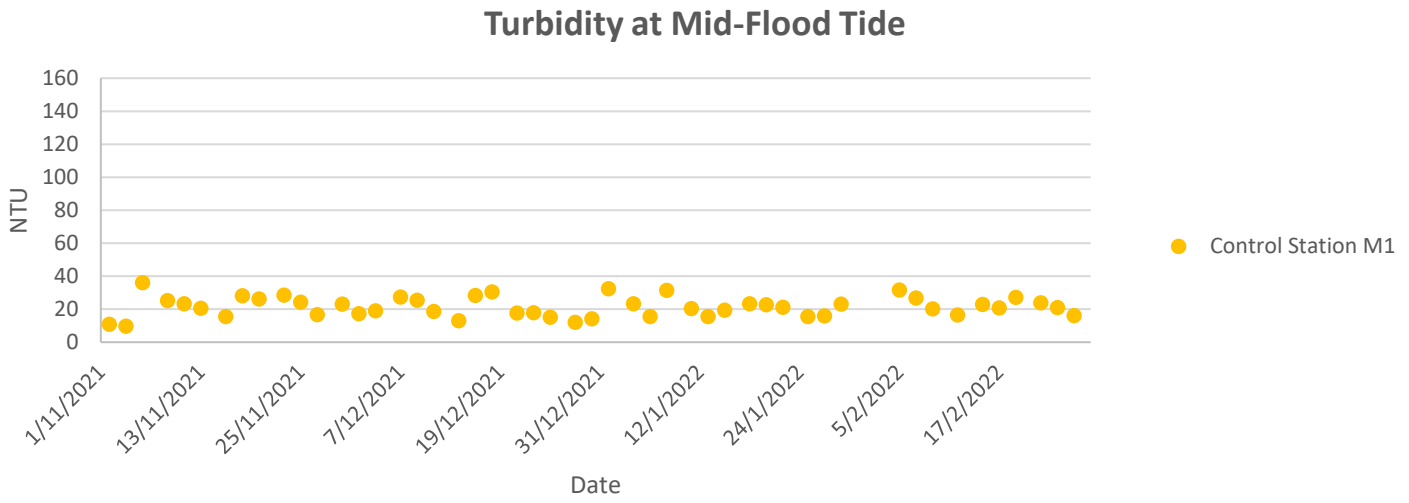
Monitoring Location	DO		NTU		SS	
	AL	LL	AL	LL	AL	LL
M1(Impact Station)	2.25	1.91	48.4	50.4	59	68

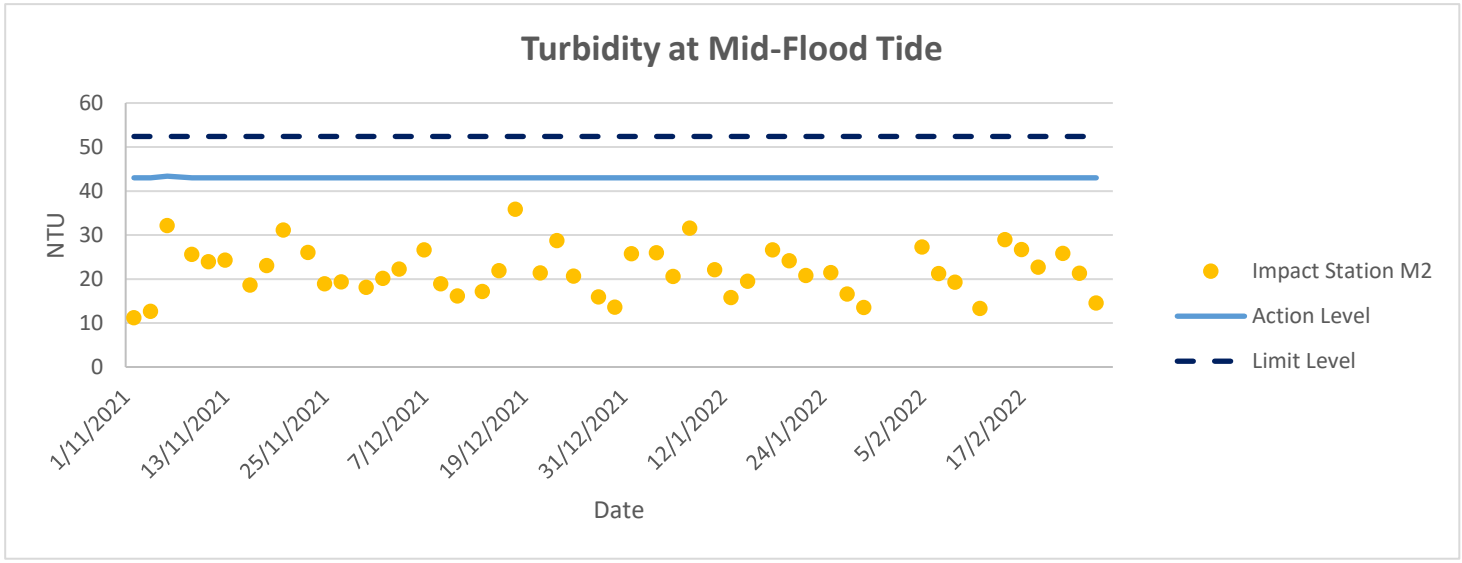


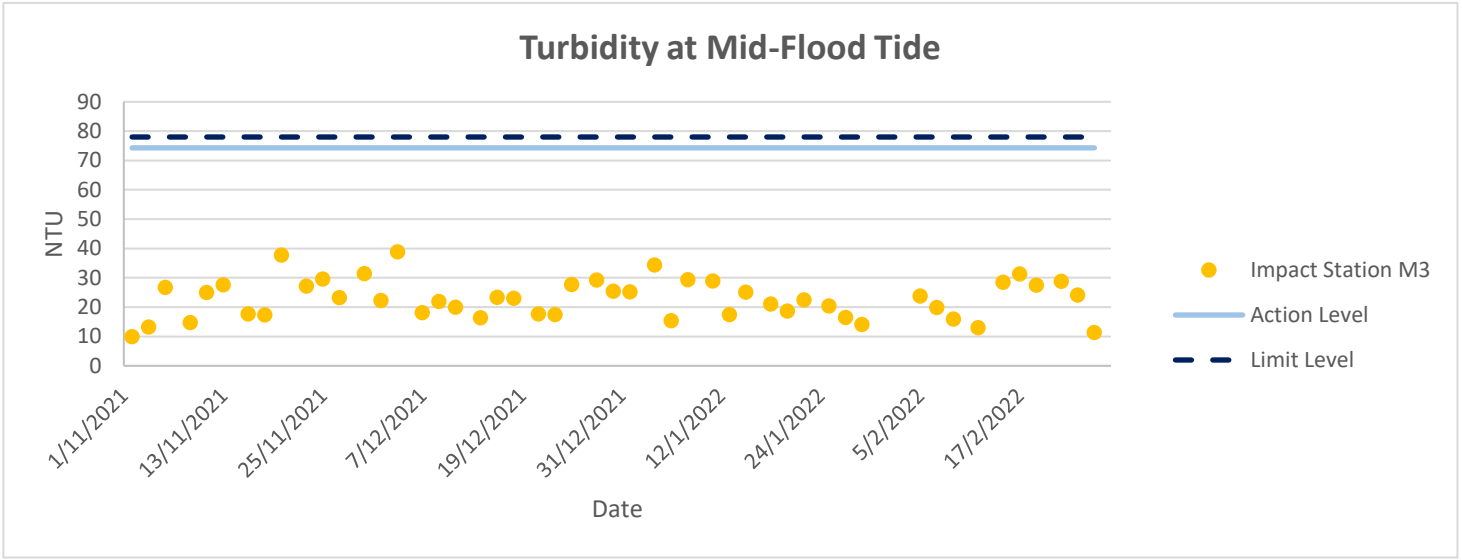




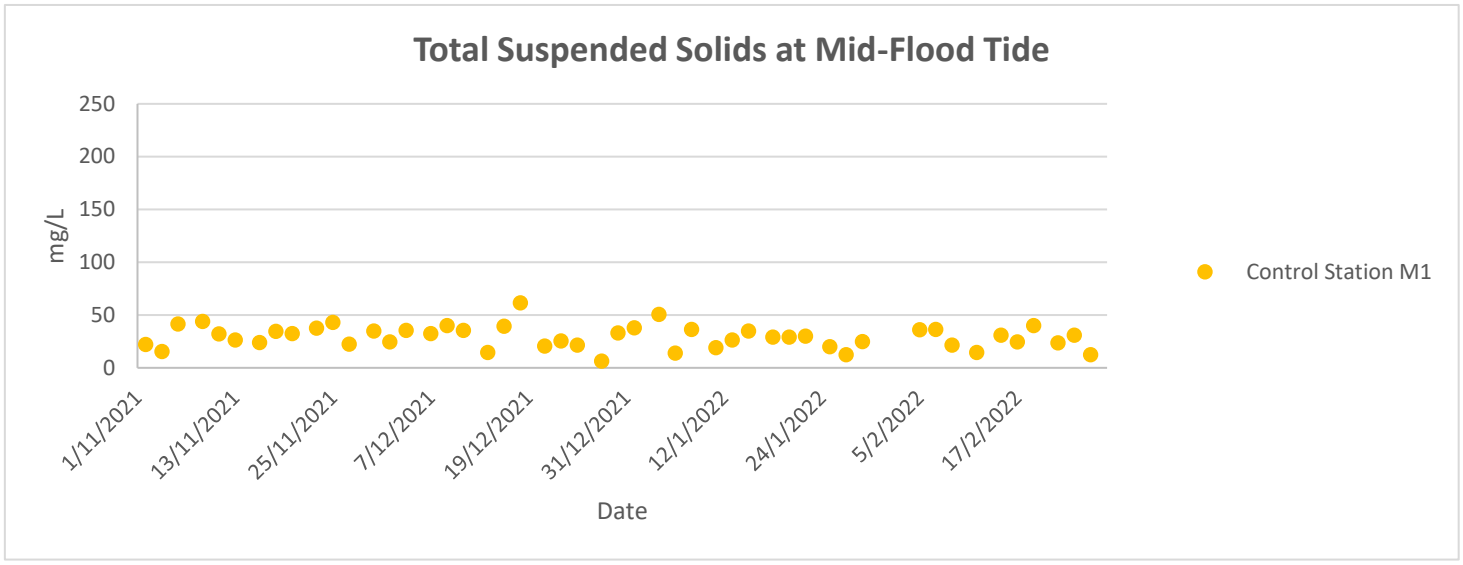
Water Quality Monitoring Results

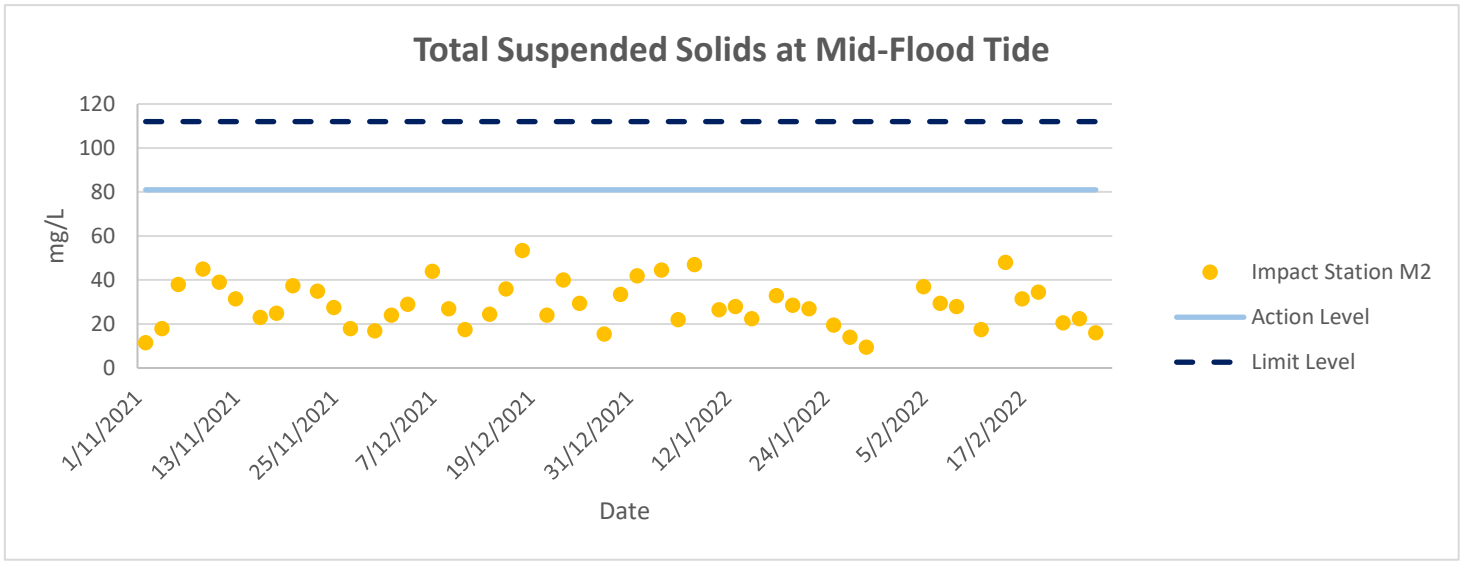


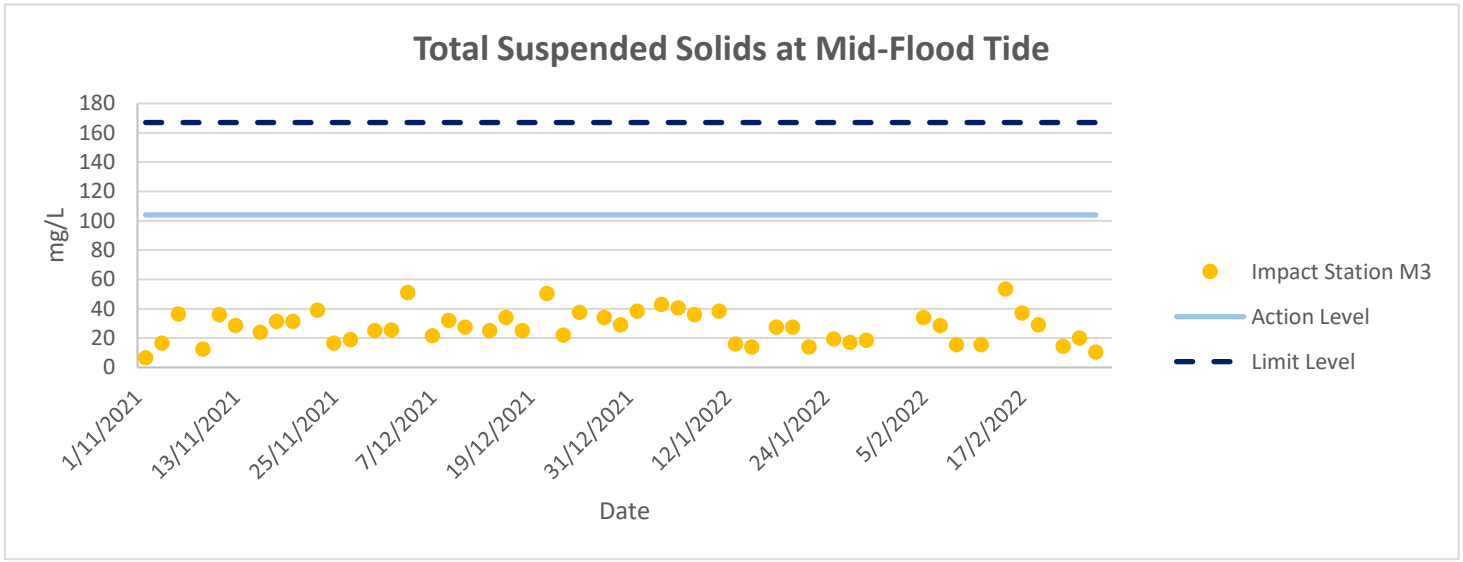




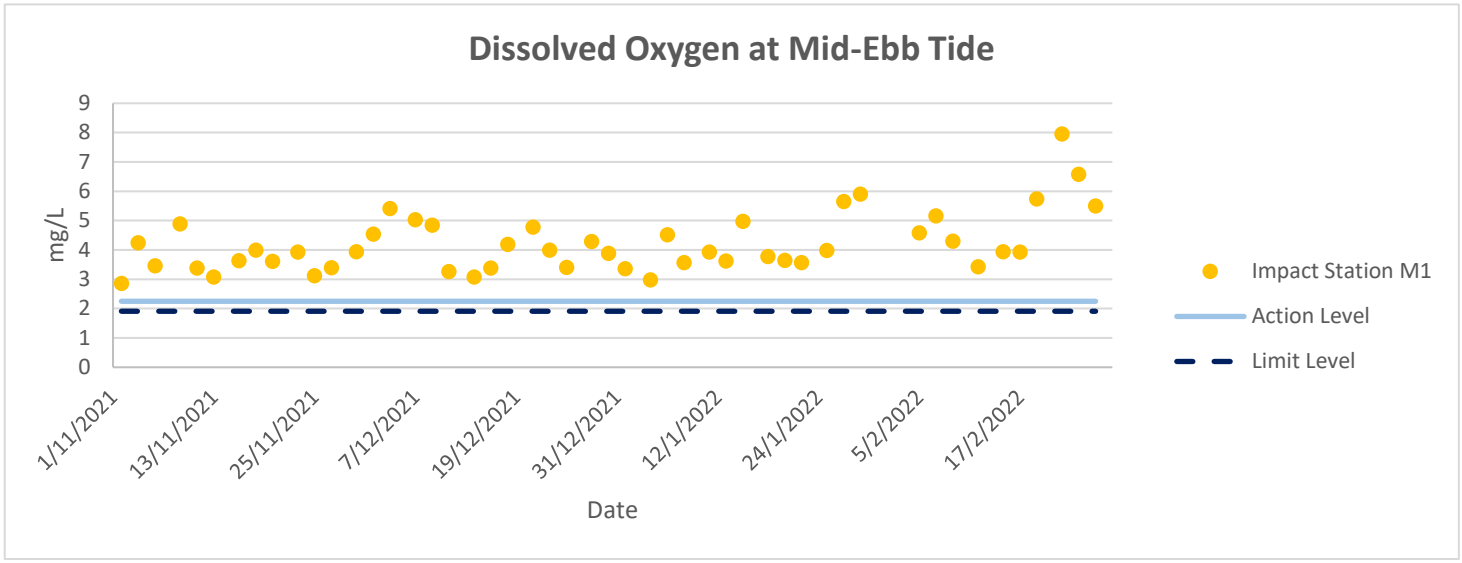
Water Quality Monitoring Results

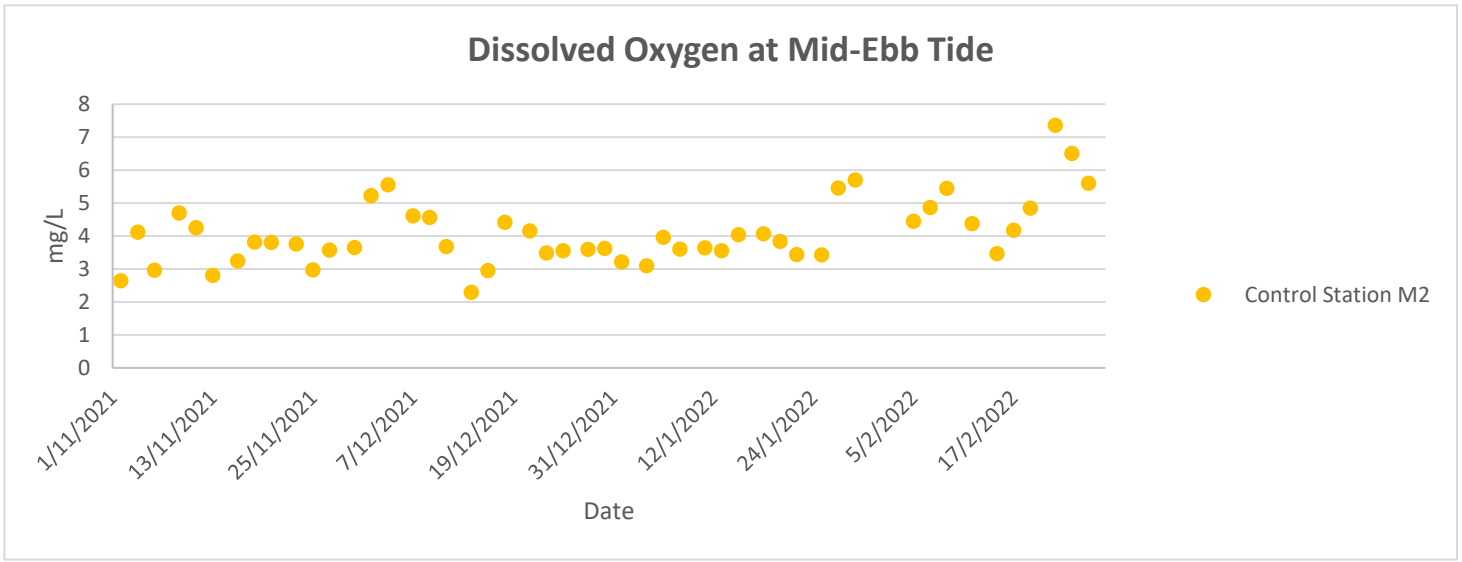


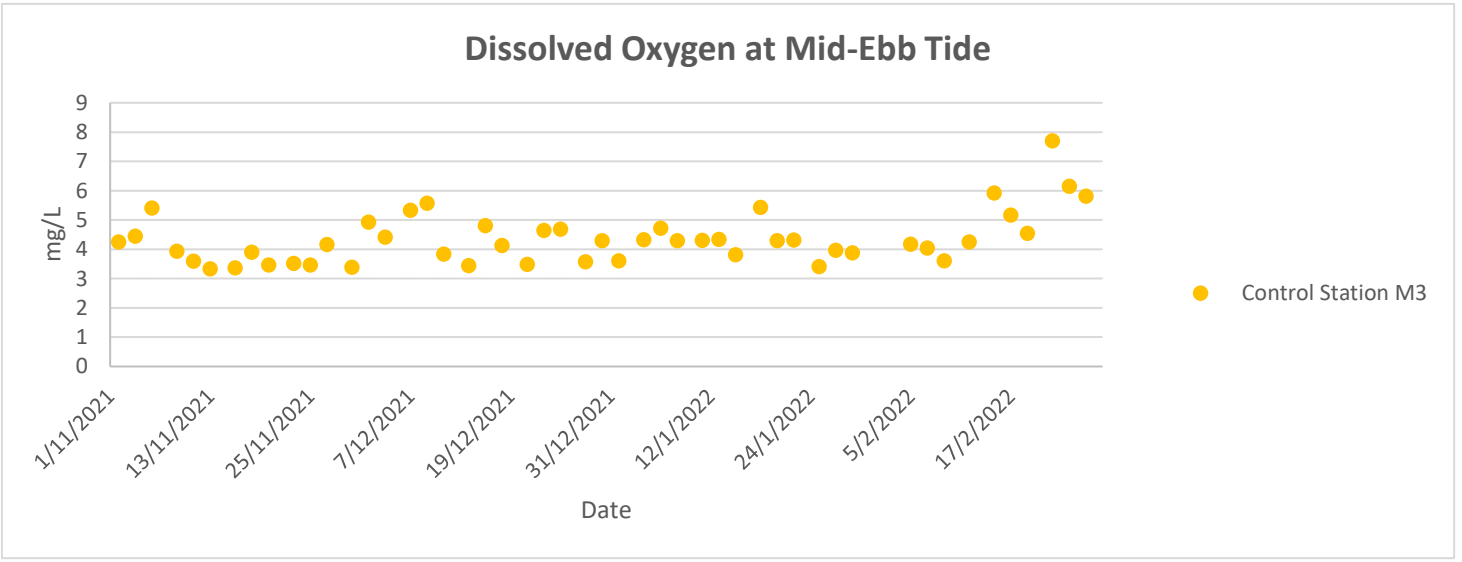




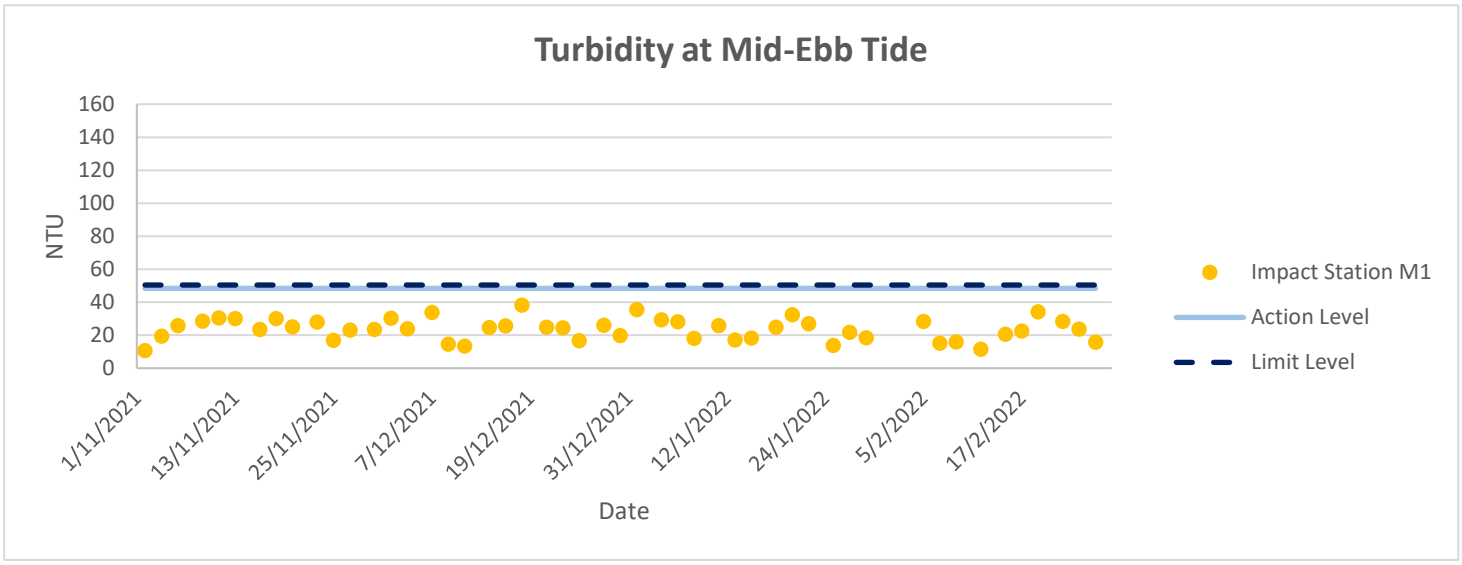
Water Quality Monitoring Results

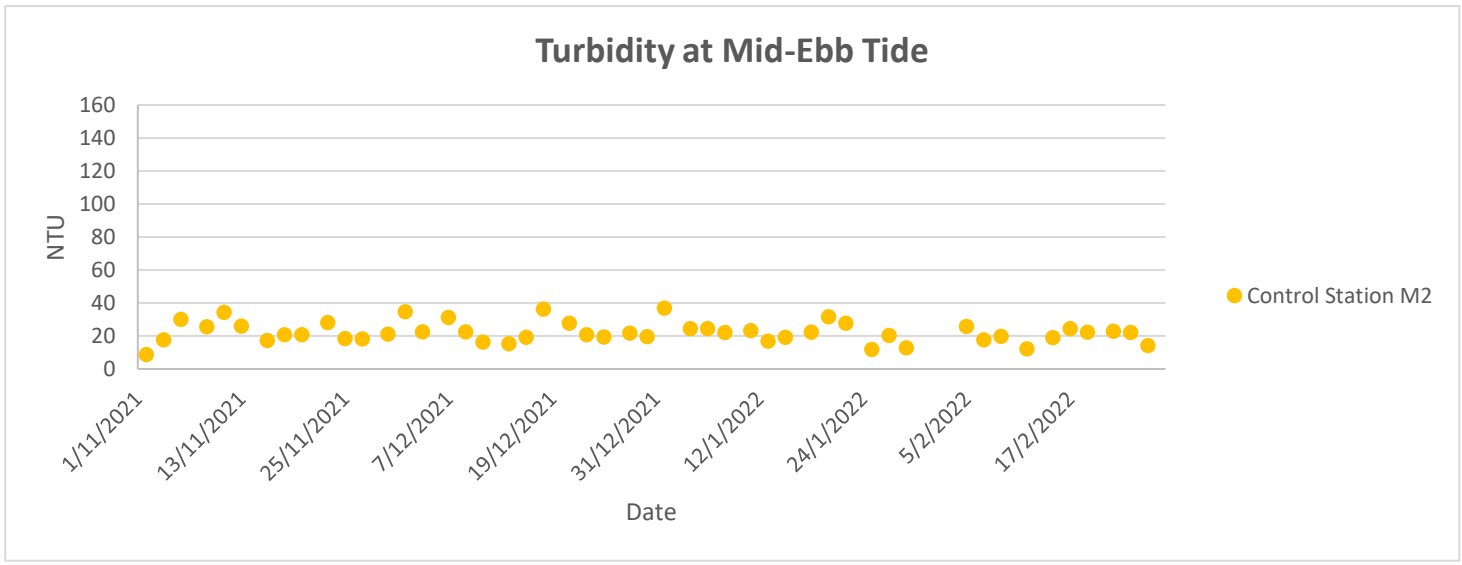


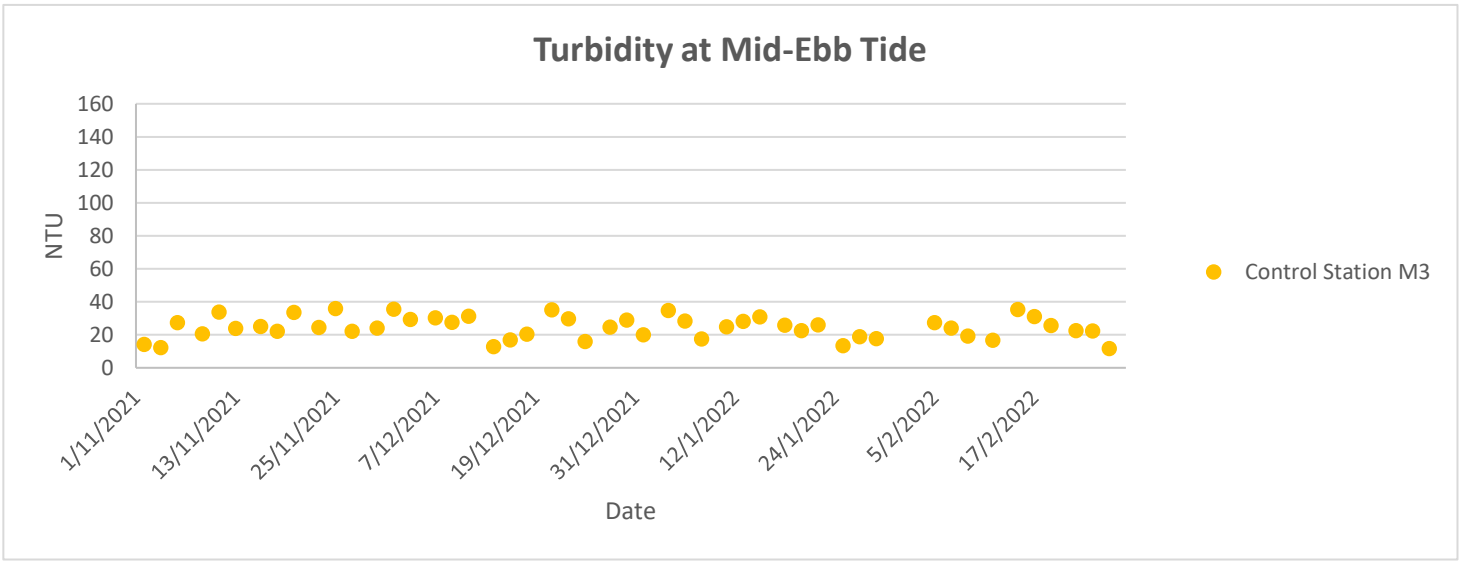




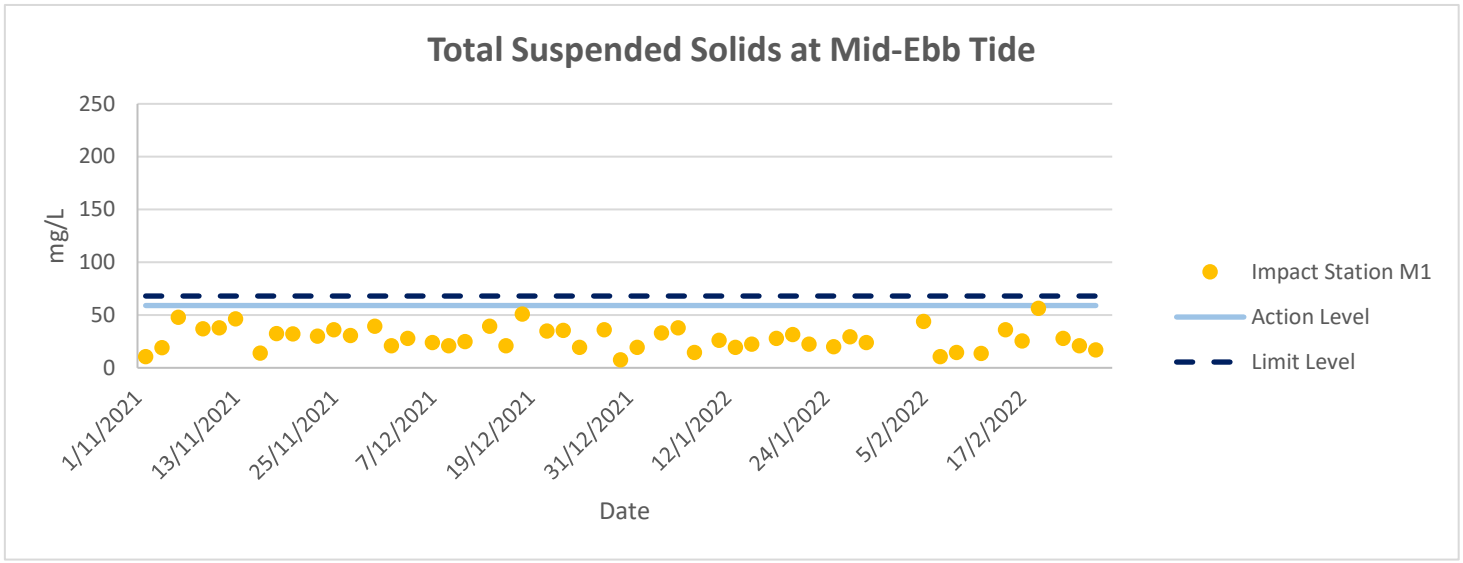
Water Quality Monitoring Results

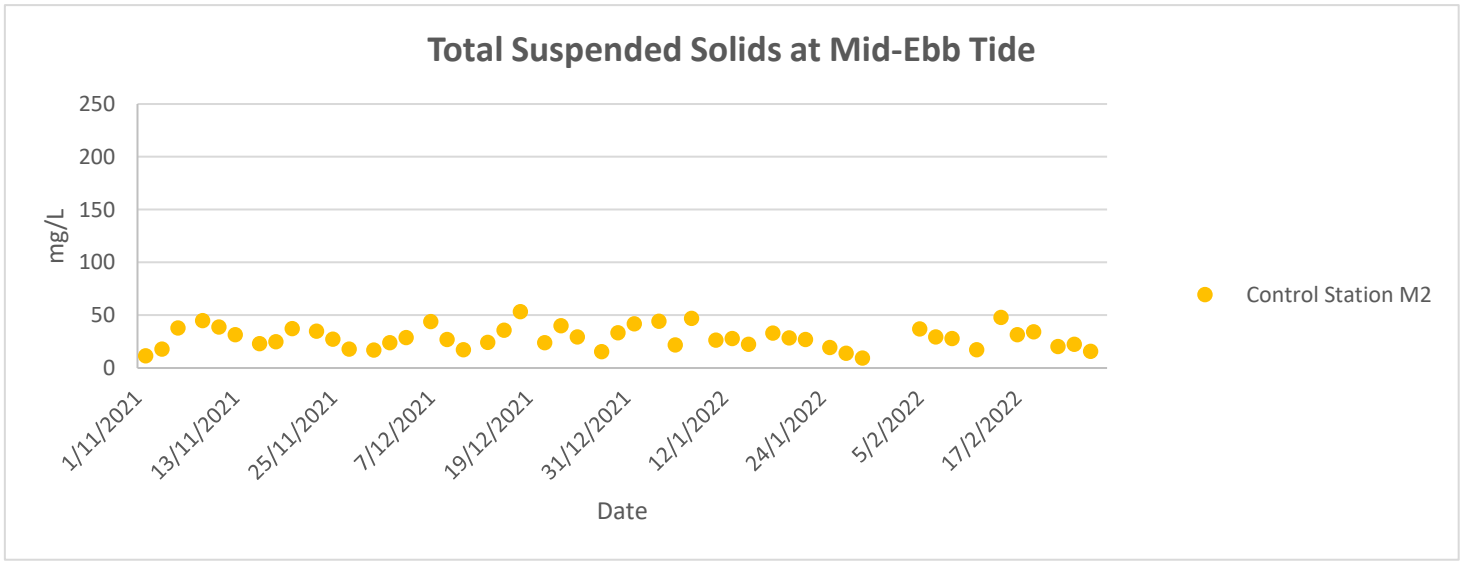


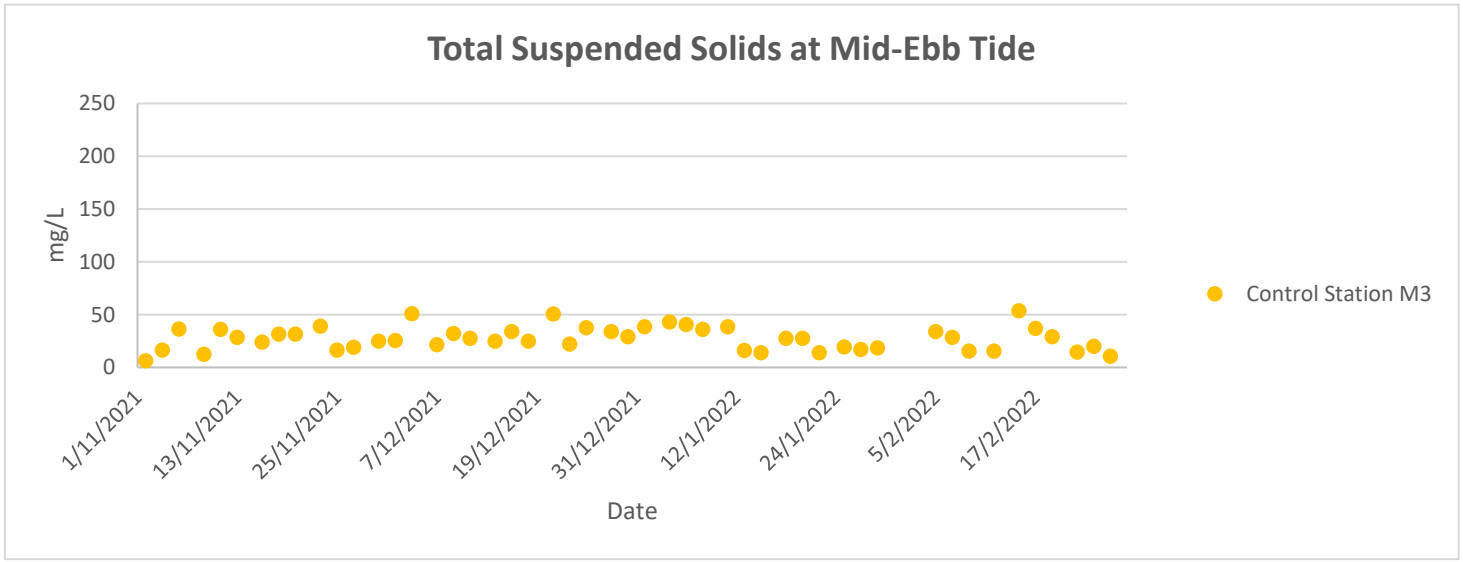




Water Quality Monitoring Results







Water Quality Monitoring Results

Ecology Monitoring Results

Appendix F.1 Supplemental Discussion

F.1.1 Ecological Monitoring of Birds

F.1.1.1 Abundance

F.1.1.1.1 All Avifauna Species

Point Count

Among the different species recorded, the Great Cormorant *Phalacrocorax carbo* was noted with the highest abundance (80 ind.). On the other hand, species with the least abundance (1 ind.) was the Common Kingfisher *Alcedo atthis*.

Transect Walk

Among the different species recorded, the Black-headed Gull *Chroicocephalus ridibundus* was noted with the highest abundance (17 ind.); while the three species Collared Crow *Corvus torquatus*, Little Ringed Plover *Charadrius dubius* and White Wagtail *Motacilla alba* had the least abundance (1 ind.).

F.1.1.1.2 Avifauna Species of Conservation Importance

Point Count

Among the different species recorded, the Great Cormorant was recorded with the highest abundance (80 ind.). On the other hand, the Greater Coucal *Centropus sinensis* had the lowest abundance (1 ind. each).

Transect Walk

Among the different species recorded, the Black-headed Gull was noted with the highest abundance (17 ind.) while the Collared Crow had the lowest recorded abundance (1 ind.).

Appendix F.2 Ecological Bird Monitoring Result (15 and 18 February 2022)

Date (dd/mm/yyyy)	Daytime/Night time	Season	Area	Transect/Point Count	Point Count (Location)/Transect Impact	Habitat	Common Name	Scientific Name	Abundance	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
15/02/2022	Daytime	Dry Season	FLW	Transect	FLW	Pond-FLW	Collared Crow	*Corvus torquatus*	1	Uncommon	R	LC	-	-	NT	VU	Y	Y
15/02/2022	Daytime	Dry Season	FLW	Transect	FLW	In flight	Barn Swallow	*Hirundo rustica*	8	Abundant	PM,SV	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW1	Pond-FLW	Grey Heron	*Ardea cinerea*	1	Common	WV	PRC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW1	Pond-FLW	Greater Coucal	*Centropus sinensis*	1	Common	R	-	Class II	Vulnerable	LC	LC	Y	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW1	Pond-FLW	Large-billed Crow	*Corvus macrorhynchos*	4	Common	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW1	Pond-FLW	Azure-winged Magpie	*Cyanopica cyanus*	4	Introduced	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW1	Pond-FLW	Little Egret	*Egretta garzetta*	2	Common	R	PRC (RC)	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW1	Pond-FLW	White Wagtail	*Motacilla alba*	3	Common	PM,WV	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW1	Pond-FLW	Japanese White-eye	*Zosterops japonicus*	3	Abundant	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW2	Pond-FLW	Oriental Magpie Robin	*Copsychus saularis*	1	Abundant	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW2	Pond-FLW	Little Egret	*Egretta garzetta*	1	Common	R	PRC (RC)	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW2	Pond-FLW	White Wagtail	*Motacilla alba*	1	Common	PM,WV	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW2	Pond-FLW	Dusky Warbler	*Phylloscopus fuscatus*	3	Common	PM,WV	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW2	Pond-FLW	Yellow-bellied Prinia	*Prinia flaviventris*	2	Common	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW2	Pond-FLW	Plain Prinia	*Prinia inornata*	3	Common	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW2	Pond-FLW	Spotted Dove	*Spilopelia chinensis*	3	Abundant	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW3	Pond-FLW	Crested Myna	*Acridotheres cristatellus*	4	Common	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW3	Pond-FLW	Oriental Magpie Robin	*Copsychus saularis*	1	Abundant	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW3	Pond-FLW	White Wagtail	*Motacilla alba*	1	Common	PM,WV	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW3	Pond-FLW	Common Tailorbird	*Orthotomus sutorius*	1	Common	R	-	-	-	LC	LC	N	N

15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW3	In flight	Great Cormorant	*Phalacrocorax carbo*	20	Common	WV	PRC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW3	Pond-FLW	Yellow-bellied Prinia	*Prinia flaviventris*	3	Common	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW3	Pond-FLW	Plain Prinia	*Prinia inornata*	1	Common	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW3	Pond-FLW	Red-whiskered Bulbul	*Pycnonotus jocosus*	3	Abundant	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW3	Pond-FLW	Chinese Bulbul	*Pycnonotus sinensis*	3	Abundant	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW3	Pond-FLW	Eurasian Collared Dove	*Streptopelia decaocto*	3	Found in Mai Po, Tsim Bei Tsui, Fung Lok Wai	-	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW4	Pond-FLW	Eurasian Teal	*Anas crecca*	4	Common	WV	RC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW4	Pond-FLW	Chinese Pond Heron	*Ardeola bacchus*	4	Common	R	PRC (RC)	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW4	Pond-FLW	Large-billed Crow	*Corvus macrorhynchos*	2	Common	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW4	Pond-FLW	White-throated Kingfisher	*Halcyon smyrnensis*	1	Common	R	-	-	-	LC	LC	N	Y
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW4	Pond-FLW	Barn Swallow	*Hirundo rustica*	1	Abundant	PM,SV	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW4	Pond-FLW	Black Kite	*Milvus migrans*	1	Common	R,WV	(RC)	Class II	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW4	Pond-FLW	Great Cormorant	*Phalacrocorax carbo*	4	Common	WV	PRC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW4	Pond-FLW	Plain Prinia	*Prinia inornata*	2	Common	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW4	Pond-FLW	Chinese Bulbul	*Pycnonotus sinensis*	4	Abundant	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW4	Pond-FLW	Eurasian Collared Dove	*Streptopelia decaocto*	2	Found in Mai Po, Tsim Bei Tsui, Fung Lok Wai	-	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW5	Pond-FLW	Crested Myna	*Acridotheres cristatellus*	23	Common	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW5	Pond-FLW	Great Egret	*Ardea alba*	3	Common	R,WV	PRC (RC)	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW5	Pond-FLW	Grey Heron	*Ardea cinerea*	1	Common	WV	PRC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW5	Pond-FLW	Chinese Pond Heron	*Ardeola bacchus*	4	Common	R	PRC (RC)	-	-	LC	LC	Y	Y

15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW5	Pond-FLW	Eastern Cattle Egret	*Bubulcus coromandus*	9	Common	R.PM	-	-	-	LC	LC	N	Y
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW5	Pond-FLW	Pied Kingfisher	*Ceryle rudis*	1	Uncommon	R	-	-	-	LC	LC	N	Y
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW5	Pond-FLW	Oriental Magpie Robin	*Copsychus saularis*	1	Abundant	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW5	Pond-FLW	Little Egret	*Egretta garzetta*	3	Common	R	PRC (RC)	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW5	Pond-FLW	Intermediate Egret	*Egretta intermedia*	1	Common	PM	RC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW5	Pond-FLW	White Wagtail	*Motacilla alba*	3	Common	PM,WV	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW5	Pond-FLW	Eurasian Tree Sparrow	*Passer montanus*	4	Abundant	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW5	Pond-FLW	Red Turtle Dove	*Streptopelia tranquebarica*	5	Uncommon	PM	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW6	Pond-FLW	Great Egret	*Ardea alba*	2	Common	R,WV	PRC (RC)	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW6	Pond-FLW	Grey Heron	*Ardea cinerea*	4	Common	WV	PRC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW6	Pond-FLW	Eastern Cattle Egret	*Bubulcus coromandus*	11	Common	R.PM	-	-	-	LC	LC	N	Y
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW6	Pond-FLW	Oriental Magpie Robin	*Copsychus saularis*	2	Abundant	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW6	Pond-FLW	Azure-winged Magpie	*Cyanopica cyanus*	3	Introduced	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW6	Pond-FLW	Masked Laughingthrush	*Garrulax perspicillatus*	4	Abundant	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW6	Pond-FLW	Black-collared Starling	*Gracupica nigricollis*	6	Common	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW6	Pond-FLW	White-throated Kingfisher	*Halcyon smyrnensis*	1	Common	R	-	-	-	LC	LC	N	Y
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW6	Pond-FLW	Barn Swallow	*Hirundo rustica*	17	Abundant	PM,SV	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW6	Pond-FLW	White Wagtail	*Motacilla alba*	3	Common	PM,WV	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW6	Pond-FLW	Eastern Yellow Wagtail	*Motacilla tschutschensis*	3	Common	PM,WV	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW6	Pond-FLW	Common Tailorbird	*Orthotomus sutorius*	3	Common	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW6	Pond-FLW	Spotted Dove	*Spilopelia chinensis*	1	Abundant	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW6	Pond-FLW	Japanese White-eye	*Zosterops japonicus*	3	Abundant	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW7	Pond-FLW	Crested Myna	*Acridotheres cristatellus*	28	Common	R	-	-	-	LC	LC	N	N

15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW7	Pond-FLW	Greater Coucal	*Centropus sinensis*	1	Common	R	-	Class II	Vulnerable	LC	LC	Y	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW7	Pond-FLW	Pied Kingfisher	*Ceryle rudis*	1	Uncommon	R	-	-	-	LC	LC	N	Y
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW7	Pond-FLW	Oriental Magpie Robin	*Copsychus saularis*	2	Abundant	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW7	Pond-FLW	Little Egret	*Egretta garzetta*	5	Common	R	PRC (RC)	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW7	Pond-FLW	Intermediate Egret	*Egretta intermedia*	7	Common	PM	RC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW7	Pond-FLW	Black-collared Starling	*Gracupica nigricollis*	7	Common	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW7	Pond-FLW	White-throated Kingfisher	*Halcyon smyrnensis*	1	Common	R	-	-	-	LC	LC	N	Y
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW7	Pond-FLW	Black Kite	*Milvus migrans*	2	Common	R,WV	(RC)	Class II	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW7	Pond-FLW	White Wagtail	*Motacilla alba*	4	Common	PM,WV	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	FLW	Point Count	FLW7	Pond-FLW	Great Cormorant	*Phalacrocorax carbo*	1	Common	WV	PRC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	NSW	Transect	NSW	Modified Watercourse	Great Egret	*Ardea alba*	3	Common	R,WV	PRC (RC)	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	NSW	Transect	NSW	Modified Watercourse	Grey Heron	*Ardea cinerea*	1	Common	WV	PRC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	NSW	Transect	NSW	Modified Watercourse	Little Egret	*Egretta garzetta*	2	Common	R	PRC (RC)	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	NSW	Transect	NSW	Modified Watercourse	Intermediate Egret	*Egretta intermedia*	2	Common	PM	RC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	NSW	Transect	NSW	Modified Watercourse	Great Cormorant	*Phalacrocorax carbo*	5	Common	WV	PRC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	NSW	Point Count	NSW1	Pond-NSW	Crested Myna	*Acridotheres cristatellus*	6	Common	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	NSW	Point Count	NSW1	Pond-NSW	Common Kingfisher	*Alcedo atthis*	1	Common	PM,WV	-	-	-	LC	LC	N	Y
15/02/2022	Daytime	Dry Season	NSW	Point Count	NSW1	Pond-NSW	White-breasted Waterhen	*Amaurornis phoenicurus*	4	Common	R	-	-	-	LC	LC	N	Y
15/02/2022	Daytime	Dry Season	NSW	Point Count	NSW1	Pond-NSW	Great Egret	*Ardea alba*	1	Common	R,WV	PRC (RC)	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	NSW	Point Count	NSW1	Pond-NSW	Eastern Cattle Egret	*Bubulcus coromandus*	2	Common	R.PM	-	-	-	LC	LC	N	Y
15/02/2022	Daytime	Dry Season	NSW	Point Count	NSW1	Pond-NSW	Pied Kingfisher	*Ceryle rudis*	1	Uncommon	R	-	-	-	LC	LC	N	Y
15/02/2022	Daytime	Dry Season	NSW	Point Count	NSW1	Pond-NSW	Little Egret	*Egretta garzetta*	2	Common	R	PRC (RC)	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	NSW	Point Count	NSW1	Pond-NSW	Masked Laughingthrush	*Garrulax perspicillatus*	3	Abundant	R	-	-	-	LC	LC	N	N

15/02/2022	Daytime	Dry Season	NSW	Point Count	NSW1	Pond-NSW	Black Kite	*Milvus migrans*	1	Common	R,WV	(RC)	Class II	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	NSW	Point Count	NSW1	Pond-NSW	White Wagtail	*Motacilla alba*	2	Common	PM,WV	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	NSW	Point Count	NSW1	Pond-NSW	Common Tailorbird	*Orthotomus sutorius*	2	Common	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	NSW	Point Count	NSW1	Pond-NSW	Eurasian Tree Sparrow	*Passer montanus*	5	Abundant	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	NSW	Point Count	NSW1	Pond-NSW	Great Cormorant	*Phalacrocorax carbo*	30	Common	WV	PRC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	NSW	Point Count	NSW1	Pond-NSW	Dusky Warbler	*Phylloscopus fuscatus*	3	Common	PM,WV	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	NSW	Point Count	NSW1	Pond-NSW	Plain Prinia	*Prinia inornata*	4	Common	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	NSW	Point Count	NSW1	Pond-NSW	Red-whiskered Bulbul	*Pycnonotus jocosus*	6	Abundant	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	NSW	Point Count	NSW1	Pond-NSW	Chinese Bulbul	*Pycnonotus sinensis*	7	Abundant	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	NSW	Point Count	NSW1	Pond-NSW	Spotted Dove	*Spilopelia chinensis*	5	Abundant	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	NSW	Point Count	NSW1	Pond-NSW	Red Turtle Dove	*Streptopelia tranquebarica*	4	Uncommon	PM	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	NSW	Point Count	NSW1	Pond-NSW	Japanese White-eye	*Zosterops japonicus*	2	Abundant	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	NSW	Point Count	SP/NSW1	Modified Watercourse	Crested Myna	*Acridotheres cristatellus*	3	Common	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	NSW	Point Count	SP/NSW1	Modified Watercourse	White-breasted Waterhen	*Amaurornis phoenicurus*	1	Common	R	-	-	-	LC	LC	N	Y
15/02/2022	Daytime	Dry Season	NSW	Point Count	SP/NSW1	Modified Watercourse	Eurasian Teal	*Anas crecca*	15	Common	WV	RC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	NSW	Point Count	SP/NSW1	Modified Watercourse	Northern Pintail	*Anas acuta*	3	Abundant	WV	RC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	NSW	Point Count	SP/NSW1	Modified Watercourse	Chinese Pond Heron	*Ardeola bacchus*	5	Common	R	PRC (RC)	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	NSW	Point Count	SP/NSW1	Modified Watercourse	Black-headed Gull	*Chroicocephalus ridibundus*	23	Common	WV	PRC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	NSW	Point Count	SP/NSW1	Modified Watercourse	Intermediate Egret	*Egretta intermedia*	3	Common	PM	RC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	NSW	Point Count	SP/NSW1	Modified Watercourse	Common Moorhen	*Gallinula chloropus*	6	Common	R	-	-	-	LC	LC	N	Y
15/02/2022	Daytime	Dry Season	NSW	Point Count	SP/NSW1	Modified Watercourse	Black-collared Starling	*Gracupica nigricollis*	2	Common	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	NSW	Point Count	SP/NSW1	Modified Watercourse	Black-winged Stilt	*Himantopus himantopus*	20	Common	PM	RC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	NSW	Point Count	SP/NSW1	Modified Watercourse	Eurasian Tree Sparrow	*Passer montanus*	6	Abundant	R	-	-	-	LC	LC	N	N

15/02/2022	Daytime	Dry Season	NSW	Point Count	SP/NSW1	Modified Watercourse	Black-faced Spoonbill	*Platalea minor*	2	Common	WV	PGC	Class II	EN	EN	EN	Y	Y
15/02/2022	Daytime	Dry Season	NSW	Point Count	SP/NSW1	Modified Watercourse	Plain Prinia	*Prinia inornata*	2	Common	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	NSW	Point Count	SP/NSW1	Modified Watercourse	Red-whiskered Bulbul	*Pycnonotus jocosus*	7	Abundant	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	NSW	Point Count	SP/NSW1	Modified Watercourse	Chinese Bulbul	*Pycnonotus sinensis*	3	Abundant	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	NSW	Point Count	SP/NSW1	Modified Watercourse	Spotted Dove	*Spilopelia chinensis*	1	Abundant	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	NSW	Point Count	SP/NSW1	Modified Watercourse	Little Grebe	*Tachybaptus ruficollis*	5	Common	R	LC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	NSW	Point Count	SP/NSW2	Modified Watercourse	Eurasian Wigeon	Anas penelope	9	Common	WV	RC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	NSW	Point Count	SP/NSW2	Modified Watercourse	Northern Pintail	*Anas acuta*	5	Abundant	WV	RC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	NSW	Point Count	SP/NSW2	Modified Watercourse	Tufted Duck	Aythya fuligula	4	Uncommon	WV	LC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	NSW	Point Count	SP/NSW2	Modified Watercourse	Black-winged Stilt	*Himantopus himantopus*	15	Common	PM	RC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	NSW	Point Count	SP/NSW2	Modified Watercourse	Dusky Warbler	*Phylloscopus fuscatus*	2	Common	PM,WV	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	NSW	Point Count	SP/NSW2	Modified Watercourse	Common Greenshank	*Tringa nebularia*	2	Abundant	PM,WV	RC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	NSW	Point Count	SP/NSW3	Modified Watercourse	Chinese Pond Heron	*Ardeola bacchus*	6	Common	R	PRC (RC)	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	NSW	Point Count	SP/NSW3	Modified Watercourse	Black-faced Spoonbill	*Platalea minor*	1	Common	WV	PGC	Class II	EN	EN	EN	Y	Y
15/02/2022	Daytime	Dry Season	NSW	Point Count	SP/NSW3	Modified Watercourse	Pied Avocet	*Recurvirostra avosetta*	14	Abundant	WV	RC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	NSW	Point Count	SP/NSW3	Modified Watercourse	Little Grebe	*Tachybaptus ruficollis*	5	Common	R	LC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	NSW	Point Count	SP/NSW3	Modified Watercourse	Common Greenshank	*Tringa nebularia*	15	Abundant	PM,WV	RC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	YLIE	Transect	YLIE-CW	Modified Watercourse	Crested Myna	*Acridotheres cristatellus*	6	Common	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	YLIE	Transect	YLIE-CW	Modified Watercourse	Common Kingfisher	*Alcedo atthis*	2	Common	PM,WV	-	-	-	LC	LC	N	Y
15/02/2022	Daytime	Dry Season	YLIE	Transect	YLIE-CW	Modified Watercourse	Eurasian Teal	*Anas crecca*	4	Common	WV	RC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	YLIE	Transect	YLIE-CW	Modified Watercourse	Great Egret	*Ardea alba*	3	Common	R,WV	PRC (RC)	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	YLIE	Transect	YLIE-CW	Modified Watercourse	Grey Heron	*Ardea cinerea*	2	Common	WV	PRC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	YLIE	Transect	YLIE-CW	Modified Watercourse	Little Ringed Plover	*Charadrius dubius*	1	Common	WV,PM	-	-	-	LC	LC	N	Y

15/02/2022	Daytime	Dry Season	YLIE	Transect	YLIE-CW	Modified Watercourse	Black-headed Gull	*Chroicocephalus ridibundus*	17	Common	WV	PRC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	YLIE	Transect	YLIE-CW	Modified Watercourse	Intermediate Egret	*Egretta intermedia*	4	Common	PM	RC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	YLIE	Transect	YLIE-CW	Modified Watercourse	Black-collared Starling	*Gracupica nigricollis*	2	Common	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	YLIE	Transect	YLIE-CW	Modified Watercourse	Black-winged Stilt	*Himantopus himantopus*	12	Common	PM	RC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	YLIE	Transect	YLIE-CW	Modified Watercourse	White Wagtail	*Motacilla alba*	1	Common	PM,WV	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	YLIE	Transect	YLIE-CW	Modified Watercourse	Eurasian Tree Sparrow	*Passer montanus*	3	Abundant	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	YLIE	Transect	YLIE-CW	Modified Watercourse	Great Cormorant	*Phalacrocorax carbo*	6	Common	WV	PRC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	YLIE	Transect	YLIE-CW	Modified Watercourse	Red-whiskered Bulbul	*Pycnonotus jocosus*	3	Abundant	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	YLIE	Transect	YLIE-CW	Modified Watercourse	Chinese Bulbul	*Pycnonotus sinensis*	4	Abundant	R	-	-	-	LC	LC	N	N
15/02/2022	Daytime	Dry Season	YLIE	Transect	YLIE-CW	Modified Watercourse	Pied Avocet	*Recurvirostra avosetta*	11	Abundant	WV	RC	-	-	LC	LC	Y	Y
15/02/2022	Daytime	Dry Season	YLIE	Transect	YLIE-CW	Modified Watercourse	Little Grebe	*Tachybaptus ruficollis*	3	Common	R	LC	-	-	LC	LC	Y	Y
18/02/2022	Night-time	Dry Season	NSW	Point Count	NSW1	Pond-NSW	Great Cormorant	*Phalacrocorax carbo*	15	Common	WV	PRC	-	-	LC	LC	Y	Y
18/02/2022	Night-time	Dry Season	NSW	Point Count	SP/NSW2	Modified Watercourse	Crested Myna	*Acridotheres cristatellus*	3	Common	R	-	-	-	LC	LC	N	N
18/02/2022	Night-time	Dry Season	NSW	Point Count	SP/NSW2	Modified Watercourse	Eurasian Teal	*Anas crecca*	10	Common	WV	RC	-	-	LC	LC	Y	Y
18/02/2022	Night-time	Dry Season	NSW	Point Count	SP/NSW2	Modified Watercourse	Great Egret	*Ardea alba*	2	Common	R,WV	PRC (RC)	-	-	LC	LC	Y	Y
18/02/2022	Night-time	Dry Season	NSW	Point Count	SP/NSW2	Modified Watercourse	Chinese Pond Heron	*Ardeola bacchus*	6	Common	R	PRC (RC)	-	-	LC	LC	Y	Y
18/02/2022	Night-time	Dry Season	NSW	Point Count	SP/NSW2	Modified Watercourse	Eastern Cattle Egret	*Bubulcus coromandus*	30	Common	R.PM	-	-	-	LC	LC	N	Y
18/02/2022	Night-time	Dry Season	NSW	Point Count	SP/NSW2	Modified Watercourse	Pied Kingfisher	*Ceryle rudis*	1	Uncommon	R	-	-	-	LC	LC	N	Y
18/02/2022	Night-time	Dry Season	NSW	Point Count	SP/NSW2	Modified Watercourse	Great Cormorant	*Phalacrocorax carbo*	10	Common	WV	PRC	-	-	LC	LC	Y	Y
18/02/2022	Night-time	Dry Season	NSW	Point Count	SP/NSW2	Modified Watercourse	Black-faced Spoonbill	*Platalea minor*	4	Common	WV	PGC	Class II	EN	EN	EN	Y	Y
18/02/2022	Night-time	Dry Season	NSW	Point Count	SP/NSW2	Modified Watercourse	Pied Avocet	*Recurvirostra avosetta*	5	Abundant	WV	RC	-	-	LC	LC	Y	Y
18/02/2022	Night-time	Dry Season	NSW	Point Count	SP/NSW2	Modified Watercourse	Little Grebe	*Tachybaptus ruficollis*	6	Common	R	LC	-	-	LC	LC	Y	Y
18/02/2022	Night-time	Dry Season	NSW	Point Count	SP/NSW2	Modified Watercourse	Spotted Redshank	*Tringa erythropus*	7	Abundant	WV,Sp	RC	-	-	LC	LC	Y	Y

18/02/2022	Night-time	Dry Season	NSW	Point Count	SP/NSW2	Modified Watercourse	Common Redshank	*Tringa totanus*	7	Common	PM	RC	-	-	LC	LC	Y	Y
18/02/2022	Night-time	Dry Season	NSW	Point Count	SP/NSW3	Modified Watercourse	Grey Heron	*Ardea cinerea*	1	Common	WV	PRC	-	-	LC	LC	Y	Y
18/02/2022	Night-time	Dry Season	NSW	Point Count	SP/NSW3	Mangrove	Eastern Cattle Egret	*Bubulcus coromandus*	7	Common	R.PM	-	-	-	LC	LC	N	Y
18/02/2022	Night-time	Dry Season	NSW	Point Count	SP/NSW3	Modified Watercourse	Black-winged Stilt	*Himantopus himantopus*	3	Common	PM	RC	-	-	LC	LC	Y	Y
18/02/2022	Night-time	Dry Season	NSW	Point Count	SP/NSW3	Modified Watercourse	Barn Swallow	*Hirundo rustica*	2	Abundant	PM,SV	-	-	-	LC	LC	N	N

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 and 18 February 2022)

Scientific Name	Count	P	Ln(P)	P*Ln(P)	P*Ln(P)^2
Acridotheres cristatellus	67	0.099702	-2.30557	-0.22987	0.529981
Alcedo atthis	1	0.001488	-6.51026	-0.00969	0.063071
Amaurornis phoenicurus	5	0.00744	-4.90082	-0.03646	0.178706
Anas acuta	8	0.011905	-4.43082	-0.05275	0.233716
Anas crecca	29	0.043155	-3.14296	-0.13563	0.426292
Anas penelope	9	0.013393	-4.31303	-0.05776	0.249137
Ardea alba	8	0.011905	-4.43082	-0.05275	0.233716
Ardea cinerea	7	0.010417	-4.56435	-0.04755	0.217013
Ardeola bacchus	25	0.037202	-3.29138	-0.12245	0.403021
Aythya fuligula	4	0.005952	-5.12396	-0.0305	0.15628
Bubulcus coromandus	59	0.087798	-2.43272	-0.21359	0.519598
Centropus sinensis	2	0.002976	-5.81711	-0.01731	0.100711
Ceryle rudis	4	0.005952	-5.12396	-0.0305	0.15628
Chroicocephalus ridibundus	23	0.034226	-3.37476	-0.11551	0.389803
Copsychus saularis	7	0.010417	-4.56435	-0.04755	0.217013
Corvus macrorhynchos	6	0.008929	-4.7185	-0.04213	0.198788
Cyanopica cyanus	7	0.010417	-4.56435	-0.04755	0.217013
Egretta garzetta	13	0.019345	-3.94531	-0.07632	0.301118
Egretta intermedia	11	0.016369	-4.11236	-0.06732	0.276826
Gallinula chloropus	6	0.008929	-4.7185	-0.04213	0.198788
Garrulax perspicillatus	7	0.010417	-4.56435	-0.04755	0.217013
Gracupica nigricollis	15	0.022321	-3.80221	-0.08487	0.322696
Halcyon smyrnensis	3	0.004464	-5.41165	-0.02416	0.130741
Himantopus himantopus	38	0.056548	-2.87267	-0.16244	0.466645
Hirundo rustica	20	0.029762	-3.51453	-0.1046	0.367616
Milvus migrans	4	0.005952	-5.12396	-0.0305	0.15628
Motacilla alba	17	0.025298	-3.67704	-0.09302	0.342041
Motacilla tschutschensis	3	0.004464	-5.41165	-0.02416	0.130741
Orthotomus sutorius	6	0.008929	-4.7185	-0.04213	0.198788
Passer montanus	15	0.022321	-3.80221	-0.08487	0.322696
Phalacrocorax carbo	80	0.119048	-2.12823	-0.25336	0.539211
Phylloscopus fuscatus	8	0.011905	-4.43082	-0.05275	0.233716
Platalea minor	7	0.010417	-4.56435	-0.04755	0.217013
Prinia flaviventris	5	0.00744	-4.90082	-0.03646	0.178706
Prinia inornata	12	0.017857	-4.02535	-0.07188	0.289347
Pycnonotus jocosus	16	0.02381	-3.73767	-0.08899	0.332623
Pycnonotus sinensis	17	0.025298	-3.67704	-0.09302	0.342041
Recurvirostra avosetta	19	0.028274	-3.56582	-0.10082	0.359503
Spilopelia chinensis	10	0.014881	-4.20767	-0.06261	0.26346
Streptopelia decaocto	5	0.00744	-4.90082	-0.03646	0.178706
Streptopelia tranquebarica	9	0.013393	-4.31303	-0.05776	0.249137
Tachybaptus ruficollis	16	0.02381	-3.73767	-0.08899	0.332623
Tringa erythropus	7	0.010417	-4.56435	-0.04755	0.217013
Tringa nebularia	17	0.025298	-3.67704	-0.09302	0.342041

Tringa totanus	7	0.010417	-4.56435	-0.04755	0.217013
Zosterops japonicus	8	0.011905	-4.43082	-0.05275	0.233716
Total	**672**	**1**	**-194.711**	**-3.40512**	**12.44799**
Richness	**46**				
SS	**12.45**				
SQ	**11.59**				
H	**3.41**				
S^2_H	**0.001**				

Appendix F.3.2 Ecological Bird Monitoring Diversity (Avifauna species of conservation importance in Point Count Method) in All Habitats (15 and 18 February 2022)

Scientific Name	Count	P	Ln(P)	P*Ln(P)	P*Ln(P)^2
Anas acuta	8	0.023952	-3.7317	-0.08938	0.333547
Anas crecca	29	0.086826	-2.44385	-0.21219	0.51856
Anas penelope	9	0.026946	-3.61392	-0.09738	0.351927
Ardea alba	8	0.023952	-3.7317	-0.08938	0.333547
Ardea cinerea	7	0.020958	-3.86523	-0.08101	0.313114
Ardeola bacchus	25	0.07485	-2.59227	-0.19403	0.502982
Aythya fuligula	4	0.011976	-4.42485	-0.05299	0.234482
Centropus sinensis	2	0.005988	-5.11799	-0.03065	0.156849
Chroicocephalus ridibundus	23	0.068862	-2.67565	-0.18425	0.492991
Egretta garzetta	13	0.038922	-3.24619	-0.12635	0.410152
Egretta intermedia	11	0.032934	-3.41325	-0.11241	0.383691
Himantopus himantopus	38	0.113772	-2.17355	-0.24729	0.5375
Milvus migrans	4	0.011976	-4.42485	-0.05299	0.234482
Phalacrocorax carbo	80	0.239521	-1.42911	-0.3423	0.48919
Platalea minor	7	0.020958	-3.86523	-0.08101	0.313114
Recurvirostra avosetta	19	0.056886	-2.8667	-0.16308	0.46749
Tachybaptus ruficollis	16	0.047904	-3.03855	-0.14556	0.44229
Tringa erythropus	7	0.020958	-3.86523	-0.08101	0.313114
Tringa nebularia	17	0.050898	-2.97793	-0.15157	0.451368
Tringa totanus	7	0.020958	-3.86523	-0.08101	0.313114
Total	**334**	**1**	**-67.363**	**-2.61584**	**7.28039**
Richness	**20**				
SS	**7.28039**				
SQ	**6.842627**				
H	**2.62**				
S^2_H	**0.001396**				

Appendix F.3.3 Ecological Bird Monitoring Diversity (All avifauna species in Transect Walk Method) in All Habitats (15 and 18 February 2022)

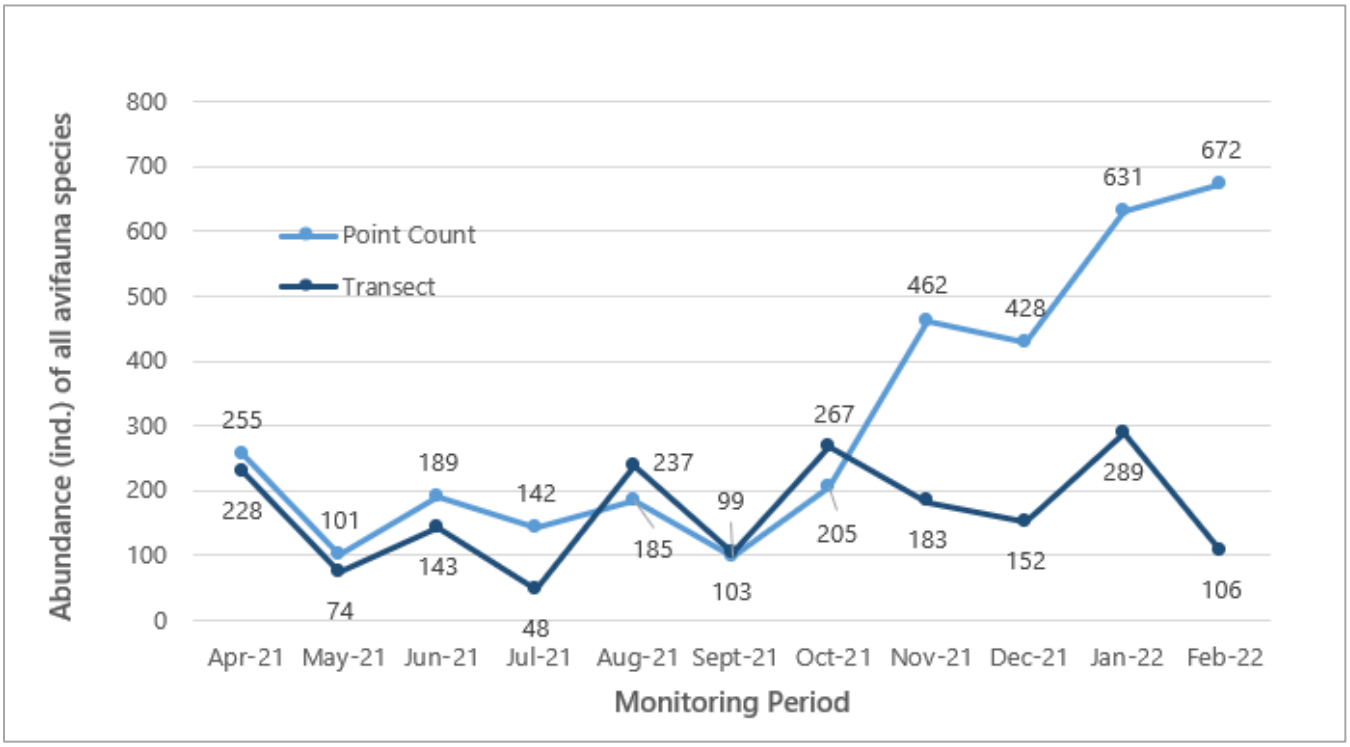
Scientific Name	Count	P	Ln(P)	P*Ln(P)	P*Ln(P)^2
Acridotheres cristatellus	6	0.056604	-2.87168	-0.16255	0.466786
Alcedo atthis	2	0.018868	-3.97029	-0.07491	0.297419
Anas crecca	4	0.037736	-3.27714	-0.12367	0.405271

Ardea alba	6	0.056604	-2.87168	-0.16255	0.466786
Ardea cinerea	3	0.028302	-3.56483	-0.10089	0.35966
Charadrius dubius	1	0.009434	-4.66344	-0.04399	0.205167
Chroicocephalus ridibundus	17	0.160377	-1.83023	-0.29353	0.53722
Corvus torquatus	1	0.009434	-4.66344	-0.04399	0.205167
Egretta garzetta	2	0.018868	-3.97029	-0.07491	0.297419
Egretta intermedia	6	0.056604	-2.87168	-0.16255	0.466786
Gracupica nigricollis	2	0.018868	-3.97029	-0.07491	0.297419
Himantopus himantopus	12	0.113208	-2.17853	-0.24663	0.537283
Hirundo rustica	8	0.075472	-2.584	-0.19502	0.503928
Motacilla alba	1	0.009434	-4.66344	-0.04399	0.205167
Passer montanus	3	0.028302	-3.56483	-0.10089	0.35966
Phalacrocorax carbo	11	0.103774	-2.26554	-0.2351	0.532638
Pycnonotus jocosus	3	0.028302	-3.56483	-0.10089	0.35966
Pycnonotus sinensis	4	0.037736	-3.27714	-0.12367	0.405271
Recurvirostra avosetta	11	0.103774	-2.26554	-0.2351	0.532638
Tachybaptus ruficollis	3	0.028302	-3.56483	-0.10089	0.35966
Total	**106**	**1**	**-66.4537**	**-2.70064**	**7.801003**
Richness	**20**				
SS	**7.801003**				
SQ	**7.293442**				
H	**2.70**				
S^2_H	**0.005634**				

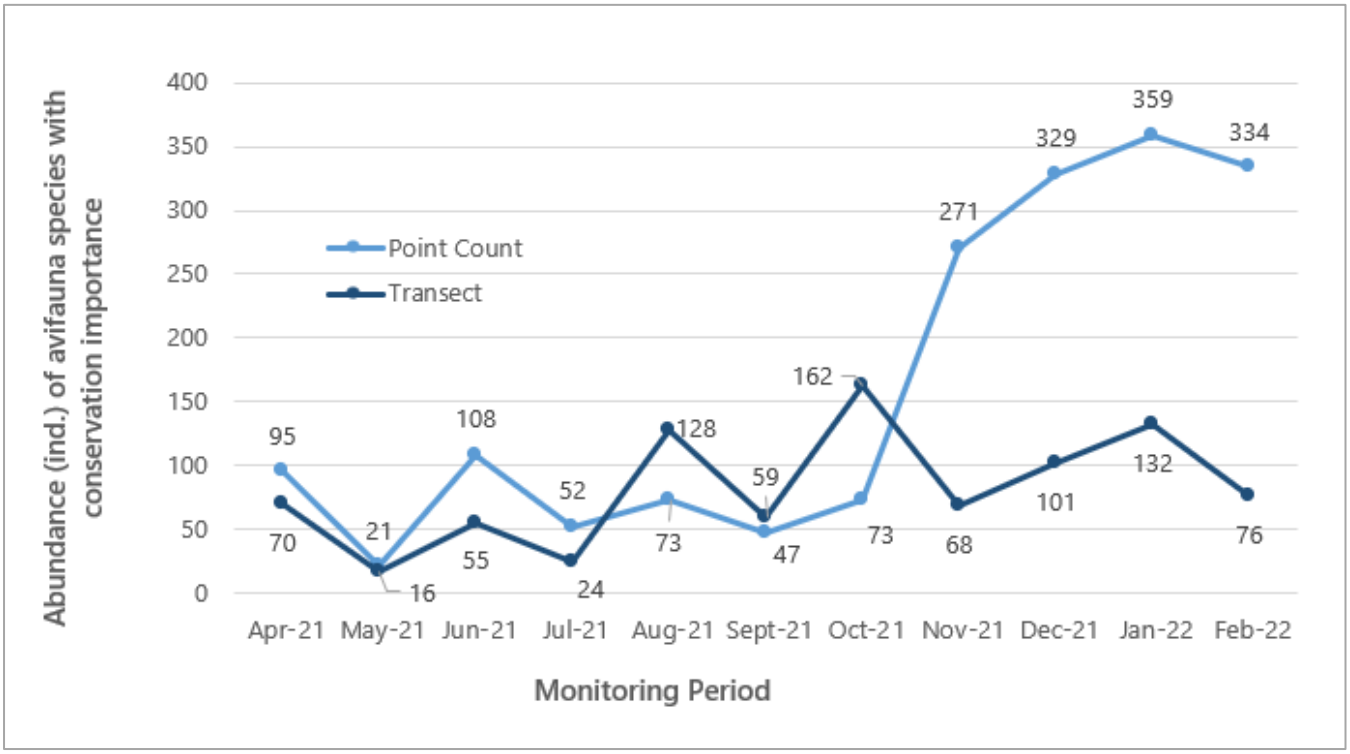
Appendix F.3.4 Ecological Bird Monitoring Diversity (Avifauna species of conservation importance in Transect Walk Method) in All Habitats (15 and 18 February 2022)

Scientific Name	Count	P	Ln(P)	P*Ln(P)	$P*Ln(P)^2$
Anas crecca	4	0.052632	-2.94444	-0.15497	0.456301
Ardea alba	6	0.078947	-2.53897	-0.20045	0.508925
Ardea cinerea	3	0.039474	-3.23212	-0.12758	0.412366
Chroicocephalus ridibundus	17	0.223684	-1.49752	-0.33497	0.501627
Corvus torquatus	1	0.013158	-4.33073	-0.05698	0.24678
Egretta garzetta	2	0.026316	-3.63759	-0.09573	0.348211
Egretta intermedia	6	0.078947	-2.53897	-0.20045	0.508925
Himantopus himantopus	12	0.157895	-1.84583	-0.29145	0.537959
Phalacrocorax carbo	11	0.144737	-1.93284	-0.27975	0.540717
Recurvirostra avosetta	11	0.144737	-1.93284	-0.27975	0.540717
Tachybaptus ruficollis	3	0.039474	-3.23212	-0.12758	0.412366
Total	**76**	**1**	**-29.664**	**-2.14966**	**5.014895**
Richness	**11**				
SS	**5.014895**				
SQ	**4.621044**				
H	**2.15**				
S^2_H	**0.006048**				

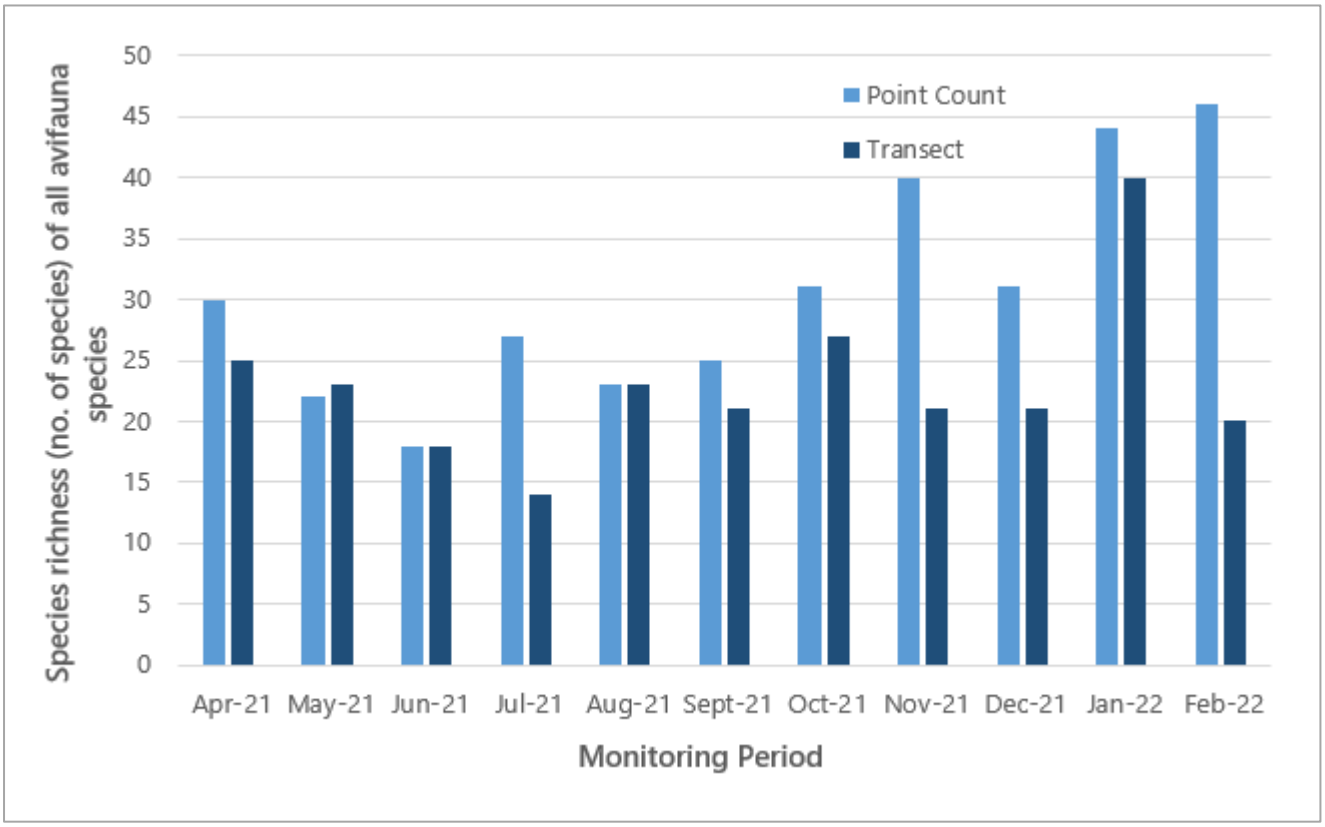
Appendix F.4.1 Abundance of all avifauna species throughout the monitoring period



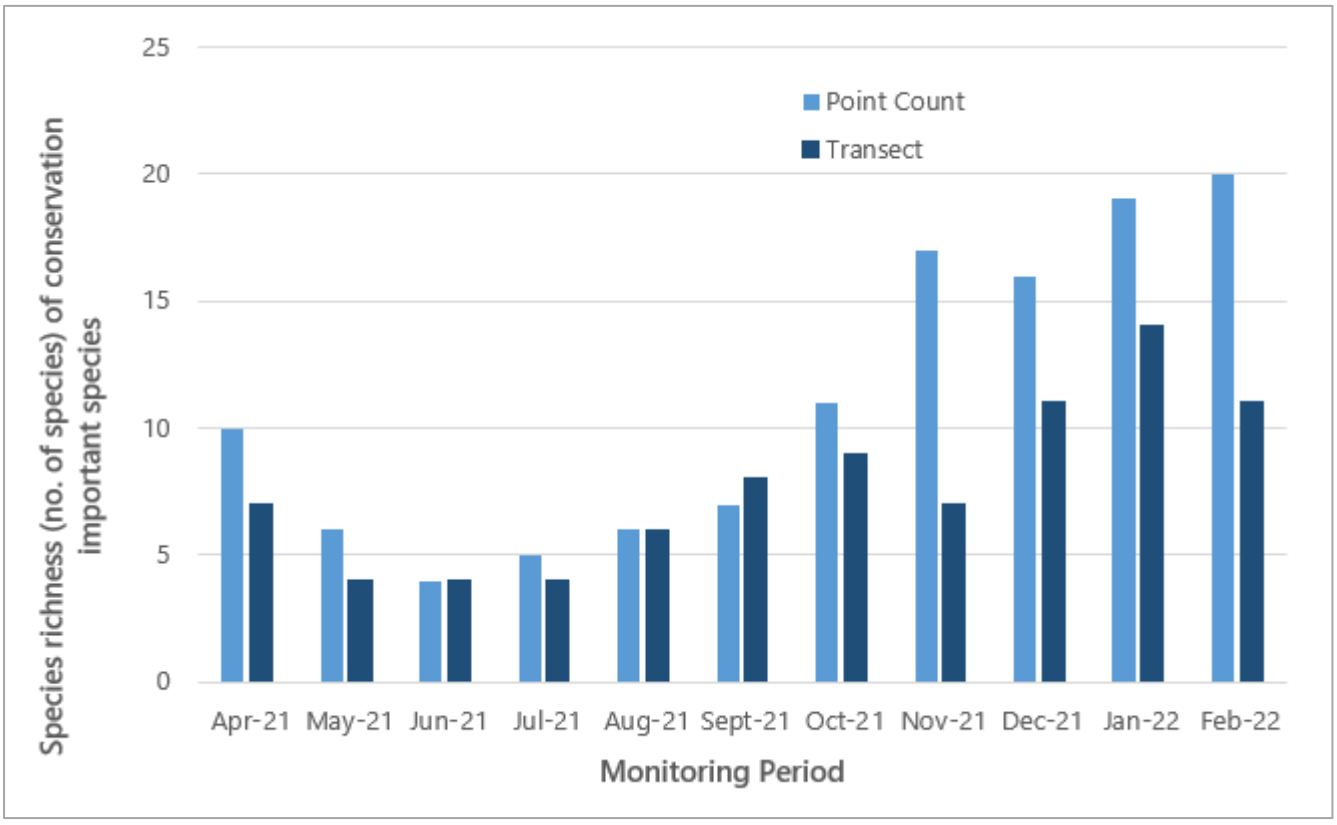
Appendix F.4.2 Abundance of avifauna species with conservation importance throughout the monitoring period



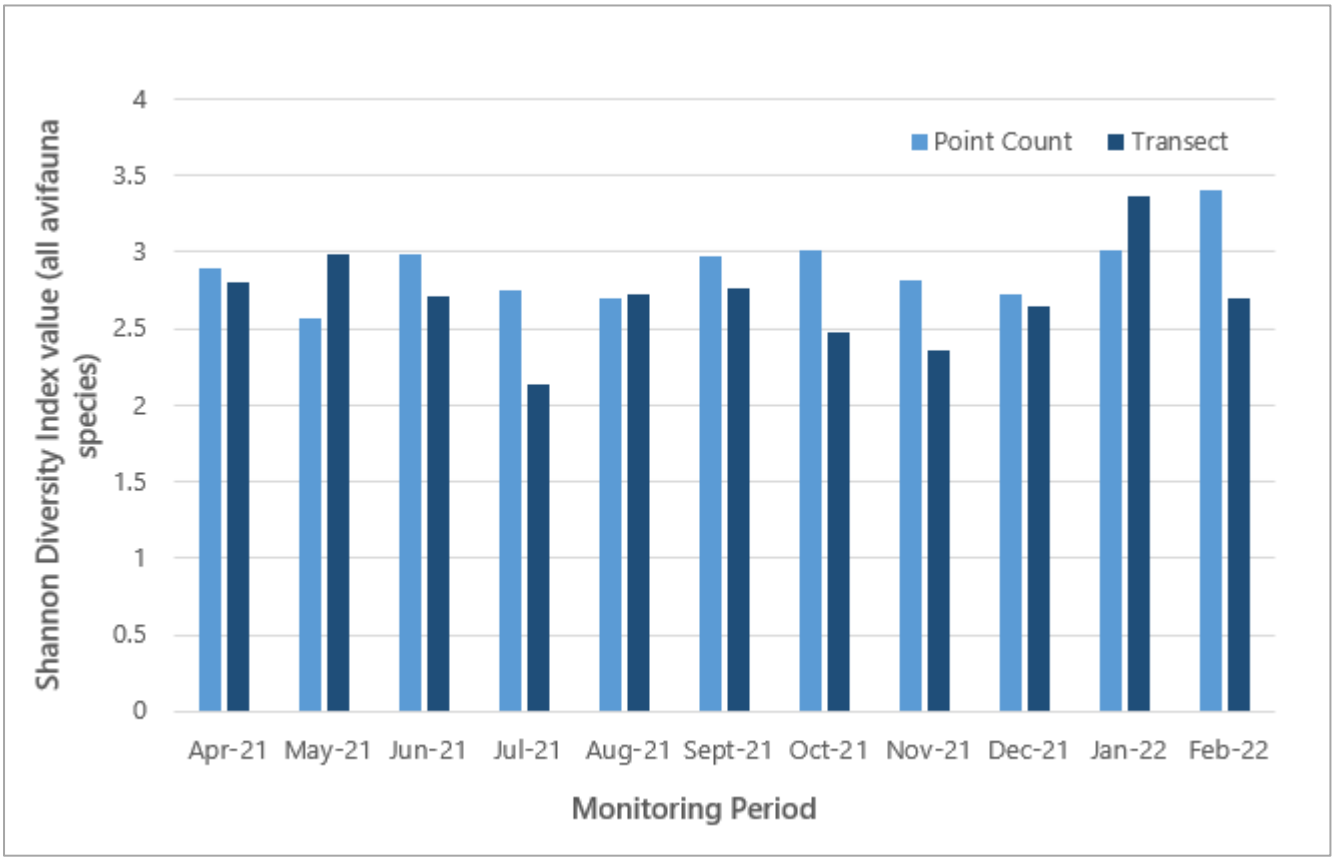
Appendix F.5.1 Species richness of all avifauna species throughout the monitoring period



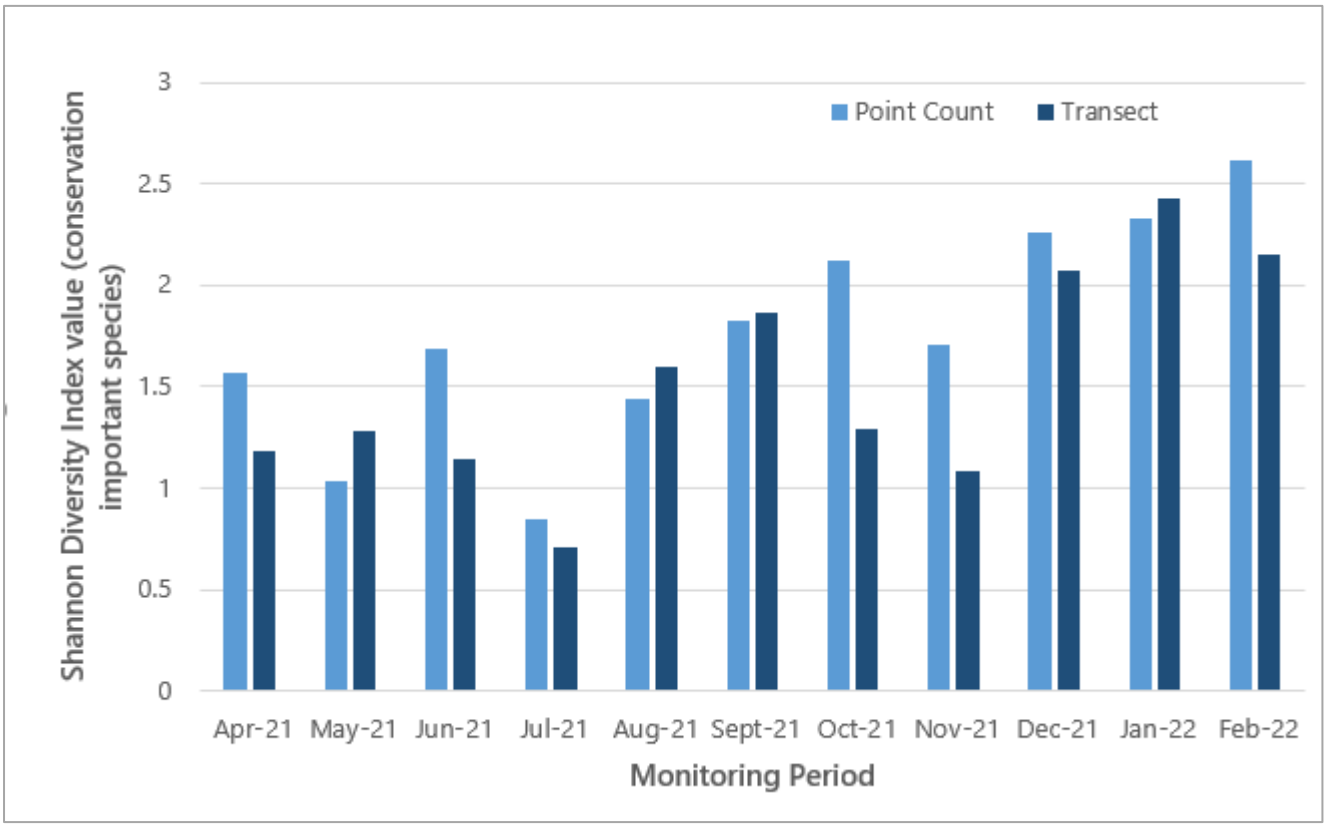
Appendix F.5.2 Species richness of avifauna species with conservation importance throughout the monitoring period



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 Two-tailed Unpaired T-test

Formula:

$$t = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\left(\frac{(N_1 - 1)s_1^2 + (N_2 - 1)s_2^2}{N_1 + N_2 - 2}\right)\left(\frac{1}{N_1} + \frac{1}{N_2}\right)}}$$

Appendix F.7.1 Abundance of avifauna species with conservation importance – Point Count Method

Months	February 2017	February 2022
N	78	55
df	77	54
M	5.73	6.07
SS	5955.35	2179.71
S^2	77.34	40.36
t-value	-0.25	
p-value	0.81	
Notes: N: Number of samples/observation df: Degrees of freedom M: Mean SS: Sum of Squares S^2: Measure on a random sample that is used to estimate the variance of the population		

Appendix F.8. 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.8.1 Species diversity of all avifauna species – Point Count Method

Months	February 2017	February 2022
Total	447	334
N	26	20
H	2.68	2.62
S^2_H	0.002	0.001
t	1.09	
df	780.49	
Crit	1.96	
p	0.28	

Months	February 2017	February 2022
CI	0.09	0.08

Notes:
Total: Total abundance
N: Number of species
H: Shannon Diversity Index
S^2_H: variance
t: t-value
df: degrees of freedom
Crit: critical value
p: p-value
CI: confidence interval

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
01/02/2022 00:00	3.4	N
01/02/2022 01:00	0.0	NEN
01/02/2022 02:00	0.1	NEN
01/02/2022 03:00	2.0	NE
01/02/2022 04:00	0.0	NEN
01/02/2022 05:00	0.2	NEN
01/02/2022 06:00	0.2	NE
01/02/2022 07:00	4.6	NEN
01/02/2022 08:00	3.0	NEN
01/02/2022 09:00	0.1	NEN
01/02/2022 10:00	3.6	N
01/02/2022 11:00	1.0	N
01/02/2022 12:00	1.4	N
01/02/2022 13:00	0.2	NEN
01/02/2022 14:00	0.0	NEN
01/02/2022 15:00	2.0	N
01/02/2022 16:00	0.3	NEN
01/02/2022 17:00	0.4	N
01/02/2022 18:00	0.6	NEN
01/02/2022 19:00	1.9	NEE
01/02/2022 20:00	3.9	NEN
01/02/2022 21:00	0.0	NEN
01/02/2022 22:00	0.0	NEN
01/02/2022 23:00	0.1	NE
01/02/2022 00:00	3.3	NEN
02/02/2022 01:00	0.6	NE
02/02/2022 02:00	1.2	NEN
02/02/2022 03:00	0.2	N
02/02/2022 04:00	0.0	NEN
02/02/2022 05:00	2.9	NEN
02/02/2022 06:00	0.0	N
02/02/2022 07:00	5.4	NE
02/02/2022 08:00	0.5	NEN
02/02/2022 09:00	4.6	NEN
02/02/2022 10:00	0.0	N
02/02/2022 11:00	0.2	NE
02/02/2022 12:00	0.1	NE
02/02/2022 13:00	1.1	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
02/02/2022 14:00	1.4	NEN
02/02/2022 15:00	0.3	N
02/02/2022 16:00	1.9	NEN
02/02/2022 17:00	0.1	NEN
02/02/2022 18:00	0.2	NEE
02/02/2022 19:00	2.1	N
02/02/2022 20:00	3.5	N
02/02/2022 21:00	0.4	N
02/02/2022 22:00	2.1	NEN
02/02/2022 23:00	3.1	N
02/02/2022 00:00	1.1	NWN
03/02/2022 01:00	0.6	NEE
03/02/2022 02:00	0.1	NEN
03/02/2022 03:00	1.3	NEN
03/02/2022 04:00	8.8	NWN
03/02/2022 05:00	1.8	NEN
03/02/2022 06:00	0.0	N
03/02/2022 07:00	0.8	N
03/02/2022 08:00	3.8	N
03/02/2022 09:00	3.2	NEN
03/02/2022 10:00	5.0	NEN
03/02/2022 11:00	1.6	N
03/02/2022 12:00	7.9	N
03/02/2022 13:00	9.9	NWN
03/02/2022 14:00	0.3	NEN
03/02/2022 15:00	1.7	N
03/02/2022 16:00	0.6	N
03/02/2022 17:00	5.6	NWN
03/02/2022 18:00	6.7	NEN
03/02/2022 19:00	2.3	NE
03/02/2022 20:00	0.5	NEN
03/02/2022 21:00	1.0	NEN
03/02/2022 22:00	3.8	NEN
03/02/2022 23:00	0.2	NEN
03/02/2022 00:00	0.6	NEN
04/02/2022 01:00	1.9	NEN
04/02/2022 02:00	3.1	NEN
04/02/2022 03:00	0.0	NEN

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
04/02/2022 04:00	1.5	NEN
04/02/2022 05:00	4.8	N
04/02/2022 06:00	5.6	NEN
04/02/2022 07:00	0.1	NE
04/02/2022 08:00	7.3	NW
04/02/2022 09:00	4.2	NEN
04/02/2022 10:00	0.2	NEN
04/02/2022 11:00	0.3	NEN
04/02/2022 12:00	6.3	NEN
04/02/2022 13:00	0.6	NWN
04/02/2022 14:00	0.1	NEN
04/02/2022 15:00	1.0	NEN
04/02/2022 16:00	0.0	NEN
04/02/2022 17:00	0.4	N
04/02/2022 18:00	1.7	NE
04/02/2022 19:00	0.9	N
04/02/2022 20:00	0.1	NEN
04/02/2022 21:00	0.8	NEN
04/02/2022 22:00	0.0	NEE
04/02/2022 23:00	0.0	N
04/02/2022 00:00	1.0	NEN
05/02/2022 01:00	1.8	N
05/02/2022 02:00	0.0	N
05/02/2022 03:00	1.5	N
05/02/2022 04:00	0.0	NEN
05/02/2022 05:00	3.4	N
05/02/2022 06:00	4.8	NEN
05/02/2022 07:00	0.9	N
05/02/2022 08:00	2.3	NEN
05/02/2022 09:00	3.5	NEN
05/02/2022 10:00	2.9	NEN
05/02/2022 11:00	4.5	N
05/02/2022 12:00	8.1	NEN
05/02/2022 13:00	6.8	NEN
05/02/2022 14:00	2.9	NE
05/02/2022 15:00	2.4	NEN
05/02/2022 16:00	3.2	NEN
05/02/2022 17:00	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
05/02/2022 18:00	0.0	NEN
05/02/2022 19:00	4.8	NEN
05/02/2022 20:00	0.9	NEN
05/02/2022 21:00	0.1	NEN
05/02/2022 22:00	5.2	N
05/02/2022 23:00	1.1	NEN
06/02/2022 00:00	0.1	NE
06/02/2022 01:00	0.0	E
06/02/2022 02:00	1.1	NEN
06/02/2022 03:00	0.0	N
06/02/2022 04:00	0.5	N
06/02/2022 05:00	4.8	NE
06/02/2022 06:00	0.7	NEN
06/02/2022 07:00	2.0	NEN
06/02/2022 08:00	3.5	NEN
06/02/2022 09:00	5.3	NE
06/02/2022 10:00	0.6	NEN
06/02/2022 11:00	0.1	NE
06/02/2022 12:00	0.1	NEN
06/02/2022 13:00	0.1	NE
06/02/2022 14:00	0.1	NE
06/02/2022 15:00	0.3	NE
06/02/2022 16:00	0.8	NE
06/02/2022 17:00	2.4	NEE
06/02/2022 18:00	5.4	NEN
06/02/2022 19:00	0.4	NE
06/02/2022 20:00	0.0	NWN
06/02/2022 21:00	0.4	NEN
06/02/2022 22:00	0.0	NE
06/02/2022 23:00	0.0	NE
07/02/2022 00:00	0.1	NE
07/02/2022 01:00	0.8	NEE
07/02/2022 02:00	1.6	NEN
07/02/2022 03:00	2.0	SEE
07/02/2022 04:00	4.8	NE
07/02/2022 05:00	0.4	E
07/02/2022 06:00	2.3	NE
07/02/2022 07:00	3.6	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
07/02/2022 08:00	0.1	NEE
07/02/2022 09:00	2.9	NEN
07/02/2022 10:00	0.1	NEN
07/02/2022 11:00	2.0	N
07/02/2022 12:00	1.3	NE
07/02/2022 13:00	1.8	NE
07/02/2022 14:00	0.1	NE
07/02/2022 15:00	0.3	N
07/02/2022 16:00	0.2	N
07/02/2022 17:00	0.2	NEN
07/02/2022 18:00	0.3	NE
07/02/2022 19:00	1.2	N
07/02/2022 20:00	0.6	N
07/02/2022 21:00	9.1	NEN
07/02/2022 22:00	0.9	NEN
07/02/2022 23:00	1.5	NEN
08/02/2022 00:00	1.1	NEN
08/02/2022 01:00	3.8	NE
08/02/2022 02:00	0.2	NW
08/02/2022 03:00	0.3	NEN
08/02/2022 04:00	1.3	N
08/02/2022 05:00	0.6	NEN
08/02/2022 06:00	0.5	NEN
08/02/2022 07:00	1.6	NE
08/02/2022 08:00	0.1	N
08/02/2022 09:00	2.9	N
08/02/2022 10:00	0.0	NEN
08/02/2022 11:00	0.0	NEN
08/02/2022 12:00	0.0	NEN
08/02/2022 13:00	4.1	NEN
08/02/2022 14:00	0.2	N
08/02/2022 15:00	1.5	N
08/02/2022 16:00	0.0	NE
08/02/2022 17:00	0.1	NEN
08/02/2022 18:00	0.0	NEE
08/02/2022 19:00	0.1	NEN
08/02/2022 20:00	0.1	NE
08/02/2022 21:00	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
08/02/2022 22:00	0.0	NE
08/02/2022 23:00	0.2	NE
09/02/2022 00:00	0.0	NWN
09/02/2022 01:00	1.3	N
09/02/2022 02:00	0.1	NE
09/02/2022 03:00	0.1	N
09/02/2022 04:00	0.0	NEN
09/02/2022 05:00	1.0	NEN
09/02/2022 06:00	0.3	NEN
09/02/2022 07:00	0.1	NWN
09/02/2022 08:00	1.0	NE
09/02/2022 09:00	0.0	NEN
09/02/2022 10:00	5.9	NEN
09/02/2022 11:00	0.7	NE
09/02/2022 12:00	0.5	NE
09/02/2022 13:00	0.1	N
09/02/2022 14:00	0.0	NW
09/02/2022 15:00	0.0	N
09/02/2022 16:00	0.0	NWN
09/02/2022 17:00	0.1	NEN
09/02/2022 18:00	0.1	W
09/02/2022 19:00	5.2	W
09/02/2022 20:00	0.2	W
09/02/2022 21:00	1.9	W
09/02/2022 22:00	1.5	N
09/02/2022 23:00	3.2	N
10/02/2022 00:00	0.1	N
10/02/2022 01:00	2.4	N
10/02/2022 02:00	0.0	NE
10/02/2022 03:00	0.0	N
10/02/2022 04:00	0.1	N
10/02/2022 05:00	0.0	NW
10/02/2022 06:00	0.0	NEN
10/02/2022 07:00	0.5	NE
10/02/2022 08:00	0.4	NE
10/02/2022 09:00	0.1	NE
10/02/2022 10:00	2.2	N
10/02/2022 11:00	2.3	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
10/02/2022 12:00	1.8	N
10/02/2022 13:00	1.2	NEN
10/02/2022 14:00	0.8	NEN
10/02/2022 15:00	0.1	E
10/02/2022 16:00	0.1	SWS
10/02/2022 17:00	0.0	NW
10/02/2022 18:00	0.3	NE
10/02/2022 19:00	0.0	NE
10/02/2022 20:00	0.1	NEN
10/02/2022 21:00	0.1	NE
10/02/2022 22:00	0.0	NEN
10/02/2022 23:00	0.1	NE
11/02/2022 00:00	0.1	NEN
11/02/2022 01:00	0.1	NE
11/02/2022 02:00	0.0	NE
11/02/2022 03:00	0.0	NE
11/02/2022 04:00	0.1	NEE
11/02/2022 05:00	0.1	NW
11/02/2022 06:00	1.2	N
11/02/2022 07:00	1.0	NEN
11/02/2022 08:00	1.7	E
11/02/2022 09:00	1.5	NW
11/02/2022 10:00	0.1	SWW
11/02/2022 11:00	0.5	NW
11/02/2022 12:00	0.0	NW
11/02/2022 13:00	0.0	NW
11/02/2022 14:00	0.0	NW
11/02/2022 15:00	0.4	NWN
11/02/2022 16:00	0.0	SWW
11/02/2022 17:00	0.8	SE
11/02/2022 18:00	0.0	NEE
11/02/2022 19:00	0.1	NEN
11/02/2022 20:00	0.1	NEN
11/02/2022 21:00	0.1	NEN
11/02/2022 22:00	0.9	NEN
11/02/2022 23:00	0.1	NEN
12/02/2022 00:00	2.0	NEN
12/02/2022 01:00	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
12/02/2022 02:00	0.0	NE
12/02/2022 03:00	0.0	NE
12/02/2022 04:00	0.0	NE
12/02/2022 05:00	0.1	NE
12/02/2022 06:00	0.1	NEN
12/02/2022 07:00	0.1	NEN
12/02/2022 08:00	0.2	NEN
12/02/2022 09:00	0.0	NE
12/02/2022 10:00	0.1	NEE
12/02/2022 11:00	0.5	NE
12/02/2022 12:00	0.3	NEN
12/02/2022 13:00	1.2	NEN
12/02/2022 14:00	0.6	SWW
12/02/2022 15:00	1.0	NW
12/02/2022 16:00	0.1	NWW
12/02/2022 17:00	0.1	NWW
12/02/2022 18:00	2.5	W
12/02/2022 19:00	1.3	SW
12/02/2022 20:00	1.2	S
12/02/2022 21:00	0.0	SWW
12/02/2022 22:00	1.5	SWW
12/02/2022 23:00	0.6	SES
13/02/2022 00:00	0.2	NE
13/02/2022 01:00	0.0	N
13/02/2022 02:00	1.1	NE
13/02/2022 03:00	2.4	NWN
13/02/2022 04:00	1.4	NEN
13/02/2022 05:00	0.3	SWW
13/02/2022 06:00	5.1	W
13/02/2022 07:00	7.3	NWN
13/02/2022 08:00	6.0	NW
13/02/2022 09:00	1.9	NWN
13/02/2022 10:00	0.1	SW
13/02/2022 11:00	3.3	N
13/02/2022 12:00	0.5	N
13/02/2022 13:00	0.1	NE
13/02/2022 14:00	0.2	NEN
13/02/2022 15:00	0.1	NEN

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
13/02/2022 16:00	1.1	N
13/02/2022 17:00	0.0	NE
13/02/2022 18:00	0.0	NEN
13/02/2022 19:00	0.0	NEN
13/02/2022 20:00	0.1	NEN
13/02/2022 21:00	0.1	N
13/02/2022 22:00	0.1	NEN
13/02/2022 23:00	0.3	NEN
14/02/2022 00:00	0.5	NE
14/02/2022 01:00	0.1	NE
14/02/2022 02:00	0.1	N
14/02/2022 03:00	0.2	NWN
14/02/2022 04:00	0.1	N
14/02/2022 05:00	0.0	NEN
14/02/2022 06:00	1.0	NEN
14/02/2022 07:00	0.9	E
14/02/2022 08:00	2.2	NEN
14/02/2022 09:00	0.0	N
14/02/2022 10:00	0.0	N
14/02/2022 11:00	1.9	NE
14/02/2022 12:00	2.7	NWW
14/02/2022 13:00	0.3	W
14/02/2022 14:00	0.0	NWW
14/02/2022 15:00	0.9	N
14/02/2022 16:00	0.2	SES
14/02/2022 17:00	0.4	SES
14/02/2022 18:00	0.0	S
14/02/2022 19:00	0.1	NEE
14/02/2022 20:00	0.0	NEE
14/02/2022 21:00	0.1	NE
14/02/2022 22:00	0.2	NE
14/02/2022 23:00	0.0	NE
15/02/2022 00:00	0.1	NEE
15/02/2022 01:00	0.2	N
15/02/2022 02:00	0.1	NE
15/02/2022 03:00	0.0	NE
15/02/2022 04:00	0.0	N
15/02/2022 05:00	0.0	NEN

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
15/02/2022 06:00	0.1	NEE
15/02/2022 07:00	2.7	NE
15/02/2022 08:00	0.2	N
15/02/2022 09:00	9.0	NE
15/02/2022 10:00	0.0	NWN
15/02/2022 11:00	1.0	N
15/02/2022 12:00	4.3	NW
15/02/2022 13:00	1.2	NWN
15/02/2022 14:00	0.6	NWN
15/02/2022 15:00	0.8	SWW
15/02/2022 16:00	1.7	SW
15/02/2022 17:00	0.3	SEE
15/02/2022 18:00	0.1	SW
15/02/2022 19:00	0.1	NE
15/02/2022 20:00	1.9	NE
15/02/2022 21:00	7.1	NEE
15/02/2022 22:00	0.5	NEE
15/02/2022 23:00	6.3	NE
16/02/2022 00:00	2.0	NE
16/02/2022 01:00	1.9	NE
16/02/2022 02:00	0.4	NE
16/02/2022 03:00	6.1	N
16/02/2022 04:00	1.1	E
16/02/2022 05:00	6.0	NE
16/02/2022 06:00	10.0	W
16/02/2022 07:00	0.6	E
16/02/2022 08:00	5.9	SEE
16/02/2022 09:00	4.1	NE
16/02/2022 10:00	0.1	SE
16/02/2022 11:00	10.9	NE
16/02/2022 12:00	0.0	SE
16/02/2022 13:00	4.1	NE
16/02/2022 14:00	1.1	NE
16/02/2022 15:00	0.0	SES
16/02/2022 16:00	0.2	N
16/02/2022 17:00	0.0	NEE
16/02/2022 18:00	0.2	NE
16/02/2022 19:00	0.2	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
16/02/2022 20:00	1.4	NEN
16/02/2022 21:00	0.5	NEE
16/02/2022 22:00	0.0	NE
16/02/2022 23:00	0.1	NE
17/02/2022 00:00	0.0	NEE
17/02/2022 01:00	0.0	NE
17/02/2022 02:00	0.0	NE
17/02/2022 03:00	0.1	NE
17/02/2022 04:00	0.0	NEE
17/02/2022 05:00	0.0	NEE
17/02/2022 06:00	0.1	NEN
17/02/2022 07:00	2.1	NE
17/02/2022 08:00	2.0	NE
17/02/2022 09:00	3.1	SEE
17/02/2022 10:00	0.0	NEN
17/02/2022 11:00	5.6	NEN
17/02/2022 12:00	2.5	NE
17/02/2022 13:00	3.7	NEN
17/02/2022 14:00	0.5	E
17/02/2022 15:00	0.0	NE
17/02/2022 16:00	2.1	NE
17/02/2022 17:00	0.3	NE
17/02/2022 18:00	4.9	NEE
17/02/2022 19:00	0.2	SE
17/02/2022 20:00	5.7	NEE
17/02/2022 21:00	2.9	NEE
17/02/2022 22:00	1.4	NEN
17/02/2022 23:00	0.3	NEN
18/02/2022 00:00	0.1	NEN
18/02/2022 01:00	4.0	NE
18/02/2022 02:00	1.8	NE
18/02/2022 03:00	1.4	NEN
18/02/2022 04:00	8.2	N
18/02/2022 05:00	8.8	NEE
18/02/2022 06:00	7.0	NE
18/02/2022 07:00	8.0	NEE
18/02/2022 08:00	0.5	NE
18/02/2022 09:00	0.4	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
18/02/2022 10:00	1.4	SE
18/02/2022 11:00	0.1	NE
18/02/2022 12:00	0.1	NE
18/02/2022 13:00	0.3	E
18/02/2022 14:00	0.5	NEN
18/02/2022 15:00	0.5	NE
18/02/2022 16:00	2.0	NE
18/02/2022 17:00	2.6	NE
18/02/2022 18:00	1.2	NEE
18/02/2022 19:00	17.0	NEN
18/02/2022 20:00	2.7	NE
18/02/2022 21:00	17.5	NEN
18/02/2022 22:00	0.7	NE
18/02/2022 23:00	13.1	NE
19/02/2022 00:00	0.1	NEN
19/02/2022 01:00	1.2	NEE
19/02/2022 02:00	10.0	NEN
19/02/2022 03:00	15.2	NEN
19/02/2022 04:00	2.4	NEN
19/02/2022 05:00	9.1	NE
19/02/2022 06:00	16.9	N
19/02/2022 07:00	0.3	NEN
19/02/2022 08:00	20.8	N
19/02/2022 09:00	0.3	NWN
19/02/2022 10:00	4.8	N
19/02/2022 11:00	2.3	NEN
19/02/2022 12:00	1.7	N
19/02/2022 13:00	6.4	N
19/02/2022 14:00	5.2	N
19/02/2022 15:00	14.3	N
19/02/2022 16:00	1.4	NEN
19/02/2022 17:00	0.9	NEN
19/02/2022 18:00	1.3	NEN
19/02/2022 19:00	0.0	NE
19/02/2022 20:00	0.6	N
19/02/2022 21:00	1.5	NEN
19/02/2022 22:00	3.3	N
19/02/2022 23:00	1.9	NEN

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
20/02/2022 00:00	0.1	NEN
20/02/2022 01:00	6.8	NEN
20/02/2022 02:00	0.6	N
20/02/2022 03:00	2.0	NEE
20/02/2022 04:00	0.2	NE
20/02/2022 05:00	0.2	NEN
20/02/2022 06:00	0.7	N
20/02/2022 07:00	0.0	N
20/02/2022 08:00	1.0	NEE
20/02/2022 09:00	4.8	NWN
20/02/2022 10:00	0.5	N
20/02/2022 11:00	0.1	NE
20/02/2022 12:00	2.9	NEN
20/02/2022 13:00	0.4	NEN
20/02/2022 14:00	2.4	NE
20/02/2022 15:00	9.3	NE
20/02/2022 16:00	2.7	N
20/02/2022 17:00	1.2	NEN
20/02/2022 18:00	6.0	NEN
20/02/2022 19:00	1.0	NE
20/02/2022 20:00	4.3	NEN
20/02/2022 21:00	0.5	NE
20/02/2022 22:00	3.8	NEN
20/02/2022 23:00	1.8	N
21/02/2022 00:00	0.2	NEN
21/02/2022 01:00	2.6	NEN
21/02/2022 02:00	1.9	NEN
21/02/2022 03:00	0.2	N
21/02/2022 04:00	0.0	NEN
21/02/2022 05:00	1.1	N
21/02/2022 06:00	0.5	NE
21/02/2022 07:00	0.9	NEE
21/02/2022 08:00	0.9	NEN
21/02/2022 09:00	1.2	NEN
21/02/2022 10:00	0.3	NEN
21/02/2022 11:00	0.1	N
21/02/2022 12:00	0.8	NEN
21/02/2022 13:00	1.2	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
21/02/2022 14:00	0.0	N
21/02/2022 15:00	0.0	N
21/02/2022 16:00	0.2	NEN
21/02/2022 17:00	0.0	N
21/02/2022 18:00	0.4	NEN
21/02/2022 19:00	0.1	NEN
21/02/2022 20:00	0.0	NEN
21/02/2022 21:00	0.4	NEN
21/02/2022 22:00	1.3	NEN
21/02/2022 23:00	3.9	NEN
22/02/2022 00:00	2.1	N
22/02/2022 01:00	0.9	NEN
22/02/2022 02:00	1.0	NEN
22/02/2022 03:00	1.3	NEN
22/02/2022 04:00	0.2	NE
22/02/2022 05:00	0.0	NE
22/02/2022 06:00	0.7	NEN
22/02/2022 07:00	2.1	NEN
22/02/2022 08:00	0.1	NEE
22/02/2022 09:00	0.9	NEE
22/02/2022 10:00	0.2	NEE
22/02/2022 11:00	0.3	NEN
22/02/2022 12:00	2.0	NEN
22/02/2022 13:00	0.1	N
22/02/2022 14:00	6.3	NE
22/02/2022 15:00	4.4	NEN
22/02/2022 16:00	4.1	NEN
22/02/2022 17:00	4.5	N
22/02/2022 18:00	6.3	NE
22/02/2022 19:00	5.1	N
22/02/2022 20:00	1.9	N
22/02/2022 21:00	3.7	N
22/02/2022 22:00	5.6	N
22/02/2022 23:00	0.6	N
23/02/2022 00:00	0.6	N
23/02/2022 01:00	0.2	N
23/02/2022 02:00	0.4	N
23/02/2022 03:00	2.8	NEN

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
23/02/2022 04:00	0.8	NWN
23/02/2022 05:00	0.0	NEN
23/02/2022 06:00	0.0	NEN
23/02/2022 07:00	1.9	NEN
23/02/2022 08:00	0.0	NE
23/02/2022 09:00	0.8	NWN
23/02/2022 10:00	1.8	NE
23/02/2022 11:00	3.2	NEN
23/02/2022 12:00	0.0	N
23/02/2022 13:00	1.1	NW
23/02/2022 14:00	0.3	N
23/02/2022 15:00	0.1	N
23/02/2022 16:00	0.0	N
23/02/2022 17:00	0.0	NWN
23/02/2022 18:00	0.0	N
23/02/2022 19:00	0.1	N
23/02/2022 20:00	0.1	NE
23/02/2022 21:00	0.0	N
23/02/2022 22:00	0.0	NEN
23/02/2022 23:00	0.1	NEN
24/02/2022 00:00	0.0	NEN
24/02/2022 01:00	0.0	NE
24/02/2022 02:00	0.1	NEN
24/02/2022 03:00	0.6	N
24/02/2022 04:00	0.0	NEN
24/02/2022 05:00	0.3	NEN
24/02/2022 06:00	1.8	NE
24/02/2022 07:00	3.4	NEN
24/02/2022 08:00	2.9	NE
24/02/2022 09:00	0.0	NEN
24/02/2022 10:00	0.0	SE
24/02/2022 11:00	0.0	NWN
24/02/2022 12:00	0.2	N
24/02/2022 13:00	0.2	N
24/02/2022 14:00	0.1	SWS
24/02/2022 15:00	0.2	W
24/02/2022 16:00	0.1	NWN
24/02/2022 17:00	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
24/02/2022 18:00	0.1	NWN
24/02/2022 19:00	0.0	NEN
24/02/2022 20:00	0.0	E
24/02/2022 21:00	0.1	SES
24/02/2022 22:00	0.0	SES
24/02/2022 23:00	0.1	SES
25/02/2022 00:00	0.0	SES
25/02/2022 01:00	0.0	SES
25/02/2022 02:00	0.1	SES
25/02/2022 03:00	0.1	E
25/02/2022 04:00	0.0	E
25/02/2022 05:00	0.0	NEN
25/02/2022 06:00	0.1	NE
25/02/2022 07:00	0.0	NEN
25/02/2022 08:00	4.5	NEN
25/02/2022 09:00	1.9	NEN
25/02/2022 10:00	1.4	N
25/02/2022 11:00	0.1	NEN
25/02/2022 12:00	0.3	SEE
25/02/2022 13:00	4.5	NW
25/02/2022 14:00	0.5	W
25/02/2022 15:00	0.1	NWW
25/02/2022 16:00	0.0	SWW
25/02/2022 17:00	0.1	SWW
25/02/2022 18:00	0.1	SES
25/02/2022 19:00	0.0	S
25/02/2022 20:00	0.0	S
25/02/2022 21:00	0.1	S
25/02/2022 22:00	0.1	S
25/02/2022 23:00	0.1	S
26/02/2022 00:00	0.0	NE
26/02/2022 01:00	0.0	NE
26/02/2022 02:00	0.1	NE
26/02/2022 03:00	0.0	NE
26/02/2022 04:00	0.0	NE
26/02/2022 05:00	0.0	NE
26/02/2022 06:00	0.1	NE
26/02/2022 07:00	0.0	NEN

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
26/02/2022 08:00	0.1	NEN
26/02/2022 09:00	0.2	N
26/02/2022 10:00	2.8	NE
26/02/2022 11:00	4.8	NEN
26/02/2022 12:00	6.7	W
26/02/2022 13:00	0.7	W
26/02/2022 14:00	0.5	SW
26/02/2022 15:00	0.1	W
26/02/2022 16:00	0.0	SW
26/02/2022 17:00	0.0	SWS
26/02/2022 18:00	0.1	SES
26/02/2022 19:00	0.1	SES
26/02/2022 20:00	0.1	SES
26/02/2022 21:00	0.0	SES
26/02/2022 22:00	0.0	SES
26/02/2022 23:00	0.1	SES
27/02/2022 00:00	0.0	SES
27/02/2022 01:00	0.1	SES
27/02/2022 02:00	0.0	SES
27/02/2022 03:00	0.1	SES
27/02/2022 04:00	0.1	SES
27/02/2022 05:00	0.1	SES
27/02/2022 06:00	0.0	SES
27/02/2022 07:00	0.3	SES
27/02/2022 08:00	5.3	NEN
27/02/2022 09:00	1.8	NW
27/02/2022 10:00	6.0	W
27/02/2022 11:00	6.3	NW
27/02/2022 12:00	1.1	NWW
27/02/2022 13:00	0.1	NE
27/02/2022 14:00	0.1	NE
27/02/2022 15:00	0.1	SEE
27/02/2022 16:00	0.1	SEE
27/02/2022 17:00	0.1	NE
27/02/2022 18:00	0.0	NEE
27/02/2022 19:00	0.0	NEE
27/02/2022 20:00	0.1	NE
27/02/2022 21:00	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
27/02/2022 22:00	0.0	SEE
27/02/2022 23:00	0.1	SEE
28/02/2022 00:00	0.5	NWN
28/02/2022 01:00	0.6	NEN
28/02/2022 02:00	0.0	NEE
28/02/2022 03:00	0.0	NE
28/02/2022 04:00	0.1	NE
28/02/2022 05:00	3.3	NEN
28/02/2022 06:00	4.5	NEE
28/02/2022 07:00	1.5	S
28/02/2022 08:00	0.1	NWN
28/02/2022 09:00	0.9	NEN
28/02/2022 10:00	1.9	NE
28/02/2022 11:00	0.3	N
28/02/2022 12:00	0.0	NE
28/02/2022 13:00	0.0	N
28/02/2022 14:00	0.0	SE
28/02/2022 15:00	2.7	SE
28/02/2022 16:00	0.0	NE
28/02/2022 17:00	0.0	NE
28/02/2022 18:00	0.1	NE
28/02/2022 19:00	0.0	NE
28/02/2022 20:00	0.2	NEN
28/02/2022 21:00	1.7	NE
28/02/2022 22:00	0.1	NEN
28/02/2022 23:00	1.6	NE
01/03/2022 00:00	0.0	NEN

Sources/ reference of the wind data: On-site wind station

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 2022

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)
2022 Jan	243.88	Nil	Nil	Nil	215.24	Nil	17.46	0.04	Nil	Nil	11.14
2022 Feb	92.65	Nil	Nil	Nil	38.73	Nil	43.95	Nil	Nil	Nil	9.97
2022 Mar											
2022 Apr											
2022 May											
2022 Jun											
2022 Jul											
2022 Aug											
2022 Sep											
2022 Oct											
2022 Nov											
2022 Dec											
Total	336.53	0	0	0	253.97	0	61.41	0.04	0	0	21.11

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.

Sources/ reference of the waste flow data; From the Contractor

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	Implemented
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:	Construction Sites	
	• Use of regular watering to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather.		Implemented
	• Use of frequent watering for particularly dusty construction areas and areas close to ASRs.		Implemented
	• 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.		Implemented
	• Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs.		Implemented
	• Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.		N/A
	• Establishment and use of vehicle wheel and body washing facilities at the exit points of the site.		Implemented
	• 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.		N/A
	• 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.		Implemented
	• Imposition of speed controls for vehicles on site haul roads.		Implemented
	• Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs.		Implemented

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
	• 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.		Implemented
Noise Impact			
Construction Phase			
4.8.1	Movable noise barriers are recommended for hydraulic breakers mounted on excavators to be adopted during construction.	Construction Sites	N/A
	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.		N/A
	• 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.		Implemented
	• Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme.		Implemented
	• Silencers or mufflers on construction equipment should be utilised and should be properly maintained during the construction programme.		N/A
	• Mobile plant, if any, should be sited as far away from noise sensitive receivers (NSRs) as possible.		N/A
	• 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.		Implemented
	• 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		N/A
	• Material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities.		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

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
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	Implemented
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	Implemented
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	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	Implemented
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	Construction Sites / Construction Phase	N/A

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
	caused by rainstorms. Appropriate drainage like intercepting channels should be provided where necessary		
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	N/A
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	Implemented
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	Implemented
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	Implemented
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
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			
6.6.1.3	<u>Good Site Practices</u> Recommendations for good site practices during the construction phase include:	Construction Sites	
	• 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;		Implemented
	• Training of site personnel in proper waste management and chemical waste handling procedures;		Implemented
	• Provision of sufficient waste reception/ disposal points, of a suitable vermin-proof design that minimises windblown litter;		N/A
	• Arrangement for regular collection of waste for transport off-site and final disposal;		Implemented
	• Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers;		Implemented
	• Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors;		N/A

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
	• A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be proposed; and		Implemented
	• 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.		Implemented
6.6.1.5	Waste Reduction Measures Recommendations to achieve waste reduction include:	Construction Sites	
	• 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;		Implemented
	• 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;		Implemented
	• Any unused chemicals or those with remaining functional capacity shall be recycled;		N/A
	• Maximising the use of reusable steel formwork to reduce the amount of C&D material;		N/A
	• 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;		Implemented
	• Adopt proper storage and site practices to minimise the potential for damage to, or contamination of, construction materials;		Implemented
	• Plan the delivery and stock of construction materials carefully to minimise the amount of surplus waste generated;		N/A
	• Adopt pre-cast construction method instead of cast-in-situ method for construction of concrete structures as much as possible; and		N/A
	• Minimise over ordering of concrete, mortars and cement grout by doing careful check before ordering.		N/A
6.6.1.7	<u>Storage of Waste</u> Recommendations to minimise the impacts include:	Construction Sites	
	• Waste, such as soil, should be handled and stored well to ensure secure containment, thus minimising the potential of pollution;		Implemented
	• Maintain and clean storage areas routinely;		Implemented

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
	• Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; and		Implemented
	• Different locations should be designated to stockpile each material to enhance reuse.		Implemented
6.6.1.8	Collection of WasteLicensed 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:	Construction Sites	
	• Remove waste in timely manner;		Implemented
	• Waste collectors should only collect wastes prescribed by their permits;		Implemented
	• Impacts during transportation, such as dust and odour, should be mitigated by the use of covered trucks or in enclosed containers;		Implemented
	• 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);		Implemented
	• Waste should be disposed of at licensed waste disposal facilities; and		Implemented
	• Maintain records of quantities of waste generated, recycled and disposed.		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

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
6.6.1.12	<u>Construction and Demolition Material</u> 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:	Construction Sites	
	• A WMP, which becomes part of the EMP, should be prepared in accordance with ETWB TCW No.19/2005;		Implemented
	• A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be adopted for easy tracking; and		N/A
	• 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).		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:	Construction Sites	
	• Surface of stockpiled soil should be regularly wetted with water especially during dry season;		Implemented
	• Disturbance of stockpile soil should be minimised;		Implemented
	• Stockpiled soil should be properly covered with tarpaulin especially when heavy storms are predicted; and		Implemented
	• Stockpiling areas should be enclosed where space is available.		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	Implemented
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

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
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
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 OperationPhases	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
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 (afterdecommissioning of theconcerned facilities / areasbut prior to the constructionworks at the concernedfacilities / areas)	Implemented
7.8.3.1	The mitigation measures will be recommended in the RAP and would typically include the following:	Project Site / Construction Phase	
	• Excavation profiles must be properly designed and executed with attention to the relevant requirements for environment, health and safety;		Implemented
	• 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;		N/A
	• 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.		Implemented
	• 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;		N/A
	• Speed control for the trucks carrying contaminated materials shall be enforced;		N/A

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
	• Vehicle wheel and body washing facilities at the site's exist points shall be established and used; and		N/A
	• 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.		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	Implemented
8.10.2.3 – 8.10.2.4	<u>Avoidance of Demolition Works Using Breakers Mounted on Excavators and Percussive Piling during Dry Season</u> 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	Implemented
8.10.2.5	<u>Restriction of Construction Hours</u> 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	Implemented
8.10.3.2 – 8.10.3.3	<u>Minimising Construction Noise Disturbance Impacts through Consideration of Alternative Construction Methods</u> 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	Implemented

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
8.10.3.4 – 8.10.3.5	<u>Minimising Construction Noise Disturbance Impacts Through Careful Phasing of Construction Activities</u> 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	Implemented
8.10.3.6 – 8.10.3.8	<u>Minimising Construction Noise Disturbance Impacts through Use of Noise Barriers</u> 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

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
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	Implemented
Ecology & Fisheries Impact			
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

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
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	Implemented
Table 10.11	Erection of Decorative Screen Hoarding (CM5) Site hoardings, if any, shall be painted in dull green colour	Project site / Construction Phase	Implemented
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	Implemented
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;	Project site / Construction Phase	N/A
	• 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;		N/A
	• 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		N/A

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
	• 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.		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	Project site / Construction Phase	Implemented
	• All work procedures shall be complied with the operating plant procedures or guidelines and regulatory requirements;		Implemented
	• Work permit system, on-site pre-work risk assessment and emergency response procedure shall be in place before commencement of work;		Implemented
	• All construction workers shall equip with appropriate personal protective equipment (PPE) when working at the Project Site;		Implemented
	• Safety training and briefings shall be provided to all construction workers;		Implemented
	• Regular site safety inspections shall be conducted during the construction phase of the Project;		Implemented
11.9.1.2	• Ensure speed limit enforcement is specified in the contractor's method statement to limit the speed of construction vehicles onsite;	Project site / ConstructionPhase	Implemented
	• Conduct speed checks to ensure enforcement of speed limits and to ensure adequate site access control ;		N/A
	• A lifting plan, with detailed risk assessment, should be prepared and endorsed for heavy lifting of large equipment;		Implemented
	• Vehicle crash barriers should be provided between the construction site and the operating biogas facilities;		N/A
	• 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;		Implemented
	• 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;		Implemented
	• Ensure effective communication system / protocol is in place between the contractors and the operation staff;		Implemented
	• 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;		N/A

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
	• 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;		N/A
	• 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.		Implemented
	Potential risks of the construction activities shall be assessed, and risk precautionary measures shall be implemented in Contractor's works procedures.		Implemented

Note:

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

Sources/ reference of the Implementation Status: Appendix B of EIA Report, AEIAR-220/2019

Appendix K

Weather and Meteorological Conditions

January 2022 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)		
January 2022						
1	1025.0	20.4	17.1	14.5	85	0
2	1023.2	25.1	17.8	13.5	82	0
3	1021.6	24.1	17.8	14.3	88	0
4	1020.0	26.0	19.0	14.5	80	0
5	1017.7	25.5	20.7	17.7	82	0
6	1019.8	25.7	19.9	16.5	83	0
7	1022.3	23.3	19.0	16.1	81	0
8	1021.2	21.3	17.0	13.6	79	0
9	1018.9	23.9	18.2	14.2	80	0
10	1018.1	22.4	18.5	14.5	77	0
11	1021.6	19.4	15.5	13.3	75	3.0
12	1021.8	18.0	15.7	12.4	71	0
13	1022.6	19.3	17.1	14.8	61	0
14	1021.3	18.7	16.6	13.1	73	0
15	1020.4	24.6	18.8	15.6	84	0
16	1020.9	25.0	19.2	15.9	84	0
17	1021.2	20.3	18.8	16.9	84	0
18	1021.9	19.0	17.4	15.5	80	0
19	1020.2	23.4	17.0	13.3	73	0
20	1019.1	22.9	17.3	12.6	75	0
21	1018.0	22.6	18.3	14.0	83	0
22	1014.7	20.0	19.0	18.2	88	0.5
23	1013.5	24.3	20.4	17.9	87	0.5
24	1014.7	23.6	20.9	19.5	91	1.5
25	1017.3	20.4	19.2	17.5	86	0
26	1017.5	23.6	20.5	18.2	84	3.0
27	1017.2	26.5	20.7	18.4	89	0.5
28	1016.8	21.8	19.6	18.2	90	0
29	1015.0	23.1	18.9	16.2	80	0
30	1018.8	20.5	15.5	12.3	66	0
31	1020.6	14.0	12.8	11.7	70	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

February 2022 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)		
February 2022						
1	1018.7	15.7	14.3	12.9	84	1.2
2	1018.7	17.0	15.6	14.5	88	1.0
3	1018.7	14.5	13.4	11.7	85	1.0
4	1021.4	18.5	14.4	11.9	69	0
5	1023.4	17.7	15.2	13.2	69	0
6	1022.0	18.2	16.0	14.6	75	0
7	1016.8	17.7	16.4	15.1	85	Trace
8	1018.6	18.1	17.1	15.8	78	Trace
9	1019.1	17.4	16.1	15.3	77	0
10	1017.7	18.1	17.0	15.4	81	0
11	1017.1	22.0	18.6	16.3	81	0
12	1016.0	21.3	18.7	17.0	83	0
13	1014.9	18.7	17.2	15.1	86	1.2
14	1017.3	21.3	17.0	14.1	75	1.2
15	1017.8	21.8	17.6	15.8	77	0
16	1016.0	18.5	16.9	15.6	77	0
17	1014.9	16.9	15.6	15.0	86	4.0
18	1015.4	16.7	15.9	15.2	84	Trace
19	1017.0	15.9	12.4	9.7	92	21.3
20	1020.8	9.8	8.5	8.0	94	43.4
21	1022.1	10.1	8.8	7.5	95	43.3
22	1022.0	12.2	10.7	9.2	96	39.9
23	1024.3	16.2	12.1	9.4	77	11.0
24	1026.2	14.9	12.6	10.7	72	0
25	1024.5	20.1	15.3	12.2	70	0
26	1021.9	21.4	16.8	13.6	76	0
27	1019.6	21.7	17.6	14.8	79	0
28	1018.6	22.5	18.9	16.4	70	0

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

ET Leader's Site Environmental Audit

Summary of ET Leader's Site Environmental Audit in the Reporting Month

Parameters	Date	Observations and Recommendations	Follow-up
Air Quality	9 Feb 2022	Reminder 1: The Contractor is reminded to increase watering for dust suppression during the demolition of sediment tank.	9 Feb 2022
Noise	NA		
Water Quality	NA		
Chemical and Waste Management	NA		
Land Contamination	NA		
Ecological Impact	NA		
Landscape and Visual Impact	9 Feb 2022	Recommendation 1: Recommend to keep tree protection zone free of construction materials.	NA
		Recommendation 2: Recommend to provide regular maintenance check on dead branches and remove where necessary.	
	23 Feb 2022	Recommendation 1: Please exercise caution when operating heavy machinery close to existing trees.	NA
Permit / Licenses	NA		
Others	NA		

Appendix N

Outstanding Issues and Deficiencies

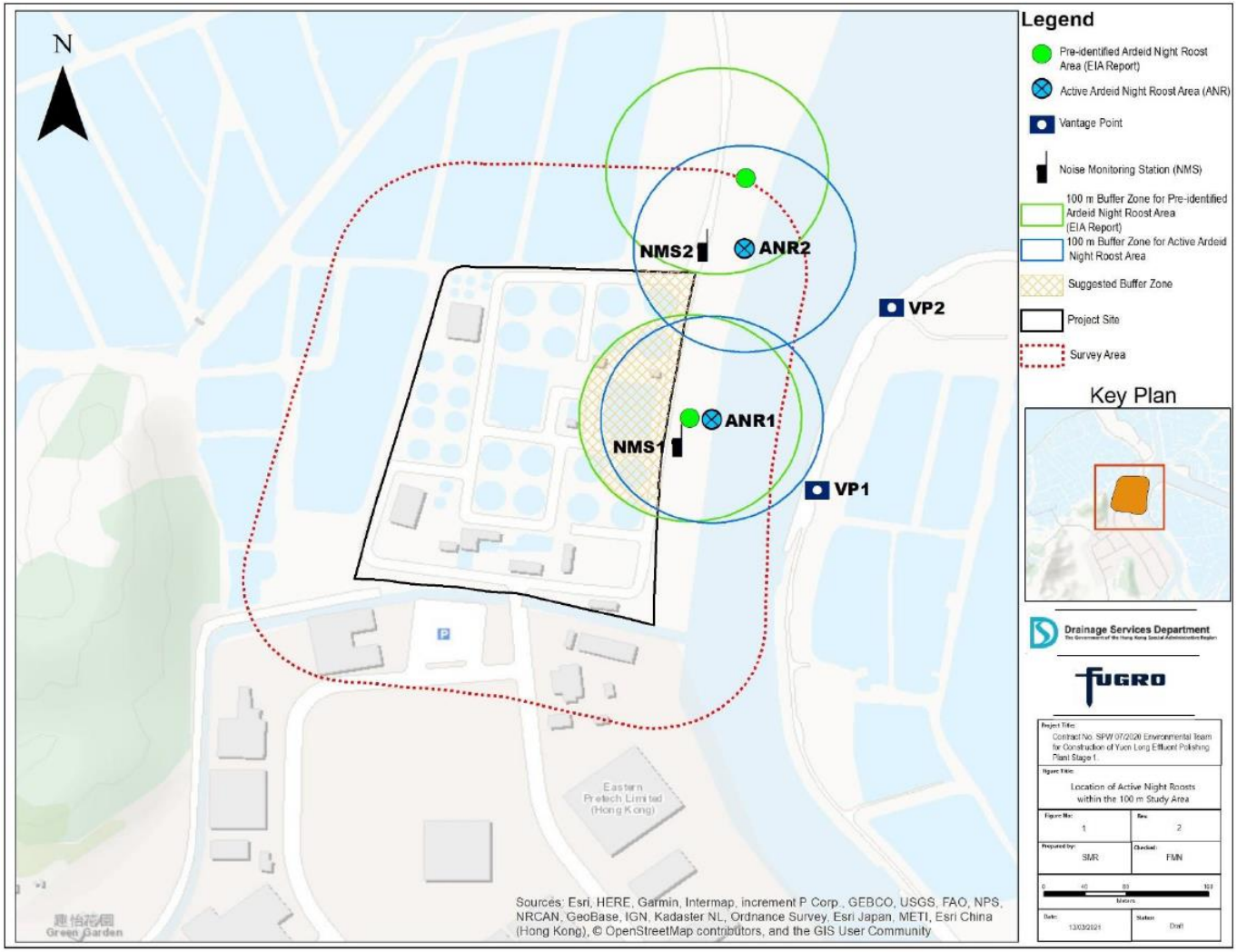
Summary of Outstanding Issues and Deficiencies in the Reporting Month

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 Roosts and Noise Monitoring Stations



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

O.2 Survey Photos

O.2.1 Pre-roosting Aggregate

Appendix O.2.1a: Pre-roost aggregate of Eastern Cattle Egret *Bubulcus coromandos* in the mudflat area northeast of the Project boundary observed on 18 February 2022 around 17:50

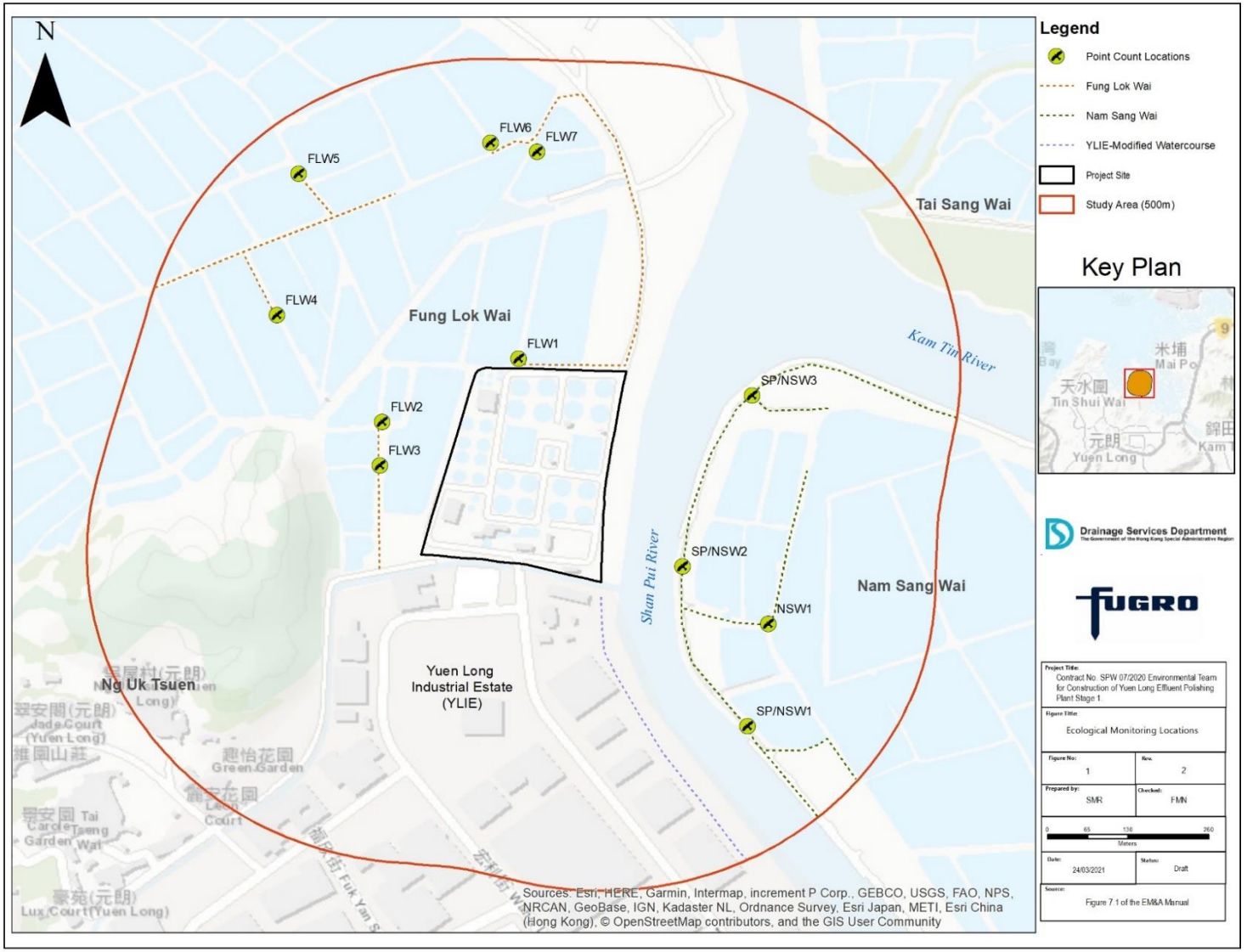
O.2.2 Active Night Roosting Site and Roosting Substrates

Appendix O.2.2a: Active night roost on *Sonneratia apetala* and *S. caseolaris* mangrove roosting substrate located east of the Project boundary observed on 18 February 2022 around 18:03

Appendix O.2.2b: Active night roost on *Sonneratia apetala* and *S. caseolaris* mangrove roosting substrate located northeast of the Project boundary observed on 18 February 2022 around 18:03

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