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## Quarterly EM&A Summary Report (April 2021 - June 2021)

0120/20/ED/0375 02

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

Ref.: DSDYLSTWEM00\_0\_0170L.21

24 August 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 First Quarterly EM&A Summary Report (April-June 2021)**

Reference is made to the First Quarterly EM&A Summary Report (April-June 2021) by the ET with Fugro Document No. 0120/20/ED/0375 02 (the Report), which was received via e-mail dated 24 August 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




## Document Information

Project Title	Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1
Document Title	Quarterly EM&A Summary Report (April 2021 - June 2021)
Fugro Project No.	0120/200120/20
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## Client Information

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

## Environmental Team

Initials	Name	Role	Signature
LB	Alvin L.B. Yu	Environmental Team Leader	
CY	Cyrus C.Y. Lai	Senior Environmental Consultant	
KH	Toby K.H. Wan	Assistant Environmental Consultant	

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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 1st Quarterly EM&A Summary Report for the Contract which summaries findings of the EM&A programme during the reporting period from 8 April 2021 to 30 June 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. 5 Action Level exceedance and 7 Limit Level exceedance 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 in the monitoring period.
- vii. 4 Action Level exceedances were noted for the ecological monitoring of birds during the reporting period, however, these exceedances were not project-related.

### **Complaint Log**

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

### **Notifications of any Summons and Successful Prosecutions**

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

### **Reporting Change**

- x. 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 m<sup>3</sup> per day. Based on the latest planning data, the volume of sewage generation from the YLSTW catchment is estimated to increase to 150,000 m<sup>3</sup> per day after 20 years. In addition, since YLSTW has been operating for over 30 years and most of its facilities are of out-dated design and reaching the end of their design life, the environmental facilities of the plant will also be upgraded and hence improving the adjacent environment through upgrading the YLSTW to Yuen Long Effluent Polishing Plant (YLEPP). The Location of Proposed Yuen Long Effluent Polishing Plant is given in **Figure 1**.
- 1.1.2 YLSTW will be reconstructed in two stages to increase its capacity to 150,000 m<sup>3</sup> per day. The proposed works, as Stage 1 of the project, will firstly increase the treatment capacity to 100,000 m<sup>3</sup> 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 1st Quarterly EM&A Summary Report to document the findings of site inspection activities and EM&A programme for this project from 8 April 2021 to 30 June 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 as follow:

April 2021	May 2021	June 2021
<ul style="list-style-type: none"> <li>• Overhaul of Detritor;</li> <li>• Overhaul of Primary Sedimentation Tank and Final Sedimentation Tank;</li> <li>• Overhaul of Sludge Holding Tank and Sludge Digestion Tank;</li> <li>• Pre-drill work by 4 drill rig;</li> <li>• Installation of instrumentation;</li> <li>• Site formation work at IW within piling area;</li> <li>• Site formation works at temporary storage area, admin. Building &amp; work shop;</li> <li>• Erection of noise barrier;</li> <li>• Erection of bird curtain; and Trial pit for zone 1 diversion work &amp; pre-drill work.</li> </ul>	<ul style="list-style-type: none"> <li>• Driven piling work at IW;</li> <li>• Demolition of Primary Sedimentation Tanks (PST) no. 7 &amp; 8 tanks;</li> <li>• Demolition of main store;</li> <li>• Demolition of carpark cover;</li> <li>• Demolition of workshop;</li> <li>• Sheet piling;</li> <li>• Construction of temporary storage area, admin. Building and workshop;</li> <li>• Installation of sheet piles for Zone 1 diversion;</li> <li>• Pre-drilling works at Primary Sedimentation Tanks (PST);</li> <li>• Environmental drill holes inside main store and workshop;</li> <li>• Trench excavation for UU diversion; and</li> <li>• Breaking of existing road pavement at Primary Sedimentation Tanks (PST).</li> </ul>	<ul style="list-style-type: none"> <li>• Pre-drill work at Primary Sedimentation Tanks (PST) by 2 drill rigs;</li> <li>• Drilling and install piezometers;</li> <li>• Site formation works at Primary Sedimentation Tanks (PST);</li> <li>• Breaking of Primary Sedimentation Tanks (PST) no. 7 &amp; 8;</li> <li>• Sheet pile installation works for Zone 1 diversion;</li> <li>• Driven H-pile at Inlet Works (IW) stage 1 by 2 rigs;</li> <li>• Demolition of main storage by crusher and breaker;</li> <li>• Trial pit for Zone 2A &amp; 3 diversion;</li> <li>• Construction of temporary admin. Building, workshop &amp; storage area;</li> <li>• Removal of sludge from sludge holding tanks; and</li> <li>• Overhaul work at Final Sedimentation Tanks (FST).</li> </ul>

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 in daytime and night time periods 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 factors 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, 1 Limit Level exceedance for Dissolved Oxygen, 4 Limit Level exceedance for Turbidity, 5 Action Level and 2 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	2	0	2
	Limit	0	1	0	2	0	2	0	5
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	3	0	3	0
	Limit	0	0	2	0	0	0	2	0
Total	Action	0	0	0	0	3	2	5	
	Limit	0	1	2	2	0	2	7	

- 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 Ardeid night roost monitoring was carried out in the reporting period. Of the two confirmed ardeid night roosts (ANR 1 and ANR 2) during the pre-construction survey, both were active last April 2021. For the months of May and June 2021, only ANR 1 was observed to be active. No Action / Limit Level exceedance at NMS1 and NMS2 was recorded during the reporting period.
- 2.3.13 Ecological bird monitoring was carried out in the reporting period. 4 exceedances in Action Level were noted during the period, this include two significant declines in the results of point count method in species diversity of all avifauna species in the community; and two significant declines in species diversity of species of conservation importance only. However, the exceedances were not project-related.

## **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, 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 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 4.1**.

## 4. SITE INSPECTION AND AUDIT

### 4.1 Site Inspection

- 4.1.1 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.
- 4.1.2 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 4.1**.

Table 4.1 – Observations and Recommendations of Site Audit

Parameters	Date	Observations and Recommendations	Follow-up
Air Quality		NA	
Noise	2 June 2021	Reminder 2: The contractor was reminded to properly maintain the function of the noise barrier. (Portion 1)	NA
Water Quality	5 May 2021	Reminder: The contractor was reminded to properly cover the excavated material and trial trench. (Portion 1 YLSTW)	NA
	20 May 2021	Observation 1: Mitigation measures should be provided to intercept silty runoff from the piling area. (Portion 1 YLSTW)	24 May 2021
	20 May 2021	Observation 2: Enhance mitigation by providing sandbags along inner edge of U channel to prevent inflow of silty runoff. (Portion 1 YLSTW)	24 May 2021
	20 May 2021	Observation 3: Silty deposit on road and in gullies should be cleaned. (Portion 1 YLSTW)	24 May 2021
	2 June 2021	Observation: Mitigation measures (eg. sandbags / coverings) should be provided to prevent runoff from the temporary administration building works area flowing out to the nullah. (Portion 1)	3 June 2021
	2 June 2021	Reminder 1: Mitigation measure (eg. sandbags) should be provided at inlet / outlet of channel at catchpit to prevent discharge of water. (Portion 1- Piling Area)	NA
	16 June 2021	Reminder: Enhance the mitigation measure to prevent runoff flowing out to the nullah at area near temporary administration building. (Portion 1)	NA

Parameters	Date	Observations and Recommendations	Follow-up
	30 June 2021	Reminder: The contractor is reminded to provide mitigation measure to prevent silt / silty runoff getting into storm drain and / or checking the existing pipe network for temporarily sealing up manhole at excavation near piling area. (Portion 1)	NA
Chemical and Waste Management	NA		
Land Contamination	NA		
	11 May 2021	Reminder: The contractor was reminded to provide protection zones for trees near the workshop / storage areas. (Portion 1 YLSTW)	NA
Landscape and Visual Impact	16 June 2021	Recommendation: Establish protective barrier for retain trees T250 & T251. (Portion 1)	NA
	30 June 2021	Recommendation: Retain trees T252, T253 – Trench work within tree protection zone has to be reviewed and follow specification of works and exercise care when doing Work. (Portion 1 near temporary workshop)	NA
Permit / Licenses	21 April 2021	Reminder: The contractor was reminded to check availability of the NRMM label. (Portion 1 YLSTW).	NA
Others	NA		

## 4.2 Advice on the Solid and Liquid Waste Management Status

- 4.2.1 The Contractor registered as a chemical waste producer for the Contract. Sufficient numbers of receptacles were available for general refuse collection and sorting.
- 4.2.2 The waste generated by the construction and disposal ground is presented in **Table 4.2**.

Table 4.2 – 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)

- 4.2.3 The amount of wastes generated by the site activities in the reporting period is shown in **Appendix F**.
- 4.2.4 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.
- 4.2.5 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.

## 5. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

### 5.1 Environmental Exceedance

- 5.1.1 No Action and Limit Level exceedance was recorded for air quality monitoring and construction noise monitoring in the reporting period.
- 5.1.2 5 Action Level exceedance and 7 Limit Level exceedance were recorded for water quality in the reporting period. It was found that these exceedances were not project-related.
- 5.1.3 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.
- 5.1.4 4 Action Level exceedances were noted for the ecological monitoring of birds during the reporting period, however, these exceedances were not project-related.

### 5.2 Complaints, Notification of Summons and Prosecution

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

## 6. IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURE

### 6.1 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**.

## 7. CONCLUSION AND RECOMMENDATION

### 7.1 Conclusions

- 7.1.1 No Action and Limit Level exceedance was recorded for air quality monitoring and construction noise monitoring in the reporting period.
- 7.1.2 5 Action Level exceedance and 7 Limit Level exceedance were recorded for water quality in the reporting period. It was found that these exceedances were not project-related.
- 7.1.3 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.
- 7.1.4 4 Action Level exceedances were noted for the ecological monitoring of birds during the reporting period, however, these exceedances were not project-related.
- 7.1.5 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.
- 7.1.6 Referring to the Contractor's information, no environmental complaint, notification of summons and successful prosecution was received in the reporting period.
- 7.1.7 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.



## 7.2 Comment and Recommendations

7.2.1 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.

7.2.2 According to the environmental site inspections performed in the reporting period, the following recommendations were provided:

### Air Quality Impact

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

### Construction Noise Impact

- The contractor was reminded to properly maintain the function of the noise barrier.

### Water Quality Impact

- The contractor was reminded to properly cover the excavated material and trial trench.
- Mitigation measures should be provided to intercept silty runoff from the piling area.
- Enhance mitigation by providing sandbags along inner edge of U channel to prevent inflow of silty runoff.
- Silty deposit on road and in gullies should be cleaned.
- Mitigation measures (eg. sandbags / coverings) should be provided to prevent runoff from the temporary administration building works area flowing out to the nullah.
- Mitigation measure (eg. sandbags) should be provided at inlet / outlet of channel at catchpit to prevent discharge of water.
- Enhance the mitigation measure to prevent runoff flowing out to the nullah at area near temporary administration building.
- The contractor was reminded to provide mitigation measure to prevent silt / silty runoff getting into storm drain and / or checking the existing pipe network for temporarily sealing up manhole at excavation near piling area.

### Chemical and Waste Management

- No specific observation was identified in the reporting month.

### Land Contamination

- No specific observation was identified in the reporting month.

### Landscape and Visual Impact

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

### Permit/ Licenses

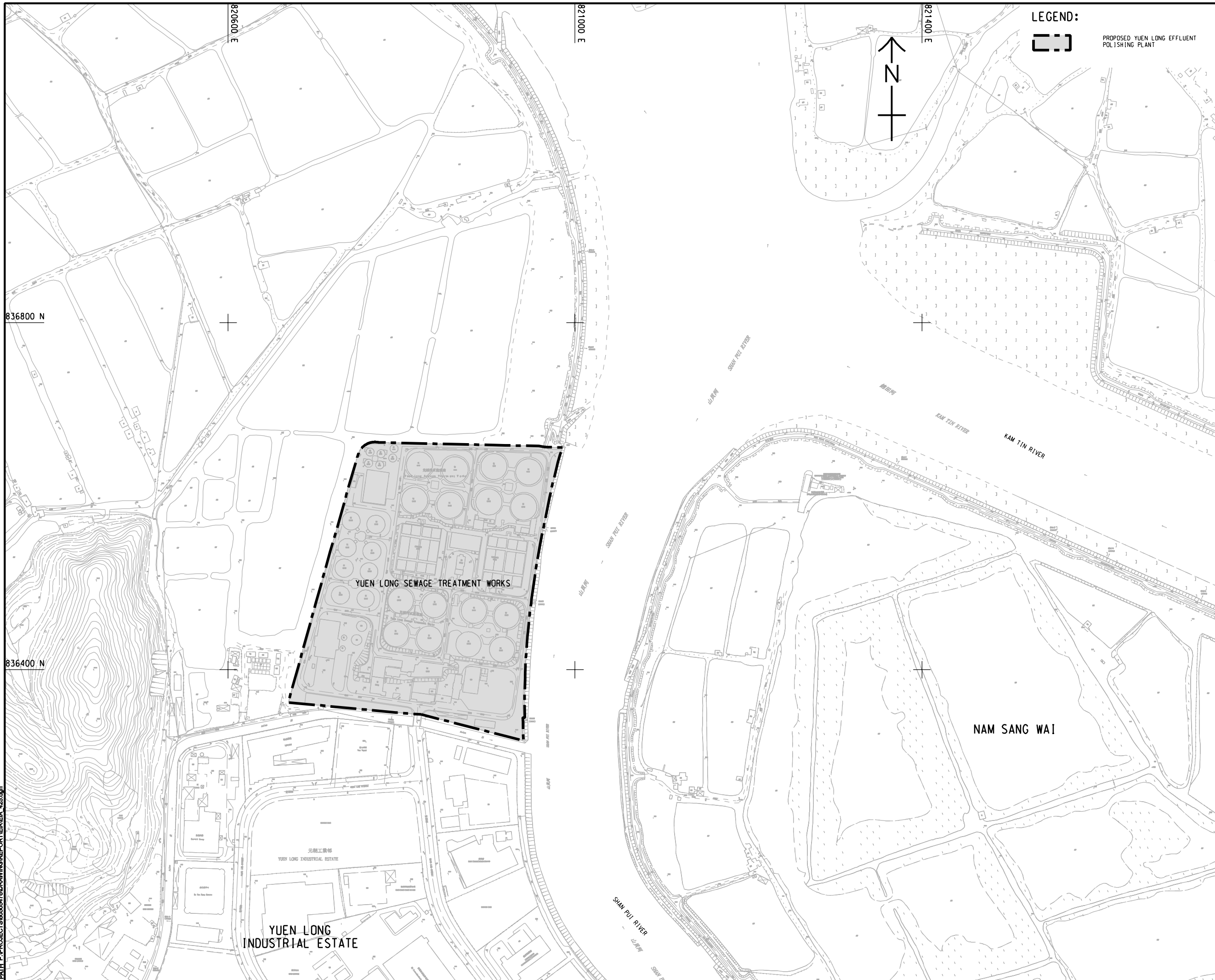
- The contractor was reminded to check availability of the Non-road Mobile Machinery (NRMM) label.


# Figure 1

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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**

NO.	DATE	DESCRIPTION	CHK.

**STATUS**

**SCALE**  
 1:2000  
**KEY PLAN**

**DIMENSION UNIT**  
 METRES

**PROJECT NO.**  
 60505476

**CONTRACT NO.**  
 CE 3/2015 (DS)

**SHEET TITLE**  
 LOCATION OF PROPOSED YUEN LONG EFFLUENT POLISHING PLANT

**SHEET NUMBER**

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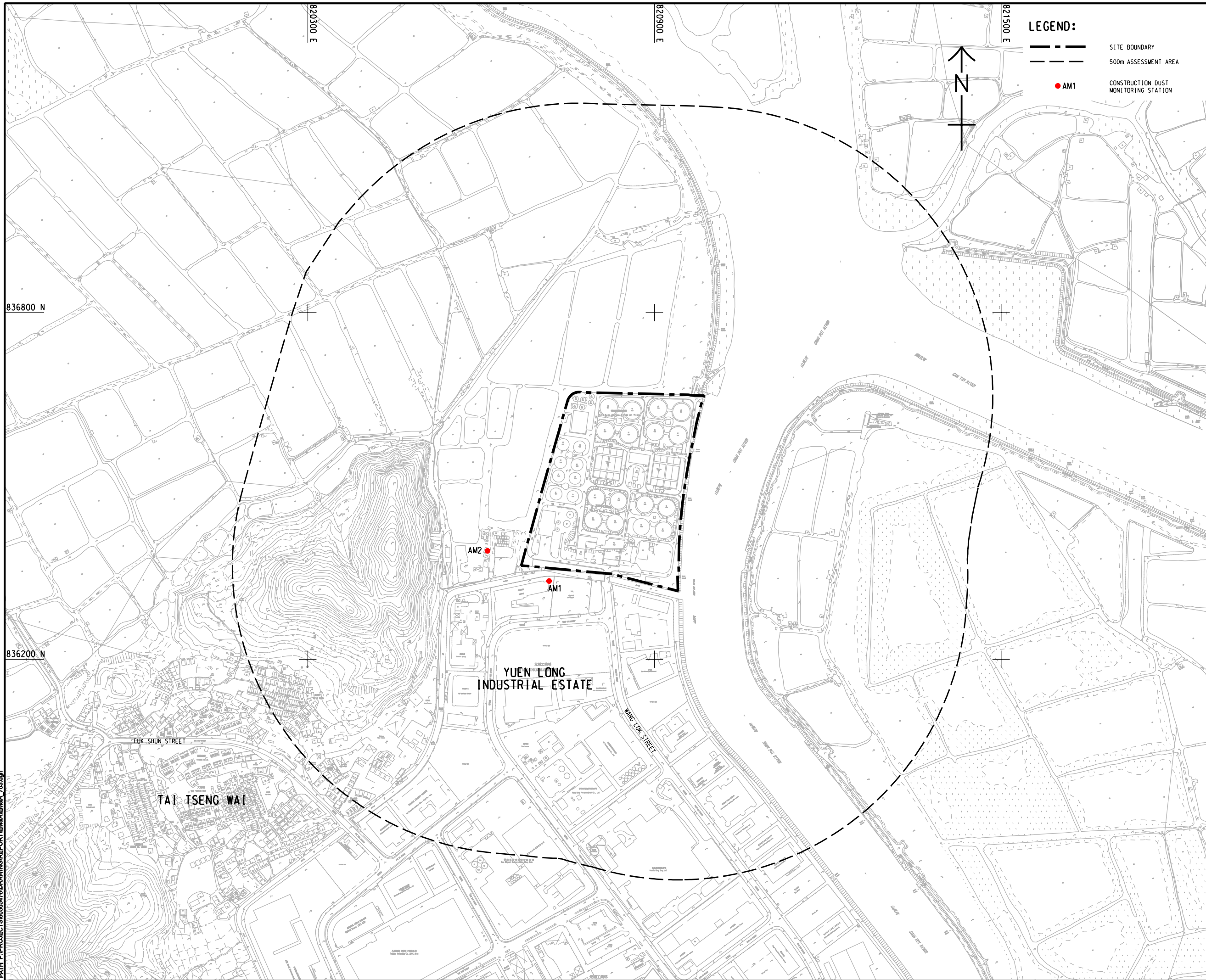
## Figure 2

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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  
**渠務署**  
 Drainage Services Department

**CONSULTANT**  
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**ISSUE/REVISION**  
 修訂

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

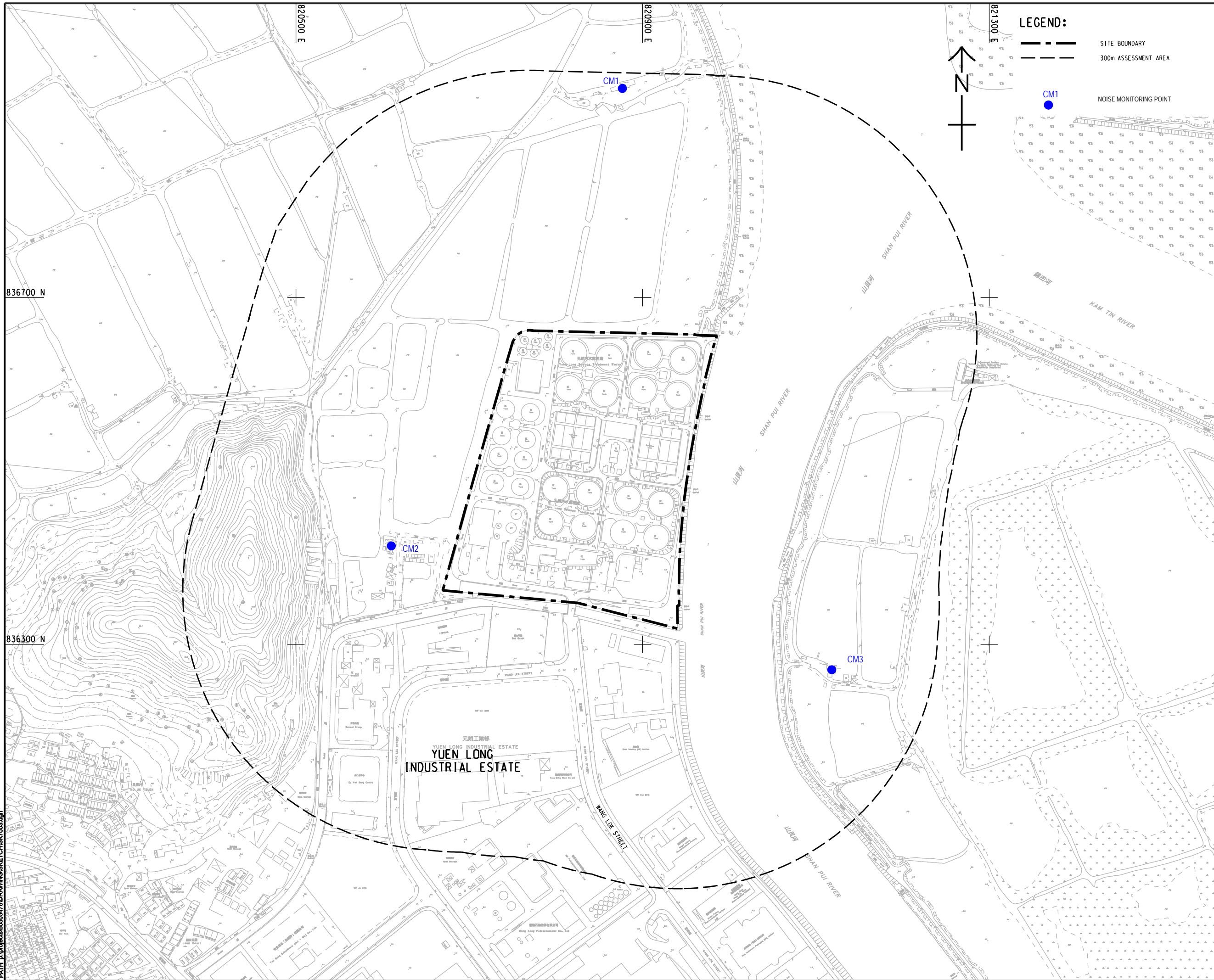
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# Figure 3

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Noise Monitoring Locations





LEGEND:

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

**AECOM**

**PROJECT**  
項目

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

**CLIENT**  
業主

渠務署  
Drainage Services Department

**CONSULTANT**  
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修訂

I/R	DATE	DESCRIPTION	CHK.

**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

**SHEET NUMBER**  
圖紙編號

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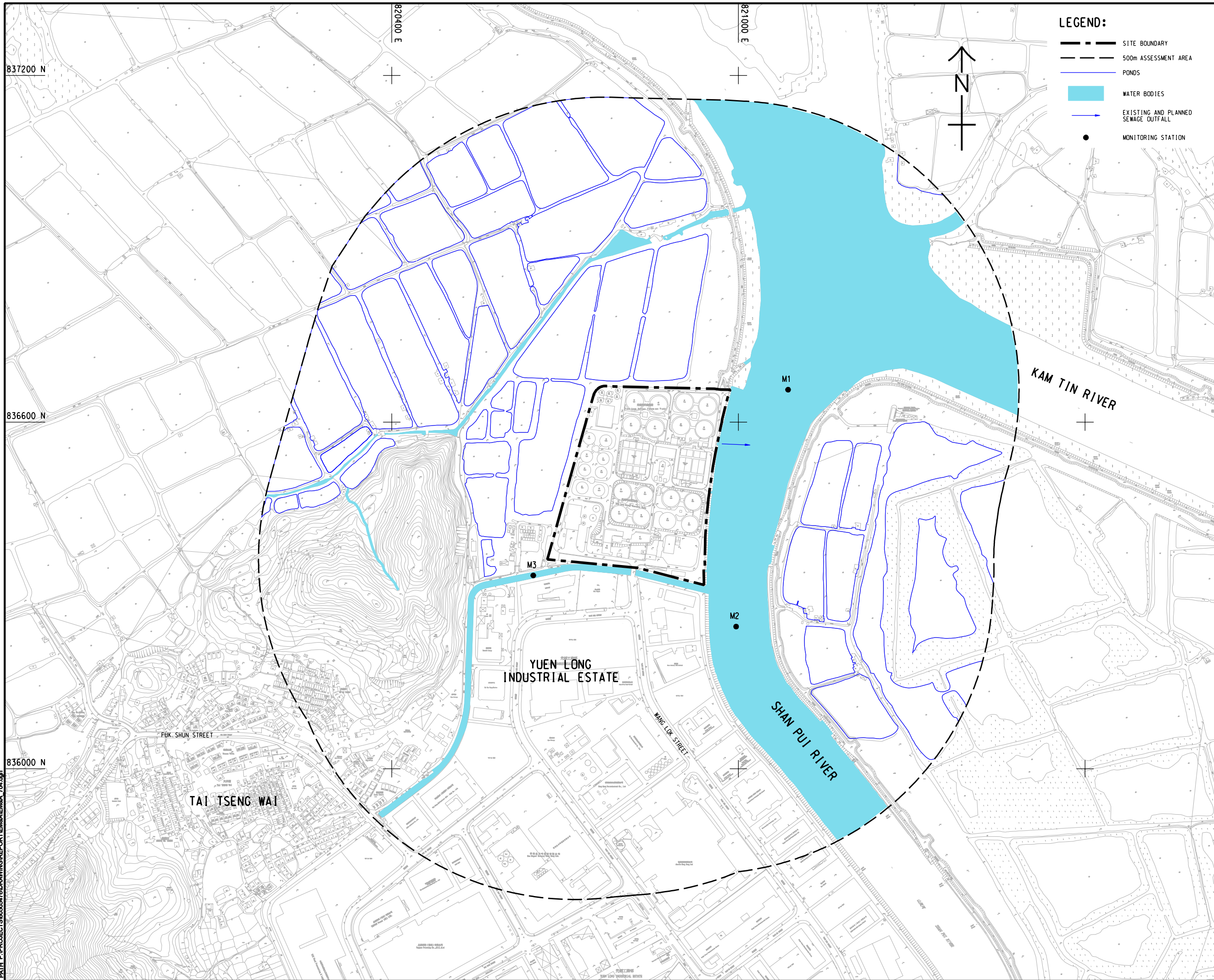
# Figure 4

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Water Quality Monitoring Locations



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

**CLIENT**  
 業主  
 渠務署  
 Drainage Services Department

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**ISSUE/REVISION**  
 修訂

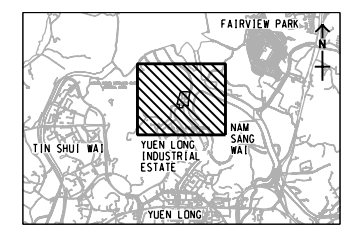
IR	DATE	DESCRIPTION	CHK.

**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

**SHEET NUMBER**  
 圖號

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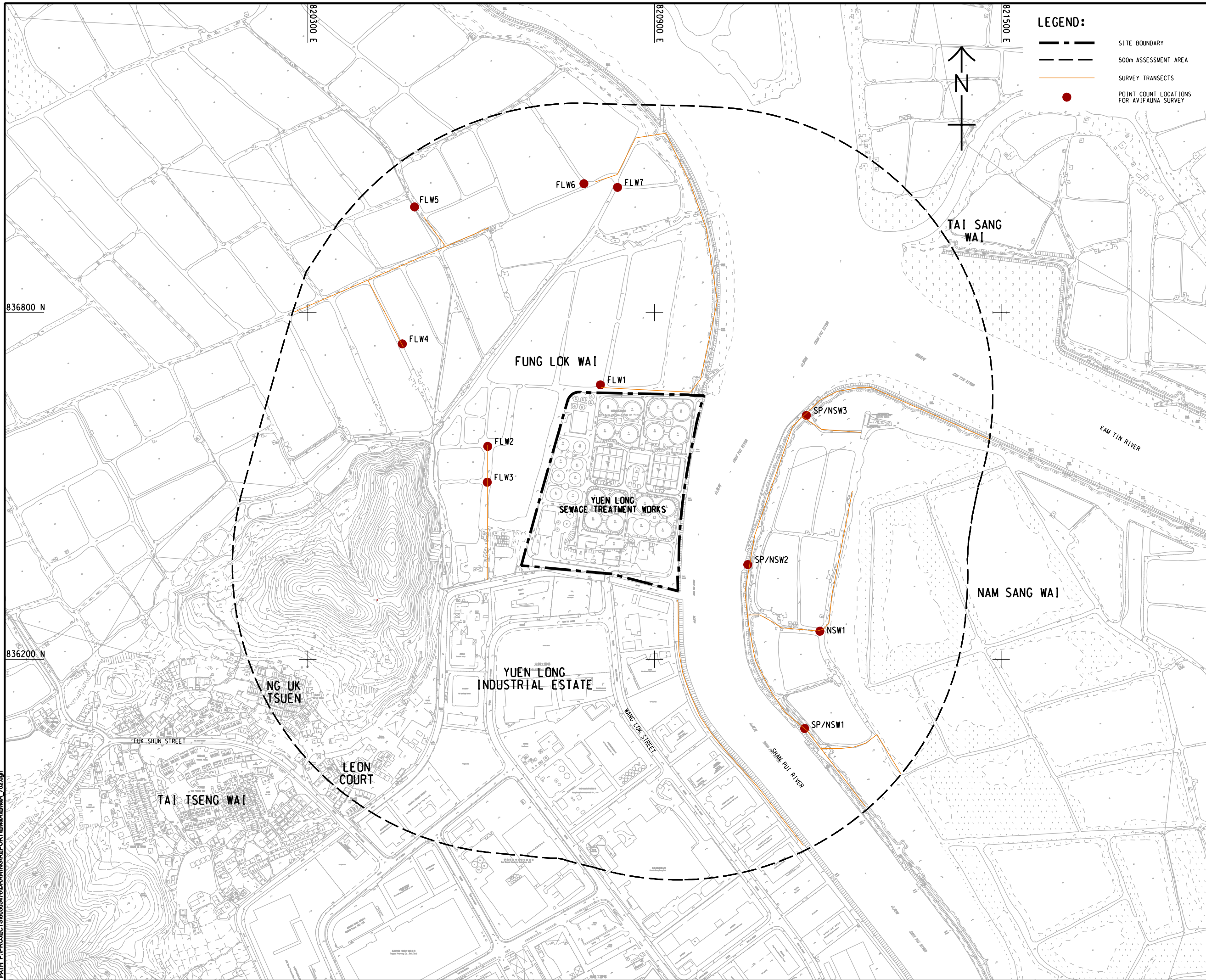
# Figure 5

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Ecology Monitoring Locations



ISO A1 594mm x 841mm  
 Approved:  
 Checked:  
 Designer:  
 Project Management Initials:  
 836800 N  
 836200 N  
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 Pld File by: ZENGFX 2018/05/30  
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**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**  
 業主  
 渠務署  
 Drainage Services Department

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**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  
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**SHEET TITLE**  
 圖名  
 ECOLOGICAL MONITORING LOCATIONS

**SHEET NUMBER**  
 圖號

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# Appendix A

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Construction Programme



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



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

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

Project ID : DWP.DP1\_210422  
Layout : DC201910 Detailed Programme  
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Detailed Works Programme			
Date	Revision	Checked	Approved
15-Mar-21	Rev. 0		
21-Apr-21	Rev 1		









Work ID	Activity Name	Order	Start	Finish	Latest	Earliest	Total	2019												2020												2021												2022														
								Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
AIP-370	Architecture - Obtain Approval	7	30-Mar-21	05-Apr-21	29-Jun-21	05-Jul-21	91	Architecture - Obtain Approval																																																		
<b>Package 11A - Civil, Structural &amp; Geotechnical</b>								81	30-Jan-21	20-Apr-21	14-Feb-21	05-May-21	15																																													
AIP-380	Civil, Structural & Geotechnical - Prepare & Submission for PM's review	25	30-Jan-21	23-Feb-21	14-Feb-21	10-Mar-21	15	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-Feb-21	30-Mar-21	11-Mar-21	14-Apr-21	15	Civil, Structural & Geotechnical - Review by PM's & ICE review (28 d + 7d)																																																		
AIP-400	Civil, Structural & Geotechnical - Resubmission for further review	14	31-Mar-21	13-Apr-21	15-Apr-21	28-Apr-21	15	Civil, Structural & Geotechnical - Resubmission for further review																																																		
AIP-410	Civil, Structural & Geotechnical - Obtain Approval	7	14-Apr-21	20-Apr-21	29-Apr-21	05-May-21	15	Civil, Structural & Geotechnical - Obtain Approval																																																		
<b>DDA</b>								1496	06-Apr-21	10-May-25	18-May-21	31-Mar-26	325																																													
<b>Package 1 - General Architecture, Civil, Structural &amp; Geotechnical</b>								122	21-Apr-21	20-Aug-21	10-Jun-21	09-Oct-21	50																																													
DDA-100	Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Prepare & Submission for PM's review	45	21-Apr-21	04-Jun-21	10-Jun-21	24-Jul-21	50	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	05-Jun-21	09-Jul-21	25-Jul-21	28-Aug-21	50	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	10-Jul-21	23-Jul-21	29-Aug-21	11-Sep-21	50	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	24-Jul-21	20-Aug-21	12-Sep-21	09-Oct-21	50	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	14-Aug-21	20-Aug-21	03-Oct-21	09-Oct-21	50	Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Obtain Approval																																																		
<b>Package 2 - Tertiary Treatment System</b>								441	07-Aug-21	21-Oct-22	10-Oct-21	19-Dec-23	424																																													
DDA-170	Civil Req. for TTS (foundation design) - Prepare(60d), Sub. & Review(45d),Comment & Resub.(14d), GEO(28d)&Approval (7d)	154	07-Aug-21	07-Jan-22	29-Jun-22	29-Jun-22	326	Civil Req. for TTS (foundation design) - Prepare(60d), Sub. & Review(45d),Comment & Resub.(14d), GEO(28d)&Approval (7d)																																																		
DDA-180	Civil Req. for TTS (Superstruct. design) - Prepare (130d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)	189	07-Aug-21	11-Feb-22	02-Jul-22	06-Jan-23	329	Civil Req. for TTS (Superstruct. design) - Prepare (130d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)																																																		
DDA-140	Architectural for TTS - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)	126	21-Aug-21	24-Dec-21	10-Oct-21	12-Feb-22	50	Architectural for TTS - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)																																																		
DDA-150	Foundation for TTS - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)	126	25-Dec-21	29-Apr-22	13-Feb-22	18-Jun-22	50	Foundation for TTS - Prepare (60d), 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	12-Feb-22	17-Jun-22	12-Apr-23	15-Aug-23	424	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	12-Feb-22	17-Jun-22	16-Aug-23	19-Dec-23	550	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	12-Feb-22	17-Jun-22	16-Aug-23	19-Dec-23	550	Electrical & Control for TTS - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)																																																		
DDA-160	Civil & Structural for TTS - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)	126	13-Feb-22	18-Jun-22	19-Jun-22	22-Oct-22	126	Civil & Structural 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	18-Jun-22	21-Oct-22	16-Aug-23	19-Dec-23	424	Building Services (BS) for TTS - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)																																																		
<b>Package 3 - Mainstream Bio-Reactor System</b>								331	06-Apr-21	02-Mar-22	06-Jul-21	27-Oct-23	604																																													
DDA-230	Architectural for MBS - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)	126	06-Apr-21	09-Aug-21	06-Jul-21	08-Nov-21	91	Architectural for MBS - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)																																																		
DDA-240	Foundation for MBS - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d),GEO (28d) & Approval (7d)	154	06-Apr-21	06-Sep-21	06-Jul-21	06-Dec-21	91	Foundation for MBS - Prepare (60d), 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	11-May-21	13-Sep-21	18-Aug-21	21-Dec-21	99	Civil & Structural for MBS - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)																																																		
DDA-260	Civil Req. for MBS (foundation design) - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)	126	14-Sep-21	17-Jan-22	22-Dec-21	26-Apr-22	99	Civil Req. for MBS (foundation design) - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)																																																		
DDA-270	Civil Req. for MBS (Superstruct. design) - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)	126	14-Sep-21	17-Jan-22	14-Apr-22	17-Aug-22	212	Civil Req. for MBS (Superstruct. design) - 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	28-Oct-21	02-Mar-22	24-Jun-23	27-Oct-23	604	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	28-Oct-21	02-Mar-22	24-Jun-23	27-Oct-23	604	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	28-Oct-21	02-Mar-22	24-Jun-23	27-Oct-23	604	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	28-Oct-21	02-Mar-22	24-Jun-23	27-Oct-23	604	Building Services (BS) for MBS - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)																																																		
<b>Package 5A - Master Water Meter Room</b>								658	03-Mar-22	20-Dec-23	12-Jun-24	31-Mar-26	832																																													
DDA-350	Architectural for Master Water Meter Room - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)	126	03-Mar-22	06-Jul-22	12-Jun-24	15-Oct-24	832	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 (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)	126	08-Dec-22	12-Apr-23	19-Mar-25	22-Jul-25	832	Civil & Struct. for Master Water Meter Room - Prepare (60d), 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)																																																		
<b>Package 5B - Plant Service Water (PSW)</b>								196	07-Aug-21	18-Feb-22	13-Feb-22	19-Dec-23	669																																													
DDA-1050	Civil Requirement Drawings - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	126	07-Aug-21	10-Dec-21	13-Feb-22	18-Jun-22	190	Civil Requirement Drawings - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)																																																		
DDA-1040	Piping & Instrumentation Diagram (P&ID) - Prep(94d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	126	12-Sep-21	15-Jan-22	12-Apr-23	15-Aug-23	577	Piping & Instrumentation Diagram (P&ID) - Prep(94d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)																																																		
DDA-1060	Electrical & Control for PSW - Prep(94d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	160	12-Sep-21	18-Feb-22	13-Jul-23	19-Dec-23	669	Electrical & Control for PSW - Prep(94d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)																																																		
DDA-1070	Mechanical for PSW - Prep(94d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	160	12-Sep-21	18-Feb-22	13-Jul-23	19-Dec-23	669	Mechanical for PSW - Prep(94d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)																																																		
<b>Package 6 - Sludge Thickening Chemical System</b>								378	06-Apr-21	18-Apr-22	06-Oct-21	18-Oct-22	183																																													
DDA-420	Arch. for STCS, Waste Gas Burner & Guard Hse - Prepare (60d), Sub. & Review(45d), Com. & Resub.(14d) & Approval (7d)	126	06-Apr-21	09-Aug-21	06-Oct-21	08-Feb-22	183	Arch. for STCS, Waste Gas Burner & Guard Hse - Prepare (60d), Sub. & Review(45d), Com. & 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	10-Aug-21	13-Dec-21	09-Feb-22	14-Jun-22	183	Found. for STCS, Waste Gas Burner & Guard Hse - Prepare(60d), Sub.&Review(45d), Comment & Resub.(14d),GEO(28d) & Approval (7d)																																																		
DDA-440	Civil & Struct. for STCS, WGB & Guard Hse - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)	126	14-Dec-21	18-Apr-22	15-Jun-22	18-Oct-22	183	Civil & Struct. for STCS, WGB & Guard Hse - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)																																																		
<b>Package 7 - CLP Substation and 11kV Switchgear House</b>								335	21-Apr-21	21-Mar-22	15-May-21	20-Apr-22	30																																													
DDA-450	Found. for CLP Sub. & 11kV Switchgear Hse - Prepare (60d), Sub.&Review(45d), Comment&Resub.(14d),GEO(28d) & Approval (7d)	126	21-Apr-21	24-Aug-21	21-May-21	23-Sep-21	30	Found. for CLP Sub. & 11kV Switchgear Hse - Prepare (60d), Sub.&Review(45d), Comment&Resub.(14d),GEO(28d) & Approval (7d)																																																		
DDA-460	Civil&Struct. for CLP Sub. & 11kV Switchgear Hse - Prep. (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval(7d)	126	21-May-21	23-Sep-21	20-Jun-21	23-Oct-21	30	Civil&Struct. for CLP Sub. & 11kV Switchgear Hse - Prep. (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval(7d)																																																		
DDA-490	BS for CLP Sub. & 11kV Switchgear Hse - Prepare (152d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)	218	02-Jun-21	05-Jan-22	15-Sep-21	20-Apr-22	105	BS for CLP Sub. & 11kV Switchgear Hse - Prepare (152d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)																																																		
DDA-470	Electrical System for all facilities - Prepare (124d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)	190	02-Jul-21	07-Jan-22	13-Oct-21	20-Apr-22	103	Electrical System for all facilities - Prepare (124d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)																																																		
DDA-480	UPS System for CLP Sub. & 11kV Switchgear Hse - Prepare (135d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)	201	02-Sep-21	21-Mar-22	02-Oct-21	20-Apr-22	30	UPS System for CLP Sub. & 11kV Switchgear Hse - Prepare (135d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)																																																		
<b>Package 8 - Advance Works and SCADA Relocation</b>								51	16-May-21	05-Jul-21	18-May-21	07-Jul-21	2																																													
DDA-500	Mechanical for Advance Works - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)	41	16-May-21	25-Jun-21	28-May-21	07-Jul-21	12	Mechanical for Advance Works - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)																																																		
DDA-510	Electrical & Control for Advance Works - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)	41	16-May-21	25-Jun-21	28-May-21	07-Jul-21	12	Electrical & Control for Advance Works - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)																																																		
DDA-520	BS for Advance Works - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)	41	16-May-21	25-Jun-21	18-May-21	27-Jun-21	2	BS for Advance Works - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)																																																		
DDA-530	E&M for Advance Works - SCADA Relocation - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)	21	15-Jun-21	05-Jul-21	17-Jun-21	07-Jul-21	2	E&M for Advance Works - SCADA Relocation - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)																																																		
<b>Package 9 - Miscellaneous</b>								126	21-Apr-21	24-Aug-21	03-Mar-25	06-Jul-25	1412																																													
DDA-540	Civil & Structural for Misc. Manholes, Draw Pits, Fence Wall - Prep(60d), Sub. & Review(45d), Comment&Resub(14d) & Approval(7d)	126	21-Apr-21	24-Aug-21	03-Mar-25	06-Jul-25	1412	Civil & Structural for Misc. Manholes, Draw Pits, Fence Wall - Prep(60d), Sub. & Review(45d), Comment&Resub(14d) & Approval(7d)																																																		
<b>Package 10 - SCADA System, CMMS, IDMS, PQEMS</b>								219	26-Sep-21	02-May-22	03-May-23	07-Dec-23	584																																													
DDA-550	Supervisory Control & Data Application (SCADA) System - Prep(60d), Sub. & Review(45d), Comment&Resub (14d) & Approval (7d)	126	26-Sep-21	29-Jan-22	11-Jul-23	13-Nov-23	653	Supervisory Control & Data Application (SCADA) System - Prep(60d), Sub. & Review(45d), Comment&Resub (14d) & Approval (7d)																																																		
DDA-560	Computerised Maintenance Management System (CMMS) - Prep(153d), Sub. & Review(45d), Comment&Resub (14d) & Approval (7d)	219	26-Sep-21	02-May-22	03-May-23	07-Dec-23	584	Computerised Maintenance Management System (CMMS) - Prep(153d), Sub. & Review(45d), Comment&Resub (14d) & Approval (7d)																																																		
DDA-570	Information and Document management System (IDMS) - Prep(153d), Sub. & Review(45d), Comment&Resub (14d) & Approval (7d)	119	26-Sep-21	22-Jan-22	11-Aug-23	07-Dec-23	684	Information and Document management System (IDMS) - Prep(153d), Sub. & Review(45d), Comment&Resub (14d) & Approval (7d)																																																		
DDA-580	Power Quality & Energy Management System (PQEMS) - Prep(60d), Sub. & Review(45d), Comment&Resub (14d) & Approval (7d)	119	27-Oct-21	22-Feb-22	11-Aug-23	07-Dec-23	653	Power Quality & Energy Management System (PQEMS) - Prep(60d), Sub. & Review(45d), Comment&Resub (14d) & Approval (7d)																																																		
<b>Package 11 - Building Services</b>								497	01-Jun-21	10-Oct-22	09-Oct-21	03-Mar-23	144																																													
DDA-600	BS for Sludge Thickening Building (STB) - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)	126	01-Jun-21	04-Oct-21	09-Feb-22	14-Jun-22	253	BS for Sludge Thickening Building (STB) - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d)																																																		
DDA-620	BS for Biogas																																																									







Work ID	Activity Name	Duration	Start	Finish	Latest	Earliest	Total Effort	Gantt Chart																	
								2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030						
TS-1100	System Architecture for YLEPP SCADA System - Prep(144d), Sub.&Review(45d), Comment&Resub (14d)&Approval (7d)	210	31-Oct-21	28-May-22	12-May-23	07-Dec-23	558	System Architecture for YLEPP SCADA System - Prep(144d), Sub.&Review(45d), Comment&Resub (14d)&Approval (7d)																	
<b>Utility Corridor and Pipe Portal</b>								210	31-Oct-21	28-May-22	07-Aug-23	03-Mar-24	645												
TS-1110	General Arrangement Drawing - Prep(144d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	210	31-Oct-21	28-May-22	07-Aug-23	03-Mar-24	645	General Arrangement Drawing - Prep(144d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)																	
TS-1120	Civil Requirement Drawings (Superstructure) - Prep(144d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	210	31-Oct-21	28-May-22	07-Aug-23	03-Mar-24	645	Civil Requirement Drawings (Superstructure) - Prep(144d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)																	
TS-1140	Equipment Loading Summary - Prep(144d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)	210	31-Oct-21	28-May-22	07-Aug-23	03-Mar-24	645	Equipment Loading Summary - Prep(144d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d)																	
<b>Material Submission, Procurement, Manufacturing and Delivery</b>								300	09-Nov-20	04-Sep-21	14-Nov-20	19-Dec-23	836												
PRE-240	Submit/Procure/Manufacture/Deliver TTS & Auxiliary Facility Equip.	270	09-Nov-20	05-Aug-21	25-Mar-23	19-Dec-23	866	Submit/Procure/Manufacture/Deliver TTS & Auxiliary Facility Equip.																	
PRE-230	Submit/Procure/Manufacture/Deliver Main Stream Bio-Reactor E&M Equip.	270	09-Nov-20	05-Aug-21	31-Jan-23	27-Oct-23	813	Submit/Procure/Manufacture/Deliver Main Stream Bio-Reactor E&M Equip.																	
PRE-210	Submit/Procure/Manufacture/Deliver New Inlet Works Equip.	180	09-Nov-20	07-May-21	16-May-22	11-Nov-22	553	Submit/Procure/Manufacture/Deliver New Inlet Works Equip.																	
PRE-220	Submit/Procure/Manufacture/Deliver New Primary Sedimentation Tank Equip.	180	09-Nov-20	07-May-21	14-Apr-22	10-Oct-22	521	Submit/Procure/Manufacture/Deliver New Primary Sedimentation Tank Equip.																	
PRE-250	Submit/Procure/Manufacture/Deliver Thickening System/Digestion/sludge holding Tanks	300	09-Nov-20	04-Sep-21	23-Nov-22	18-Sep-23	744	Submit/Procure/Manufacture/Deliver Thickening System/Digestion/sludge holding Tanks																	
PRE-260	Submit/Procure/Manufacture/Deliver Diversion Works	44	09-Nov-20	22-Dec-20	14-Nov-20	27-Dec-20	5	Submit/Procure/Manufacture/Deliver Diversion Works																	
<b>Site Establishment Works</b>								1432	09-Nov-20	05-Jun-25	02-Dec-20	20-Jun-26	326												
PG-100	Prepare/Submit Supplementary Contamination Assessment Plan (CAP)	12	21-Dec-20	06-Jan-21	07-Jan-21	20-Jan-21	12	Prepare/Submit Supplementary Contamination Assessment Plan (CAP)																	
PG-120	Procurement Asbestos Specialist	30	21-Dec-20	19-Jan-21	07-Feb-21	08-Mar-21	48	Procurement Asbestos Specialist																	
PG-110	Approved Supplementary CAP	30	07-Jan-21	05-Feb-21	21-Jan-21	19-Feb-21	14	Approved Supplementary CAP																	
PG-130	Submit/Approve Methos Statement for Asbestos Treatment and Removal	30	20-Jan-21	18-Feb-21	09-Mar-21	07-Apr-21	48	Submit/Approve Methos Statement for Asbestos Treatment and Removal																	
<b>Portion 1 - IW Stage 1, PST, MBR, AF, TTS, STCS, Utilities Corridor, Pipe Portal</b>								147	09-Nov-20	14-May-21	02-Dec-20	26-Jun-21	35												
P1-100	Portion 1 - Initial Survey and Record, Underground Utilities Detection	60	09-Nov-20	20-Jan-21	02-Dec-20	19-Feb-21	20	Portion 1 - Initial Survey and Record, Underground Utilities Detection																	
P1-120	Portion 1 - Land Contamination Site Investigation	13	06-Feb-21	27-Feb-21	20-Feb-21	06-Mar-21	6	Portion 1 - Land Contamination Site Investigation																	
P1-110	Portion 1 - Installation of Water Barriers, Clearance, Hbal Road and Temp Facilities	48	08-Feb-21	15-Apr-21	20-Feb-21	21-Apr-21	5	Portion 1 - Installation of Water Barriers, Clearance, Hbal Road and Temp Facilities																	
P1-200	Portion 1 - Asbestos Survey	18	19-Feb-21	11-Mar-21	08-Apr-21	28-Apr-21	37	Portion 1 - Asbestos Survey																	
P1-130	Portion 1 - Submit/Approve CAR and RAP	18	01-Mar-21	20-Mar-21	08-Mar-21	27-Mar-21	6	Portion 1 - Submit/Approve CAR and RAP																	
P1-210	Portion 1 - Asbestos Removal	48	12-Mar-21	12-May-21	29-Apr-21	26-Jun-21	37	Portion 1 - Asbestos Removal																	
P1-140	Portion 1 - Carry out RAP	24	22-Mar-21	22-Apr-21	29-Mar-21	29-Apr-21	6	Portion 1 - Carry out RAP																	
P1-150	Portion 1 - Submit Remediation Report	18	23-Apr-21	14-May-21	30-Apr-21	22-May-21	6	Portion 1 - Submit Remediation Report																	
<b>Portion 2 - IW Stage 2</b>								46	08-Jun-21	02-Aug-21	12-Jun-21	14-Sep-21	37												
P2-100	Portion 2 - Initial Survey and Record, Underground Utilities Detection	12	08-Jun-21	22-Jun-21	12-Jun-21	26-Jun-21	4	Portion 2 - Initial Survey and Record, Underground Utilities Detection																	
P2-110	Portion 2 - Installation of Water Barriers, Clearance, Haul Road and Temp Facilities	12	08-Jun-21	22-Jun-21	12-Jun-21	26-Jun-21	4	Portion 2 - Installation of Water Barriers, Clearance, Haul Road and Temp Facilities																	
P2-120	Portion 2 - Land Contamination Site Investigation	14	26-Jun-21	13-Jul-21	28-Jun-21	14-Jul-21	1	Portion 2 - Land Contamination Site Investigation																	
P2-140	Portion 2 - Carry out RAP	24	26-Jun-21	24-Jul-21	10-Aug-21	06-Sep-21	37	Portion 2 - Carry out RAP																	
P2-150	Submit Remediation Report	7	26-Jul-21	02-Aug-21	07-Sep-21	14-Sep-21	37	Submit Remediation Report																	
<b>Portion 3 - PST, SDB, Admin. Bldg</b>								69	26-Jan-24	27-Apr-24	27-Feb-24	29-Jul-24	75												
P3-100	Portion 3 - Initial Survey and Record, Underground Utilities Detection	12	26-Jan-24	16-Feb-24	27-Feb-24	11-Mar-24	20	Portion 3 - Initial Survey and Record, Underground Utilities Detection																	
P3-110	Portion 3 - Installation of Water Barriers, Clearance, Haul Road and Temp Facilities	17	26-Jan-24	22-Feb-24	27-Feb-24	16-Mar-24	20	Portion 3 - Installation of Water Barriers, Clearance, Haul Road and Temp Facilities																	
P3-120	Portion 3 - Land Contamination Site Investigation	10	22-Feb-24	05-Mar-24	18-Mar-24	28-Mar-24	20	Portion 3 - Land Contamination Site Investigation																	
P3-140	Portion 3 - Carry out RAP	24	05-Mar-24	06-Apr-24	08-Jun-24	08-Jul-24	75	Portion 3 - Carry out RAP																	
P3-150	Portion 3 - Submit Remediation Report	18	06-Apr-24	27-Apr-24	09-Jul-24	29-Jul-24	75	Portion 3 - Submit Remediation Report																	
<b>Portion 4 - EVA</b>								54	27-Mar-25	05-Jun-25	16-Apr-26	20-Jun-26	307												
P4-100	Portion 4 - Initial Survey and Record, Underground Utilities Detection	12	27-Mar-25	10-Apr-25	06-Jun-26	20-Jun-26	349	Portion 4 - Initial Survey and Record, Underground Utilities Detection																	
P4-110	Portion 4 - Installation of Water Barriers, Clearance, Haul Road and Temp Facilities	12	27-Mar-25	10-Apr-25	06-Jun-26	20-Jun-26	349	Portion 4 - Installation of Water Barriers, Clearance, Haul Road and Temp Facilities																	
P4-120	Portion 4 - Land Contamination Site Investigation	12	27-Mar-25	10-Apr-25	16-Apr-26	29-Apr-26	307	Portion 4 - Land Contamination Site Investigation																	
P4-140	Portion 4 - Carry out RAP	24	11-Apr-25	14-May-25	30-Apr-26	29-May-26	307	Portion 4 - Carry out RAP																	
P4-150	Portion 4 - Submit Remediation Report	18	15-May-25	05-Jun-25	30-May-26	20-Jun-26	307	Portion 4 - Submit Remediation Report																	
<b>Portion 5 - Walkway</b>								12	12-Jun-23	26-Jun-23	06-Aug-25	19-Aug-25	633												
P5-100	Portion 5 - Initial Survey and Record, Underground Utilities Detection	12	12-Jun-23	26-Jun-23	06-Aug-25	19-Aug-25	633	Portion 5 - Initial Survey and Record, Underground Utilities Detection																	
P5-110	Portion 5 - Installation of Water Barriers, Clearance, Haul Road and Temp Facilities	12	12-Jun-23	26-Jun-23	06-Aug-25	19-Aug-25	633	Portion 5 - Installation of Water Barriers, Clearance, Haul Road and Temp Facilities																	
<b>PM and Contractor Accomodation</b>								213	18-Feb-21	05-Nov-21	05-Mar-27	08-Nov-27	1780												
<b>Project Manager's &amp; Contractor Site Accommodation</b>								158	18-Feb-21	30-Aug-21	05-Mar-27	08-Nov-27	1835												
PMCA-110	Design and Procurement of MiC	45	18-Feb-21	15-Apr-21	05-Mar-27	26-Apr-27	1780	Design and Procurement of MiC																	
PMCA-140	Submission and approved MS & PMAC	18	16-Apr-21	07-May-21	27-Apr-27	17-May-27	1780	Submission and approved MS & PMAC																	
<b>MiC Section</b>								95	08-May-21	30-Aug-21	21-Jul-27	08-Nov-27	1835												
PMCA-150	Construction of Pad Footing	6	08-May-21	14-May-21	21-Jul-27	27-Jul-27	1835	Construction of Pad Footing																	
PMCA-160	Construction of Sewage pipeworks and Septic Tank	17	15-May-21	04-Jun-21	28-Jul-27	16-Aug-27	1835	Construction of Sewage pipeworks and Septic Tank																	
PMCA-170	Construction of G/F Structure Works	16	05-Jun-21	24-Jun-21	17-Aug-27	03-Sep-27	1835	Construction of G/F Structure Works																	
PMCA-180	Construction of 1/F Structure Works	18	25-Jun-21	16-Jul-21	04-Sep-27	24-Sep-27	1835	Construction of 1/F Structure Works																	
PMCA-190	Installation of Green Roof	16	17-Jul-21	04-Aug-21	25-Sep-27	13-Oct-27	1835	Installation of Green Roof																	
PMCA-200	Construction of Covered Car Park	13	17-Jul-21	31-Jul-21	29-Sep-27	13-Oct-27	1838	Construction of Covered Car Park																	
PMCA-210	Installation of E&M and ABWF Works	12	05-Aug-21	18-Aug-21	14-Oct-27	27-Oct-27	1835	Installation of E&M and ABWF Works																	
PMCA-220	Installation of Energy Efficient Features	12	05-Aug-21	18-Aug-21	14-Oct-27	27-Oct-27	1835	Installation of Energy Efficient Features																	
PMCA-230	Construction of Rain and Surface Water Drainage Works	10	19-Aug-21	30-Aug-21	28-Oct-27	08-Nov-27	1835	Construction of Rain and Surface Water Drainage Works																	
<b>Caving System</b>								150	08-May-21	05-Nov-21	18-May-27	08-Nov-27	1780												
PMCA-240	Caving System Construction	90	08-May-21	24-Aug-21	18-May-27	30-Aug-27	1780	Caving System Construction																	
PMCA-250	Caving System Installation	60	25-Aug-21	05-Nov-21	31-Aug-27	08-Nov-27	1780	Caving System Installation																	
<b>Environmental Mitigation Measures for KD1 &amp; 2</b>								129	09-Nov-20	22-Apr-21	09-Nov-20	06-May-21	11												
<b>Noise Barrier</b>								117	09-Nov-20	08-Apr-21	09-Nov-20	08-Apr-21	0												
<b>NB Northern Side</b>								75	09-Nov-20	06-Feb-21	09-Nov-20	06-Feb-21	0												
NBN-00	NB North - Concrete Block Laying (474 nos.)	12	09-Nov-20	21-Nov-20	09-Nov-20	21-Nov-20	0	NB North - Concrete Block Laying (474 nos.)																	
NBN-10	NB North - Steel Member Installation (1,150m)	30	23-Nov-20	29-Dec-20	23-Nov-20	29-Dec-20	0	NB North - Steel Member Installation (1,150m)																	
NBN-20	NB North - Rails Installation (Horizontal and Vertical)	30	23-Nov-20	29-Dec-20	23-Nov-20	29-Dec-20	0	NB North - Rails Installation (Horizontal and Vertical)																	
NBN-30	NB North - Noise Panel Installation (7077 nos.)	33	30-Dec-20	06-Feb-21	30-Dec-20	06-Feb-21	0	NB North - Noise Panel Installation (7077 nos.)																	
<b>NB Eastern Side</b>								75	30-Dec-20	08-Apr-21	30-Dec-20	08-Apr-21	0												
NBE-00	NB East - Concrete Block Laying (681 nos.)	12	30-Dec-20	13-Jan-21	30-Dec-20	13-Jan-21	0	NB East - Concrete Block Laying (681 nos.)																	
NBE-10	NB East - Steel Member Installation (1,650m)	30	14-Jan-21	24-Feb-21	14-Jan-21	24-Feb-21	0	NB East - Steel Member Installation (1,650m)																	



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

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

### Detailed Works Programme

Project ID : DWP.DPr1\_210422  
 Layout : DC201910 Detailed Programme  
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Detailed Works Programme			
Date	Revision	Checked	Approved
15-Mar-21	Rev. 0		
21-Apr-21	Rev 1		

Activity Code	Activity Name	Duration	Start	Finish	Latest Start	Latest Finish	Total Effort	2021												2022												2023												2024											
								Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
NBE-20	NB East - Rails Installation (Horizontal and Vertical)	30	14-Jan-21	24-Feb-21	14-Jan-21	24-Feb-21	0	■ NB East - Rails Installation (Horizontal and Vertical)																																															
NBE-30	NB East - Noise Panel Installation (1,057 nos.)	33	25-Feb-21	08-Apr-21	25-Feb-21	08-Apr-21	0	■ NB East - Noise Panel Installation (1,057 nos.)																																															
<b>NB Western Side</b>																																																							
NBW-00B	NB West - Concrete Block Laying (225 nos.)	12	08-Feb-21	08-Apr-21	08-Feb-21	08-Apr-21	0	■ NB West - Concrete Block Laying (225 nos.)																																															
NBW-10	NB West - Steel Member Installation (127m)	20	01-Mar-21	23-Mar-21	01-Mar-21	23-Mar-21	0	■ NB West - Steel Member Installation (127m)																																															
NBW-20	NB West - Rails Installation (Horizontal and Vertical)	20	01-Mar-21	23-Mar-21	01-Mar-21	23-Mar-21	0	■ NB West - Rails Installation (Horizontal and Vertical)																																															
NBW-30	NB North - Noise Panel Installation (385 nos.)	10	24-Mar-21	08-Apr-21	24-Mar-21	08-Apr-21	0	■ NB North - Noise Panel Installation (385 nos.)																																															
<b>Bird Curtain</b>																																																							
BC-10	BC - Concrete Block Laying	24	14-Jan-21	10-Feb-21	27-Jan-21	02-Mar-21	11	■ BC - Concrete Block Laying																																															
BC-20	BC - Installation of Post	32	18-Feb-21	26-Mar-21	03-Mar-21	13-Apr-21	11	■ BC - Installation of Post																																															
BC-30	BC - Installation of Bird Curtain	19	27-Mar-21	22-Apr-21	14-Apr-21	06-May-21	11	■ BC - Installation of Bird Curtain																																															
<b>General Advance Works</b>																																																							
<b>NSWSPS Sensors</b>																																																							
ATALGA-1130	CMS - NSWSPS Sensor	51	01-Jun-21	29-Dec-21	08-Aug-23	11-Mar-24	642	■ CMS - NSWSPS Sensor																																															
ATALGA-1160	CGS - Method Statement for Installation	101	02-Aug-21	01-Dec-21	09-Oct-23	07-Feb-24	642	■ CGS - Method Statement for Installation																																															
ATALGA-1170	Procurement & Delivery of Sensor	101	02-Aug-21	01-Dec-21	09-Oct-23	07-Feb-24	642	■ Procurement & Delivery of Sensor																																															
ATALGA-1260	Installation of pressure sensors at NSWSPS	22	01-Dec-21	29-Dec-21	08-Feb-24	11-Mar-24	642	■ Installation of pressure sensors at NSWSPS																																															
<b>Air Blower House</b>																																																							
ATALGA-1280	CMS - Air Blower System	127	01-Jun-22	02-Nov-22	04-Jan-23	14-Jun-23	278	■ CMS - Air Blower System																																															
ATALGA-1290	CGS - Method Statement for Installation	49	02-Nov-22	31-Dec-22	06-Sep-23	04-Nov-23	247	■ CGS - Method Statement for Installation																																															
ATALGA-1300	Procurement & Delivery of Materials	121	02-Nov-22	03-Apr-23	15-Jun-23	08-Nov-23	178	■ Procurement & Delivery of Materials																																															
ATALGA-1020	Civil Structural modification of air blower house	90	13-Jan-23	11-May-23	17-Nov-23	11-Mar-24	247	■ Civil Structural modification of air blower house																																															
ATALGA-1310	E&M installation	97	03-Apr-23	03-Aug-23	09-Nov-23	11-Mar-24	178	■ E&M installation																																															
<b>Temporary CHP System</b>																																																							
ATALGA-1230	CGS - Method Statement for Relocation	93	02-Nov-21	01-Mar-22	10-Dec-22	12-Apr-23	326	■ CGS - Method Statement for Relocation																																															
ATALGA-1240	Procurement & Delivery of Materials	100	01-Mar-22	05-Jul-22	13-Apr-23	11-Aug-23	326	■ Procurement & Delivery of Materials																																															
ATALGA-1250	Civil Structural Construction of CHP system house c/w pipework	100	05-Jul-22	02-Nov-22	12-Aug-23	09-Dec-23	326	■ Civil Structural Construction of CHP system house c/w pipework																																															
ATALGA-1320	E&M installation of CHP system	47	02-Nov-22	29-Dec-22	11-Dec-23	06-Feb-24	326	■ E&M installation of CHP system																																															
ATALGA-1330	T&C	23	29-Dec-22	02-Feb-23	07-Feb-24	11-Mar-24	326	■ T&C																																															
<b>Disc Filter (DF) Pilot Plant</b>																																																							
ATALGA-1080	CGS - Method Statement for Relocation	63	01-Apr-21	21-Jun-21	17-Jun-22	30-Aug-22	352	■ CGS - Method Statement for Relocation																																															
ATALGA-1090	Procurement & Delivery of Materials	97	21-Jun-21	16-Oct-21	13-Aug-22	24-Dec-22	352	■ Procurement & Delivery of Materials																																															
ATALGA-1000	Civil Structural Construction of DF Pilot Plant from STSTW c/w of relevant underground pipeworks	211	16-Oct-21	09-Jul-22	23-Mar-23	07-Dec-23	418	■ Civil Structural Construction of DF Pilot Plant from STSTW c/w of relevant underground pipeworks																																															
ATALGA-1140	E&M installation of DF Pilot Plant	51	09-Jul-22	07-Sep-22	07-Dec-23	07-Feb-24	418	■ E&M installation of DF Pilot Plant																																															
ATALGA-1190	T&C	22	07-Sep-22	06-Oct-22	08-Feb-24	11-Mar-24	418	■ T&C																																															
<b>Dissolved Air Flotation (DAF) Pilot Plant</b>																																																							
ATALGA-1100	CGS - Method Statement for Relocation	47	21-Jun-21	16-Aug-21	31-Aug-22	27-Oct-22	352	■ CGS - Method Statement for Relocation																																															
ATALGA-1110	Procurement & Delivery of Materials	97	16-Aug-21	10-Dec-21	28-Oct-22	28-Feb-23	352	■ Procurement & Delivery of Materials																																															
ATALGA-1070	Civil Structural Construction of DAF Pilot Plant from STSTW	97	10-Dec-21	14-Apr-22	01-Mar-23	29-Jun-23	352	■ Civil Structural Construction of DAF Pilot Plant from STSTW																																															
ATALGA-1150	E&M installation of DAF Pilot Plant	51	14-Apr-22	20-Jun-22	30-Jun-23	29-Aug-23	352	■ E&M installation of DAF Pilot Plant																																															
ATALGA-1200	T&C	11	20-Jun-22	04-Jul-22	30-Aug-23	11-Sep-23	352	■ T&C																																															
ATALGA-1220	Post-commissioning	144	04-Jul-22	22-Dec-22	12-Sep-23	11-Mar-24	352	■ Post-commissioning																																															
<b>Aerobic Granular Sludge (AGS) Pilot Plant</b>																																																							
ATALGA-1030	AIP - AGS Pilot Plant	20	18-Feb-21	12-Mar-21	21-May-22	14-Jun-22	366	■ AIP - AGS Pilot Plant																																															
ATALGA-1040	DDA - AGS Pilot Plant	21	13-Mar-21	10-Apr-21	23-Mar-23	20-Apr-23	594	■ DDA - AGS Pilot Plant																																															
ATALGA-1050	CMS - AGS Pilot Plant	48	13-Mar-21	13-May-21	15-Jun-22	10-Aug-22	366	■ CMS - AGS Pilot Plant																																															
ATALGA-1060	CGS - Method Statement for Installation	47	25-Mar-21	25-May-21	04-Apr-23	03-Jun-23	594	■ CGS - Method Statement for Installation																																															
ATALGA-1120	Procurement & Delivery of Materials	100	28-Apr-21	26-Aug-21	27-Jul-22	23-Nov-22	366	■ Procurement & Delivery of Materials																																															
ATALGA-1010	Civil Structural Construction of AGS Pilot Plant	150	27-Aug-21	03-Mar-22	24-Nov-22	03-Jun-23	366	■ Civil Structural Construction of AGS Pilot Plant																																															
ATALGA-1180	E&M installation of AGS Pilot Plant	36	04-Mar-22	19-Apr-22	05-Jun-23	18-Jul-23	366	■ E&M installation of AGS Pilot Plant																																															
ATALGA-1210	Seeding, process start-up and T&C	52	20-Apr-22	22-Jun-22	19-Jul-23	16-Sep-23	366	■ Seeding, process start-up and T&C																																															
ATALGA-1270	Post-commissioning	139	23-Jun-22	06-Dec-22	18-Sep-23	11-Mar-24	366	■ Post-commissioning																																															
<b>Zone 1 Construction</b>																																																							
<b>Demolition and Temporary Modification/Diversion Works</b>																																																							
<b>PST Overhaul Works</b>																																																							
ATALPST-5130	Completion of Overhaul Works (Zone 1)	0		10-Jul-21		31-Jul-21	18	◆ Completion of Overhaul Works (Zone 1)																																															
<b>PST Existing Primary Sedimentation Tanks (PST)</b>																																																							
ATALPST-1000	Method Statement / PMAC Submission and Approval for PST	55	09-Nov-20	14-Jan-21	30-Nov-20	04-Feb-21	18	■ Method Statement / PMAC Submission and Approval for PST																																															
ATALPST-1030	Procurement of Wheels, Carbon Brush, Motor/Gearbox for PST No. 1 to No. 4	60	15-Jan-21	01-Apr-21	05-Feb-21	27-Apr-21	18	■ Procurement of Wheels, Carbon Brush, Motor/Gearbox for PST No. 1 to No. 4																																															
ATALPST-1040	Procurement of Scraper Frame Robs	32	15-Jan-21	27-Feb-21	05-Feb-21	20-Mar-21	18	■ Procurement of Scraper Frame Robs																																															
<b>PST No. 2 &amp; 4</b>																																																							
ATALPST-1020	Isolation and Pre-test for PST 2 & 4	14	15-Jan-21	30-Jan-21	05-Feb-21	27-Feb-21	18	■ Isolation and Pre-test for PST 2 & 4																																															
ATALPST-1070	Construction of Bamboo Scaffolding	7	01-Feb-21	08-Feb-21	01-Mar-21	08-Mar-21	18	■ Construction of Bamboo Scaffolding																																															
ATALPST-1090	Replacement of Screws for the Rotatory Bridge	11	09-Feb-21	27-Feb-21	09-Mar-21	20-Mar-21	18	■ Replacement of Screws for the Rotatory Bridge																																															
ATALPST-1120	Replacement of Scraper Frame Robs	25	01-Mar-21	29-Mar-21	22-Mar-21	23-Apr-21	18	■ Replacement of Scraper Frame Robs																																															
ATALPST-1160	Disassembly of Scraper Drive Unit / Penstock Actuators / Valves	3	30-Mar-21	01-Apr-21	24-Apr-21	27-Apr-21	18	■ Disassembly of Scraper Drive Unit / Penstock Actuators / Valves																																															
ATALPST-1170	Disassembly, Condition Checking of Scraper Drive Units	17	07-Apr-21	26-Apr-21	28-Apr-21	18-May-21	18	■ Disassembly, Condition Checking of Scraper Drive Units																																															
ATALPST-1180	Removal of Centre Bearing from PST 2	17	07-Apr-21	26-Apr-21	28-Apr-21	18-May-21	18	■ Removal of Centre Bearing from PST 2																																															
ATALPST-1190	Reconditioning and Replacement of Scraper Drive Units	17	07-Apr-21	26-Apr-21	28-Apr-21	18-May-21	18	■ Reconditioning and Replacement of Scraper Drive Units																																															
ATALPST-1230	Return of all Drive Units and Centre Bearing for Reassembly	4	27-Apr-21	30-Apr-21	30-May-21	24-May-21	18	■ Return of all Drive Units and Centre Bearing for Reassembly																																															
ATALPST-1260	Power Reconnection and Testing	3	03-May-21	05-May-21	25-May-21	27-May-21	18	■ Power Reconnection and Testing																																															
<b>PST No. 1</b>																																																							
ATALPST-1440	Isolation and Conduct Pre-test for PST No. 1	4	01-Mar-21	04-Mar-21	22-Mar-21	25-Mar-21	18	■ Isolation and Conduct Pre-test for PST No. 1																																															



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

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

### Detailed Works Programme

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Work ID	Activity Name	Duration	Start	Finish	Latest	Earliest	Total Effort	2021												2022												2023											
								Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>IW Foundation &amp; ELS Stage 2</b>		295	26-Mar-21	04-Mar-22	27-Apr-21	04-Mar-22	0																																				
IW-2400	Handover and Inspection of Temp. Workshop and Storage Facilities (advance work before P2 access)	18	08-May-21	29-May-21	05-Jun-21	26-Jun-21	23	Handover and Inspection of Temp. Workshop and Storage Facilities (advance work before P2 access)																																			
IW-2125	Complete Temporary Administration Building - Non-MIC Section	0		07-Jun-21		08-Jun-21	1	Complete Temporary Administration Building - Non-MIC Section																																			
IW-2390	Relocation of Workshop and Storage Facilities (advance work before P2 access)	15	08-Jun-21	25-Jun-21	09-Jun-21	26-Jun-21	1	Relocation of Workshop and Storage Facilities (advance work before P2 access)																																			
PP2	Portion 2 (sd+211d)	0	08-Jun-21*		08-Jun-21		0	Portion 2 (sd+211d)																																			
IW-2860	Inlet Work Stage 2 - Site establishment & investigation, RAP, submit Remediation Report (carryforward from Site establ.)	53	08-Jun-21	10-Aug-21	15-Jul-21	14-Sep-21	30	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	08-Jun-21	24-Jun-21	15-Jul-21	30-Jul-21	30	Inlet Work Stage 2 - Temporary UU Diversion																																			
IW-2530	Inlet Work Stage 2 - Driven H-piles (80nos. @ave.1no/d/rig, 2rigs)	40	31-Jul-21	15-Sep-21	31-Jul-21	15-Sep-21	0	Inlet Work Stage 2 - Driven H-piles (80nos. @ave.1no/d/rig, 2rigs)																																			
IW-2560	Inlet Work Stage 2 - Sheetpiles Install (2,758m2 at 120m2/d)	23	16-Sep-21	15-Oct-21	16-Sep-21	15-Oct-21	0	Inlet Work Stage 2 - Sheetpiles Install (2,758m2 at 120m2/d)																																			
IW-2590	Inlet Work Stage 2 - H-piles Testing	21	16-Oct-21	09-Nov-21	16-Oct-21	09-Nov-21	0	Inlet Work Stage 2 - H-piles Testing																																			
IW-2610	Inlet Work Stage 2 - Excavation (-1.55 to -2.5mPD)	30	10-Nov-21	14-Dec-21	10-Nov-21	14-Dec-21	0	Inlet Work Stage 2 - Excavation (-1.55 to -2.5mPD)																																			
IW-2620	Inlet Work Stage 2 - Marine Sediments Treatment and Disposal	40	10-Nov-21	28-Dec-21	11-Jan-22	04-Mar-22	50	Inlet Work Stage 2 - Marine Sediments Treatment and Disposal																																			
IW-2870	Inlet Work Stage 2 - Submit piling record to GEO (28d)	28	10-Nov-21	07-Dec-21	23-Nov-21	20-Dec-21	13	Inlet Work Stage 2 - Submit piling record to GEO (28d)																																			
IW-2630	Inlet Work Stage 2 - Strut Installation S3 (-2.5mPD)	16	15-Dec-21	05-Jan-22	20-Jan-22	14-Feb-22	28	Inlet Work Stage 2 - Strut Installation S3 (-2.5mPD)																																			
IW-2640	Inlet Work Stage 2 - Excavation (-2.5 to -4.5mPD)	30	15-Dec-21	21-Jan-22	15-Dec-21	21-Jan-22	0	Inlet Work Stage 2 - Excavation (-2.5 to -4.5mPD)																																			
IW-2650	Inlet Work Stage 2 - Strut Installation S4 (-4.5mPD)	16	22-Jan-22	16-Feb-22	15-Feb-22	04-Mar-22	14	Inlet Work Stage 2 - Strut Installation S4 (-4.5mPD)																																			
IW-2660	Inlet Work Stage 2 - Excavation (-4.5 to -7.15mPD)	30	22-Jan-22	04-Mar-22	22-Jan-22	04-Mar-22	0	Inlet Work Stage 2 - Excavation (-4.5 to -7.15mPD)																																			
IW-2670	IW - Foundation & ELS Complete	0		04-Mar-22		04-Mar-22	0	IW - Foundation & ELS Complete																																			
<b>Temporary Workshop and Storage</b>		50	26-Mar-21	29-May-21	27-Apr-21	26-Jun-21	23																																				
IW-2120A	Design and Submission	7	26-Mar-21	07-Apr-21	27-Apr-21	05-May-21	23	Design and Submission																																			
IW-2120B	Site Formation	10	08-Apr-21	19-Apr-21	06-May-21	17-May-21	23	Site Formation																																			
IW-2120C	Foundation Work	7	20-Apr-21	27-Apr-21	18-May-21	26-May-21	23	Foundation Work																																			
IW-2120D	Erect Steel Structure, External Wall and Roof Cladding	10	28-Apr-21	10-May-21	27-May-21	07-Jun-21	23	Erect Steel Structure, External Wall and Roof Cladding																																			
IW-2120E	Erect Internal Partition and False Ceiling	6	11-May-21	17-May-21	08-Jun-21	15-Jun-21	23	Erect Internal Partition and False Ceiling																																			
IW-2120F	Electrical Work, Sanitary Work, Install A/C and Floor Finishes	10	18-May-21	29-May-21	16-Jun-21	26-Jun-21	23	Electrical Work, Sanitary Work, Install A/C and Floor Finishes																																			
<b>IW Civil and Structural Works</b>		286	20-Dec-21	10-Dec-22	21-Dec-21	10-Dec-22	0																																				
<b>IW Structure Stage 1 (to G/F +4.0mPD)</b>		135	20-Dec-21	13-Jun-22	21-Dec-21	14-Jun-22	1																																				
IW-2600	Inlet Work Stage 1 - Structure from -1.55 mPD to +1.45 mPD	90	20-Dec-21	14-Apr-22	21-Dec-21	19-Apr-22	1	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	19-Apr-22	13-Jun-22	20-Apr-22	14-Jun-22	1	Inlet Work Stage 1 - Structure from +1.45 mPD to +4.0 mPD																																			
<b>IW Structure Stage 2 (to G/F +4.0mPD)</b>		105	05-Mar-22	14-Jul-22	05-Mar-22	14-Jul-22	0																																				
IW-2680	Inlet Work Stage 2 - Structure from -7.15 mPD to -5.0 mPD	30	05-Mar-22	09-Apr-22	05-Mar-22	09-Apr-22	0	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	11-Apr-22	14-May-22	11-Apr-22	14-May-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	16-May-22	14-Jun-22	14-Jun-22	14-Jun-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-Jun-22	14-Jul-22	15-Jun-22	14-Jul-22	0	Inlet Work Stage 2 - Structure from +1.0 mPD to +4.0 mPD																																			
<b>IW Structure to Roof (+4.0mPD to +18.3mPD)</b>		125	15-Jul-22	10-Dec-22	15-Jul-22	10-Dec-22	0																																				
IW-2730	Inlet Work - Structure to Roof from +4.0 mPD to +7.0 mPD	25	15-Jul-22	12-Aug-22	15-Jul-22	12-Aug-22	0	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-Aug-22	12-Sep-22	13-Aug-22	12-Sep-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	13-Sep-22	13-Oct-22	13-Sep-22	13-Oct-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	14-Oct-22	11-Nov-22	14-Oct-22	11-Nov-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-Nov-22	10-Dec-22	12-Nov-22	10-Dec-22	0	Inlet Work - Structure to Roof from +16.0 mPD to +18.3 mPD																																			
<b>IW ABWF and BS Works</b>		300	13-Aug-22	21-Aug-23	04-Mar-23	11-Mar-24	162																																				
IW-2780	Inlet Work - BS and ABWF Works	300	13-Aug-22	21-Aug-23	04-Mar-23	11-Mar-24	162	Inlet Work - BS and ABWF Works																																			
<b>IW Transformer House No. 1</b>		225	15-Jul-22	03-Apr-23	20-Oct-22	11-Mar-24	294																																				
IW-2785	TX House No. 1 - Piling Works (8 nos.)	10	15-Jul-22	26-Jul-22	20-Oct-22	31-Oct-22	80	TX House No. 1 - Piling Works (8 nos.)																																			
IW-2790	TX House No. 1 - Structure Cable Trench at +2.2 mPD to +4.8 mPD	21	13-Aug-22	06-Sep-22	13-Feb-23	08-Mar-23	145	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	07-Sep-22	03-Oct-22	09-Mar-23	01-Apr-23	145	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	05-Oct-22	28-Oct-22	03-Apr-23	02-May-23	145	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	29-Oct-22	22-Nov-22	03-May-23	27-May-23	145	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	23-Nov-22	29-Dec-22	03-Nov-23	07-Dec-23	276	TX House No. 1 - BS and ABWF																																			
IW-2840	TX House No. 1 - Transformer Installation and LV Switchboard Power On	72	03-Jan-23	03-Apr-23	08-Dec-23	11-Mar-24	274	TX House No. 1 - Transformer Installation and LV Switchboard Power On																																			
<b>IW E&amp;M Works</b>		184	12-Nov-22	04-Jul-23	12-Nov-22	04-Jul-23	0																																				
ATAL-1000	IW - Screening / Grit Removal / Inlet Pumping / DOU System / Penstock & Stoplogs	118	12-Nov-22	13-Apr-23	12-Nov-22	13-Apr-23	0	IW - Screening / Grit Removal / Inlet Pumping / DOU System / Penstock & Stoplogs																																			
ATAL-1010	IW - Lifting Appliance	118	12-Nov-22	13-Apr-23	12-Nov-22	13-Apr-23	0	IW - Lifting Appliance																																			
ATAL-1020	IW - Instrumentation	36	14-Apr-23	27-May-23	14-Apr-23	27-May-23	0	IW - Instrumentation																																			
ATAL-1030	IW - Electrical Works (Cabling / LCP Termination)	30	29-May-23	04-Jul-23	29-May-23	04-Jul-23	0	IW - Electrical Works (Cabling / LCP Termination)																																			
ATAL-1040	IW - BS Installation (ELV, Ventilation, FS, PD)	30	29-May-23	04-Jul-23	29-May-23	04-Jul-23	0	IW - BS Installation (ELV, Ventilation, FS, PD)																																			
<b>IW E&amp;M T&amp;C</b>		247	29-May-23	11-Mar-24	29-May-23	11-Mar-24	0																																				
ATAL-1050	IW - T&C - Equipment SAT (Mechanical Dry Check)	30	29-May-23	04-Jul-23	29-May-23	04-Jul-23	0	IW - T&C - Equipment SAT (Mechanical Dry Check)																																			
ATAL-1060	IW - T&C - Equipment SAT (Functional Dry Check)	30	05-Jul-23	08-Aug-23	05-Jul-23	08-Aug-23	0	IW - T&C - Equipment SAT (Functional Dry Check)																																			
ATAL-1070	IW - T&C - Equipment SAT (Wet / Load Performance Check)	30	09-Aug-23	12-Sep-23	09-Aug-23	12-Sep-23	0	IW - T&C - Equipment SAT (Wet / Load Performance Check)																																			
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																																			
ATAL-1090	IW - Diversion works from existing bypass chamber to IW (Penstock Installation c/w T&C)	39	13-Sep-23	31-Oct-23	13-Sep-23	31-Oct-23	0	IW - Diversion works from existing bypass chamber to IW (Penstock Installation c/w T&C)																																			
ATAL-1100	IW - T&C - Early Commissioning (100,000 m3/d) (KD3)	104	01-Nov-23	11-Mar-24	01-Nov-23	11-Mar-24	0	IW - T&C - Early Commissioning (100,000 m3/d) (KD3)																																			
IW-995	KD3 (11-Mar-24)	0		11-Mar-24*		11-Mar-24	0	KD3 (11-Mar-24)																																			
<b>CLP Substations No. 1 &amp; 2</b>		1364	02-Jul-21	10-Nov-25	09-Jul-21	07-Nov-26	311																																				
CLP-0900	Complete Temporary Administration Building	0		02-Jul-21		09-Jul-21	6	Complete Temporary Administration Building																																			
CLP-1000	Demolition Carpark (28) and Changing Room (27)	72	03-Jul-21	25-Sep-21	10-Jul-21	04-Oct-21	6	Demolition Carpark (28) and Changing Room (27)																																			
CLP-1010	CLP Substation No.1 - Structure	78	27-Sep-21	30-Dec-21	05-Oct-21	07-Jan-22	6	CLP Substation No.1 - Structure																																			
CLP-1020	CLP Substation No.2 - Structure	78	31-Dec-21	09-Apr-22	08-Jan-22	20-Apr-22	6	CLP Substation No.2 - Structure																																			
CLP-1040	CLP Substation No.1 - BS and ABWF Works	48	06-Jan-22	09-Mar-22	21-Apr-22	18-Jun-22	80	CLP Substation No.1 - BS and ABWF Works																																			
CLP-1070	CLP Substation No.1 - CLP Installation	90	10-Mar-22	30-Jun-22	20-Jun-22	06-Oct-22	80	CLP Substation No.1 - CLP Installation																																			
CLP-1050	CLP Substation No.2 - BS and ABWF Works	48	11-Apr-22	11-Jun-22	21-Apr-22	18-Jun-22	6	CLP Substation No.2 - BS and ABWF Works																																			
CLP-1030	DSD11KV Switchgear - Structure	78	11-Apr-22	18-Jul-22	01-Apr-23	10-Jul-23	286	DSD11KV Switchgear - Structure																																			
CLP-1080	CLP Substation No.2 - CLP Installation	90	13-Jun-22	27-Sep-22	20-Jun-22	06-Oct-22	6	CLP Substation No.2 - CLP Installation																																			
CLP-1090	CLP Substation No.1 - Energization	0		30-Jun-22		06-Oct-22	80	CLP Substation No.1 - Energization																																			



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

### Detailed Works Programme

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Work ID	Activity Name	Duration	Start	Finish	Latest	Earliest	Total Res	2021												2022												2023															
								Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec				
CLP-1060	DSD11KV Switchgear - BS and ABWF Works	48	19-Jul-22	13-Sep-22	11-Jul-23	04-Sep-23	286	DSD11KV Switchgear - BS and ABWF Works																																							
CLP-1100	CLP Substation No.2 - Energization	0		27-Sep-22		06-Oct-22	6	CLP Substation No.2 - Energization																																							
CLP-1110	DSD11KV Switchgear - Installation	78	28-Sep-22	31-Dec-22	05-Sep-23	07-Dec-23	274	DSD11KV Switchgear - Installation																																							
CLP-1120	Walkway, Guard House and Education Corridor	180	22-Aug-24	01-Apr-25	20-Aug-25	01-Mar-26	292	Walkway, Guard House and Education Corridor																																							
CLP-1130	Master Meter Room Structure, ABWF, BS & E&M	180	02-Apr-25	10-Nov-25	01-Apr-26	07-Nov-26	292	Master Meter Room Structure, ABWF, BS & E&M																																							
<b>Primary Sedimentation Tank (PST)</b>								1878	09-Nov-20	08-Nov-26	01-Feb-21	08-Nov-26	0																																		
<b>PST Stage 1 of Works</b>								1045	09-Nov-20	11-Mar-24	01-Feb-21	05-Jul-24	100																																		
PST-1000	Preparation	44	09-Nov-20	31-Dec-20	01-Feb-21	30-Mar-21	69	Preparation																																							
PST-1010	UU Detection	3	22-Feb-21	24-Feb-21	31-Mar-21	07-Apr-21	32	UU Detection																																							
PST-1020	Method Statement for Predrilling	1	25-Feb-21	25-Feb-21	08-Apr-21	08-Apr-21	32	Method Statement for Predrilling																																							
PST-1030	Setting out of Drill Holes	2	26-Feb-21	27-Feb-21	09-Apr-21	10-Apr-21	32	Setting out of Drill Holes																																							
PST-1040	UU Report	1	01-Mar-21	01-Mar-21	12-Apr-21	12-Apr-21	32	UU Report																																							
PST-1050	Site Clearance	6	02-Mar-21	08-Mar-21	13-Apr-21	19-Apr-21	32	Site Clearance																																							
<b>PST Stage 1 - GI - Proposed Predrilling for Piling Works</b>								101	09-Mar-21	13-Jul-21	20-Apr-21	30-Jul-21	15																																		
<b>Predrilling at Existing PST 8 (including Trial Pit Excavation, Level Checking, Core Inspection, SPT)</b>								79	09-Mar-21	16-Jun-21	20-Apr-21	30-Jul-21	37																																		
PST-1060	PD4	14	09-Mar-21	24-Mar-21	07-May-21	24-May-21	46	PD4																																							
PST-1070	PD7	14	09-Mar-21	24-Mar-21	20-Apr-21	06-May-21	32	PD7																																							
PST-1080	PD6	14	25-Mar-21	14-Apr-21	25-May-21	09-Jun-21	46	PD6																																							
PST-1090	PD9 (w/ obstruction)	14	25-Mar-21	14-Apr-21	07-May-21	24-May-21	32	PD9 (w/ obstruction)																																							
PST-1110	PD12	14	15-Apr-21	30-Apr-21	25-May-21	09-Jun-21	32	PD12																																							
PST-1150	PD13 (w/ obstruction) after demolition of PST 7	14	31-May-21	16-Jun-21	15-Jul-21	30-Jul-21	37	PD13 (w/ obstruction) after demolition of PST 7																																							
PST-1160	PD14 (w/ obstruction) after demolition of PST 7	14	31-May-21	16-Jun-21	15-Jul-21	30-Jul-21	37	PD14 (w/ obstruction) after demolition of PST 7																																							
<b>Predrilling at Existing PST 7 (including Trial Pit Excavation, Level Checking, Core Inspection, SPT)</b>								59	03-May-21	13-Jul-21	10-Jun-21	30-Jul-21	15																																		
PST-1130	PD11 (w/ obstruction)	14	03-May-21	18-May-21	10-Jun-21	26-Jun-21	32	PD11 (w/ obstruction)																																							
PST-1140	PD2 (w/ obstruction)	14	08-Jun-21	25-Jun-21	28-Jun-21	14-Jul-21	15	PD2 (w/ obstruction)																																							
PST-1190	PD8 (w/ obstruction) after demolition of PST 8	14	08-Jun-21	25-Jun-21	15-Jul-21	30-Jul-21	29	PD8 (w/ obstruction) after demolition of PST 8																																							
PST-1200	PD10 (w/ obstruction) after demolition of PST 8	14	25-Jun-21	13-Jul-21	15-Jul-21	30-Jul-21	15	PD10 (w/ obstruction) after demolition of PST 8																																							
<b>PST Stage 1 - Foundation (At First 3 Tanks, PST 7-8 Footprint)</b>								376	19-Jun-21	31-Aug-22	15-Jul-21	15-Sep-22	13																																		
PST-1175	PST Stage 1 - Site set-up of piling rigs	14	19-Jun-21	06-Jul-21	15-Jul-21	30-Jul-21	21	PST Stage 1 - Site set-up of piling rigs																																							
PST-1180	PST Stage 1 - Driven H-piles (88 nos. @ ave. 1.5no/d/rig) include site setup	59	13-Jul-21	20-Sep-21	13-Jul-21	09-Oct-21	15	PST Stage 1 - Driven H-piles (88 nos. @ ave. 1.5no/d/rig) include site setup																																							
PST-1170	PST Stage 1 - Sheetpiling (1,561 m2 at 90m2/day)	30	20-Sep-21	28-Oct-21	11-Oct-21	15-Nov-21	15	PST Stage 1 - Sheetpiling (1,561 m2 at 90m2/day)																																							
PST-1210	PST Stage 1 - H-pile Testing	21	20-Sep-21	18-Oct-21	11-Oct-21	04-Nov-21	15	PST Stage 1 - H-pile Testing																																							
PST-3020	PST Stage 1 - Submit to GEO	28	18-Oct-21	19-Nov-21	07-Feb-22	10-Mar-22	86	PST Stage 1 - Submit to GEO																																							
PST-1230	PST - Marine Sediments Treatment and Disposal	70	28-Oct-21	21-Jan-22	24-Jun-22	15-Sep-22	188	PST - Marine Sediments Treatment and Disposal																																							
PST-1220	PST Stage 1 - Excavation (+5.8 to +3.8mPD)	25	28-Oct-21	26-Nov-21	16-Nov-21	14-Dec-21	15	PST Stage 1 - Excavation (+5.8 to +3.8mPD)																																							
NMM-2021	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-1240	PST Stage 1 - Strut Installation S1 (+3.8mPD)	18	26-Nov-21	17-Dec-21	21-Jan-22	17-Feb-22	44	PST Stage 1 - Strut Installation S1 (+3.8mPD)																																							
PST-1250	PST Stage 1 - Excavation (+3.8 to +1.3mPD)	33	26-Nov-21	07-Jan-22	15-Dec-21	25-Jan-22	15	PST Stage 1 - Excavation (+3.8 to +1.3mPD)																																							
PST-1260	PST Stage 1 - Strut Installation S2 (+1.3mPD)	18	07-Jan-22	28-Jan-22	18-Feb-22	10-Mar-22	29	PST Stage 1 - Strut Installation S2 (+1.3mPD)																																							
PST-1270	PST Stage 1 - Excavation (+1.3 to -1.05mPD)	32	07-Jan-22	21-Feb-22	26-Jan-22	10-Mar-22	15	PST Stage 1 - Excavation (+1.3 to -1.05mPD)																																							
EBS-2022	Egrets Breeding Season 2022	184	01-Mar-22*	31-Aug-22	01-Mar-22	31-Aug-22	0	Egrets Breeding Season 2022																																							
<b>PST Stage 1 - Structure (At First 3 Tanks, PST 7-8 Footprint)</b>								167	21-Feb-22	14-Sep-22	11-Mar-22	10-Oct-22	20																																		
PST-1280	3-Tank Structure from +0.0 mPD to +3.0 mPD	26	21-Feb-22	23-Mar-22	11-Mar-22	11-Apr-22	15	3-Tank Structure from +0.0 mPD to +3.0 mPD																																							
PST-1290	3-Tank Structure from +3.0 mPD to +6.0 mPD	25	23-Mar-22	26-Apr-22	12-Apr-22	16-May-22	15	3-Tank Structure from +3.0 mPD to +6.0 mPD																																							
PST-1300	3-Tank Structure from +6.0 mPD to +9.0 mPD	25	26-Apr-22	27-May-22	17-May-22	15-Jun-22	15	3-Tank Structure from +6.0 mPD to +9.0 mPD																																							
PST-1310	3-Tank Structure from +9.0 mPD to +11.80 mPD	25	27-May-22	27-Jun-22	16-Jun-22	15-Jul-22	15	3-Tank Structure from +9.0 mPD to +11.80 mPD																																							
PST-1320	3-Tank Structure from +11.80 mPD to +15.0 mPD Lift 1 (3.2m)	26	27-Jun-22	28-Jul-22	16-Jul-22	15-Aug-22	15	3-Tank Structure from +11.80 mPD to +15.0 mPD Lift 1 (3.2m)																																							
PST-1330	3-Tank Structure to Roof from +15.0 mPD to +18.30 mPD Lift 2 (3.3m)	26	28-Jul-22	27-Aug-22	16-Aug-22	15-Sep-22	15	3-Tank Structure to Roof from +15.0 mPD to +18.30 mPD Lift 2 (3.3m)																																							
PST-1340	Water Retaining Test for New PST Tank No. 1	7	27-Aug-22	05-Sep-22	22-Sep-22	29-Sep-22	20	Water Retaining Test for New PST Tank No. 1																																							
PST-1350	Water Retaining Test for New PST Tank No. 3	7	27-Aug-22	05-Sep-22	22-Sep-22	29-Sep-22	20	Water Retaining Test for New PST Tank No. 3																																							
PST-1360	Water Retaining Test for New PST Tank No. 2	7	05-Sep-22	14-Sep-22	30-Sep-22	10-Oct-22	20	Water Retaining Test for New PST Tank No. 2																																							
<b>PST Stage 1 - ABWF &amp; BS Works</b>								300	14-Sep-22	21-Sep-23	28-Jun-23	05-Jul-24	227																																		
PST-1370	PST - BS and ABWF Works at 3 Tanks	300	14-Sep-22	21-Sep-23	28-Jun-23	05-Jul-24	227	PST - BS and ABWF Works at 3 Tanks																																							
<b>PST Stage 1 - E&amp;M Installation Works at New PST 1,2,3</b>								230	14-Sep-22	30-Jun-23	11-Oct-22	25-Jul-23	20																																		
ATALPST-3000	PST Stage 1 - Bottom Scrapper / Scum Collection System	150	14-Sep-22	21-Mar-23	11-Oct-22	18-Apr-23	20	PST Stage 1 - Bottom Scrapper / Scum Collection System																																							
ATALPST-3010	PST Stage 1 - Lamella / Sludge & Scum Pump / DOU System	150	14-Sep-22	21-Mar-23	11-Oct-22	18-Apr-23	20	PST Stage 1 - Lamella / Sludge & Scum Pump / DOU System																																							
ATALPST-3020	PST Stage 1 - Lifting Appliance	150	14-Sep-22	21-Mar-23	11-Oct-22	18-Apr-23	20	PST Stage 1 - Lifting Appliance																																							
ATALPST-3030	PST Stage 1 - Penstock / Stoplogs	150	14-Sep-22	21-Mar-23	11-Oct-22	18-Apr-23	20	PST Stage 1 - Penstock / Stoplogs																																							
ATALPST-3040	PST Stage 1 - Instrumentation	36	21-Mar-23	08-May-23	19-Apr-23	01-Jun-23	20	PST Stage 1 - Instrumentation																																							
ATALPST-3050	PST Stage 1 - Electrical Works (Cabling / LCP Termination)	80	21-Mar-23	30-Jun-23	19-Apr-23	25-Jul-23	20	PST Stage 1 - Electrical Works (Cabling / LCP Termination)																																							
ATALPST-3060	PST Stage 1 - BS Installation (ELV, Ventilation, FS, PD)	80	21-Mar-23	30-Jun-23	19-Apr-23	25-Jul-23	20	PST Stage 1 - BS Installation (ELV, Ventilation, FS, PD)																																							
<b>PST Stage 1 - Testing and Commissioning at New PST 1,2,3</b>								218	30-Jun-23	11-Mar-24	26-Jul-23	11-Mar-24	0																																		
ATALPST-3070	PST Stage 1 - T&C - Equipment SAT (Mechanical Dry Check)	28	30-Jun-23	03-Aug-23	26-Jul-23	26-Aug-23	20	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	19-Jul-23	13-Sep-23	12-Aug-23	09-Oct-23	20	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	19-Jul-23	13-Sep-23	12-Aug-23	09-Oct-23	20	PST Stage 1 - T&C - Equipment SAT (Wet / Load Performance Check)																																							
ATALPST-3100	PST Stage 1 - FS Inspection and Fire Certificate	42	13-Sep-23	04-Nov-23	10-Oct-23	28-Nov-23	20	PST Stage 1 - FS Inspection and Fire Certificate																																							
ATALPST-3110	PST Stage 1 - T&C - Early Commissioning (54,000 m3/d) (KD3)	68	04-Nov-23	26-Jan-24	29-Nov-23	26-Feb-24	20	PST Stage 1 - T&C - Early Commissioning (54,000 m3/d) (KD3)																																							
PKD3	Early Completion KD3	0		26-Jan-24		26-Feb-24	31	Early Completion KD3																																							
CDKD3	KD3	0		11-Mar-24*		11-Mar-24	0	KD3																																							
<b>PST Stage 2 of Works</b>								1625	31-Aug-21	08-Nov-26	01-Nov-21	08-Nov-26	0																																		
<b>PST GI - Propose Predrilling for Piling Works</b>								14	31-Aug-21	15-Sep-21	11-Apr-22	28-Jun-22	226																																		
<b>Pre-drilling @ Existing PST 6 (including Trial Pit Excavation, Level Checking, Core Inspection, SPT)</b>								14	31-Aug-21	15-Sep-21	13-Jun-22	28-Jun-22	226																																		
PST-2000	PD1 (w/ obstruction)	14	31-Aug-21	15-Sep-21	13-Jun-22	28-Jun-22	226	PD1 (w/ obstruction)																																							
<b>Pre-drilling @ Existing PST 5 (including Trial Pit Excavation, Level Checking, Core Inspection, SPT)</b>								14	31-Aug-21	15-Sep-21	11-Apr-22	29-Apr-22	178																																		
PST-2010	PD3	14	31-Aug-21	15-Sep-21	11-Apr-22	29-Apr-22	178	PD3																																							



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

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

### Detailed Works Programme

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



















Work ID	Activity Name	Duration	Start	Finish	Latest	Earliest	Total Effort	Gantt Chart											
								2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
TTS-1000	TTS - Site Clearance	18	01-Nov-21	20-Nov-21	09-Jun-22	29-Jun-22	173	■ TTS - Site Clearance											
NMM-2125	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											
TTS-1010	TTS - Sheet Piles Install (4,639m <sup>2</sup> @120m <sup>2</sup> /d)	52	22-Nov-21	24-Jan-22	30-Jun-22	30-Aug-22	173	■ TTS - Sheet Piles Install (4,639m <sup>2</sup> @120m <sup>2</sup> /d)											
TTS-1020	TTS - ELS Excavation (+5.0 to +3.5mPD)	25	25-Jan-22	01-Mar-22	31-Aug-22	29-Sep-22	173	■ TTS - ELS Excavation (+5.0 to +3.5mPD)											
EBS-2135	Egrets Breeding Season 2022	184	01-Mar-22*	31-Aug-22	01-Mar-22	31-Aug-22	0	■ Egrets Breeding Season 2022											
TTS-1030	TTS - Strut Installation S1 (+4.5mPD)	14	02-Mar-22	17-Mar-22	28-Oct-22	12-Nov-22	195	■ TTS - Strut Installation S1 (+4.5mPD)											
TTS-1040	TTS - ELS Excavation (+3.5 to +0.5mPD)	25	02-Mar-22	30-Mar-22	30-Sep-22	31-Oct-22	173	■ TTS - ELS Excavation (+3.5 to +0.5mPD)											
TTS-1050	TTS - Strut Installation S1 (+1.5mPD)	14	31-Mar-22	20-Apr-22	14-Nov-22	29-Nov-22	184	■ TTS - Strut Installation S1 (+1.5mPD)											
TTS-1060	TTS - ELS Excavation (+0.5 to -2.4mPD)	25	31-Mar-22	04-May-22	01-Nov-22	29-Nov-22	173	■ TTS - ELS Excavation (+0.5 to -2.4mPD)											
TTS-1070	TTS - Box Raft Foundation (-2.4 to -0.80mPD)	30	05-May-22	10-Jun-22	30-Nov-22	06-Jan-23	173	■ TTS - Box Raft Foundation (-2.4 to -0.80mPD)											
<b>Structure</b>								<b>280</b>											
TTS-1080	TTS - Wall to G/F Slab (-0.8mPD to +2.7mPD)	60	11-Jun-22	20-Aug-22	07-Jan-23	24-Mar-23	173	■ TTS - Wall to G/F Slab (-0.8mPD to +2.7mPD)											
TTS-1090	TTS - Wall to G/F Slab (+2.7mPD to +6.2mPD)	60	22-Aug-22	02-Nov-22	25-Mar-23	09-Jun-23	173	■ TTS - Wall to G/F Slab (+2.7mPD to +6.2mPD)											
TTS-1100	TTS - Structure to Roof (+6.2mPD to +9.4mPD)	60	03-Nov-22	14-Jan-23	10-Jun-23	21-Aug-23	173	■ TTS - Structure to Roof (+6.2mPD to +9.4mPD)											
TTS-1110	TTS - Structure to Roof (+9.4mPD to +12.6mPD)	60	16-Jan-23	01-Apr-23	22-Aug-23	02-Nov-23	173	■ TTS - Structure to Roof (+9.4mPD to +12.6mPD)											
TTS-1120	TTS - Structure to Roof (+12.6mPD to +15.75mPD)	40	03-Apr-23	24-May-23	03-Nov-23	19-Dec-23	173	■ TTS - Structure to Roof (+12.6mPD to +15.75mPD)											
<b>BS &amp; ABWF Works</b>								<b>390</b>											
TTS-1130	TTS - BS and ABWF Works	390	25-May-23	17-Sep-24	14-Oct-24	05-Feb-26	409	■ TTS - BS and ABWF Works											
<b>E&amp;M Installation Works</b>								<b>320</b>											
TTS-1140	TTS - Disc Filter System, UV Disinfection System, Effluent Pumping Station & DO System	148	25-May-23	20-Nov-23	20-Dec-23	27-Jun-24	173	■ TTS - Disc Filter System, UV Disinfection System, Effluent Pumping Station & DO System											
TTS-1150	TTS - Penstocks & Stoplogs, Pipework, Valves & Accessories	148	25-May-23	20-Nov-23	20-Dec-23	27-Jun-24	173	■ TTS - Penstocks & Stoplogs, Pipework, Valves & Accessories											
TTS-1160	TTS - Instrumentation	48	21-Nov-23	18-Jan-24	28-Jun-24	23-Aug-24	173	■ TTS - Instrumentation											
TTS-1170	TTS - Electrical Works (Cabling / LCP Termination)	124	19-Jan-24	26-Jun-24	24-Aug-24	22-Jan-25	173	■ TTS - Electrical Works (Cabling / LCP Termination)											
TTS-1180	TTS - BS Installation (ELV, Ventilation, FS, PD)	124	19-Jan-24	26-Jun-24	24-Aug-24	22-Jan-25	173	■ TTS - BS Installation (ELV, Ventilation, FS, PD)											
<b>Testing and Commissioning (T&amp;C) - KD4</b>								<b>306</b>											
TTS-1190	TTS - T&C - Equipment SAT	208	27-Jun-24	10-Mar-25	23-Jan-25	09-Oct-25	173	■ TTS - T&C - Equipment SAT											
TTS-1200	TTS - T&C - System Commissioning (60,000 m <sup>3</sup> /d) (KD4)	98	11-Mar-25	11-Jul-25	10-Oct-25	05-Feb-26	173	■ TTS - T&C - System Commissioning (60,000 m <sup>3</sup> /d) (KD4)											
TTS-1210	TTS - FS Inspection and Fire Certificate	50	13-May-25	11-Jul-25	06-Dec-25	05-Feb-26	173	■ TTS - FS Inspection and Fire Certificate											
TTS-1220	TTS - E&M Works Complete	0		11-Jul-25		05-Feb-26	173	◆ TTS - E&M Works Complete											
<b>External Works - Tertiary Treatment System Perimeter</b>								<b>240</b>											
EW-1100	TTS Perimeter - Drainage/Sewer/Watermain/Utility Installation	150	25-May-23	22-Nov-23	07-Jul-25	03-Jan-26	621	■ TTS Perimeter - Drainage/Sewer/Watermain/Utility Installation											
EW-1070	TTS Perimeter - Process Pipe Installation	120	25-May-23	17-Oct-23	07-Jul-25	26-Nov-25	621	■ TTS Perimeter - Process Pipe Installation											
EW-1120	TTS Perimeter - Road Works	90	23-Nov-23	16-Mar-24	05-Jan-26	29-Apr-26	621	■ TTS Perimeter - Road Works											
<b>Zone 3 Construction</b>								<b>1878</b>											
<b>Stage 1 (Starting Date to July 2021)</b>								<b>293</b>											
Z3S1-3000	Completion of Stage 1	0		31-Jul-21*		31-Jul-21	0	◆ Completion of Stage 1											
<b>Advance Works</b>								<b>273</b>											
<b>Temporary Thickened Sludge / Supernatant Pumping Station</b>								<b>211</b>											
ATALZ3S1-2000	CMS - Pumps	24	09-Nov-20	05-Dec-20	04-Jan-21	30-Jan-21	45	■ CMS - Pumps											
ATALZ3S1-2010	Procurement and Delivery of Materials	120	07-Dec-20	11-May-21	01-Feb-21	06-Jul-21	45	■ Procurement and Delivery of Materials											
ATALZ3S1-2060	Method Statement for Thickened Sludge / Supernatant Pumping Station	20	05-May-21	28-May-21	05-May-21	28-May-21	0	■ Method Statement for Thickened Sludge / Supernatant Pumping Station											
Z3S1-2070	Civil Structural Construction for Thickened Sludge / Supernatant Pumping Station	50	17-May-21	16-Jul-21	17-May-21	16-Jul-21	0	■ Civil Structural Construction for Thickened Sludge / Supernatant Pumping Station											
ATALZ3S1-2140	E&M installation of pumping system c/w pipework & valves & cabling	35	21-Jun-21	31-Jul-21	21-Jun-21	31-Jul-21	0	■ E&M installation of pumping system c/w pipework & valves & cabling											
<b>Relocation of Heater Room</b>								<b>63</b>											
ATALZ3S1-2080	CGS - Method Statement Submission and Approval for Relocation	30	17-May-21	22-Jun-21	17-May-21	22-Jun-21	0	■ CGS - Method Statement Submission and Approval for Relocation											
Z3S1-2090	Civil Structural Construction for Heating Room	30	17-May-21	22-Jun-21	17-May-21	22-Jun-21	0	■ Civil Structural Construction for Heating Room											
ATALZ3S1-2150	Relocation works c/w T&C	48	04-Jun-21	31-Jul-21	04-Jun-21	31-Jul-21	0	■ Relocation works c/w T&C											
<b>Temporary Polymer Preparation &amp; Dosing System</b>								<b>187</b>											
ATALZ3S1-2020	CMS - Polymer Preparation System & Pumps	27	07-Dec-20	09-Jan-21	01-Feb-21	10-Mar-21	45	■ CMS - Polymer Preparation System & Pumps											
ATALZ3S1-2130	Procurement and Delivery of Materials	80	11-Jan-21	24-Apr-21	11-Mar-21	19-Jun-21	45	■ Procurement and Delivery of Materials											
Z3S1-2100	Civil Structural Construction for Polymer Preparation & Dosing System	50	17-May-21	16-Jul-21	17-May-21	16-Jul-21	0	■ Civil Structural Construction for Polymer Preparation & Dosing System											
ATALZ3S1-2160	E&M installation of polymer preparation & dosing system c/w pipework & valves & cabling	35	21-Jun-21	31-Jul-21	21-Jun-21	31-Jul-21	0	■ E&M installation of polymer preparation & dosing system c/w pipework & valves & cabling											
<b>Relocation of Ferric Chloride (FeCl<sub>3</sub>) Dosing System</b>								<b>73</b>											
ATALZ3S1-2040	CGS - Method Statement Submission and Approval for Relocation	22	05-May-21	31-May-21	24-May-21	18-Jun-21	15	■ CGS - Method Statement Submission and Approval for Relocation											
Z3S1-2110	Civil Structural Construction for FeCl <sub>3</sub> Dosing System	50	17-May-21	16-Jul-21	17-May-21	16-Jul-21	0	■ Civil Structural Construction for FeCl <sub>3</sub> Dosing System											
ATALZ3S1-2170	Relocation Works of FeCl <sub>3</sub> Dosing System	36	19-Jun-21	31-Jul-21	19-Jun-21	31-Jul-21	0	■ Relocation Works of FeCl <sub>3</sub> Dosing System											
<b>Temporary Digested Sludge Pumping System and Forward Pumping Station</b>								<b>187</b>											
ATALZ3S1-2030	CMS - Digested Sludge Pump / Forward Pump	22	07-Dec-20	04-Jan-21	24-Feb-21	20-Mar-21	59	■ CMS - Digested Sludge Pump / Forward Pump											
ATALZ3S1-2120	Procurement and Delivery of Materials	100	05-Jan-21	13-May-21	22-Mar-21	24-Jul-21	59	■ Procurement and Delivery of Materials											
Z3S1-2050	Civil Structural Construction for Digested Sludge Pumping System	60	05-May-21	16-Jul-21	05-May-21	16-Jul-21	0	■ Civil Structural Construction for Digested Sludge Pumping System											
ATALZ3S1-2200	E&M installation of digested sludge pump c/w pipework & valves & cabling at Stage 1A	36	19-Jun-21	31-Jul-21	19-Jun-21	31-Jul-21	0	■ E&M installation of digested sludge pump c/w pipework & valves & cabling at Stage 1A											
<b>Temporary Primary Sludge Pumping Station (P)</b>								<b>249</b>											
Z3TD1-4010	Civil Structural Construction of Temporary Primary Sludge Pumping Station	238	07-Dec-20	30-Sep-21	28-Jan-21	20-Nov-21	42	■ Civil Structural Construction of Temporary Primary Sludge Pumping Station											
Z3TD1-4040	CMS - Primary Sludge Pump	22	01-Apr-21	30-Apr-21	27-May-21	22-Jun-21	42	■ CMS - Primary Sludge Pump											
Z3TD1-4060	Procurement and Delivery of Materials	102	03-May-21	01-Sep-21	23-Jun-21	23-Oct-21	42	■ Procurement and Delivery of Materials											
Z3TD1-4100	E&M Installation of Primary Sludge Pump for pipework & cabling	24	02-Sep-21	30-Sep-21	25-Oct-21	20-Nov-21	42	■ E&M Installation of Primary Sludge Pump for pipework & cabling											
Z3TD1-4110	T&C (Functional test for Pumping System)	11	02-Oct-21	15-Oct-21	22-Nov-21	03-Dec-21	42	■ T&C (Functional test for Pumping System)											
<b>Overhaul Works At Existing SDT Footprint</b>								<b>202</b>											
ATALZ3S1-1000	Method Statement / PMAC Submission and Approval for SDTs	40	09-Nov-20	24-Dec-20	09-Nov-20	24-Dec-20	0	■ Method Statement / PMAC Submission and Approval for SDTs											
ATALZ3S1-1010	Overhaul of Bell Valves, Air Relief Valves, Sludge Feed Valves for SDT No. 1 & 2	16	28-Dec-20*	15-Jan-21	28-Dec-20	15-Jan-21	0	■ Overhaul of Bell Valves, Air Relief Valves, Sludge Feed Valves for SDT No. 1 & 2											
ATALZ3S1-1020	Water Filling and Purging of SDT 1 & 2	17	16-Jan-21	04-Feb-21	16-Jan-21	04-Feb-21	0	■ Water Filling and Purging of SDT 1 & 2											
ATALZ3S1-1060	Recommissioning of SDT No. 1 & 2	14	05-Feb-21	27-Feb-21	05-Feb-21	27-Feb-21	0	■ Recommissioning of SDT No. 1 & 2											
Z3S1A-2040	Temporary Sludge Pipework Connection to the Methane Compressor House at Existing SDT	18	01-Mar-21	20-Mar-21	02-Mar-21	22-Mar-21	1	■ Temporary Sludge Pipework Connection to the Methane Compressor House at Existing SDT											
<b>SDT No. 3 and 4</b>								<b>115</b>											



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

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

### Detailed Works Programme

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







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



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

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

### Detailed Works Programme

Project ID : DWP.DPr1\_210422  
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Detailed Works Programme			
Date	Revision	Checked	Approved
15-Mar-21	Rev. 0		
21-Apr-21	Rev 1		











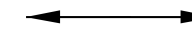


# Appendix B

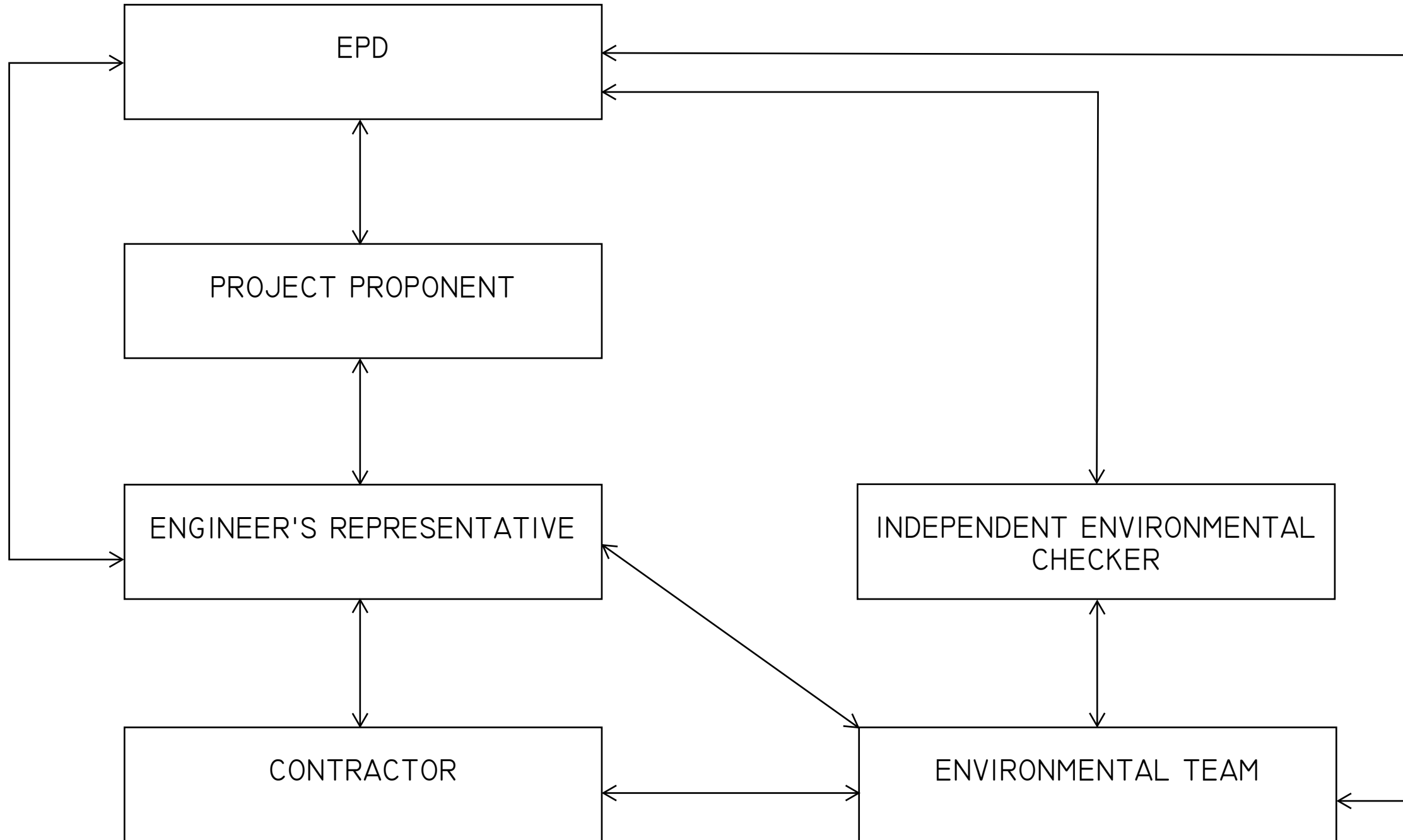
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## Project Organization Chart

LEGEND:



LINE OF COMMUNICATION



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

ISSUE/REVISION

I/R	DATE	DESCRIPTION	CHK.

STATUS

SCALE

A3 1 : 40000

DIMENSION UNIT

METRES

KEY PLAN

PROJECT NO.

60505476

CONTRACT NO.

CE 3/2015 (DS)

SHEET TITLE

PROJECT ORGANISATION

SHEET NUMBER

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# Appendix C

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Action and Limit Level

## Action / Limit Levels for Air Quality

Parameters	Action Level	Limit Level
1-hour TSP Level in $\mu\text{g}/\text{m}^3$	<sup>1</sup> 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) <sup>2</sup>	<p><u>Surface &amp; 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 &amp; 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 <sup>1</sup> ) <sup>3</sup>	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 <sup>1</sup> ) <sup>3</sup>	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) <sup>1</sup>	72.2 dB(A) <sup>2</sup>

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 <sup>3</sup>	Limit Level <sup>3</sup>
Transect	Abundance of all avifauna species (including but not only limited to overwintering waterbirds) in the community	Significant decline <sup>1,2</sup> 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.

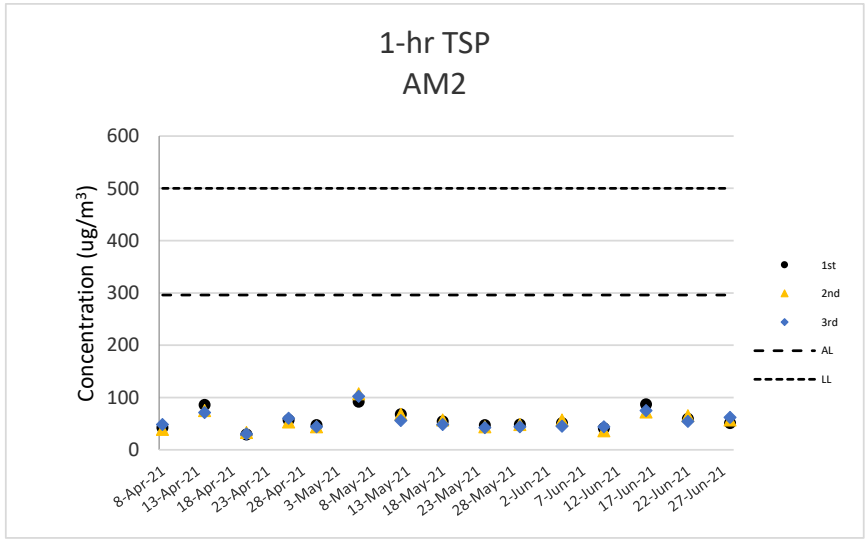
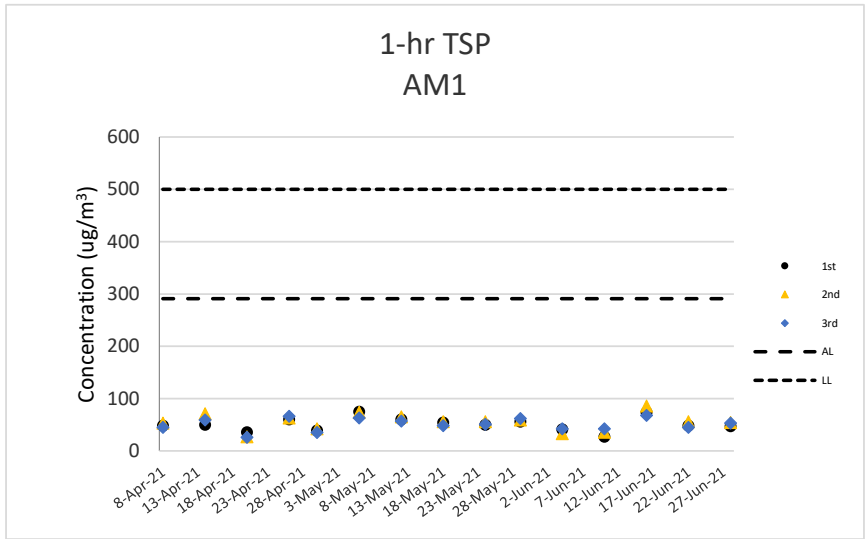
# Appendix D

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Graphical Presentation of Monitoring Data

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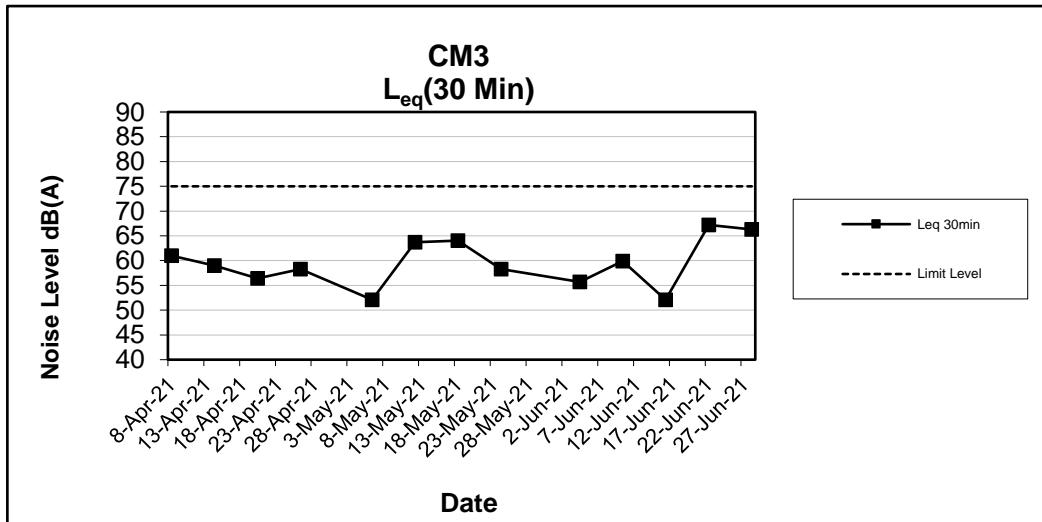
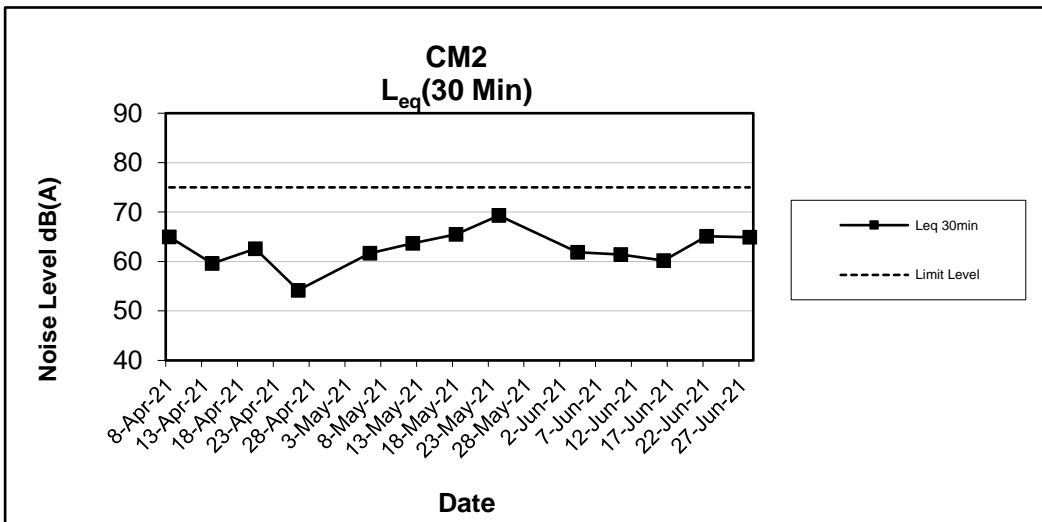
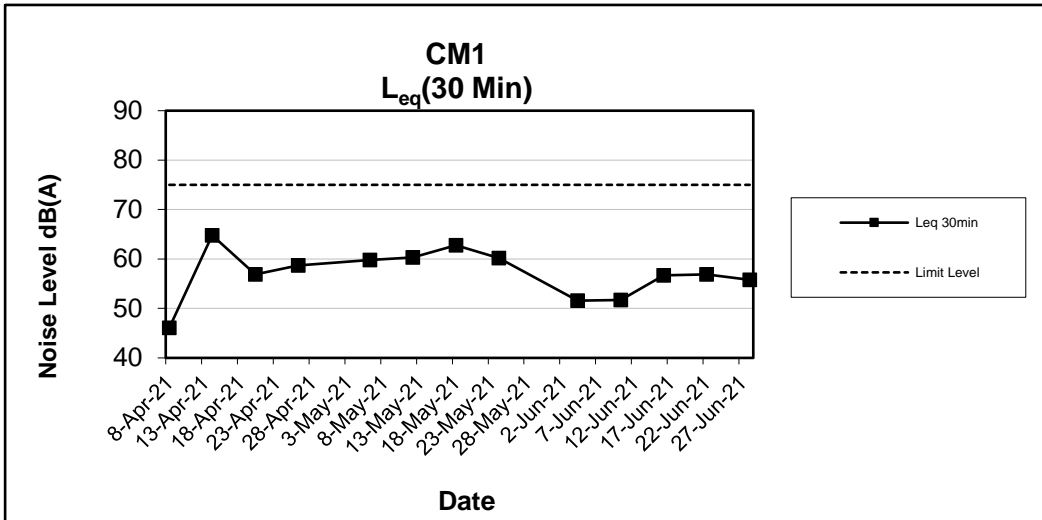
## Air Quality Monitoring Results



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## Noise Monitoring Results

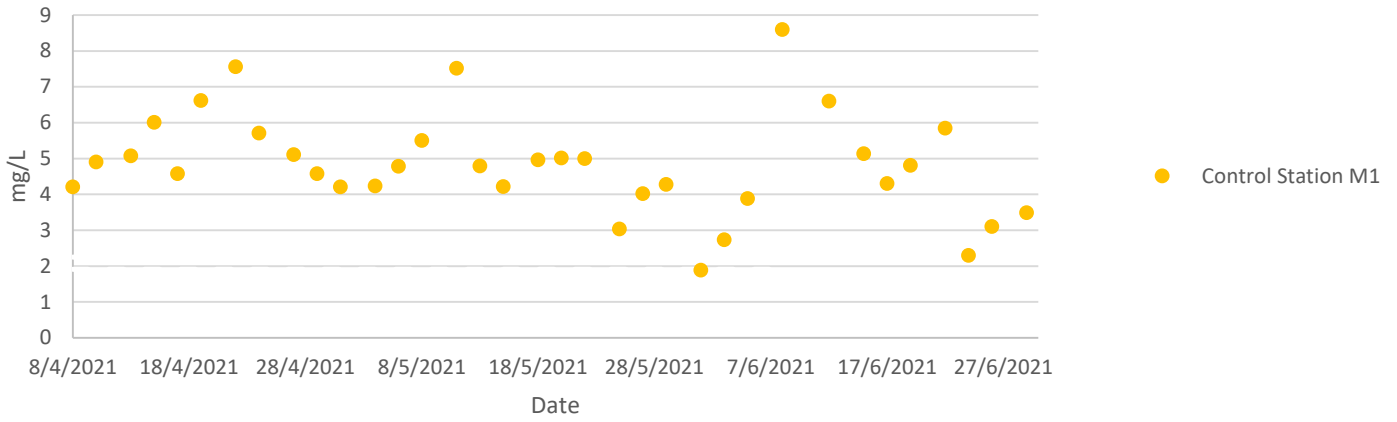




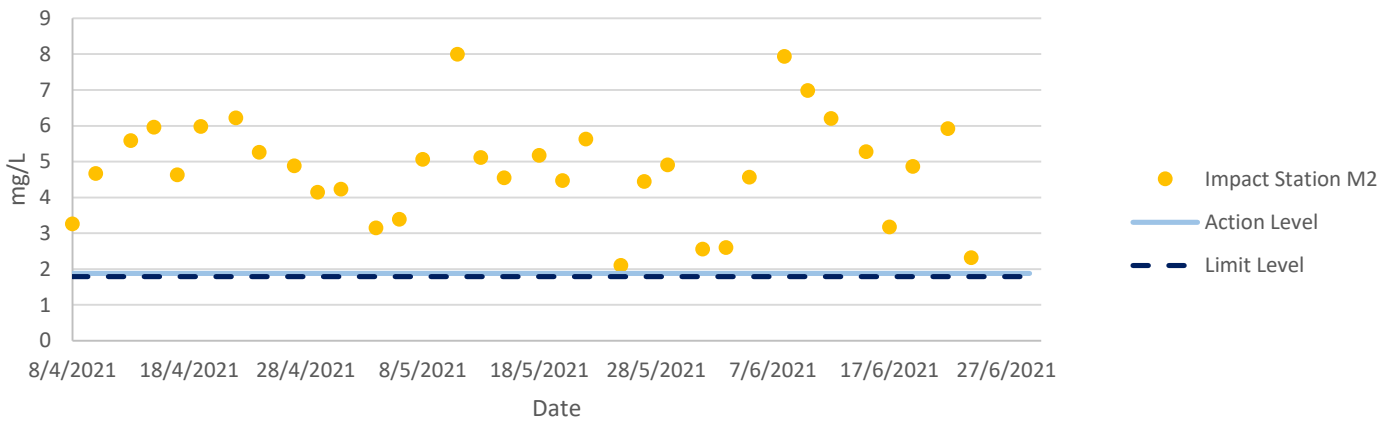
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## Water Quality Monitoring Results

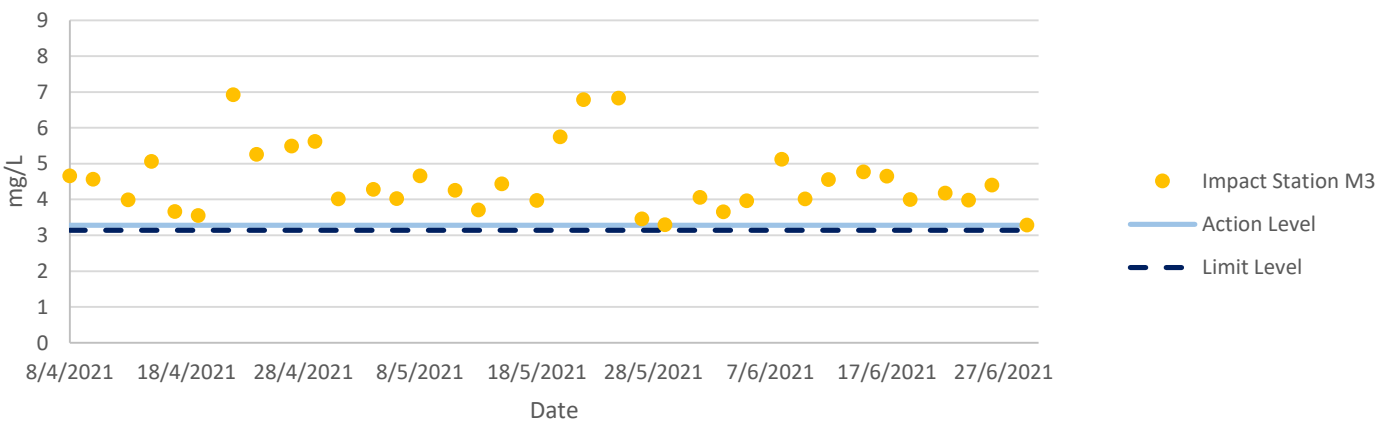
### Dissolved Oxygen at Mid-Flood Tide



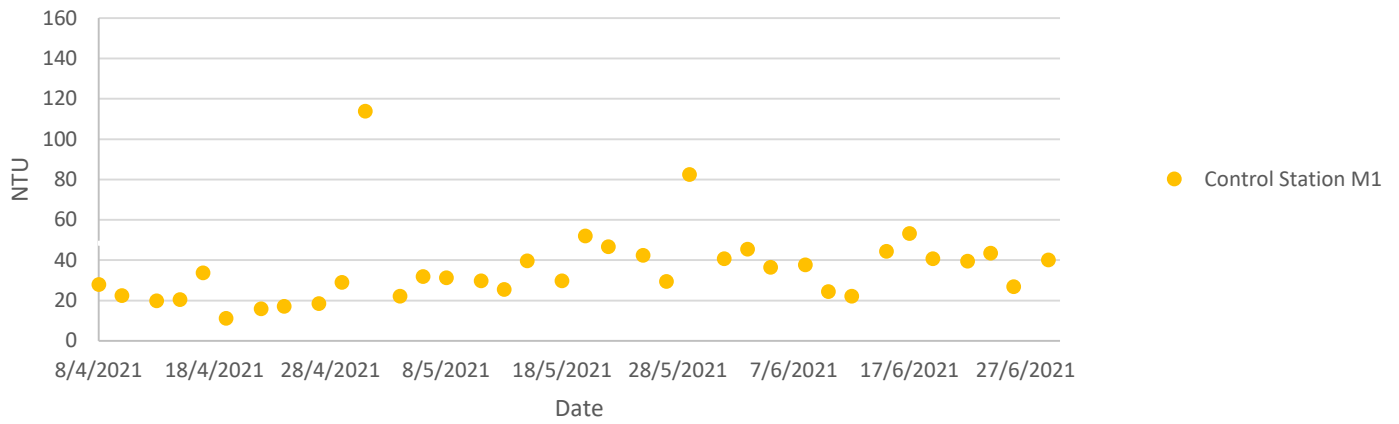
### Dissolved Oxygen at Mid-Flood Tide



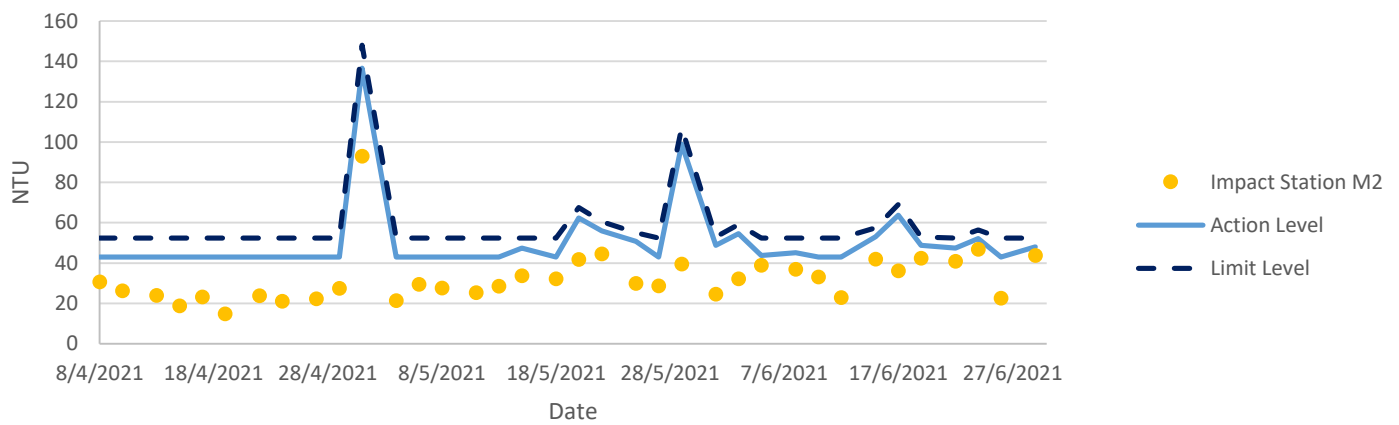
### Dissolved Oxygen at Mid-Flood Tide



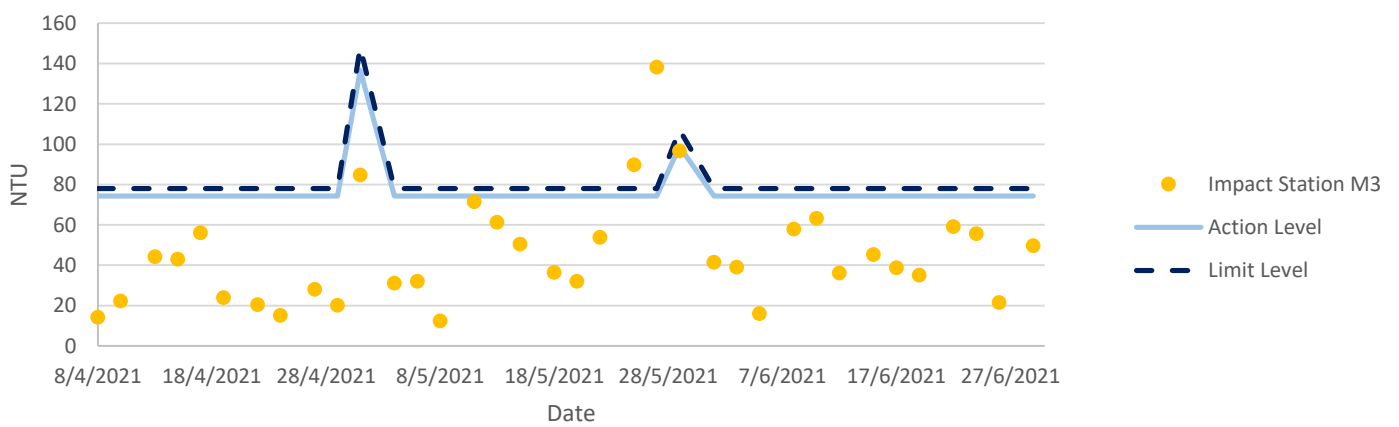
### Turbidity at Mid-Flood Tide



### Turbidity at Mid-Flood Tide



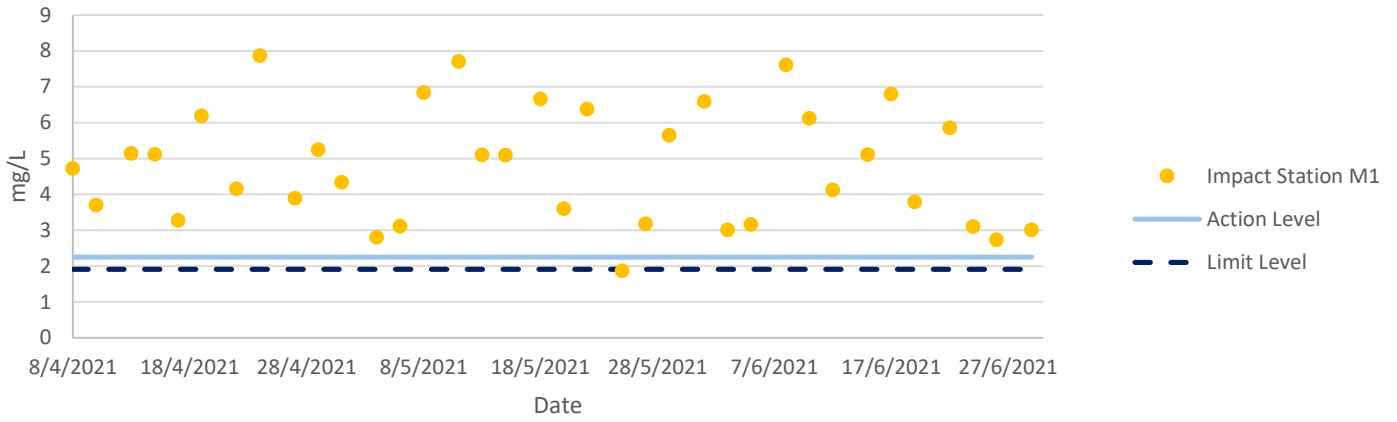
### Turbidity at Mid-Flood Tide



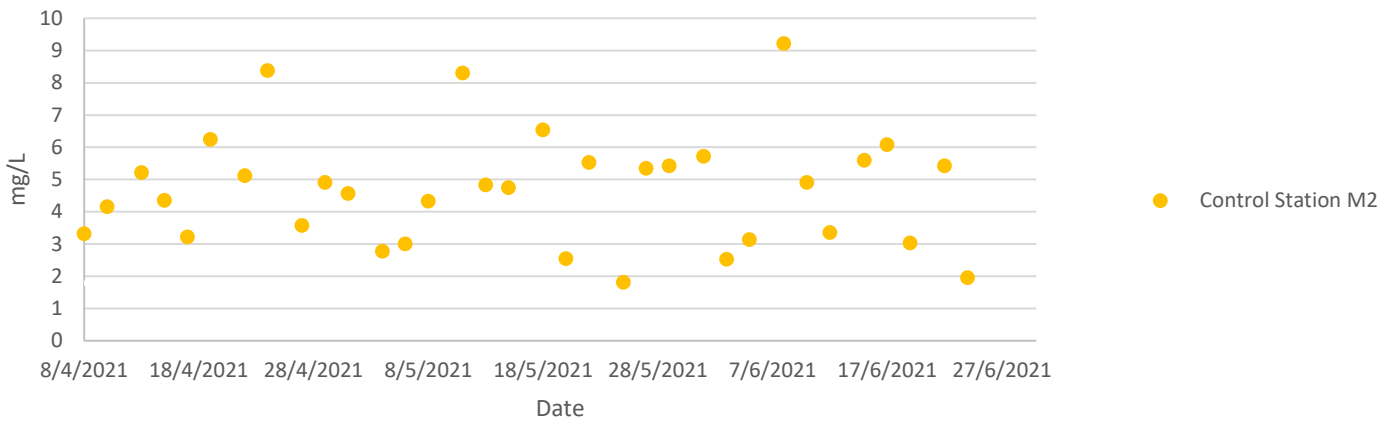




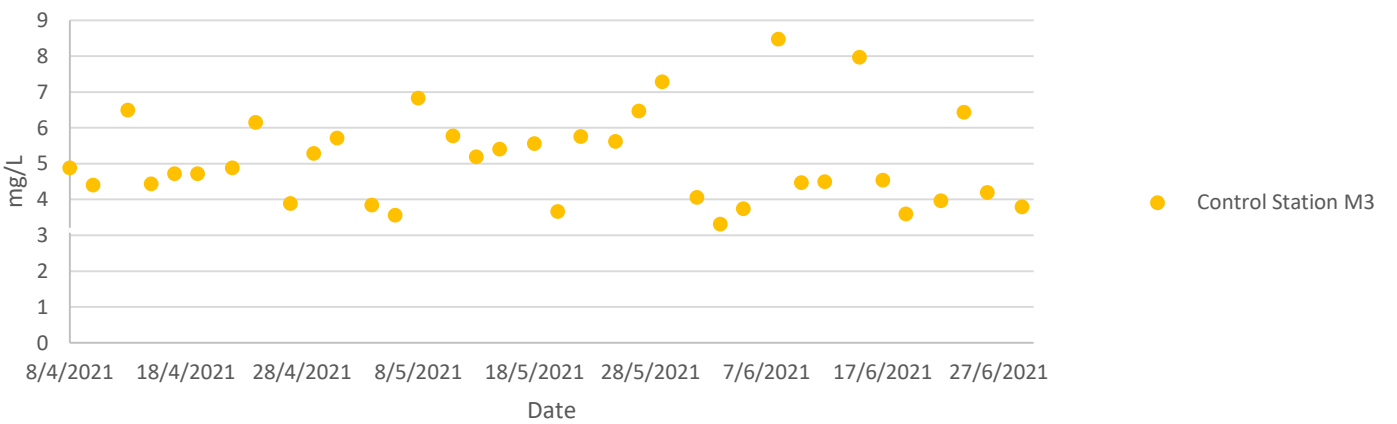
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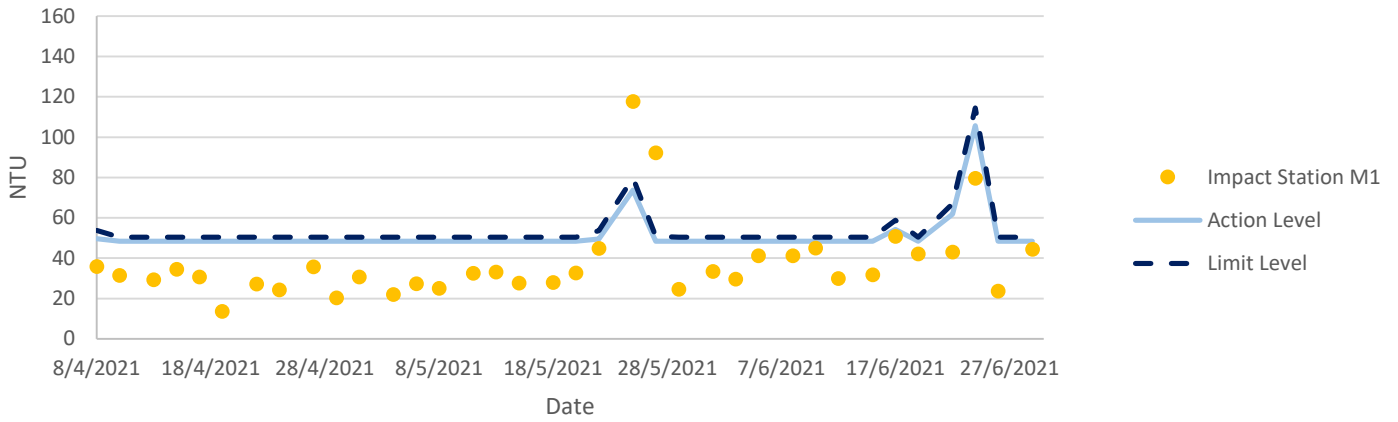
### Dissolved Oxygen at Mid-Ebb Tide



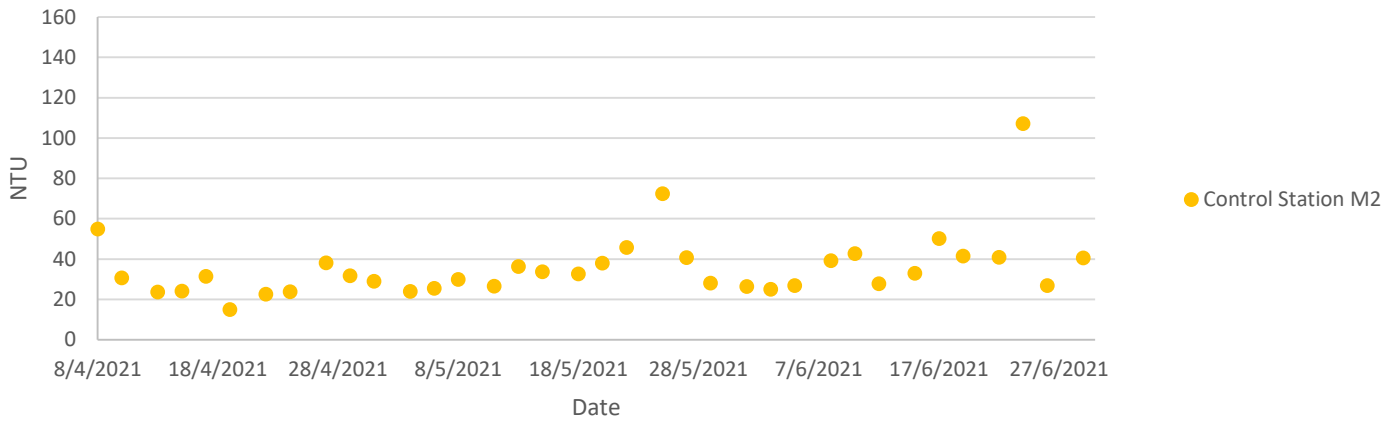
### Dissolved Oxygen at Mid-Ebb Tide



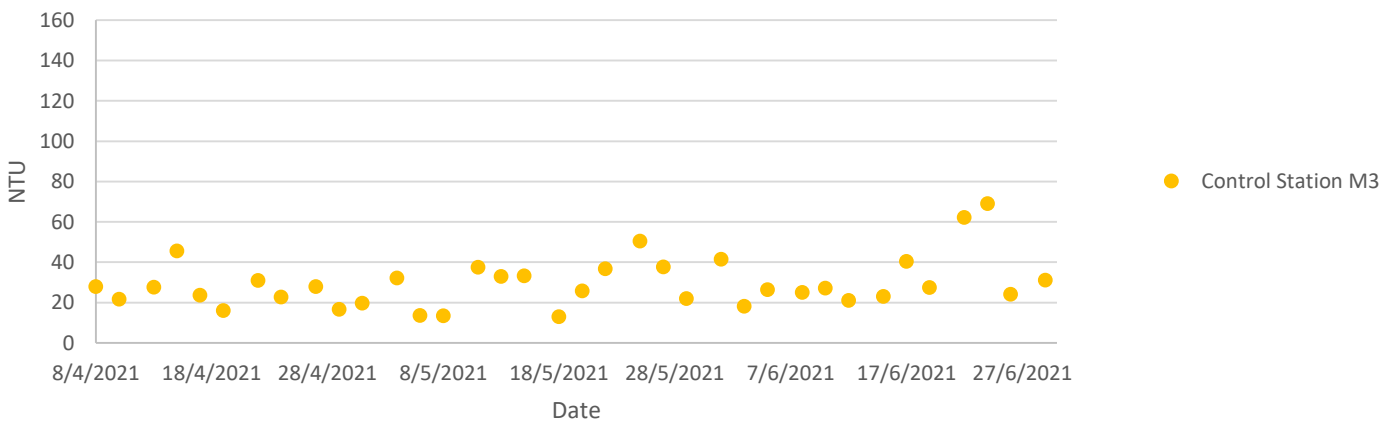
### Turbidity at Mid-Ebb Tide



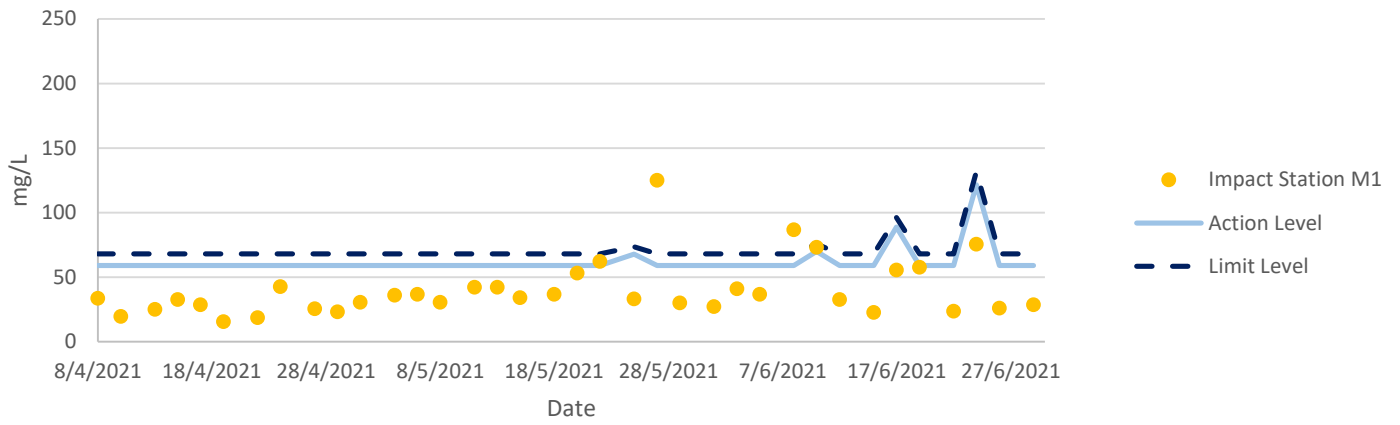
### Turbidity at Mid-Ebb Tide



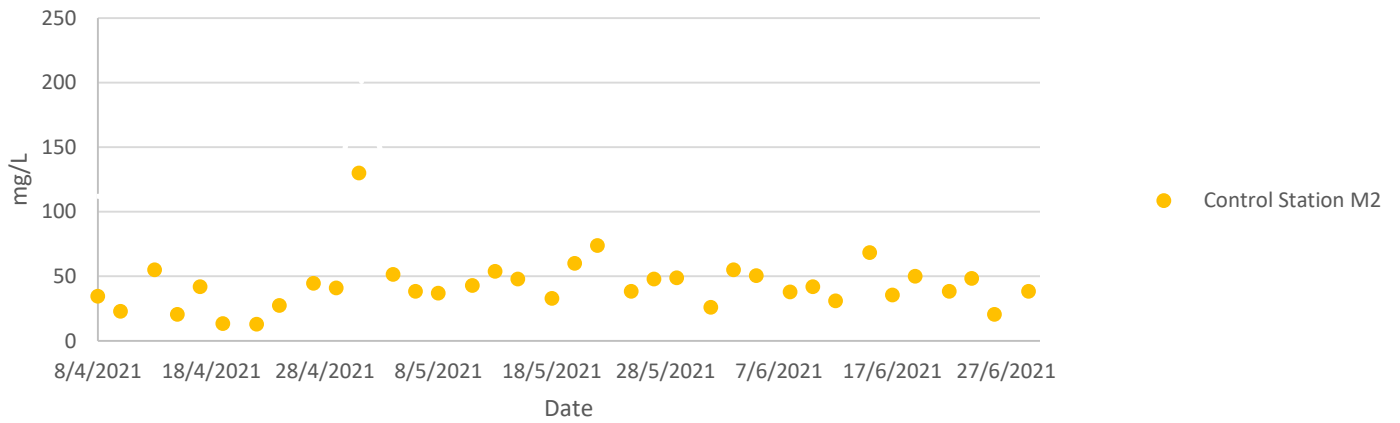
### Turbidity at Mid-Ebb Tide



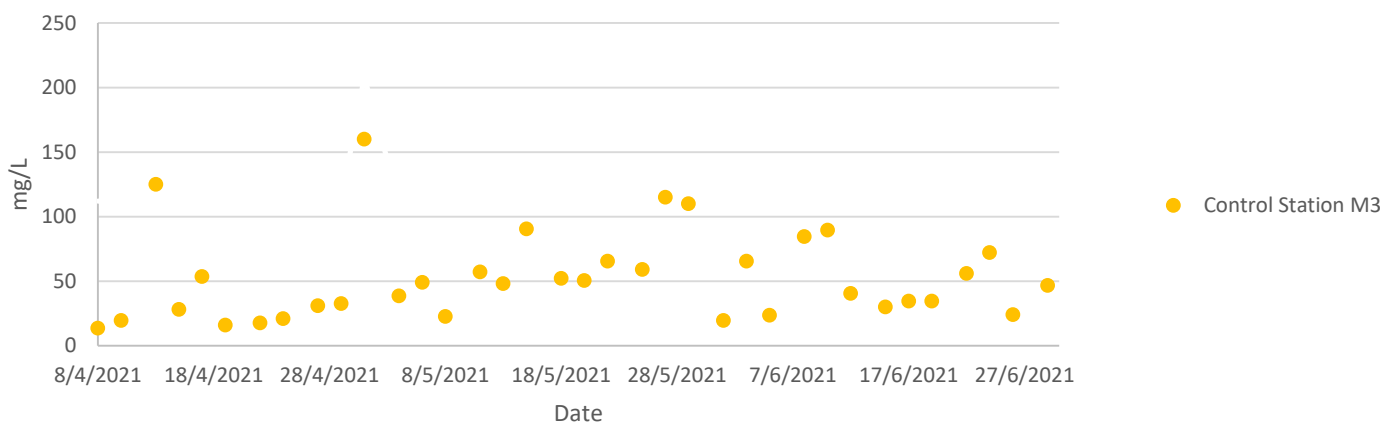
### Total Suspended Solids at Mid-Ebb Tide



### Total Suspended Solids at Mid-Ebb Tide



### Total Suspended Solids at Mid-Ebb Tide



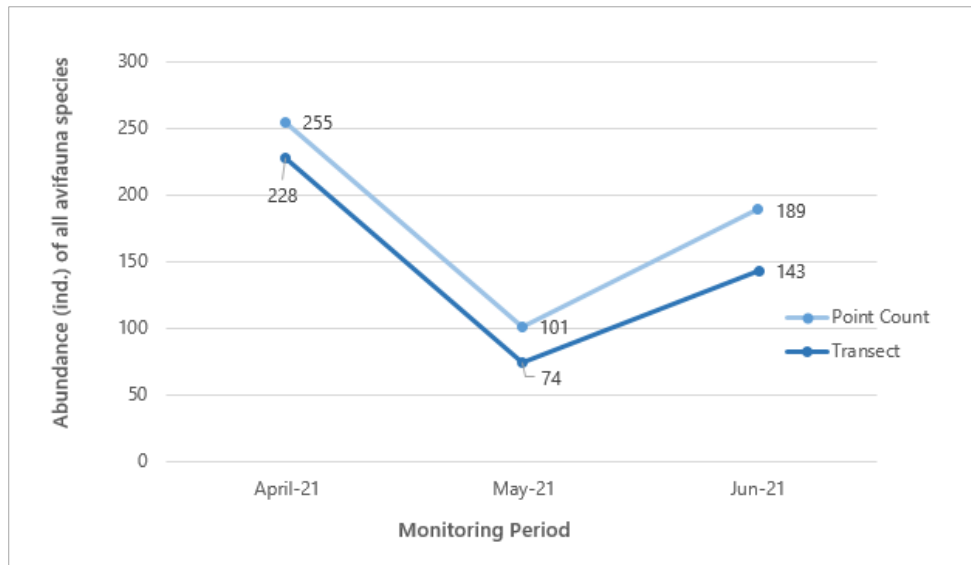
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## Ecology Monitoring Results

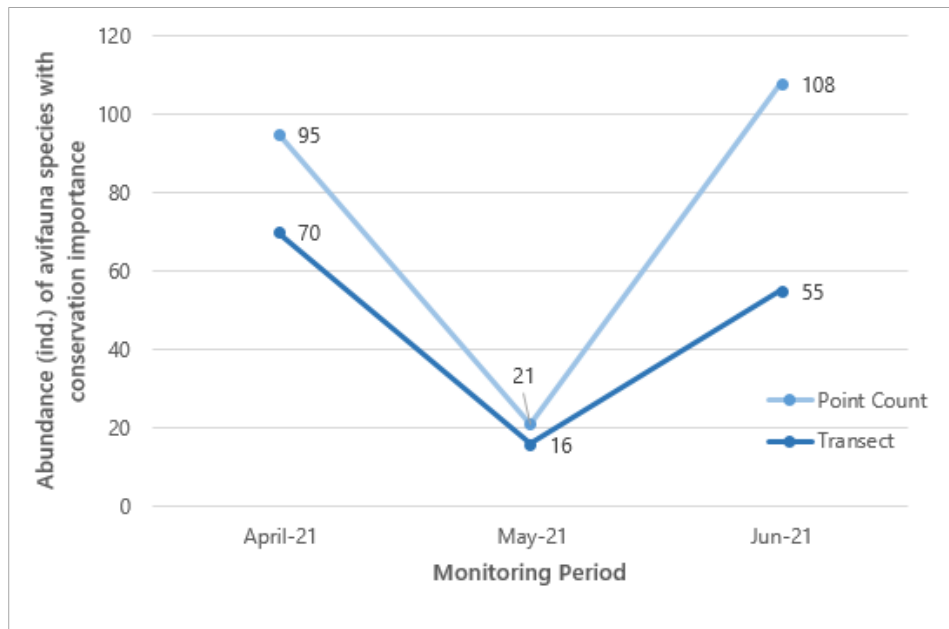


## Appendix F.1.2 Graphical Presentation of Monitoring Data

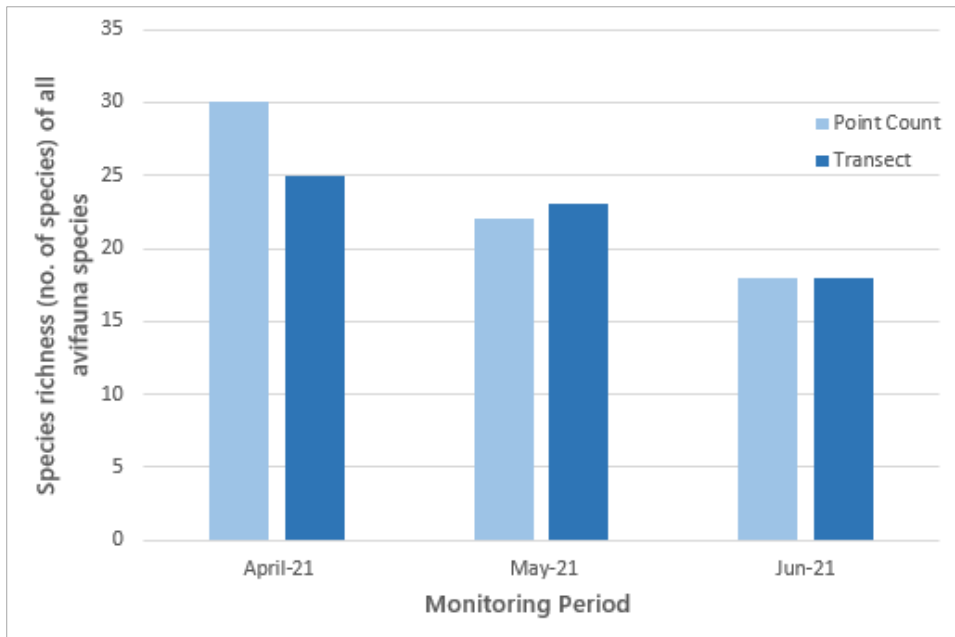
### Appendix F.1.2.1 Abundance of all avifauna species throughout the monitoring period



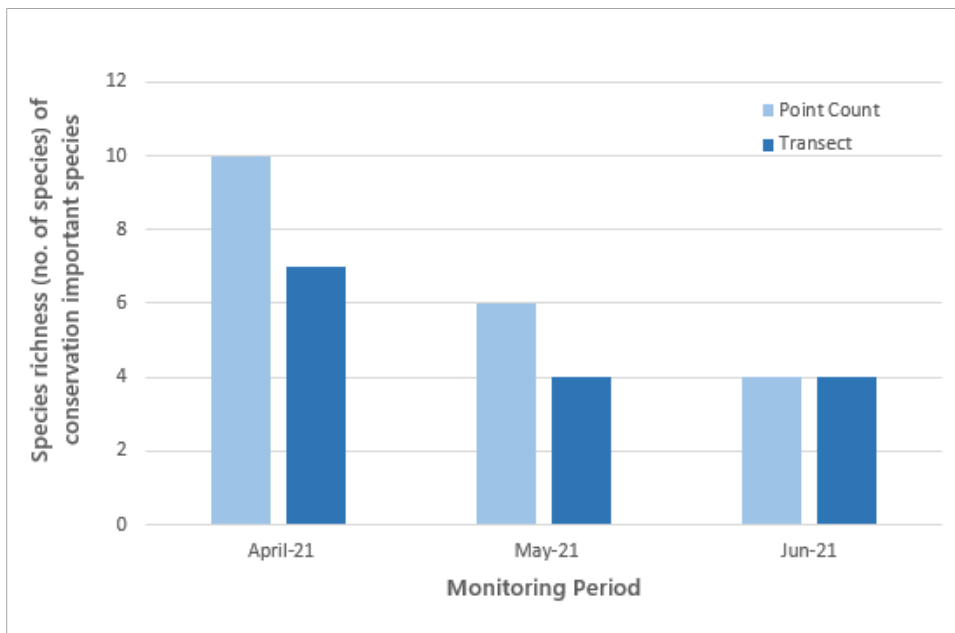
### Appendix F.1.2.2 Abundance of avifauna species with conservation importance throughout the monitoring period



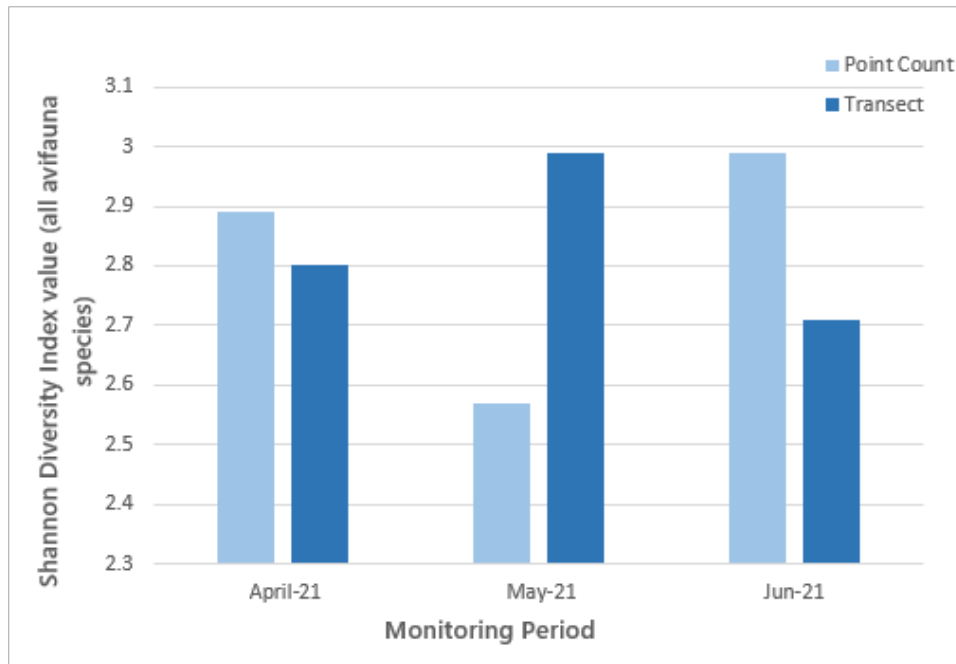
### Appendix F.1.2.3 Species richness of all avifauna species throughout the monitoring period



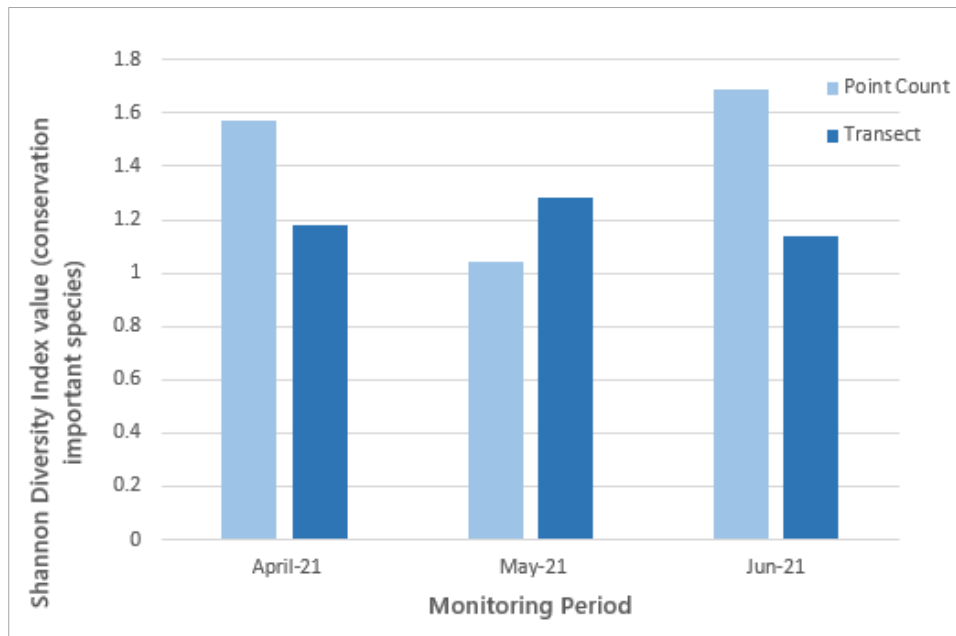
### Appendix F.1.2.4 Species richness of avifauna species with conservation importance throughout the monitoring period



Appendix F.1.2.5 Shannon Diversity Index values of all avifauna species throughout the monitoring period



Appendix F.1.2.6 Shannon Diversity Index values of avifauna species with conservation importance throughout the monitoring period



# Appendix E

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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"> <li>1. Identify source, investigate the causes of complaint and propose remedial measures;</li> <li>2. Inform Contractor, IEC and ER;</li> <li>3. Repeat measurement to confirm finding; and</li> <li>4. Increase monitoring frequency to daily.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor's working method; and</li> <li>3. Review and advise the ET and ER on the effectiveness of the proposed remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Notify Contractor.</li> </ol>	<ol style="list-style-type: none"> <li>1. Identify source(s), investigate the causes of exceedance and propose remedial measures;</li> <li>2. Implement remedial measures; and</li> <li>3. Amend working methods agreed with the ER as appropriate.</li> </ol>
Action level being exceeded by two or more consecutive sampling	<ol style="list-style-type: none"> <li>1. Identify source;</li> <li>2. Inform Contractor, IEC and ER;</li> <li>3. Advise the Contractor and ER on the effectiveness of the proposed remedial measures;</li> <li>4. Repeat measurements to confirm findings;</li> <li>5. Increase monitoring frequency to daily;</li> <li>6. Discuss with IEC and Contractor on remedial actions required;</li> <li>7. If exceedance continues, arrange meeting with Contractor, IEC and ER; and</li> <li>8. If exceedance stops, cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor's working method;</li> <li>3. Discuss with ET, ER and Contractor on possible remedial measures;</li> <li>4. Advise the ET and ER on the effectiveness of the proposed remedial measures; and</li> <li>5. Supervise Implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. Notify Contractor;</li> <li>3. Ensure remedial measures properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Identify source and investigate the causes of exceedance;</li> <li>2. Submit proposals for remedial measures to the ER with a copy to ET and IEC within three working days of notification;</li> <li>3. Implement the agreed proposals; and</li> <li>4. Amend proposal as appropriate.</li> </ol>
Limit level being exceeded by one sampling	<ol style="list-style-type: none"> <li>1. Identify source, investigate the causes of exceedance and propose remedial measures;</li> <li>2. Inform Contractor, IEC, ER, and EPD;</li> <li>3. Repeat measurement to confirm finding;</li> <li>4. Increase monitoring frequency to daily; and</li> <li>5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor's working method;</li> <li>3. Discuss with ET and Contractor on possible remedial measures;</li> <li>4. Advise the ER on the effectiveness of the proposed remedial measures; and</li> <li>5. Supervise implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. Notify Contractor;</li> <li>3. Ensure remedial measures properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Identify source(s) and investigate the causes of exceedance;</li> <li>2. Take immediate action to avoid further exceedance;</li> <li>3. Submit proposals for remedial measures to ER with a copy to ET and IEC within three working days of notification;</li> <li>4. Implement the agreed proposals; and</li> <li>5. Amend proposal if appropriate.</li> </ol>
Limit level being exceeded by two or more consecutive sampling	<ol style="list-style-type: none"> <li>1. Notify IEC, ER, Contractor and EPD;</li> <li>2. Identify source;</li> <li>3. Repeat measurement to confirm findings;</li> <li>4. Increase monitoring frequency to daily;</li> <li>5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;</li> <li>6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken;</li> <li>7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; and</li> <li>8. If exceedance stops, cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by the ET;</li> <li>2. Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>3. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; and</li> <li>4. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>3. Supervise the implementation of remedial measures; and</li> <li>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.</li> </ol>	<ol style="list-style-type: none"> <li>1. Identify source(s) and investigate the causes of exceedance;</li> <li>2. Take immediate action to avoid further exceedance;</li> <li>3. Submit proposals for remedial measures to the ER with a copy to the IEC and ET within three working days of notification;</li> <li>4. Implement the agreed proposals;</li> <li>5. Revise and resubmit proposals if problem still not under control; and</li> <li>6. Stop the relevant portion of works as determined by the ER until the exceedance is abated.</li> </ol>

## Event and Action Plan for Noise (Construction)

EVENT	ACTION			
	ET	IEC	ER	Contractor
Action Level	<ol style="list-style-type: none"> <li>1. Notify IEC and Contractor;</li> <li>2. Carry out investigation;</li> <li>3. Report the results of investigation to the IEC, ER and Contractor;</li> <li>4. Discuss with the Contractor and formulate remedial measures; and</li> <li>5. Increase monitoring frequency to check mitigation effectiveness.</li> </ol>	<ol style="list-style-type: none"> <li>1. Review the analyzed results submitted by the ET;</li> <li>2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; and</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Require Contractor to propose remedial measures for the analyzed noise problem; and</li> <li>4. Ensure remedial measures are properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit noise mitigation proposals to IEC; and</li> <li>2. Implement noise mitigation proposals.</li> </ol>
Limit Level	<ol style="list-style-type: none"> <li>1. Identify source;</li> <li>2. Inform IEC, ER, EPD and Contractor;</li> <li>3. Repeat measurements to confirm findings;</li> <li>4. Increase monitoring frequency;</li> <li>5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;</li> <li>6. Inform IEC, ER and EPD the causes and actions taken for the exceedances;</li> <li>7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; and</li> <li>8. If exceedance stops, cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; and</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Require Contractor to propose remedial measures for the analyzed noise problem;</li> <li>4. Ensure remedial measures properly implemented; and</li> <li>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.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IEC within 3 working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Resubmit proposals if problem still not under control; and</li> <li>5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.</li> </ol>

## 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"> <li>1. Repeat in situ measurement on the next day of exceedance to confirm findings;</li> <li>2. Check monitoring data, plant, equipment and Contractor(s)'s working methods;</li> <li>3. Identify source(s) of impact and record in notification of exceedance;</li> <li>4. Inform IEC, Contractor(s) and ER</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET and Contractor(s)'s working methods;</li> <li>2. Inform EPD and AFCD.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. Check plant and equipment and rectify unacceptable practice</li> </ol>
Action level being exceeded by two or more consecutive sampling days	<ol style="list-style-type: none"> <li>1. Repeat in situ measurement on the next day of exceedance to confirm findings;</li> <li>2. Check monitoring data, plant, equipment and Contractor(s)'s working methods;</li> <li>3. Identify source(s) of impact and record in notification of exceedance;</li> <li>4. Inform IEC, Contractor(s) and ER;</li> <li>5. Discuss with IEC and Contractor(s) on additional mitigation measures and ensure that they are implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET and Contractor(s)'s working methods;</li> <li>2. Inform EPD and AFCD;</li> <li>3. Discuss with ET and Contractor(s) on additional mitigation measures and advise ER accordingly;</li> <li>4. Assess the effectiveness of the implemented mitigation measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. Discuss with the IEC on the proposed additional mitigation measures and agree on the mitigation measures to be implemented.</li> <li>3. Ensure additional mitigation measures are properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. Check plant and equipment and rectify unacceptable practice;</li> <li>3. Consider changes of working methods;</li> <li>4. Discuss with ET and IEC on additional mitigation measures and propose them to ER within 3 working days;</li> <li>5. Implement the agreed mitigation measures.</li> </ol>

EVENT	ACTION			
	ET	IEC	ER	Contractor
Limit level being exceeded by one sampling day	<ol style="list-style-type: none"> <li>1. Repeat in situ measurement on the next day of exceedance to confirm findings;</li> <li>2. Check monitoring data, plant, equipment and Contractor(s)'s working methods;</li> <li>3. Identify source(s) of impact and record in notification of exceedance;</li> <li>4. Inform IEC, Contractor(s) and ER;</li> <li>5. Discuss with IEC and Contractor(s) on additional mitigation measures and ensure that they are implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET and Contractor(s)'s working methods;</li> <li>2. Inform EPD and AFCD;</li> <li>3. Discuss with ET and Contractor(s) on additional mitigation measures and advise ER accordingly;</li> <li>4. Assess the effectiveness of the implemented mitigation measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. Discuss with the IEC on the proposed additional mitigation measures and agree on the mitigation measures to be implemented.</li> <li>3. Ensure additional mitigation measures are properly implemented.</li> <li>4. Request Contractor(s) to critically review the working methods.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. Check plant and equipment and rectify unacceptable practice;</li> <li>3. Critically review the need to change working methods;</li> <li>4. Discuss with ET and IEC on additional mitigation measures and propose them to ER within 3 working days;</li> <li>5. Implement the agreed mitigation measures.</li> </ol>
Limit level being exceeded by two or more consecutive sampling days	<ol style="list-style-type: none"> <li>1. Repeat in situ measurement on the next day of exceedance to confirm findings;</li> <li>2. Check monitoring data, plant, equipment and Contractor(s)'s working methods;</li> <li>3. Identify source(s) of impact and record in notification of exceedance;</li> <li>4. Inform IEC, Contractor(s) and ER;</li> <li>5. Discuss with IEC and Contractor(s) on additional mitigation measures and ensure that they are implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET and Contractor(s)'s working methods;</li> <li>2. Inform EPD and AFCD;</li> <li>3. Discuss with ET and Contractor(s) on additional mitigation measures and advise ER accordingly;</li> <li>4. Assess the effectiveness of the implemented mitigation measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. Discuss with the IEC on the proposed additional mitigation measures and agree on the mitigation measures to be implemented.</li> <li>3. Ensure additional mitigation measures are properly implemented.</li> <li>4. Request Contractor(s) to critically review the working methods.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. Check plant and equipment and rectify unacceptable practice;</li> <li>3. Critically review the need to change working methods;</li> <li>4. Discuss with ET and IEC on additional mitigation measures and propose them to ER within 3 working days;</li> <li>5. Implement the agreed mitigation measures.</li> </ol>



## Event and Action Plan for Ecology Monitoring

Event	Action			
	ET	IEC	ER	Contractor
Action Level	<ol style="list-style-type: none"> <li>1. Notify IEC and Contractor;</li> <li>2. Carry out investigation;</li> <li>3. Report the results of investigation to the IEC, ER and Contractor;</li> <li>4. Discuss with the Contractor and formulate remedial measures; and</li> <li>5. Increase monitoring frequency to check mitigation effectiveness.</li> </ol>	<ol style="list-style-type: none"> <li>1. Review the analyzed results submitted by the ET;</li> <li>2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; and</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Require Contractor to propose remedial measures for the analyzed noise problem; and</li> <li>4. Ensure remedial measures are properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit noise mitigation proposals to IEC; and</li> <li>2. Implement noise mitigation proposals.</li> </ol>
Limit Level	<ol style="list-style-type: none"> <li>1. Identify source;</li> <li>2. Inform IEC, ER, EPD and Contractor;</li> <li>3. Repeat measurements to confirm findings;</li> <li>4. Increase monitoring frequency;</li> <li>5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;</li> <li>6. Inform IEC, ER and EPD the causes and actions taken for the exceedances;</li> <li>7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; and</li> <li>8. If exceedance stops, cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; and</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Require Contractor to propose remedial measures for the analysed noise problem;</li> <li>4. Ensure remedial measures are properly implemented; and</li> <li>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.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IEC within 3 working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Resubmit proposals if problem still not under control; and</li> <li>5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.</li> </ol>

# Appendix F

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Waste Flow Table

Waste Flow Table for Year 2021											
Monthly Ending	Total Quantity Generated	Actual Quantities of Inert C&D Materials Generated Monthly					Actual Quantities of Non-inert C&D Wastes Generated Monthly				
		Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	Chemical Waste	Others, e.g. general refuse
	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)
2021 Jan	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
2021 Feb	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
2021 Mar	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
2021 Apr	216.92	Nil	Nil	Nil	152.94	Nil	Nil	Nil	Nil	Nil	63.98
2021 May	277.74	Nil	Nil	Nil	268.92	Nil	Nil	0.11	Nil	Nil	8.71
2021 Jun	715.93	Nil	Nil	Nil	551.41	Nil	146.74	0.11	Nil	Nil	17.67
2021 Jul											
2021 Aug											
2021 Sep											
2021 Oct											
2021 Nov											
2021 Dec											
<b>Total</b>	<b>1210.59</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>973.27</b>	<b>0</b>	<b>146.74</b>	<b>0.22</b>	<b>0</b>	<b>0</b>	<b>90.36</b>

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

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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
<b>Air Quality Impact</b>			
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"> <li>• Use of regular watering to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather.</li> <li>• Use of frequent watering for particularly dusty construction areas and areas close to ASRs.</li> <li>• 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.</li> <li>• Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs.</li> <li>• Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.</li> <li>• Establishment and use of vehicle wheel and body washing facilities at the exit points of the site.</li> <li>• 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.</li> <li>• 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.</li> <li>• Imposition of speed controls for vehicles on site haul roads.</li> <li>• Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs.</li> </ul>	Construction Sites	<p>Implemented</p> <p>Implemented</p> <p>Implemented</p> <p>Implemented</p> <p>Implemented</p> <p>N/A</p> <p>N/A</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"> <li>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.</li> </ul>		Implemented
<b>Noise Impact</b>			
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"> <li>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.</li> <li>Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme.</li> <li>Silencers or mufflers on construction equipment should be utilised and should be properly maintained during the construction programme.</li> <li>Mobile plant, if any, should be sited as far away from noise sensitive receivers (NSRs) as possible.</li> <li>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.</li> <li>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</li> <li>Material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities.</li> </ul>	Construction Sites	<p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p>
<b>Water Quality Impact</b>			
Construction Phase			
5.8.1.2	<p>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</p>	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	N/A
5.8.1.5 – 5.8.1.6	The site practices outlined in ProPECC PN 1/94 “Construction Site Drainage” should be followed where applicable to minimise surface run-off and the chance of erosion. Surface run-off from construction sites should be discharged into storm drains via adequately designed sand / silt removal facilities such as sand traps, silt traps and sedimentation basins. Channels, earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Perimeter channels at site boundaries should be provided as necessary to intercept storm run-off from outside the site so that it will not wash across the site. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks.	Construction Sites / Construction Phase	Partially Implemented
5.8.1.7	Silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be removed regularly (as well as at the onset of and after each rainstorm) to prevent overflows and localised flooding.	Construction Sites / Construction Phase	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

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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

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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"> <li>• 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;</li> </ul>		Implemented
	<ul style="list-style-type: none"> <li>• Training of site personnel in proper waste management and chemical waste handling procedures;</li> </ul>		Implemented
	<ul style="list-style-type: none"> <li>• Provision of sufficient waste reception/ disposal points, of a suitable vermin-proof design that minimises windblown litter;</li> </ul>		N/A
	<ul style="list-style-type: none"> <li>• Arrangement for regular collection of waste for transport off-site and final disposal;</li> </ul>		N/A
	<ul style="list-style-type: none"> <li>• Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers;</li> </ul>		N/A
	<ul style="list-style-type: none"> <li>• Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors;</li> </ul>		N/A



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EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
6.6.1.5	<ul style="list-style-type: none"> <li>• A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be proposed; and</li> </ul>		N/A
	<ul style="list-style-type: none"> <li>• 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.</li> </ul>		Implemented
	<p>Waste Reduction Measures Recommendations to achieve waste reduction include:</p>	Construction Sites	
	<ul style="list-style-type: none"> <li>• 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;</li> </ul>		Implemented
	<ul style="list-style-type: none"> <li>• 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;</li> </ul>		Implemented
	<ul style="list-style-type: none"> <li>• Any unused chemicals or those with remaining functional capacity shall be recycled;</li> </ul>		N/A
	<ul style="list-style-type: none"> <li>• Maximising the use of reusable steel formwork to reduce the amount of C&amp;D material;</li> </ul>		N/A
	<ul style="list-style-type: none"> <li>• Prior to disposal of C&amp;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;</li> </ul>		Implemented
	<ul style="list-style-type: none"> <li>• Adopt proper storage and site practices to minimise the potential for damage to, or contamination of, construction materials;</li> </ul>		Implemented
	<ul style="list-style-type: none"> <li>• Plan the delivery and stock of construction materials carefully to minimise the amount of surplus waste generated;</li> </ul>		N/A
<ul style="list-style-type: none"> <li>• Adopt pre-cast construction method instead of cast-in-situ method for construction of concrete structures as much as possible; and</li> </ul>		N/A	
<ul style="list-style-type: none"> <li>• Minimise over ordering of concrete, mortars and cement grout by doing careful check before ordering.</li> </ul>		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"> <li>• Waste, such as soil, should be handled and stored well to ensure secure containment, thus minimising the potential of pollution;</li> </ul>		N/A
	<ul style="list-style-type: none"> <li>• Maintain and clean storage areas routinely;</li> </ul>		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"> <li>• Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; and</li> </ul>		Implemented
	<ul style="list-style-type: none"> <li>• Different locations should be designated to stockpile each material to enhance reuse.</li> </ul>		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>	Construction Sites	
	<ul style="list-style-type: none"> <li>• Remove waste in timely manner;</li> </ul>		Implemented
	<ul style="list-style-type: none"> <li>• Waste collectors should only collect wastes prescribed by their permits;</li> </ul>		Implemented
	<ul style="list-style-type: none"> <li>• Impacts during transportation, such as dust and odour, should be mitigated by the use of covered trucks or in enclosed containers;</li> </ul>		N/A
	<ul style="list-style-type: none"> <li>• 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);</li> </ul>		Implemented
	<ul style="list-style-type: none"> <li>• Waste should be disposed of at licensed waste disposal facilities; and</li> </ul>		Implemented
	<ul style="list-style-type: none"> <li>• Maintain records of quantities of waste generated, recycled and disposed.</li> </ul>		Implemented
6.6.1.10	<p><u>Transportation of Waste</u> In order to monitor the disposal of C&amp;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

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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&amp;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"> <li>• A WMP, which becomes part of the EMP, should be prepared in accordance with ETWB TCW No.19/2005;</li> <li>• A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be adopted for easy tracking; and</li> <li>• In order to monitor the disposal of C&amp;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).</li> </ul>	Construction Sites	N/A Implemented N/A Implemented
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"> <li>• Surface of stockpiled soil should be regularly wetted with water especially during dry season;</li> <li>• Disturbance of stockpile soil should be minimised;</li> <li>• Stockpiled soil should be properly covered with tarpaulin especially when heavy storms are predicted; and</li> <li>• Stockpiling areas should be enclosed where space is available.</li> </ul>	Construction Sites	N/A N/A Implemented N/A

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EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
6.6.1.15	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
<b>Land Contamination</b>			



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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"> <li>• Excavation profiles must be properly designed and executed with attention to the relevant requirements for environment, health and safety;</li> <li>• 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;</li> <li>• 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.</li> <li>• 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;</li> <li>• Speed control for the trucks carrying contaminated materials shall be enforced;</li> </ul>	Project Site / Construction Phase	<p>N/A</p> <p>N/A</p> <p>N/A</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"> <li>• Vehicle wheel and body washing facilities at the site's exist points shall be established and used; and</li> <li>• 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.</li> </ul>		N/A
			N/A
<b>Ecological Impact (Terrestrial and Aquatic)</b>			
<b>Construction Phase</b>			
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	N/A

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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	N/A
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

**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
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	N/A
<b>Ecology &amp; Fisheries Impact</b>			
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
<b>Fisheries Impact</b>			
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
<b>Landscape and Visual Impact</b>			
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	N/A
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	N/A
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	N/A
<b>Hazard to Life</b>			
<b>Construction Phase</b>			
11.5.6.9-11.5.6.12	<ul style="list-style-type: none"> <li>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;</li> </ul>	Project site / Construction Phase	N/A
	<ul style="list-style-type: none"> <li>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;</li> </ul>		N/A
	<ul style="list-style-type: none"> <li>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</li> </ul>		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"> <li>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.</li> </ul>		N/A
11.5.8	<ul style="list-style-type: none"> <li>Method statements and risk assessments shall be prepared and safety control measures shall be in place before commencement of work</li> </ul>	Project site / Construction Phase	Implemented
	<ul style="list-style-type: none"> <li>All work procedures shall be complied with the operating plant procedures or guidelines and regulatory requirements;</li> </ul>		Implemented
	<ul style="list-style-type: none"> <li>Work permit system, on-site pre-work risk assessment and emergency response procedure shall be in place before commencement of work;</li> </ul>		Implemented
	<ul style="list-style-type: none"> <li>All construction workers shall equip with appropriate personal protective equipment (PPE) when working at the Project Site;</li> </ul>		Implemented
	<ul style="list-style-type: none"> <li>Safety training and briefings shall be provided to all construction workers;</li> </ul>		Implemented
	<ul style="list-style-type: none"> <li>Regular site safety inspections shall be conducted during the construction phase of the Project;</li> </ul>		Implemented
11.9.1.2	<ul style="list-style-type: none"> <li>Ensure speed limit enforcement is specified in the contractor's method statement to limit the speed of construction vehicles onsite;</li> </ul>	Project site / ConstructionPhase	N/A
	<ul style="list-style-type: none"> <li>Conduct speed checks to ensure enforcement of speed limits and to ensure adequate site access control ;</li> </ul>		N/A
	<ul style="list-style-type: none"> <li>A lifting plan, with detailed risk assessment, should be prepared and endorsed for heavy lifting of large equipment;</li> </ul>		N/A
	<ul style="list-style-type: none"> <li>Vehicle crash barriers should be provided between the construction site and the operating biogas facilities;</li> </ul>		N/A
	<ul style="list-style-type: none"> <li>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;</li> </ul>		Implemented
	<ul style="list-style-type: none"> <li>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;</li> </ul>		Implemented
	<ul style="list-style-type: none"> <li>Ensure effective communication system / protocol is in place between the contractors and the operation staff;</li> </ul>		Implemented
	<ul style="list-style-type: none"> <li>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;</li> </ul>		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"> <li>• 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;</li> </ul>		N/A
	<ul style="list-style-type: none"> <li>• 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.</li> </ul>		N/A
	<p>Potential risks of the construction activities shall be assessed, and risk precautionary measures shall be implemented in Contractor's works procedures.</p>		N/A

Note:

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

# Appendix H

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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
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>

### 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
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>