



Quarterly EM&A Summary Report (July 2021 - September 2021)

0120/20/ED/0404 03

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

Ref.: DSDYLSTWEM00_0_0218L.21

29 October 2021

By Hand and by E-mail

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

Attention: Mr YEUNG H. M. Simon

Dear Mr YEUNG,

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

**Verification of the Second Quarterly EM&A Summary Report
(July-September 2021)**

Reference is made to the Second Quarterly EM&A Summary Report (July-September 2021) by the ET with Fugro Document No. 0120/20/ED/0404 03 (the Report), which was received via e-mail dated 29 October 2021.

We have no further comments on the Report and herewith verify that the Report has complied with the requirements as set out in the EM&A Manual before submission to the Director.

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

Yours sincerely,

For and on behalf of
Ramboll Hong Kong Limited



WONG Fu Nam
Independent Environmental Checker

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

Document Control




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Client Information

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Client Contact	Mr. LAM Yu Wang

Environmental Team

Initials	Name	Role	Signature
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EXECUTIVE SUMMARY

- i. This Quarterly Environmental Monitoring and Audit (EM&A) Summary Report is prepared for Contract No. SPW 07/2020 "Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1". Drainage Services Department (DSD) has appointed Fugro Technical Services Limited (FTS) to undertake the Environmental Team services for the project and implement the EM&A works.
- ii. This is the 2nd Quarterly EM&A Summary Report for the Contract which summaries findings of the EM&A programme during the reporting period from 1 July 2021 to 30 September 2021. As informed by the Contractor, major activities in the reporting period shown in section 1.4.1.
- iii. 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 periods demonstrated the environmental acceptability of the Project.

Breaches of Action and Limit Levels

- iv. No Action and Limit Level exceedance was recorded for air quality monitoring and construction noise monitoring in the reporting period.
- v. No Action Level exceedance but three (3) Limit Level exceedances were recorded for water quality in the reporting period. It was found that these exceedances were not project-related.
- vi. 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 monitoring period.
- vii. A total of two (2) Action Level exceedances were recorded for the ecological monitoring of birds during the reporting period. However, these exceedances were not project-related.

Land Contamination

- viii. Regular site inspection was carried out to ensure the recommended mitigation measures are properly implemented. No specific observation associated with land contamination was identified in the reporting period.

Complaint Log

- ix. No complaints were received in the reporting period.

Notifications of any Summons and Successful Prosecutions

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

Reporting Change

- xi. There were no reporting changes during the reporting period.

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1. INTRODUCTION

1.1 Background

- 1.1.1 The existing Yuen Long Sewage Treatment Works (YLSTW) is a secondary sewage treatment works, located at Yuen Long Industrial Estate serves Yuen Long Town, Yuen Long Industrial Estate and Kam Tin areas with a design capacity of 70,000 m³ per day. Based on the latest planning data, the volume of sewage generation from the YLSTW catchment is estimated to increase to 150,000 m³ 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 m³ per day. The proposed works, as Stage 1 of the project, will firstly increase the treatment capacity to 100,000 m³ per day. In the course of Stage 1 construction, about half of the existing facilities of YLSTW would be demolished, while the other half would be kept in operation to maintain the sewage treatment service for Yuen Long area.
- 1.1.3 The Project is a designated project under Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) (Cap. 499) for which Environmental Impact Assessment (EIA) report and Environmental Monitoring and Audit (EM&A) Manual was approved by EPD (Register No.: AEIAR-220/2019) on 25 April 2019. The Environmental Permit (EP) (EP No. EP-565/2019) to construct and operate was issued by EPD on 26 April 2019.
- 1.1.4 Fugro Technical Services Limited (FTS) has been appointed as the Environmental Team (ET) by Drainage Services Department (DSD) to undertake the Environmental Team services for the Project and implement the EM&A works under the Contract No. DC/2019/10 Yuen Long Effluent Polishing Plant -Main Works for Stage 1 (hereinafter referred as "the Contract").
- 1.1.5 This is the 2nd Quarterly EM&A Summary Report to document the findings of site inspection activities and EM&A programme for this project from 1 July 2021 to 30 September 2021 (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 1.1**.

Table 1.1 – Contact Information of Key Personnel

Party	Position	Name	Telephone
Project Proponent (Drainage Services Department)	Engineer	Mr. Lam Yu Wang	2594 7473
Engineer's Representative (AECOM Asia Co. Ltd.)	Chief Resident Engineer	Mr. Simon Yeung	9075 7172
	Senior Resident Engineer	Mr. Patrick Leung	6124 8838
Independent Environmental Checker (Ramboll Hong Kong Limited)	Independent Environmental Checker (IEC)	Mr. F.N. Wong	3465 2805
Contractor (Paul Y. - CREC Joint Venture)	Environmental Officer	Ms. Iris Ho	5490 5271
Environmental Team (Fugro Technical Services Limited)	Environmental Team Leader (ETL) until 11 August 2021	Mr. David Hung	3565 4371
	Environmental Team Leader (ETL) from 12 August 2021	Mr. Alvin Yu	3565 4373

1.3 Construction Programme and Activities

1.3.1 The Location of Proposed Yuen Long Effluent Polishing Plant is given in **Figure 1**.

1.3.2 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 1.2**:

Table 1.2 – Main Construction Works Carried out in the Reporting Period

July 2021	August 2021	September 2021
<ul style="list-style-type: none"> • Pre-drill work at Primary Sedimentation Tanks (PST) by 3 drill rigs; • Site formation works at Primary Sedimentation Tanks (PST) no. 7 & 8; • Breaking of Primary Sedimentation Tanks (PST) no. 8; • Sheet pile installation works for Zone 2A diversion; • Driven H-pile at Inlet Works (IW) stage 1, 2 and Primary Sedimentation Tanks by 3 rigs; • Demolition of workshop and changing room by crusher and breaker; • Demolition of carparks; • Trial pit for Zone 2B & 3 diversion; • Removal of sludge from sludge holding tanks; and • Overhaul work at Final Sedimentation Tanks (FST). 	<ul style="list-style-type: none"> • Pre-drill work at Primary Sedimentation Tanks (PST) by 1 drill rig; • Pre-drill work at CLP by 1 drill rig; • Temporary backfilling at PST no. 7 & 8; • Installation of DN1200 pipe and construction manhole for Zone 1 diversion; • Demolition of workshop and carpark by crusher and breaker; • Trial pit for Zone 2B & Zone 3; • Overhaul work at Final Sedimentation Tanks (FST); and • Site Investigation (SI) works for the Contamination Assessment Report (CAR) for Main Storeroom & Workshops and Mechanical Workshop. 	<ul style="list-style-type: none"> • Site formation works at PST no. 7 & 8; • Removal of existing pipes at PST no. 7 & 8; • Driven H-pile at IW stage 1 by 4 rigs; • Demolition of Workshop and Detritor 3C by crusher and breaker; • Trial pit for Zone 2A & 3 diversion; and • Removal of sludge at FST no. 7 & 8.

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

2. SUMMARY OF EM&A REQUIREMENTS AND MONITORING RESULTS

2.1 Monitoring Requirement

2.1.1 The Quarterly 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 500m from the Project boundary.

2.2 Monitoring Locations

2.2.1 The air quality and noise monitoring are summarized in **Table 2.1**. The locations of the air quality and noise monitoring stations shown in **Figure 2** and **Figure 3**, respectively.

Table 2.1 – Air Quality and Noise Monitoring Location

Environmental Monitoring	Monitoring Station	Location
Air Quality	AM1	Topfine Machinery (China) Co. Ltd
	AM2	Squatter house at the west of Yuen Long STW
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 2.2**. The locations of the water quality monitoring stations shown in **Figure 4**.

Table 2.2 – Coordinates of Water Quality Monitoring Locations

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

2.3 Results and Observations

2.3.1 Graphical presentation of the 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 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 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, the monitoring results for M1, M2 and M3 are reported in the monthly EM&A Reports prepared for this Contract.
- 2.3.9 During the reporting period, no Action and Limit Level exceedance was recorded for Dissolved Oxygen, no Action and Limit Level exceedance was recorded for Turbidity, and 3 Limit Level exceedances for Suspended Solids were recorded. Number of water quality exceedance recorded in the reporting period at each impact stations is summarized in **Table 2.3**.

Table 2.3 – 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	3	0	3
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	3	3	

- 2.3.10 Based on the finding from the investigation on the recorded case of exceedances, the cause was found not related to the project. The exceedances may be caused by influences in the vicinity of the station or changes of the ambient conditions. The details of Notification of Exceedance are reported in the monthly EM&A Report prepared for this Contract.

Ecology Monitoring

- 2.3.11 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.
- 2.3.12 Results of the ardeid night roost monitoring showed that of the two confirmed ardeid night roosts (ANR 1 and ANR 2) during the pre-construction survey, only one (ANR 1) was observed to be active from July 2021 to September 2021. No Action / Limit Level exceedance at NMS1 and NMS2 was recorded during the reporting period.
- 2.3.13 Results of the ecological bird monitoring recorded two (2) exceedances in Action Level. These include the significant decline in species diversity of species with conservation importance (point count method) last July 2021; and significant decline in species abundance of all avifauna species (point count method) last September 2021. However, the exceedances were not project-related. The exceedance noted last July 2021 could be due to the dominance of Chinese Pond Heron in the community. On the other hand, the September 2021 exceedance could be due to the decrease in mudflat coverage within the monitoring area which could have decreased the foraging area of waterbirds and led to the decrease in abundance.

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 5.1**.

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 13 August 2021. EPD had comments on 9 Sep 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 27 September 2021.

5. SITE INSPECTION AND AUDIT

5.1 Site Inspection

- 5.1.1 Site audits were carried out by ET on weekly basis to monitor the implementation of proper environmental management practices and mitigation measures in the Project site.
- 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 5.1**.

Table 5.1 – Observations and Recommendations of Site Audit

Parameters	Date	Observations and Recommendations	Follow-up
Air Quality	7 July 2021	Observation: Stockpiling of excavated soil should be covered with impermeable sheeting and contained properly to prevent contaminated runoff and dust emission at main store area where SI works of SCAP is conducting. (Portion 1 – YLSTW)	8 July 2021
	15 July 2021	Reminder 1: The contractor is reminded to cover the stockpiling of excavated soil with impermeable sheeting to prevent ingress of water during rainstorms and/ or prevent dust emission near the demolished PST. (Portion 1 – YLSTW)	NA
	25 Aug 2021	Recommendation 1: The Contractor is recommended to increase watering for dust suppression during demolition of workshop (Portion 1 – YLSTW).	25 Aug 2021
	1 Sep 2021	Reminder 1: The Contractor is reminded to cover the excavated soil properly with tarpaulin sheets to prevent dust emission for trial pit (Portion 1 – YLSTW).	1 Sep 2021
	16 Sep 2021	Observation 1: Wind blown dust is observed when the truck is leaving at site exit. The Contractor should provide mitigation measures to prevent dust emission from vehicle wheel & body (Portion 1 – YLSTW).	16 Sep 2021
		Observation 2: The Contractor is required to improve the mitigation at present wheel wash area at southern exit (e.g. provide better bedding of aggregates for preventing muddy water) (Portion 1 – YLSTW).	18 Sep 2021
Noise	NA		

Parameters	Date	Observations and Recommendations	Follow-up
Water Quality	7 July 2021	Reminder: The contractor is reminded to provide mitigation measure to prevent silty runoff getting into the storm drain near main store area. (Portion 1- YLSTW)	8 July 2021
	28 July 2021	Observation: Mitigation measure should be provided to prevent direct discharge of runoff at Zone 1 area near detritor. (Portion 1 – YLSTW)	29 July 2021
	28 July 2021	Reminder: The contractor is reminded to de-silt the gullies near the main entrance to the piling area. (Portion 1 – YLSTW)	NA
	4 Aug 2021	Observation 1: Provide mitigation to prevent direct discharge of silt-laden water into the storm drain near the boot cleaning basin (Portion 1 – YLSTW).	5 Aug 2021
	16 Sep 2021	Reminder 1: The Contractor is reminded to provide MSDS information at WetSEP. (Portion 1 – YLSTW)	16 Sep 2021
	23 Sep 2021	Observation 1: Mitigation measures should be provided to intercept silty runoff from the piling area (Portion 1 – YLSTW).	24 Sep 2021
Chemical and Waste Management	7 July 2021	Observation: Stockpiling of excavated soil should be covered with impermeable sheeting and contained properly to prevent contaminated runoff and dust emission at main store area where SI works of SCAP is conducting. (Portion 1 – YLSTW)	8 July 2021
	15 July 2021	Reminder 1: The contractor is reminded to over the stockpiling of excavated soil with impermeable sheeting to prevent ingress of water during rainstorms and/ or prevent dust emission near the demolished PST. (Portion 1 – YLSTW)	NA
	4 Aug 2021	Observation 2: Drip tray should be provided for the chemical as mitigation to prevent accidental spillage (Portion 1 – YLSTW).	5 Aug 2021
	8 Sep 2021	Reminder 1: The Contractor is reminded to provide drip tray for the chemicals to prevent accidental spillage (Portion 1 – YLSTW).	8 Sep 2021
	29 Sep 2021	Reminder 1: The Contractor is reminded to cover the excavated soil properly with tarpaulin	29 Sep 2021

Parameters	Date	Observations and Recommendations	Follow-up
		sheets to prevent dust emission (Portion 1 – YLSTW).	
Land Contamination		NA	
Ecological Impact	15 July 2021	Reminder 2: The contractor is reminded to maintain and reinstate the bird curtain at the northern site boundary. (Portion 1 – YLSTW)	NA
	25 Aug 2021	Reminder 1: The Contractor is reminded to maintain and reinstate the silentup at the northern site boundary (Portion 1 – YLSTW).	25 Aug 2021
Landscape and Visual Impact	15 July 2021	Reminder 3: The contractor is reminded to closely monitor the tree condition of Tree T028 for open cut too close to the tree near temporary administration building. (Portion 1 – YLSTW)	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 waste generated by the construction and disposal ground is presented in **Table 5.2**.

Table 5.2 – 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)

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

6. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

6.1 Environmental Exceedance

- 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 Level exceedance but three (3) Limit Level exceedances were recorded for water quality in the reporting period. It was found that these exceedances were not project-related.
- 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 monitoring period.
- 6.1.4 A total of two (2) Action Level exceedances were noted for the ecological monitoring of birds during the reporting period, however, these exceedances were not project-related.

6.2 Complaints, Notification of Summons and Prosecution

- 6.2.1 No environmental complaint, notification of summons and successful prosecution were received in the reporting period.
- 6.2.2 Cumulative complaint log, summaries of complaints, notification of summons and successful prosecutions are presented in **Appendix H**.

7. IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURE

7.1 Implementation Status

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**.

The status of required submissions under the EP as of the reporting period are summarized in **Table 7.1**.

Table 7.1 – Summary of EP Submissions Status

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

EP Condition (EP-565/2019)	Submission Title	Submission Status
Condition 3.5	Quarterly EM&A Report for April to June 2021	Submitted to EPD with ET certification and IEC verification, finalised and available for public inspection via the dedicated website.
Condition 4.2	Environmental Monitoring Data from April to September 2021	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 Level exceedance but three (3) Limit Level exceedances were recorded for water quality in the reporting period. It was found that these exceedances were not project-related.
- 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 A total of two (2) Action Level exceedances were recorded for the ecological monitoring of birds during the reporting period. However, these exceedances were not project-related.
- 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 Referring to the Contractor's information, no environmental complaint, notification of summons and successful prosecution was received 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 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 period, the following recommendations were provided:

Air Quality Impact

- Stockpiling of excavated soil should be covered with impermeable sheeting and contained properly to prevent contaminated runoff and dust emission at main store area where SI works of SCAP is conducting.
- The contractor is reminded to cover the stockpiling of excavated soil with impermeable sheeting to prevent ingress of water during rainstorms and/ or prevent dust emission near the demolished PST.
- The Contractor is recommended to increase watering for dust suppression during demolition of workshop.
- The Contractor is reminded to cover the excavated soil properly with tarpaulin sheets to prevent dust emission for trial pit.
- Wind blown dust is observed when the truck is leaving at site exit. The Contractor should provide mitigation measures to prevent dust emission from vehicle wheel & body.
- The Contractor is required to improve the mitigation at present wheel wash area at southern exit (e.g. provide better bedding of aggregates for preventing muddy water).

Construction Noise Impact

- No specific observation was identified in the reporting period.

Water Quality Impact

- The contractor is reminded to provide mitigation measure to prevent silty runoff getting into the storm drain near main store area.
- Mitigation measure should be provided to prevent direct discharge of runoff at Zone 1 area near detritor.
- The contractor is reminded to de-silt the gullies near the main entrance to the piling area.
- Provide mitigation to prevent direct discharge of silt-laden water into the storm drain near the boot cleaning basin.
- The Contractor is reminded to provide MSDS information at WetSep.
- Mitigation measures should be provided to intercept silty runoff from the piling area.

Chemical and Waste Management

- Stockpiling of excavated soil should be covered with impermeable sheeting and contained properly to prevent contaminated runoff and dust emission at main store area where SI works of SCAP is conducting.

- The contractor is reminded to cover the stockpiling of excavated soil with impermeable sheeting to prevent ingress of water during rainstorms and/ or prevent dust emission near the demolished PST.
- Drip tray should be provided for the chemical as mitigation to prevent accidental spillage.
- The Contractor is reminded to provide drip tray for the chemicals to prevent accidental spillage.
- The Contractor is reminded to cover the excavated soil properly with tarpaulin sheets to prevent dust emission.

Land Contamination

- No specific observation was identified in the reporting period.

Ecological Impact

- The contractor is reminded to maintain and reinstate the bird curtain at the northern site boundary.
- The contractor is reminded to maintain and reinstate the silentup at the northern site boundary.

Landscape and Visual Impact

- The contractor is reminded to closely monitor the three condition of Tree T028 for open cut too close to the tree near temporary administration building.

Hazard to Life

- No specific observation was identified in the reporting period.

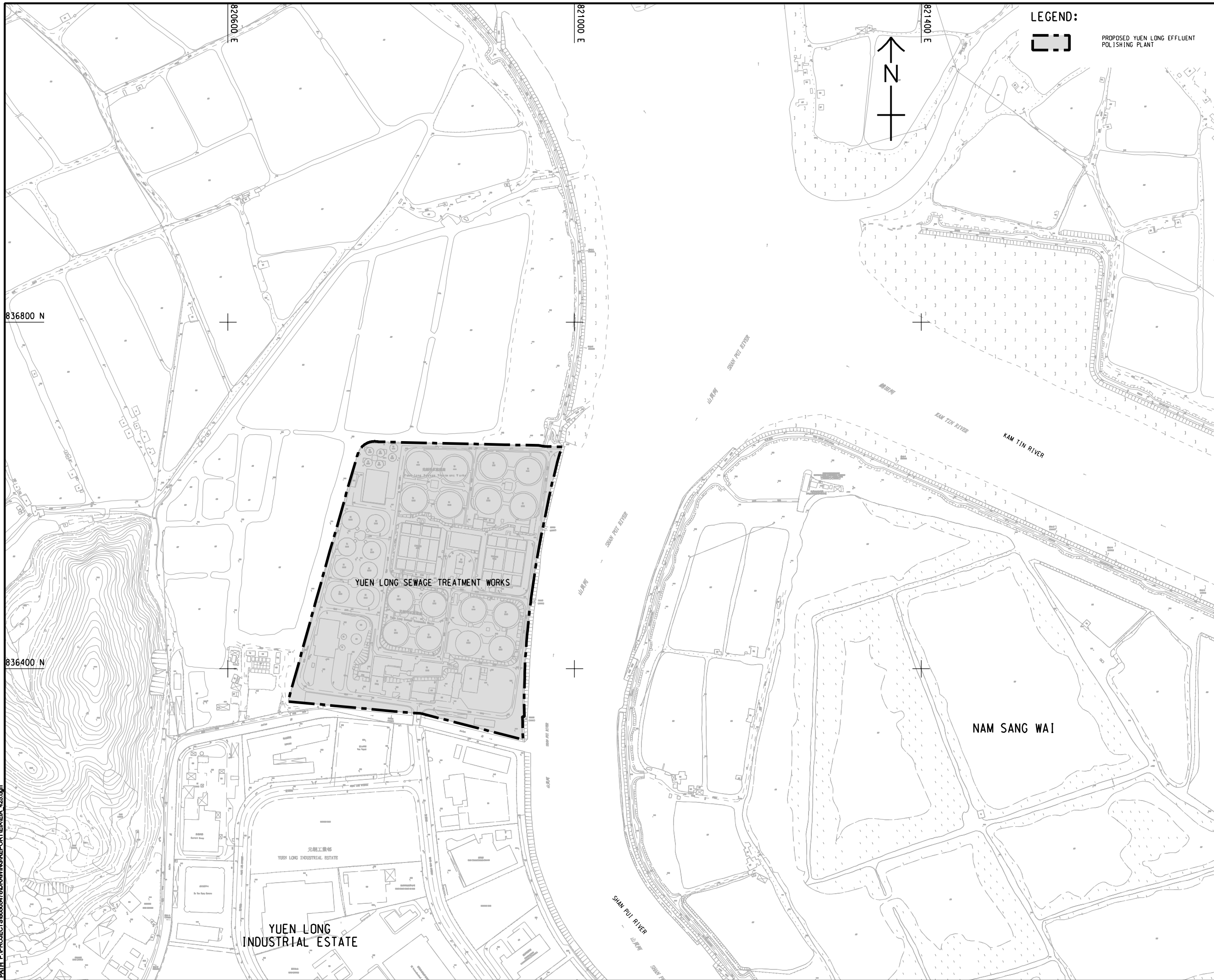
Permit/ Licenses


- No specific observation was identified in the reporting period.

Figure 1

Location of Proposed Yuen Long Effluent
Polishing Plant

Plot File by: Song YN 2018/02/27
 PATH: P:\PROJECTS\6056547\DRAWING\REPORT\EA\EA_425.dgn
 Project Management Initials: Designer: Checked: Approved: ISO A1 594mm x 841mm



LEGEND:
 PROPOSED YUEN LONG EFFLUENT POLISHING PLANT

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

CLIENT
 渠務署
 Drainage Services Department

CONSULTANT
 AECOM Asia Company Ltd.
 www.aecom.com

SUB-CONSULTANTS
 分判工程顧問公司

ISSUE/REVISION
 批註

IR	DATE	DESCRIPTION	CHK.
批註	日期	內容摘要	核對

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

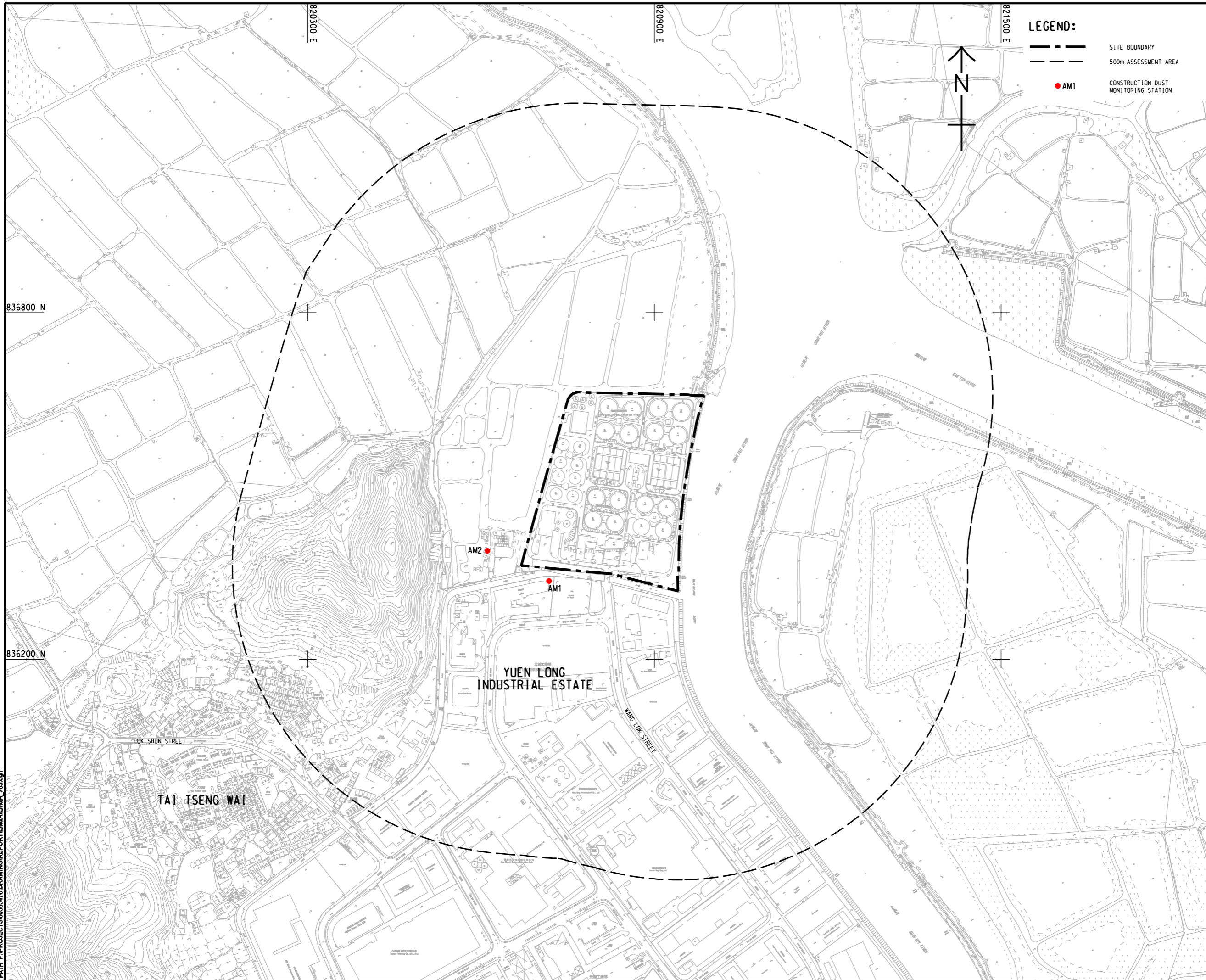
SHEET NUMBER
 圖紙編號

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Figure 2

Air Quality Monitoring Locations

ISO A1 594mm x 841mm
 Approved:
 Checked:
 Designer:
 Project Management Initials:
 836800 N
 836200 N
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 11/29
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LEGEND:

- SITE BOUNDARY
- 500m ASSESSMENT AREA
- AM1 CONSTRUCTION DUST MONITORING STATION



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

CLIENT
 業主
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 分門工程師公司

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

STATUS
 階段

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)

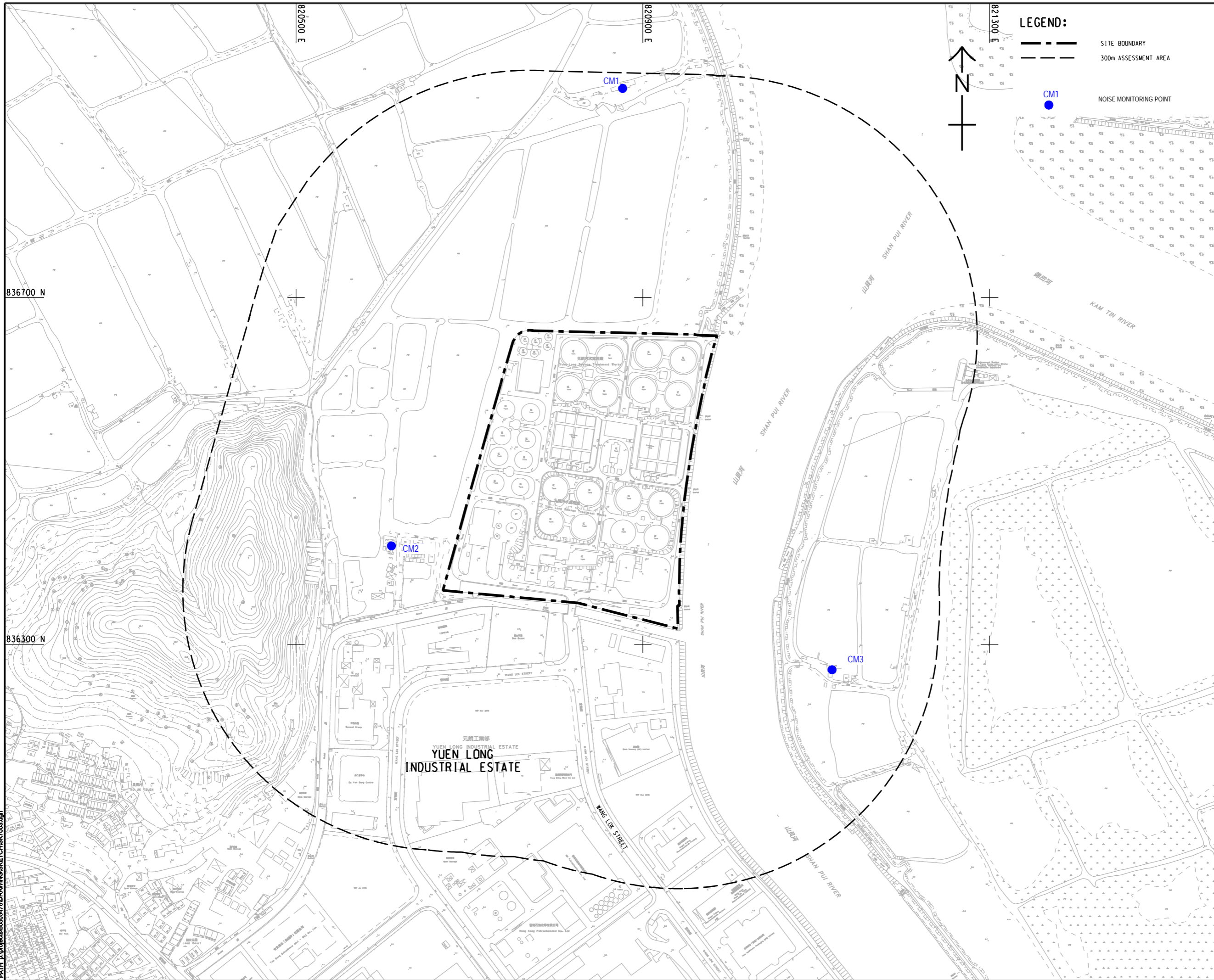
SHEET TITLE
 圖紙名稱
 LOCATION OF CONSTRUCTION DUST MONITORING STATIONS

SHEET NUMBER
 圖紙編號




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Figure 3

Noise Monitoring Locations



LEGEND:

-  SITE BOUNDARY
-  300m ASSESSMENT AREA
-  NOISE MONITORING POINT



PROJECT
項目

YUEN LONG EFFLUENT POLISHING PLANT - INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

 渠務署
Drainage Services Department

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STATUS
圖版

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

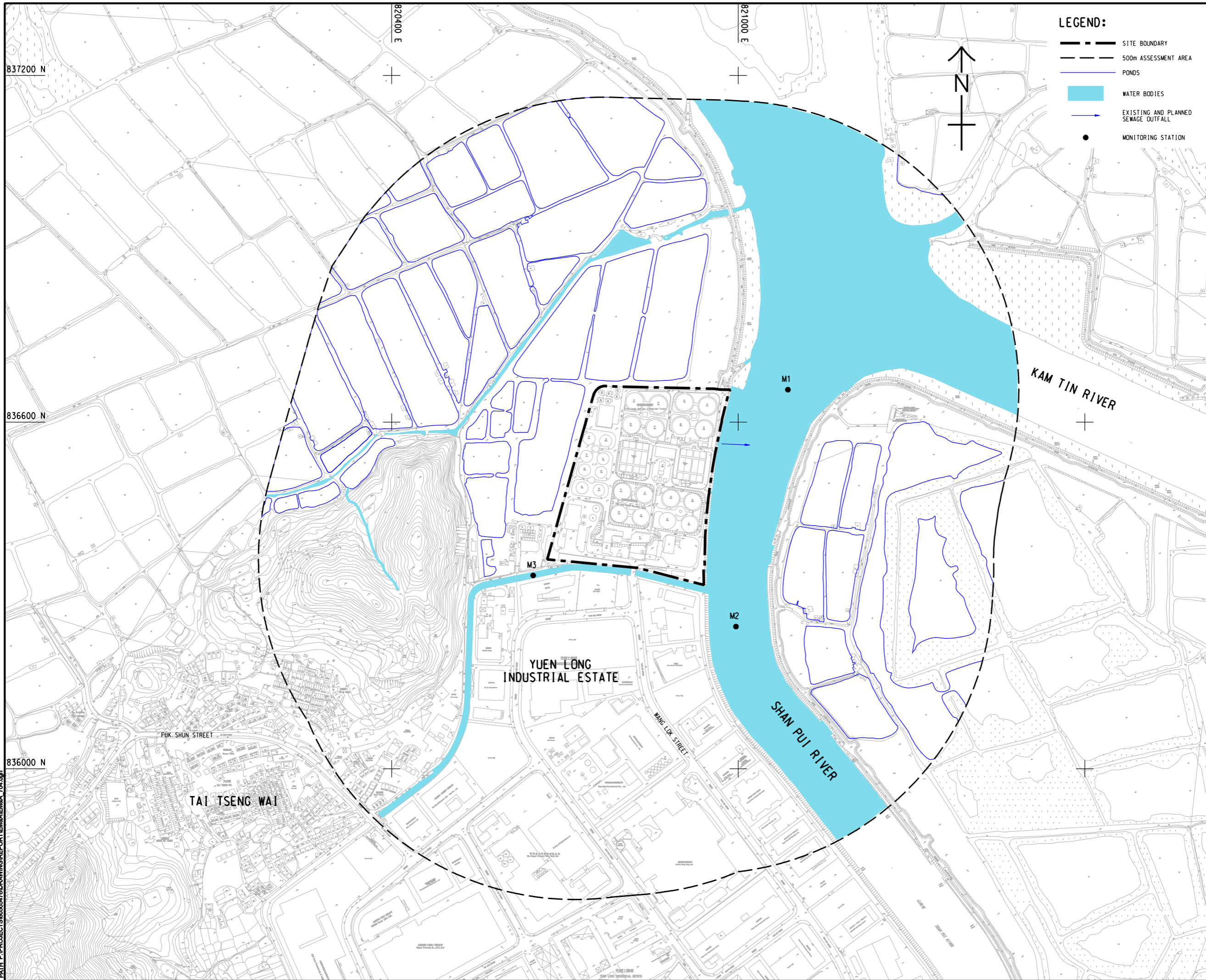
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Figure 4

Water Quality Monitoring Locations

ISO A1 594mm x 841mm
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 Checked:
 Designer:
 Project Management Initials:
 12/18
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YUEN LONG EFFLUENT POLISHING PLANT - INVESTIGATION, DESIGN AND CONSTRUCTION

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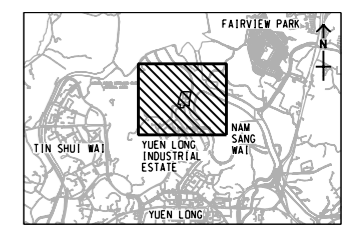
I/R	DATE	DESCRIPTION	CHK.

STATUS
 階段

SCALE
 比例
 A3 1: 8000

DIMENSION UNIT
 尺寸單位
 METRES

KEY PLAN A3 1: 180000
 索引圖



PROJECT NO.
 項目編號
 60505476

CONTRACT NO.
 合約編號
 CE 3/2015 (DS)

SHEET TITLE
 圖名
 LOCATIONS OF WATER QUALITY MONITORING STATIONS FOR CONSTRUCTION PHASE

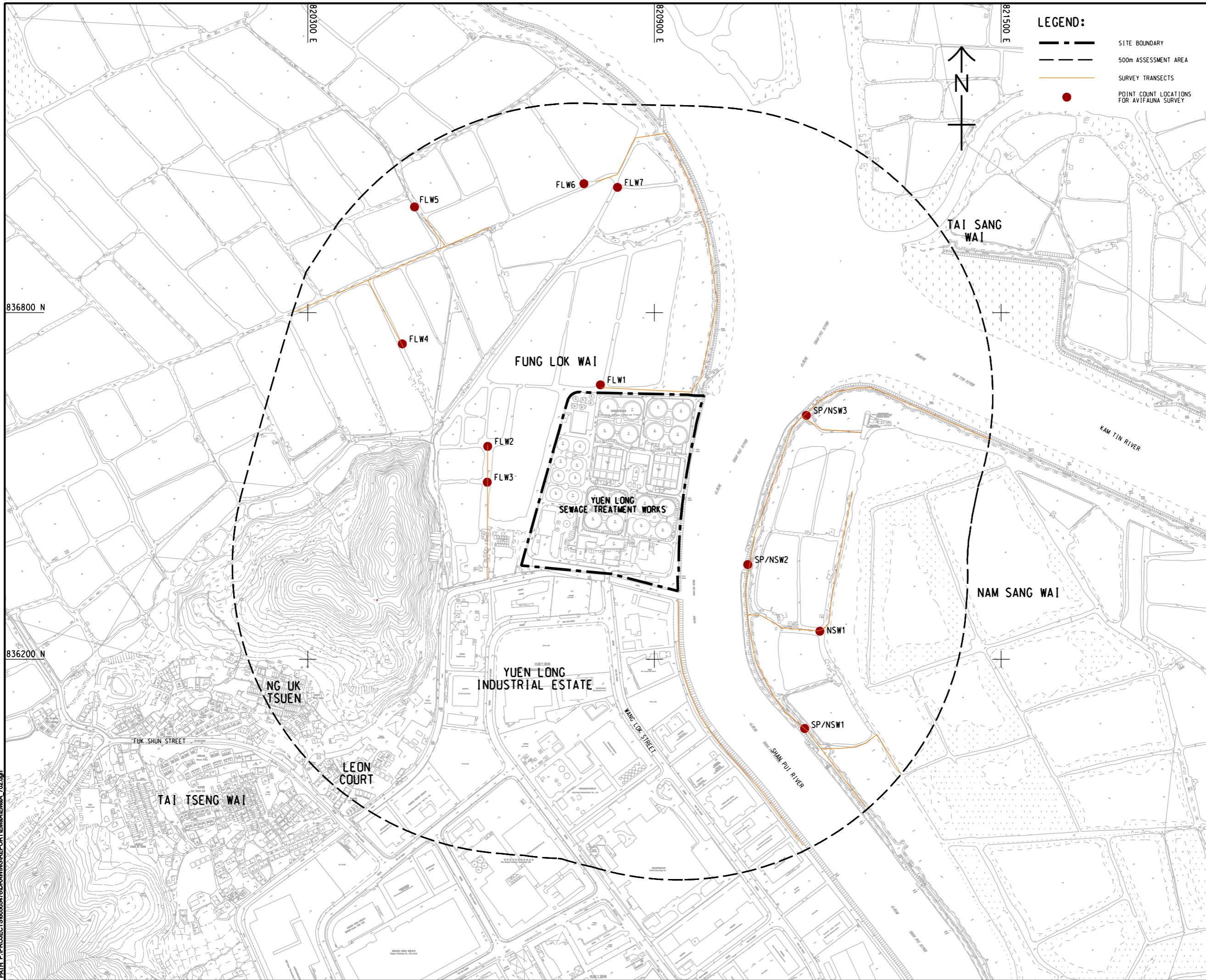
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Figure 5

Ecology Monitoring Locations

ISO A1 594mm x 841mm
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 Project Management Initials:
 836800 N
 836200 N
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 Pld File by: ZENGFY 2018/05/30
 PATH: P:\PROJECTS\6056547\DRAWING\REPORT\EM\A\EM_A_702.dgn



LEGEND:

- SITE BOUNDARY
- 500m ASSESSMENT AREA
- SURVEY TRANSECTS
- POINT COUNT LOCATIONS FOR AVIFAUNA SURVEY



AECOM

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

CLIENT
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NO.	DATE	DESCRIPTION	CHK.

STATUS
 階段

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

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Appendix A

Construction Programme

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	Gantt Chart (2022-2028)																																							
								2022							2023							2024							2025							2026				2027				2028			
								Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4						
AIP-460	E&M AIP Report for Tertiary Treatment System (TTS) - Prepare & Submission for PM's review	45	28-Apr-21	11-Jun-21	19-Jan-22	19-Jan-22		E&M AIP Report for Tertiary Treatment System (TTS) - Prepare & Submission for PM's review																																							
AIP-470	E&M AIP Report for Tertiary Treatment System (TTS) - Review by PM's & ICE review (28 d + 7d)	35	19-May-21	22-Jun-21	19-Jan-22	19-Jan-22		E&M AIP Report for Tertiary Treatment System (TTS) - Review by PM's & ICE review (28 d + 7d)																																							
AIP-480	E&M AIP Report for Tertiary Treatment System (TTS) - Resubmission for further review	14	26-Jun-21	09-Jul-21	19-Jan-22	19-Jan-22		E&M AIP Report for Tertiary Treatment System (TTS) - Resubmission for further review																																							
AIP-490	E&M AIP Report for Tertiary Treatment System (TTS) - Obtain Approval	7	10-Jul-21	16-Jul-21	19-Jan-22	19-Jan-22		E&M AIP Report for Tertiary Treatment System (TTS) - Obtain Approval																																							
Package 3A - Plant Service Water								105	03-Apr-21	16-Jul-21	03-Jun-22	16-Aug-23		E&M AIP Report for Plant Service Water - Prepare & Submission for PM's review																																	
AIP-500	E&M AIP Report for Plant Service Water - Prepare & Submission for PM's review	45	03-Apr-21	17-May-21	03-Jun-22	03-Jun-22		E&M AIP Report for Plant Service Water - Prepare & Submission for PM's review																																							
AIP-510	E&M AIP Report for Plant Service Water - Review by PM's & ICE review (28 d + 7d)	35	19-May-21	22-Jun-21	03-Jun-22	03-Jun-22		E&M AIP Report for Plant Service Water - Review by PM's & ICE review (28 d + 7d)																																							
AIP-520	E&M AIP Report for Plant Service Water - Resubmission for further review	14	26-Jun-21	09-Jul-21	16-Aug-23	16-Aug-23		E&M AIP Report for Plant Service Water - Resubmission for further review																																							
AIP-530	E&M AIP Report for Plant Service Water - Obtain Approval	7	10-Jul-21	16-Jul-21	16-Aug-23	16-Aug-23		E&M AIP Report for Plant Service Water - Obtain Approval																																							
Package 4A - E&M Report for Temp. Diversion Chamber and Pumping Station								67	23-Feb-21	28-May-21	14-Sep-21	14-Sep-21		Advance Works - E&M Report for Temporary Diversion Chamber and Pumping Station - Prepare & Submission for PM's review																																	
AIP-540	Advance Works - E&M Report for Temporary Diversion Chamber and Pumping Station - Prepare & Submission for PM's review	35	23-Feb-21	29-Mar-21	14-Sep-21	14-Sep-21		Advance Works - E&M Report for Temporary Diversion Chamber and Pumping Station - Prepare & Submission for PM's review																																							
AIP-550	Advance Works - E&M Report for Temporary Diversion Chamber and Pumping Station - Review by PM's & ICE review (28 d + 7d)	35	06-Mar-21	09-Apr-21	14-Sep-21	14-Sep-21		Advance Works - E&M Report for Temporary Diversion Chamber and Pumping Station - Review by PM's & ICE review (28 d + 7d)																																							
AIP-560	Advance Works - E&M Report for Temporary Diversion Chamber and Pumping Station - Resubmission for further review	14	10-Apr-21	23-Apr-21	14-Sep-21	14-Sep-21		Advance Works - E&M Report for Temporary Diversion Chamber and Pumping Station - Resubmission for further review																																							
AIP-570	Advance Works - E&M Report for Temporary Diversion Chamber and Pumping Station - Obtain Approval	7	24-Apr-21	28-May-21	14-Sep-21	14-Sep-21		Advance Works - E&M Report for Temporary Diversion Chamber and Pumping Station - Obtain Approval																																							
Package 4B - E&M Report for SCADA Relocation								119	30-Jan-21	28-May-21	17-Jan-22	17-Jan-22		E&M AIP Report for Advance Works (SCADA Relocation) - Prepare & Submission for PM's review																																	
AIP-580	E&M AIP Report for Advance Works (SCADA Relocation) - Prepare & Submission for PM's review	63	30-Jan-21	02-Apr-21	17-Jan-22	17-Jan-22		E&M AIP Report for Advance Works (SCADA Relocation) - Prepare & Submission for PM's review																																							
AIP-590	E&M AIP Report for Advance Works (SCADA Relocation) - Review by PM's & ICE review (28 d + 7d)	35	03-Apr-21	07-May-21	17-Jan-22	17-Jan-22		E&M AIP Report for Advance Works (SCADA Relocation) - Review by PM's & ICE review (28 d + 7d)																																							
AIP-600	E&M AIP Report for Advance Works (SCADA Relocation) - Resubmission for further review	14	08-May-21	21-May-21	17-Jan-22	17-Jan-22		E&M AIP Report for Advance Works (SCADA Relocation) - Resubmission for further review																																							
AIP-610	E&M AIP Report for Advance Works (SCADA Relocation) - Obtain Approval	7	22-May-21	28-May-21	17-Jan-22	17-Jan-22		E&M AIP Report for Advance Works (SCADA Relocation) - Obtain Approval																																							
Package 4C - E&M Report for AGS Pilot Plant								89	01-Mar-21	28-May-21	24-Jun-23	24-Jun-23		E&M AIP Report for Advance Works (AGS) - Prepare & Submission for PM's review																																	
AIP-630	E&M AIP Report for Advance Works (AGS) - Prepare & Submission for PM's review	33	01-Mar-21	02-Apr-21	24-Jun-23	24-Jun-23		E&M AIP Report for Advance Works (AGS) - Prepare & Submission for PM's review																																							
AIP-640	E&M AIP Report for Advance Works (AGS) - Review by PM's & ICE review (28 d + 7d)	35	03-Apr-21	07-May-21	24-Jun-23	24-Jun-23		E&M AIP Report for Advance Works (AGS) - Review by PM's & ICE review (28 d + 7d)																																							
AIP-650	E&M AIP Report for Advance Works (AGS) - Resubmission for further review	14	08-May-21	21-May-21	24-Jun-23	24-Jun-23		E&M AIP Report for Advance Works (AGS) - Resubmission for further review																																							
AIP-660	E&M AIP Report for Advance Works (AGS) - Obtain Approval	7	22-May-21	28-May-21	24-Jun-23	24-Jun-23		E&M AIP Report for Advance Works (AGS) - Obtain Approval																																							
Package 5A - Electrical Power Supply System for Advance Works								98	20-Feb-21	28-May-21	31-Oct-21	31-Oct-21		Electrical Power Supply System for Advance Works - Prepare & Submission for PM's review																																	
AIP-100	Electrical Power Supply System for Advance Works - Prepare & Submission for PM's review	42	20-Feb-21	02-Apr-21	31-Oct-21	31-Oct-21		Electrical Power Supply System for Advance Works - Prepare & Submission for PM's review																																							
AIP-110	Electrical Power Supply System for Advance Works - Review by PM's & ICE review (28 d + 7d)	35	03-Apr-21	07-May-21	31-Oct-21	31-Oct-21		Electrical Power Supply System for Advance Works - Review by PM's & ICE review (28 d + 7d)																																							
AIP-120	Electrical Power Supply System for Advance Works - Resubmission for further review	14	08-May-21	21-May-21	31-Oct-21	31-Oct-21		Electrical Power Supply System for Advance Works - Resubmission for further review																																							
AIP-130	Electrical Power Supply System for Advance Works - Obtain Approval	7	22-May-21	28-May-21	31-Oct-21	31-Oct-21		Electrical Power Supply System for Advance Works - Obtain Approval																																							
Package 5B - Electrical Power Supply System for YLEPP								39	20-Apr-21	28-May-21	08-Dec-23	08-Dec-23		Electrical Power Supply System for YLEPP - Prepare & Submission for PM's review																																	
AIP-140	Electrical Power Supply System for YLEPP - Prepare & Submission for PM's review	11	20-Apr-21	30-Apr-21	08-Dec-23	08-Dec-23		Electrical Power Supply System for YLEPP - Prepare & Submission for PM's review																																							
AIP-150	Electrical Power Supply System for YLEPP - Review by PM's review	14	01-May-21	14-May-21	08-Dec-23	08-Dec-23		Electrical Power Supply System for YLEPP - Review by PM's review																																							
AIP-160	Electrical Power Supply System for YLEPP - Resubmission for PM's review	14	08-May-21	21-May-21	08-Dec-23	08-Dec-23		Electrical Power Supply System for YLEPP - Resubmission for PM's review																																							
AIP-170	Electrical Power Supply System for YLEPP - Obtain Approval	7	22-May-21	28-May-21	08-Dec-23	08-Dec-23		Electrical Power Supply System for YLEPP - Obtain Approval																																							
Package 6A - Control & Monitoring System								113	01-May-21	21-Aug-21	10-Feb-23	02-Mar-23	558	Control & Monitoring System - Prepare & Submission for PM's review																																	
AIP-180	Control & Monitoring System - Prepare & Submission for PM's review	36	01-May-21	05-Jun-21	10-Feb-23	10-Feb-23		Control & Monitoring System - Prepare & Submission for PM's review																																							
AIP-190	Control & Monitoring System - Review by PM's & ICE review (28 d + 7d)	35	06-Jun-21	10-Jul-21	10-Feb-23	10-Feb-23		Control & Monitoring System - Review by PM's & ICE review (28 d + 7d)																																							
AIP-200	Control & Monitoring System - Resubmission for further review	14	12-Jul-21	14-Aug-21	10-Feb-23	23-Feb-23	558	Control & Monitoring System - Resubmission for further review																																							
AIP-620	Control & Monitoring System - Obtain Approval	7	15-Aug-21	21-Aug-21	24-Feb-23	02-Mar-23	558	Control & Monitoring System - Obtain Approval																																							
Package 7A - Building Services System								60	30-Mar-21	28-May-21	20-Sep-21	20-Sep-21		BS System - Prepare & Submission for PM's review																																	
AIP-220	BS System - Prepare & Submission for PM's review	7	30-Mar-21	05-Apr-21	20-Sep-21	20-Sep-21		BS System - Prepare & Submission for PM's review																																							
AIP-230	BS System - Review by PM's & ICE review (28 d + 7d)	35	06-Apr-21	10-May-21	20-Sep-21	20-Sep-21		BS System - Review by PM's & ICE review (28 d + 7d)																																							
AIP-240	BS System - Resubmission for further review	14	08-May-21	21-May-21	20-Sep-21	20-Sep-21		BS System - Resubmission for further review																																							
AIP-250	BS System - Obtain Approval	7	22-May-21	28-May-21	20-Sep-21	20-Sep-21		BS System - Obtain Approval																																							
Package 8A - E&M AIP Report for Sludge Thickening Building & Chemical System								102	01-Mar-21	10-Jun-21	27-Jul-22	27-Jul-22		STB - Prepare & Submission for PM's review																																	
AIP-260	STB - Prepare & Submission for PM's review	46	01-Mar-21	15-Apr-21	27-Jul-22	27-Jul-22		STB - Prepare & Submission for PM's review																																							
AIP-270	STB - Review by PM's & ICE review (28 d + 7d)	35	16-Apr-21	20-May-21	27-Jul-22	27-Jul-22		STB - Review by PM's & ICE review (28 d + 7d)																																							
AIP-280	STB - Resubmission for further review	14	21-May-21	03-Jun-21	27-Jul-22	27-Jul-22		STB - Resubmission for further review																																							
AIP-290	STB - Obtain Approval	7	04-Jun-21	10-Jun-21	27-Jul-22	27-Jul-22		STB - Obtain Approval																																							
Package 9A - E&M AIP Report for Inlet Work (IW)								102	01-Mar-21	10-Jun-21	09-Nov-27	09-Nov-27		IW - Prepare & Submission for PM's review																																	
AIP-670	IW - Prepare & Submission for PM's review	46	01-Mar-21	15-Apr-21	09-Nov-27	09-Nov-27		IW - Prepare & Submission for PM's review																																							
AIP-680	IW - Review by PM's & ICE review (28 d + 7d)	35	16-Apr-21	20-May-21	09-Nov-27	09-Nov-27		IW - Review by PM's & ICE review (28 d + 7d)																																							
AIP-690	IW - Resubmission for further review	14	21-May-21	03-Jun-21	09-Nov-27	09-Nov-27		IW - Resubmission for further review																																							
AIP-700	IW - Obtain Approval	7	04-Jun-21	10-Jun-21	09-Nov-27	09-Nov-27		IW - Obtain Approval																																							
Package 10A - E&M AIP Report for Primary Sedimentation Tank (PST)								113	01-Mar-21	21-Jun-21	09-Nov-27	09-Nov-27		PST - Prepare & Submission for PM's review																																	
AIP-710	PST - Prepare & Submission for PM's review	46	01-Mar-21	15-Apr-21	09-Nov-27	09-Nov-27		PST - Prepare & Submission for PM's review																																							
AIP-720	PST - Review by PM's & ICE review (28 d + 7d)	35	16-Apr-21	20-May-21	09-Nov-27	09-Nov-27		PST - Review by PM's & ICE review (28 d + 7d)																																							
AIP-730	PST - Resubmission for further review	14	21-May-21	03-Jun-21	09-Nov-27	09-Nov-27		PST - Resubmission for further review																																							
AIP-740	PST - Obtain Approval	7	15-Jun-21	21-Jun-21	09-Nov-27	09-Nov-27		PST - Obtain Approval																																							
Package 11A - E&M AIP Report for Sludge Anaerobic Digestion System (SDT)								102	01-Mar-21	10-Jun-21	17-Dec-21	09-Nov-27		SDT - Prepare & Submission for PM's review																																	
AIP-750	SDT - Prepare & Submission for PM's review	46	01-Mar-21	15-Apr-21	17-Dec-21	17-Dec-21		SDT - Prepare & Submission for PM's review																																							
AIP-760	SDT - Review by PM's & ICE review (28 d + 7d)	35	16-Apr-21	20-May-21	17-Dec-21	17-Dec-21		SDT - Review by PM's & ICE review (28 d + 7d)																																							
AIP-770	SDT - Resubmission for further review	14	21-May-21	03-Jun-21	09-Nov-27	09-Nov-27		SDT - Resubmission for further review																																							
AIP-780	SDT - Obtain Approval	7	04-Jun-21	10-Jun-21	09-Nov-27	09-Nov-27		SDT - Obtain Approval																																							
Package 12A - E&M AIP Report for Biogas H2S Removal, Storage and Delivery System								102	01-Mar-21	10-Jun-21	09-Nov-27	09-Nov-27		H2S - Prepare & Submission for PM's review																																	
AIP-790	H2S - Prepare & Submission for PM's review	46	01-Mar-21	15-Apr-21	09-Nov-27	09-Nov-27		H2S - Prepare & Submission for PM's review																																							
AIP-800	H2S - Review by PM's & ICE review (28 d + 7d)	35	16-Apr-21	20-May-21	09-Nov-27	09-Nov-27		H2S - Review by PM's & ICE review (28 d + 7d)																																							
AIP-810	H2S - Resubmission for further review	14	21-May-21	03-Jun-21	09-Nov-27	09-Nov-27		H2S - Resubmission for further review																																							
AIP-820	H2S - Obtain Approval	7	04-Jun-21	10-Jun-21	09-Nov-27	09-Nov-27		H2S - Obtain Approval																																							
Package 13A - E&M AIP Report for Deodorization Unit System								107	16-Oct-21	30-Jan-22	25-Jul-27	08-Nov-27	2108	DEO - Prepare & Submission for PM's review																																	
AIP-830	DEO - Prepare & Submission for PM's review	46	16-Oct-21	30-Nov-21	25-Jul-27	08-Sep-27	2108	DEO - Prepare & Submission for PM's review																																							
AIP-840	DEO - Review by PM's & ICE review (28 d + 7d)	35	06-Dec-21	09-Jan-22	14-Sep-27	18-Oct-27	2108	DEO - Review by PM's & ICE review (28 d + 7d)																																							
AIP-850	DEO - Resubmission for further review	14	10-Jan-22	23-Jan-22	19-Oct-27	01-Nov-27	2108	DEO - Resubmission for further review																																							
AIP-860	DEO - Obtain Approval	7	24-Jan-22	30-Jan-22	02-Nov-27	08-Nov-27	2108	DEO - Obtain Approval																																							
Package 15A - Civil, Structural & Geotechnical								81	30-Mar-21	18-Jun-21	21-Sep-21	12-Nov-21		Civil, Structural & Geotechnical - Prepare & Submission for PM's review																																	
AIP-380	Civil, Structural & Geotechnical - Prepare & Submission for PM's review	25	30-Mar-21	23-Apr-21	21-Sep-21	21-Sep-21		Civil, Structural & Geotechnical - Prepare & Submission for PM's review																																							
AIP-390	Civil, Structural & Geotechnical - Review by PM's & ICE review (28 d + 7d)	35	24-Apr-21	28-May-21	21-Sep-21	21-Sep-21		Civil, Structural & Geotechnical - Review by PM's & ICE review (28 d + 7d)																																							
AIP-400	Civil, Structural & Geotechnical - Resubmission for further review	14	29-May-21	11-Jun-21	21-Sep-21	21-Sep-21		Civil, Structural & Geotechnical - Resubmission for further review																																							
AIP-410	Civil, Structural & Geotechnical - Obtain Approval	7	12-Jun-21	18-Jun-21	12-Nov-21	12-Nov-21		Civil, Structural & Geotechnical - Obtain Approval																																							
Package 16A - E&M AIP Report for Hydraulic Design								160	01-Mar-21	07-Aug-21	02-Nov-27	08-Nov-27	2284	Hydraulic - Prepare & Submission for PM's review																																	
AIP-870	Hydraulic - Prepare & Submission for PM's review	46	01-Mar-21	15-Apr-21	02-Nov-27	02-Nov-27		Hydraulic - Prepare & Submission for PM's review																																							
AIP-880	Hydraulic - Review by PM's & ICE review (28 d + 7d)	35	16-Apr-21	20-May-21	02-Nov-27	02-Nov-27		Hydraulic - Review by PM's & ICE review (28 d + 7d)																																							
AIP-890	Hydraulic - Resubmission for further review	14	21-May-21	03-Jun-21	02-Nov-27	02-Nov-27		Hydraulic - Resubmission for further review																																							
AIP-900	Hydraulic - Obtain Approval	38	01-Jul-21	07-Aug-21	02-Nov-27	08-Nov-27	2284	Hydraulic - Obtain Approval																																							



Remaining Level of Effort
 DWP Re.3
 Actual Work
 Remaining Work
 Critical Remaining Work

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

Detailed Works Programme

Project ID : DWP.DPr4_210730
 Layout : DC201910 DWP rev.4
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Detailed Works Programme			
Date	Revision	Checked	Approved
31-Jul-21	Rev. 4		
30-Jun-21	Rev. 3		
31-May-21	Rev. 2		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	2022				2023				2024				2025				2026				2027				2028									
								Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2						
Pipeworks System								113	01-Jun-21 A	21-Sep-21	31-Jul-22	20-Sep-22	364	Pipeworks System - Prepare & Submission for PM's review																											
AIP-300	Pipeworks System - Prepare & Submission for PM's review	57	01-Jun-21 A	27-Jul-21 A	31-Jul-22	31-Jul-22	364	Pipeworks System - Prepare & Submission for PM's review																																	
AIP-310	Pipeworks System - Review by PM's & ICE review (28 d + 7d)	35	28-Jul-21 A	31-Aug-21	31-Jul-22	30-Aug-22	364	Pipeworks System - Review by PM's & ICE review (28 d + 7d)																																	
AIP-320	Pipeworks System - Resubmission for PM's review	14	01-Sep-21	14-Sep-21	31-Aug-22	13-Sep-22	364	Pipeworks System - Resubmission for PM's review																																	
AIP-330	Pipeworks System - Obtain Approval	7	15-Sep-21	21-Sep-21	14-Sep-22	20-Sep-22	364	Pipeworks System - Obtain Approval																																	
Architecture								87	01-Jul-21 A	25-Sep-21	31-Aug-21	11-Jun-24	990	Architecture - Prepare & Submission for PM's review																											
AIP-340	Architecture - Prepare & Submission for PM's review	38	01-Jul-21 A	07-Aug-21	31-Aug-21	06-Sep-21	30	Architecture - Prepare & Submission for PM's review																																	
AIP-350	Architecture - Review by PM's & ICE review (28 d + 7d)	28	08-Aug-21	04-Sep-21	07-Sep-21	04-Oct-21	30	Architecture - Review by PM's & ICE review (28 d + 7d)																																	
AIP-360	Architecture - Resubmission for further review	14	05-Sep-21	18-Sep-21	05-Oct-21	18-Oct-21	30	Architecture - Resubmission for further review																																	
AIP-370	Architecture - Obtain Approval	7	19-Sep-21	25-Sep-21	05-Jun-24	11-Jun-24	990	Architecture - Obtain Approval																																	
DDA								1475	27-Apr-21 A	10-May-25	08-Sep-21	08-Nov-27	912	Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Prepare & Submission for PM's review																											
Package 1 - General Architecture, Civil, Structural & Geotechnical								143	19-Jun-21 A	08-Nov-21	12-Nov-21	19-Feb-22	103	Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Review by PM's & ICE review (28 d + 7d)																											
DDA-100	Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Prepare & Submission for PM's review	73	19-Jun-21 A	30-Aug-21	12-Nov-21	11-Dec-21	103	Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Prepare & Submission for PM's review																																	
DDA-110	Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Review by PM's & ICE review (28 d + 7d)	35	31-Aug-21	04-Oct-21	12-Dec-21	15-Jan-22	103	Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Review by PM's & ICE review (28 d + 7d)																																	
DDA-120	Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Resubmission for further review	14	28-Sep-21	11-Oct-21	09-Jan-22	22-Jan-22	103	Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Resubmission for further review																																	
DDA-1080	Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Submit to GEO for comment and approval	28	12-Oct-21	08-Nov-21	23-Jan-22	19-Feb-22	103	Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Submit to GEO for comment and approval																																	
DDA-130	Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Obtain Approval	7	02-Nov-21	08-Nov-21	13-Feb-22	19-Feb-22	103	Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Obtain Approval																																	
Package 2 - Tertiary Treatment System								514	13-Jun-21 A	08-Nov-22	19-Jan-22	19-Dec-23	406	Civil Req. for TTS (Foundation design) - Prepare (27d), Sub. & Review (45d), Comment & Resub. (14d), GEO (28d) & Approval (7d)																											
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	11-Oct-21	28-Mar-22	07-Jun-22	239	Civil Req. for TTS (Foundation design) - Prepare (27d), Sub. & Review (45d), Comment & Resub. (14d), GEO (28d) & Approval (7d)																																	
DDA-150	Foundation for TTS - Prepare (90d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d), GEO (28d)	184	08-Oct-21	09-Apr-22	19-Jan-22	21-Jul-22	103	Foundation for TTS - Prepare (90d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d), GEO (28d)																																	
DDA-180	Civil Req. for TTS (Superstruct. design) - Prepare (147d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)	213	12-Oct-21	12-May-22	08-Jun-22	06-Jan-23	239	Civil Req. for TTS (Superstruct. design) - Prepare (147d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																																	
DDA-190	P&ID for TTS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)	126	08-Nov-21	13-Mar-22	16-Aug-23	19-Dec-23	646	P&ID for TTS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																																	
DDA-200	Mechanical for TTS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)	126	08-Nov-21	13-Mar-22	16-Aug-23	19-Dec-23	646	Mechanical for TTS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																																	
DDA-210	Electrical & Control for TTS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)	126	08-Nov-21	13-Mar-22	16-Aug-23	19-Dec-23	646	Electrical & Control for TTS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																																	
DDA-220	Building Services (BS) for TTS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)	126	08-Nov-21	13-Mar-22	16-Aug-23	19-Dec-23	646	Building Services (BS) for TTS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																																	
DDA-140	Architectural for TTS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)	126	09-Nov-21	14-Mar-22	20-Feb-22	25-Jun-22	103	Architectural for TTS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																																	
DDA-160	Civil & Structural for TTS - Prepare (120d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)	186	07-May-22	08-Nov-22	18-Aug-22	19-Feb-23	103	Civil & Structural for TTS - Prepare (120d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																																	
Package 3 - Mainstream Bio-Reactor System								404	18-Aug-21	25-Sep-22	08-Sep-21	27-Oct-23	397	Civil Req. for MBS-AGS (Foundation design) - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																											
DDA-260	Civil Req. for MBS-AGS (Foundation design) - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)	126	18-Aug-21	21-Dec-21	08-Sep-21	11-Jan-22	21	Civil Req. for MBS-AGS (Foundation design) - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																																	
DDA-230	Architectural for MBS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)	126	05-Sep-21	08-Jan-22	05-Oct-21	07-Feb-22	30	Architectural for MBS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																																	
DDA-1090	Architectural for Ancillary Facilities - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)	126	05-Sep-21	08-Jan-22	17-Mar-22	20-Jul-22	193	Architectural for Ancillary Facilities - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																																	
DDA-280	P&ID for TTS - MBS (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)	126	25-Sep-21	28-Jan-22	24-Jun-23	27-Oct-23	637	P&ID for TTS - MBS (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																																	
DDA-290	Mechanical for MBS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)	126	25-Sep-21	28-Jan-22	24-Jun-23	27-Oct-23	637	Mechanical for MBS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																																	
DDA-300	Electrical & Control for MBS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)	126	25-Sep-21	28-Jan-22	24-Jun-23	27-Oct-23	637	Electrical & Control for MBS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																																	
DDA-310	Building Services (BS) for MBS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)	126	25-Sep-21	28-Jan-22	24-Jun-23	27-Oct-23	637	Building Services (BS) for MBS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																																	
DDA-270	Civil Req. for MBS-AGS (Superstruct. design) - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)	126	24-Nov-21	29-Mar-22	15-Dec-21	19-Apr-22	21	Civil Req. for MBS-AGS (Superstruct. design) - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																																	
DDA-240	Foundation for MBS - Prepare (97d), Sub. & Review (45d), Comment & Resub. (14d), GEO (28d) & Approval (7d)	191	09-Jan-22	18-Mar-22	08-Feb-22	17-Aug-22	30	Foundation for MBS - Prepare (97d), Sub. & Review (45d), Comment & Resub. (14d), GEO (28d) & Approval (7d)																																	
DDA-250	Civil & Structural for MBS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)	126	23-May-22	25-Sep-22	13-Jun-22	16-Oct-22	21	Civil & Structural for MBS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																																	
Package 4 - Ancillary Facilities								296	15-Jun-22	06-Apr-23	21-Jul-22	12-May-23	36	Foundation for Ancillary Facilities - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d), GEO (28d) & Approval (7d)																											
DDA-1100	Foundation for Ancillary Facilities - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d), GEO (28d) & Approval (7d)	126	15-Jun-22	18-Oct-22	21-Jul-22	23-Nov-22	36	Foundation for Ancillary Facilities - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d), GEO (28d) & Approval (7d)																																	
DDA-1110	Civil & Structural for Ancillary Facilities - Prepare (104d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)	170	19-Oct-22	06-Apr-23	24-Nov-22	12-May-23	36	Civil & Structural for Ancillary Facilities - Prepare (104d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																																	
Package 5A - Master Water Meter Room								658	03-Mar-22	20-Dec-23	12-Jun-24	31-Mar-26	832	Architectural for Master Water Meter Room - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																											
DDA-350	Architectural for Master Water Meter Room - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)	126	03-Mar-22	06-Jul-22	12-Jun-24	15-Oct-24	832	Architectural for Master Water Meter Room - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																																	
DDA-360	Foundation for Master Water Meter Room - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d), GEO (28d) & Approval (7d)	154	07-Jul-22	07-Dec-22	16-Oct-24	18-Mar-25	832	Foundation for Master Water Meter Room - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d), GEO (28d) & Approval (7d)																																	
DDA-370	Civil & Struct. for Master Water Meter Room - Prepare (90d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)	156	08-Dec-22	12-May-23	19-Mar-25	21-Aug-25	832	Civil & Struct. for Master Water Meter Room - Prepare (90d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																																	
DDA-380	General Arrangement & Civil Req. for MWMR - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)	126	13-Apr-23	16-Aug-23	26-Nov-25	31-Mar-26	958	General Arrangement & Civil Req. for MWMR - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																																	
DDA-390	P&ID for MWMR - MBS (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)	126	13-Apr-23	16-Aug-23	23-Jul-25	25-Nov-25	832	P&ID for MWMR - MBS (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																																	
DDA-400	Mechanical for MWMR - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)	126	17-Aug-23	20-Dec-23	26-Nov-25	31-Mar-26	832	Mechanical for MWMR - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																																	
DDA-410	Electrical & Control for MWMR - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)	126	17-Aug-23	20-Dec-23	26-Nov-25	31-Mar-26	832	Electrical & Control for MWMR - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																																	
Package 5B - Plant Service Water (PSW)								172	27-Apr-21 A	15-Oct-21	03-Jun-22	19-Dec-23	795	Piping & Instrumentation Diagram (P&ID) - Prep(30d), Sub.&Review(28d), Comment&Resub (14d) & Approval (7d)																											
DDA-1040	Piping & Instrumentation Diagram (P&ID) - Prep(30d), Sub.&Review(28d), Comment&Resub (14d) & Approval (7d)	96	27-Apr-21 A	31-Jul-21 A	16-Aug-23	16-Aug-23	795	Piping & Instrumentation Diagram (P&ID) - Prep(30d), Sub.&Review(28d), Comment&Resub (14d) & Approval (7d)																																	
DDA-1050	Civil Requirement Drawings - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	126	12-Jun-21 A	15-Oct-21	03-Jun-22	17-Aug-22	306	Civil Requirement Drawings - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)																																	
DDA-1060	Electrical & Control for PSW - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	126	12-Jun-21 A	15-Oct-21	05-Oct-23	19-Dec-23	795	Electrical & Control for PSW - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)																																	
DDA-1070	Mechanical for PSW - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	126	12-Jun-21 A	15-Oct-21	05-Oct-23	19-Dec-23	795	Mechanical for PSW - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)																																	
Package 6 - Sludge Thickening Chemical and Dosing System								321	28-Jun-21 A	14-May-22	23-Mar-22	21-Feb-23	283	Civil Req. for STCDS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																											
DDA-440B	Civil Req. for STCDS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)	126	28-Jun-21 A	31-Oct-21	22-Nov-22	21-Feb-23	478	Civil Req. for STCDS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																																	
DDA-1120	P&ID for STCDS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)	126	28-Jun-21 A	31-Oct-21	22-Nov-22	21-Feb-23	478	P&ID for STCDS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																																	
DDA-1130	Mechanical for STCDS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)	126	28-Jun-21 A	31-Oct-21	22-Nov-22	21-Feb-23	478	Mechanical for STCDS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																																	
DDA-1140	Electrical & Control for STCDS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)	126	28-Jun-21 A	31-Oct-21	22-Nov-22	21-Feb-23	478	Electrical & Control for STCDS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																																	
DDA-1150	Building Services for STCDS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)	126	28-Jun-21 A	31-Oct-21	22-Nov-22	21-Feb-23	478	Building Services for STCDS - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																																	
DDA-420	Arch. for STCS, Waste Gas Burner & Guard Hse - Prepare (60d), Sub. & Review (45d), Com. & Resub. (14d) & Approval (7d)	126	05-Sep-21	08-Jan-22	23-Mar-22	26-Jul-22	199	Arch. for STCS, Waste Gas Burner & Guard Hse - Prepare (60d), Sub. & Review (45d), Com. & Resub. (14d) & Approval (7d)																																	
DDA-440	Civil & Struct. for STCS, WGB & Guard Hse - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)	126	10-Oct-21	12-Feb-22	27-Jul-22	29-Nov-22	290	Civil & Struct. for STCS, WGB & Guard Hse - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d) & Approval (7d)																																	
DDA-430	Found. for STCS, Waste Gas Burner & Guard Hse - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d), GEO (28d) & Approval (7d)	126	09-Jan-22	14-May-22	27-Jul-22	29-Nov-22	199	Found. for STCS, Waste Gas Burner & Guard Hse - Prepare (60d), Sub. & Review (45d), Comment & Resub. (14d), GEO (28d) & Approval (7d)																																	
Package 7 - CLP Substation and 11kV Switchgear House								170	01-Jun-21 A	17-Nov-21	21-Sep-21	19-Jun-22	214	Found. for CLP Sub. & 11kV Switchgear Hse - Prepare (30d), Sub.&Review(30d), Comment&Resub (14d), GEO(28d) & Approval (7d)																											
DDA-450	Found. for CLP Sub. & 11kV Switchgear Hse - Prepare (30d), Sub.&Review(30d), Comment&Resub (14d), GEO(28d) & Approval (7d)	82	01-Jun-21 A	21-Aug-21	21-Sep-21	11-Oct-21	51	Found. for CLP Sub. & 11kV Switchgear Hse - Prepare (30d), Sub.&Review(30d), Comment&Resub (14d), GEO(28d) & Approval (7d)																																	
DDA-460	Civil&Struct. for CLP Sub. & 11kV Switchgear Hse - Prep. (30d), Sub. & Review (30d), Comment & Resub. (14d) & Approval (7d)	82	01-Jun-21 A	21-Aug-21	21-Sep-21	11-Oct-21	51	Civil&Struct. for CLP Sub. & 11kV Switchgear Hse - Prep. (30d), Sub. & Review (30d), Comment & Resub. (14d) & Approval (7d)																																	
DDA-470	Electrical System for all facilities - Prepare (28d), Sub. & Review (28d), Comment & Resub. (14d) & Approval (7d)	78	01-Jun-21 A	17-Aug-21	21-Sep-21	07-Oct-21	51	Electrical System for all facilities - Prepare (28d), Sub. & Review (28d), Comment & Resub. (14d) & Approval (7d)																																	
DDA-490	BS for CLP Sub. & 11kV Switchgear Hse - Prepare (28d), Sub. & Review (28d), Comment & Resub. (14d) & Approval (7d)	78	01-Jun-21 A	17-Aug-21	21-Apr-22	07-May-22	263	BS for CLP Sub. & 11kV Switchgear Hse - Prepare (28d), Sub. & Review (28d), Comment & Resub. (14d) & Approval (7d)																																	
DDA-480	UPS System for CLP Sub. & 11kV Switchgear Hse - Prepare (102d), Sub. & Review (45																																								

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	Gantt Chart (2022-2028)																											
								2022				2023				2024				2025				2026				2027				2028			
								Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
IW-2480	ENV-BH33	7	11-Aug-21	18-Aug-21	06-Nov-21	13-Nov-21	72	ENV-BH33																											
IW-2910	CAR / RAP Approval	1	09-Sep-21	09-Sep-21	13-Nov-21	13-Nov-21	53	CAR / RAP Approval																											
IW Foundation & ELS Stage 1																																			
NMM-2020	PS 1.105A Noise Mitigation Measures 2020-2021	143	09-Nov-20 A	31-Mar-21 A	01-Aug-21	01-Aug-21	0	PS 1.105A Noise Mitigation Measures 2020-2021																											
EBS-2021	Egrets Breeding Season 2021	184	01-Mar-21 A	31-Aug-21	01-Aug-21	31-Aug-21	0	Egrets Breeding Season 2021																											
PMI014	PMI No. 014 - Revised Piling Layout at IW	0	15-Mar-21 A		09-Nov-27			PMI No. 014 - Revised Piling Layout at IW																											
IW-2850	Inlet Work Stage 1 - Site Setup and mobilization	7	14-Apr-21 A	21-Apr-21 A	26-Aug-21	26-Aug-21		Inlet Work Stage 1 - Site Setup and mobilization																											
IW-2380	Inlet Work Stage 1 - Driven H-piles (85nrs + 6tension piles., @ ave.1no/d/rig, 2rigs)	65	04-May-21 A	28-Aug-21	26-Aug-21	23-Sep-21	21	Inlet Work Stage 1 - Driven H-piles (85nrs + 6tension piles., @ ave.1no/d/rig, 2rigs)																											
IW-2470	Inlet Work Stage 1 - H-piles Testing	21	22-Jul-21 A	11-Sep-21	24-Sep-21	08-Oct-21	21	Inlet Work Stage 1 - H-piles Testing																											
IW-2420	Inlet Work Stage 1 - Sheetpiles Install (1,840m2 at 120m2/d)	18	07-Sep-21	28-Sep-21	13-Oct-21	03-Nov-21	29	Inlet Work Stage 1 - Sheetpiles Install (1,840m2 at 120m2/d)																											
IW-2880	Inlet Work Stage 1 - Submit piling record to GEO (28d)	30	12-Sep-21	11-Oct-21	29-Jan-22	27-Feb-22	139	Inlet Work Stage 1 - Submit piling record to GEO (28d)																											
IW-2920	Inlet Work Stage 1 - Monitoring Installation and Pumping Test	21	13-Sep-21	08-Oct-21	09-Oct-21	03-Nov-21	21	Inlet Work Stage 1 - Monitoring Installation and Pumping Test																											
IW-2520	Inlet Work Stage 1 - Excavation (+5.2 to +4.5mPD)	30	12-Oct-21	16-Nov-21	04-Nov-21	08-Dec-21	19	Inlet Work Stage 1 - Excavation (+5.2 to +4.5mPD)																											
IW-2500	Inlet Work Stage 1 - Marine Sediments Treatment and Disposal	60	12-Oct-21	21-Dec-21	27-Nov-21	15-Feb-22	39	Inlet Work Stage 1 - Marine Sediments Treatment and Disposal																											
IW-2540	Inlet Work Stage 1 - Strut Installation S1 (+4.5mPD)	16	17-Nov-21	04-Dec-21	07-Feb-22	24-Feb-22	61	Inlet Work Stage 1 - Strut Installation S1 (+4.5mPD)																											
IW-2550	Inlet Work Stage 1 - Excavation (+4.5 to +1.0mPD)	30	17-Nov-21	21-Dec-21	09-Dec-21	15-Jan-22	19	Inlet Work Stage 1 - Excavation (+4.5 to +1.0mPD)																											
IW-2570	Inlet Work Stage 1 - Excavation (+1 to -1.55mPD)	30	22-Dec-21	28-Jan-22	17-Jan-22	26-Feb-22	19	Inlet Work Stage 1 - Excavation (+1 to -1.55mPD)																											
IW-2580	Inlet Work Stage 1 - Strut Installation S2 (+1mPD)	16	22-Dec-21	12-Jan-22	25-Feb-22	15-Mar-22	47	Inlet Work Stage 1 - Strut Installation S2 (+1mPD)																											
IW Foundation & ELS Stage 2																																			
PP2	Portion 2 (sd+211d)	0	02-Jun-21 A	02-Apr-22	02-Aug-21	09-Nov-27	1753	Portion 2 (sd+211d)																											
IW-2860	Inlet Work Stage 2 - Site establishment & investigation, RAP, submit Remediation Report (carryforward from Site establ.)	53	22-Jun-21 A	24-Aug-21	18-Oct-27	08-Nov-27	1238	Inlet Work Stage 2 - Site establishment & investigation, RAP, submit Remediation Report (carryforward from Site establ.)																											
IW-2861	Inlet Work Stage 2 - Temporary UU Diversion	14	22-Jun-21 A	08-Jul-21 A	09-Nov-27	09-Nov-27		Inlet Work Stage 2 - Temporary UU Diversion																											
IW-2530	Inlet Work Stage 2 - Driven H-piles (122nrs., @ave.1no/d/rig, 2rigs)	61	09-Jul-21 A	13-Nov-21	02-Aug-21	13-Nov-21	0	Inlet Work Stage 2 - Driven H-piles (122nrs., @ave.1no/d/rig, 2rigs)																											
IW-2400	Handover and Inspection of Temp. Workshop and Storage Facilities (advance work before P2 access)	8	16-Jul-21 A	24-Jul-21 A	05-Oct-21	05-Oct-21		Handover and Inspection of Temp. Workshop and Storage Facilities (advance work before P2 access)																											
IW-2125	Complete Temporary Administration Building - Non-MIC Section	0		21-Sep-21		21-Oct-21	23	Complete Temporary Administration Building - Non-MIC Section																											
IW-2560	Inlet Work Stage 2 - Sheetpiles Install (2,758m2 at 120m2/d)	23	19-Oct-21	13-Nov-21	12-Nov-21	08-Dec-21	21	Inlet Work Stage 2 - Sheetpiles Install (2,758m2 at 120m2/d)																											
IW-2590	Inlet Work Stage 2 - H-piles Testing	21	15-Nov-21	08-Dec-21	15-Nov-21	08-Dec-21	0	Inlet Work Stage 2 - H-piles Testing																											
IW-2591	Inlet Work Stage 2 - Monitoring Installation and Pumping Test	21	15-Nov-21	08-Dec-21	15-Nov-21	08-Dec-21	0	Inlet Work Stage 2 - Monitoring Installation and Pumping Test																											
IW-2610	Inlet Work Stage 2 - Excavation (-1.55 to -2.5mPD)	30	09-Dec-21	15-Jan-22	09-Dec-21	15-Jan-22	0	Inlet Work Stage 2 - Excavation (-1.55 to -2.5mPD)																											
IW-2870	Inlet Work Stage 2 - Submit piling record to GEO (28d)	28	09-Dec-21	05-Jan-22	31-Jan-22	27-Feb-22	53	Inlet Work Stage 2 - Submit piling record to GEO (28d)																											
IW-2620	Inlet Work Stage 2 - Marine Sediments Treatment and Disposal	40	22-Dec-21	16-Feb-22	16-Feb-22	02-Apr-22	39	Inlet Work Stage 2 - Marine Sediments Treatment and Disposal																											
IW-2630	Inlet Work Stage 2 - Strut Installation S3 (-2.5mPD)	16	17-Jan-22	10-Feb-22	25-Feb-22	15-Mar-22	28	Inlet Work Stage 2 - Strut Installation S3 (-2.5mPD)																											
IW-2640	Inlet Work Stage 2 - Excavation (-2.5 to -4.5mPD)	30	17-Jan-22	26-Feb-22	17-Jan-22	26-Feb-22	0	Inlet Work Stage 2 - Excavation (-2.5 to -4.5mPD)																											
IW-2650	Inlet Work Stage 2 - Strut Installation S4 (-4.5mPD)	16	28-Feb-22	17-Mar-22	16-Mar-22	02-Apr-22	14	Inlet Work Stage 2 - Strut Installation S4 (-4.5mPD)																											
IW-2660	Inlet Work Stage 2 - Excavation (-4.5 to -7.15mPD)	30	28-Feb-22	02-Apr-22	28-Feb-22	02-Apr-22	0	Inlet Work Stage 2 - Excavation (-4.5 to -7.15mPD)																											
IW-2670	IW - Foundation & ELS Complete	0		02-Apr-22		02-Apr-22	0	IW - Foundation & ELS Complete																											
Temporary Workshop and Storage																																			
IW-2120A	Design and Submission	7	02-Feb-21 A	24-Apr-21 A	02-Aug-21	02-Aug-21		Design and Submission																											
IW-2120B	Site Formation	10	26-Apr-21 A	03-May-21 A	02-Aug-21	02-Aug-21		Site Formation																											
IW-2120C	Foundation Work	7	04-May-21 A	08-May-21 A	02-Aug-21	02-Aug-21		Foundation Work																											
IW-2120D	Erect Steel Structure, External Wall and Roof Cladding	10	10-May-21 A	17-May-21 A	02-Aug-21	02-Aug-21		Erect Steel Structure, External Wall and Roof Cladding																											
IW-2120E	Erect Internal Partition and False Ceiling	6	18-May-21 A	24-May-21 A	02-Aug-21	02-Aug-21		Erect Internal Partition and False Ceiling																											
IW-2120F	Electrical Work, Sanitary Work, Install A/C and Floor Finishes	10	18-May-21 A	29-May-21 A	02-Aug-21	02-Aug-21		Electrical Work, Sanitary Work, Install A/C and Floor Finishes																											
IW-2390	Relocation of Workshop (advance work before P2 access)	20	25-Jun-21 A	19-Jul-21 A	05-Oct-21	05-Oct-21		Relocation of Workshop (advance work before P2 access)																											
IW-2390B	Relocation of Storage Facilities (advance work before P2 access)	5	25-Jun-21 A	30-Jun-21 A	02-Aug-21	02-Aug-21		Relocation of Storage Facilities (advance work before P2 access)																											
IW Civil and Structural Works																																			
IW Structure Stage 1 (to G/F +4.0mPD)																																			
IW-2600	Inlet Work Stage 1 - Structure from -1.55 mPD to +1.45 mPD	90	25-Feb-22	17-Jun-22	28-Feb-22	20-Jun-22	2	Inlet Work Stage 1 - Structure from -1.55 mPD to +1.45 mPD																											
IW-2690	Inlet Work Stage 1 - Structure from +1.45 mPD to +4.0 mPD	45	18-Jun-22	10-Aug-22	21-Jun-22	12-Aug-22	2	Inlet Work Stage 1 - Structure from +1.45 mPD to +4.0 mPD																											
IW Structure Stage 2 (to G/F +4.0mPD)																																			
IW-2680	Inlet Work Stage 2 - Structure from -7.15 mPD to -5.0 mPD	30	04-Apr-22	14-May-22	04-Apr-22	14-May-22	0	Inlet Work Stage 2 - Structure from -7.15 mPD to -5.0 mPD																											
IW-2700	Inlet Work Stage 2 - Structure from -5.0 mPD to -2.0 mPD	25	16-May-22	14-Jun-22	16-May-22	14-Jun-22	0	Inlet Work Stage 2 - Structure from -5.0 mPD to -2.0 mPD																											
IW-2710	Inlet Work Stage 2 - Structure from -2.0 mPD to +1.0 mPD	25	15-Jun-22	14-Jul-22	15-Jun-22	14-Jul-22	0	Inlet Work Stage 2 - Structure from -2.0 mPD to +1.0 mPD																											
IW-2720	Inlet Work Stage 2 - Structure from +1.0 mPD to +4.0 mPD	25	15-Jul-22	12-Aug-22	15-Jul-22	12-Aug-22	0	Inlet Work Stage 2 - Structure from +1.0 mPD to +4.0 mPD																											
IW Structure to Roof (+4.0mPD to +18.3mPD)																																			
IW-2730	Inlet Work - Structure to Roof from +4.0 mPD to +7.0 mPD	25	13-Aug-22	12-Sep-22	13-Aug-22	12-Sep-22	0	Inlet Work - Structure to Roof from +4.0 mPD to +7.0 mPD																											
IW-2740	Inlet Work - Structure to Roof from +7.0 mPD to +10.0 mPD	25	13-Sep-22	13-Oct-22	13-Sep-22	13-Oct-22	0	Inlet Work - Structure to Roof from +7.0 mPD to +10.0 mPD																											
IW-2750	Inlet Work - Structure to Roof from +10.0 mPD to +13.0 mPD	25	14-Oct-22	11-Nov-22	14-Oct-22	11-Nov-22	0	Inlet Work - Structure to Roof from +10.0 mPD to +13.0 mPD																											
IW-2760	Inlet Work - Structure to Roof from +13.0 mPD to +16.0 mPD	25	12-Nov-22	10-Dec-22	12-Nov-22	10-Dec-22	0	Inlet Work - Structure to Roof from +13.0 mPD to +16.0 mPD																											
IW-2770	Inlet Work - Structure to Roof from +16.0 mPD to +18.3 mPD	25	12-Dec-22	12-Jan-23	12-Dec-22	12-Jan-23	0	Inlet Work - Structure to Roof from +16.0 mPD to +18.3 mPD																											
IW ABWF and BS Works																																			
IW-2780	Inlet Work - BS and ABWF Works	300	13-Sep-22	19-Sep-23	04-Mar-23	11-Mar-24	137	Inlet Work - BS and ABWF Works																											
IW Transformer House No. 1																																			
IW-2785	TX House No. 1 - Piling Works (8 nos.)	10	05-Aug-22	16-Aug-22	20-Oct-22	31-Oct-22	62	TX House No. 1 - Piling Works (8 nos.)																											
IW-2930	TX House No. 1 - ELS Works	14	17-Aug-22	01-Sep-22	30-Jan-23	14-Feb-23	130	TX House No. 1 - ELS Works																											
IW-2790	TX House No. 1 - Structure Cable Trench at +2.2 mPD to +4.8 mPD	21	03-Sep-22	28-Sep-22	16-Feb-23	11-Mar-23	130	TX House No. 1 - Structure Cable Trench at +2.2 mPD to +4.8 mPD																											
IW-2800	TX House No. 1 - Structure Base Level from +4.80 mPD to +6.0 mPD	21	29-Sep-22	25-Oct-22	13-Mar-23	06-Apr-23	130	TX House No. 1 - Structure Base Level from +4.80 mPD to +6.0 mPD																											
IW-2810	TX House No. 1 - Structure G/F to Roof from +6.0 mPD to +9.0 mPD	21	26-Oct-22	18-Nov-22	11-Apr-23	05-May-23	130	TX House No. 1 - Structure G/F to Roof from +6.0 mPD to +9.0 mPD																											
IW-2820	TX House No. 1 - Structure G/F to Roof from +9.0 mPD to +11.6 mPD	21	19-Nov-22	13-Dec-22	06-May-23	31-May-23	130	TX House No. 1 - Structure G/F to Roof from +9.0 mPD to +11.6 mPD																											
IW-2830	TX House No. 1 - BS and ABWF	30	14-Dec-22	27-Jan-23	03-Nov-23	07-Dec-23	258	TX House No. 1 - BS and ABWF																											
IW-2831	TX House No. 1 - E&M Handover	0	19-Jan-23		08-Dec-23		260	TX House No. 1 - E&M Handover																											
IW-2840	TX House No. 1 - Transformer Installation and LV Switchboard Power On	72	28-Jan-23	26-Apr-23	08-Dec-23	11-Mar-24	258	TX House No. 1 - Transformer Installation and LV Switchboard Power On																											
IW E&M Works																																			
ATAL-1000	IW - Screening / Grit Removal / Inlet Pumping / DOU System / Penstock & Stoplogs	105	12-Dec-22	27-Apr-23	12-Dec-22	27-Apr-23	0	IW - Screening / Grit Removal / Inlet Pumping / DOU System / Penstock & Stoplogs																											
ATAL-1010	IW - Lifting Appliance	105	12-Dec-22	27-Apr-23	12-Dec-22	27-Apr-23	0	IW - Lifting Appliance																											
ATAL-0000	IW - E&M Handover	0	12-Dec-22		12-Dec-22		0	IW - E&M Handover																											
ATAL-1020	IW - Instrumentation	36	03-Apr-23	19-May-23	03-Apr-23	19-May-23	0	IW - Instrumentation																											
ATAL-1030	IW - Electrical Works (Cabling / LCP Termination)	30	25-Apr-23	31-May-23	25-Apr-23	31-May-23	0	IW - Electrical Works (Cabling / LCP Termination)																											
ATAL-1040	IW - BS Installation (ELV, Ventilation, FS, PD)	30	25-Apr-23	31-May-23	25-Apr-23	31-May-23	0	IW - BS Installation (ELV, Ventilation, FS, PD)																											
IW E&M T&C																																			
ATAL-1050	IW - T&C - Equipment SAT (Mechanical Dry Check)	30	01-Jun-23	07-Jul-23	01-Jun-23	07-Jul-23	0	IW - T&C - Equipment SAT (Mechanical Dry Check)																											
ATAL-1060	IW - T&C - Equipment SAT (Functional Dry Check)	30	01-Jun-23	07-Jul-23	01-Jun-23	07-Jul-23	0	IW - T&C - Equipment SAT (Functional Dry Check)																											
ATAL-1070	IW - T&C - Equipment SAT (Wet / Load Performance Check)	30	01-Jun-23	07-Jul-23	01-Jun-23	07-Jul-23	0	IW - T&C - Equipment SAT (Wet / Load Performance Check)																											
ATAL-1090	IW - Diversion works from existing bypass chamber to IW (Penstock Installation c/w T&C)	39	08-Jul-23	22-Aug-23	08-Jul-23	22-Aug-23	0	IW - Diversion works from existing bypass chamber to IW (Penstock Installation c/w T&C)																											
ATAL-1080	IW - FS Inspection and Fire Certificate	57	23-Aug-23	31-Oct-23	23-Aug-23	31-Oct-23	0	IW - FS Inspection and Fire Certificate																											



Remaining Level of Effort
 DWP Re.3
 Actual Work
 Remaining Work
 Critical Remaining Work

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

Detailed Works Programme

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31-Jul-21	Rev. 4		
30-Jun-21	Rev. 3		
31-May-21	Rev. 2		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	2022												2023												2024												2025												2026												2027												2028											
								Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4																																		
ATALPST-3000	PST Stage 1 - Bottom Scraper / Scum Collection System	146	26-Sep-22	27-Mar-23	26-Sep-22	27-Mar-23	0	PST Stage 1 - Bottom Scraper / Scum Collection System																																																																																			
ATALPST-3010	PST Stage 1 - Lamella / Sludge & Scum Pump / DOU System	146	26-Sep-22	27-Mar-23	26-Sep-22	27-Mar-23	0	PST Stage 1 - Lamella / Sludge & Scum Pump / DOU System																																																																																			
ATALPST-3020	PST Stage 1 - Lifting Appliance	146	26-Sep-22	27-Mar-23	26-Sep-22	27-Mar-23	0	PST Stage 1 - Lifting Appliance																																																																																			
ATALPST-3030	PST Stage 1 - Penstock / Stoplogs	146	26-Sep-22	27-Mar-23	26-Sep-22	27-Mar-23	0	PST Stage 1 - Penstock / Stoplogs																																																																																			
ATALPST-0000	PST Stage 1 - E&M Handover	0	26-Sep-22		26-Sep-22		0	PST Stage 1 - E&M Handover																																																																																			
ATALPST-3040	PST Stage 1 - Instrumentation	36	28-Mar-23	13-May-23	28-Mar-23	13-May-23	0	PST Stage 1 - Instrumentation																																																																																			
ATALPST-3050	PST Stage 1 - Electrical Works (Cabling / LCP, Termination)	80	28-Mar-23	07-Jul-23	28-Mar-23	07-Jul-23	0	PST Stage 1 - Electrical Works (Cabling / LCP, Termination)																																																																																			
ATALPST-3060	PST Stage 1 - BS Installation (ELV, Ventilation, FS, PD)	80	28-Mar-23	07-Jul-23	28-Mar-23	07-Jul-23	0	PST Stage 1 - BS Installation (ELV, Ventilation, FS, PD)																																																																																			
PST Stage 1 - Testing and Commissioning at New PST 1,2,3		212	08-Jul-23	11-Mar-24	08-Jul-23	11-Mar-24	0																																																																																				
ATALPST-3070	PST Stage 1 - T&C - Equipment SAT (Mechanical Dry Check)	28	08-Jul-23	09-Aug-23	08-Jul-23	09-Aug-23	0	PST Stage 1 - T&C - Equipment SAT (Mechanical Dry Check)																																																																																			
ATALPST-3080	PST Stage 1 - T&C - Equipment SAT (Functional Dry Check) linked to TX House POWER ON	48	26-Jul-23	19-Sep-23	26-Jul-23	19-Sep-23	0	PST Stage 1 - T&C - Equipment SAT (Functional Dry Check) linked to TX House POWER ON																																																																																			
ATALPST-3090	PST Stage 1 - T&C - Equipment SAT (Wet / Load Performance Check)	48	26-Jul-23	19-Sep-23	26-Jul-23	19-Sep-23	0	PST Stage 1 - T&C - Equipment SAT (Wet / Load Performance Check)																																																																																			
ATALPST-3100	PST Stage 1 - FS Inspection and Fire Certificate	42	20-Sep-23	10-Nov-23	20-Sep-23	10-Nov-23	0	PST Stage 1 - FS Inspection and Fire Certificate																																																																																			
ATALPST-3110	PST Stage 1 - T&C - Early Commissioning (54,000 m3/d) (KD3)	68	11-Nov-23	01-Feb-24	11-Nov-23	01-Feb-24	0	PST Stage 1 - T&C - Early Commissioning (54,000 m3/d) (KD3)																																																																																			
PKD3	Early Completion KD3	0		01-Feb-24		15-Feb-24	14	Early Completion KD3																																																																																			
CDKD3	KD3	0		11-Mar-24		11-Mar-24	0	KD3																																																																																			
PST Stage 2 of Works		1700	04-Jun-21 A	08-Nov-26	01-Nov-21	08-Nov-26	0																																																																																				
PST GI - Propose Pre-drilling for Piling Works		73	04-Jun-21 A	30-Aug-21	23-Apr-22	21-Jun-22	234																																																																																				
Pre-drilling @ Existing PST 6 (including Trial Pit Excavation, Level Checking, Core Inspection, SPT)		14	14-Aug-21	30-Aug-21	06-Jun-22	21-Jun-22	234																																																																																				
PST-2000	PD1 (w/ obstruction, relocated)	14	14-Aug-21	30-Aug-21	06-Jun-22	21-Jun-22	234	PD1 (w/ obstruction, relocated)																																																																																			
Pre-drilling @ Existing PST 5 (including Trial Pit Excavation, Level Checking, Core Inspection, SPT)		21	04-Jun-21 A	29-Jun-21 A	23-Apr-22	23-Apr-22																																																																																					
PST-2020	PD5	7	04-Jun-21 A	11-Jun-21 A	23-Apr-22	23-Apr-22		PD5																																																																																			
PST-2010	PD3	14	12-Jun-21 A	29-Jun-21 A	23-Apr-22	23-Apr-22		PD3																																																																																			
PST Foundation - Stage 2 (At Remaining 2 Tanks, PST 5-6 Footprint)		300	16-Sep-21	31-Aug-22	01-Nov-21	07-Sep-22	6																																																																																				
PST-2030	PST Stage 2 - Driven H-piles (57 nos. @ ave. 1.5no/d/rig)	36	16-Sep-21	30-Oct-21	23-Apr-22	07-Jun-22	51	PST Stage 2 - Driven H-piles (57 nos. @ ave. 1.5no/d/rig)																																																																																			
PST-2061	PST Stage 2 - Monitoring Installation and Pumping Test	21	21-Oct-21	13-Nov-21	27-May-22	21-Jun-22	172	PST Stage 2 - Monitoring Installation and Pumping Test																																																																																			
PST-2040	PST Stage 2 - Sheetpiling (1,040 m2 at 90m2/day)	12	01-Nov-21	13-Nov-21	08-Jun-22	21-Jun-22	172	PST Stage 2 - Sheetpiling (1,040 m2 at 90m2/day)																																																																																			
NMM-2105	PS 1.105A Noise Mitigation Measures 2021-2022	151	01-Nov-21*	31-Mar-22	01-Nov-21	31-Mar-22	0	PS 1.105A Noise Mitigation Measures 2021-2022																																																																																			
PST-2060	PST Stage 2 - H-pile Testing	18	23-Nov-21	13-Dec-21	27-Jun-22	18-Jul-22	169	PST Stage 2 - H-pile Testing																																																																																			
PST-2050	PST Stage 2 - Excavation (+5.8 to +3.8mPD)	22	01-Dec-21	28-Dec-21	22-Jun-22	18-Jul-22	158	PST Stage 2 - Excavation (+5.8 to +3.8mPD)																																																																																			
PST-3035	PST Stage 2 - Submit to GEO (28d)	28	14-Dec-21	18-Jan-22	06-Aug-22	07-Sep-22	185	PST Stage 2 - Submit to GEO (28d)																																																																																			
PST-2070	PST Stage 2 - Strut Installation S1 (+3.8mPD)	14	11-Jan-22	26-Jan-22	19-Jul-22	03-Aug-22	148	PST Stage 2 - Strut Installation S1 (+3.8mPD)																																																																																			
PST-2080	PST Stage 2 - Excavation (+3.8 to +1.3mPD)	22	11-Jan-22	11-Feb-22	19-Jul-22	12-Aug-22	148	PST Stage 2 - Excavation (+3.8 to +1.3mPD)																																																																																			
PST-2090	PST Stage 2 - Strut Installation S2 (+1.3mPD)	14	12-Feb-22	28-Feb-22	23-Aug-22	07-Sep-22	156	PST Stage 2 - Strut Installation S2 (+1.3mPD)																																																																																			
PST-2100	PST Stage 2 - Excavation (+1.3 to -1.05mPD)	22	12-Feb-22	09-Mar-22	13-Aug-22	07-Sep-22	148	PST Stage 2 - Excavation (+1.3 to -1.05mPD)																																																																																			
EBS-2115	Egrets Breeding Season 2022	184	01-Mar-22*	31-Aug-22	01-Mar-22	31-Aug-22	0	Egrets Breeding Season 2022																																																																																			
PST Stage 2 - Structure (At Remaining 2 Tanks, PST 5-6 Footprint)		1069	08-Sep-22	05-Feb-26	08-Sep-22	05-Feb-26	0																																																																																				
PST-2110	2-Tank Structure from +0.0 mPD to +3.0 mPD	21	08-Sep-22	05-Oct-22	08-Sep-22	05-Oct-22	0	2-Tank Structure from +0.0 mPD to +3.0 mPD																																																																																			
PST-2120	2-Tank Structure from +3.0 mPD to +6.0 mPD	21	06-Oct-22	29-Oct-22	06-Oct-22	29-Oct-22	0	2-Tank Structure from +3.0 mPD to +6.0 mPD																																																																																			
PST-2130	2-Tank Structure from +6.0 mPD to +9.0 mPD	21	31-Oct-22	23-Nov-22	31-Oct-22	23-Nov-22	0	2-Tank Structure from +6.0 mPD to +9.0 mPD																																																																																			
PST-2140	2-Tank Structure from +9.0 mPD to +11.80 mPD	21	24-Nov-22	17-Dec-22	24-Nov-22	17-Dec-22	0	2-Tank Structure from +9.0 mPD to +11.80 mPD																																																																																			
PST-2150	2-Tank Structure from +11.80 mPD to +15.0 mPD Lift 1 (3.2m)	21	19-Dec-22	14-Jan-23	19-Dec-22	14-Jan-23	0	2-Tank Structure from +11.80 mPD to +15.0 mPD Lift 1 (3.2m)																																																																																			
PST-2160	2-Tank Structure from +15.0 mPD to +18.30 mPD Lift 2 (3.3m)	21	16-Jan-23	15-Feb-23	16-Jan-23	15-Feb-23	0	2-Tank Structure from +15.0 mPD to +18.30 mPD Lift 2 (3.3m)																																																																																			
PST-2170	Water Retaining Test for New PST Tank No. 4	13	16-Feb-23	02-Mar-23	16-Feb-23	02-Mar-23	0	Water Retaining Test for New PST Tank No. 4																																																																																			
PST-2180	Water Retaining Test for New PST Tank No. 5	13	03-Mar-23	17-Mar-23	03-Mar-23	17-Mar-23	0	Water Retaining Test for New PST Tank No. 5																																																																																			
CDKD6	KD6	0		05-Feb-26*		05-Feb-26	0	KD6																																																																																			
PST Stage 2 - ABWF & BS Works		180	15-Mar-23	21-Oct-23	16-Jun-23	20-Jan-24	74																																																																																				
PST-2190	PST - BS and ABWF Works at 2 Tanks	180	15-Mar-23	21-Oct-23	16-Jun-23	20-Jan-24	74	PST - BS and ABWF Works at 2 Tanks																																																																																			
PST Stage 2 - E&M Installation Works at New PST 4,5		159	18-Mar-23	28-Sep-23	18-Mar-23	11-Mar-24	129																																																																																				
ATALPST-5000	PST Stage 2 - Bottom Scraper / Scum Collection System	87	18-Mar-23	06-Jul-23	18-Mar-23	06-Jul-23	0	PST Stage 2 - Bottom Scraper / Scum Collection System																																																																																			
ATALPST-5010	PST Stage 2 - Lamella / Sludge & Scum Pump / DOU System	87	18-Mar-23	06-Jul-23	18-Mar-23	06-Jul-23	0	PST Stage 2 - Lamella / Sludge & Scum Pump / DOU System																																																																																			
ATALPST-5020	PST Stage 2 - Lifting Appliance	87	18-Mar-23	06-Jul-23	18-Mar-23	06-Jul-23	0	PST Stage 2 - Lifting Appliance																																																																																			
ATALPST-5030	PST Stage 2 - Penstock / Stoplogs	87	18-Mar-23	06-Jul-23	18-Mar-23	06-Jul-23	0	PST Stage 2 - Penstock / Stoplogs																																																																																			
ATALPST-0001	PST Stage 2 - E&M Handover	0	18-Mar-23		18-Mar-23		0	PST Stage 2 - E&M Handover																																																																																			
ATALPST-5040	PST Stage 2 - Instrumentation	36	07-Jul-23	17-Aug-23	07-Jul-23	17-Aug-23	0	PST Stage 2 - Instrumentation																																																																																			
ATALPST-5050	PST Stage 2 - Electrical Works (Cabling / LCP, Termination)	72	07-Jul-23	28-Sep-23	08-Dec-23	11-Mar-24	129	PST Stage 2 - Electrical Works (Cabling / LCP, Termination)																																																																																			
ATALPST-5060	PST Stage 2 - BS Installation (ELV, Ventilation, FS, PD)	72	07-Jul-23	28-Sep-23	08-Dec-23	11-Mar-24	129	PST Stage 2 - BS Installation (ELV, Ventilation, FS, PD)																																																																																			
PST Stage 2 - Testing and Commissioning at New PST 4,5		986	15-Sep-23	08-Nov-26	15-Sep-23	08-Nov-26	0																																																																																				
ATALPST-5070	PST Stage 2 - T&C - Equipment SAT (Mechanical Dry Check)	30	15-Sep-23	21-Oct-23	15-Sep-23	21-Oct-23	0	PST Stage 2 - T&C - Equipment SAT (Mechanical Dry Check)																																																																																			
ATALPST-5080	PST Stage 2 - T&C - Equipment SAT (Functional Dry Check)	30	07-Oct-23	11-Nov-23	07-Oct-23	11-Nov-23	0	PST Stage 2 - T&C - Equipment SAT (Functional Dry Check)																																																																																			
ATALPST-5090	PST Stage 2 - T&C - Equipment SAT (Wet / Load Performance Check)	9	13-Nov-23	22-Nov-23	13-Nov-23	22-Nov-23	0	PST Stage 2 - T&C - Equipment SAT (Wet / Load Performance Check)																																																																																			
ATALPST-5100	PST Stage 2 - T&C - System Commissioning (60,000 m3/d) (KD3)	48	23-Nov-23	20-Jan-24	23-Nov-23	20-Jan-24	0	PST Stage 2 - T&C - System Commissioning (60,000 m3/d) (KD3)																																																																																			
ATALPST-5110	PST Stage 2 - FS Inspection and Fire Certificate	28	22-Jan-24	29-Feb-24	22-Jan-24	29-Feb-24	0	PST Stage 2 - FS Inspection and Fire Certificate																																																																																			
CDKD3a	KD3	0		11-Mar-24*		11-Mar-24	0	KD3																																																																																			
CS3	Section 3 Completion	0		08-Nov-26*		08-Nov-26	0	Section 3 Completion																																																																																			
PST External Pipeworks		180	18-Mar-23	26-Oct-23	19-Apr-23	22-Nov-23	23																																																																																				
ATALPST-5120	PST - External Pipe Works	180	18-Mar-23	26-Oct-23	19-Apr-23	22-Nov-23	23	PST - External Pipe Works																																																																																			
External Works - Inlet Work and Primary Sedimentation Tank Perimeter		240	12-Mar-24	31-Dec-24	14-Jan-26	07-Nov-26	544																																																																																				
EW-1080	IW/PST Perimeter - Drainage/Sewer/Watermain/Utility Installation	150	12-Mar-24	11-Sep-24	14-Jan-26	22-Jul-26	544	IW/PST Perimeter - Drainage/Sewer/Watermain/Utility Installation																																																																																			
EW-1050	IW/PST Perimeter - Process Pipe Installation	102	12-Mar-24	17-Jul-24	18-Mar-26	22-Jul-26	592	IW/PST Perimeter - Process Pipe Installation																																																																																			
EW-1090	IW/PST Perimeter - Road Works	90	12-Sep-24	31-Dec-24	23-Jul-26	07-Nov-26	544	IW/PST Perimeter - Road Works																																																																																			
Sludge Dewatering Building (SDB)		1485	01-Nov-21	29-Jul-26	01-Nov-21	07-Nov-26	87																																																																																				
SDB-1000	Site Hoarding, Clearance, Temp Facilities	17	13-Jan-24	01-Feb-24	20-Jan-24	08-Feb-24	6	Site Hoarding, Clearance, Temp Facilities																																																																																			
SDB Foundation & ELS - Stage 1		1027	01-Nov-21	10-Feb-25	01-Nov-21	10-Feb-25	0																																																																																				
SDB GI - Pre-drilling Works		87	02-Feb-24	13-May-24	16-Feb-24	13-May-24	0																																																																																				
SDB-1220	Access Date	0	02-Feb-24		16-Feb-24		14	Access Date																																																																																			
SDB-1100	Demolition of Existing PST 1 & 3	20	12-Mar-24	08-Apr-24	12-Mar-24	08-Apr-24	0	Demolition of Existing PST 1 & 3																																																																																			
SDB-1320	Demolition of Existing PST 2 & 4	20	02-Apr-24	25-Apr-24	02-Apr-24	25-Apr-24	0	Demolition of Existing PST 2 & 4																																																																																			
SDB At PST 1,3 Footprint		75	02-Feb-24	11-May-24	16-Feb-24	13-May-24	1																																																																																				
SDB-1010	PD10	14	02-Feb-24	24-Feb-24	20-Mar-24	09-Apr-24	34	PD10																																																																																			
SDB-1020	PD19	14	02-Feb-24	24-Feb-24	20-Mar-24	09-Apr-24	34	PD19																																																																																			
SDB-1030	PD22	14	02-Feb-24	24-Feb-24	16-Feb-24	02-Mar-24	6	PD22																																																																																			
SDB-1040	PD20	14	26-Feb-24	12-Mar-24	10-Apr-24	25-Apr-24	34	PD20																																																																																			
SDB-1050	PD12	14	26-Feb-24	12-Mar-24	10-Apr-24	25-Apr-24	34	PD12																																																																																			



- Remaining Level of Effort
- DWP Re.3
- Actual Work
- Remaining Work
- Critical Remaining Work

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Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	2022 2023 2024 2025 2026 2027 2028																											
								Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
ADB-1020A50	Site Formation	6	20-Apr-21 A	26-Apr-21 A	21-Aug-21	21-Aug-21																													
ADB-1020A60	Construction/Installation	24	27-Apr-21 A	26-May-21 A	21-Aug-21	21-Aug-21																													
ADB-1020A70	E&M Installation and T&C	20	01-Jun-21 A	24-Jun-21 A	21-Aug-21	21-Aug-21																													
ADB-1020A80	Relocation of Admin Office (Non-MIC)	20	25-Jun-21 A	20-Jul-21 A	21-Aug-21	21-Aug-21																													
ADB Construction of New AB and Demolition																																			
ADB-1220	ADB - Predrill	21	02-Apr-24	26-Apr-24	02-Jul-24	25-Jul-24	73																												
ADB-1090	ADB - Driven H-pile (63 nos. @ave.1no/d/rig, 1rig)	63	28-May-24	10-Aug-24	26-Jul-24	09-Oct-24	49																												
ADB-1230	ADB - Monitoring Installation and Pumping Test	21	08-Aug-24	31-Aug-24	07-Oct-24	31-Oct-24	49																												
ADB-1100	ADB - H-pile Testing	18	12-Aug-24	31-Aug-24	10-Oct-24	31-Oct-24	49																												
ADB-1110	ADB - Open Cut Excavation (+7.8 to +3.85mPD) at 30o Slope	24	02-Sep-24	30-Sep-24	01-Nov-24	28-Nov-24	49																												
ADB-1240	ADB - Submit to GEO (24d)	24	02-Sep-24	30-Sep-24	01-Nov-24	28-Nov-24	49																												
ADB-1120	ADB - Structure (+3.85 to +6.85mPD)	53	02-Oct-24	03-Dec-24	29-Nov-24	07-Feb-25	49																												
NMM-2024	PS 1.105A Noise Mitigation Measures 2024-2025	151	01-Nov-24*	31-Mar-25	01-Nov-24	31-Mar-25	0																												
ADB-1130	ADB - Structure (+6.85 to +9.85mPD)	48	04-Dec-24	06-Feb-25	08-Feb-25	04-Apr-25	49																												
ADB-1140	ADB - Structure (+9.85 to +12.85mPD)	48	07-Feb-25	03-Apr-25	07-Apr-25	07-Jun-25	49																												
EBS-2025	Egrets Breeding Season 2025	184	01-Mar-25*	31-Aug-25	01-Mar-25	31-Aug-25	0																												
ADB-1150	ADB - Structure (+12.85 to 15.25mPD)	48	04-Apr-25	06-Jun-25	09-Jun-25	04-Aug-25	49																												
ADB-1160	ADB - Wet Trades/Builder's Works/Watertight	78	07-Jun-25	06-Sep-25	05-Aug-25	06-Nov-25	49																												
ADB E&M Installation																																			
ADB-1170	ADB - BS and ABWF Works	192	07-Jun-25	24-Jan-26	07-Jan-26	02-Sep-26	176																												
ADB-1180	ADB - Modification of Existing Emergency Bypass Chamber	120	07-Jun-25	28-Oct-25	19-Jan-26	20-Jun-26	186																												
ADB-1190	ADB - External Works	80	30-Oct-25	03-Feb-26	22-Jun-26	23-Sep-26	186																												
ADB Handover and Inspection																																			
ADB-1200	ADB - Handover	18	26-Jan-26	14-Feb-26	03-Sep-26	23-Sep-26	176																												
Zone 2 Construction																																			
Overhaul, Relocation and Diversion Works																																			
Z2D-4240	Completion of Overhaul, relocation and diversion (Zone 2)	0	09-Nov-20 A	21-Jan-22	04-Aug-21	29-Jan-22	7																												
Overhaul Works for FST Nos. 1, 2, 3 & 4																																			
Z2D-1000	Submit/Approve Method Statement	55	09-Nov-20 A	04-Oct-21	04-Aug-21	06-Oct-21	2																												
Z2D-1010	Procurement of parts	115	09-Nov-20 A	01-Apr-21 A	04-Aug-21	04-Aug-21																													
Z2D-4250	Completion of Overhaul FST	0		04-Oct-21*	06-Oct-21	06-Oct-21	2																												
FST No. 1																																			
Z2D-3000	Isolation and Conduct Pre-test for FST No.1	14	15-Jan-21 A	30-Jan-21 A	04-Aug-21	04-Aug-21																													
Z2D-3010	Bamboo Scaffolding Construction	7	01-Feb-21 A	08-Feb-21 A	04-Aug-21	04-Aug-21																													
Z2D-3020	Replacement of Screws for Rotatory Bridge	17	09-Feb-21 A	06-Mar-21 A	04-Aug-21	04-Aug-21																													
Z2D-3030	Replacement of Scraper Frame Robs	12	08-Mar-21 A	20-Mar-21 A	04-Aug-21	04-Aug-21																													
Z2D-3040	Disassembly of Scraper Drive Unit / Penstock Actuators / Valves	4	22-Mar-21 A	25-Mar-21 A	04-Aug-21	04-Aug-21																													
Z2D-3050	Reconditioning and Replacement of Scraper Driver Units	22	26-Mar-21 A	24-Apr-21 A	04-Aug-21	04-Aug-21																													
Z2D-3060	Return of all Drive Units and Centre Bearing for Reassembly	5	26-Apr-21 A	30-Apr-21 A	04-Aug-21	04-Aug-21																													
Z2D-3070	Power Reconnection and Testing	2	03-May-21 A	04-May-21 A	04-Aug-21	04-Aug-21																													
FST No. 4																																			
Z2D-3080	Switch Duty from FST No. 4 to FST No. 1 or Others	2	05-May-21 A	06-May-21 A	04-Aug-21	04-Aug-21																													
Z2D-3085	Isolation and Conduct Pre-test for FST No.4	2	07-May-21 A	08-May-21 A	04-Aug-21	04-Aug-21																													
Z2D-3090	Drain Out Swage and Tank Cleaning for FST No. 4	4	10-May-21 A	13-May-21 A	04-Aug-21	04-Aug-21																													
Z2D-3095	Bamboo Scaffolding Construction	2	14-May-21 A	15-May-21 A	04-Aug-21	04-Aug-21																													
Z2D-3100	Replacement of Screws for Rotatory Bridge	10	17-May-21 A	28-May-21 A	04-Aug-21	04-Aug-21																													
Z2D-3110	Replacement of Scraper Frame Robs	12	17-May-21 A	31-May-21 A	04-Aug-21	04-Aug-21																													
Z2D-3130	Reconditioning and Replacement of Scraper Driver Units	15	29-May-21 A	16-Jun-21 A	04-Aug-21	04-Aug-21																													
Z2D-3120	Disassembly of Scraper Drive Unit / Penstock Actuators / Valves	13	01-Jun-21 A	16-Jun-21 A	04-Aug-21	04-Aug-21																													
Z2D-3140	Return of all Drive Units and Centre Bearing for Reassembly	4	17-Jun-21 A	21-Jun-21 A	04-Aug-21	04-Aug-21																													
Z2D-3150	Power Reconnection and Testing	3	22-Jun-21 A	24-Jun-21 A	04-Aug-21	04-Aug-21																													
FST No. 3																																			
Z2D-3160	Switch Duty from FST No. 3 to FST No. 1 or Others	2	25-Jun-21 A	26-Jun-21 A	04-Aug-21	04-Aug-21																													
Z2D-3240	Isolation and Conduct Pre-test for FST No.3	2	28-Jun-21 A	29-Jun-21 A	04-Aug-21	04-Aug-21																													
Z2D-3250	Drain Out Swage and Tank Cleaning for FST No. 3	4	30-Jun-21 A	05-Jul-21 A	04-Aug-21	04-Aug-21																													
Z2D-3170	Bamboo Scaffolding Construction	2	06-Jul-21 A	07-Jul-21 A	04-Aug-21	04-Aug-21																													
Z2D-3180	Replacement of Screws for Rotatory Bridge	10	08-Jul-21 A	19-Jul-21 A	04-Aug-21	04-Aug-21																													
Z2D-3190	Replacement of Scraper Frame Robs	12	08-Jul-21 A	21-Jul-21 A	04-Aug-21	04-Aug-21																													
Z2D-3210	Reconditioning and Replacement of Scraper Driver Units	15	20-Jul-21 A	05-Aug-21	04-Aug-21	07-Aug-21	2																												
Z2D-3200	Disassembly of Scraper Drive Unit / Penstock Actuators / Valves	13	22-Jul-21 A	05-Aug-21	04-Aug-21	07-Aug-21	2																												
Z2D-3220	Return of all Drive Units and Centre Bearing for Reassembly	4	06-Aug-21	10-Aug-21	09-Aug-21	12-Aug-21	2																												
Z2D-3230	Power Reconnection and Testing	3	11-Aug-21	13-Aug-21	13-Aug-21	16-Aug-21	2																												
FST No. 2																																			
Z2D-3260	Switch Duty from FST No. 2 to FST No. 1 or Others	2	14-Aug-21	16-Aug-21	17-Aug-21	18-Aug-21	2																												
Z2D-3340	Isolation and Conduct Pre-test for FST No.2	2	17-Aug-21	18-Aug-21	19-Aug-21	20-Aug-21	2																												
Z2D-3350	Drain Out Swage and Tank Cleaning for FST No. 2	4	19-Aug-21	23-Aug-21	21-Aug-21	25-Aug-21	2																												
Z2D-3270	Bamboo Scaffolding Construction	2	24-Aug-21	25-Aug-21	26-Aug-21	27-Aug-21	2																												
Z2D-3280	Replacement of Screws for Rotatory Bridge	10	26-Aug-21	06-Sep-21																															

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	Gantt Chart (2022-2028)																																			
								2022			2023			2024			2025			2026			2027			2028																	
Z3S1a.6-10	Procurement for SHT Pumps	50	17-Jun-21	14-Aug-21	13-Aug-21	26-Aug-21	10	◆ Procurement for SHT Pumps																																			
Z3S1a.7-10	Completion Overhaul SHT	0		21-Jul-21	21-Jul-21	27-Aug-21	0	◆ Completion Overhaul SHT																																			
TDZ3S1-1060	Construct Temporary Sludge Holding Tank (240m3)	45	16-Aug-21	08-Oct-21	27-Aug-21	21-Oct-21	10	■ Construct Temporary Sludge Holding Tank (240m3)																																			
TDZ3S1-1320	Construct Temporary Water Heater Pump House	45	16-Aug-21	08-Oct-21	27-Aug-21	21-Oct-21	10	■ Construct Temporary Water Heater Pump House																																			
Z3S2-2360	Connection to Temporary SHT and Dewatering House	20	22-Oct-21	13-Nov-21	22-Oct-21	13-Nov-21	0	■ Connection to Temporary SHT and Dewatering House																																			
Laying of Diversion Pipework																																											
Temporary SHT																																											
Stage 1A : Existing Biogas Burner																																											
Stage 1A : Advance Works																																											
Stage 1A : Temporary Polymer Preparation & Dosing System																																											
Stage 1A : Relocation of Ferric Chloride (FeCl3) Dosing System																																											
Stage 2																																											
Z3S2-3020	Completion of Stage 2	0		20-Sep-22		20-Sep-22	0	◆ Completion of Stage 2																																			
Stage 2 : Advance Works																																											
Stage 2 : Existing Biogas Burner																																											
Stage 2 : Temporary Digested Sludge Pumping System and Forward Pumping Station																																											
Stage 2 : New Sludge Thickening Building (STB) at																																											
Z3S2-3080	Completion Demolition of SHT 3 & 4 (10)	0		20-Dec-21		20-Dec-21	0	◆ Completion Demolition of SHT 3 & 4 (10)																																			
ATALZ3S1-1050	Switching Duty to SDT No.1 to No. 3 (9) for STB Demolition and Utility Corridor Construction	14	21-Dec-21	08-Jan-22	12-Jan-22	27-Jan-22	16	■ Switching Duty to SDT No.1 to No. 3 (9) for STB Demolition and Utility Corridor Construction																																			
Z3S2-2030	Demolition of Existing Sludge Thickening House (8, Air Floatation Thickener)	38	13-Jan-22	04-Mar-22	28-Jan-22	19-Mar-22	13	■ Demolition of Existing Sludge Thickening House (8, Air Floatation Thickener)																																			
Z3S2-2040	Demolition of Consolidation Tank (7) C1 & C2	24	13-Jan-22	16-Feb-22	16-Feb-22	15-Mar-22	23	■ Demolition of Consolidation Tank (7) C1 & C2																																			
ATALZ3S1-2210	Switching Duty to SDT No.3 to No. 4 (9) for STB Construction	14	05-Mar-22	21-Mar-22	21-Mar-22	06-Apr-22	13	■ Switching Duty to SDT No.3 to No. 4 (9) for STB Construction																																			
Stage 2 : STB Pre-drilling Works																																											
Z3S3-3400	Environment GI (8 nos., 7d/no., 2 rigs) & Submit RAP Report to EPD (30 days)	58	07-Feb-22	19-Apr-22	04-Mar-22	17-May-22	22	■ Environment GI (8 nos., 7d/no., 2 rigs) & Submit RAP Report to EPD (30 days)																																			
Z3S3-3050	Predrilling Works (2 nos. STB-PD1,2)	18	17-Feb-22	09-Mar-22	16-Mar-22	06-Apr-22	23	■ Predrilling Works (2 nos. STB-PD1,2)																																			
Z3S3-2030	Predrilling Works (5 nos. STB-PD3,6,7,9,10)	41	05-Mar-22	26-Apr-22	24-Mar-22	17-May-22	16	■ Predrilling Works (5 nos. STB-PD3,6,7,9,10)																																			
Z3S3-2020	Predrilling Works (4 nos. STB-PD4,5,8,11)	30	22-Mar-22	29-Apr-22	07-Apr-22	17-May-22	13	■ Predrilling Works (4 nos. STB-PD4,5,8,11)																																			
Stage 2 : Existing Sludge Holding Tanks																																											
Z3S1a.7-60	Completion Connection to Temporary SHT & Dewatering House	0		13-Nov-21		13-Nov-21	0	◆ Completion Connection to Temporary SHT & Dewatering House																																			
Z3S2.5-10	Demolition of Existing Water Heater House	38	15-Nov-21	30-Dec-21	26-Nov-21	12-Jan-22	10	■ Demolition of Existing Water Heater House																																			
Z3S1a.7-10	Completion Demolition of SHT 3 & 4 (10)	0		20-Dec-21		20-Dec-21	0	◆ Completion Demolition of SHT 3 & 4 (10)																																			
Z3S2-2010	Demolition of SHT 1 & 2 (10)	38	13-Jan-22	04-Mar-22	13-Jan-22	04-Mar-22	0	■ Demolition of SHT 1 & 2 (10)																																			
Stage 2 : Biogas Holder No. 1																																											
Z3BH-1000	Biogas Holder No. 1 - Ground Improvement Including Surcharge	126	05-Mar-22	08-Aug-22	05-Mar-22	08-Aug-22	0	■ Biogas Holder No. 1 - Ground Improvement Including Surcharge																																			
Z3BH-1010	Biogas Holder No. 1 - 800 Thick Base Slab	36	09-Aug-22	20-Sep-22	09-Aug-22	20-Sep-22	0	■ Biogas Holder No. 1 - 800 Thick Base Slab																																			
Stage 2 : Utility Corridor Construction																																											
Z3S2-2350	Switching Duty to SDT No.1 to No. 3 (9)	172	08-Jan-22	13-Aug-22	22-Mar-22	11-Oct-22	47	◆ Switching Duty to SDT No.1 to No. 3 (9)																																			
Stage 2 : Utility Corridor No. 3																																											
S2 : UC/PP3 Foundation and ELS Works																																											
Z3S2-2340	UC/PP 3 - Site Setup & Mobilization	12	10-Jan-22	13-Jul-22	23-Mar-22	18-Aug-22	31	■ UC/PP 3 - Site Setup & Mobilization																																			
Z3S2-2060	UC/PP 3 - Sheetpile Installation (2,674m2 @90m2/d)	30	01-Mar-22	04-Apr-22	07-Apr-22	17-May-22	31	■ UC/PP 3 - Sheetpile Installation (2,674m2 @90m2/d)																																			
Z3S2-3050	UC/PP 3 - Monitoring Installation and Pumping Test	21	11-Mar-22	04-Apr-22	21-Apr-22	17-May-22	31	■ UC/PP 3 - Monitoring Installation and Pumping Test																																			
Z3S2-2070	UC/PP 3 - ELS, Excavation (+6.0 to +4.0mPD)	20	06-Apr-22	03-May-22	18-May-22	10-Jun-22	31	■ UC/PP 3 - ELS, Excavation (+6.0 to +4.0mPD)																																			
Z3S2-2090	UC/PP 3 - ELS, Excavation (+4.0 to +1.5mPD)	20	29-Apr-22	24-May-22	08-Jun-22	30-Jun-22	31	■ UC/PP 3 - ELS, Excavation (+4.0 to +1.5mPD)																																			
Z3S2-2080	UC/PP 3 - ELS, Strut Installation S1 (+4.0mPD)	12	04-May-22	18-May-22	27-Jun-22	11-Jul-22	44	■ UC/PP 3 - ELS, Strut Installation S1 (+4.0mPD)																																			
Z3S2-2160	UC/PP 3 - Marine Sediments Treatment and Disposal	30	04-May-22	09-Jun-22	20-Jun-22	25-Jul-22	38	■ UC/PP 3 - Marine Sediments Treatment and Disposal																																			
Z3S2-2100	UC/PP 3 - ELS, Strut Installation S2 (+1.5mPD)	12	25-May-22	08-Jun-22	12-Jul-22	25-Jul-22	39	■ UC/PP 3 - ELS, Strut Installation S2 (+1.5mPD)																																			
Z3S2-2110	UC/PP 3 - ELS, Excavation (+1.5 to -1.0mPD)	20	25-May-22	17-Jun-22	02-Jul-22	25-Jul-22	31	■ UC/PP 3 - ELS, Excavation (+1.5 to -1.0mPD)																																			
Z3S2-2120	UC/PP 3 - ELS, Strut Installation S3 (-1.0mPD)	12	18-Jun-22	02-Jul-22	26-Jul-22	08-Aug-22	31	■ UC/PP 3 - ELS, Strut Installation S3 (-1.0mPD)																																			
Z3S2-2130	UC/PP 3 - ELS, Excavation (-1.0 to -3.75mPD)	21	18-Jun-22	13-Jul-22	26-Jul-22	18-Aug-22	31	■ UC/PP 3 - ELS, Excavation (-1.0 to -3.75mPD)																																			
S2 : UC/PP3 Civil and Structural Works																																											
Z3S2-2370	UC/PP 3 - Structure (-3.75 to -2.20mPD, Base Slab) at Stage 2	27	14-Jul-22	13-Aug-22	19-Aug-22	20-Sep-22	31	■ UC/PP 3 - Structure (-3.75 to -2.20mPD, Base Slab) at Stage 2																																			
Stage 2 : Utility Corridor No. 2																																											
S2 : UC/PP2 Foundation and ELS Works																																											
Z3S2-2150	UC/PP 2 - Sheetpile Installation (2,674m2 @90m2/d)	30	25-May-22	29-Jun-22	16-Aug-22	11-Oct-22	85	■ UC/PP 2 - Sheetpile Installation (2,674m2 @90m2/d)																																			
Z3S2-3060	UC/PP 2 - Monitoring Installation and Pumping Test	21	06-Jun-22	29-Jun-22	15-Sep-22	11-Oct-22	85	■ UC/PP 2 - Monitoring Installation and Pumping Test																																			
Stage 3																																											
Z3S3-3030	Completion of Stage 3	0		24-Jun-23		24-Jun-23	0	◆ Completion of Stage 3																																			
Stage 3 : Existing Biogas Burner																																											
Stage 3 : Gas Holder 1 (GH1)																																											
Stage 3 : New Sludge Thickening Building (STB) (Continued)																																											
Stage 3 : STB Foundation and ELS																																											
Z3S3-3010	STB - Site Setup & Mobilization	10	12-Apr-22	26-Apr-22	05-May-22	17-May-22	16	■ STB - Site Setup & Mobilization																																			
Z3S1a.7-70	Complete Predrilling Works for STB	0		26-Apr-22		17-May-22	16	◆ Complete Predrilling Works for STB																																			
Z3S3-2090	STB - Driven H-pile (101 nos. @1.5n/d/rig)	68	30-Apr-22	22-Jul-22	18-May-22	06-Aug-22	13	■ STB - Driven H-pile (101 nos. @1.5n/d/rig)																																			
Z3S3-2180	STB - Sheetpile Installation (2,955m2 @90m2/d)	40	11-Jul-22	25-Aug-22	26-Jul-22	09-Sep-22	13	■ STB - Sheetpile Installation (2,955m2 @90m2/d)																																			
Z3S3-3370	STB - Submit to GEO (28d)	28	23-Jul-22	24-Aug-22	27-Sep-22	31-Oct-22	55	■ STB - Submit to GEO (28d)																																			
Z3S3-3340	STB - Monitoring Installation and Pumping Test	27	26-Aug-22	27-Sep-22	12-Sep-22	14-Oct-22	13	■ STB - Monitoring Installation and Pumping Test																																			
Z3S3-2250	STB - ELS, Excavation (+6.0 to +4.5mPD)	18	28-Sep-22	20-Oct-22	15-Oct-22	04-Nov-22	13	■ STB - ELS, Excavation (+6.0 to +4.5mPD)																																			
Z3S3-2290	STB - ELS, Strut Installation S1 (@ +4.5mPD)	24	21-Oct-22	17-Nov-22	05-Nov-22	02-Dec-22	13	■ STB - ELS, Strut Installation S1 (@ +4.5mPD)																																			
Z3S3-2360	STB - ELS, Excavation (+4.5 to +0.5mPD)	18	18-Nov-22	08-Dec-22	03-Dec-22	23-Dec-22	13	■ STB - ELS, Excavation (+4.5 to +0.5mPD)																																			
Z3S3-2420	STB - ELS, Strut Installation S2 (@ +0.5mPD)	24	09-Dec-22	09-Jan-23	24-Dec-22	31-Jan-23	13	■ STB - ELS, Strut Installation S2 (@ +0.5mPD)																																			
Stage 3 : Chemical Building and Reclaimed Water Building																																											
Z3S3-2170	Construction of Reclaimed Water Building with Underground Pipeworks at Stage 3	90	23-Sep-22	11-Jan-23	30-Nov-22	24-Mar-23	56	■ Construction of Reclaimed Water Building with Underground Pipeworks at Stage 3																																			
Z3S3-2160	Sludge Thickening Chemical System Building at Stage 3	90	11-Oct-22	02-Feb-23	30-Nov-22	24-Mar-23	43	■ Sludge Thickening Chemical System Building at Stage 3																																			
Stage 3 : Biogas Holder No. 1 (Continued)																																											
ATALZ3BH-1000	Biogas Holder No. 1 - E&M Install and associated Pipeworks	220	21-Sep-22	24-Jun-23	21-Sep-22	24-Jun-23	0	■ Biogas Holder No. 1 - E&M Install and associated Pipeworks																																			
ATALZ3BH-0900	Biogas Holder No. 1 - E&M Handover	0		21-Sep-22		21-Sep-22	0	◆ Biogas Holder No. 1 - E&M Handover																																			
Stage 3 : Utility Corridor Construction (Continued)																																											
Stage 3 : Utility Corridor No. 3																																											
S3 : UC/PP3 Civil and Structural Works																																											
Z3S2-2140	UC/PP 3 - Structure (-3.75 to -2.20mPD, Base Slab) at Stage 3	22	15-Aug-22	08-Sep-22	07-Nov-22	01-Dec-22	69	■ UC/PP 3 - Structure (-3.75 to -2.20mPD, Base Slab) at Stage 3																																			
Z3S2-2180	UC/PP 3 - Structure (-2.20 to +1.0mPD)	48	09-Sep-22	07-Nov-22	02-Dec-22	06-Feb-23	69	■ UC/PP 3 - Structure (-2.20 to +1.0mPD)																																			
Z3S2-2250	UC/PP 3 - Structure (+1.0 to +4.2mPD) including Backfill	48	08-Nov-22	05-Jan-23	07-Feb-23	03-Apr-23	69	■ UC/PP 3 - Structure (+1.0 to +4.2mPD) including Backfill																																			



- Remaining Level of Effort
- DWP Re.3
- Actual Work
- Remaining Work
- Critical Remaining Work

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

Detailed Works Programme

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Detailed Works Programme			
Date	Revision	Checked	Approved
31-Jul-21	Rev. 4		
30-Jun-21	Rev. 3		
31-May-21	Rev. 2		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	2022		2023				2024				2025				2026				2027				2028			
								Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Stage 8 : H2S System (Continued)								253	08-Jan-25	17-Nov-25	28-Nov-25	09-Oct-26	262																				
H2S-170	H2S Removal System - Structure Phase 2	91	08-Jan-25	06-May-25	28-Nov-25	24-Mar-26	262																										
H2S-150	H2S Removal System - E&M Installation o/w above ground pipeworks	110	07-May-25	13-Sep-25	25-Mar-26	07-Aug-26	262																										
H2S-155	H2S Removal System - Loading of Ferric Oxide	110	07-May-25	13-Sep-25	25-Mar-26	07-Aug-26	262																										
H2S-149	H2S Removal System - E&M Handover	0	07-May-25		25-Mar-26		262																										
H2S-160	H2S Removal System and Other E&M T&C	52	15-Sep-25	17-Nov-25	08-Aug-26	09-Oct-26	262																										
Stage 8 : Biogas Holders No. 2,3 and 4								383	21-Oct-24	04-Feb-26	21-Oct-24	04-Feb-26	0																				
Z3BH-1020	Biogas Holder No. 2-4 - Ground Improvement Including Surcharge	160	21-Oct-24	10-May-25	21-Oct-24	10-May-25	0																										
Z3BH-1030	Biogas Holder No. 2-4 - 800 Thick Base Slab Including Pipeworks	39	12-May-25	26-Jun-25	12-May-25	26-Jun-25	0																										
Stage 8 : E&M Installation Works BH 2,3,4								184	27-Jun-25	04-Feb-26	27-Jun-25	04-Feb-26	0																				
ATALZ3BH-2260	BH No. 2-4 - Installation of Biogas Holder No.2-4	184	27-Jun-25	04-Feb-26	27-Jun-25	04-Feb-26	0																										
ATALZ3BH-2259	BH No. 2-4 - E&M Handover	0	27-Jun-25		27-Jun-25		0																										
Stage 8 : Remaining Works								30	01-Apr-25	12-May-25	22-May-25	26-Jun-25	38																				
ATALZ3BH-2210	Remaining Pipe Connection to Pipe Portal 1 to 3 (Permanent Pipe Routing)	30	01-Apr-25	12-May-25	22-May-25	26-Jun-25	38																										
Stage 9								237	05-Feb-26	07-Nov-26	05-Feb-26	07-Nov-26	0																				
Z3S9-3380	Completion of Stage 9 (all zone 3 works complete)	0		07-Nov-26*		07-Nov-26	0																										
Stage 9 : New Sludge Digester No. 4 (Continued)								69	11-Jul-26	30-Sep-26	20-Jul-26	09-Oct-26	7																				
Stage 9 : E&M Works SDT No. 3 & No. 4								69	11-Jul-26	30-Sep-26	20-Jul-26	09-Oct-26	7																				
ATALZ3S8-2030	SDT No.3&4 - Instrumentation	34	11-Jul-26	19-Aug-26	20-Jul-26	27-Aug-26	7																										
ATALZ3S8-2040	SDT No.3&4 - Electrical works (Cable wiring, termination, lightning arrestor)	34	11-Jul-26	19-Aug-26	20-Jul-26	27-Aug-26	7																										
ATALZ3S8-2050	SDT No.3&4 - T&C	35	20-Aug-26	30-Sep-26	28-Aug-26	09-Oct-26	7																										
Stage 9 : Biogas Holders No. 2,3 and 4 (Continued)								237	05-Feb-26	07-Nov-26	05-Feb-26	07-Nov-26	0																				
Stage 9 : E&M Installation Works BH 2,3,4								145	05-Feb-26	07-Aug-26	05-Feb-26	08-Aug-26	1																				
ATALZ3BH-2000	BH No. 2-4 - Installation of Biogas Holder No.2-4	126	05-Feb-26	16-Jul-26	05-Feb-26	16-Jul-26	0																										
ATALZ3BH-2010	BH No.2-4 - Installation of pipework and instrumentation in Biogas Holder Valve Chamber No.2-4	95	15-Apr-26	07-Aug-26	15-Apr-26	07-Aug-26	0																										
ATALZ3BH-2020	BH No.2-4 - Instrumentation	95	15-Apr-26	07-Aug-26	16-Apr-26	08-Aug-26	1																										
ATALZ3BH-2030	BH No.2-4 - Electrical works (Cable wiring, termination, lightning arrestor)	95	15-Apr-26	07-Aug-26	16-Apr-26	08-Aug-26	1																										
Stage 9 : E&M Installation Works for Biogas Holders No. 1-4								178	15-Apr-26	07-Nov-26	15-Apr-26	07-Nov-26	0																				
ATALZ3BH-2040	BH No.1-4 - Installation of Underground Biogas Pipework	95	15-Apr-26	07-Aug-26	16-Apr-26	08-Aug-26	1																										
ATALZ3BH-2050	BH No.1-4 - Installation of Biogas Booster Pump No.3 & 4 and Transfer Pump	95	15-Apr-26	07-Aug-26	16-Apr-26	08-Aug-26	1																										
ATALZ3BH-2060	BH No.1-4 - Installation of Waste Gas Burner	95	15-Apr-26	07-Aug-26	15-Apr-26	07-Aug-26	0																										
ATALZ3BH-2170	Section 3 Completion	0		07-Nov-26*		07-Nov-26	0																										
Stage 9 : Testing and Commissioning (T&C)								52	08-Aug-26	09-Oct-26	08-Aug-26	09-Oct-26	0																				
S9 : BH No.1								52	08-Aug-26	09-Oct-26	08-Aug-26	09-Oct-26	0																				
ATALZ3BH-2070	BH No. 1 - T&C - E&M SAT of Biogas Holder No.1 (using Air to test membrane only)	15	08-Aug-26	25-Aug-26	08-Aug-26	25-Aug-26	0																										
ATALZ3BH-2090	BH No. 1 - T&C - E&M SAT of whole Biogas Holder No.1 and associated valve and pipework (N2 Purging)	20	08-Aug-26	31-Aug-26	08-Aug-26	31-Aug-26	0																										
ATALZ3BH-2100	BH No. 1 - T&C - E&M SAT of Biogas Booster Pump No.1 & 2	20	08-Aug-26	31-Aug-26	08-Aug-26	31-Aug-26	0																										
ATALZ3BH-2160	BH No. 1 - System Commissioning	32	01-Sep-26	09-Oct-26	01-Sep-26	09-Oct-26	0																										
S9 : BH No.2, 3 & 4								18	08-Aug-26	28-Aug-26	10-Aug-26	09-Oct-26	34																				
ATALZ3BH-2080	BH No.2-4 - T&C - E&M SAT of Biogas Holder No.2-4 (using Air to test membrane only)	14	08-Aug-26	24-Aug-26	10-Aug-26	25-Aug-26	1																										
ATALZ3BH-2110	BH No.2-4 - T&C - E&M SAT of whole Biogas Holder No.2-4 and associated valve and pipework (N2 Purging)	18	08-Aug-26	28-Aug-26	17-Sep-26	09-Oct-26	34																										
S9 : BH No.1, 2, 3 & 4								51	08-Aug-26	08-Oct-26	10-Aug-26	09-Oct-26	1																				
ATALZ3BH-2120	BH No.1-4 - T&C - E&M SAT of Biogas Booster Pump No.3 & 4 and Transfer Pump	15	08-Aug-26	25-Aug-26	10-Aug-26	26-Aug-26	1																										
ATALZ3BH-2130	BH No.1-4 - T&C - E&M SAT of Waste Gas Burner	15	08-Aug-26	25-Aug-26	10-Aug-26	26-Aug-26	1																										
ATALZ3BH-2150	BH No.1-4 - System Commissioning	36	26-Aug-26	08-Oct-26	27-Aug-26	09-Oct-26	1																										
Stage 9 : Remaining Works								25	10-Oct-26	07-Nov-26	10-Oct-26	07-Nov-26	0																				
ATALZ3BH-2200	Demolish Gas Holder (GH1), Methane Compressor House and Water Heater House	24	10-Oct-26	07-Nov-26	10-Oct-26	07-Nov-26	0																										
ATALZ3BH-2220	Demolish Consolidation Tanks C3-C6	24	10-Oct-26	07-Nov-26	10-Oct-26	07-Nov-26	0																										
ATALZ3BH-2230	Demolish Temp. Consolidation Tank System & Polymer Dosing System	24	10-Oct-26	07-Nov-26	10-Oct-26	07-Nov-26	0																										
ATALZ3BH-2240	Demolish Temp. Sludge Holding Tank (SHT)	24	10-Oct-26	07-Nov-26	10-Oct-26	07-Nov-26	0																										
ATALZ3BH-2250	Section 3 Completion	0		07-Nov-26*		07-Nov-26	0																										
External Works - Sludge Thickening Building Perimeter								216	05-Feb-26	02-Nov-26	01-Apr-26	07-Nov-26	5																				
EW-1020	STB Perimeter - Drainage/Sewer/Watermain/Utility Installation	150	05-Feb-26	13-Aug-26	01-Apr-26	02-Oct-26	41																										
EW-1040	STB Perimeter - Process Pipe Installation	120	05-Feb-26	09-Jul-26	01-Apr-26	26-Aug-26	41																										
EW-1060	STB Perimeter - Road Works	90	17-Jul-26	02-Nov-26	23-Jul-26	07-Nov-26	5																										
Plant Commissioning								126	15-Jun-26	08-Nov-26	24-Jun-26	08-Nov-26	0																				
PC-110	Submit Plant Commissioning Plan	90	15-Jun-26	30-Sep-26	24-Jun-26	09-Oct-26	7																										
PC-100	Complete SD E&M Works	0		30-Sep-26		09-Oct-26	7																										
PC-120	Plant Commissioning	30	10-Oct-26	08-Nov-26	10-Oct-26	08-Nov-26	0																										



- Remaining Level of Effort
- DWP Re.3
- Actual Work
- Remaining Work
- Critical Remaining Work

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

Detailed Works Programme

Project ID : DWP.DPr4_210730
 Layout : DC201910 DWP rev.4
 Page 24 of 24

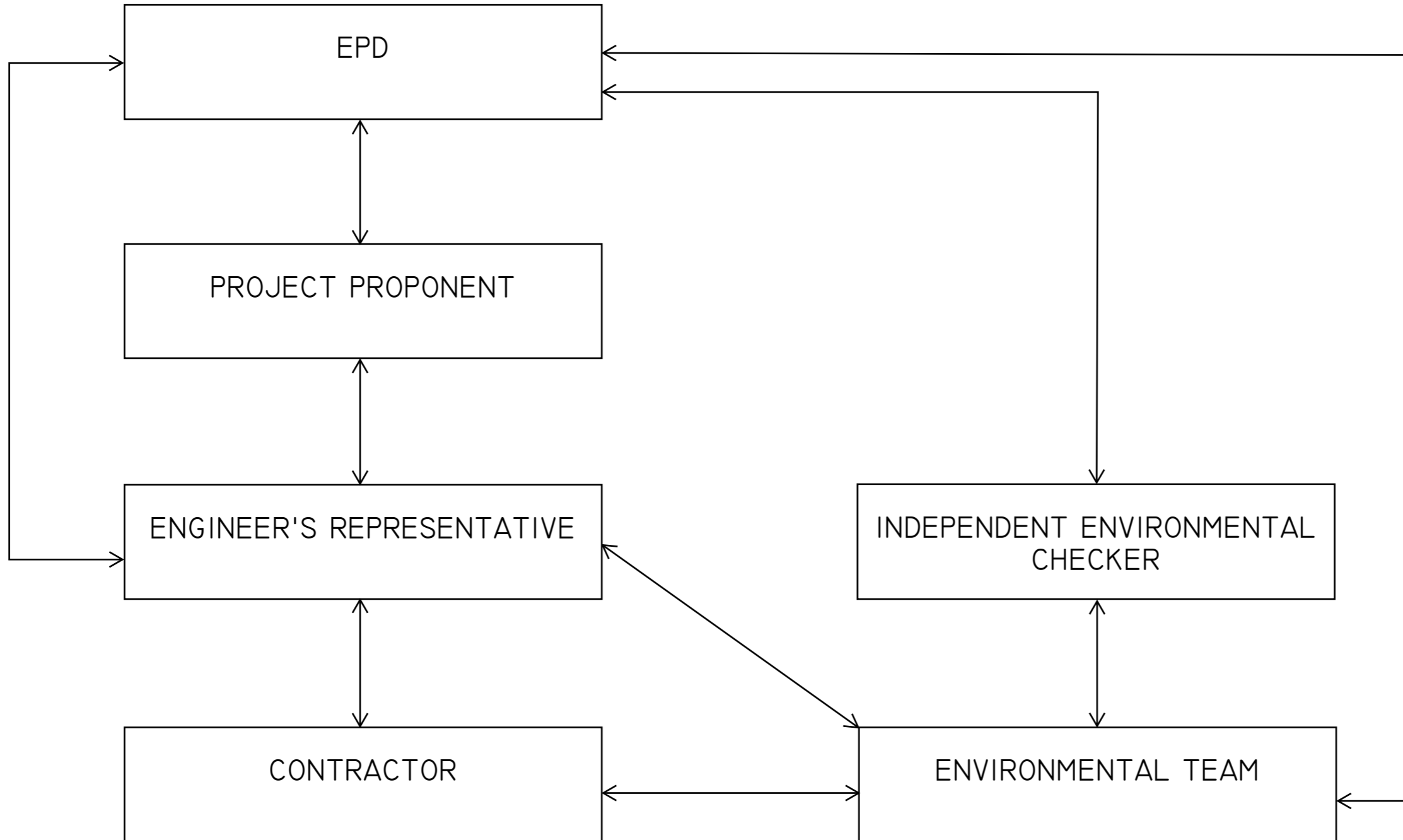
Detailed Works Programme			
Date	Revision	Checked	Approved
31-Jul-21	Rev. 4		
30-Jun-21	Rev. 3		
31-May-21	Rev. 2		

Appendix B

Project Organization Chart

LEGEND:

↔ LINE OF COMMUNICATION



PROJECT
項目

YUEN LONG EFFLUENT
POLISHING PLANT -
INVESTIGATION, DESIGN
AND CONSTRUCTION

CLIENT
業主



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
發行

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

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

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Appendix C

Action and Limit Level

Action / Limit Levels for Air Quality

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

Notes:

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

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

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

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:

- 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.
- 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
<i>Construction Phase Water Quality Monitoring</i>		
DO in mg/L (Surface, Middle & Bottom) ²	<p><u>Surface & Middle</u> 5%-ile of baseline data for surface and middle layer.</p> <p><u>Bottom</u> 5%-ile of baseline data for bottom layer.</p>	<p><u>Surface & Middle</u> 4 mg/L or 1%-ile of baseline data for surface and middle layer.</p> <p><u>Bottom</u> 2 mg/L or 1%-ile of baseline data for bottom layer.</p>
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:

- "Depth-averaged" is calculated by taking the arithmetic means of reading of all three depths;
- For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits;
- 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		

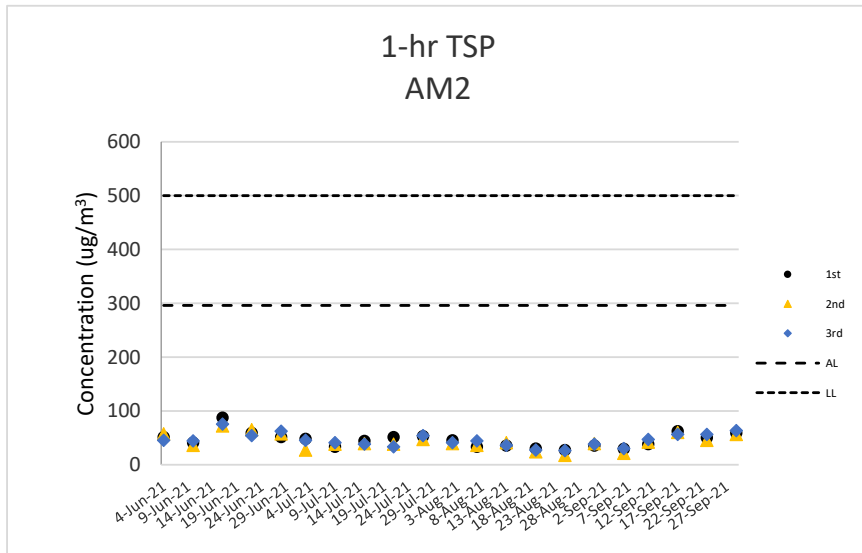
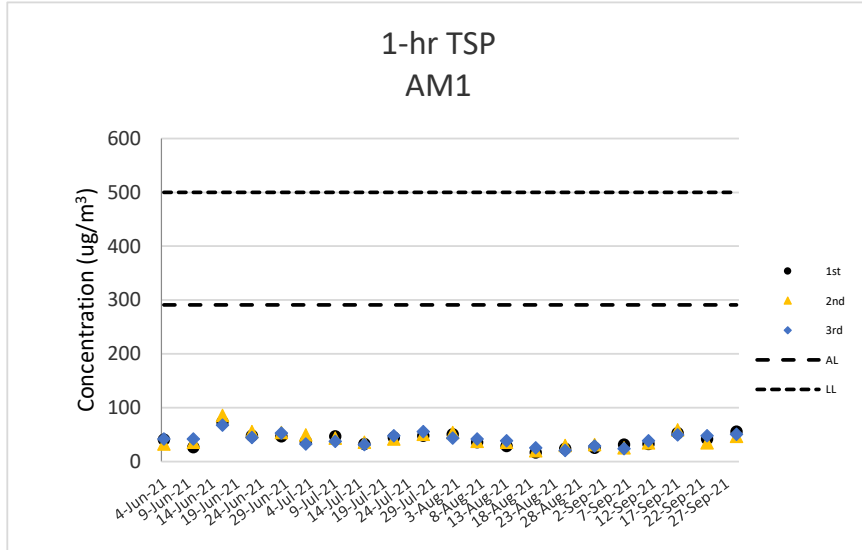
Notes:

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.

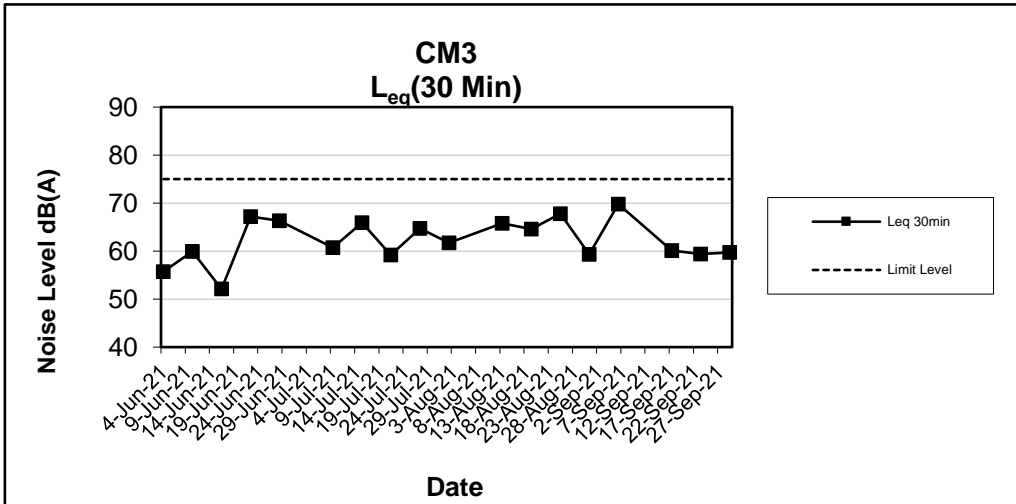
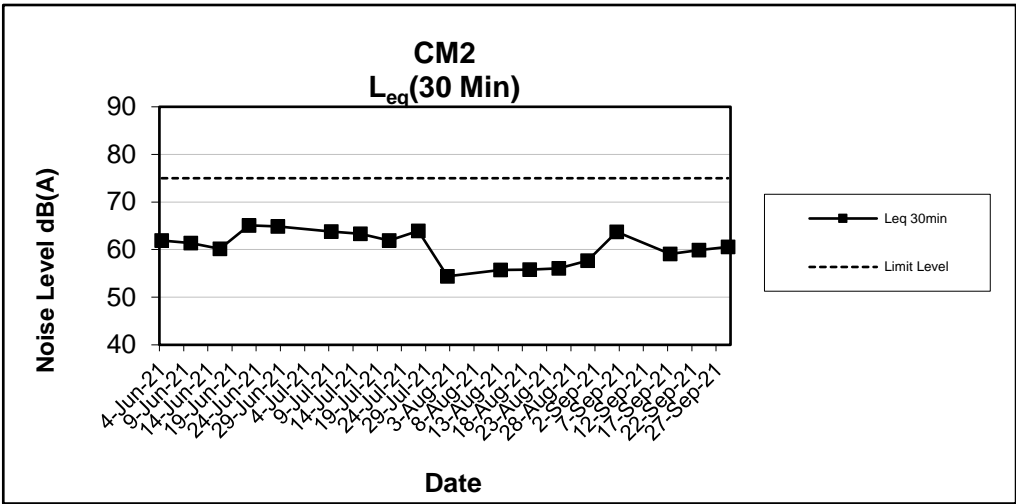
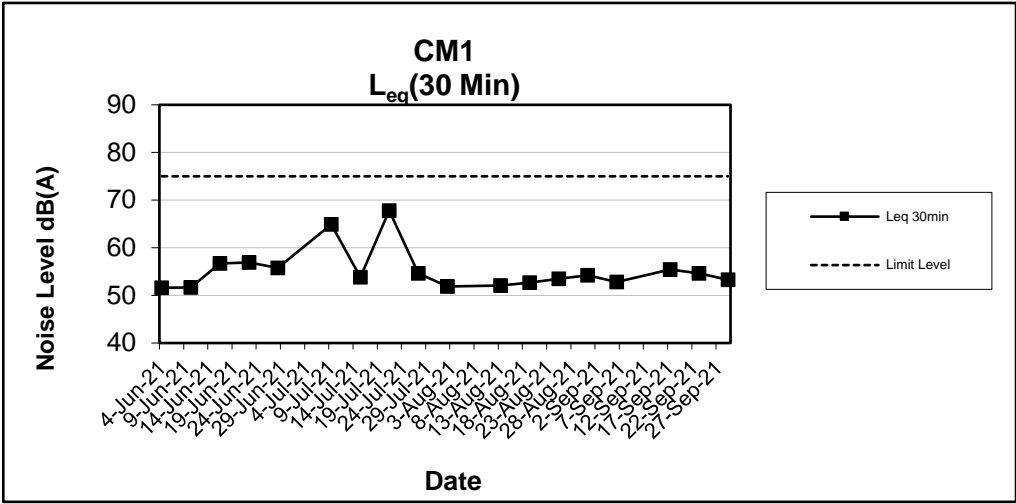
Appendix D

Graphical Presentation of Monitoring Data

Air Quality Monitoring Results

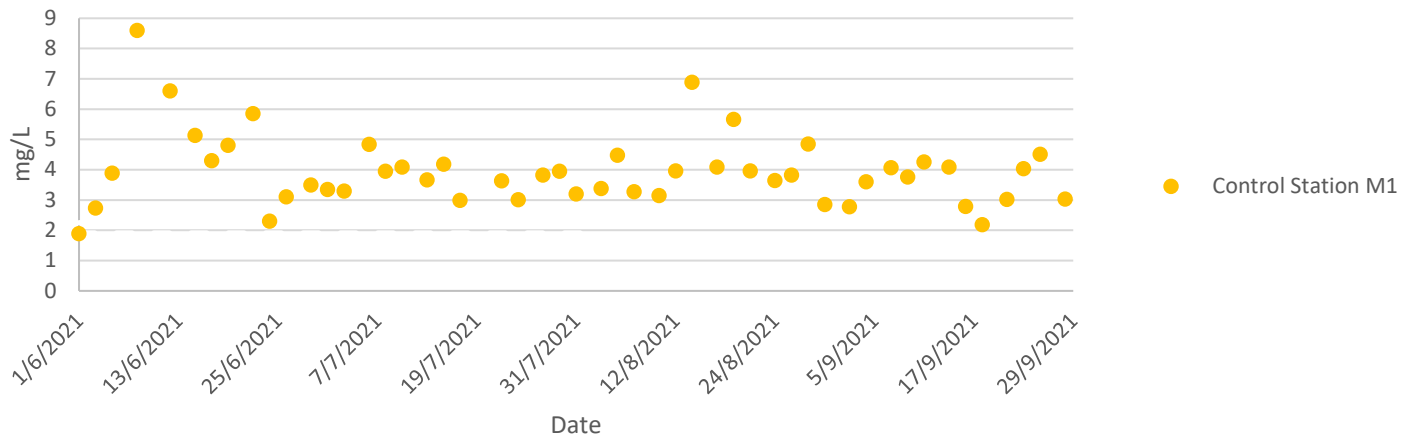


Noise Monitoring Results

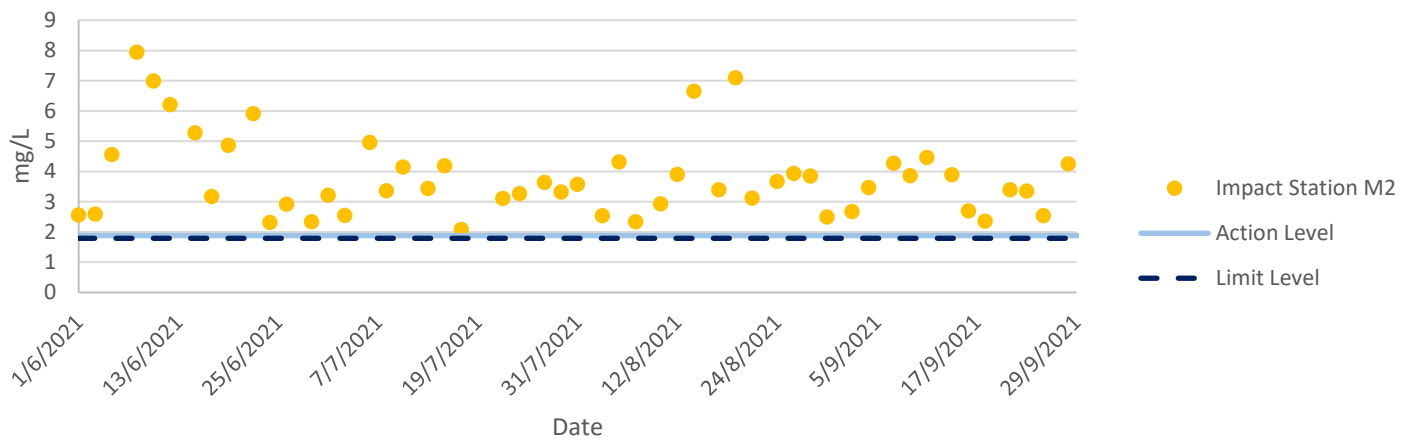


Water Quality Monitoring Results

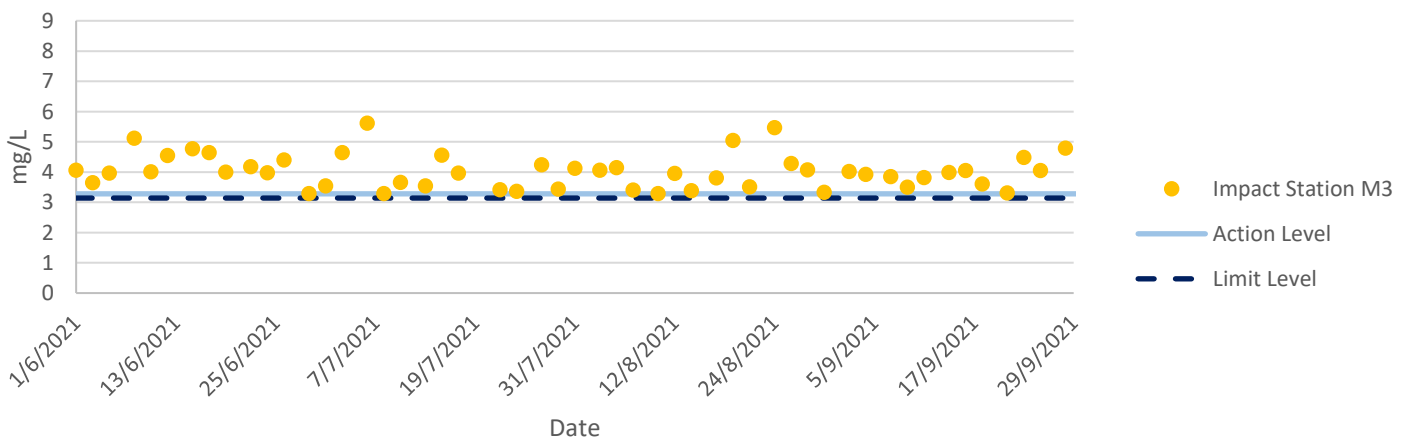
Dissolved Oxygen at Mid-Flood Tide



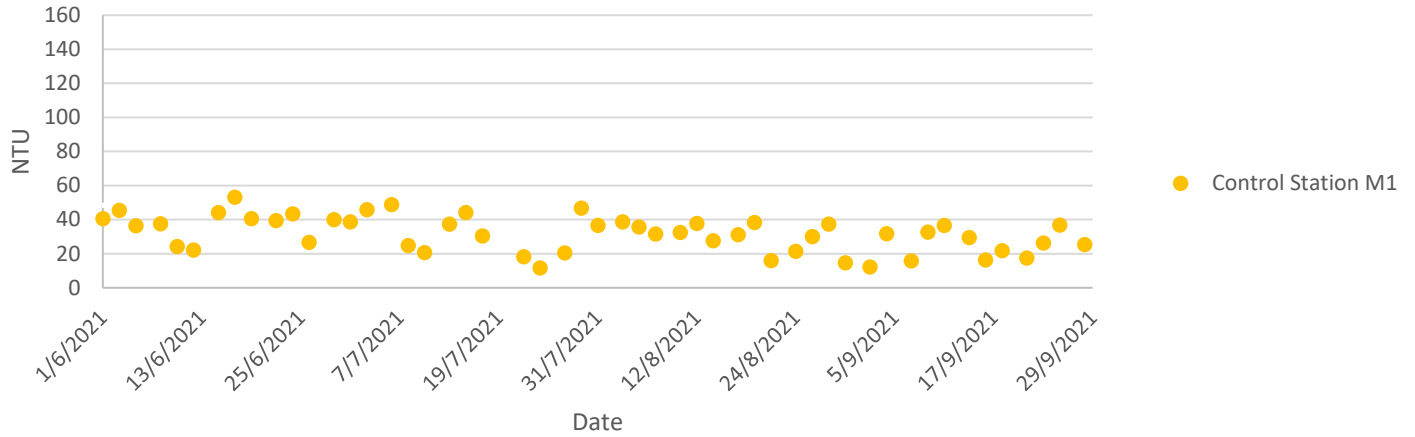
Dissolved Oxygen at Mid-Flood Tide



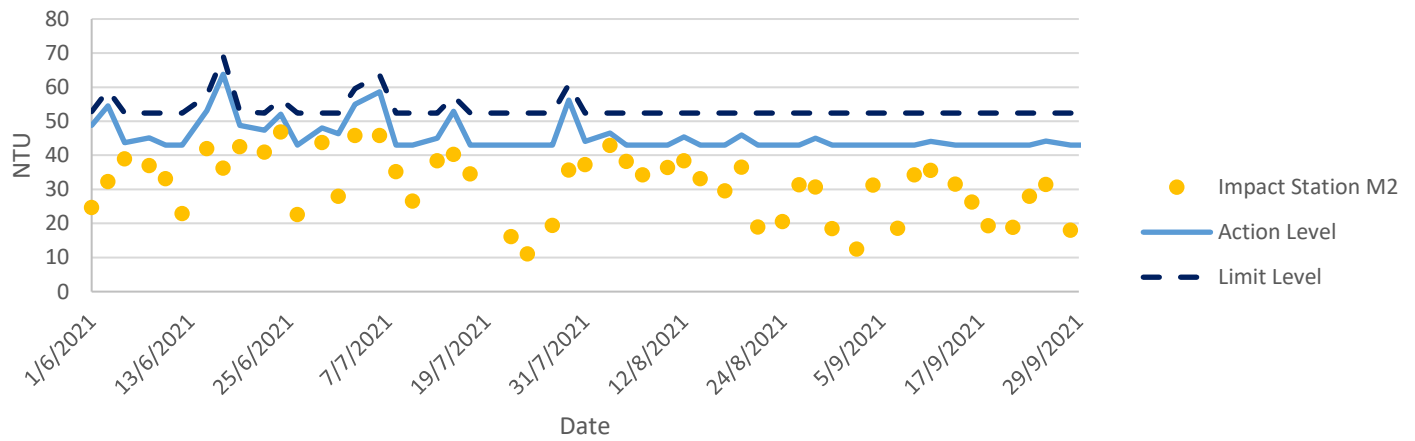
Dissolved Oxygen at Mid-Flood Tide



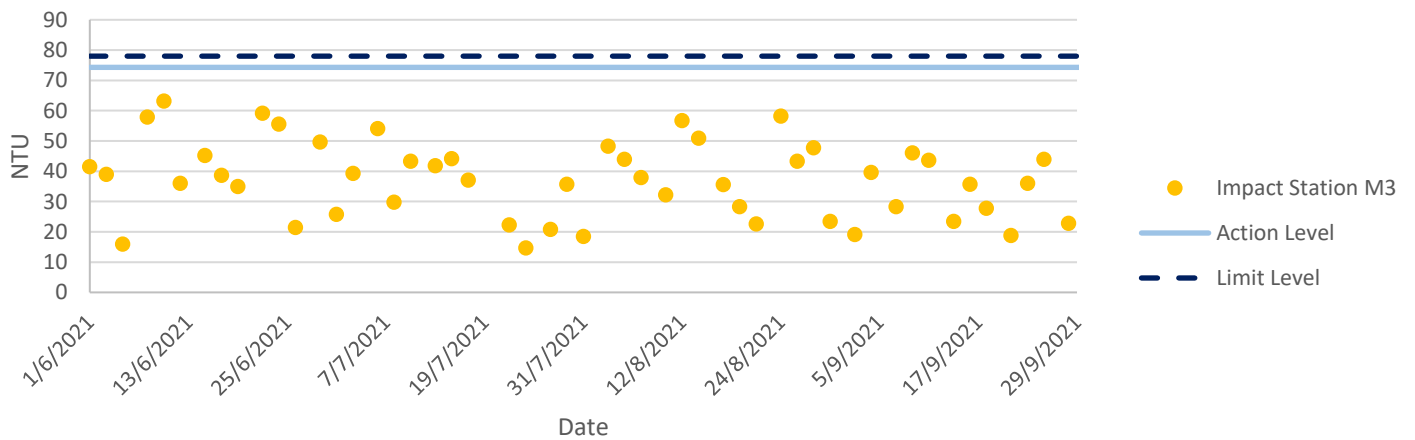
Turbidity at Mid-Flood Tide



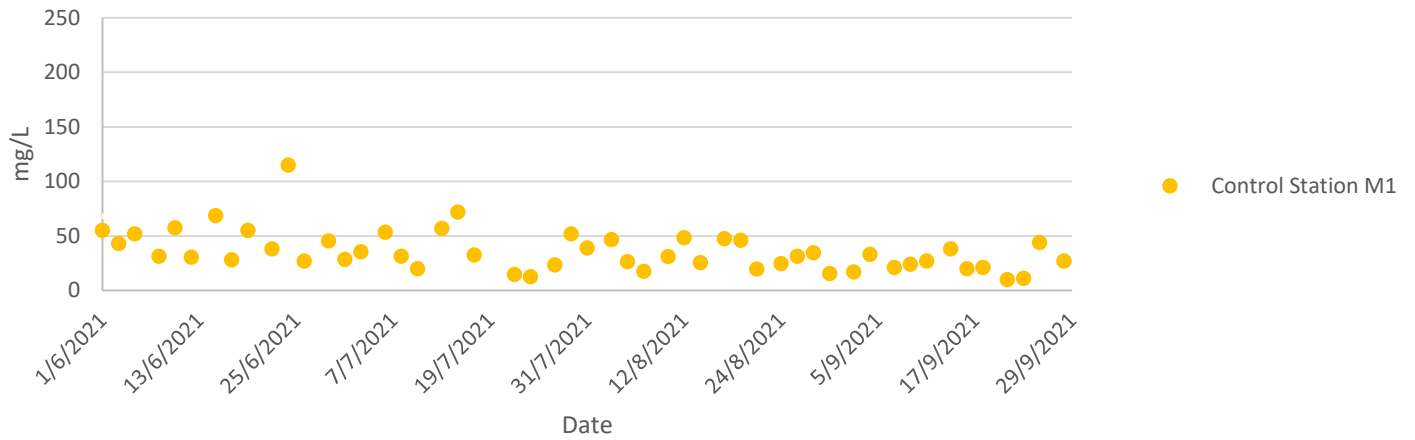
Turbidity at Mid-Flood Tide



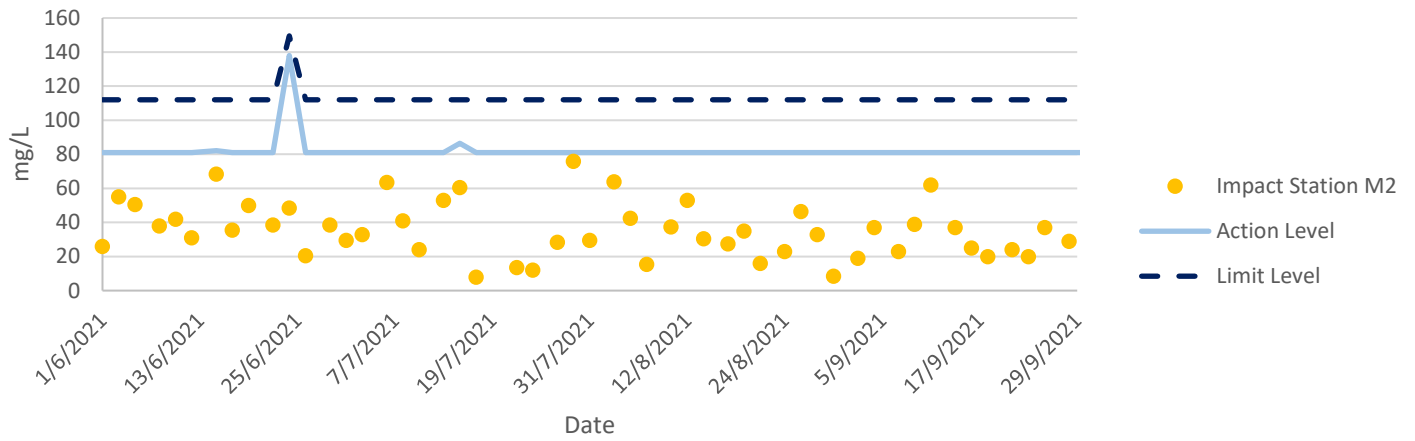
Turbidity at Mid-Flood Tide



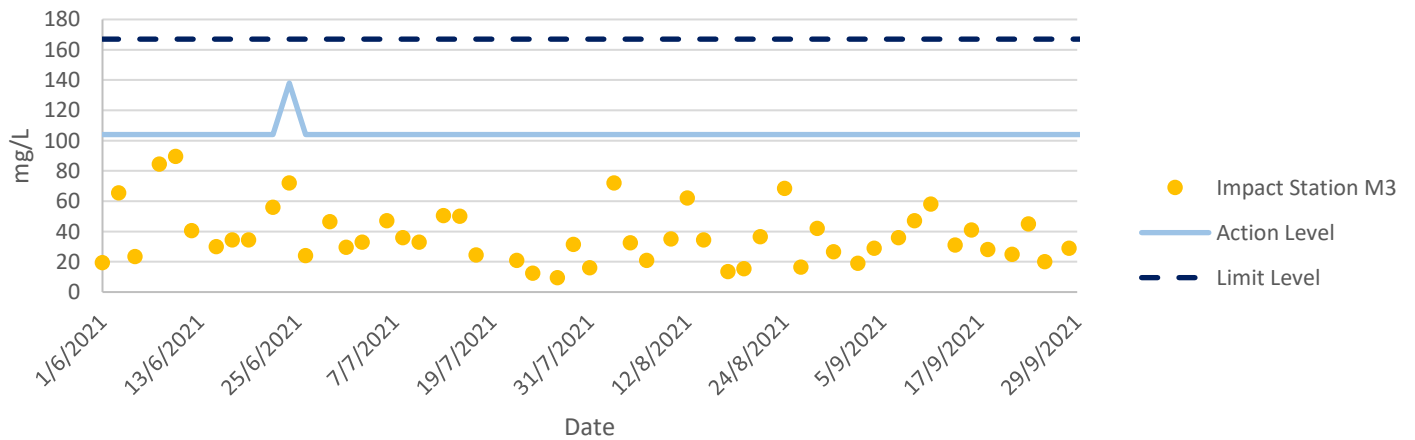
Total Suspended Solids at Mid-Flood Tide



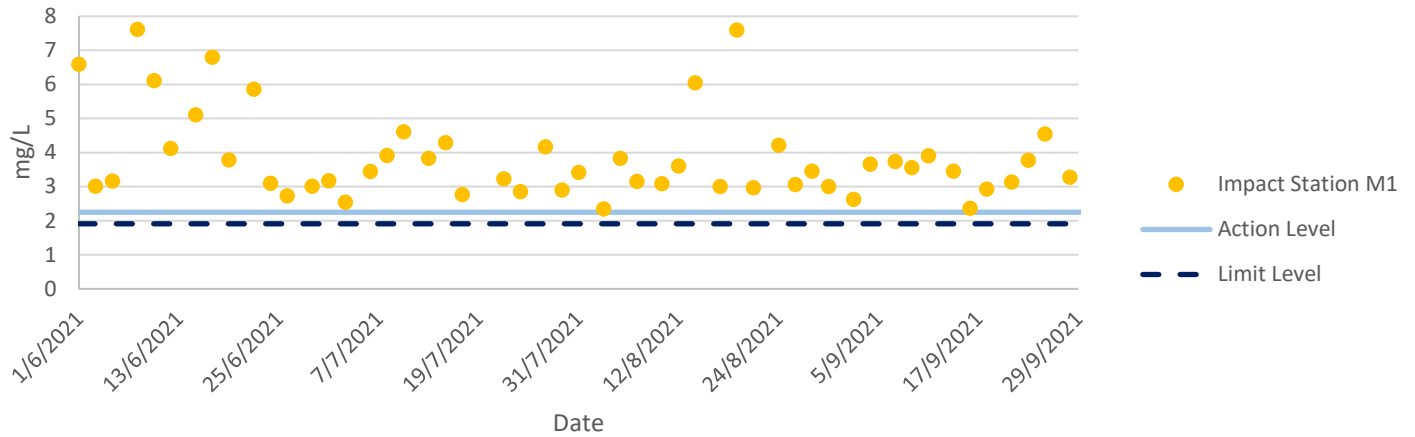
Total Suspended Solids at Mid-Flood Tide



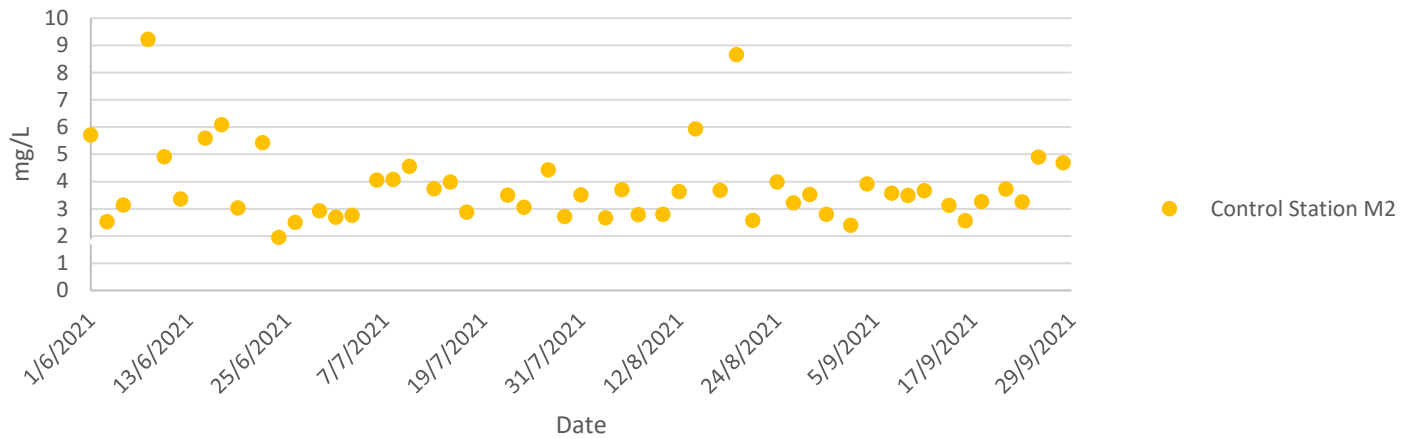
Total Suspended Solids at Mid-Flood Tide



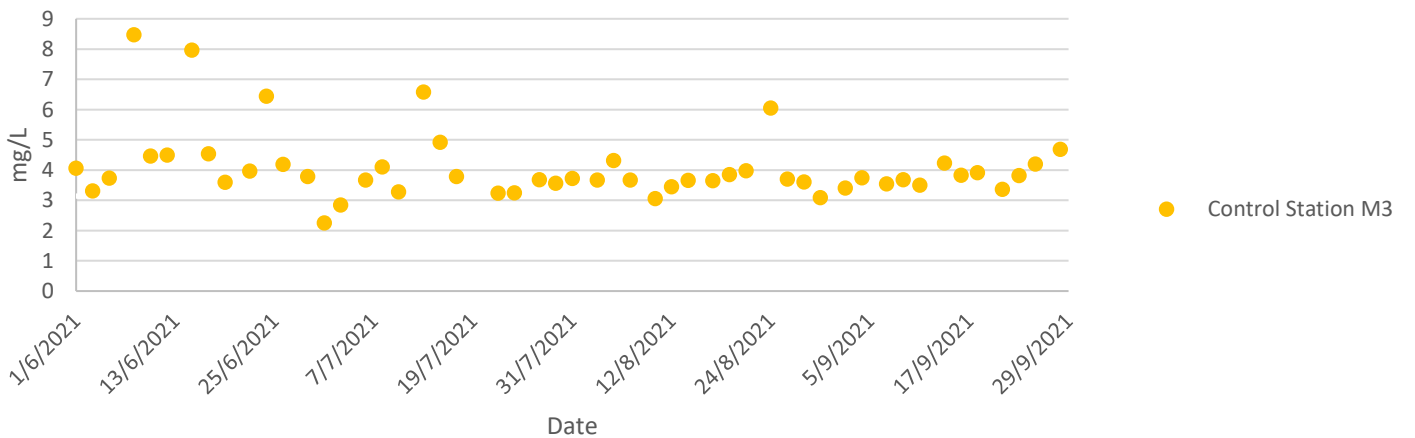
Dissolved Oxygen at Mid-Ebb Tide



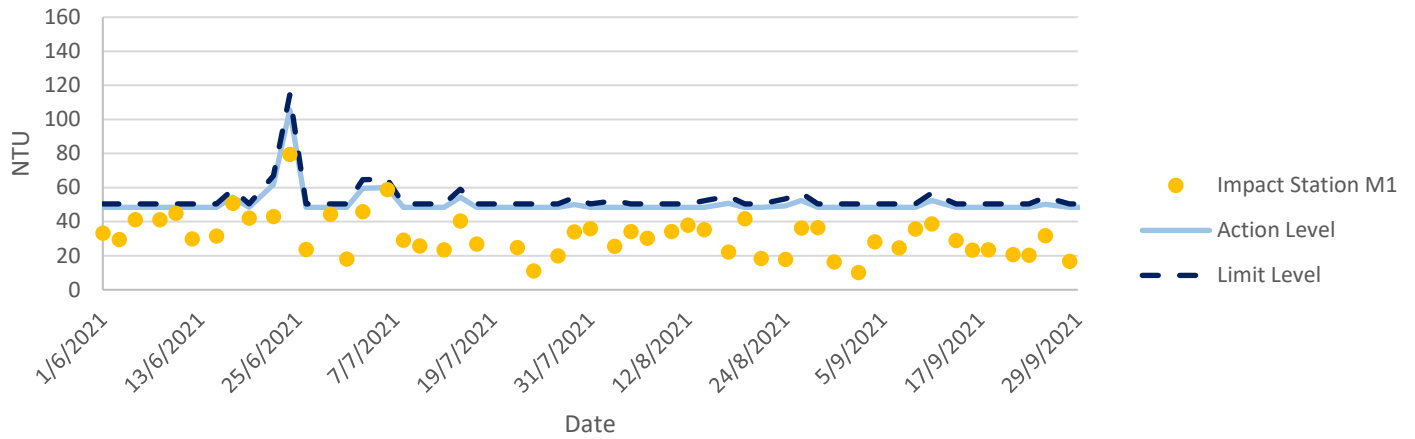
Dissolved Oxygen at Mid-Ebb Tide



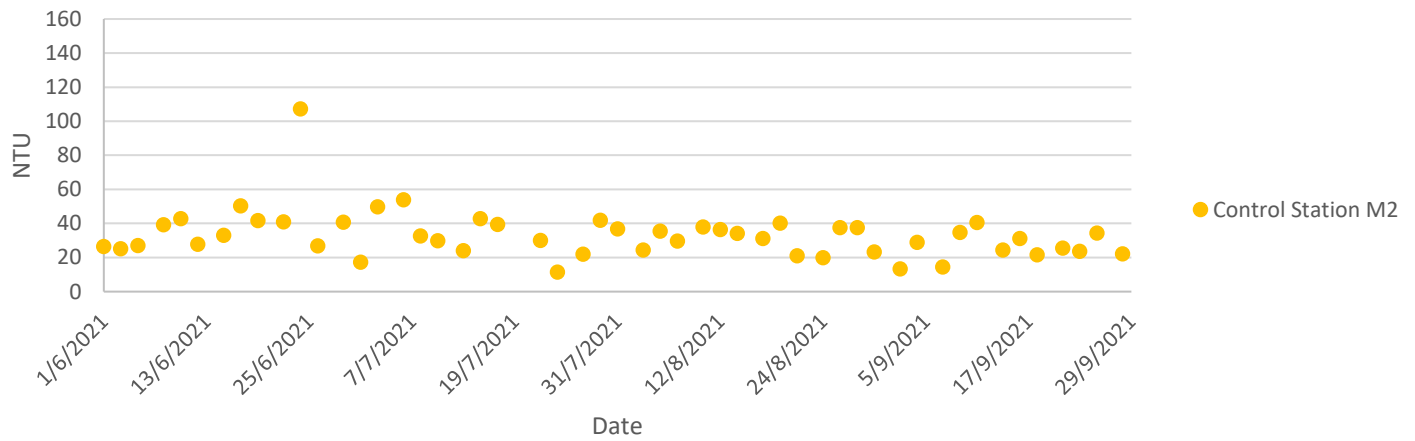
Dissolved Oxygen at Mid-Ebb Tide



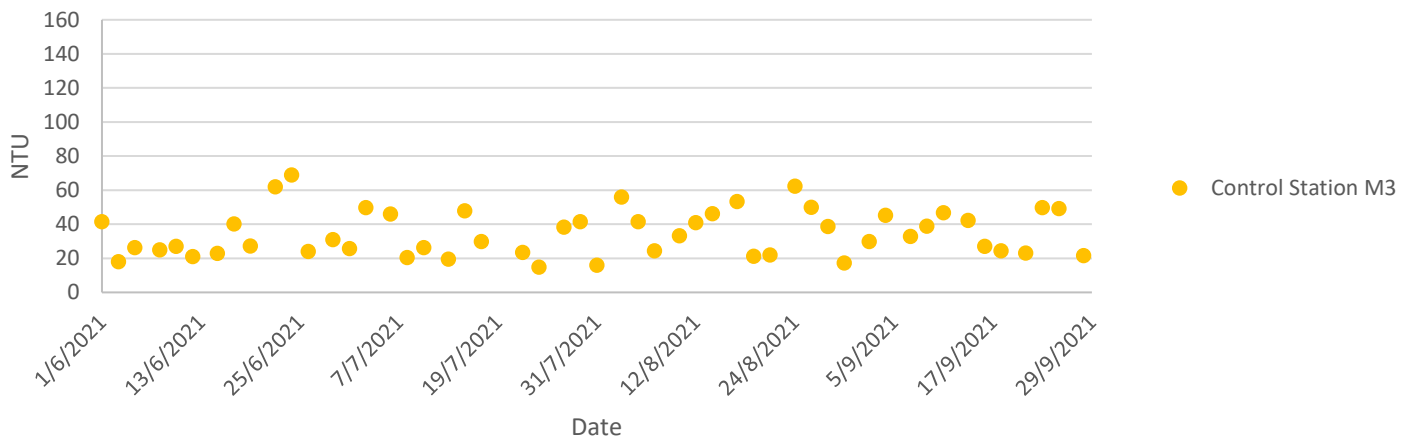
Turbidity at Mid-Ebb Tide



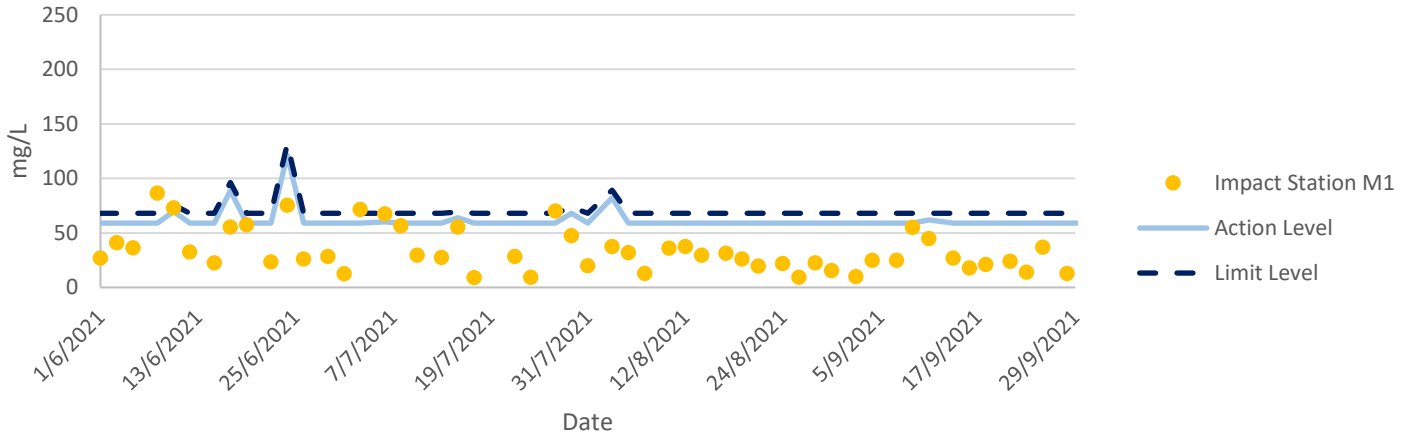
Turbidity at Mid-Ebb Tide



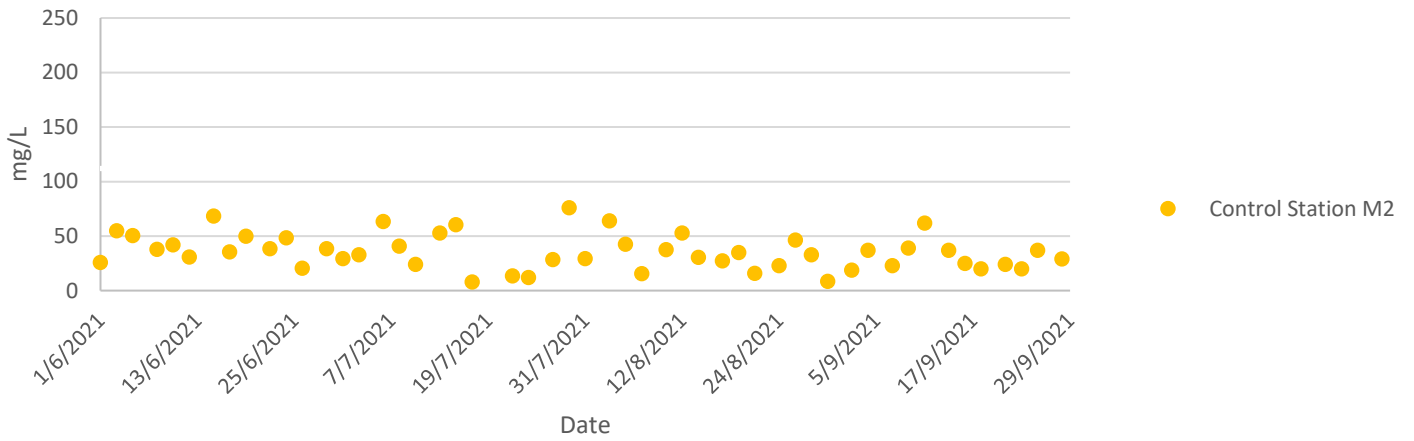
Turbidity at Mid-Ebb Tide



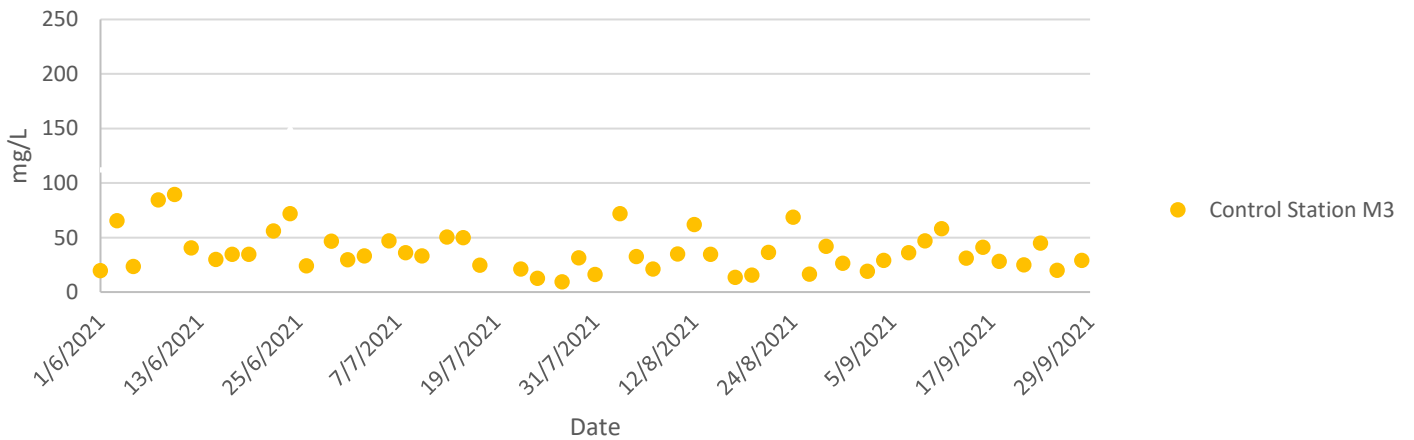
Total Suspended Solids at Mid-Ebb Tide



Total Suspended Solids at Mid-Ebb Tide



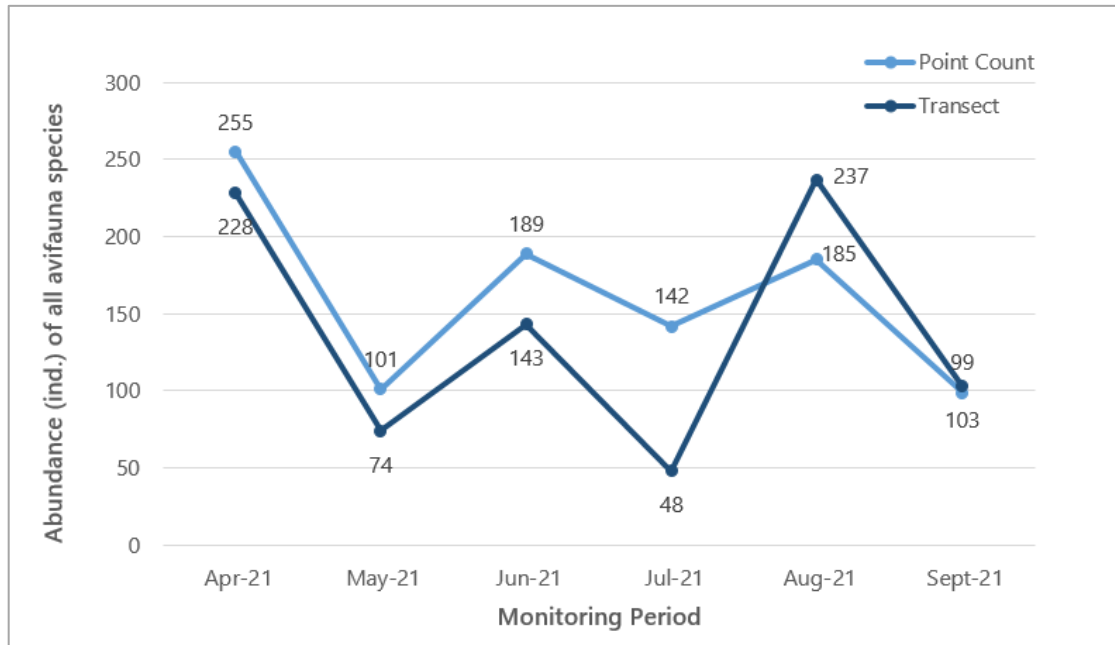
Total Suspended Solids at Mid-Ebb Tide



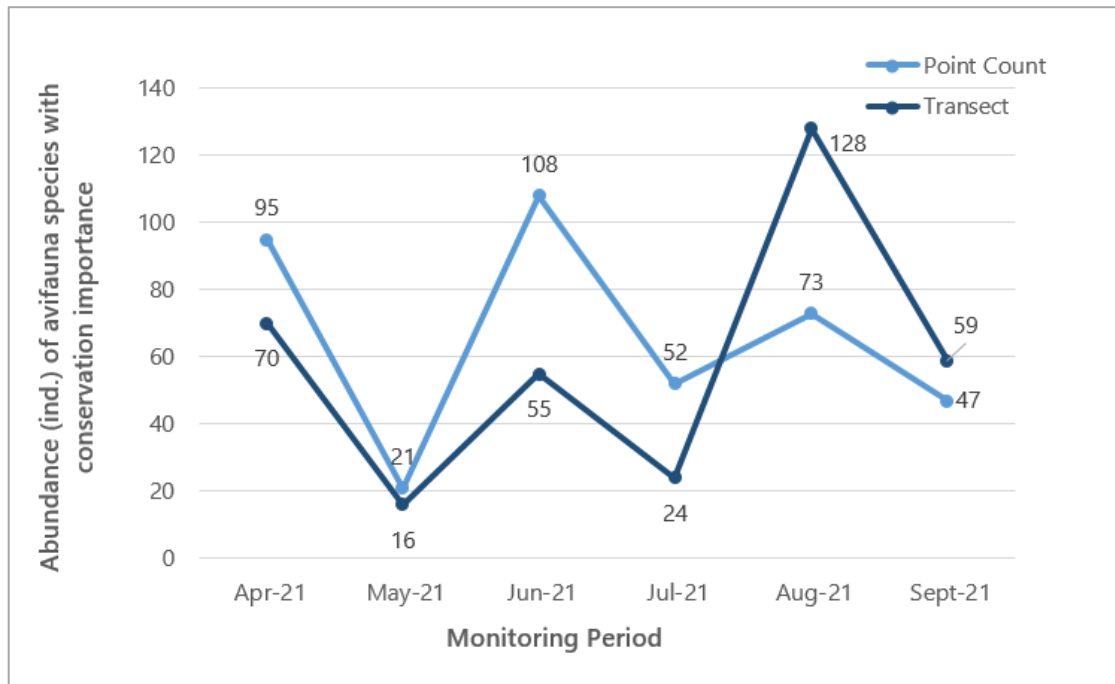
Ecology Monitoring Results

Ecology Monitoring Results

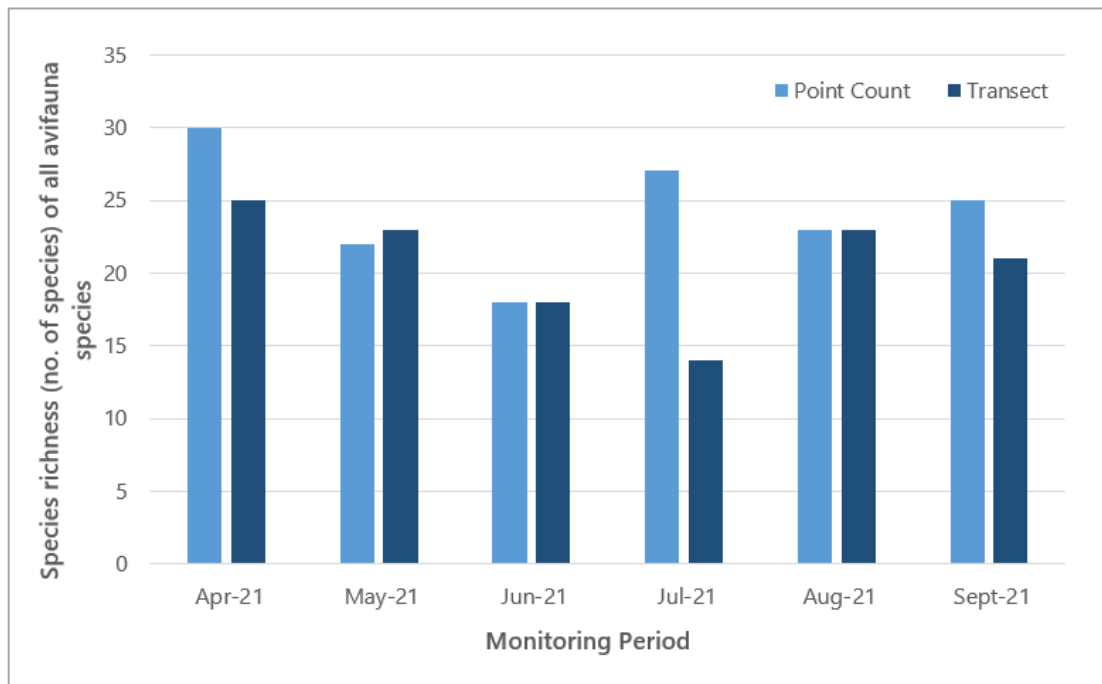
Abundance of all avifauna species throughout the monitoring period



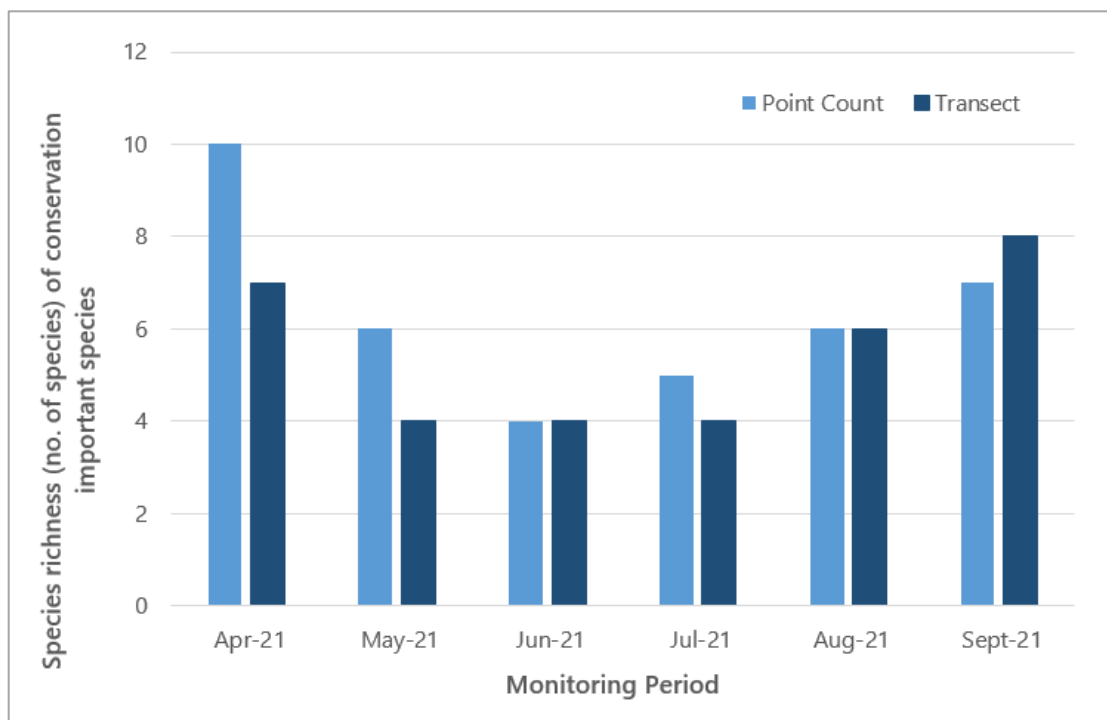
Abundance of avifauna species with conservation importance throughout the monitoring period



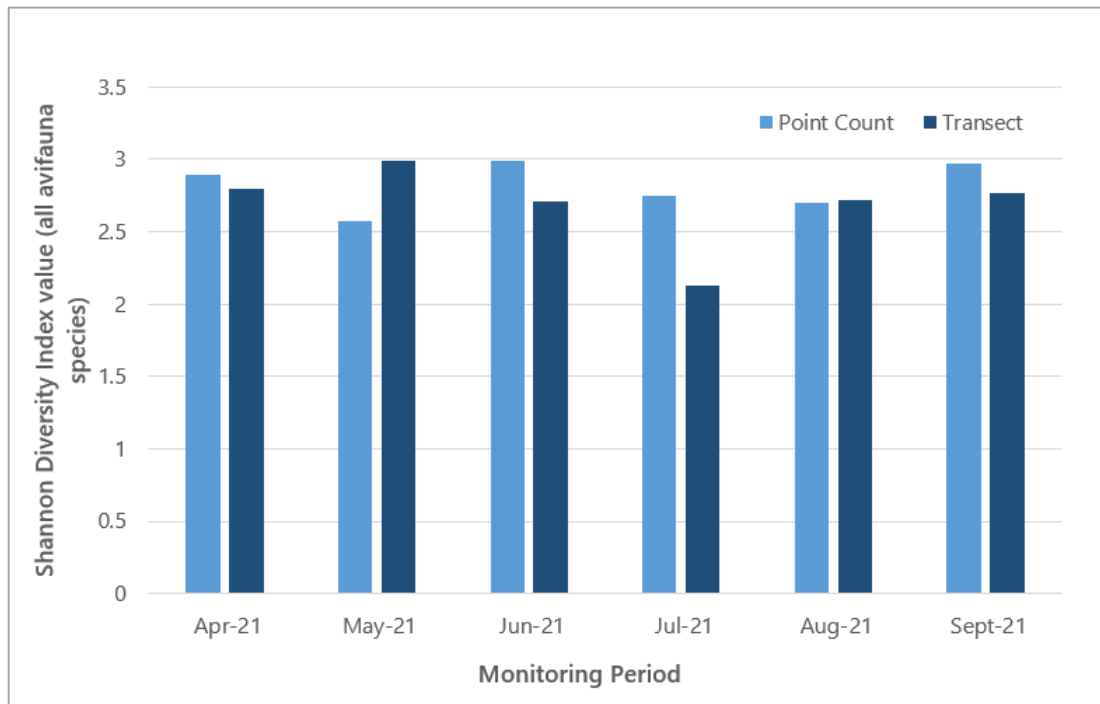
Species richness of all avifauna species throughout the monitoring period



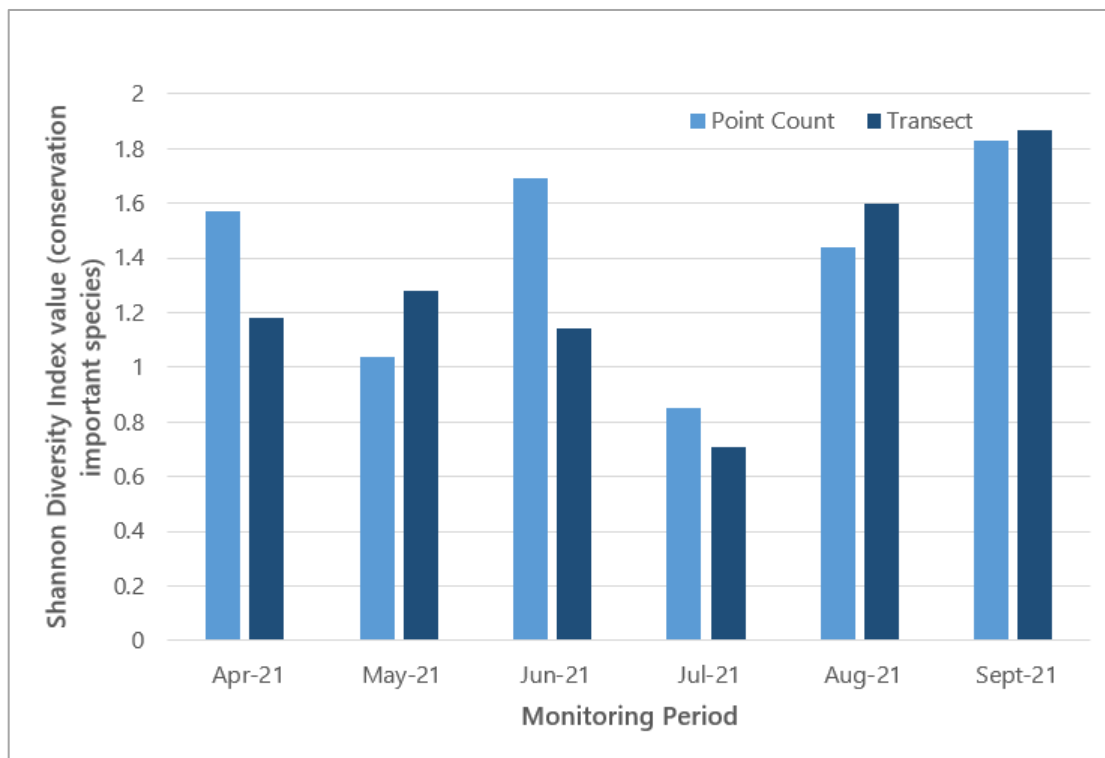
Species richness of avifauna species with conservation importance throughout the monitoring period



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 one sampling	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Notify Contractor. 	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented. 	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; and 5. Supervise implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented. 	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analyzed noise problem; and 4. Ensure remedial measures are properly implemented. 	<ol style="list-style-type: none"> 1. Submit noise mitigation proposals to IEC; and 2. Implement noise mitigation proposals.
Limit Level	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; and 3. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the 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. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; and 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event and Action Plan for Water Quality Monitoring

EVENT	ACTION			
	ET	IEC	ER	Contractor
Action level being exceeded by one sampling day	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET and Contractor(s)'s working methods; 2. Inform EPD and AFCD. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing; 2. Check plant and equipment and rectify unacceptable practice
Action level being exceeded by two or more consecutive sampling days	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing; 2. Check plant and equipment and rectify unacceptable practice; 3. Consider changes of working methods; 4. Discuss with ET and IEC on additional mitigation measures and propose them to ER within 3 working days; 5. Implement the agreed mitigation measures.

EVENT	ACTION			
	ET	IEC	ER	Contractor
Limit level being exceeded by one sampling day	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing; 2. Check plant and equipment and rectify unacceptable practice; 3. Critically review the need to change working methods; 4. Discuss with ET and IEC on additional mitigation measures and propose them to ER within 3 working days; 5. Implement the agreed mitigation measures.
Limit level being exceeded by two or more consecutive sampling days	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analyzed noise problem; and 4. Ensure remedial measures are properly implemented. 	<ol style="list-style-type: none"> 1. Submit noise mitigation proposals to IEC; and 2. Implement noise mitigation proposals.
Limit Level	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; and 3. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented; 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. 	<ol style="list-style-type: none"> 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 2021											
Monthly Ending	Total Quantity Generated	Actual Quantities of Inert C&D Materials Generated Monthly					Actual Quantities of Non-inert C&D Wastes Generated Monthly				
		Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	Chemical Waste	Others, e.g. general refuse
	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)
2021 Jan	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
2021 Feb	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
2021 Mar	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
2021 Apr	216.92	Nil	Nil	Nil	152.94	Nil	Nil	Nil	Nil	Nil	63.98
2021 May	277.74	Nil	Nil	Nil	268.92	Nil	Nil	0.11	Nil	Nil	8.71
2021 Jun	715.93	Nil	Nil	Nil	551.41	Nil	146.74	0.11	Nil	Nil	17.67
2021 Jul	1521.38	Nil	Nil	Nil	1466.15	Nil	32.46	Nil	Nil	Nil	22.77
2021 Aug	2108.79	Nil	Nil	Nil	2057.77	Nil	29.59	0.13	Nil	Nil	21.30
2021 Sep	3648.77	Nil	Nil	Nil	3576.22	Nil	50.31	Nil	Nil	Nil	22.24
2021 Oct											
2021 Nov											
2021 Dec											
Total	8489.53	0	0	0	8073.41	0	259.1	0.35	0	0	156.67

Note:

- 1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
- 2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials.

Appendix G

Implementation Status of Environment Mitigation

Measures

Construction of Yuen Long Effluent Polishing Plant Stage 1

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	<p>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:</p> <ul style="list-style-type: none"> • Use of regular watering to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather. • Use of frequent watering for particularly dusty construction areas and areas close to ASRs. • Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines. • Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs. • Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations. • Establishment and use of vehicle wheel and body washing facilities at the exit points of the site. • Provision of wind shield and dust extraction units or similar dust mitigation measures at the loading area of barging point, and use of water sprinklers at the loading area where dust generation is likely during the loading process of loose material, particularly in dry seasons/ periods. • Provision of not less than 2.4m high hoarding from ground level along site boundary where adjoins a road, streets or other accessible to the public except for a site entrance or exit. • Imposition of speed controls for vehicles on site haul roads. • Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs. 	Construction Sites	<p>Implemented</p> <p>Implemented</p> <p>Implemented</p> <p>Implemented</p> <p>Partially Implemented</p> <p>Partially Implemented</p> <p>N/A</p> <p>Implemented</p> <p>Implemented</p> <p>Implemented</p>

Construction of Yuen Long Effluent Polishing Plant Stage 1

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
	<ul style="list-style-type: none"> • Instigation of an environmental monitoring and auditing program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise. 		Implemented
Noise Impact			
Construction Phase			
4.8.1	<p>Movable noise barriers are recommended for hydraulic breakers mounted on excavators to be adopted during construction.</p> <p>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.</p> <ul style="list-style-type: none"> • Quiet PME, such that those listed in EPD's Quality Powered Mechanical Equipment, should be considered for construction works to further minimize the potential construction noise impact. • Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme. • Silencers or mufflers on construction equipment should be utilised and should be properly maintained during the construction programme. • Mobile plant, if any, should be sited as far away from noise sensitive receivers (NSRs) as possible. • Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum. • Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs • Material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities. 	Construction Sites	Partially Implemented N/A Implemented Implemented N/A N/A N/A 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

Construction of Yuen Long Effluent Polishing Plant Stage 1

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
5.8.1.3	All vehicles and plant should be cleaned before they leave a construction site to minimise the deposition of earth, mud, debris on roads. A wheel washing bay should be provided at every site exit if practicable and wash-water should have sand and silt settled out or removed before discharging into storm drains. The section of construction road between the wheel washing bay and the public road should be paved with backfill to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.	Construction Sites / Construction Phase	Implemented
5.8.1.4	Good site practices should be adopted to remove rubbish and litter from construction sites so as to prevent the rubbish and litter from spreading from the site area. It is recommended to clean the construction sites on a regular basis.	Construction Sites / Construction Phase	Implemented
5.8.1.5 – 5.8.1.6	The site practices outlined in ProPECC PN 1/94 “Construction Site Drainage” should be followed where applicable to minimise surface run-off and the chance of erosion. Surface run-off from construction sites should be discharged into storm drains via adequately designed sand / silt removal facilities such as sand traps, silt traps and sedimentation basins. Channels, earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Perimeter channels at site boundaries should be provided as necessary to intercept storm run-off from outside the site so that it will not wash across the site. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks.	Construction Sites / Construction Phase	Implemented
5.8.1.7	Silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be removed regularly (as well as at the onset of and after each rainstorm) to prevent overflows and localised flooding.	Construction Sites / Construction Phase	Implemented
5.8.1.8	Construction works should be programmed to minimise soil excavation in the wet season (i.e. April to September). If soil excavation cannot be avoided in these months or at any time of year when rainstorms are likely, temporarily exposed slope surfaces should be covered e.g. by tarpaulin, and temporary access roads should be protected by crushed stone or gravel, as excavation proceeds. Intercepting channels should be provided (e.g. along the crest / edge of excavation) to prevent storm run-off from washing across exposed soil surfaces.	Construction Sites / Construction Phase	N/A
5.8.1.9	Earthworks final surfaces should be well compacted and the subsequent permanent work or surface protection should be carried out immediately after the final surfaces are formed to prevent erosion	Construction Sites / Construction Phase	N/A

Construction of Yuen Long Effluent Polishing Plant Stage 1

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
	caused by rainstorms. Appropriate drainage like intercepting channels should be provided where necessary		
5.8.1.10	Measures should be taken to minimise the ingress of rainwater into trenches. If excavation of trenches in the wet season is necessary, they should be dug and backfilled in short sections. Rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.	Construction Sites / Construction Phase	N/A
5.8.1.11	Construction materials (e.g. aggregates, sand and fill material) on sites should be covered with tarpaulin or similar fabric during rainstorms	Construction Sites / Construction Phase	Implemented
5.8.1.12	Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers. Discharge of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system.	Construction Sites / Construction Phase	Implemented
5.8.1.13	The practices outlined in Environment, Transport and Works Bureau (ETWB) TC (Works) No. 5/2005 "Protection of natural streams/rivers from adverse impacts arising from construction works" should also be adopted where applicable to minimise the water quality impacts upon any natural streams or surface water systems.	Construction Sites / Construction Phase	N/A
5.8.1.14	Sufficient chemical toilets should be provided in the works areas. A licensed waste collector should be deployed to clean the chemical toilets on a regular basis.	Construction Sites / Construction Phase	Implemented
5.8.1.15	Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the surrounding environment.	Construction Sites / Construction Phase	Implemented
5.8.1.16	Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The WDO (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation, should be observed and complied with for control of chemical wastes.	Construction Sites / Construction Phase	Implemented

Construction of Yuen Long Effluent Polishing Plant Stage 1

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
5.8.1.17	Any service shop and maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.	Construction Sites /Construction Phase	N/A
5.8.1.18	Disposal of chemical wastes should be carried out in compliance with the WDO. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the WDO should be followed to avoid leakage or spillage of chemicals.	Construction Sites / Construction Phase	N/A
5.8.1.19	All the runoff and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the Technical Memorandum on Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters (TM-DSS).	Construction Sites / Construction Phase	N/A
5.8.2.11	Chemical should be stored on site at bunded area and separate drainage system as appropriate should be provided to avoid any spilled chemicals from entering the storm drain in case of accidental spillage. Also, adequate tools for cleanup of spilled chemicals should be stored on site and appropriate training shall be provided to staffs to further prevent potential adverse water quality impacts from happening.	Project site / Design and Operation Phase	Implemented

Waste Management Implication
Construction Phase

6.6.1.3	<u>Good Site Practices</u> Recommendations for good site practices during the construction phase include:	Construction Sites	
	<ul style="list-style-type: none"> • Nomination of approved personnel, such as a site manager, to be responsible for good site practices, and making arrangements for collection of all wastes generated at the site and effective disposal to an appropriate facility; 		Implemented
	<ul style="list-style-type: none"> • Training of site personnel in proper waste management and chemical waste handling procedures; 		Implemented
	<ul style="list-style-type: none"> • Provision of sufficient waste reception/ disposal points, of a suitable vermin-proof design that minimises windblown litter; 		N/A
	<ul style="list-style-type: none"> • Arrangement for regular collection of waste for transport off-site and final disposal; 		Implemented
	<ul style="list-style-type: none"> • Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; 		Implemented
	<ul style="list-style-type: none"> • Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; 		N/A

Construction of Yuen Long Effluent Polishing Plant Stage 1

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
6.6.1.5	<ul style="list-style-type: none"> • A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be proposed; and 		Implemented
	<ul style="list-style-type: none"> • 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
	<p>Waste Reduction Measures Recommendations to achieve waste reduction include:</p>	Construction Sites	
	<ul style="list-style-type: none"> • Segregate and store different types of construction related waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal; 		Implemented
	<ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> • Any unused chemicals or those with remaining functional capacity shall be recycled; 		N/A
	<ul style="list-style-type: none"> • Maximising the use of reusable steel formwork to reduce the amount of C&D material; 		N/A
	<ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> • Adopt proper storage and site practices to minimise the potential for damage to, or contamination of, construction materials; 		Implemented
	<ul style="list-style-type: none"> • Plan the delivery and stock of construction materials carefully to minimise the amount of surplus waste generated; 		N/A
	<ul style="list-style-type: none"> • Adopt pre-cast construction method instead of cast-in-situ method for construction of concrete structures as much as possible; and 		N/A
<ul style="list-style-type: none"> • Minimise over ordering of concrete, mortars and cement grout by doing careful check before ordering. 	N/A		
6.6.1.7	<p><u>Storage of Waste</u> Recommendations to minimise the impacts include:</p>	Construction Sites	
	<ul style="list-style-type: none"> • Waste, such as soil, should be handled and stored well to ensure secure containment, thus minimising the potential of pollution; 		N/A
	<ul style="list-style-type: none"> • Maintain and clean storage areas routinely; 		N/A

Construction of Yuen Long Effluent Polishing Plant Stage 1

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
	<ul style="list-style-type: none"> • Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; and 		Partially Implemented
	<ul style="list-style-type: none"> • Different locations should be designated to stockpile each material to enhance reuse. 		N/A
6.6.1.8	<p><u>Collection of Waste</u>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:</p> <ul style="list-style-type: none"> • Remove waste in timely manner; • Waste collectors should only collect wastes prescribed by their permits; • Impacts during transportation, such as dust and odour, should be mitigated by the use of covered trucks or in enclosed containers; • Obtain relevant waste disposal permits from the appropriate authorities, in accordance with the WDO (Cap. 354), Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 345) and the Land (Miscellaneous Provisions) Ordinance (Cap. 28); • Waste should be disposed of at licensed waste disposal facilities; and • Maintain records of quantities of waste generated, recycled and disposed. 	Construction Sites	<p>Implemented</p> <p>Implemented</p> <p>Implemented</p> <p>Implemented</p> <p>Implemented</p> <p>Implemented</p>
6.6.1.10	<p><u>Transportation of Waste</u></p> <p>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.</p>	Transportation Route of Waste / Construction Phase	N/A

Construction of Yuen Long Effluent Polishing Plant Stage 1

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
6.6.1.12	<p><u>Construction and Demolition Material</u> Careful design, planning together with good site management can reduce over-ordering and generation of C&D materials such as concrete, mortar and cement grouts. Formwork should be designed to maximize the use of standard wooden panels, so that high reuse levels can be achieved. Alternatives such as steel formwork or plastic facing should be considered to increase the potential for reuse</p>	Construction Sites	N/A
6.6.1.13	<p>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:</p> <ul style="list-style-type: none"> • A WMP, which becomes part of the EMP, should be prepared in accordance with ETWB TCW No.19/2005; • A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be adopted for easy tracking; and • In order to monitor the disposal of C&D materials at public filling facilities and landfills and to control fly-tipping, a trip-ticket system should be adopted (refer to DEVB TCW 06/2010). 	Construction Sites	<p>Implemented</p> <p>N/A</p> <p>Implemented</p>
6.6.1.14	<p>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:</p> <ul style="list-style-type: none"> • Surface of stockpiled soil should be regularly wetted with water especially during dry season; • Disturbance of stockpile soil should be minimised; • Stockpiled soil should be properly covered with tarpaulin especially when heavy storms are predicted; and • Stockpiling areas should be enclosed where space is available. 	Construction Sites	<p>N/A</p> <p>N/A</p> <p>Partially Implemented</p> <p>N/A</p>

Construction of Yuen Long Effluent Polishing Plant Stage 1

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
6.6.1.15	The Contactor should prepare and implement an EMP in accordance with ETWB TCW No.19/2005, which describes the arrangements for avoidance, reuse, recovery, recycling, storage, collection, treatment and disposal of different categories of waste to be generated from construction activities. Such a management plan should incorporate site-specific factors, such as the designation of areas for segregation and temporary storage of reusable and recyclable materials. The EMP should be submitted to the Engineer for approval. The Contractor should implement waste management practices in the EMP throughout the construction stage of the Project. The EMP should be reviewed regularly and updated by the Contractor, preferably on a monthly basis.	Construction Sites	Implemented
6.6.1.16	The Contractor would be responsible for devising a system to work for on-site sorting of C&D materials and promptly removing all sorted and process materials arising from the construction activities to minimise temporary stockpiling on-site. The system should be included in the EMP identifying the source of generation, estimated quantity, arrangement for on-site sorting, collection, temporary storage areas and frequency of collection by recycling Contractors or frequency of removal off-site.	Construction Sites	Implemented
6.6.1.17 – 6.6.1.18	The sediment should be excavated, handled, transported and disposed of in a manner that would minimise adverse environmental impacts. To minimise sediment disposal, it is proposed to reuse the Type 1 sediment generated (e.g. as backfilling materials) as far as possible. Requirements of the Air Pollution Control (Construction Dust) Regulation, where relevant, shall be adhered to during excavation, transportation and disposal of the sediment.	Construction Sites	N/A
6.6.1.19	Workers shall, if necessary, wear appropriate personal protective equipments (PPE) when handling contaminated sediments. Adequate washing and cleaning facilities shall also be provided on site.	Construction Sites	N/A
6.6.1.20	For off-site disposal, the basic requirements and procedures specified under ETWB TC(W) No. 34/2002 shall be followed.	Transportation Route of Waste / Construction Phase	N/A
6.6.1.24	Stockpiling of contaminated sediments should be avoided as far as possible. If temporary stockpiling of contaminated sediments is necessary, the excavated sediment should be covered by tarpaulin and the area should be placed within earth bunds or sand bags to prevent leachate from entering the ground, nearby drains and surrounding water bodies. The stockpiles should be completely paved or covered by linings in order to avoid contamination to underlying soil or groundwater. Separate and clearly defined areas should be provided for stockpiling of contaminated and uncontaminated materials. Leachate, if any, should be collected and discharged according to the Water Pollution Control Ordinance (WPCO).	Construction Sites	N/A

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EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
6.6.1.25	In order to minimise the potential odour / dust emissions during excavation and transportation of the sediment, the excavated sediments shall be wetted during excavation / material handling and shall be properly covered when placed on trucks or barges. Loading of the excavated sediment to the barge shall be controlled to avoid splashing and overflowing of the sediment slurry to the surrounding water.	Construction sites & transportation route of waste / Construction phase	N/A
6.6.1.26	The barge transporting the sediments to the designated disposal sites shall be equipped with tight fitting seals to prevent leakage and shall not be filled to a level that would cause overflow of materials or laden water during loading or transportation. In addition, monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the DEP.	Transportation route of waste / Construction phase	N/A
6.6.1.27	Suitable containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall employ a licensed collector to transport and dispose of the chemical wastes, to the licensed CWTC, or other licensed facilities, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	Construction and Operation Phases	N/A
6.6.1.28	It is recommended to place clearly labelled recycling bins at designated locations with convenient access. Other general refuse should be separated from chemical and industrial waste by providing separated bins or skips for storage to maximise the recyclable volume. A reputable licensed waste collector should be employed to remove general refuse on a daily basis to minimise odour, pest and litter impacts.	Construction and Operation Phases	Implemented
6.6.1.29	Should buildings are found with potential ACM, sufficient and reasonable lead time shall be allowed for preparation, vetting and implementation of Asbestos Investigation Report and Asbestos Abatement Plan in accordance with Air Pollution Control Ordinance before commencement of any demolition or site clearance work.	Demolition	N/A
Land Contamination			

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EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
7.8.1.2 - 7.8.1.3;7.8.2.1	<p>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).</p>	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	<p>The mitigation measures will be recommended in the RAP and would typically include the following:</p> <ul style="list-style-type: none"> • Excavation profiles must be properly designed and executed with attention to the relevant requirements for environment, health and safety; • Excavation shall be carried out during dry season as far as possible to minimise contaminated runoff from contaminated soils; Supply of suitable clean backfill material (or treated soil) after excavation; • Stockpiling site(s) shall be lined with impermeable sheeting and bunded. Stockpiles shall be fully covered by impermeable sheeting to reduce dust emission. If this is not practicable due to frequent usage, regular watering shall be applied. However, watering shall be avoided on stockpiles of contaminated soil to minimise contaminated runoff. • Vehicles containing any excavated materials shall be suitably covered to limit potential dust emissions or contaminated wastewater run-off, and truck bodies and tailgates shall be sealed to prevent any discharge during transport or during wet conditions; • Speed control for the trucks carrying contaminated materials shall be enforced; 	Project Site / Construction Phase	<p>Partially Implemented</p> <p>N/A</p> <p>Partially Implemented</p> <p>N/A</p> <p>N/A</p>

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EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
	<ul style="list-style-type: none"> • Vehicle wheel and body washing facilities at the site's exist points shall be established and used; and • Pollution control measures for air emissions (e.g. from biopile blower and handling of cement), noise emissions (e.g. from blower or earthmoving equipment), and water discharges (e.g. runoff control from treatment facility) shall be implemented and complied with relevant regulations and guidelines. 		N/A
			N/A
Ecological Impact (Terrestrial and Aquatic)			
Construction Phase			
8.10.2.1	<u>Avoidance of Recognised Site of Conservation Importance</u> Construction works are designed to be confined to the boundary of the existing YLSTW that direct impacts on all other sites of conservation importance within the assessment area, including the Ramsar Site, Priority Site, WCA, WBA, SSSI and CA would be avoided.	Project site / Construction Phase	Implemented
8.10.2.3 – 8.10.2.4	<u>Avoidance of Demolition Works Using Breakers Mounted on Excavators and Percussive Piling during Dry Season</u> In order to minimise the construction noise disturbance on overwintering waterbirds, the noisy construction works, i.e. all percussive piling works and demolition using breakers mounted on excavators, would therefore be scheduled outside the dry season (i.e. November to March, which is the peak overwintering period of waterbirds).	Construction sites / Construction Phase	Implemented
8.10.2.5	<u>Restriction of Construction Hours</u> No construction activities with the use of PME should be conducted within 100m from any night roost confirmed by the pre-construction survey after 18:00 during wet season and 17:30 during dry season to avoid disturbance to the nearby ardeids night roosts.	Construction sites / Construction Phase	Implemented
8.10.3.2 – 8.10.3.3	<u>Minimising Construction Noise Disturbance Impacts through Consideration of Alternative Construction Methods</u> Demolition using concrete crusher is quieter than demolition using breaker that its construction noise level is comparable to other general construction activities and concrete crusher would be used for demolition works to be undertaken during dry season months. The quieter foundation methods, including bored piling, raft foundation and shallow foundation, would be adopted as far as possible.	Construction sites / Construction Phase	Implemented

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EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
8.10.3.4 – 8.10.3.5	<p><u>Minimising Construction Noise Disturbance Impacts Through Careful Phasing of Construction Activities</u> Percussive piling works and demolition using breakers mounted on excavators would typically be completed over two wet seasons and not be undertaken in the same construction zone at the same time to localise the construction disturbance and to reduce the duration of high level of disturbances on sensitive wetland habitats and associated waterbirds nearby each construction zone.</p> <p>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.</p>	Project site / Construction Phase	Implemented
8.10.3.6 – 8.10.3.8	<p><u>Minimising Construction Noise Disturbance Impacts through Use of Noise Barriers</u> Noise barriers with absorptive materials of about 4m high will be erected along the northern, eastern and western sides of the site, throughout the construction phase to screen the construction noise and human disturbance to the waterbirds foraging in ponds in Fung Lok Wai and Shan Pui River during construction phase.</p> <p>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.</p> <p>The contractor should provide enclosure for construction equipment, especially static plants, as appropriate to minimise the noise disturbance as far as practicable.</p>	Construction sites / Construction Phase	Implemented

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EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
8.10.3.9	<u>Use of Quality Powered Mechanical Equipment</u> The contractor should source QPMEs for construction as far as practicable to further minimise the overall construction noise and other disturbance to the nearby wetland habitats and associated waterbirds to the maximum practical extent.	Construction sites / Construction Phase	Implemented
Ecology & Fisheries Impact			
8.12.1.4, 9.7	Groundwater observation wells and recharge wells will be provided at the northern and western side of the site. Groundwater table will be closely monitored at the observation well. In case of any unlikely events of abnormal drawdown of groundwater table near the excavation area, groundwater dewatering will stop and water will be pumped into the recharge wells to recover the normal groundwater table as necessary.	Construction Phase	N/A
Fisheries Impact			
9.7	The implementation of good site practices during construction could minimise the potential water quality impacts from the land-based construction works. Mitigation measures recommended in the Water Quality Impact Assessment (Section 5) for controlling water quality impact would also serve to protect fisheries resources and activities from indirect impacts.	Construction and Operation Phase	N/A
Landscape and Visual Impact			
Table 10.11	<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
Table 10.11	<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

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EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
Table 10.11	<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
Table 10.11	<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
Table 10.11	<u>Erection of Decorative Screen Hoarding (CM5)</u> Site hoardings, if any, shall be painted in dull green colour	Project site / Construction Phase	Implemented
Table 10.11	<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	<ul style="list-style-type: none"> • Implementation of those major construction works and movement of plants and vehicles would be stringently controlled to have a setback of at least 15m clear distance, or physical barrier with an empty digester / gas holder from the digesters / gas holders in operation; • For those construction works to be carried out in close proximity to the 15m zone from digesters / gas holders in operation, the height of plants for those major construction shall be limited to 15m such that the plants would not damage digesters /gas holders in such incident as plant collapse or overturning; • Whenever practicable, the construction sequence shall be arranged with empty unit(s) for separating the major construction works from these digesters / gas holders in use; and 	Project site / Construction Phase	N/A
			N/A
			N/A

Construction of Yuen Long Effluent Polishing Plant Stage 1

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
	<ul style="list-style-type: none"> Physical barriers such as concrete blocks shall be set up at the 15m zone in order to avoid those construction plants or vehicles from colliding to the digester / gas holder units in use. 		N/A
11.5.8	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> All work procedures shall be complied with the operating plant procedures or guidelines and regulatory requirements; 		Implemented
	<ul style="list-style-type: none"> Work permit system, on-site pre-work risk assessment and emergency response procedure shall be in place before commencement of work; 		Implemented
	<ul style="list-style-type: none"> All construction workers shall equip with appropriate personal protective equipment (PPE) when working at the Project Site; 		Implemented
	<ul style="list-style-type: none"> Safety training and briefings shall be provided to all construction workers; 		Implemented
	<ul style="list-style-type: none"> Regular site safety inspections shall be conducted during the construction phase of the Project; 		Implemented
11.9.1.2	<ul style="list-style-type: none"> Ensure speed limit enforcement is specified in the contractor's method statement to limit the speed of construction vehicles onsite; 	Project site / ConstructionPhase	Partially Implemented
	<ul style="list-style-type: none"> Conduct speed checks to ensure enforcement of speed limits and to ensure adequate site access control ; 		N/A
	<ul style="list-style-type: none"> A lifting plan, with detailed risk assessment, should be prepared and endorsed for heavy lifting of large equipment; 		Implemented
	<ul style="list-style-type: none"> Vehicle crash barriers should be provided between the construction site and the operating biogas facilities; 		N/A
	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> Ensure effective communication system / protocol is in place between the contractors and the operation staff; 		Implemented
	<ul style="list-style-type: none"> Ensure the Project Construction Emergency Response Plan is integrated with the Emergency Response Plan for the YLEPP during construction phase. The plan should address stop work instructions to be promptly communicated to all construction workers performing hot works in case a confirmed biogas detection at the Project Site; 		N/A

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EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
	<ul style="list-style-type: none"> • Ensure that the construction activities do not impede the functions of fire and gas detection system, fire protection system, muster areas, fire-fighting vehicle access and escape routes; 		N/A
	<ul style="list-style-type: none"> • 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. 		Partially Implemented
	Potential risks of the construction activities shall be assessed, and risk precautionary measures shall be implemented in Contractor's works procedures.		Partially Implemented

Note:

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

Appendix H

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

Environmental Complaints Log

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

Cumulative Statistics on Complaints

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

Cumulative Statistics on Notification of Summons and Successful Prosecutions

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