Contract No. SPW 02/2023 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Quarterly EM&A Report

(July 2023 - September 2023)

Drainage Services Department

2023-10-27

aurecon

Bringing ideas to life

aurecon

MOTT MACDONALD

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

Attn: Mr. Simon H.M. YEUNG – CRE(C)

Your Reference

Our Reference
AFK/EC/TC/BW/bw/
T601100237/02/02/L047

Mott MacDonald
3/F Manulife Tower
348 Kwun Tong Road
Kwun Tong
Kowloon
Hong Kong

T +852 2828 5757
F +852 2827 1823
mottmac.hk

Contract No. SPW 03/2023

Independent Environmental Checker for Construction of Yuen Long Effluent Polishing Plant Stage 1 (2023-2024)

Environmental Permit No. EP-565/2019

Quarterly EM&A Summary Report for July 2023 to September 2023

30 October 2023

By Hand and By Email

Dear Sir,

I refer to the captioned Quarterly EM&A Summary Report for July 2023 to September 2023 (Revision 2) which was produced by the Environmental Team (ET) Leader, received via e-mail on 27 October 2023 and duly certified by the ET Leader on 29 October 2023 (ref.: PL-202310041).

I have no comment on the captioned report and hereby verify that this submission has in general fulfilled the requirements set out in Section 12.4.5 of the EM&A Manual for the captioned project.

Should you have any queries regarding the captioned or require any further information, please contact the undersigned at 2828 5875.

Yours faithfully
for MOTT MACDONALD HONG KONG LIMITED

Brandon WONG
Independent Environmental Checker
T +852 2828 5875
Brandon.Wong@mottmac.com

c.c.	DSD	Mr. Wallace CHENG – E/SP 16	By Email
	Aurecon Hong Kong Limited	Mr. Vincent LU – ET Leader	By Email
	Paul Y – CREC Joint Venture	Mr. Kenneth LAU – Deputy Site Agent & Ms. Geegee CHIU – AEO	By Email

Aurecon Hong Kong Limited
Unit 1608, 16/F, Tower B,
Manulife Financial Centre,
223 – 231 Wai Yip Street, Kwun Tong
Hong Kong

T +852 3664 6888
F +852 3664 6999
E hongkong@aurecongroup.com
w aurecongroup.com

Ref: PL-202310041

By Email

29 October 2023

Mott MacDonald
3/F Manulife Tower,
348 Kwun Tong Road,
Kwun Tong, Kowloon,
Hong Kong

Attn: Mr. Brandon Wong, IEC

Dear Sir,

Contract No. SPW 02/2023
Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1
Environmental Permit No. EP-565/2019
EP Condition 3.5 – Quarterly EM&A Report for July to September 2023

Pursuant to Clause 3.5 of Further Environmental Permit No. EP-565/2019 for the captioned project, we are pleased to submit the certified Quarterly EM&A Report for July to September 2023 (Rev.2) for your verification.

Should you have any queries regarding the captioned or require any further information, please contact the undersigned at 2531 0243.

Yours faithfully,
For and on behalf of
Aurecon Hong Kong Limited

Vincent M. J. Lu
Environmental Team Leader

Encl.

cc. AECOM – Mr. Patrick Leung (patrick.leung@ylepp-aecom.com)
Paul Y. - CREC Joint Venture – Mr. Kenneth Lau (kennethlau@pyengineering.com)

Document control record

Document prepared by:

Aurecon Hong Kong Limited
Unit 1608, 16/F, Tower B, Manulife Financial Centre,
223 – 231 Wai Yip Street, Kwun Tong, Kowloon
Hong Kong S. A. R.
T +852 3664 6888
F +852 3664 6999
E hongkong@aurecongroup.com
W aurecongroup.com

A person using Aurecon documents or data accepts the risk of:

a) Using the documents or data in electronic form without requesting and checking them for accuracy against the original hard copy version.

b) Using the documents or data for any purpose not agreed to in writing by Aurecon.

Document control						aurecon
Report title		Quarterly EM&A Report (July 2023 - September 2023)				
Document ID		QR	**Project number**		P525161	
File path		P525161-0000-PD-QR-0001[2]				
Client		Drainage Services Department				
Client contact			**Client reference**			
Rev	**Date**	**Revision details/status**	**Author**	**Reviewer**	**Verifier** (if required)	**Approver**
0	26 October 2023	Submitted to IEC	Various	JH		VL
1	27 October 2023	Response to IEC Comment	Various	JH		VL
2	27 October 2023	Response to IEC Comment	Various	JH		VL
Current revision		**2**				

Approval			
Reviewer's signature		Approver's signature	
Name	Joe Ho	Name	Vincent Lu
Title	Senior Environmental Consultant	Title	Environmental Team Leader

Contents

EXECUTIVE SUMMARY **1**

1 INTRODUCTION **2**

2 SUMMARY OF EM&A REQUIREMENTS AND MONITORING RESULTS **7**

3 LANDSCAPE AND VISUAL **29**

4 LAND CONTAMINATION **30**

5 SITE INSPECTION AND AUDIT **32**

6 NON-COMPLIANCE, COMPLAINTS, NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTIONS **33**

7 IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURE **34**

8 CONCLUSION AND RECOMMENDATION **38**

Tables

Table 1 Contact Information of Key Personnel 3
Table 2 Main Construction Works carried out in the Reporting Period 4
Table 3 Air Quality and Noise Monitoring Locations 7
Table 4 Coordinates of Water Quality Monitoring Locations 8
Table 5 Summary of Water Quality Exceedance 9
Table 6 Observations and Recommendations of Site Audit 32
Table 7 Waste Generated by the Construction and Disposal Ground 32
Table 8 Status of submissions required under the EP 34

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 .....

Appendix

APPENDIX A CONSTRUCTION PROGRAMME

APPENDIX B PROJECT ORGANIZATION CHART

APPENDIX C ACTION AND LIMIT LEVELS

APPENDIX D GRAPHICAL PRESENTATION OF MONITORING DATA

APPENDIX E EVENT AND ACTION PLANS

APPENDIX F WASTE FLOW TABLE

APPENDIX G IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES

APPENDIX H CUMULATIVE STATISTICS ON ENVIRONMENTAL COMPLAINTS, NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTIONS

EXECUTIVE SUMMARY

This Quarterly Environmental Monitoring and Audit (EM&A) Report is prepared for Contract No. SPW 02/2023 “Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1”. Drainage Services Department (DSD) has appointed Aurecon Hong Kong Limited (Aurecon) to undertake the Environmental Team services for the project and implement the EM&A works.

This is the 10th Quarterly EM&A Report for the construction phase which summaries findings of the EM&A programme during the reporting period from 1 July 2023 to 30 September 2023. As informed by the Contractor, major activities in the reporting month were shown in section 1.4.1.

Breaches of Environmental Quality Performance Limits (AL levels)

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

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

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

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

No corrective actions were required according to the Event and Action Plans for the Monitoring Parameters.

Land Contamination

Regular site inspection was carried out to ensure the recommended mitigation measures are properly implemented. The signed final Contamination Assessment Report (CAR) for “Main Storeroom & Workshops”, “Mechanical Workshop”, “Waste Storage Area”, “SAS Thickener House-1” and “SAS Thickener House-2” were submitted to EPD respectively on 1st November 2021, 23rd November 2021, 29th April 2022, 6th July 2022 and 19th June 2023. No contaminated soil and ground water was found within the Main Storeroom & Workshop, Mechanical Workshop, Waste Storage Area, SAS Thickener House-1 and SAS Thickener House-2, and no remedial action is required for these locations.

Complaint Log

No complaints were received in the reporting period.

Notifications of Summons and Successful Prosecutions

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

Reporting Change

There were no reporting changes during the reporting month.

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. This 72-month works contract commenced on 9 November 2020. Demolition of existing YLSTW for construction of new treatment facilities are in progress.

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 was 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”) for the period from July 2020 to 6 July 2023.

1.1.5 Aurecon Hong Kong Limited (Aurecon) 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 from July 2023. Air quality, noise, water quality and ecological monitoring, site inspections and auditing (as scheduled) under EM&A programme with effect from 7 July 2023 was conducted by Aurecon. Aurecon is undertaking the preparation (including reporting of monitoring results), certification by ET Leader and submission of this report to EPD.

1.1.6 All ET roles and responsibilities under the EP for this Project were undertaken by Fugro up to 6 July 2023 and by Aurecon with effect from 7 July 2023. Air quality, noise, water quality and ecological monitoring, site inspections and auditing (as scheduled) under EM&A programme up to 6 July 2023 was conducted by Fugro, and the corresponding monitoring results were shared with Aurecon for the purposes of reporting in this report.

1.1.7 This is the 10th Quarterly EM&A Summary Report to document the findings of site inspection activities and EM&A programme for this project from 1 July 2023 to 30 September 2023 (reporting period) and is submitted to fulfil Condition 3.5 of the EP and Section 12.4.5 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**.

Table 1 Contact Information of Key Personnel

Party	Position	Name	Telephone
Project Proponent (Drainage Services Department)	Engineer	Mr. Wallace Cheng	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 (Mott MacDonald Hong Kong Limited)	Independent Environmental Checker (IEC)	Mr. Brandon Wong	2828 5875
Contractor (Paul Y. - CREC Joint Venture)	Environmental Officer Until 31 July 2023	Ms. Diana Lee	5490 5271
	Assistant Environmental Officer	Mr. Sam Tsang	4634 2581
Environmental Team (Aurecon Hong Kong Limited)	Environmental Team Leader (ETL) From 7 July 2023	Mr. Vincent Lu	6346 5908
Environmental Team (Fugro Technical Services Limited)	Environmental Team Leader (ETL) Until 6 July 2023	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 Period

1.4.1 The main construction works carried out in the reporting period were summarized in **Table 2**:

Table 2 Main Construction Works carried out in the Reporting Period

July 2023	August 2023	September 2023
• Ground investigation at SDB & TTS • Laying cable ducts and construction of cable draw pits near entrance of YLSTW • ABWF and E&M works at CLP substation • ELS works and RC structure works at IW & PST • Installation of 813mm pipe pile at North of AGS • Installation of King Post at AGS • Breaking and removal of RAS (below ground) • Installation of observation wells and dewatering well at AGS • Demolition of Mixed Liquor Distribution & sludge Draw-off Chamber at FST no. 5-8 • Installation of sheet pile at TTS • Installation of King post at TTS • Installation of observation wells and dewatering well at TTS • Installation of sheet pile at STB • Demolition of underground structure at pump room of AFT • Installation of sheet pile at UC5 • ELS works at UC5 • Sheet piling installation around Sludge digester no. 1 – 3 • Installation of sheet pile at Biogas Holder no. 1 • Construction of temporary 200m3 sludge holding tanks, and • Disposal of construction waste as indicated in **Appendix F.**	• Ground investigation at SDB • Laying cable ducts and construction of cable draw pits near entrance of YLSTW • ABWF and E&M works at CLP substation • ELS works and RC structure works at IW & PST • Installation of 813mm pipe pile at North of AGS • Installation of King Post at AGS • Installation of observation wells and dewatering well at AGS • Installation of sheet pile at TTS • Installation of King post at TTS • Installation of observation wells and dewatering well at TTS • Installation of sheet pile at STB • Demolition of underground structure at pump room of AFT • ELS works at UC5 • Sheet piling installation around Sludge digester no. 1 – 3 • Installation of sheet pile at Biogas Holder no. 1 • Construction of temporary 200m3 sludge holding tanks • Construction of temp. haul road in front of central Control Room, and • Disposal of construction waste as indicated in **Appendix F**.	• Ground investigation at SDB, AGS & TTS • Laying cable ducts and construction of cable draw pits near entrance of YLSTW • ABWF and E&M works at CLP substation • ELS works and RC structure works at IW & PST • Installation of 813mm pipe pile at North of AGS • Installation of King Post at AGS • Breaking and removal of RAS (below ground) • Installation of observation wells and dewatering well at AGS • Demolition of Mixed Liquor Distribution & sludge Draw-off Chamber at FST no. 5-8 • Installation of sheet pile at TTS • Installation of King post at TTS • Installation of observation wells and dewatering well at TTS • Installation of sheet pile at STB • Demolition of underground structure at pump room of AFT • Installation of sheet pile at UC5 • ELS works at UC5 • Sheet piling installation around Sludge digester no. 1 – 3 • Installation of sheet pile at Biogas Holder no. 1 • Construction of temporary 200m3 sludge holding tanks, and • Disposal of construction waste as indicated in **Appendix F.**

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

2 SUMMARY OF EM&A REQUIREMENTS AND MONITORING RESULTS

2.1 Monitoring Requirement

2.1.1 The EM&A programme was undertaken in accordance with the EM&A Manual. It should be noted that the air quality, noise, water quality and ecology monitoring works are covered by this contract.

Air quality Monitoring

2.1.2 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.

Noise Monitoring

2.1.3 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.

Water quality Monitoring

2.1.4 Turbidity (in NTU), pH, DO (in mg/L and % of saturation), Temperature (in °C), Salinity (in ppt) and Suspended Solids are conducted for three days per week at mid-flood and mid-ebb with sampling and measurement at the designated monitoring stations.

Ecology Monitoring

2.1.5 Ardeid night roost monitoring was conducted once a month in areas within 100 m from the Project boundary to monitor the effectiveness of proposed mitigation measures and detect any unpredicted indirect ecological impacts arising from the Project.

2.1.6 Ecological monitoring of birds was conducted monthly during the quarter at point count sites and transect routes along the wetland habitats in Fung Lok Wai and Nam Sang Wai as well as along Shan Pui River and Kam Tin River within 500 m from the Project boundary.

2.2 Monitoring Locations

2.2.1 The air quality and noise monitoring are summarized in **Table 3**. The locations of the air quality and noise monitoring stations shown in **Figure 2** and **Figure 3**, respectively.

Table 3 Air Quality and Noise Monitoring Locations

Environmental Monitoring	Monitoring Station	Location
Air Quality	AM1	Topfine Machinery (China) Co. Ltd
	AM2	Squatter house at the west of YLSTW
Noise	CM1	Squatter house at the north of Yuen Long STW
	CM2	Squatter house at the west of Yuen Long STW
	CM3	Squatter house at the east of Yuen Long STW

2.2.2 The coordinates of water quality monitoring locations are summarized in **Table 4**. The locations of the water quality monitoring stations shown in **Figure 4**.

Table 4 Coordinates of Water Quality Monitoring Locations

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

2.3 Results & Observations

2.3.1 Graphical presentation of the environmental monitoring data in the reporting period is presented in Appendix D.

Air quality Monitoring

2.3.2 1-hour TSP impact monitoring at AM1 and AM2 were carried out in the reporting period, the air quality monitoring results are reported in the monthly EM&A Report prepared for this Contract.

2.3.3 No Action and Limit Level exceedance was recorded for air quality monitoring in the reporting period.

Noise Monitoring

2.3.4 Construction noise monitoring were carried out in the reporting period, the construction noise monitoring results for CM1, CM2 and CM3 are reported in the monthly EM&A Reports prepared for this Contract.

2.3.5 No Action and Limit Level exceedance was recorded for construction noise monitoring in the reporting period.

2.3.6 No raining and wind with speed over 5 m/s was observed during noise monitoring according to the onsite observation.

2.3.7 During the noise monitoring period, 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 period.

Water quality Monitoring

2.3.8 Water quality monitoring were carried out in the reporting period (Typhoon Signal No. 8 was hoisted on 1 September 2023 and Black Rainstorm Signal was hoisted on 8 September 2023. Due to safety concerns, the water quality monitoring on 1 September 2023 [Mid-Flood and Mid-Ebb] and 8 September 2023 [Mid-Flood and Mid-Ebb] has been cancelled), the monitoring results for M1, M2 and M3 are reported in the monthly EM&A Reports prepared for this Contract.

2.3.9 No Action and Limit Level exceedance was recorded for Dissolved Oxygen, Turbidity and Suspended Solids. Number of water quality exceedance recorded in the reporting period at each impact stations is summarized in **Table 5**.

Table 5 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	

Ecology Monitoring

2.3.10 Ardeid night roost monitoring and ecological bird monitoring were carried out in the reporting period. The monitoring results are reported in the monthly EM&A Reports prepared for this Contract.

2.3.11 Results of the ardeid night roost monitoring showed that the two confirmed ardeid night roosts (ANR 1 and ANR 2) during the pre-construction survey were still observed to be active from July 2023 to September 2023. No Action / Limit Level exceedance at NMS1 and NMS2 was recorded during the reporting period.

2.3.12 Results of the ecological bird monitoring recorded no exceedance in Action / Limit Level during the reporting period.

2.4 Action and Limit Levels

2.4.1 The Action and Limit Levels for air quality, noise, water quality and ecology monitoring have been set and are presented in **Appendix C**.

2.5 Event and Action Plans

2.5.1 The event and action plans for air quality, noise, water quality and ecology monitoring are presented in **Appendix E**.

2.6 Mitigation Measures

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

3 LANDSCAPE AND VISUAL

3.1 Audit Requirements

3.1.1 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 planning, control of night-time lighting glare, erection of decorative screen hoarding and management of construction activities and facilities are summarized in **Appendix G**.

3.2 Results and Observations

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

3.2.2 To monitor and audit the implementation of landscape and visual mitigation measures, 13 weekly landscape and visual site audits were carried out in the reporting period. No outstanding issues were reported during the reporting period. Observations and recommendations during site audits are summarized in **Table 6**.

4 LAND CONTAMINATION

4.1 Contamination Assessment Report

4.1.1 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.

4.1.2 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.

4.1.3 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 6 January 2022) show that there are no exceedances of the adopted RBRGs for the “Waste Storage Area”. As no contaminated soil and groundwater was found within the “Waste Storage Area”, no remediation actions are required for contaminated soil and groundwater for the scheduled land use of the “Waste Storage Area”. Their findings are summarized in Contamination Assessment Report (CAR) and submitted to EPD on 29 April 2022.

4.1.4 Risk-Based Remediation Goals (RBRGs) for Industrial have been adopted for the “SAS Thickener House-1” and the laboratory results for the sampling works (conducted between 13 April 2022 to 16 May 2022) show that there are no exceedances of the adopted RBRGs for the “SAS Thickener House-1”. As no contaminated soil and groundwater was found within the “SAS Thickener House-1”, no remediation actions are required for contaminated soil and groundwater for the scheduled land use of the “SAS Thickener House-1” . Their findings are summarized in Contamination Assessment Report (CAR) and submitted to EPD on 6 July 2022.

4.1.5 Risk-Based Remediation Goals (RBRGs) for Industrial have been adopted for the “SAS Thickener House-2” and the laboratory results for the sampling works (conducted between 15 February 2023 to 23 February 2023) show that there are no exceedances of the adopted RBRGs for the “SAS Thickener House-2”. The laboratory results are compared against the adopted RBRGs and soil saturation limit (Csat) for soil samples and the adopted RBRGs and the solubility limits for groundwater samples. No exceedance of RBRG are recorded for both soil samples and groundwater samples. Furthermore, no exceedance of the soil saturation limit are recorded for soil samples. However, the exceedances of solubility limits for PCRs (C9-C16) are recorded for groundwater samples collected at BH-18, BH-19, BH-20 and BH-21; and also PCRs (C17-C35) for BH-21. As no non-aqueous phase liquid (NAPL) was observed during sampling, no further sampling and remediation are required. As no contaminated soil and groundwater is found within the

“SAS Thickener House-2”, no remediation actions are required for contaminated soil and groundwater for the scheduled land use of the “SAS Thickener House-2”. Their findings are summarized in Contamination Assessment Report (CAR) which was certified by ET Leader and verified by IEC on 31 May 2023 and submitted to EPD on 19 June 2023.

5 SITE INSPECTION AND AUDIT

5.1 Site Inspection

5.1.1 Site audits were carried out by ET on weekly basis at least once per week to monitor the implementation of proper environmental management practices and mitigation measures in the Project site.

5.1.2 In the reporting period, 13 site inspections were carried out. No outstanding issues were reported during the reporting period. Details of observations recorded during the site inspections are presented in **Table 6**.

Table 6 Observations and Recommendations of Site Audit

Parameters	Date	Observations and Recommendations	Follow-up
Air Quality	NA		
Noise	20230711	Reminder 1: The noise barrier at STB should be enclosed.	NA
	20230906	Reminder 1: The noise barrier at the west of STB should be enclosed.	NA
Water Quality	NA		
Chemical and Waste Management	NA		
Land Contamination	NA		
Ecological Impact	NA		
Landscape and Visual Impact	NA		
Permit / Licenses	NA		
Others	NA		

5.2 Advice on the Solid and Liquid Waste Management Status

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

5.2.2 The management of waste generated by the construction is presented in **Table 7**.

Table 7 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

5.2.3 The amount of wastes generated by the site activities in the reporting period is shown in **Appendix F**.

5.2.4 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.

5.2.5 The Contractor was reminded that chemical waste should be properly handled 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.

6 NON-COMPLIANCE, COMPLAINTS, NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTIONS

6.1 Non-compliance (Exceedances of AL levels)

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

6.1.2 No Action and Limit Level exceedance was recorded was recorded for water quality in the reporting period.

6.1.3 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 period.

6.1.4 No Action / Limit exceedance was noted for the ecological monitoring of birds during the reporting period.

6.1.5 No corrective actions were required according to the Event and Action Plans.

6.2 Complaints, Notification of Summons and Successful Prosecutions

6.2.1 No environmental complaints, notification of summons and successful prosecutions was recorded in the reporting period.

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

6.2.3 No corrective actions were required.

7 IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURE

7.1 Implementation Status of Environmental Protection and Pollution Control / Mitigation Measures

The Contractor had implemented environmental protection and pollution control / mitigation measures as stated in the EIA Report, the EP and EM&A Manual. The implementation status of the recommended mitigation measures during the reporting period is summarized in **Appendix G**.

The status of required submissions under the EP as of the reporting period are summarized in **Table 8**.

Table 8 Status of submissions required under the EP

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, finalised and 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, finalised and 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, finalised and 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, finalised and available for public inspection via the dedicated website.
Condition 2.14	Contamination Assessment Report for Waste Storage Area	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 SAS Thickener House-1	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 2.14	Contamination Assessment Report for SAS Thickener House-2	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 September 2023)	Submitted to EPD with ET certification and IEC verification, finalised and available for public inspection via the dedicated website.
Condition 3.5	Quarterly EM&A Report (from April 2021 to June 2023)	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 September 2023	Submitted to EPD with ET certification and IEC verification, finalised and available for public inspection via the dedicated website.

8 CONCLUSION AND RECOMMENDATION

8.1 Conclusions

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

8.1.2 No Action and Limit Level exceedance was recorded for water quality in the reporting period.

8.1.3 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 monitoring period.

8.1.4 No Action / Limit exceedance was noted for the ecological monitoring of birds during the reporting period.

8.1.5 13 environmental site inspections and 13 landscape and visual site audits were carried out in the reporting period. Recommendations on mitigation measures were given to the Contractor for remediating the deficiencies identified during the site inspections.

8.1.6 No environmental complaints, notification of summons and successful prosecutions were recorded in the reporting period.

8.1.7 The EM&A methodology has been effective in monitoring the environmental impacts of the Project and the effectiveness of the mitigation measures. The data collected were useful in determining whether the Project had caused unacceptable impacts on the sensitive receivers. Analysis of all EM&A data collected throughout the baseline and the impact monitoring periods demonstrated the environmental acceptability of the Project.

8.2 Comment and Recommendations

8.2.1 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.

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

Air Quality Impact

- No specific observation was identified in the reporting period.

Construction Noise Impact

- The noise barrier at STB should be enclosed.
- The noise barrier at the west of STB should be enclosed.

Water Quality Impact

- No specific observation was identified in the reporting period.

Chemical Waste and Construction Waste Management

- No specific observation was identified in the reporting period.

Land Contamination

- No specific observation was identified in the reporting period.

Ecological Impact

- No specific observation was identified in the reporting period.

Landscape and Visual Impact

- No specific observation was identified in the reporting period.

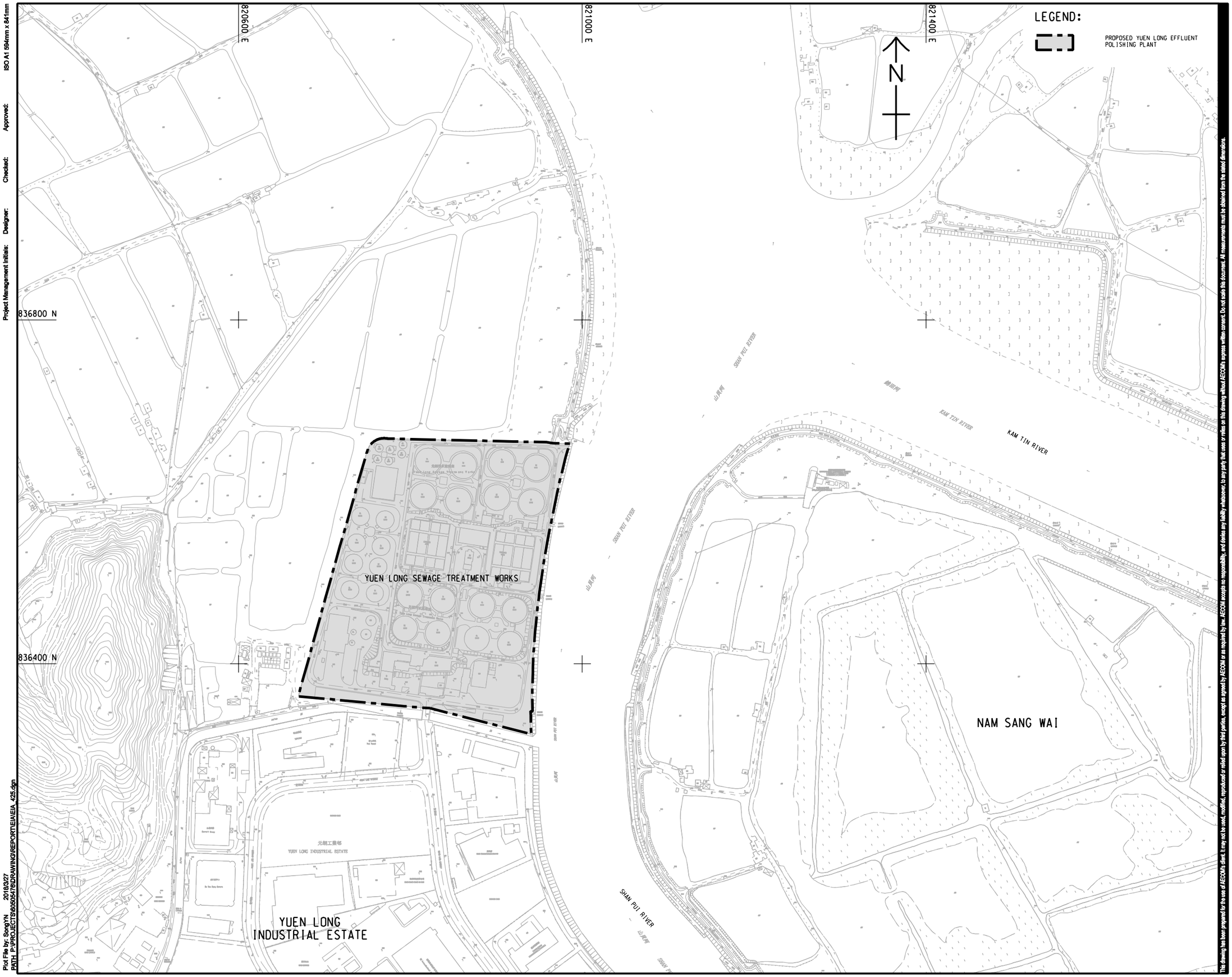
Hazard to Life

- No specific observation was identified in the reporting period.

Permit/ Licenses

- No specific observation was identified in the reporting period.

Figure 1 Location of Proposed Yuen Long Effluent Polishing Plant



ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

Plot File by: SongYN 2016/3/27
PATH: P:\PROJECTS\60505476\DRAWING\REPORT\EIA\EIA_425.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

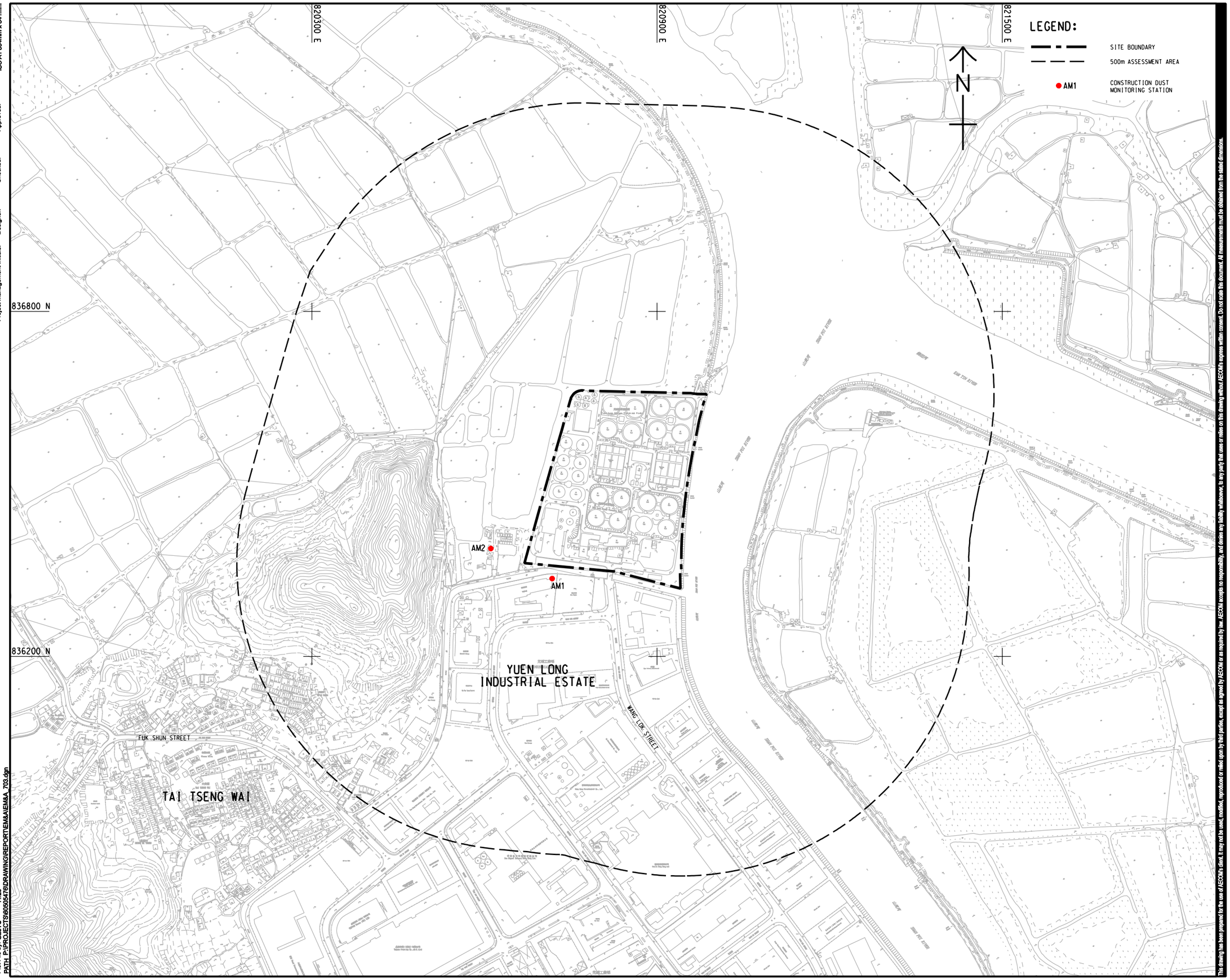
PROJECT NO.
項目編號
60505476

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

Project Management Initials: Designer: Checked: Approved:

Plot File by: GaoYU 11/29
PATH: P:\PROJECTS\60505476\DRAWING\REPORT\EM&A\EM&A_703.dgn

AECOM

PROJECT 項目

YUEN LONG EFFLUENT POLISHING PLANT - INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT 業主

渠務署
Drainage Services Department

CONSULTANT 工程顧問公司

AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS 分判工程顧問公司

ISSUE/REVISION 修訂

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

STATUS 用途

SCALE 比例
A1 1 : 3000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN 索引圖

PROJECT NO. 項目編號
60505476

CONTRACT NO. 合約編號
CE 3/2015 (DS)

SHEET TITLE 圖紙名稱

LOCATION OF CONSTRUCTION DUST MONITOING STATIONS

SHEET NUMBER 圖紙編號

Figure 3 Noise Monitoring Locations

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

820500 E

820900 E

821300 E

836700 N

836300 N

CM1

CM2

CM3

LEGEND:

SITE BOUNDARY

300m ASSESSMENT AREA

NOISE MONITORING POINT

N

SHAN PUI RIVER

山貝河

KAM TIN RIVER

錦田河

元朗污水處理廠
Yuen Long Sewage Treatment Works

元朗工業邨
YUEN LONG INDUSTRIAL ESTATE

YUEN LONG
INDUSTRIAL ESTATE

WANG LOK STREET

WANG LEE STREET

Plot File by: ZENGFX 2019/2/26
PATH: P:\Projects\60505476\DRAWING\SKETCH\SK7003.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

Project Management Initials: Designer: Checked: Approved:

820400 E

821000 E

837200 N

836600 N

836000 N

LEGEND:

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

N

M1

M2

M3

KAM TIN RIVER

SHAN PUI RIVER

YUEN LONG INDUSTRIAL ESTATE

MANG LOK STREET

FUK SHUN STREET

TAI TSENG WAI

Plot File by: GaoYU 12/18
PATH: F:\PROJECTS\60505476\DRAWING\REPORTTEMBAE\M&A_704.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

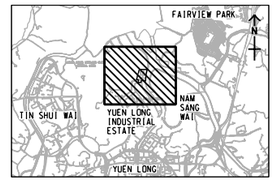
I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核核

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

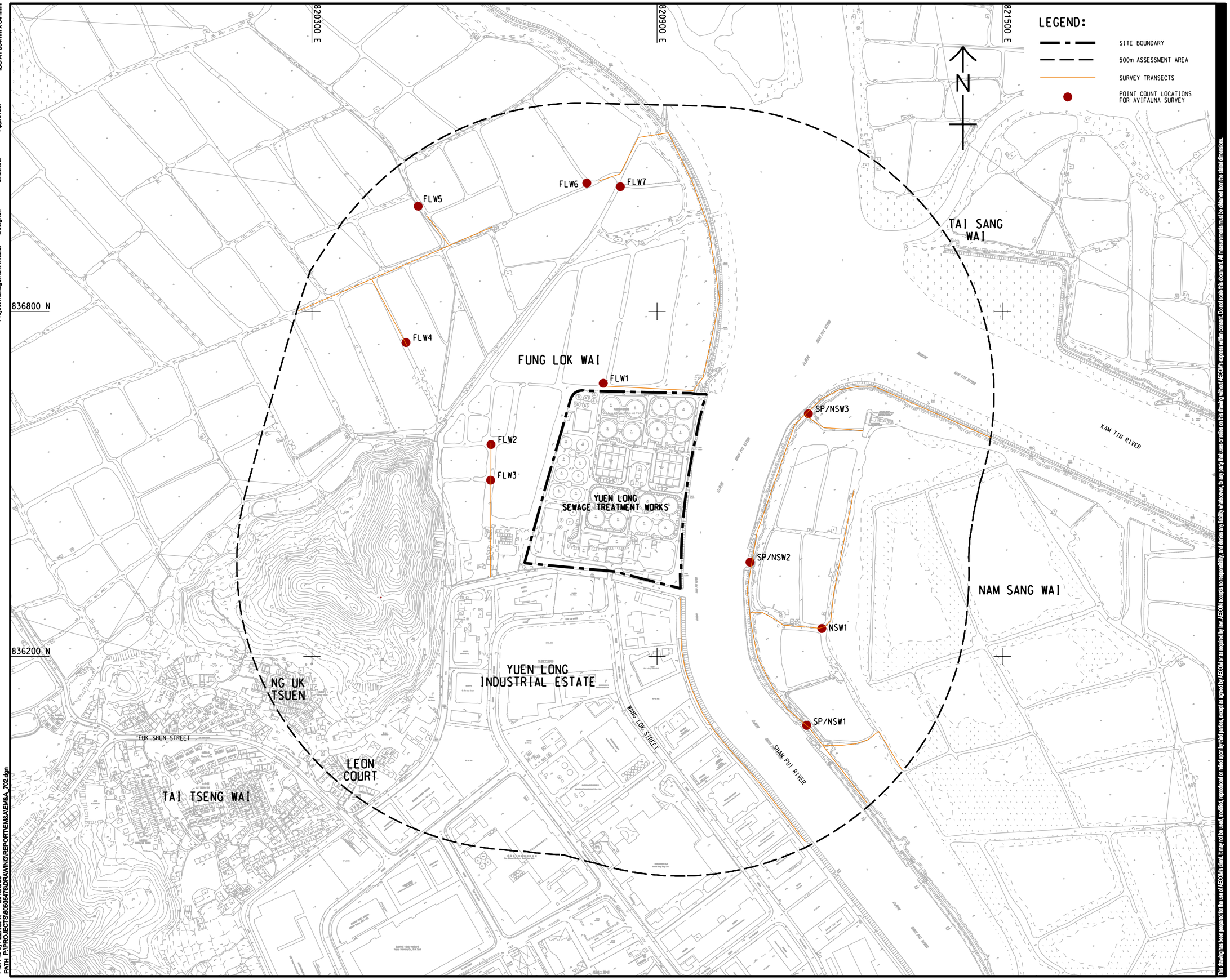
CONTRACT NO. 合約編號
CE 3/2015 (DS)

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



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

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

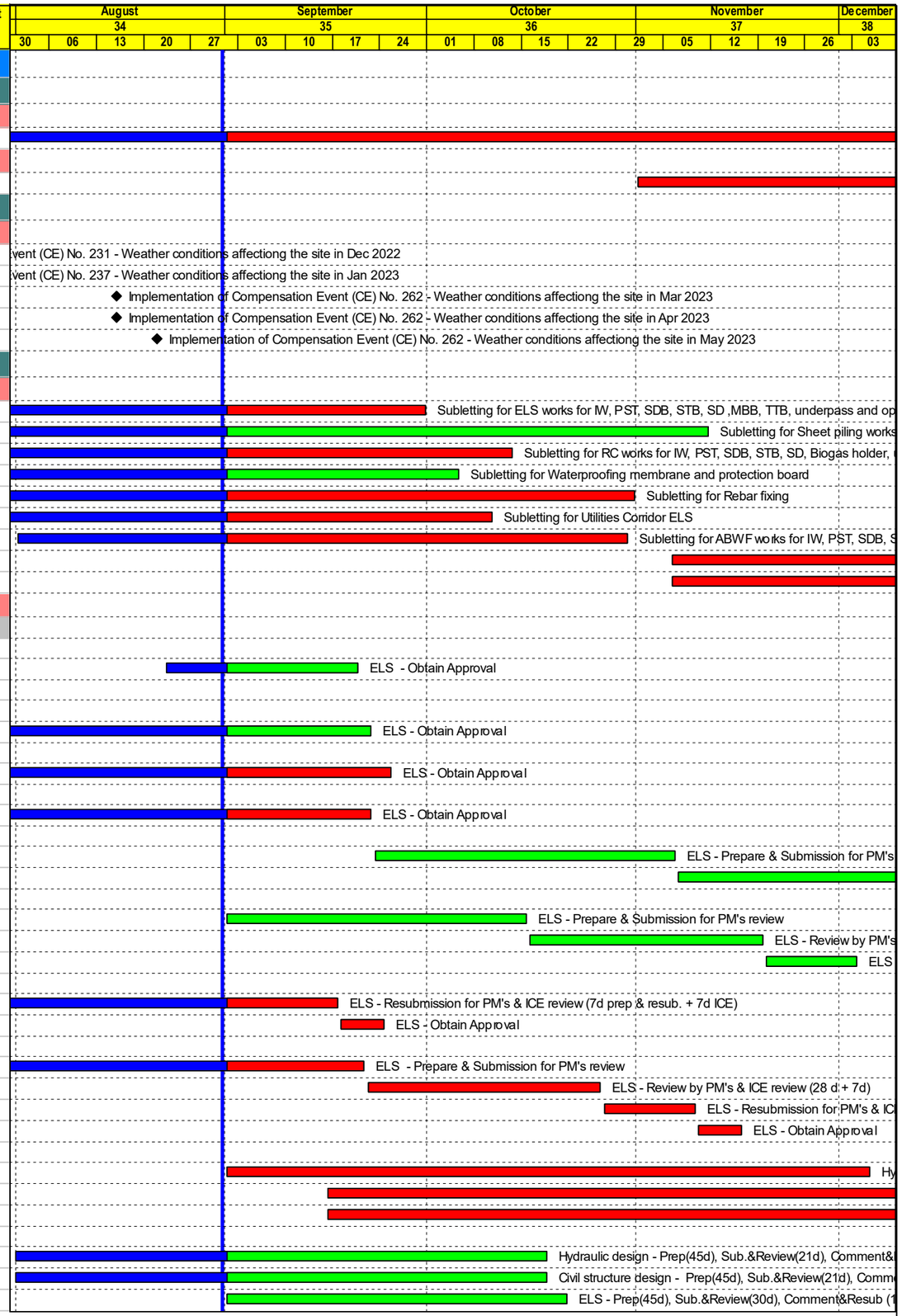
CONTRACT NO. 合約編號
CE 3/2015 (DS)

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	Total Float
YL Effluent Polishing Plant - Main Works Stage 1 - Detailed Works Programme DPv29_20230918					
Contract Data Part 1					
Access Dates					
ADWA2	Work Area WA2 (sd) (new site possession) validity for 12 months and subject to renewal	757	05-Mar-21 A	22-Feb-24*	0
Environmental Constraints					
NMM-2165	PS 1.105A Noise Mitigation Measures 2023-2024	152	01-Nov-23*	31-Mar-24	0
Planned Completion					
Compensation Events					
CE231	Implementation of Compensation Event (CE) No. 231 - Weather conditions affectiong the site in Dec 2022	0		30-Jun-23 A	
CE237	Implementation of Compensation Event (CE) No. 237 - Weather conditions affectiong the site in Jan 2023	0		30-Jun-23 A	
CE262	Implementation of Compensation Event (CE) No. 262 - Weather conditions affectiong the site in Mar 2023	0		16-Aug-23 A	
CE269	Implementation of Compensation Event (CE) No. 262 - Weather conditions affectiong the site in Apr 2023	0		16-Aug-23 A	
CE298	Implementation of Compensation Event (CE) No. 262 - Weather conditions affectiong the site in May 2023	0		22-Aug-23 A	
Preliminary and Preparation Works					
Subletting					
SUB-270	Subletting for ELS works for IW, PST, SDB, STB, SD ,MBB, TTB, underpass and open cut for admin. bldg	312	12-Oct-21 A	30-Sep-23	-168
SUB-380	Subletting for Sheet piling works for remaining areas	333	12-Oct-21 A	11-Nov-23	283
SUB-280	Subletting for RC works for IW, PST, SDB, STB, SD, Biogas holder, underpass and admin. bldg	256	29-Nov-21 A	13-Oct-23	-244
SUB-350	Subletting for Waterproofing membrane and protection board	300	29-Nov-21 A	05-Oct-23	15
SUB-360	Subletting for Rebar fixing	86	29-Nov-21 A	31-Oct-23	-244
SUB-310	Subletting for Utilities Corridor ELS	60	08-Aug-22 A	10-Oct-23	-79
SUB-290	Subletting for ABWF works for IW, PST, SDB, STB, MBR, TTB and admin. bldg	60	01-Aug-23 A	30-Oct-23	-67
SUB-300	Subletting for RC works for MBR and TTB	60	06-Nov-23	04-Jan-24	-2
SUB-340	Subletting for Drainage, Sewage & waterworks	90	06-Nov-23	03-Feb-24	-2
Design Submission					
Temporary Works Design					
Mainstream Bio-Reactor System					
TWD-250	ELS - Obtain Approval	7	23-Aug-23 A	20-Sep-23	219
Sludge Thickening Building					
One-stage design					
TWD-210	ELS - Obtain Approval	7	10-Dec-22 A	22-Sep-23	32
Tertiary Treatment System					
TWD-170	ELS - Obtain Approval	7	30-Dec-22 A	25-Sep-23	-193
Sludge Digester 1-3 & Utilities Corridor					
TWD-370	ELS - Obtain Approval	7	21-Dec-22 A	22-Sep-23	-144
Sludge Digester 4-6					
TWD-460	ELS - Prepare & Submission for PM's review	45	23-Sep-23	06-Nov-23	406
TWD-470	ELS - Review by PM's & ICE review (28 d + 7d)	35	07-Nov-23	11-Dec-23	406
Sludge Dewatering and Underpass					
TWD-260	ELS - Prepare & Submission for PM's review	45	01-Sep-23	15-Oct-23	254
TWD-270	ELS - Review by PM's & ICE review (28 d + 7d)	35	16-Oct-23	19-Nov-23	254
TWD-280	ELS - Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE)	14	20-Nov-23	03-Dec-23	254
Modification of Existing Emergency Bypass Chamber					
TWD-670	ELS - Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE)	14	08-Jul-23 A	17-Sep-23	-105
TWD-680	ELS - Obtain Approval	7	18-Sep-23	24-Sep-23	-105
Modification of Existing Inspection Chamber & Inlet Effluent Pipes from NSWSPS					
TWD-700	ELS - Prepare & Submission for PM's review	45	26-Oct-22 A	21-Sep-23	-90
TWD-710	ELS - Review by PM's & ICE review (28 d + 7d)	35	22-Sep-23	26-Oct-23	-90
TWD-720	ELS - Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE)	14	27-Oct-23	09-Nov-23	-90
TWD-730	ELS - Obtain Approval	7	10-Nov-23	16-Nov-23	-90
Temporary pipework between PST Stage 1 and A-Tank Inlet [Temporary pumping system]					
TWD-750	Hydraulic design - Prep(45d), Sub.&Review(30d), Comment&Resub (14d) & Approval (7d)	96	01-Sep-23	05-Dec-23	-22
TWD-760	Civil structure design - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	96	16-Sep-23	20-Dec-23	-22
TWD-770	ELS - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	96	16-Sep-23	20-Dec-23	-22
Temporary pumping and pipeworks between exsiting Detroitor and PST Stage 1 [Temp. pumping system]					
TWD-780	Hydraulic design - Prep(45d), Sub.&Review(21d), Comment&Resub (14d) & Approval (7d)	96	01-Aug-23 A	18-Oct-23	43
TWD-790	Civil structure design - Prep(45d), Sub.&Review(21d), Comment&Resub (14d) & Approval (7d)	96	01-Aug-23 A	18-Oct-23	43
TWD-800	ELS - Prep(45d), Sub.&Review(30d), Comment&Resub (14d) & Approval (7d)	51	01-Sep-23	21-Oct-23	43



Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float
	Temporary Working Platform at ELS				
	Temporary Working Platform at AGS ELS				
TWD-910	Temp. Working Platform - AGS ELS - Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE)	14	06-May-23 A	16-Sep-23	-173
TWD-920	Temp. Working Platform - AGS ELS - Obtain Approval	7	17-Sep-23	23-Sep-23	-173
	Temporary Working Platform at TTS ELS				
TWD-950	Temp. Working Platform - TTS ELS - Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE)	14	17-Apr-23 A	16-Sep-23	-194
TWD-960	Temp. Working Platform - TTS ELS - Obtain Approval	7	17-Sep-23	23-Sep-23	-194
	Temporary diversion scheme for Early commissioning of SD, BH1, H2S and STB				
TWD-970	Temp. pipe. for BH1 Early Comm.-Prep(90d),Sub.&Review(30d) Comment&Resub(14d)&Approval(7d)	141	30-Jun-23 A	19-Dec-23	-23
TWD-1010	Temp. pipe. for SD1-2 Early Comm.-Prep(90d),Sub.&Review(30d) Comment&Resub(14d)&Approval(7d)	141	21-Oct-23	09-Mar-24	36
	Contractor 's Permanent Works Design (include ATAL)				
	AIP				
	Package 3A - Plant Service Water				
AIP-520	E&M AIP Report for Plant Service Water - Resubmission for further review	45	20-Dec-21 A	30-Sep-23	38
AIP-530	E&M AIP Report for Plant Service Water - Obtain Approval	7	01-Oct-23	07-Oct-23	38
	Package 23A - Security, Public Address and Communication System				
AIP-960	SPC - Review by PM's & ICE review (28 d + 7d)	45	19-Apr-23 A	16-Sep-23	-22
AIP-970	SPC - Resubmission for further review	45	17-Sep-23	31-Oct-23	-22
AIP-980	SPC - Obtain Approval	13	01-Nov-23	13-Nov-23	-22
	DDA				
	Package 2 - Tertiary Treatment System				
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	30-Sep-23	-31
DDA-150	Foundation for TTS - Prepare (90d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d), GEO (28d)	213	08-Oct-21 A	18-Oct-23	-46
DDA-180	Civil Req. for TTS (Superstruct. design) - Prepare (147d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	213	11-Oct-21 A	30-Sep-23	192
DDA-200	Mechanical for TTS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	213	31-Dec-21 A	24-Nov-23	208
DDA-210	Electrical& Control for TTS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	213	31-Dec-21 A	24-Nov-23	208
DDA-140	Architectural for TTS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	17-Nov-22 A	23-Dec-23	65
DDA-160	Civil & Structural for TTS - Prepare (120d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	177	17-Nov-22 A	23-Dec-23	-115
DDA-220	Building Services (BS) for TTS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	101	16-Sep-23*	25-Dec-23	177
	Package 3 - Mainstream Bio-Reactor System				
DDA-260	Civil Req. for MBS-AGS (Foundation design) - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	09-Jun-21 A	30-Sep-23	70
DDA-280	P&ID for MBS (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	08-Oct-21 A	19-Oct-23	297
DDA-290	Mechanical for MBS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	08-Oct-21 A	19-Oct-23	297
DDA-300	Electrical& Control for MBS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	405	08-Oct-21 A	19-Oct-23	297
DDA-270	Civil Req. for MBS-AGS (Superstruct. design) - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	126	01-Mar-22 A	30-Sep-23	70
DDA-240	Foundation for MBS - Prepare (97d), Sub. & Review.(45d) ,Comment & Resub.(14d),GEO (28d)& Approval (7d)	230	18-Mar-22 A	09-Dec-23	-2
DDA-250	Civil & Structural for MBS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	170	20-Jan-23 A	04-Jan-24	70
DDA-1530	VCAB for AGS&TTS - Prepare (30d), Sub. & Review (30d)	204	16-Jun-23 A	22-Mar-24	182
DDA-310	Building Services (BS) for MBS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	122	01-Oct-23*	30-Jan-24	194
	Package 5A - Master Water Meter Room				
DDA-360	Foundation for Master WM Room- Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d),GEO(28d) & Approval (7d)	154	15-Feb-22 A	16-Nov-23	110
DDA-370	Civil & Struct. for WM Room- Prepare (90d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	156	15-Apr-22 A	16-Nov-23	110
DDA-380	General Arrangement & Civil Req. for MWMC - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	100	14-Apr-23 A	16-Nov-23	845
DDA-390	P&ID for MWMC - MBS (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	64	26-Jun-23 A	01-Nov-23	890
DDA-400	Mechanical for MWMC - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	100	03-Oct-23	10-Jan-24	890
DDA-410	Electrical& Control for MWMC - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	100	03-Oct-23	10-Jan-24	890
	Package 5B - Plant Service Water (PSW)				
DDA-1050	Civil Requirement Drawings - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	126	12-Jun-21 A	16-Nov-23	58
DDA-1040	Piping & Instrumentation Diagram (P&ID) - Prep(30d), Sub.&Review(28d), Comment&Resub (14d) & Approval (7d)	220	26-Jun-23 A	15-May-24	35
DDA-1060	Electrical & Control for PSW - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	220	09-Oct-23	15-May-24	35
DDA-1070	Mechanical for PSW - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	220	09-Oct-23	15-May-24	35
	Package 6 - Sludge Thickening Chemical and Dosing System				
DDA-1120	P&ID for STCDS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	335	14-Aug-21 A	28-Feb-24	293
DDA-430	Found.for STCS,WasteGasBurner &Guard Hse- Prepare(60d),Sub.&Review.(45d),Comment & Resub.(14d),GEO(28d) & Approval (7d)	96	09-Nov-21 A	29-Jan-24	887

Remaining Level of Ef...
Actual Work
Remaining Work
Critical Remaining Work
Milestone

保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Monthly Progress Report No. 34 - 3MRP (Aug 2023)

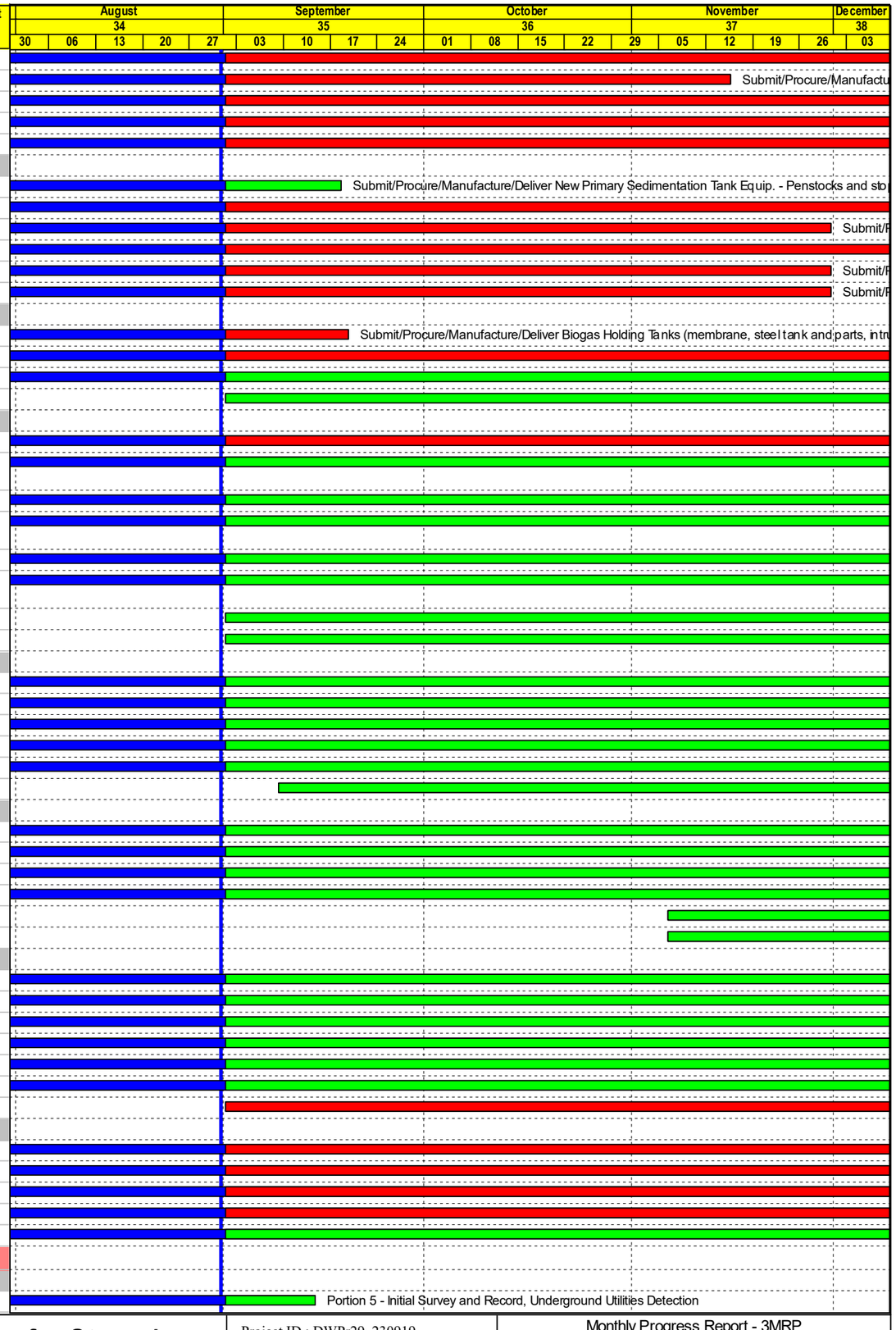
Project ID : DWPr29_230919
Layout : DC201910 MPR34-3MRP

Monthly Progress Report - 3MRP			
Date	Revision	Checked	Approved
31-Aug-23	Rev. 0		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float
DDA-440	Civil & Struct. for STCS, WGB & Guard Hse - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	250	09-Nov-21 A	29-Dec-23	54
DDA-440B	Civil Req. for STCDS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	300	15-Nov-21 A	30-Dec-23	353
DDA-1130	Mechanical for STCDS - Prepare (60d), Sub. & Review.(45d) , Comment & Resub. (14d) & Approval (7d)	340	16-Nov-21 A	28-Feb-24	707
DDA-1140	Electrical & Control for STCDS - Prepare (60d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	315	30-Nov-21 A	01-Nov-23	887
DDA-1520	Mechanical Ventilation and Air conditional System Design for Sludge Thickening Building (STB)	320	16-Jun-22 A	30-Mar-24	302
DDA-1510	Plumbing and Drainage System Design for Sludge Thickening Building (STB)	320	07-Jul-22 A	30-Mar-24	302
DDA-1500	Fire Services Design for Sludge Thickening Building (STB)	320	08-Jul-22 A	30-Mar-24	302
DDA-1150	Building Services for STCDS - Prepare (60d), Sub. & Review.(45d) , Comment & Resub.(14d) & Approval (7d)	126	24-Oct-22 A	30-Mar-24	887
Package 7 - CLP Substation and 11kV Switchgear House					
DDA-490	BS for CLP Sub. &11kV Switchgear Hse - Prepare (28d), Sub. & Review.(28d) ,Comment & Resub.(14d) & Approval (7d)	78	01-Jun-21 A	30-Sep-23	-40
DDA-480	UPS System for CLPSub.&11kV Switchgear Hse - Prepare (102d), Sub. & Review.(45d),Comment & Resub.(14d)&Approval (7d)	168	03-Jun-21 A	30-Sep-23	-75
DDA-1450	VCAB, FSD & WSD Design Report - Prepare (28d), Sub. & Review.(28d) ,Comment & Resub.(14d) & Approval (7d	78	02-Jul-21 A	30-Sep-23	-75
Package 9 - Inlet Work (IW)					
DDA-1190	Mechanical for Inlet Work - Prepare (28d), Sub. & Review.(28d) ,Comment & Resub.(14d) & Approval (7d)	120	09-Aug-21 A	30-Sep-23	-24
DDA-1200	Electrical & Control for Inlet Work - Prepare (28d), Sub. & Review.(28d) ,Comment & Resub.(14d) & Approval (7d)	120	30-Oct-21 A	30-Sep-23	-74
DDA-1210	Building Services for Inlet Work - Prepare (28d), Sub. & Review.(28d) ,Comment & Resub.(14d) & Approval (7d)	76	30-Mar-22 A	30-Sep-23	-74
Package 10 - Primary Sedimentation Tank (PST)					
DDA-1240	Mechanical for PST - Prepare (46d), Sub. & Review.(30d) ,Comment & Resub.(14d) & Approval (7d)	120	01-Jun-21 A	01-Oct-23	733
DDA-1250	Electrical & Control for PST - Prepare (28d), Sub. & Review.(28d) ,Comment & Resub.(14d) & Approval (7d)	48	31-Aug-21 A	01-Oct-23	733
DDA-1260	Building Services for PST - Prepare (28d), Sub. & Review.(28d) ,Comment & Resub.(14d) & Approval (7d)	90	01-Oct-21 A	01-Oct-23	733
Package 11 - Control and Monitoring System					
DDA-580	Power Quality & Energy Management System (PQEMS) - Prep(28d), Sub.&Review(28d), Comment&Resub (14d) & Approval (7d)	130	02-Oct-21 A	01-Oct-23	-22
DDA-550	Supervisory Control&Data Application (SCADA) System - Prep(28d), Sub.&Review(28d), Comment&Resub (14d) & Approval (7d)	238	24-Apr-23 A	25-Dec-23	315
DDA-1270	Gas Detection System - Prep(28d), Sub.&Review(28d), Comment&Resub (14d) & Approval (7d)	91	08-May-23 A	01-Oct-23	315
DDA-560	Computerised Mainatenance Mangement System (CMMS) - Prep(28d), Sub.&Review(28d), Comment&Resub (14d) & Approval (7d)	457	02-Oct-23	31-Dec-24	23
DDA-570	Information and Document mangement System (IDMS) - Prep(28d), Sub.&Review(28d), Comment&Resub (14d) & Approval (7d)	457	02-Oct-23	31-Dec-24	23
DDA-1280	Data Collection, Management, Analysis, & Model System - Prep(28d), Sub.&Review(28d), Comment&Resub (14d) & Approval (7d)	457	02-Oct-23	31-Dec-24	23
Package 12 - Chemical System for STB					
DDA-650	Chemical System for Sludge Thickening Building (STB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	181	01-Sep-23	28-Feb-24	293
Package 13 - Pipework System					
DDA-660	Pipeworks System for Sludge Thickening Building (STB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	126	01-Sep-23	04-Jan-24	382
DDA-1030	Pipeworks System for Sludge Digesters - Prep(60d),Sub.&Review(45d),Comment&Resub (14d) &Approval (7d)	126	01-Sep-23	04-Jan-24	75
Package 14 - Sludge Anaerobic Digestion System (SDT)					
DDA-1320	Electrical & Control for SDT & UC/PP - Prepare (55d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7	460	02-Jul-21 A	30-Mar-24	-11
DDA-1310	Mechanical for SDT & UC/PP - Prepare (47d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	460	10-Jul-21 A	31-Oct-23	140
DDA-1340	Civil Req. Drawing for UC/PP - Prepare (47d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	580	10-Jul-21 A	31-Oct-23	-11
DDA-1330	Building Services for SDT & UC/PP - Prepare (56d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d	181	02-Oct-23	30-Mar-24	-11
Package 15 - Biogas H2S Removal, Storage and Delivery System					
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-Sep-23	-157
DDA-1370	Mechanical for Biogas H2S Removal System - Prepare(28d),Sub& Review(28d),Comment&Resub(14d)&Approval (7d)	78	05-Oct-21 A	16-Oct-23	-36
DDA-1400	Civil Req. Drawing for Biogas H2S Removal System - Prepare(28d),Sub& Review(28d),Comment&Resub(14d)&Approval (7d)	78	07-Dec-21 A	16-Oct-23	-52
DDA-1390	Building Services for Biogas H2S Removal System - Prepare(28d),Sub& Review(28d),Comment&Resub(14d)&Approval (7d)	137	31-May-23 A	30-Dec-23	-36
DDA-1380	Electrical & Control for Biogas H2S Removal System - Prepare(28d),Sub& Review(28d),Comment&Resub(14d)&Approval (7d)	105	17-Sep-23	30-Dec-23	-52
Package 16 - Deodorization Unit System					
DDA-1420	Mechanical for DOU No. 1 - Prepare(28d),Sub& Review(28d),Comment&Resub(14d)&Approval (7d)	78	04-Mar-22 A	01-Oct-23	55
DDA-1440	Mechanical for DOU No. 3 - Prepare(28d),Sub& Review(28d),Comment&Resub(14d)&Approval (7d)	300	17-Jul-22 A	04-Nov-23	446
DDA-1430	Mechanical for DOU No. 2A and 2B - Prepare(28d),Sub& Review(28d),Comment&Resub(14d)&Approval (7d)	95	01-Sep-23	04-Dec-23	416

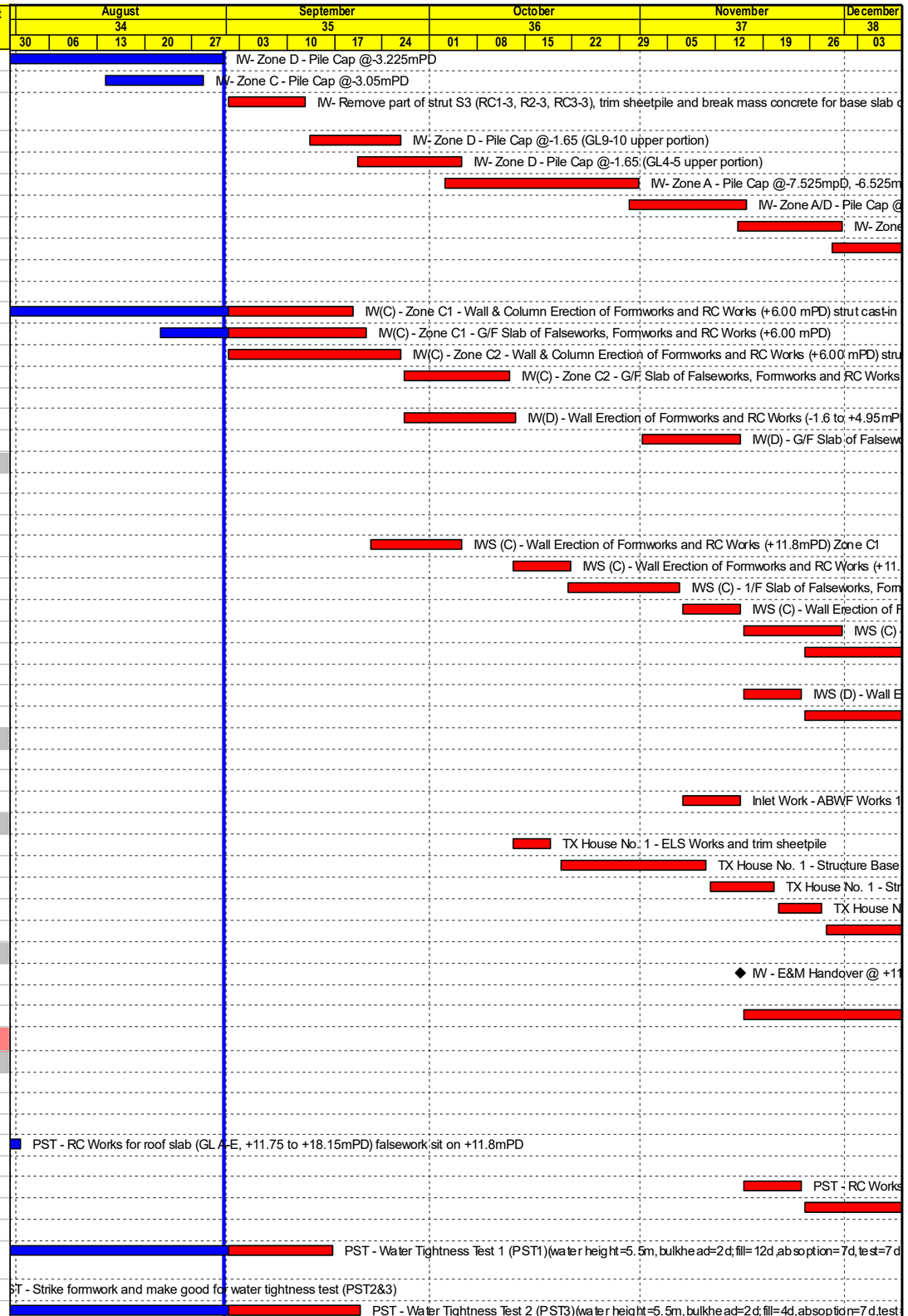
Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float
Package 17 - Sludge Dewatering Building (SDB)					
DDA-920	Fire Services System for SDB - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	332	01-Oct-23	27-Aug-24	-74
DDA-930	Mechanical for Sludge Dewatering Building (SDB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	424	01-Oct-23	27-Nov-24	534
DDA-940	Plumbing System for Sludge Dewatering Bldg (SDB) - Prep(60d), Sub.&Review(45d), Comment&Resub(14d) & Approval (7d)	424	01-Oct-23	27-Nov-24	534
DDA-950	BS for Sludge Dewatering Building (SDB) - Prep(118d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7c	424	01-Oct-23	27-Nov-24	-74
Package 20 - Trellis					
DDA-720	Civil & Structural for Trellis - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	207	01-Sep-23	25-Mar-24	703
Package 21 - Steel Working Platform					
DDA-730	Civil & Structural for Steel Working Platform - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7	102	18-Nov-23	27-Feb-24	730
Package 22 - Sampling System of YLEPP					
DDA-740	Sampling System for IW&PST - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	62	07-Jul-23 A	01-Nov-23	-44
DDA-1630	Sampling System for STB - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	128	02-Oct-23	06-Feb-24	-11
DDA-1610	Sampling System for AGS&TTB - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	127	25-Nov-23	30-Mar-24	-11
DDA-1620	Sampling System for SDT - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	127	25-Nov-23	30-Mar-24	-11
Package 23 - Security, Public Address and Communication System					
DDA-750	SPC sitewide ACS - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	98	21-Jun-23 A	06-Nov-23	-23
Design out of ATAL's Scope					
DDA-1540	Drainage systems at base slab / foundation levels - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	126	01-Sep-23	04-Jan-24	406
DDA-1560	Street fire hydrant system - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	126	01-Sep-23	04-Jan-24	372
Technical Submission					
Factory Acceptance Test Plans					
SUBM-1110	Submit/review/approval Factory Acceptance Test Plans - Disc filter system	120	01-Sep-23	29-Dec-23	121
SUBM-1130	Submit/review/approval Factory Acceptance Test Plans - SCADA system	120	01-Sep-23	29-Dec-23	-69
Operation and Maintenance (O&M) Manuals and Installation Manuals (PS 34.20(11)(12)(13))					
Inlet Works and Primary Sedimentation Tank					
SUBM-1070	Submit/review/approval Operation and Maintenance (O&M) Manuals and Installation Manuals - 1st draft	60	05-Jan-23 A	22-Sep-23	-57
SUBM-1200	Submit/review/approval Operation and Maintenance (O&M) Manuals and Installation Manuals - revised draft	60	23-Sep-23	21-Nov-23	-10
AGS and TTS system					
SUBM-1220	Submit/review/approval Operation and Maintenance (O&M) Manuals and Installation Manuals - 1st draft	60	23-Sep-23	21-Nov-23	226
SUBM-1230	Submit/review/approval Operation and Maintenance (O&M) Manuals and Installation Manuals - revised draft	60	22-Nov-23	20-Jan-24	694
Sludge Thickening System					
SUBM-1250	Submit/review/approval Operation and Maintenance (O&M) Manuals and Installation Manuals - 1st draft	60	23-Sep-23	21-Nov-23	664
SUBM-1260	Submit/review/approval Operation and Maintenance (O&M) Manuals and Installation Manuals - revised draft	60	22-Nov-23	20-Jan-24	664
Sludge Disgestion System					
SUBM-1310	Submit/review/approval Operation and Maintenance (O&M) Manuals and Installation Manuals - 1st draft	60	23-Sep-23	21-Nov-23	-57
SUBM-1320	Submit/review/approval Operation and Maintenance (O&M) Manuals and Installation Manuals - revised draft	60	22-Nov-23	20-Jan-24	255
Biogas H2S Removal System					
SUBM-1280	Submit/review/approval Operation and Maintenance (O&M) Manuals and Installation Manuals - 1st draft	60	23-Sep-23	21-Nov-23	-57
SUBM-1290	Submit/review/approval Operation and Maintenance (O&M) Manuals and Installation Manuals - revised draft	60	22-Nov-23	20-Jan-24	926
Deodourization System					
SUBM-1340	Submit/review/approval Operation and Maintenance (O&M) Manuals and Installation Manuals - 1st draft	60	22-Nov-23	20-Jan-24	-57
Plant Service Water System					
SUBM-1370	Submit/review/approval Operation and Maintenance (O&M) Manuals and Installation Manuals - 1st draft	60	22-Nov-23	20-Jan-24	866
Commissioning Plan and Procedures (PS34.20(10))					
SUBM-1080	Employment of HOKLAS laboratory for commissiong test	60	23-May-22 A	20-Oct-23	-68
SUBM-1000	Submit/review/approval Commissioning Plan and Procedures - Early commissioning of IW	120	21-Oct-23	17-Feb-24	-26
SUBM-1010	Submit/review/approval Commissioning Plan and Procedures - Early commissioning of PST	120	21-Oct-23	17-Feb-24	-68
SUBM-1020	Submit/review/approval Commissioning Plan and Procedures - AGS	120	21-Oct-23	17-Feb-24	176
SUBM-1030	Submit/review/approval Commissioning Plan and Procedures - TTS	120	21-Oct-23	17-Feb-24	591
SUBM-1040	Submit/review/approval Commissioning Plan and Procedures - STB	120	21-Oct-23	17-Feb-24	636
SUBM-1050	Submit/review/approval Commissioning Plan and Procedures - SDT	120	21-Oct-23	17-Feb-24	227
SUBM-1060	Submit/review/approval Commissioning Plan and Procedures - Biogas system	120	21-Oct-23	17-Feb-24	-4
Material Submission, Procurement, Manufacturing and Delivery					
Inlet Works					
PRE-210	Submit/Procure/Manufacture/Deliver New Inlet Works Equip. - Screening system (fixed bar,coarse,fine)	300	16-Mar-21 A	20-Sep-23	18
PRE-700	Submit/Procure/Manufacture/Deliver New Inlet Works Equip. - Inlet pumps (HF,LF,Drainage)	330	05-Jan-22 A	20-Sep-23	34
PRE-290	Submit/Procure/Manufacture/Deliver New Inlet Works Equip. - Grit Trap and classifier	270	18-Feb-22 A	13-Apr-24	-145

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float
PRE-280	Submit/Procure/Manufacture/Deliver New Inlet Works Equip. - Converyeor and compactor	270	12-Apr-22 A	13-Apr-24	-132
PRE-330	Submit/Procure/Manufacture/Deliver New Inlet Works Equip. - DOU-01	330	26-May-22 A	15-Nov-23	-8
PRE-300	Submit/Procure/Manufacture/Deliver New Inlet Works Equip. - LALG	270	28-Jul-22 A	02-Apr-24	-175
PRE-310	Submit/Procure/Manufacture/Deliver New Inlet Works Equip. - Penstocks and stoplogs	270	13-Sep-22 A	02-Apr-24	-182
PRE-320	Submit/Procure/Manufacture/Deliver New Inlet Works Equip. - MVAC-Ventilation Fan	211	10-Jan-23 A	02-Apr-24	-170
Primary Sedimentation Tanks					
PRE-390	Submit/Procure/Manufacture/Deliver New Primary Sedimentation Tank Equip. - Penstocks and stoplogs	270	13-Aug-22 A	18-Sep-23	67
PRE-340	Submit/Procure/Manufacture/Deliver New Primary Sedimentation Tank Equip. - Bottom scrapper	255	08-Sep-22 A	31-Dec-23	-14
PRE-350	Submit/Procure/Manufacture/Deliver New Primary Sedimentation Tank Equip. - IPS air scouring blower	255	27-Sep-22 A	30-Nov-23	-11
PRE-360	Submit/Procure/Manufacture/Deliver New Primary Sedimentation Tank Equip. - Scum pump and skimmer	255	29-Sep-22 A	30-Dec-23	-38
PRE-370	Submit/Procure/Manufacture/Deliver New Primary Sedimentation Tank Equip. - Primary sludge pump and grinder	255	29-Sep-22 A	30-Nov-23	-8
PRE-400	Submit/Procure/Manufacture/Deliver New Primary Sedimentation Tank Equip. - Pipeworks and valves	194	15-Oct-22 A	30-Nov-23	-11
Biogas Holder					
PRE-270	Submit/Procure/Manufacture/Deliver Biogas Holding Tanks (membrane, steel tank and parts, intrumentation)	660	09-Jun-21 A	19-Sep-23	-36
PRE-410	Submit/Procure/Manufacture/Deliver Waster Gas Burner	300	19-Aug-21 A	20-Oct-26	-84
PRE-420	Submit/Procure/Manufacture/Deliver H2S Removal System	510	25-Feb-22 A	28-Jun-25	50
PRE-430	Submit/Procure/Manufacture/Deliver Biogas booster and transfer pumps	613	01-Sep-23*	05-May-25	122
Sludge Digestor Tank					
PRE-750	Submit/Procure/Manufacture/Deliver Sludge Digester Tank - Flame Arresters	100	31-Oct-22 A	20-Jul-24	-123
PRE-780	Submit/Procure/Manufacture/Deliver Sludge Digester Tank - Mixing System and Heat Exchanger for Sludge Anaerobic Digester	420	22-Dec-22 A	30-Dec-23	170
PRE-720	Submit/Procure/Manufacture/Deliver Sludge Digester Tank - Inspection Windows for Sludge Anaerobic System	365	18-Jan-23 A	20-Feb-24	118
PRE-730	Submit/Procure/Manufacture/Deliver Sludge Digester Tank - Gas Take Off Dome for Sludge Anaerobic Digestion System	365	18-Jan-23 A	20-Feb-24	118
PRE-710	Submit/Procure/Manufacture/Deliver Sludge Digester Tank - Pressure and Vacuum Relief Valves	300	01-Mar-23 A	28-Dec-23	83
PRE-740	Submit/Procure/Manufacture/Deliver Sludge Digester Tank - Telesccpic Valve for Sludge Anaerobic Digestion System	179	10-Jul-23 A	26-Feb-24	83
PRE-760	Submit/Procure/Manufacture/Deliver Sludge Digester Tank - Ferric Chloride Dosing Pump	148	01-Sep-23	26-Jan-24	83
PRE-770	Submit/Procure/Manufacture/Deliver Sludge Digester Tank - Ferric Chloride Trasnfer Pump	148	01-Sep-23	26-Jan-24	83
Sludge Thickening Building					
PRE-250	Submit/Procure/Manufacture/Deliver Sludge Thickening System - Thickening Centrifuges	360	12-Nov-21 A	22-Apr-24	273
PRE-500	Submit/Procure/Manufacture/Deliver Sludge Thickening System - Pump and jet mixer	300	07-Jan-22 A	22-Apr-24	273
PRE-510	Submit/Procure/Manufacture/Deliver Sludge Thickening System - LALG	256	28-Mar-23 A	22-Apr-24	94
PRE-480	Submit/Procure/Manufacture/Deliver Sludge Thickening System - Polymer preparation system	388	12-Apr-23 A	29-Jun-24	171
PRE-490	Submit/Procure/Manufacture/Deliver Sludge Thickening System - DOU-03	264	07-Jul-23 A	15-Oct-24	94
PRE-520	Submit/Procure/Manufacture/Deliver Sludge Thickening System - MVAC	339	09-Sep-23*	12-Aug-24	161
Mainstream Bio-Reactor					
PRE-230	Submit/Procure/Manufacture/Deliver Main Stream Bio-Reactor E&M Equip. - AGS system	480	09-Sep-22 A	03-Jul-24	39
PRE-530	Submit/Procure/Manufacture/Deliver Main Stream Bio-Reactor E&M Equip. - Penstocks and stoplogs	345	31-Oct-22 A	11-Nov-24	39
PRE-550	Submit/Procure/Manufacture/Deliver Main Stream Bio-Reactor E&M Equip. - Sludge pre-thickening system	510	31-Oct-22 A	03-Jul-24	113
PRE-540	Submit/Procure/Manufacture/Deliver Main Stream Bio-Reactor E&M Equip. - Chemical storage and dosing system	270	18-Nov-22 A	03-Jul-24	39
PRE-570	Submit/Procure/Manufacture/Deliver Main Stream Bio-Reactor E&M Equip. - Instrumentation	241	06-Nov-23*	03-Jul-24	154
PRE-580	Submit/Procure/Manufacture/Deliver Main Stream Bio-Reactor E&M Equip. - MVAC	241	06-Nov-23*	03-Jul-24	39
Tertiary Treatment System					
PRE-610	Submit/Procure/Manufacture/Deliver TTS Equip. - Pumping system	495	19-Jul-22 A	05-Jul-24	121
PRE-600	Submit/Procure/Manufacture/Deliver TTS Equip. - UV disinfection system	510	08-Sep-22 A	05-Jul-24	121
PRE-240	Submit/Procure/Manufacture/Deliver TTS Equip. - Disc Filter	600	27-Sep-22 A	05-Jul-24	121
PRE-590	Submit/Procure/Manufacture/Deliver TTS Equip. - Chemical cleaning system	480	18-Nov-22 A	05-Jul-24	121
PRE-630	Submit/Procure/Manufacture/Deliver TTS Equip. - Penstocks and stoplogs	435	30-Nov-22 A	05-Jul-24	121
PRE-620	Submit/Procure/Manufacture/Deliver TTS Equip. - LALG	151	27-Mar-23 A	05-Jul-24	121
PRE-690	Submit/Procure/Manufacture/Deliver TTS Equip. - DOU-02	503	01-Sep-23*	15-Jan-25	-73
Electrical and Control System					
PRE-680	Submit/Procure/Manufacture/Deliver Electrial and Control System - SCADA and instrumentation	420	30-Apr-22 A	31-Jan-24	-69
PRE-640	Submit/Procure/Manufacture/Deliver Electrial and Control System - HVSB and Tx	283	21-Dec-22 A	02-Feb-24	-86
PRE-650	Submit/Procure/Manufacture/Deliver Electrial and Control System - LVSB	300	21-Dec-22 A	31-Jan-24	-88
PRE-660	Submit/Procure/Manufacture/Deliver Electrial and Control System - UPS	300	21-Dec-22 A	04-Jan-24	-87
PRE-670	Submit/Procure/Manufacture/Deliver Electrial and Control System - Armoured Cable	203	21-Dec-22 A	31-Jan-24	74
Site Establishment Works					
Portion 5 - Walkway					
P5-100	Portion 5 - Initial Survey and Record, Underground Utilities Detection	12	12-Jun-23 A	14-Sep-23	730



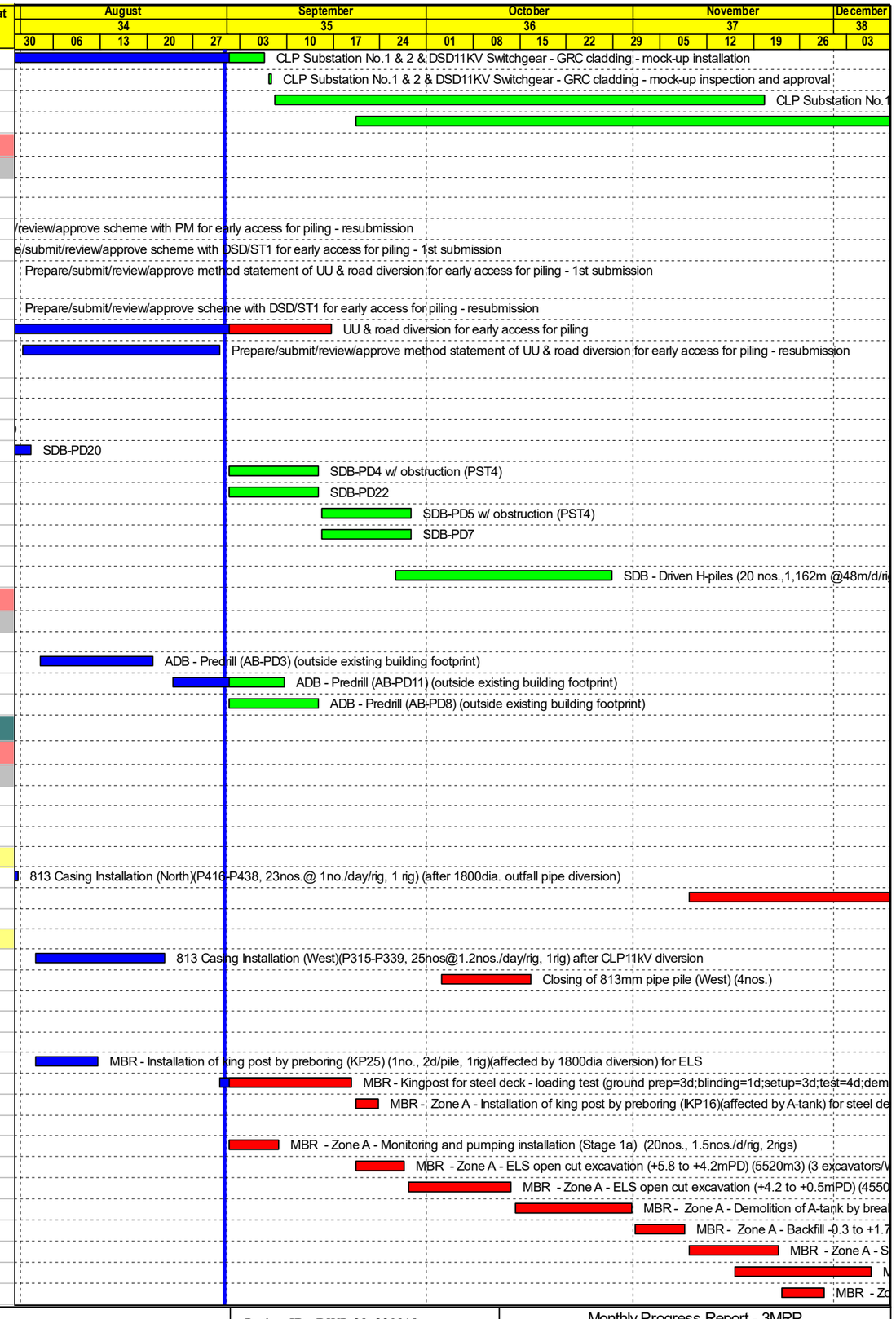
Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float
P5-110	Portion 5 - Installation of Water Barriers, Clearance, Haul Road and Temp Facilities	12	12-Jun-23 A	14-Sep-23	730
Statutory Submission & Approval					
FSI, FSD and OP Requirements					
FSI Submission & Approval					
FSD-1200	Submission/Review/Approval by PM and FSD - Full GBP+GBP for TOP1 with DG - RtC & 3rd submission	120	30-May-23 A	25-Dec-23	-161
FSD-1210	Submission/Review/Approval by PM and FSD - Full GBP+GBP for TOP1 with DG - RtC & 4th submission	120	26-Nov-23	24-Mar-24	-161
WSD Submission & Approval					
WSD-1000	WSD - Submit Form WWO542	0		31-Aug-23	-111
WSD-1010	WSD - Form WWO542 PM&WSD review and approval	90	01-Sep-23	29-Nov-23	-111
WSD-1020	WSD - Submit Form WWO46 Part 1 and 2	0		29-Nov-23	-111
EMSD Submission & Approval					
Biogas System (ATAL)					
Phase 1					
ATAL-FS-0020	Form 105 for Biogas Holder Tank 1(Submission and Approval Period)	184	08-Nov-22 A	19-Dec-23	89
EPD Submission & Approval for VEP					
EPD-1000	EPD - VEP Review, prepare and submit to PM	60	24-May-23 A	29-Sep-23	122
EPD-1010	EPD - VEP RtC to PM and approval	7	30-Sep-23	06-Oct-23	122
EPD-1050	EPD - VEP consultation with HKBW	28	30-Sep-23	27-Oct-23	136
EPD-1020	EPD - VEP Submission to DSD and EPD	28	07-Oct-23	03-Nov-23	122
EPD-1030	EPD - VEP RtC to DSD and EPD	7	04-Nov-23	10-Nov-23	122
EPD-1060	EPD - VEP Gazette	28	11-Nov-23	08-Dec-23	122
HAZOP Study					
AGS System					
HAZOP-Z2-030	HAZOP - Obtain Approval	7	24-Jul-23 A	31-Jul-23 A	
TTS System					
HAZOP-Z2-50	HAZOP - Obtain Approval	7	24-Jul-23 A	31-Jul-23 A	
Biogas H2S Removal System					
HAZOP-Z3-030	HAZOP - Obtain Approval	7	24-Jul-23 A	31-Jul-23 A	
Sludge Thickening and Chemical System					
HAZOP-Z3-50	HAZOP - Obtain Approval	7	24-Jul-23 A	31-Jul-23 A	
Sludge Digestion System					
HAZOP-Z3-80	HAZOP - Obtain Approval	7	24-Jul-23 A	31-Jul-23 A	
DOU and PSW System					
HAZOP-Z3-110	HAZOP - Obtain Approval	7	24-Jul-23 A	31-Jul-23 A	
General Advance Works					
NSWSPS Sensors					
ATALGA-1330	NSWSPS Senor - Decommissioning	3	01-Sep-23	04-Sep-23	186
Dissolved Air Flotation (DAF) Pilot Plant					
ATALGA-1220	Post-commissioning	128	20-May-23 A	07-Dec-23	198
Aerobic Granular Sludge (AGS) Pilot Plant					
ATALGA-1270	Post-commissioning	128	20-May-23 A	07-Dec-23	198
Zone 1 Construction					
Inlet Works (IW)					
IW Foundation & ELS Works					
IW Basement					
IW Excavation Works & ELS					
IW Zone A/D- ELS					
Z1-IW-5830	IW- Strutting: 4th Layer @-2.88mPD with preload (10 welders @ 23ton/d)	10	17-Aug-23 A	21-Sep-23	-197
Z1-IW-5840	IW- Excavation to Formation -3.38 ~-7.525mPD (4,001m3) (3-4 excavators @ 500m3/d) *MD	7	22-Sep-23	29-Sep-23	-197
Modification of Zone A/D Strut					
Z1-IW-6430	IW(A/D) - Design amendment subm. for modify S1&2 (prep=30d,ICE=14d,ICE RtC=14d,PM=14d,PM RtC=14d	86	21-Mar-23 A	29-Sep-23	-106
Z1-IW-6440	IW(A/D) - Method statement subm. for modify S1&2 (prep=30d,1st RtC=14d)	44	16-Aug-23 A	29-Sep-23	-106
Z1-IW-6400	IW- Strutting: Modify S1 and S2 strut and preload	14	14-Oct-23	31-Oct-23	-116
Z1-IW-6410	IW- Strutting: Remove backprop at PST	7	01-Nov-23	08-Nov-23	-56
IW Zone C - ELS					
Z1-IW-6420	IW- Concrete Backing & Preload (3rd Layer)	4	13-Jul-23 A	14-Jul-23 A	
Z1-IW-5710	IW- Excavation to Formation -1.625~-3.125mPD (587m3) (2 excavators @ 120m3/d) *MD	6	17-Jul-23 A	12-Aug-23 A	
IW Base Slab					

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float
Z1-IW-6060	IW- Zone D - Pile Cap @-3.225mPD	24	15-Jul-23 A	31-Aug-23 A	
Z1-IW-6080	IW- Zone C - Pile Cap @-3.05mPD	18	14-Aug-23 A	28-Aug-23 A	
Z1-IW-6630	IW- Remove part of strut S3 (RC1-3, R2-3, RC3-3), trim sheetpile and break mass concrete for base slab construction	10	01-Sep-23	12-Sep-23	-116
Z1-IW-6610	IW- Zone D - Pile Cap @-1.65 (GL9-10 upper portion)	12	13-Sep-23	26-Sep-23	-116
Z1-IW-6620	IW- Zone D - Pile Cap @-1.65 (GL4-5 upper portion)	12	20-Sep-23	05-Oct-23	-95
Z1-IW-6090	IW- Zone A - Pile Cap @-7.525mpD, -6.525mPD, -5.525mPD	24	03-Oct-23	31-Oct-23	-197
Z1-IW-6100	IW- Zone A/D - Pile Cap @-1.65/-1.55mpD (1st pour) and modify strut S4	16	30-Oct-23	16-Nov-23	-197
Z1-IW-6350	IW- Zone A/D - Pile Cap @-1.65/-1.55mpD (2nd pour) and remove part strut S4	14	15-Nov-23	30-Nov-23	-197
Z1-IW-6360	IW- Zone A/D - Pile Cap @-1.65/-1.55mpD (3rd pour)	12	29-Nov-23	12-Dec-23	-197
IW Basement RC Works					
IW Zone C					
Z1-IW-6290	IW(C) - Zone C1 - Wall & Column Erection of Formworks and RC Works (+6.00 mPD) strut cast-in	24	10-Jul-23 A	19-Sep-23	-140
Z1-IW-6330	IW(C) - Zone C1 - G/F Slab of Falseworks, Formworks and RC Works (+6.00 mPD)	26	22-Aug-23 A	21-Sep-23	-140
Z1-IW-6590	IW(C) - Zone C2 - Wall & Column Erection of Formworks and RC Works (+6.00 mPD) strut cast-in	22	01-Sep-23	26-Sep-23	-146
Z1-IW-6600	IW(C) - Zone C2 - G/F Slab of Falseworks, Formworks and RC Works (+6.00 mPD)	12	27-Sep-23	12-Oct-23	-146
IW Zone D early for PST early commissioning *					
Z1-IW-6450	IW(D) - Wall Erection of Formworks and RC Works (-1.6 to +4.95mPD)	13	27-Sep-23	13-Oct-23	-116
Z1-IW-6460	IW(D) - G/F Slab of Falseworks, Formworks and RC Works (+3.95/+4.95 mPD)	13	01-Nov-23	15-Nov-23	-116
IW Civil and Structural Works					
IW Superstructure					
RC Works					
Zone C					
Z1-IW-4140	IWS (C) - Wall Erection of Formworks and RC Works (+11.8mPD) Zone C1	10	22-Sep-23	05-Oct-23	-140
Z1-IW-4170	IWS (C) - Wall Erection of Formworks and RC Works (+11.8mPD) Zone C2	8	13-Oct-23	21-Oct-23	-146
Z1-IW-4180	IWS (C) - 1/F Slab of Falseworks, Formworks and RC Works (+11.8/+12.8mPD)	13	21-Oct-23	06-Nov-23	-146
Z1-IW-4220	IWS (C) - Wall Erection of Formworks and RC Works (+18.2mPD)	8	07-Nov-23	15-Nov-23	-146
Z1-IW-4230	IWS (C) - Roof Slab of Falseworks, Formworks and RC Works (+18.2mPD)	13	16-Nov-23	30-Nov-23	-146
Z1-IW-4150	IWS (C) - Intermediate Slab of Falseworks, Formworks and RC Works(+7.48/+8.2mPD) late cast with Zone D	13	25-Nov-23	09-Dec-23	-116
Zone D					
Z1-IW-6520	IWS (D) - Wall Erection of Formworks and RC Works (+7.84/+8.2mPD)	8	16-Nov-23	24-Nov-23	-116
Z1-IW-6490	IWS (D) - Intermediate Slab of Falseworks, Formworks and RC Works(+7.84/+8.2mPD)	13	25-Nov-23	09-Dec-23	-116
IW ABWF Works					
IW ABWF Works 1st fix for E&M handover					
IW ABWF Works -Zone C					
IW-3210	Inlet Work - ABWF Works 1st fix for DOU installation (+6.0/+11.8mPD)	8	07-Nov-23	15-Nov-23	-70
IW Transformer House No. 1					
IW-2930	TX House No. 1 - ELS Works and trim sheetpile	5	13-Oct-23	18-Oct-23	-90
IW-2790	TX House No. 1 - Structure Base slab at +3.8 mPD to +4.8 mPD (incl. earth mat installation)	18	20-Oct-23	10-Nov-23	-90
IW-2800	TX House No. 1 - Structure cable trench from +4.8 mPD to +6.0 mPD	8	11-Nov-23	20-Nov-23	-90
IW-2810	TX House No. 1 - Structure G/F to Roof from +6.0 mPD to +9.0 mPD	6	21-Nov-23	27-Nov-23	-90
IW-2820	TX House No. 1 - Structure G/F to Roof from +9.0 mPD to +11.6 mPD	12	28-Nov-23	11-Dec-23	-90
IW E&M Works					
ATAL-1760	IW - E&M Handover @ +11.8mPD (Zone C)	0		15-Nov-23	-70
DOU-01 System - 01 *					
ATAL-1170	LALG Instalaltion	60	16-Nov-23	27-Jan-24	-70
Primary Sedimentation Tank (PST)					
PST Superstructure					
Stage 1					
RC Works					
PST Stage 1 - GL A-E (PST channel and outlet channel)					
Z1-PST-3760	PST - RC Works for roof slab (GL A-E, +11.75 to +18.15mPD) falsework sit on +11.8mPD	17	03-Jul-23 A	01-Aug-23 A	
PST Stage 1 - GL H-I (Pump room and inlet channel) *					
Z1-PST-4632	PST - RC Works for Wall (GL H-I, +2.95 to +7.835mPD)	8	16-Nov-23	24-Nov-23	-62
Z1-PST-4642	PST - RC Works for Intermediate Slab (GL H-I, +7.835mPD)	13	25-Nov-23	09-Dec-23	-62
Water Tightness Test for PST					
Z1-PST-3770	PST - Water Tightness Test 1 (PST1)(water height=5.5m, bulkhead=2d; fill=12d ,absoption=7d, test=7d ,remove=3d)	31	30-Jun-23 A	16-Sep-23	-39
Z1-PST-4822	PST - Strike formwork and make good for water tightness test (PST2&3)	14	30-Jun-23 A	27-Jul-23 A	
Z1-PST-3780	PST - Water Tightness Test 2 (PST3)(water height=5.5m, bulkhead=2d; fill=4d,absoption=7d,test=7d ,remove=3d)	23	28-Jul-23 A	20-Sep-23	-56

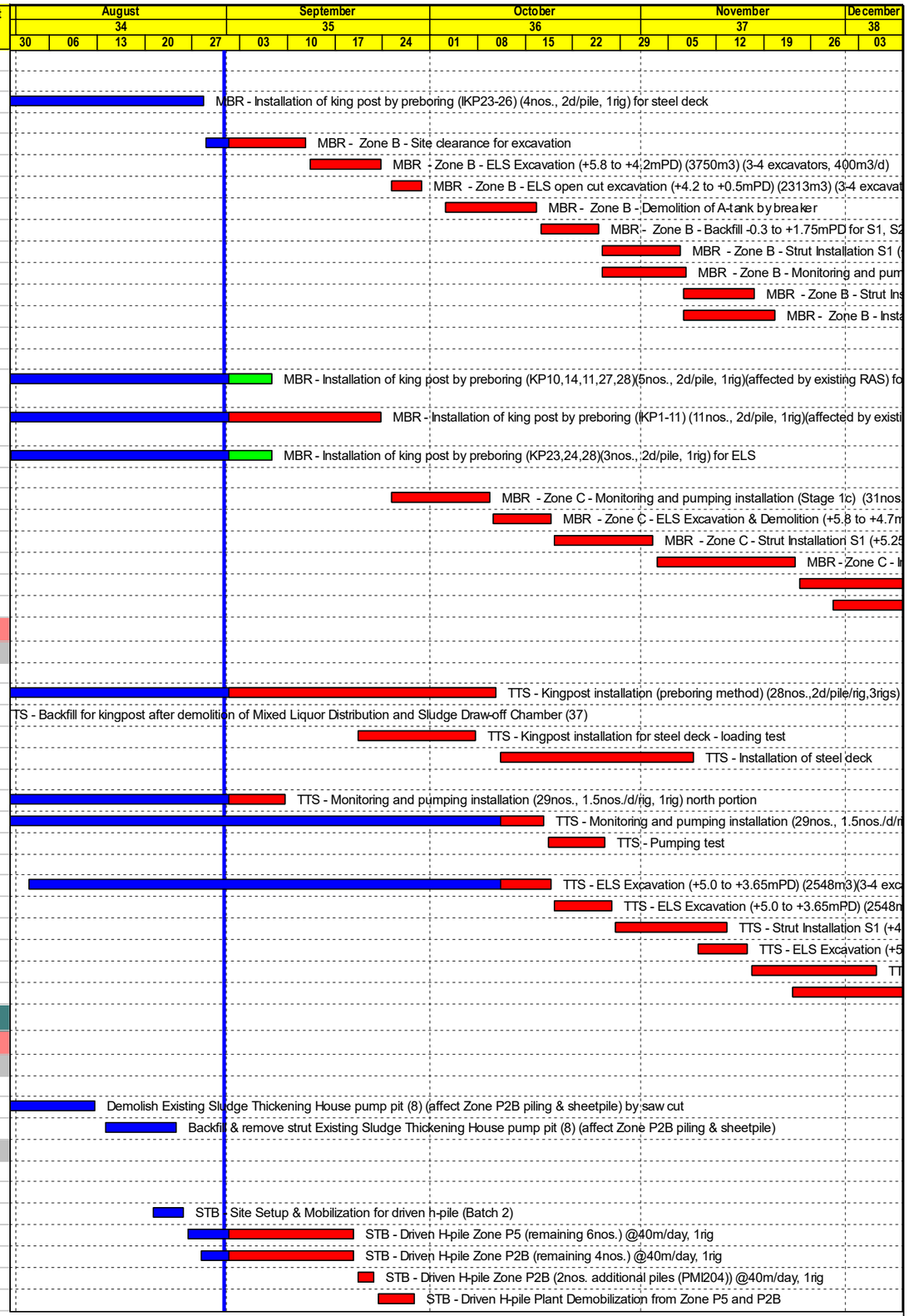


Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float
Z1-PST-4802	PST - Water Tightness Test 3 (PST2)(water height=5.5m,bulkhead=2d;fill=4d,absoption=7d,test=7d,remove=3d)	23	18-Sep-23	16-Oct-23	-56
Z1-PST-4812	PST - Water Tightness Test 4 (outlet)(water height=5.5m,bulkhead=2d;fill=3d,absoption=7d,test=7d,remove=2d)	21	12-Oct-23	06-Nov-23	-56
PST ABWF, E&M & T&C					
PST Stage 1					
PST Stage 1 - ABWF Works					
PST1-3, Outlet channel					
PST-3275	PST Stage 1 - Remove scaffold and surface preparation at PST1	6	18-Sep-23	23-Sep-23	-39
PST-3295	PST Stage 1 - Remove scaffold and surface preparation at PST3	6	21-Sep-23	27-Sep-23	-34
PST-3115	PST Stage 1 - Screeding at PST1 (clearance&set-out=1d,screed(2 pours)=2d,joint=1d)	4	25-Sep-23	28-Sep-23	-39
PST-3305	PST Stage 1 - Screeding at PST3 (clearance&set-out=1d,screed(2 pours)=2d,joint=1d)	4	28-Sep-23	04-Oct-23	-34
PST-3095	PST Stage 1 - Lining at PST 1 (install=3d,testing=1d,clearance=1d)	5	17-Oct-23	21-Oct-23	-52
PST-3285	PST Stage 1 - Remove scaffold and surface preparation at PST2	6	17-Oct-23	24-Oct-23	-49
PST-3315	PST Stage 1 - Lining at PST 3 (install=3d,testing=1d,clearance=1d)	5	24-Oct-23	28-Oct-23	-49
PST-3125	PST Stage 1 - Screeding at PST 2 (clearance&set-out=1d,screed(2 pours)=2d,joint=1d)	4	25-Oct-23	28-Oct-23	-49
PST-3105	PST Stage 1 - Lining at PST 2 and outlet channel (install=3d,testing=1d,clearance=1d)	5	07-Nov-23	11-Nov-23	-56
GL A-H above +11.8mPD					
PST-3265	PST Stage 1 - Concrete gain strength	7	02-Aug-23 A	07-Aug-23 A	
PST-1370	PST Stage 1 - Strike formwork and falswork for E&M handover	3	07-Aug-23 A	22-Sep-23	-57
PST Stage 1 - E&M Installation Works					
Phase 1 (GL A-H, PST1-3, Outlet Channel)					
ATALPST-010	PST Stage 1 - E&M Handover @ +18.3mPD (GL A-H)	0	23-Sep-23		-57
ATALPST-000	PST Stage 1 - E&M Handover @ +11.8mPD (PST1)	0	24-Oct-23		-52
ATALPST-654	PST Stage 1 - E&M Handover @ +11.8mPD (PST2, 3 & outlet)	0	13-Nov-23		-56
PST Stage 1 - E&M Installation Works at Setting Zone (PST 1-3)					
ATALPST-65	PST Stage 1 - Preparation Works (clearance, survey and setting out)	5	24-Oct-23	28-Oct-23	-52
PST 1-3 - LALG					
ATALPST-5	PST Stage 1 - LALG-PST1	30	23-Sep-23	31-Oct-23	-54
ATALPST-5	PST Stage 1 - LALG-PST2	30	23-Sep-23	31-Oct-23	-54
ATALPST-5	PST Stage 1 - LALG-PST3	30	23-Sep-23	31-Oct-23	-54
PST 1-3 - Inclined Plate Settling System					
ATALPST-5	PST Stage 1 - Lamella Frame Assembly - PST 1-3 (3 frame into 1 module) 16 Nos./ Tank offsite	20	18-Oct-23	10-Nov-23	-54
ATALPST-5	PST Stage 1 - Installation of Lamella support beam and frame & inspection	9	01-Nov-23	10-Nov-23	-54
ATALPST-5	PST Stage 1 - Lamella Frame Module Unloading, Positioning, leveling, fixing & inspection 16 Nos./ Tank	17	11-Nov-23	30-Nov-23	-54
PST Stage 1 - Outlet Channel					
ATALPST-55	PST Stage 1 - Unloading of Stoplogs&Penstocks x 23 Nos	9	13-Nov-23	22-Nov-23	-56
ATALPST-55	PST Stage 1 - Installation of Penstocks x 3 Nos	39	23-Nov-23	10-Jan-24	-14
ATALPST-55	PST Stage 1 - Installation of Stoplogs x 20 Nos.	60	23-Nov-23	03-Feb-24	-56
External Pipeworks for Temp Pumping System					
Temporary Pumping Facilities for Conveying Sewage to New PST					
Z2D-4330	Temp. Pumping System - ELS	14	24-Oct-23	08-Nov-23	35
Z2D-4360	Temp. Pumping System - Structure	24	09-Nov-23	06-Dec-23	35
Z2D-4380	Temp. Pumping System - Pipeworks	42	09-Nov-23	29-Dec-23	35
CLP Substations No. 1 & 2					
Civil Provision for CLP (drawpits & ductings)					
CLP-1270	Ducting and Drawpits construction	30	13-Dec-22 A	06-Sep-23	-39
CLP Substation No. 1					
CLP-1560	CLP Substation No.1 - ABWF Works for CLP handover (not required for Section 1 completion)	38	13-Feb-23 A	19-Sep-23	-62
CLP Substation No. 2					
CLP-1550	CLP Substation No.2 - ABWF Works for CLP handover (not required for Section 1 completion)	35	13-Feb-23 A	19-Sep-23	-62
CLP Substation No. 1 & 2 Handover Inspection and Installation					
CLP-1630	CLP Substation 1 & 2 - CLP pre-inspection	1	20-Sep-23	20-Sep-23	-62
CLP-1500	CLP Substation No.1 & 2 - Defect works	10	21-Sep-23	04-Oct-23	-62
CLP-1510	CLP Substation No.1 & 2 - CLP final inspection and handover	1	05-Oct-23	05-Oct-23	-62
CLP-1070	CLP Substation No.1 - CLP Installation	90	06-Oct-23	23-Jan-24	-62
CLP-1080	CLP Substation No.2 - CLP Installation	90	06-Oct-23	23-Jan-24	-62
DSD 11kV Switchgear					
CLP-1060	DSD11KV Switchgear - internal ABWF Works	36	25-Feb-23 A	29-Sep-23	-34
CLP-1110	DSD11KV Switchgear - E&M and BS Installation	51	06-Oct-23	05-Dec-23	-37
CLP Substation No. 1 & 2 & DSD 11kV Switchgear - GRC Cladding					

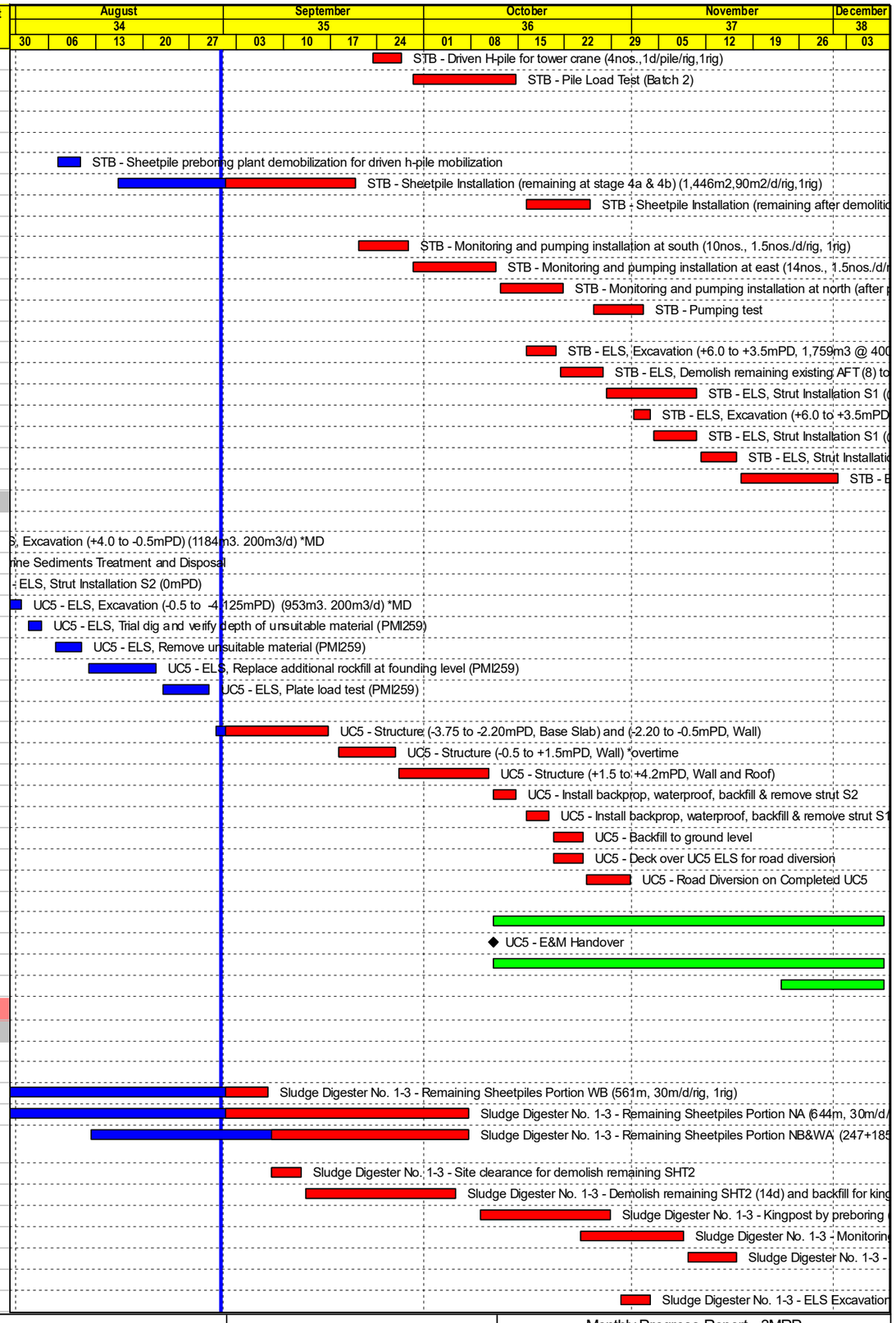
Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float
CLP-1610	CLP Substation No.1 & 2 & DSD11KV Switchgear - GRC cladding - mock-up installation	14	01-Jun-23 A	06-Sep-23	873
CLP-1620	CLP Substation No.1 & 2 & DSD11KV Switchgear - GRC cladding - mock-up inspection and approval	1	07-Sep-23	07-Sep-23	873
CLP-1590	CLP Substation No.1 & 2 & DSD11KV Switchgear - GRC cladding - fabrication	60	08-Sep-23	20-Nov-23	873
CLP-1600	CLP Substation No.1 & 2 & DSD11KV Switchgear - GRC cladding - installation	75	20-Sep-23	19-Dec-23	873
Sludge Dewatering Building (SDB)					
SDB Foundation & ELS - Stage 1					
SDB Preliminaries for Foundation Works					
Submisson and Advanced Works for Early Piling					
SDB-1750	Prepare/submit/review/approve scheme with PM for early access for piling - resubmission	7	03-Jul-23 A	17-Jul-23 A	
SDB-1760	Prepare/submit/review/approve scheme with DSD/ST1 for early access for piling - 1st submission	12	10-Jul-23 A	24-Jul-23 A	
SDB-1720	Prepare/submit/review/approve method statement of UU & road diversion for early access for piling - 1st submission	12	17-Jul-23 A	31-Jul-23 A	
SDB-1770	Prepare/submit/review/approve scheme with DSD/ST1 for early access for piling - resubmission	7	24-Jul-23 A	31-Jul-23 A	
SDB-1730	UU & road diversion for early access for piling	29	25-Jul-23 A	16-Sep-23	-95
SDB-1780	Prepare/submit/review/approve method statement of UU & road diversion for early access for piling - resubmission	7	01-Aug-23 A	31-Aug-23 A	
SDB GI - Pre-drilling Works					
SDB At PST4 and Existing Road					
SDB-1010	SDB-PD10	12	06-Jul-23 A	21-Jul-23 A	
SDB-1040	SDB-PD20	12	24-Jul-23 A	02-Aug-23 A	
SDB-1350	SDB-PD4 w/ obstruction (PST4)	12	01-Sep-23	14-Sep-23	158
SDB-1030	SDB-PD22	12	01-Sep-23	14-Sep-23	248
SDB-1360	SDB-PD5 w/ obstruction (PST4)	12	15-Sep-23	28-Sep-23	158
SDB-1290	SDB-PD7	12	15-Sep-23	28-Sep-23	248
SDB Foundation - PST 1-4 Footprint					
SDB-1700	SDB - Driven H-piles (20 nos.,1,162m @48m/d/rig, 1rig) early start along acess road	26	26-Sep-23	28-Oct-23	171
Administration Building (ADB)					
ADB Foundation Works					
ADB Early Access for Predrilling					
ADB-1360	ADB - Predrill (AB-PD3) (outside existing building footprint)	12	04-Aug-23 A	21-Aug-23 A	
ADB-1410	ADB - Predrill (AB-PD11) (outside existing building footprint)	12	24-Aug-23 A	09-Sep-23	1252
ADB-1400	ADB - Predrill (AB-PD8) (outside existing building footprint)	12	01-Sep-23	14-Sep-23	1248
Zone 2 Construction					
Mainstream Bio-Reactor & Auxillary Facility (MBR and AF)					
MBR and AF Structure					
MBR - ELS Excavation & Demolition stage 1					
Pipe Pile					
Northern Side					
Installation of 813mm casing					
MBRAF-2410	813 Casing Installation (North)(P416-P438, 23nos.@ 1no./day/rig, 1 rig) (after 1800dia. outfall pipe diversion)	23	07-Jul-23 A	31-Jul-23 A	
MBRAF-2100	Closing of 813mm pipe pile (South, East and North Sides) (10nos.)	30	09-Nov-23	13-Dec-23	-138
Western Side					
Installation of 813mm casing					
MBRAF-2290	813 Casing Installation (West)(P315-P339, 25nos@1.2nos./day/rig, 1rig) after CLP11kV diversion	21	03-Aug-23 A	22-Aug-23 A	
MBRAF-2280	Closing of 813mm pipe pile (West) (4nos.)	12	03-Oct-23*	16-Oct-23	-89
MBR - ELS Excavation & Demolition stage 2					
MBR - ELS Zone A					
Kingpost and Working Platform					
MBRAF-2970	MBR - Installation of king post by preboring (KP25) (1no., 2d/pile, 1rig)(affected by 1800dia diversion) for ELS	2	03-Aug-23 A	12-Aug-23 A	
MBRAF-2990	MBR - Kingpost for steel deck - loading test (ground prep=3d;blinding=1d;setup=3d;test=4d;demob=3d)	14	31-Aug-23 A	19-Sep-23	-177
MBRAF-3470	MBR - Zone A - Installation of king post by preboring (IKP16)(affected by A-tank) for steel deck	4	20-Sep-23	23-Sep-23	-135
Excavation and Demolition					
MBRAF-1460	MBR - Zone A - Monitoring and pumping installation (Stage 1a) (20nos., 1.5nos./d/rig, 2rigs)	7	01-Sep-23	08-Sep-23	-59
MBRAF-1610	MBR - Zone A - ELS open cut excavation (+5.8 to +4.2mPD) (5520m3) (3 excavators/WF, 2WFs, 400m3/d/WF)	7	20-Sep-23	27-Sep-23	-177
MBRAF-1630	MBR - Zone A - ELS open cut excavation (+4.2 to +0.5mPD) (4550m3) (3 excavators/WF, 2WFs, 400m3/d/WF)	12	28-Sep-23	13-Oct-23	-177
MBRAF-3420	MBR - Zone A - Demolition of A-tank by breaker (1300m2)	14	14-Oct-23	31-Oct-23	-177
MBRAF-3410	MBR - Zone A - Backfill -0.3 to +1.75mPD for S1, S2 and monitoring & pumping installation (300mm/layer/d)	7	01-Nov-23	08-Nov-23	-177
MBRAF-1620	MBR - Zone A - Strut Installation S1 (+5.25mPD)(1 crane, 10welders, 24ton/d)	12	09-Nov-23	22-Nov-23	-177
MBRAF-2490	MBR - Zone A - Installation of steel deck	18	16-Nov-23	06-Dec-23	-177
MBRAF-1635	MBR - Zone A - ELS Excavate +4.2 to +1.75mPD (3-4 excavators, 500m3/d)	6	23-Nov-23	29-Nov-23	-171



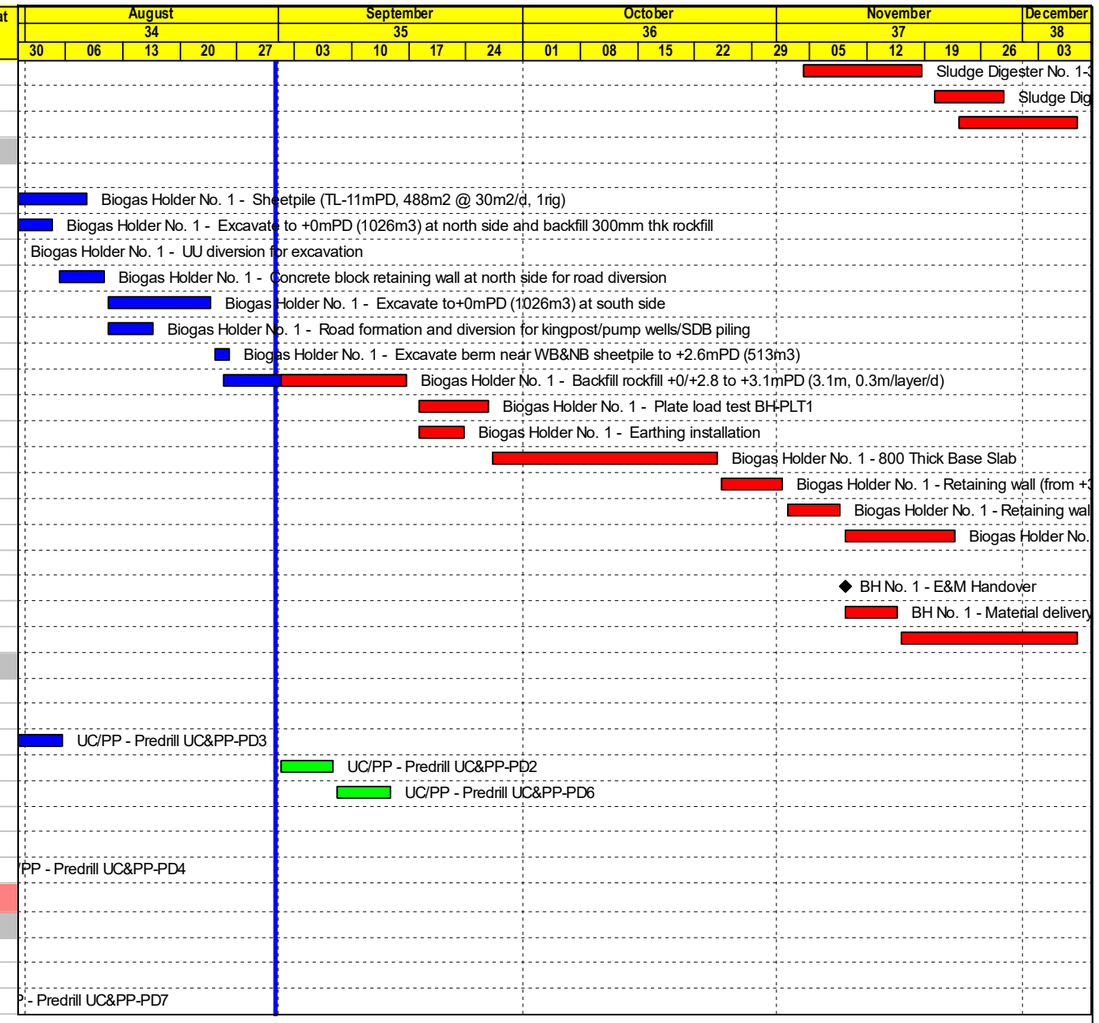
Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float
	MBR - ELS Zone B				
	Kingpost and Working Platform				
MBRAF-3350	MBR - Installation of king post by preboring (IKP23-26) (4nos., 2d/pile, 1rig) for steel deck	8	21-Jul-23 A	28-Aug-23 A	
	Excavation				
MBRAF-3430	MBR - Zone B - Site clearance for excavation	4	29-Aug-23 A	12-Sep-23	-151
MBRAF-3020	MBR - Zone B - ELS Excavation (+5.8 to +4.2mPD) (3750m3) (3-4 excavators, 400m3/d)	10	13-Sep-23	23-Sep-23	-151
MBRAF-3040	MBR - Zone B - ELS open cut excavation (+4.2 to +0.5mPD) (2313m3) (3-4 excavators, 500m3/d)	5	25-Sep-23	29-Sep-23	-151
MBRAF-3440	MBR - Zone B - Demolition of A-tank by breaker	12	03-Oct-23	16-Oct-23	-151
MBRAF-3450	MBR - Zone B - Backfill -0.3 to +1.75mPD for S1, S2 and monitoring & pumping installation (300mm/layer/d)	7	17-Oct-23	25-Oct-23	-151
MBRAF-3030	MBR - Zone B - Strut Installation S1 (+5.25mPD)(1 crane, 10welders, 24ton/d)	10	26-Oct-23	06-Nov-23	-151
MBRAF-3370	MBR - Zone B - Monitoring and pumping installation (Stage 1b) (16nos., 1.5nos./d/rig, 1rig)	11	26-Oct-23	07-Nov-23	-107
MBRAF-3050	MBR - Zone B - Strut Installation S2 (+2.3mPD)(1 crane, 10welders, 24ton/d)	10	07-Nov-23	17-Nov-23	-151
MBRAF-3390	MBR - Zone B - Installation of steel deck	12	07-Nov-23	20-Nov-23	-151
	MBR - ELS Zone C				
	Kingpost and Working Platform				
MBRAF-2950	MBR - Installation of king post by preboring (KP10,14,11,27,28)(5nos., 2d/pile, 1rig)(affected by existing RAS) for ELS	10	18-Jul-23 A	07-Sep-23	1254
MBRAF-2480	MBR - Installation of king post by preboring (IKP1-11) (11nos., 2d/pile, 1rig)(affected by existing RAS) for steel deck	22	24-Jul-23 A	23-Sep-23	-172
MBRAF-2960	MBR - Installation of king post by preboring (KP23,24,28)(3nos., 2d/pile, 1rig) for ELS	6	31-Jul-23 A	07-Sep-23	1254
	Excavation				
MBRAF-3380	MBR - Zone C - Monitoring and pumping installation (Stage 1c) (31nos., 1.5nos./d/rig, 2rigs)	11	25-Sep-23	09-Oct-23	-172
MBRAF-3130	MBR - Zone C - ELS Excavation & Demolition (+5.8 to +4.7mPD) (3840m3)(3-4 excavators, 500m3/d)	8	10-Oct-23	18-Oct-23	-172
MBRAF-3140	MBR - Zone C - Strut Installation S1 (+5.25mPD)(1 crane, 10welders, 24ton/d)	12	19-Oct-23	02-Nov-23	-172
MBRAF-2500	MBR - Zone C - Installation of steel deck	18	03-Nov-23	23-Nov-23	-172
MBRAF-3150	MBR - Zone C - ELS Excavation & Demolition(+4.7 to +1.75mPD) (5880m3) (3-4 excavators, 500m3/d)	14	24-Nov-23	09-Dec-23	-172
MBRAF-3160	MBR - Zone C - Strut Installation S2 (+2.3mPD)(1 crane, 10welders, 24ton/d)	12	29-Nov-23	12-Dec-23	-172
	Tertriary Treatment System (TTS)				
	TTS Foundation and ELS				
	Kingpost and Working Platform				
TTS-1870	TTS - Kingpost installation (preboring method) (28nos.,2d/pile/rig,3rigs) for steel deck	28	04-Jul-23 A	10-Oct-23	-171
TTS-2020	TTS - Backfill for kingpost after demolition of Mixed Liquor Distribution and Sludge Draw-off Chamber (37)	4	25-Jul-23 A	28-Jul-23 A	
TTS-1990	TTS - Kingpost installation for steel deck - loading test	14	20-Sep-23	07-Oct-23	-169
TTS-1880	TTS - Installation of steel deck	24	11-Oct-23	08-Nov-23	-171
	Monitoring and Pumping				
TTS-2000	TTS - Monitoring and pumping installation (29nos., 1.5nos./d/rig, 1rig) north portion	21	06-Jun-23 A	09-Sep-23	-143
TTS-1230	TTS - Monitoring and pumping installation (29nos., 1.5nos./d/rig, 1rig) south portion	21	12-Jul-23 A	17-Oct-23	-167
TTS-1850	TTS - Pumping test	7	18-Oct-23	26-Oct-23	-153
	TTS Foundation and ELS Stage 2				
TTS-1020	TTS - ELS Excavation (+5.0 to +3.65mPD) (2548m3)(3-4 excavators/WF,1 WF, 400m3/d/WF)north	7	03-Aug-23 A	18-Oct-23	-168
TTS-2030	TTS - ELS Excavation (+5.0 to +3.65mPD) (2548m3)(3-4 excavators/WF,1 WF, 400m3/d/WF)south	7	19-Oct-23	27-Oct-23	-168
TTS-1030	TTS - Strut Installation S1 (+4.15mPD)(2 cranes, 10welders per WF, 2 WFs, 30ton/d)	14	28-Oct-23	13-Nov-23	-168
TTS-2040	TTS - ELS Excavation (+5.0 to +3.65mPD) (2548m3)(3-4 excavators/WF,1 WF, 400m3/d/WF)middle	7	09-Nov-23	16-Nov-23	-171
TTS-1040	TTS - ELS Excavation (+3.65 to +1.15mPD) (14,158m3)(3-4 excavators/WF, 2 WFs, 400m3/d/WF)	16	17-Nov-23	05-Dec-23	-171
TTS-1050	TTS - Strut Installation S2 (+1.65mPD)(2 cranes, 10welders per WF, 2 WFs, 30ton/d)	18	23-Nov-23	13-Dec-23	-171
	Zone 3 Construction				
	Zone 3 North Portion (Z3N)				
	Demolition				
	Existing Sludge Thickening House (8, Air Floatation Thickener)				
Z3S2-2030b	Demolish Existing Sludge Thickening House pump pit (8) (affect Zone P2B piling & sheetpile) by saw cut	11	12-Jul-23 A	12-Aug-23 A	
Z3S2-2030d	Backfill & remove strut Existing Sludge Thickening House pump pit (8) (affect Zone P2B piling & sheetpile)	6	14-Aug-23 A	24-Aug-23 A	
	New Sudge Thickening Building (STB)				
	STB : Driven H-pile				
	Batch 2				
Z3S3-3950	STB - Site Setup & Mobilization for driven h-pile (Batch 2)	6	21-Aug-23 A	25-Aug-23 A	
Z3S3-3960	STB - Driven H-pile Zone P5 (remaining 6nos.) @40m/day, 1rig	8	26-Aug-23 A	19-Sep-23	-66
Z3S3-3970	STB - Driven H-pile Zone P2B (remaining 4nos.) @40m/day, 1rig	7	28-Aug-23 A	19-Sep-23	-66
Z3S3-5250	STB - Driven H-pile Zone P2B (2nos. additional piles (PMI204)) @40m/day, 1rig	3	20-Sep-23	22-Sep-23	-66
Z3S3-3740	STB - Driven H-pile Plant Demobilization from Zone P5 and P2B	5	23-Sep-23	28-Sep-23	-66



Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float
Z3S3-5240	STB - Driven H-pile for tower crane (4nos.,1d/pile/rig,1rig)	4	23-Sep-23	27-Sep-23	-53
Z3S3-5150	STB - Pile Load Test (Batch 2)	12	29-Sep-23	14-Oct-23	-66
STB : Foundation and ELS					
STB : ELS					
Sheetpile and Preboring					
Z3S3-5710	STB - Sheetpile preboring plant demobilization for driven h-pile mobilization	3	07-Aug-23 A	10-Aug-23 A	
Z3S3-5720	STB - Sheetpile Installation (remaining at stage 4a & 4b) (1,446m2,90m2/d/rig,1rig)	8	16-Aug-23 A	20-Sep-23	-52
Z3S3-3800	STB - Sheetpile Installation (remaining after demolition) (604m2, 90m2/d/rig, 1rig)	8	16-Oct-23	25-Oct-23	-54
Monitoring and Pumping					
Z3S3-3340	STB - Monitoring and pumping installation at south (10nos., 1.5nos./d/rig, 1rig)	7	21-Sep-23	28-Sep-23	-52
Z3S3-5260	STB - Monitoring and pumping installation at east (14nos., 1.5nos./d/rig, 1rig)	9	29-Sep-23	11-Oct-23	-52
Z3S3-3805	STB - Monitoring and pumping installation at north (after piling) (13nos., 1.5nos./d/rig, 1rig)	9	12-Oct-23	21-Oct-23	-52
Z3S3-5080	STB - Pumping test	7	26-Oct-23	02-Nov-23	-54
Excavation and Lateral Support					
Z3S3-2250	STB - ELS, Excavation (+6.0 to +3.5mPD, 1,759m3 @ 400m3/d)	5	16-Oct-23	20-Oct-23	-66
Z3S3-5780	STB - ELS, Demolish remaining existing AFT (8) to +3.5mPD silent method	5	21-Oct-23	27-Oct-23	-66
Z3S3-2290	STB - ELS, Strut Installation S1 (@ +4.0mPD)	12	28-Oct-23	10-Nov-23	-66
Z3S3-5110	STB - ELS, Excavation (+6.0 to +3.5mPD) remaining portion after road diversion at UC5	3	01-Nov-23	03-Nov-23	-66
Z3S3-5120	STB - ELS, Strut Installation S1 (@ +4.0mPD) remaining portion after road diversion at UC5	6	04-Nov-23	10-Nov-23	-66
Z3S3-5220	STB - ELS, Strut Installation S1 preload (5 cycles, 3-4 struct/cycle/day, 19 nos. strut)	5	11-Nov-23	16-Nov-23	-66
Z3S3-2360	STB - ELS, Excavation (+3.5 to -0.5mPD, 3,751m3 @ 300m3/d) *MD/PD	13	17-Nov-23	01-Dec-23	-66
Utility Corridor (UC5) (Connect to STB)					
UC5 : Foundation and ELS Works					
Z3S2-3130	UC5 - ELS, Excavation (+4.0 to -0.5mPD) (1184m3. 200m3/d) *MD	6	11-Jul-23 A	21-Jul-23 A	
Z3S2-3120	UC5 - Marine Sediments Treatment and Disposal	14	14-Jul-23 A	21-Jul-23 A	
Z3S2-3140	UC5 - ELS, Strut Installation S2 (0mPD)	10	15-Jul-23 A	25-Jul-23 A	
Z3S2-3170	UC5 - ELS, Excavation (-0.5 to -4.125mPD) (953m3. 200m3/d) *MD	5	26-Jul-23 A	02-Aug-23 A	
Z3S2-3630	UC5 - ELS, Trial dig and verify depth of unsuitable material (PMI259)	3	03-Aug-23 A	05-Aug-23 A	
Z3S2-3640	UC5 - ELS, Remove unsuitable material (PMI259)	5	07-Aug-23 A	11-Aug-23 A	
Z3S2-3440	UC5 - ELS, Replace additional rockfill at founding level (PMI259)	10	12-Aug-23 A	22-Aug-23 A	
Z3S2-3650	UC5 - ELS, Plate load test (PMI259)	8	23-Aug-23 A	30-Aug-23 A	
UC5 : Civil and Structural Works					
Z3S2-3180	UC5 - Structure (-3.75 to -2.20mPD, Base Slab) and (-2.20 to -0.5mPD, Wall)	16	31-Aug-23 A	16-Sep-23	-66
Z3S2-3200	UC5 - Structure (-0.5 to +1.5mPD, Wall) *overtime	8	18-Sep-23	26-Sep-23	-66
Z3S2-3210	UC5 - Structure (+1.5 to +4.2mPD, Wall and Roof)	10	27-Sep-23	10-Oct-23	-66
Z3S2-3520	UC5 - Install backprop, waterproof, backfill & remove strut S2	4	11-Oct-23	14-Oct-23	-66
Z3S2-3530	UC5 - Install backprop, waterproof, backfill & remove strut S1	4	16-Oct-23	19-Oct-23	-66
Z3S2-3610	UC5 - Backfill to ground level	3	20-Oct-23	24-Oct-23	-66
Z3S2-3660	UC5 - Deck over UC5 ELS for road diversion	3	20-Oct-23	24-Oct-23	-66
Z3S2-3480	UC5 - Road Diversion on Completed UC5	6	25-Oct-23	31-Oct-23	-66
UC5 : E&M Installation					
Z3S2-3220	UC5 - BS Works	50	11-Oct-23	08-Dec-23	801
Z3S2-3230	UC5 - E&M Handover	0	11-Oct-23		801
Z3S2-3240	UC5 - E&M Installation and Pipeworks	50	11-Oct-23	08-Dec-23	801
Z3S2-3250	UC5 - Installation and Set-Up for SCADA System	14	23-Nov-23	08-Dec-23	801
Zone 3 South Portion (Z3S)					
Sludge Digestor No. 1-3 (SD1-3)					
SD1-3 : Foundation and ELS					
SD1-3 : Sheetpiling, Kingpost, Monitoring and pumping					
Z3S3-2063	Sludge Digester No. 1-3 - Remaining Sheetpiles Portion WB (561m, 30m/d/rig, 1rig)	20	01-Jun-23 A	07-Sep-23	-149
Z3S3-2061	Sludge Digester No. 1-3 - Remaining Sheetpiles Portion NA (644m, 30m/d/rig, 1rig)	21	07-Jul-23 A	07-Oct-23	-149
Z3S3-2062	Sludge Digester No. 1-3 - Remaining Sheetpiles Portion NB&WA (247+185m, 30m/d/rig, 2rigs) after BH1 surcharge removed	27	12-Aug-23 A	07-Oct-23	-149
Z3S3-5810	Sludge Digester No. 1-3 - Site clearance for demolish remaining SHT2	4	08-Sep-23	12-Sep-23	-147
Z3S3-5670	Sludge Digester No. 1-3 - Demolish remaining SHT2 (14d) and backfill for kingpost (4d)	18	13-Sep-23	05-Oct-23	-147
Z3S3-4810	Sludge Digester No. 1-3 - Kingpost by preboring (13nos. @ 2.5d/pile/rig, 2rigs)	17	09-Oct-23	28-Oct-23	-149
Z3S3-3350	Sludge Digester No. 1-3 - Monitoring and pumping installation (42nos., 1.5nos./d/rig, 2rigs)	14	24-Oct-23	08-Nov-23	-147
Z3S3-5100	Sludge Digester No. 1-3 - Pumping test	7	09-Nov-23	16-Nov-23	-147
SD1-3 : Excavation and Strut Installation					
Z3S3-2110	Sludge Digester No. 1-3 - ELS Excavation (+5.0 to +4.3mPD, 4168m3 @ 750m3/d)	5	30-Oct-23	03-Nov-23	-149



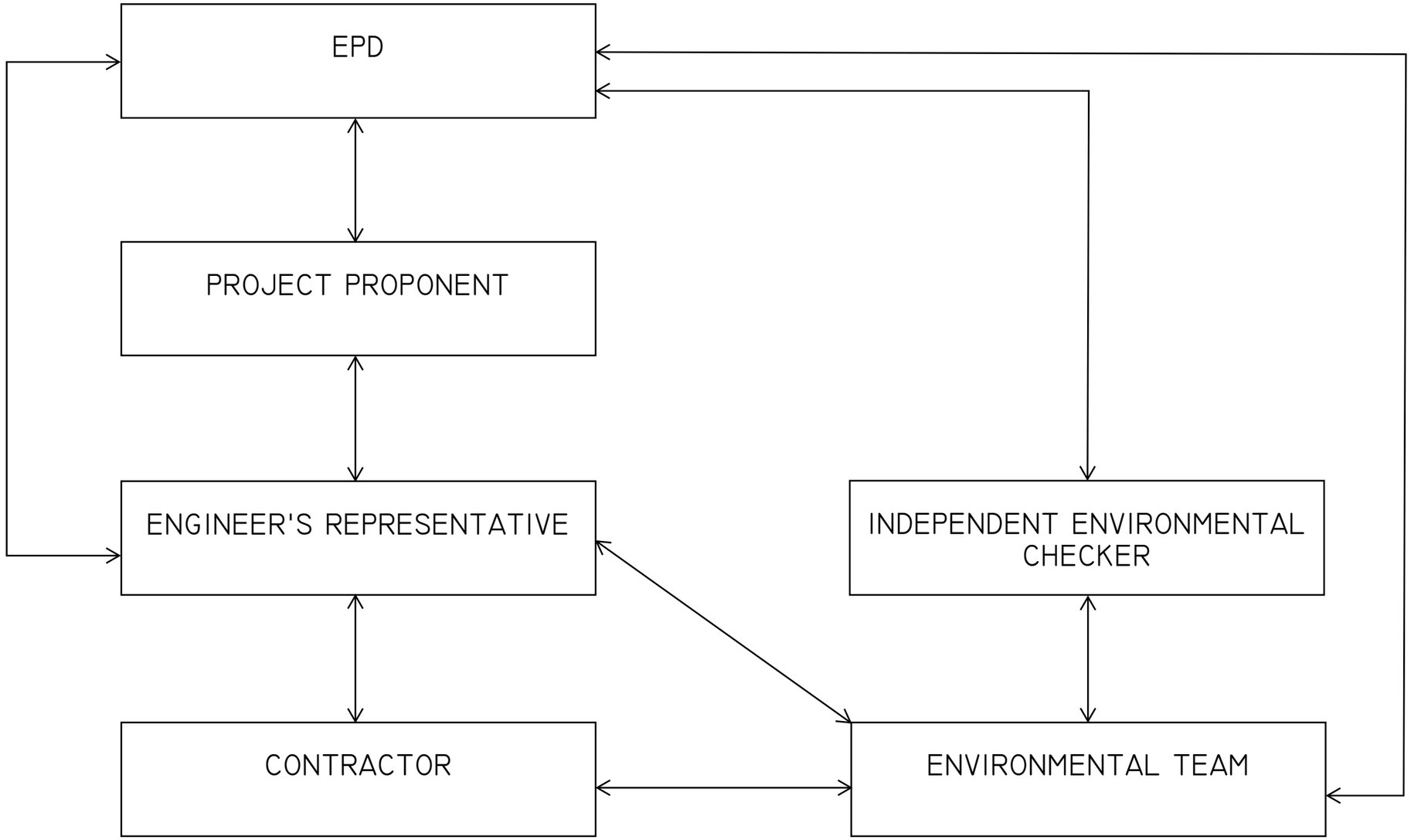
Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float
Z3S3-2140	Sludge Digester No. 1-3 - Strut Installation S1 (+4.8mPD)	13	04-Nov-23	18-Nov-23	-149
Z3S3-2150	Sludge Digester No. 1-3 - ELS Excavation (+4.3 to +1.8mPD, 6130m3 @ 750m3/d) after BH1 footing backfilled	8	20-Nov-23	28-Nov-23	-149
Z3S3-2190	Sludge Digester No. 1-3 - Strut Installation S2 (+2.3mPD)	13	23-Nov-23	07-Dec-23	-149
Biogas Holder No. 1 (BH1)					
BH1 : Foundation					
Z3BH-1180	Biogas Holder No. 1 - Sheetpile (TL-11mPD, 488m2 @ 30m2/d, 1rig)	17	03-Jul-23 A	08-Aug-23 A	
Z3BH-1280	Biogas Holder No. 1 - Excavate to +0mPD (1026m3) at north side and backfill 300mm thk rockfill	12	17-Jul-23 A	04-Aug-23 A	
Z3BH-1290	Biogas Holder No. 1 - UU diversion for excavation	12	24-Jul-23 A	31-Jul-23 A	
Z3BH-1310	Biogas Holder No. 1 - Concrete block retaining wall at north side for road diversion	3	05-Aug-23 A	10-Aug-23 A	
Z3BH-1190	Biogas Holder No. 1 - Excavate to+0mPD (1026m3) at south side	12	11-Aug-23 A	23-Aug-23 A	
Z3BH-1320	Biogas Holder No. 1 - Road formation and diversion for kingpost/pump wells/SDB piling	6	11-Aug-23 A	16-Aug-23 A	
Z3BH-1330	Biogas Holder No. 1 - Excavate berm near WB&NB sheetpile to +2.6mPD (513m3)	4	24-Aug-23 A	26-Aug-23 A	
Z3BH-1200	Biogas Holder No. 1 - Backfill rockfill +0/+2.8 to +3.1mPD (3.1m, 0.3m/layer/d)	11	25-Aug-23 A	16-Sep-23	-142
Z3BH-1160	Biogas Holder No. 1 - Plate load test BH-PLT1	8	18-Sep-23	26-Sep-23	-142
Z3BH-1300	Biogas Holder No. 1 - Earthing installation	6	18-Sep-23	23-Sep-23	-140
Z3BH-1010	Biogas Holder No. 1 - 800 Thick Base Slab	21	27-Sep-23	24-Oct-23	-142
Z3BH-1340	Biogas Holder No. 1 - Retaining wall (from +3.1mPD to +6mPD)	7	25-Oct-23	01-Nov-23	-142
Z3BH-1350	Biogas Holder No. 1 - Retaining wall strike formwork (3d), surface prep (1d) and waterproofing (2d)	6	02-Nov-23	08-Nov-23	-142
Z3BH-1360	Biogas Holder No. 1 - Backfill +2.6 to +6 for SD Excavation	12	09-Nov-23	22-Nov-23	-142
BH1 : E&M Installation					
ATALZ3BH-0900	BH No. 1 - E&M Handover	0	09-Nov-23		-87
ATALZ3BH-2425	BH No. 1 - Material delivery and base preparation (plinth leveling and bitumen coating, drainage)	6	09-Nov-23	15-Nov-23	-87
ATALZ3BH-2435	BH No. 1 - Tank base plate installation and welding	19	16-Nov-23	07-Dec-23	-87
Utility Corridor and Pipe Portal (UC/PP)					
Utility Corridor No. 1 (UC1)					
UC1 : Predrilling Works					
Z3S5UC1-2190	UC/PP - Predrill UC&PP-PD3	6	27-Jul-23 A	05-Aug-23 A	
Z3S5UC1-2180	UC/PP - Predrill UC&PP-PD2	6	01-Sep-23	07-Sep-23	68
Z3S5UC1-2200	UC/PP - Predrill UC&PP-PD6	6	08-Sep-23	14-Sep-23	68
Utility Corridor No. 2 (UC2)					
UC2 : Predrilling Works					
Z3S2-2240	UC/PP - Predrill UC&PP-PD4	6	24-Jul-23 A	26-Jul-23 A	
Zone 3 Middle Portion (Z3M)					
Utility Corridor and Pipe Portal (UC/PP)					
Pipe Portal No. 2 (PP2)					
PP2 : Predrilling Works					
Z3S2-3410	UC/PP - Predrill UC&PP-PD7	6	22-Jul-23 A	24-Jul-23 A	



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
PATH: p:\projects\60505476\drawing\report\EM&A\EM&A_702.dgn

AECOM

PROJECT
項目

YUEN LONG EFFLUENT POLISHING PLANT - INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

渠務署
Drainage Services Department

CONSULTANT
工程顧問公司

AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS
分判工程顧問公司

ISSUE/REVISION
修訂

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

STATUS
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 $\leqslant$ 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) AM1 = (63*1.3 + 500) / 2 = 291 $\mu g/m^3$;
b) AM2 = (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

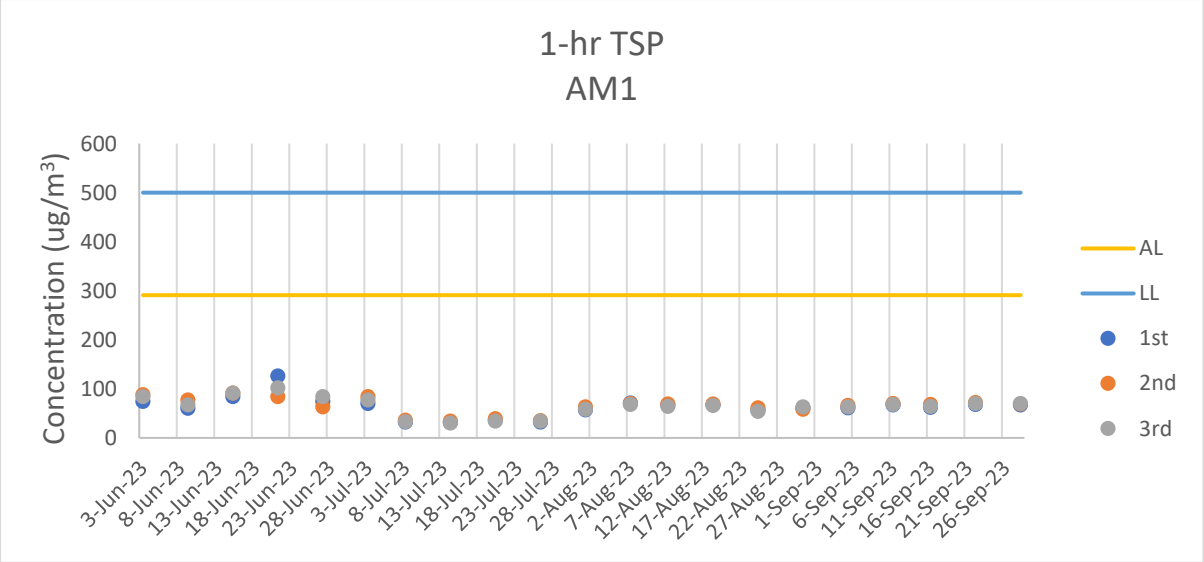
Ecological Monitoring of Birds

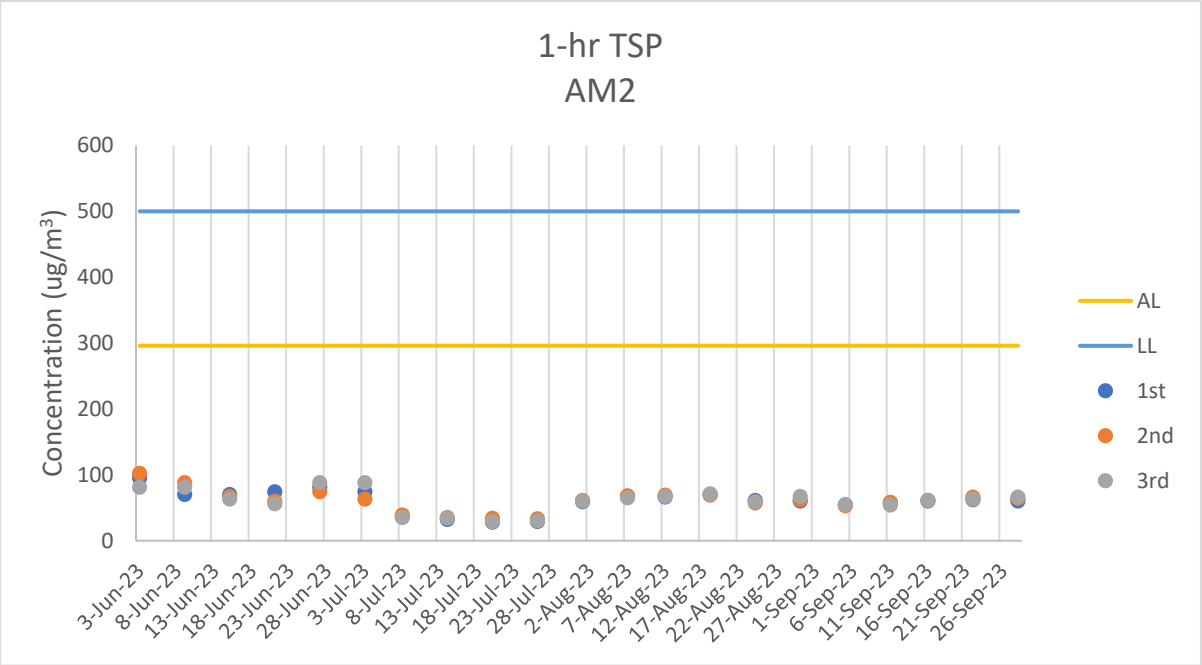
Method	Parameters	Action Level[3]	Limit Level[3]
Transect	Abundance of all avifauna species (including but not only limited to overwintering waterbirds) in the community	Significant decline[1,2] in any of these parameters during the current monitoring month relative to the corresponding month during 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
Graphical Presentation of Monitoring Data

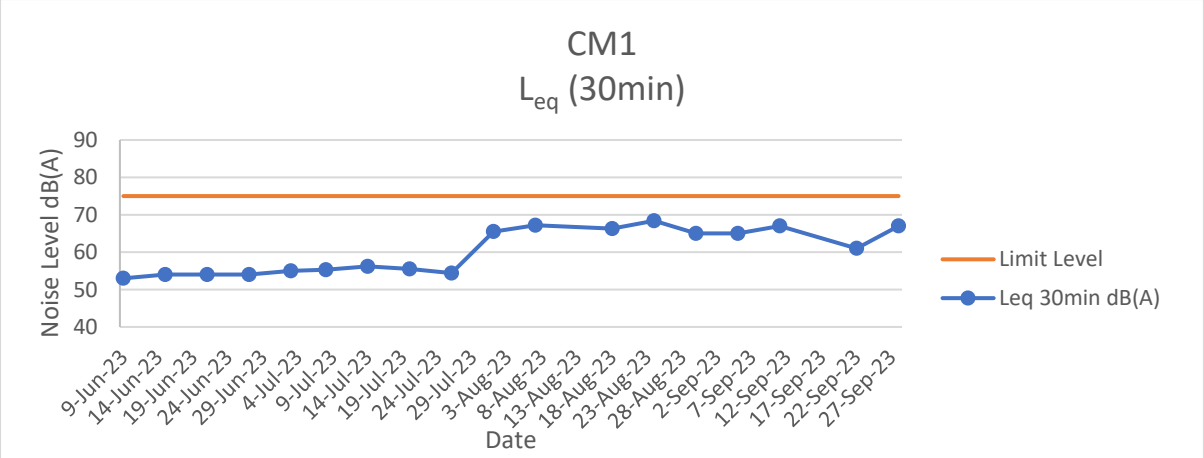
Air Quality Monitoring Results

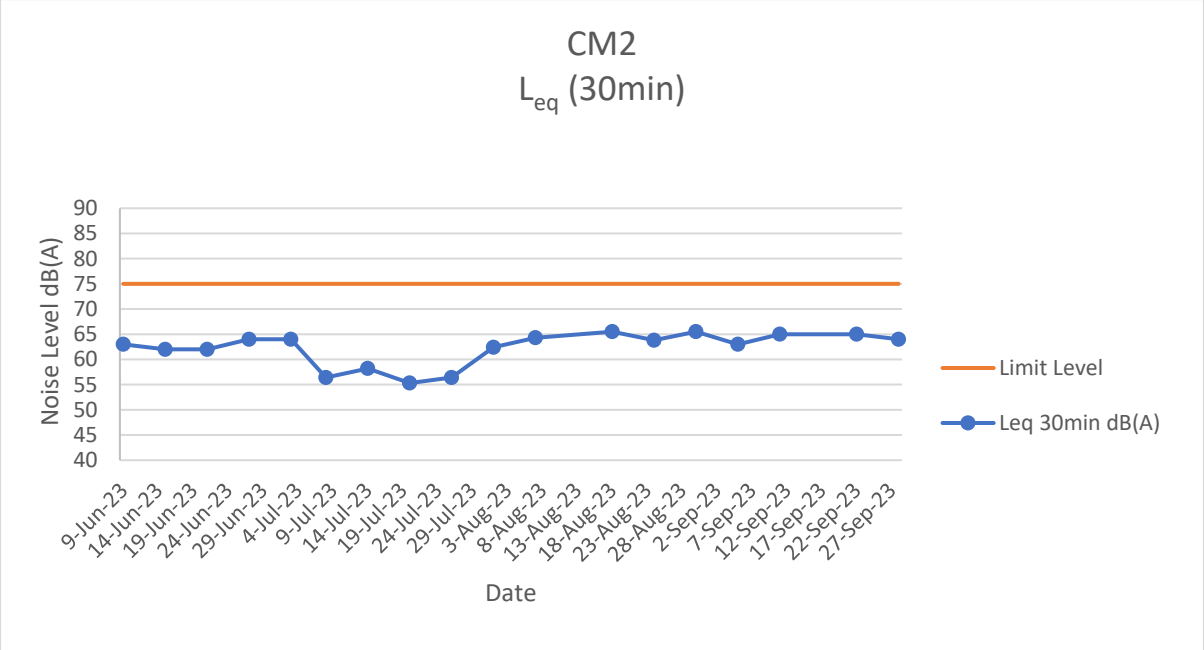


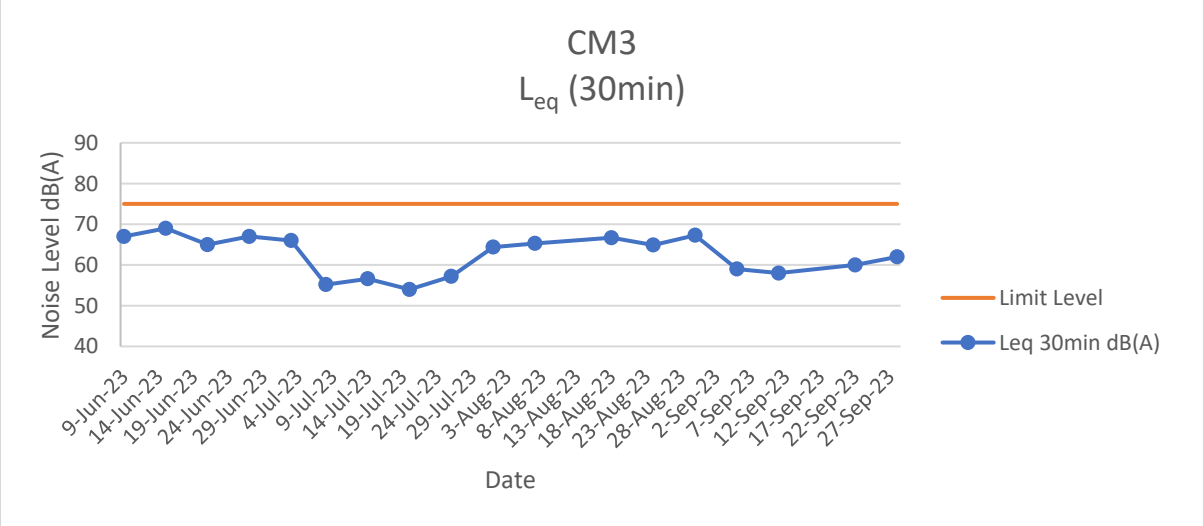


Air Quality Monitoring Results

Noise Monitoring Results

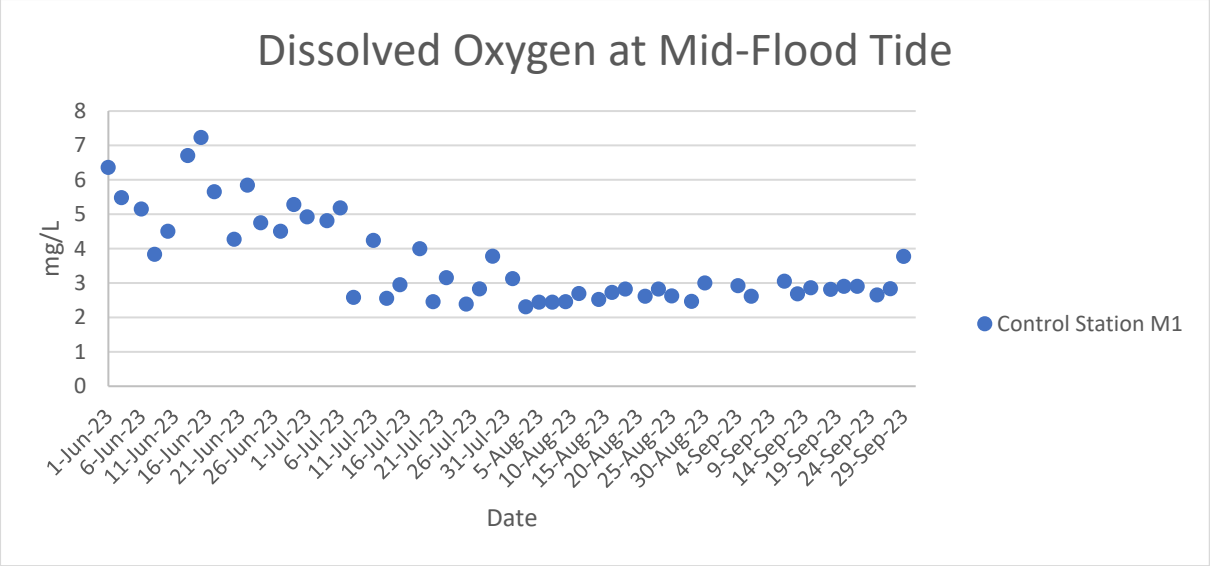


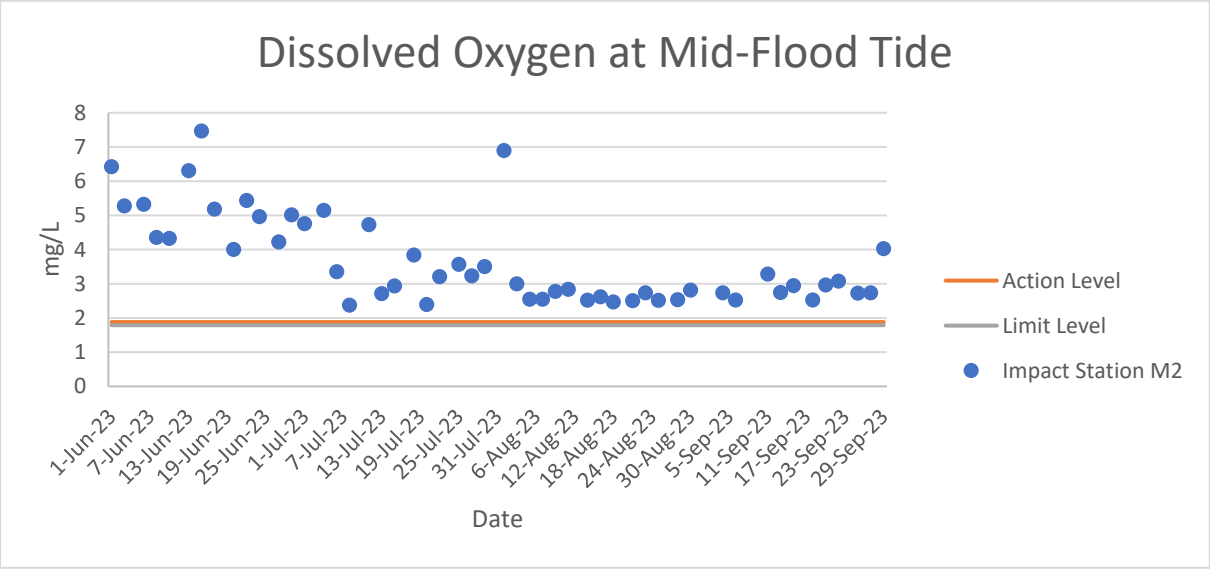


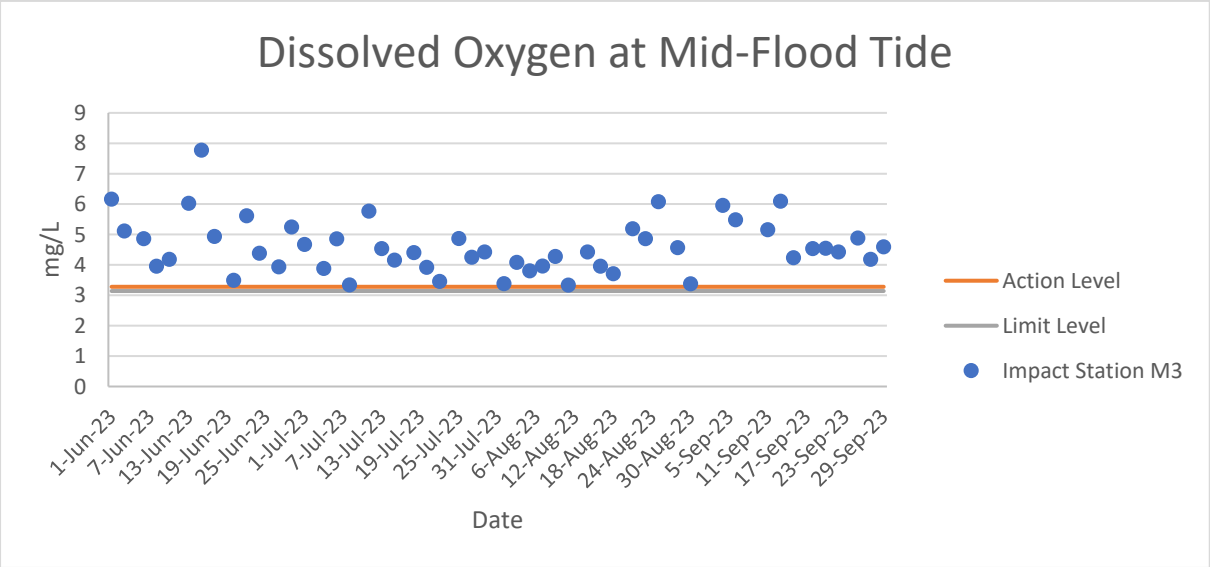


Noise Monitoring Results

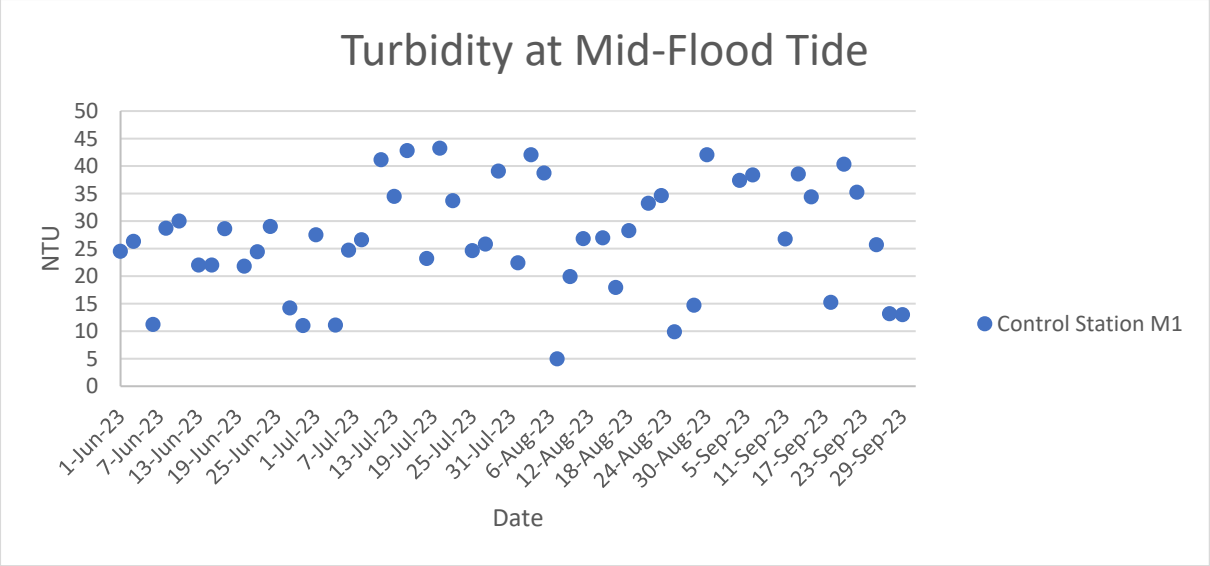
Water Quality Monitoring Results

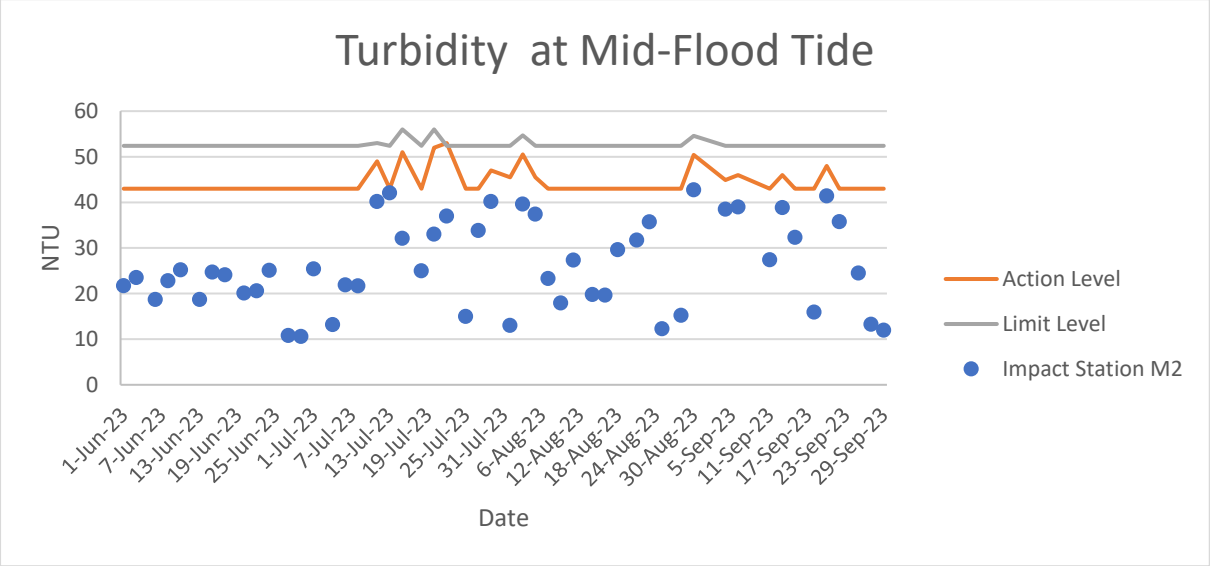


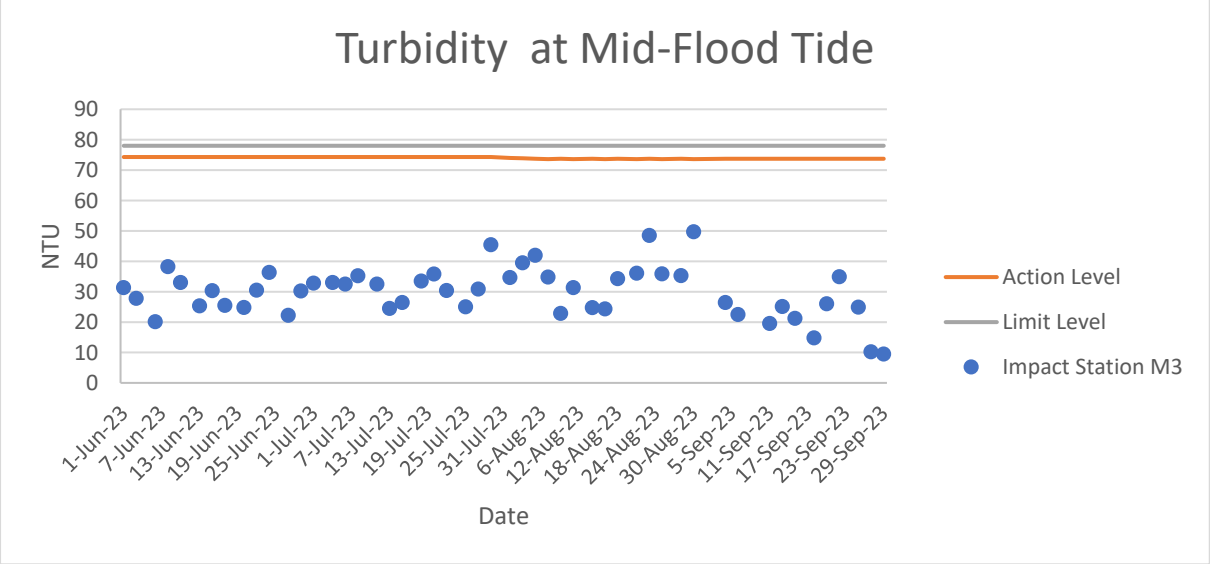




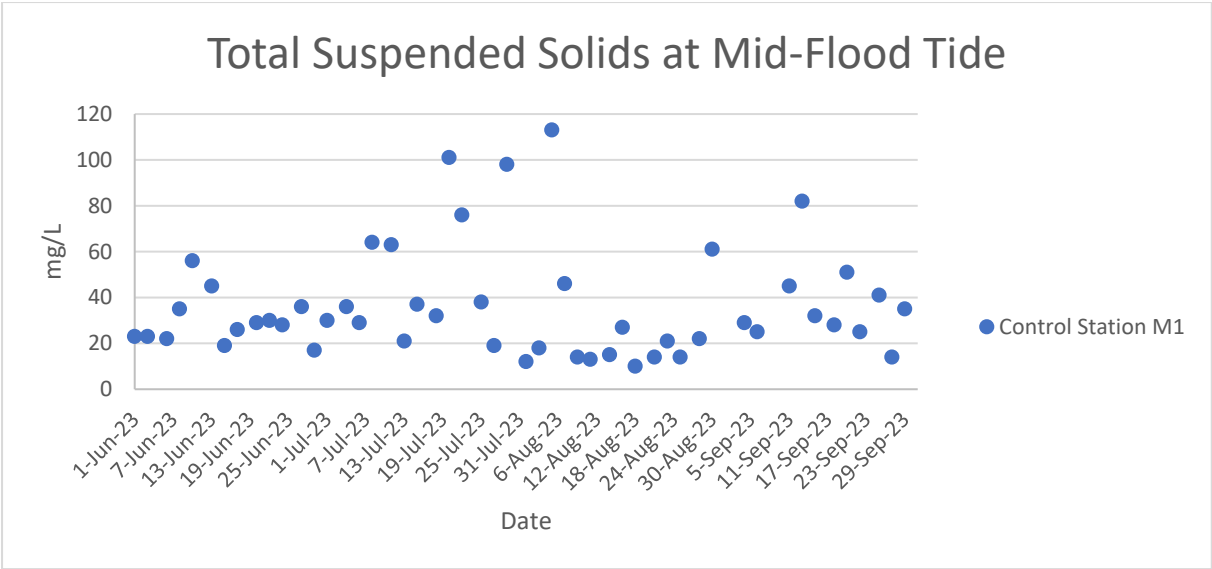
Water Quality Monitoring Results

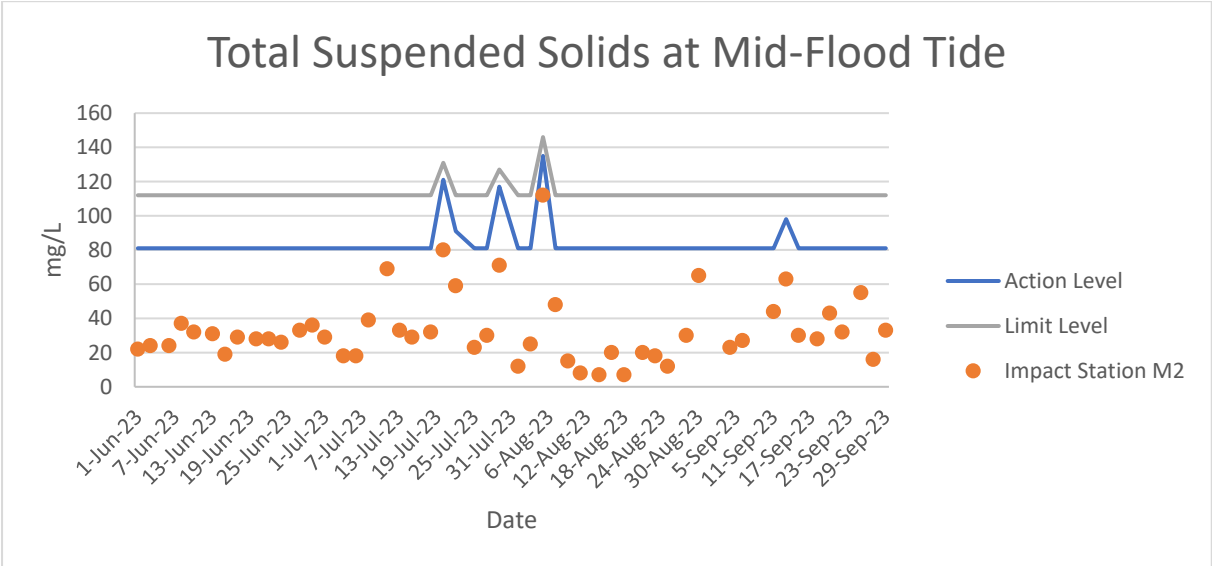


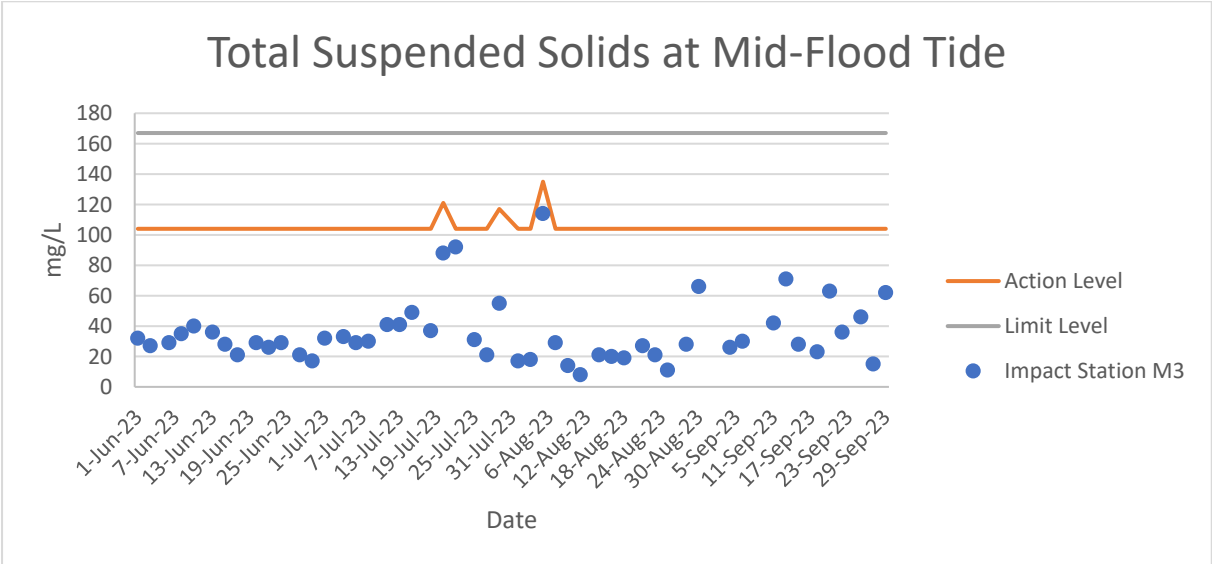




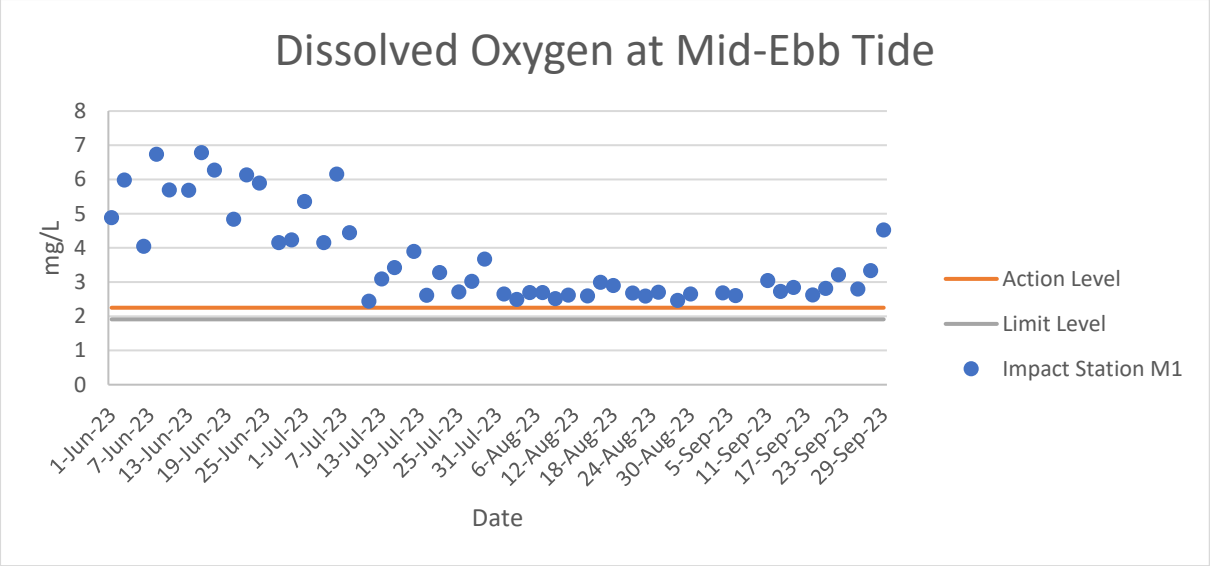
Water Quality Monitoring Results

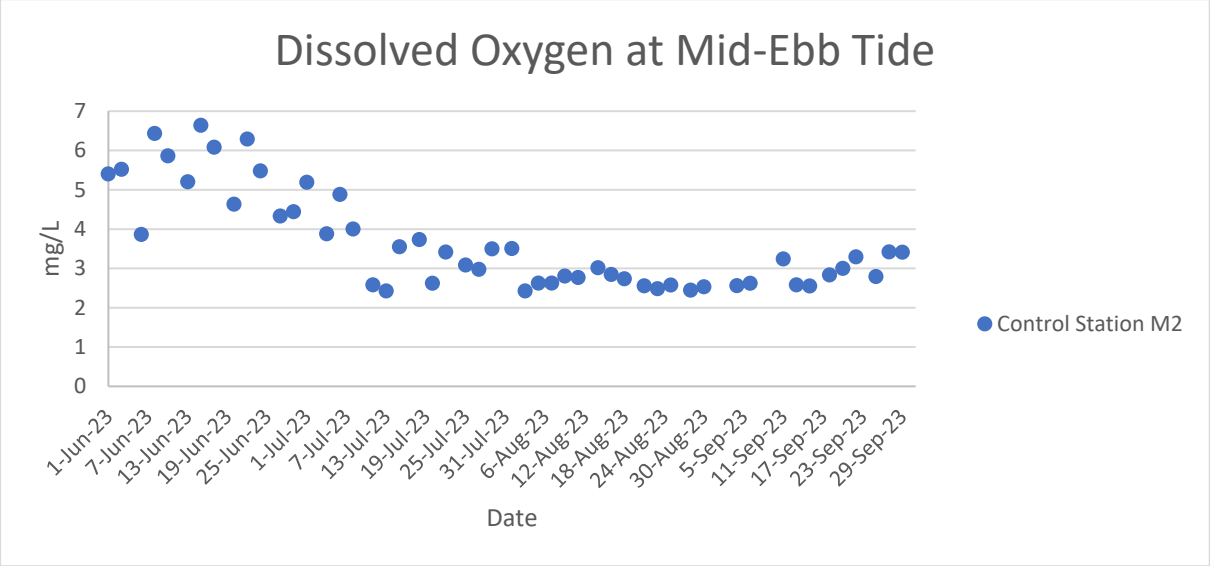


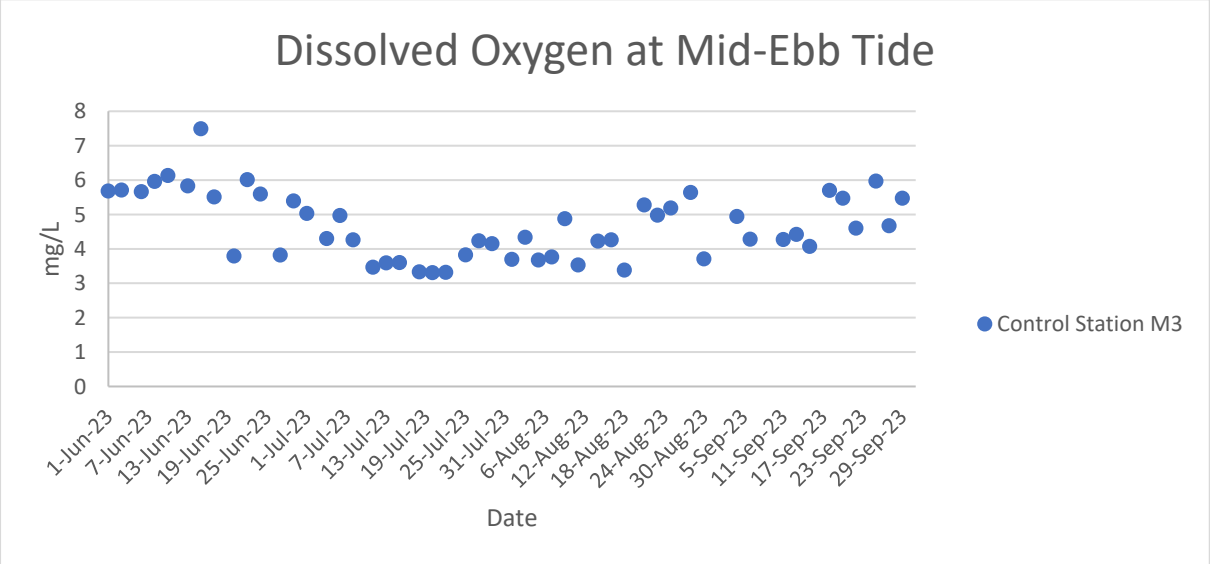




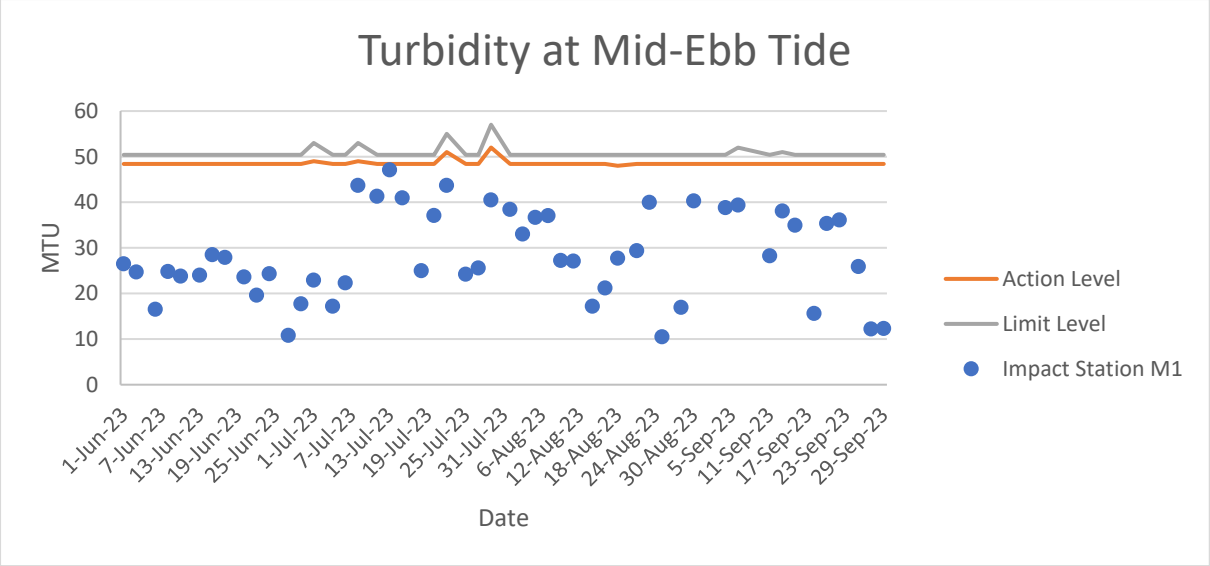
Water Quality Monitoring Results

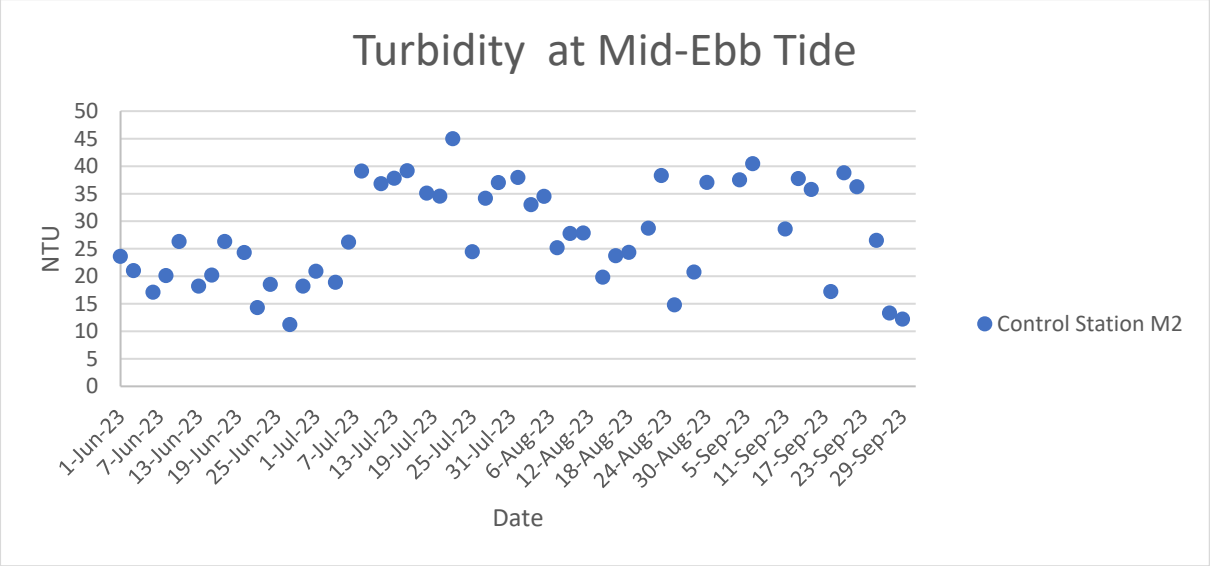


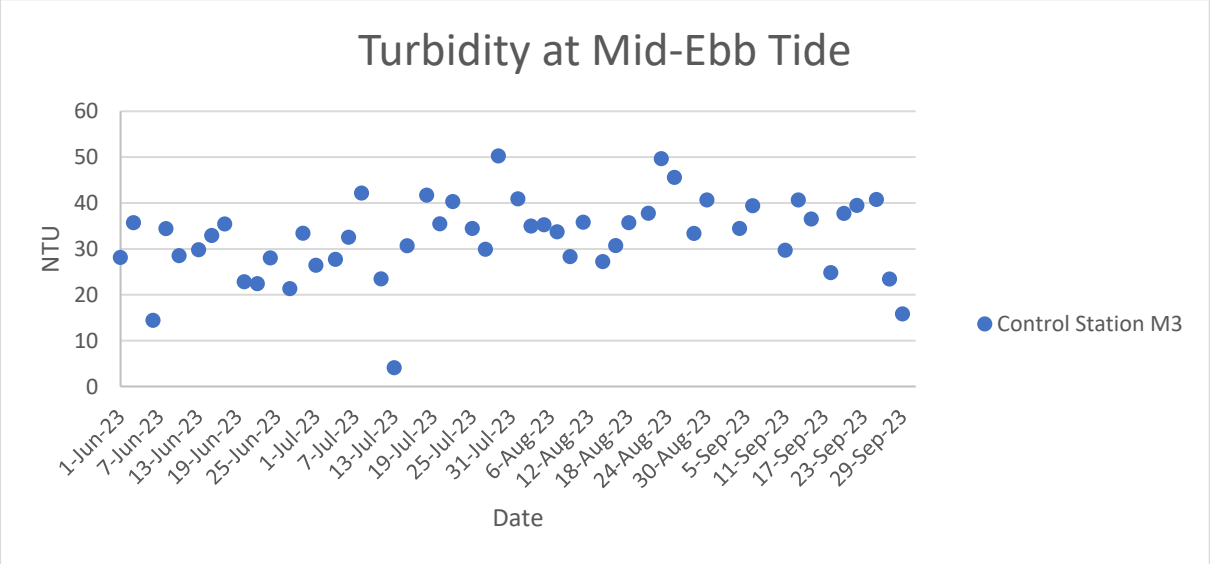




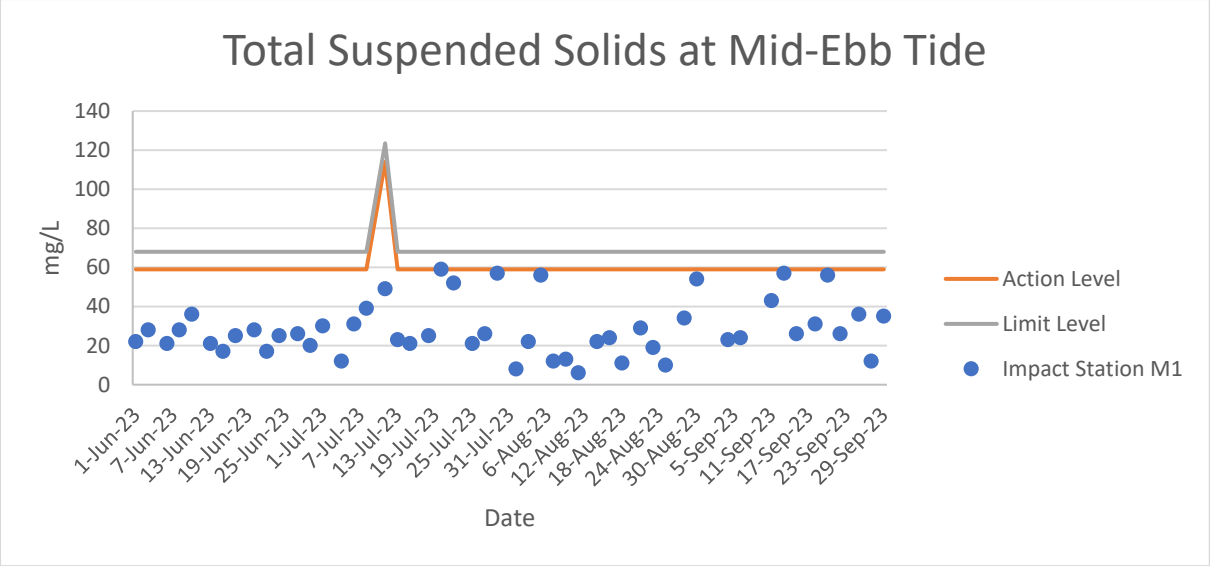
Water Quality Monitoring Results

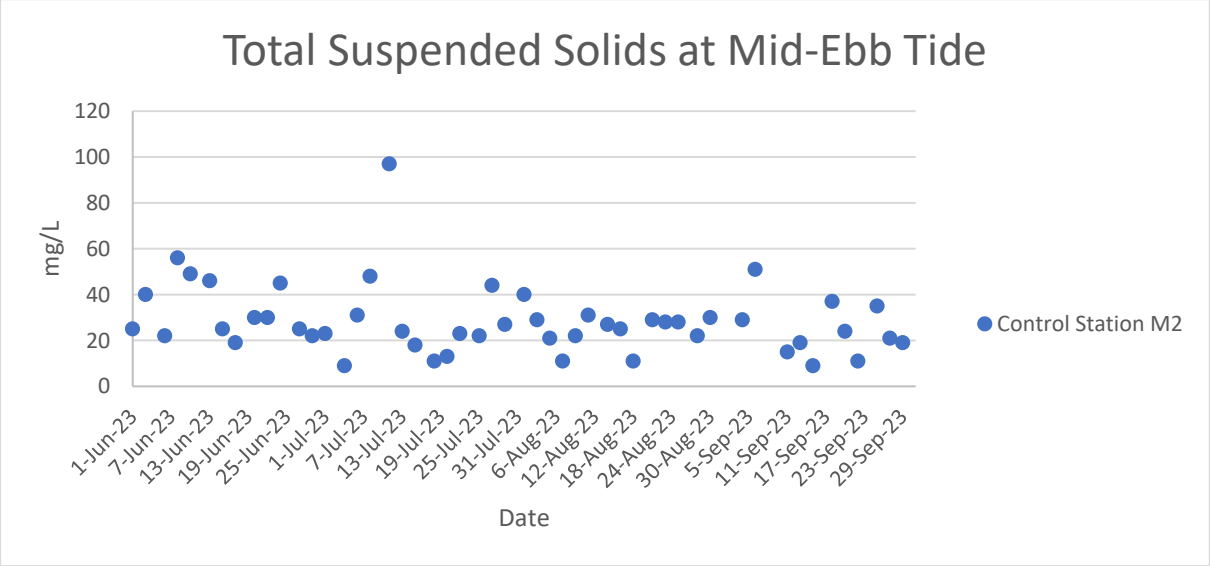


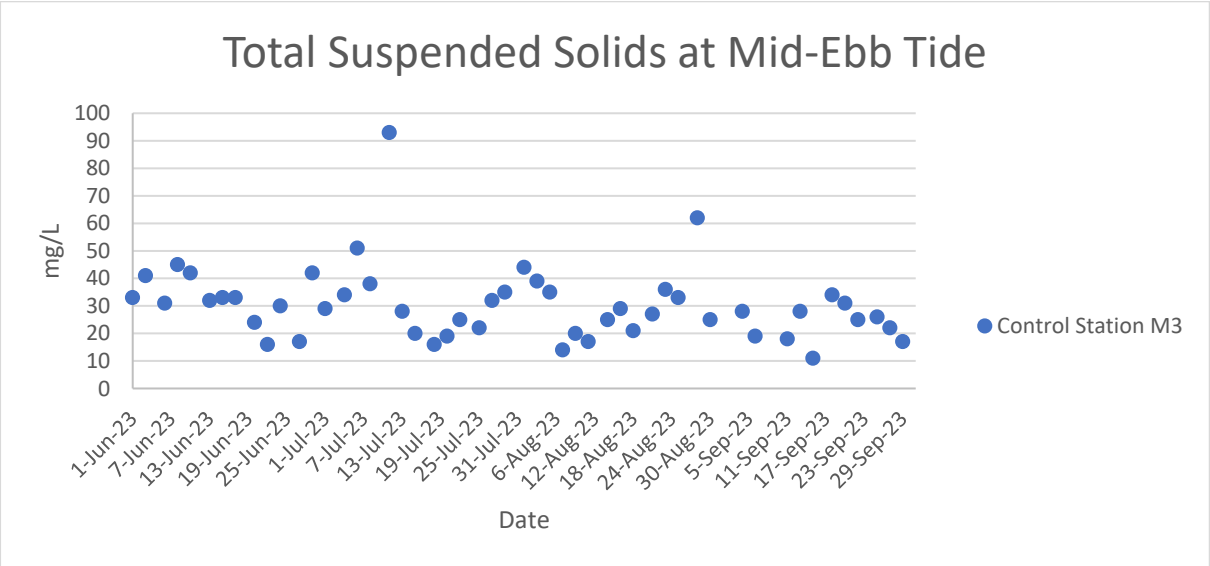




Water Quality Monitoring Results







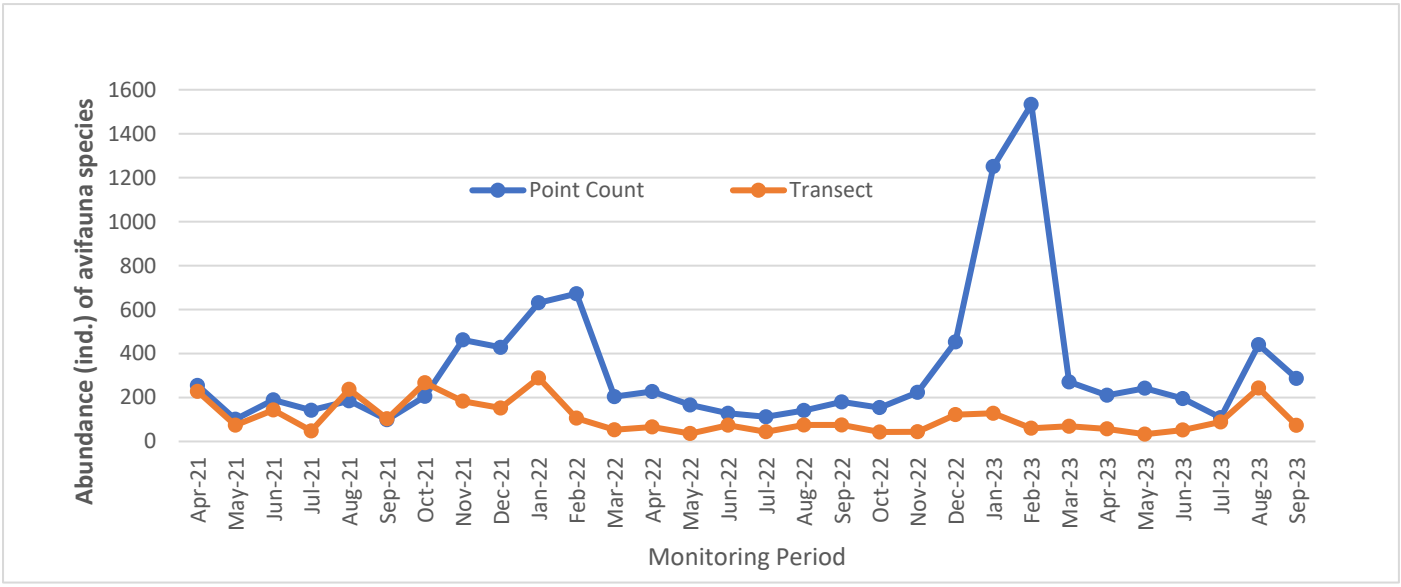
Water Quality Monitoring Results

Ecology Monitoring Results for

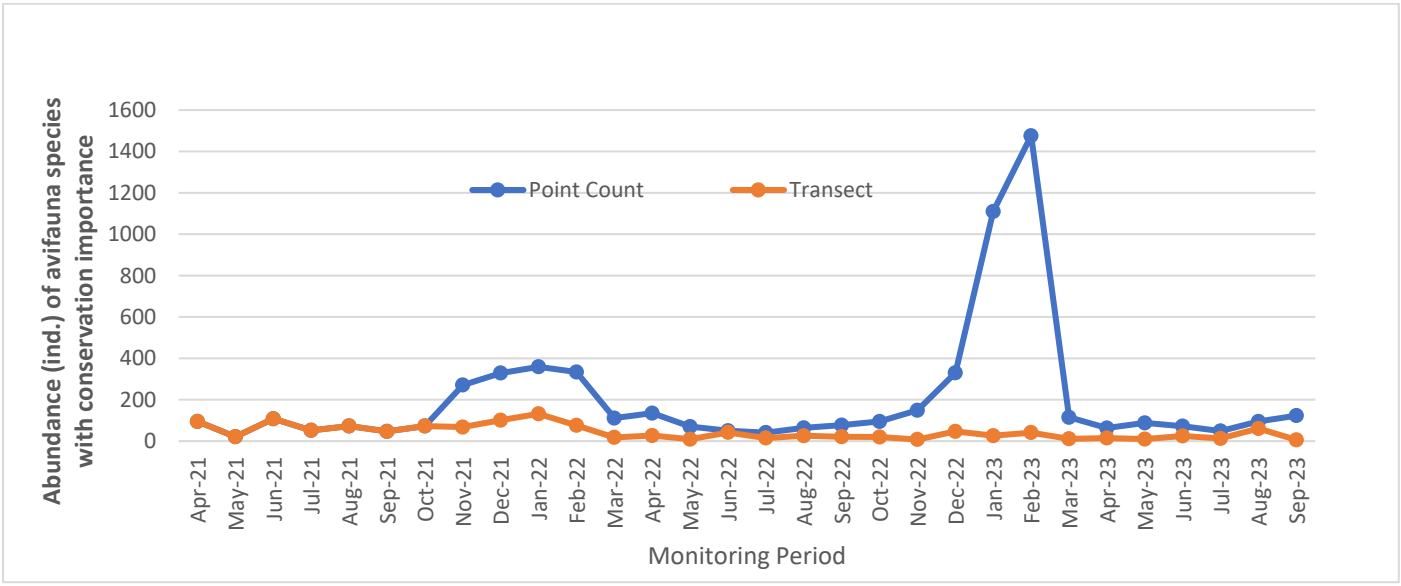
Contract No. SPW 02/2023

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

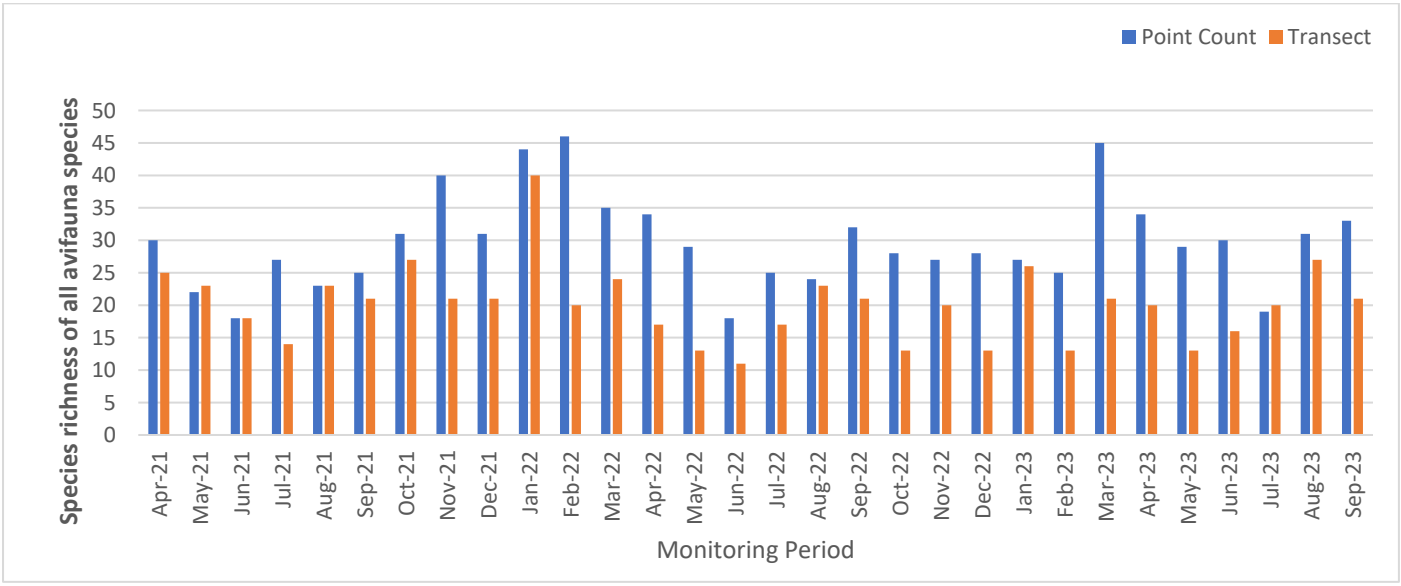
Abundance of all avifauna species throughout the monitoring period



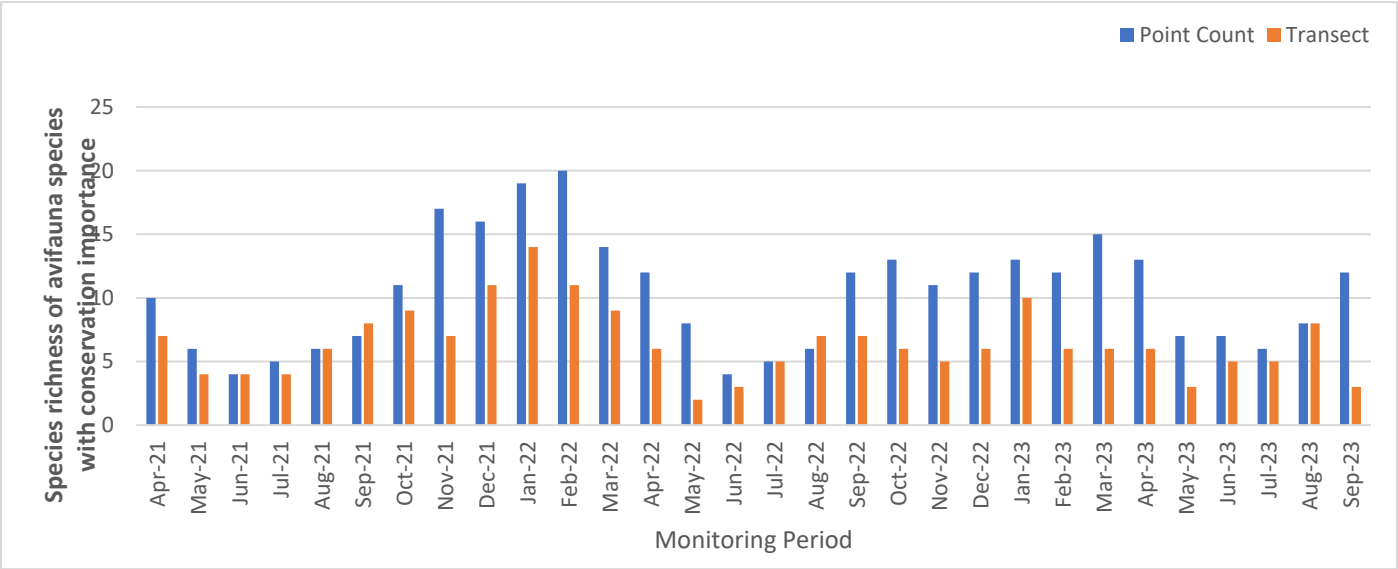
Abundance of avifauna species with conservation importance throughout the monitoring period



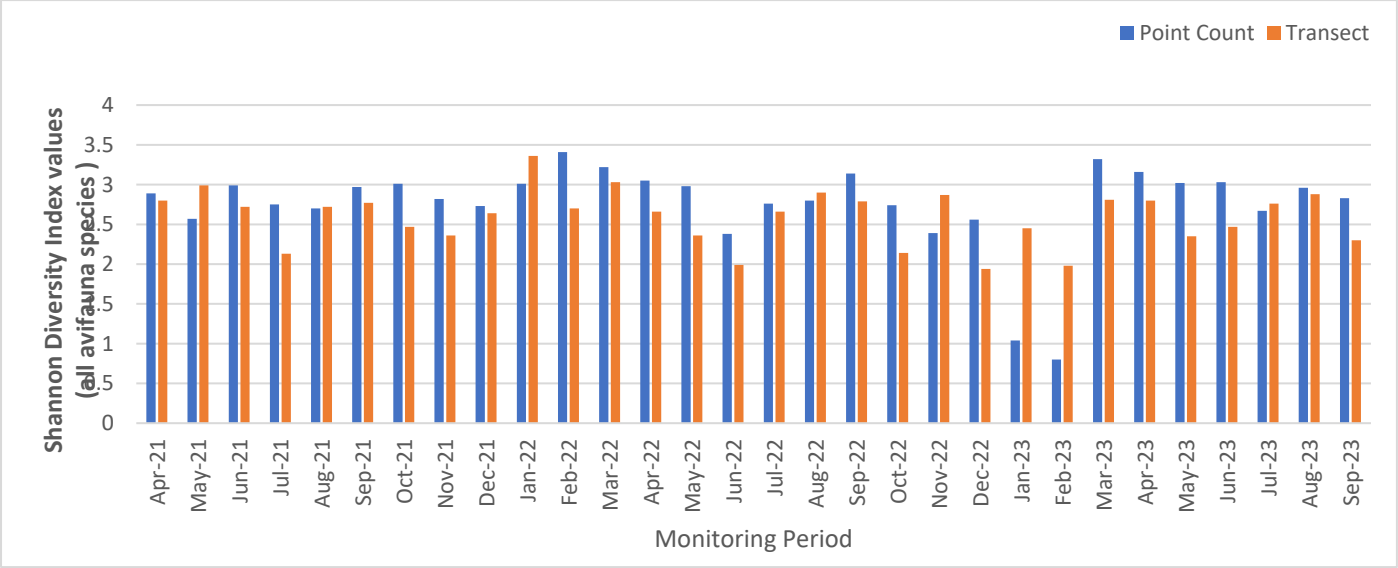
Species richness of all avifauna species throughout the monitoring period



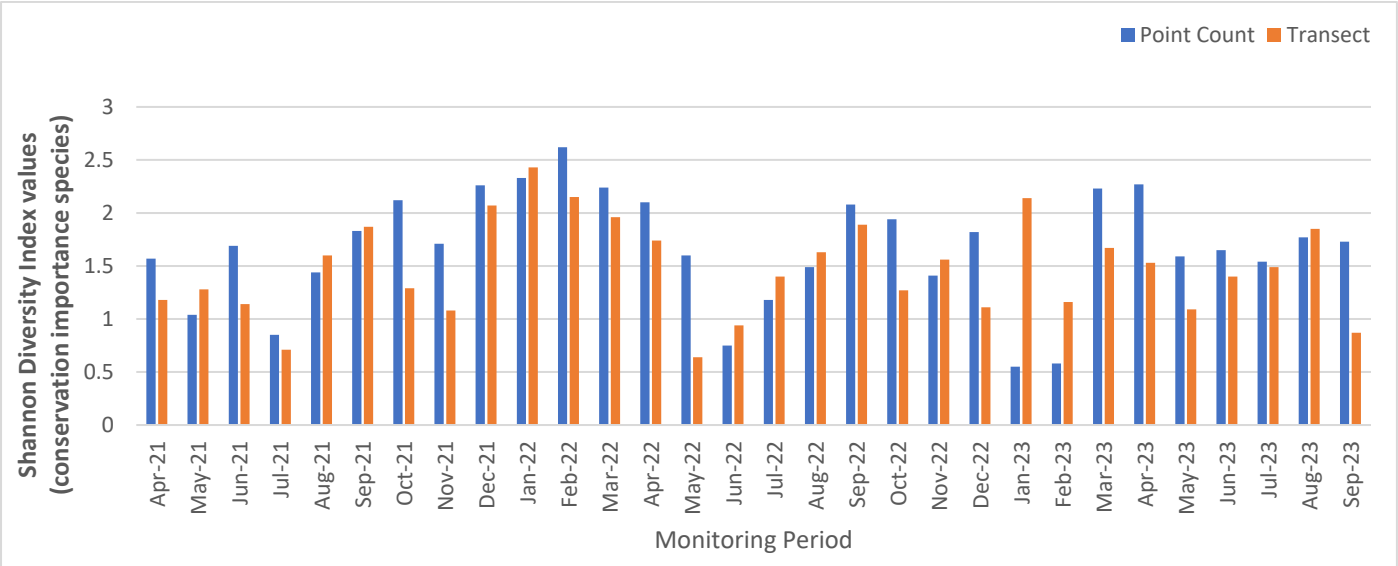
Species richness of avifauna species with conservation importance throughout the monitoring period



Shannon Diversity Index values of all avifauna species throughout the monitoring period



Shannon Diversity Index values of avifauna species with conservation importance throughout the monitoring period



Appendix E
Event and Action Plan

Event and Action Plan for Air Quality (Construction Dust)

Event	Action			
	ET	IEC	ER	Contractor
Action level being exceeded by	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	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	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.
Limit level being exceeded by one sampling	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	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 F
Waste Flow Table

Waste Flow Table for Year 2023

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)
2023 Jan	2873.28	Nil	Nil	Nil	2831.62	Nil	28.90	0.18	Nil	Nil	12.58
2023 Feb	1469.44	Nil	Nil	Nil	1395.80	Nil	29.73	0.17	Nil	Nil	43.74
2023 Mar	1137.44	Nil	Nil	Nil	1109.76	Nil	5.86	0.16	Nil	Nil	21.66
2023 Apr	3495.26	Nil	Nil	Nil	3420.40	Nil	46.02	0.18	Nil	Nil	28.66
2023 May	2757.82	195.71	Nil	Nil	2529.95	Nil	9.84	Nil	Nil	Nil	22.32
2023 Jun	4784.60	Nil	Nil	Nil	4593.27	Nil	136.14	0.18	Nil	Nil	55.01
2023 Jul	6784.09	Nil	Nil	Nil	4981.66	1742.00	36.22	0.19	Nil	0.03	23.99
2023 Aug	8120.40	Nil	Nil	Nil	6771.53	1279.80	Nil	0.21	Nil	Nil	68.86
2023 Sep	5207.86	Nil	Nil	Nil	5178.28	Nil	Nil	Nil	Nil	Nil	29.58
2023 Oct											
2023 Nov											
2023 Dec											
Total	36630.19	195.71	Nil	Nil	32812.27	3021.80	292.71	1.27	Nil	0.03	306.40

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 G
Implementation Status of Environmental 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:		
	• Use of regular watering to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather.	Construction Sites	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.		Implemented
	• 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
	• 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

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
Noise Impact (Construction Phase)			
4.8.1	Movable noise barriers are recommended for hydraulic breakers mounted on excavators to be adopted during construction.	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.		Implemented
	• 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.		Implemented
	• 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
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

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
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	Implemented
5.8.1.9	Earthworks final surfaces should be well compacted and the subsequent permanent work or surface protection should be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate drainage like intercepting channels should be provided where necessary	Construction Sites / Construction Phase	Implemented
5.8.1.10	Measures should be taken to minimise the ingress of rainwater into trenches. If excavation of trenches in the wet season is necessary, they should be dug and backfilled in short sections. Rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.	Construction Sites / Construction Phase	Implemented
5.8.1.11	Construction materials (e.g. aggregates, sand and fill material) on sites should be covered with tarpaulin or similar fabric during rainstorms	Construction Sites / Construction Phase	Implemented
5.8.1.12	Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers. Discharge of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system.	Construction Sites / Construction Phase	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	Implemented
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
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	Implemented
5.8.2.11	Chemical should be stored on site at bunded area and separate drainage system as appropriate should be provided to avoid any spilled chemicals from entering the storm drain in case of accidental spillage. Also, adequate tools for cleanup of spilled chemicals should be stored on site and appropriate training shall be provided to staffs to further prevent potential adverse water quality impacts from happening.	Project site / Design and Operation Phase	Implemented

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
Waste Management Implication (Construction Phase)			
6.6.1.3	<u>Good Site Practices</u> Recommendations for good site practices during the construction phase include:		
	• Nomination of approved personnel, such as a site manager, to be responsible for good site practices, and making arrangements for collection of all wastes generated at the site and effective disposal to an appropriate facility;	Construction Sites	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;		Implemented
	• 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	<u>Waste Reduction Measures</u> Recommendations to achieve waste reduction include:		
	• Segregate and store different types of construction related waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal;	Construction Sites	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;		Implemented
	• 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

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
6.6.1.7	Storage of Waste Recommendations to minimise the impacts include:		
	• Waste, such as soil, should be handled and stored well to ensure secure containment, thus minimising the potential of pollution;	Construction Sites	Implemented
	• Maintain and clean storage areas routinely;		Implemented
	• 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 Waste Licensed waste haulers should be employed for the collection and transportation of waste generated. The following measures should be enforced to minimise the potential adverse impacts:		
	• Remove waste in timely manner;	Construction Sites	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	Implemented
6.6.1.12	Construction and Demolition Material Careful design, planning together with good site management can reduce over-ordering and generation of C&D materials such as concrete, mortar and cement grouts. Formwork should be designed to maximize the use of standard wooden panels, so that high reuse levels can be achieved. Alternatives such as steel formwork or plastic facing should be considered to increase the potential for reuse	Construction Sites	N/A
6.6.1.13	The excavated material arising from site formation and foundation works should be reused on-site as backfilling material and for landscaping works as far as practicable. Other mitigation requirements are listed below:		
	• A WMP, which becomes part of the EMP, should be prepared in accordance with ETWB TCW No.19/2005;	Construction Sites	Implemented
	• A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be adopted for easy tracking; and		Implemented
	• 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

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
6.6.1.14	It is recommended that specific areas should be provided by the Contractors for sorting and to provide temporary storage areas (if required) for the sorted materials. Control measures for temporary stockpiles on-site should be taken in order to minimise the noise, generation of dust and pollution of water. These measures include:		
	• Surface of stockpiled soil should be regularly wetted with water especially during dry season;	Construction Sites	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
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	Implemented
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	Implemented
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	Implemented
6.6.1.25	In order to minimise the potential odour / dust emissions during excavation and transportation of the sediment, the excavated sediments shall be wetted during excavation / material handling and shall be properly covered when placed on trucks or barges. Loading of the excavated sediment to the barge shall be controlled to avoid splashing and overflowing of the sediment slurry to the surrounding water.	Construction sites & transportation route of waste / Construction phase	N/A
6.6.1.26	The barge transporting the sediments to the designated disposal sites shall be equipped with tight fitting seals to prevent leakage and shall not be filled to a level that would cause overflow of materials or laden water during loading or transportation. In addition, monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the DEP.	Transportation route of waste / Construction phase	N/A

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
6.6.1.27	Suitable containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall employ a licensed collector to transport and dispose of the chemical wastes, to the licensed CWTC, or other licensed facilities, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	Construction and Operation Phases	Implemented
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 be 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			
7.8.1.2 - 7.8.1.3;7.8.2.1	Prior to the commencement of the SI works, a review of the Contamination Assessment Plan (CAP) should be conducted to confirm whether the proposed SI works (e.g. sampling locations, testing parameters etc.) are still valid. Supplementary CAP(s), presenting findings of the review, the latest site conditions and updated sampling strategy and testing protocol, should be submitted to EPD for endorsement. The SI works should be carried out according to EPD's agreed supplementary CAP(s).SI works should be carried out according to the supplementary CAP endorsed by EPD. Following completion of SI works and receipt of laboratory test results, Contamination Assessment Report(s) ((CAR)(s)) should be prepared to present the findings of the SI works and to discuss the presence, nature and extent of contamination. If contamination is identified, Remedial Action Plan(s) ((RAP)(s)) which provides details of the remedial actions for the identified contaminated soil and / or groundwater should be endorsed by EPD. The possible remediation methods are detailed in Section 5.2 of the CAP provided in Appendix 7.1 of the EIA Report, Remediation action, if necessary, will be carried out according to EPD endorsed RAP(s) and Remediation Report(s) (RR(s)) will be submitted after completion of the remediation action. The RR(s) should be endorsed by EPD prior to the commencement of construction works at the respective identified contaminated areas (if any).	Existing YLSTW /Construction Phase (after decommissioning of the concerned facilities / areas but prior to the construction works at the concerned facilities / areas)	Implemented
7.8.3.1	The mitigation measures will be recommended in the RAP and would typically include the following:		
	• Excavation profiles must be properly designed and executed with attention to the relevant requirements for environment, health and safety;	Project Site / Construction Phase	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;		Implemented
	• Speed control for the trucks carrying contaminated materials shall be enforced;		Implemented
	• Vehicle wheel and body washing facilities at the site's exist points shall be established and used; and		Implemented
	• 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.		Implemented

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

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
	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	<u>Preservation of Existing Vegetation (CM1)</u> 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
	<u>Transplanting of Affected Trees (CM2)</u> 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
	<u>Compensatory Tree Planting (CM3)</u> 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
	<u>Control of Night-time Lighting Glare (CM4)</u> 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
	<u>Erection of Decorative Screen Hoarding (CM5)</u> Site hoardings, if any, shall be painted in dull green colour	Project site / Construction Phase	Implemented
	<u>Management of Construction Activities and Facilities (CM6)</u> 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
	• 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

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
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 / Construction Phase	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;		Implemented
	• 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;		Implemented
	• 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 H
Cumulative statistics on Environmental Complaints, Notifications of Summons and Successful Prosecutions

Environmental Complaints Log

Reference	Date of Complaint	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

Prepared by:

Aurecon Hong Kong Limited

Unit 1608, 16/F, Tower B, Manulife Financial Centre,

223 – 231 Wai Yip Street, Kwun Tong,

Kowloon Hong Kong S. A. R.

T: +852 3664 6888

F: +852 3664 6999

E: hongkong@aurecongroup.com

aurecon

Bringing ideas to life