



CONTRACT NO. SPW 12/2021
SHEK WU HUI EFFLUENT POLISHING PLANT – MAIN WORKS
UNDER FURTHER ENVIRONMENTAL PERMIT NO. FEP-
02/474/2013
MONTHLY ENVIRONMENTAL MONITORING & AUDIT REPORT
NOVEMBER 2023

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Contract No. SPW 13/2021

Shek Wu Hui Effluent Polishing Plant – Main Work

Monthly Environmental Monitoring & Audit Report

November 2023

(December 2023)

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EXECUTIVE SUMMARY

- i. This is the Environmental Monitoring and Audit (EM&A) Monthly Report – **November 2023** of Shek Wu Hui Effluent Polishing Plant – Main Work under Further Environmental Permit no. FEP-02/474/2013 (Hereafter as “the Project”). This is the **27th** EM&A report prepared by Environmental Team under Contract No. SPW 12/2021, presenting the environmental monitoring findings and information recorded during the period of **1 November 2023 to 30 November 2023**. The cut-off date of reporting is at the end of each reporting month.

- ii. In the reporting month, the principal work activities of individual contracts are conducted as follows:

Contract No. DC/2018/06 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 – Civil Works for Sludge Treatment Facilities and 132 kV Primary Substation

- RC works
- Pipe jacking
- Sewage, utility and pipe works
- Road works
- ABWF works
- ELS

Contract No. DC/2018/07 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 – Civil Works for Sewage Treatment Facilities

- RC works
- ABWF works
- Pipe laying

Contract No. DE/2018/03 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 – Sidestream Treatment Facilities and EM&M Works for Sludge Treatment Facilities

- Construction of Superstructure
- Electrical Installation
- MVAC Installation
- Plumbing System Installation
- MFA and AFA installation
- SPR Installation
- EOT and Monorail Installation
- Bio-Gas Holding Tank Installation
- Genset Installation
- Penstock and Stoplog Installation
- Pipework Installation
- Draft Tube Mixer Installation

Contract No. DE/2018/04 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 – E&M Works for Sewage Treatment Facilities

- E&M works for Leachate Pre-treatment Plant at existing compressor house, BR No 3&4 and MFB1
- E&M works at Portion B-5, MFB2.
- E&M works at Portion B-7, including DOU No.3A, Emergency Generator House and FS & Sprinkler Pumping Room, Chemical System No.1, Street Fire Hydrant & Booster Pump Room and Temporary Chemical System

Air Quality Monitoring

- iii. 1-hour and 24-hour Total Suspended Particulates (TSP) monitoring was conducted at two monitoring station. 24-hour TSP shall be sampled at least once in every 6 days, while sampling for 1-hour TSP shall be at least 3 times in every 6 day in the reporting month.
- iv. [No action or limit level exceedance was recorded in this reporting period.](#)

Noise Monitoring

- v. Noise monitoring was conducted at three noise monitoring stations once per week in the reporting month.
- vi. [No action or limit level exceedance was recorded in this reporting period.](#)

Ecological Monitoring

- vii. Ecological monitoring conducted on a weekly basis at both high and low tides (it is considered high tide when tidal levels are above 1.5m and low tide when tidal level are below 1.5m at Tsim Bei Tsui Station). The magnitude of how much above or below 1.5m was subject to tidal conditions of that week as it varied throughout different times of the year. Nonetheless, the high and low tide relative to that week's tidal condition were taken into consideration.
- viii. [No Action or Limit level was triggered in the reporting month.](#)

Site Inspections and Audit

- ix. The Environmental Team (ET) conducted weekly site inspections on [7\(DE/2018/03 and DE/2018/04\)](#), [9\(DC/2018/06 and DC/2018/07\)](#), [14\(DE/2018/03 and DE/2018/04\)](#), [16\(DC/2018/06 and DC/2018/07\)](#), [21 and 28 November 2023](#) and biweekly landscape inspection on [9 and 21 November 2023](#). IEC attended the joint site inspection on [28 November 2023](#). No non-compliance was found during the site inspection while reminders on environmental measures were recommended.

Complaints, Notifications of Summons and Successful Prosecutions

- x. No environmental complaint, notification of summons and successful prosecution regarding the construction works was recorded in the reporting period.

Reporting Changes

- xi. There are no particular reporting changes.

Future Key Issues

- xii. In coming reporting month, the principal work activities of individual contracts are anticipated as follows:

Contract No. DC/2018/06 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 – Civil Works for Sludge Treatment Facilities and 132 kV Primary Substation

- RC works
- Pipe jacking
- Sewage, utility and pipe works
- Road works
- ABWF works
- ELS

Contract No. DC/2018/07 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 – Civil Works for Sewage Treatment Facilities

- RC works
- ABWF works
- Pile laying

Contract No. DE/2018/03 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 – Sidestream Treatment Facilities and EM&M Works for Sludge Treatment Facilities

- Construction of Superstructure
- Electrical Installation
- MVAC Installation
- Plumbing System Installation
- MFA and AFA installation
- SPR Installation
- EOT and Monorail Installation
- Bio-Gas Holding Tank Installation
- Transportation and Installation of Steam Boiler System

- Penstock and Stoplog Installation
- Pipework Installation
- Draft Tube Mixer Installation

Contract No. DE/2018/04 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 –
E&M Works for Sewage Treatment Facilities

- E&M works for Leachate Pre-treatment Plant at existing compressor house, BR No 3&4 and MFB1
- E&M works at Portion B-5, MFB2.
- E&M works at Portion B-7, including DOU No.3A, Emergency Generator House and FS & Sprinkler Pumping Room, Chemical System No.1, Street Fire Hydrant & Booster Pump Room and Temporary Chemical System.
- E&M works at Portion B-4, BR 2A & 2B.
- E&M works at Portion B-2, Inlet Works.
- E&M works at Portion B-3, PST No. 1-4.

1 Introduction

1.1 Scope of the Report

- 1.1.1. Lam Environmental Services Limited (LES) has been appointed to work as the Environmental Team (ET) under Environmental Permit (EP) No. FEP-02/474/2013 to implement the Environmental Monitoring and Audit (EM&A) programme as stipulated in the EM&A Manual of the approved Environmental Impact Assessment (EIA) Report for North East New Territories New Development Areas (Register No.: AEIAR-175/2013).
- 1.1.2. In accordance with Clause 3.4 stated in FEP-02/474/2013, 3 hard copies and 2 electronic copies of Monthly EM&A Report shall be submitted to the Director within 10 working days after the end of each reporting month throughout the entire construction period.
- 1.1.3. According to Section 9.4.1.1 of the Project EM&A Manual, the Monthly EM&A Report should be submitted within 10 working days at the end of each reporting month, with the first report due in the month after construction commences.

1.2 Structure of the Report

- Section 1** **Introduction** – details the scope and structure of the report.
- Section 2** **Project Background** – summarizes background and scope of the project, site description, project organization and contact details of key personnel during the reporting period.
- Section 3** **Status of Regulatory Compliance** – summarizes the status of valid Environmental Permits / Licenses during the reporting period.
- Section 4** **Monitoring Requirements** – summarizes all monitoring parameters, monitoring methodology and equipment, monitoring locations, monitoring frequency, criteria and respective event and action plan and monitoring programmes.
- Section 5** **Monitoring Results** – summarizes the monitoring results obtained in the reporting period.
- Section 6** **Compliance Audit** – summarizes the auditing of monitoring results, all exceedances environmental parameters.



- Section 7** **Environmental Site Audit** – summarizes the findings of weekly site inspections undertaken within the reporting period, with a review of any relevant follow-up actions within the reporting period.
- Section 8** ***Complaints, Notification of summons and Prosecution*** – summarizes the cumulative statistics on complaints, notification of summons and prosecution
- Section 9** ***Conclusion***

2 Project Background

2.1 Background

2.1.1. The existing Shek Wu Hui Sewage Treatment Works (SWHSTW) has been operating and maintaining for 30 years by the Drainage Services Department (DSD). It provides secondary level treatment to sewage collected from Sheung Shui, Fanling and adjacent areas. SWHSTW was completed in two stages and expanded progressively in the past years. In 1984, Stage I of SWHSTW was commissioned with design capacity of 60,000 cubic meters per day (m^3 /day) at Average Dry Weather Flow (ADWF). In 2001, Stage II of SWHSTW was completed with design capacity enhanced to 80,000 m^3 /day at ADWF. In 2009, the expansion of SWHSTW was completed and its design capacity was increased to 93,000 m^3 /day at ADWF.

2.1.2. Further expansion of SWHSTW has been planned to be carried out in order to cope with the forecast increase in flow from Fanling North and Kwu Tong North New Development Area (NDA) and other NDAs and developments in three phases, namely Phase 1A, 1B and 2, which are later revised to Main Works Stage 1, Stage 2 and Stage 3 respectively. The EIA study report (Register No.: AEIAR-175/2013) for the NENT NDAs Study covered the assessment for the Further Expansion of SWHSTW, which is a designated project under item F.1 and F.2 of Part 1, Schedule 2 of the EIA Ordinance. The location of the project site is shown in [Figure 2.1](#).

A Further EP was applied on 18 January 2018 to assume the responsibility for constructing and operating the SWHEPP Project up to a capacity of 190,000 m^3 /day. The Further EP No. FEP-02/474/2013 was issued to DSD as permit holder on 15 February 2018. Due to overlapping of scope with the Further EP currently in force, the Further EP No. FEP-01/474/2013 was subsequently surrendered on 15 August 2018.

2.2 Project Organization and Contact Personnel

2.2.1 Drainage Service Department (DSD) is the overall project controllers for the Project. For the construction phase of the Project, Engineer's Representative, Contractor(s), Environmental Team and Independent Environmental Checker are appointed to manage and control environmental issues.

2.2.2 The project organization and lines of communication with respect to environmental protection works are shown in [Figure 2.2](#). Key personnel and contact particulars are summarized in [Table 2.1](#).

Table 2.1 Contact Details of Key Personnel

Party	Role	Post	Name	Contact No.
Drainage Services Department (DSD)	Permit Holder	Engineer	Ms. Li Lin	2594 7463
AECOM	Supervisor Representative	Resident Engineer	Ms. Ada Chan	3907 1134
Kwan Lee - Chun Wo Joint Venture	Contractor (DC/2018/06)	Environmental Manager	Mr. Clarence Yeung	3758 8551
		Environmental Engineer	Mr. Terence Lai	9829 8605
		Assistance Environmental Engineer	Mr. Timothy To	6203 7133
	Contractor (DC/2018/07)	Environmental Engineer	Ms. Barbara Yiu	9758 2034
JEC	Contractor (DE/2018/03)	Environmental Officer	Ms. Juliet Ting	6826 7319
Bestwise	Contractor (DE/2018/04)	Environmental Officer	Mr. Albus Cheung	9731 0831
Meinhardt Infrastructure and Environment Ltd.	Independent Environmental Checker (IEC)	Independent Environmental Checker (IEC)	Ms. Claudine Lee	9612 9229
Lam Environmental Services Limited	Environmental Team (ET)	Environmental Team Leader (ETL)	Mr. Raymond Dai	2882 3939

2.3 Construction Activities

2.3.1 In the reporting month, the principal work activities conducted of individual contracts are as follow. The layout plans showing the locations of reported construction activities, key PME used for the works contracts and site record photos are shown in [Appendix 2.1](#).

Contract No. DC/2018/06 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 – Civil Works for Sludge Treatment Facilities and 132 kV Primary Substation

- RC works
- Pipe jacking
- Sewage, utility and pipe works
- Road works
- ABWF works
- ELS

Contract No. DC/2018/07 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 – Civil Works for Sewage Treatment Facilities

- RC works
- ABWF works
- Pile laying

Contract No. DE/2018/03 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 – Sidestream Treatment Facilities and EM&M Works for Sludge Treatment Facilities

- Construction of Superstructure
- Electrical Installation
- MVAC Installation
- Plumbing System Installation
- MFA and AFA installation
- SPR Installation
- EOT and Monorail Installation
- Bio-Gas Holding Tank Installation
- Genset Installation
- Penstock and Stoplog Installation
- Pipework Installation
- Draft Tube Mixer Installation

Contract No. DE/2018/04 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 – E&M Works for Sewage Treatment Facilities

- E&M works for Leachate Pre-treatment Plant at existing compressor house, BR No 3&4 and MFB1

- E&M works at Portion B-5, MFB2.
 E&M works at Portion B-7, including DOU No.3A, Emergency Generator House and FS & Sprinkler Pumping Room, Chemical System No.1, Street Fire Hydrant & Booster Pump Room and Temporary Chemical System

2.3.2 The number of key PME and their working locations are shown in **Table 2.2**.

Table 2.2 Summary of key PME and working locations of works contracts

Works Contract	Key PME	Number	Working locations
DC/2018/06	Excavator	1	Section 4
	Scissor lift platform	4	SDB and CHP
	Roller	1	Section 4
DC/2018/07	Excavator	7	Area C, Area D, Inlet, SAS, MFB
	Generator	3	PST, MFB
	Mobile Crane	1	PST
	Tower crane	2	Inlet, MFB
	Enertainer	1	Inlet
DE/2018/03	Generator	7	Sidestream, THP and Bio-gas Tank
	Tower Crane	1	Sidestream
DE/2018/04	-	-	-

2.3.3 In coming reporting month, the scheduled construction activities of individual contracts are listed as follows:

Contract No. DC/2018/06 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 – Civil Works for Sludge Treatment Facilities and 132 kV Primary Substation

- RC works
- Pipe jacking
- Sewage, utility and pipe works
- Road works
- ABWF works
- ELS

Contract No. DC/2018/07 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 – Civil Works for Sewage Treatment Facilities

- RC works
- ABWF works
- Pile Laying

Contract No. DE/2018/03 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 – Sidestream Treatment Facilities and EM&M Works for Sludge Treatment Facilities

- Construction of Superstructure
- Electrical Installation
- MVAC Installation
- Plumbing System Installation
- MFA and AFA installation
- SPR Installation
- EOT and Monorail Installation
- Bio-Gas Holding Tank Installation
- Transportation and Installation of Steam Boiler System
- Penstock and Stoplog Installation
- Pipework Installation
- Draft Tube Mixer Installation

Contract No. DE/2018/04 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 – E&M Works for Sewage Treatment Facilities

- E&M works for Leachate Pre-treatment Plant at existing compressor house, BR No 3&4 and MFB1
- E&M works at Portion B-5, MFB2.
- E&M works at Portion B-7, including DOU No.3A, Emergency Generator House and FS & Sprinkler Pumping Room, Chemical System No.1, Street Fire Hydrant &



Booster Pump Room and Temporary Chemical System.

- E&M works at Portion B-4, BR 2A & 2B.
- E&M works at Portion B-2, Inlet Works.
- E&M works at Portion B-3, PST No. 1-4.

3 Status of Regulatory Compliance

3.1 Status of Environmental Licensing and Permitting under the Project

3.1.1. A summary of the current status on licences and/or permits on environmental protection pertinent to the Project is shown in **Table 3.1 to 3.4**.

Table 3.1 Summary of the current status on licences and/or permits on environmental protection pertinent to the Project under Contract No. DC/2018/06

Permits and/or Licences	Permit. No. / Account No.	Valid From	Expiry Date	Status
Environmental Permit	FEP-02/474/2013	15 Feb 2018	N/A	Valid
Notification pursuant to Air Pollution Control (Construction Dust) Regulation	449210 (Portion A & C)	23 Sep 2019	N/A	Valid
	449211 (WM1)	23 Sep 2019	N/A	Valid
Water Pollution Ordinance Licence	WT00035431-2019 (Portion C)	27 Jul 2020	31 Jan 2025	Valid
	WT00035718-2020 (Portion A)	02 Apr 2020	30 Apr 2025	Valid
Billing Account for Disposal of Construction Waste	7035390	11 Oct 2019	N/A	Valid
Registration as a Chemical Waste Producer	5213-624-K3371-01	14 Nov 2019	N/A	Valid
Construction Noise Permit	GW-RN1056-23	9 Oct 2023	8 Jan 2024	Valid

Table 3.2 Summary of the current status on licences and/or permits on environmental protection pertinent to the Project under Contract No. DC/2018/07

Permits and/or Licences	Permit. No. / Account No.	Valid From	Expiry Date	Status
Environmental Permit	FEP-02/474/2013	15 Feb 2018	N/A	Valid
Notification pursuant to Air Pollution Control (Construction Dust) Regulation	449210	23 Sep 2019	N/A	Valid
Water Pollution Ordinance Licence	WT00035727-2020	1 Apr 2020	30 Apr 2025	Valid
Billing Account for Disposal of Construction Waste	7035985	9 Dec 2019	N/A	Valid
Registration as a Chemical Waste Producer	5213-624-K3371-02	6 Jan 2020	N/A	Valid
Construction Noise Permit	GW-RN1056-23	9 Oct 2023	8 Jan 2024	Valid

Table 3.3 Summary of the current status on licences and/or permits on environmental protection pertinent to the Project under Contract No. DE/2018/03

Permits and/or Licences	Permit. No. / Account No.	Valid From	Expiry Date	Status
Environmental Permit	FEP-02/474/2013	15 Feb 2018	N/A	Valid
Notification pursuant to Air Pollution Control (Construction Dust) Regulation	455843 (WA3)	6 May 2020	N/A	Valid
	457212 (WA1-B)	15 Jun 2020	N/A	Valid
	460065 (Sidestream)	16 Sep 2020	N/A	Valid
Water Pollution Ordinance Licence	WT00037220-2020	16 Mar 2021	31 Jan 2026	Valid
Billing Account for Disposal of Construction Waste	7035700	6 Nov 2019	N/A	Valid
Registration as a Chemical Waste Producer	5213-624-T3861-01	14 Apr 2020	N/A	Valid
Construction Noise Permit	GW-RN1123-23	23 Oct 2023	22 Jan 2024	Valid

Table 3.4 Summary of the current status on licences and/or permits on environmental protection pertinent to the Project under Contract No. DE/2018/04

Permits and/or Licences	Permit. No. / Account No.	Valid From	Expiry Date	Status
Environmental Permit	FEP-02/474/2013	15 Feb 2018	N/A	Valid
Notification pursuant to Air Pollution Control (Construction Dust) Regulation	460181	17 Sep 2020	N/A	Valid
Billing Account for Disposal of Construction Waste	703621912	2 Jan 2020	N/A	Valid
Registration as a Chemical Waste Producer	5213-624-B2592-01	7 Jul 2020	N/A	Valid

3.1.2. Implementation status of the recommended mitigation measures during this report month is presented in [Appendix 3.1](#).

3.2 Summary of submission status under FEP-02/474/2013

3.2.1 A summary of the current status on submission under FEP-02/474/2013 is shown in **Table 3.5**.

Table 3.5 Summary of submission status under FEP-02/474/2013

EP Condition	Submission	Status
Condition 1.12	Commencement date of construction of the Project	Notified EPD on 8 Oct 2019
Condition 2.3 & 3.1	Updated EM&A Manual	The Manual was confirmed of no further comments by EPD on 17 Jan 2020
Condition 2.4	Management Organization of Main Construction Companies for Contract No.DC/2018/06	Informed EPD on 19 Nov 2019
Condition 2.4	Management Organization of Main Construction Companies for Contract No. DC/2018/07	Informed EPD on 20 Dec 2019
Condition 2.4	Management Organization of Main Construction Companies for Contract No. DE/2018/03	Informed EPD on 19 Feb 2020
Condition 2.4	Management Organization of Main Construction Companies for Contract No. DE/2018/04	Informed EPD on 15 Feb 2020
Condition 2.4	Replacement of Environmental Team Leader	Informed EPD on 13 Sep 2021
Condition 2.4	Replacement of Independent Environmental Checker	Informed EPD on 13 Sep 2021
Condition 2.5	Location Plans for Contract No. DC/2018/06	Deposited to EPD on 19 Nov 2019
Condition 2.5	Location Plans for Contract No. DC/2018/07	Deposited to EPD on 20 Dec 2019
Condition 2.5	Location Plans for Contract No. DE/2018/03	Deposited to EPD on 15 Feb 2020
Condition 2.5	Location Plans for Contract No. DE/2018/04	Deposited to EPD on 18 Sep 2020
Condition 2.6	Submission of Landscape Plan	Verified by IEC on 30 Oct 2023
Condition 3.3	Baseline Monitoring Report (Ecology)	The Report was first submitted to IEC for review on 22 Nov 2019, and verified on 29 Nov 2019
Condition 3.3	Baseline Monitoring Report	The Report will be submitted to EPD at least 6 weeks before the commencement of corresponding parts of landscape and visual mitigation measures of the Project

4 Monitoring Requirements

4.1 Noise Monitoring

NOISE MONITORING STATIONS

4.1.1. The noise monitoring stations for the Project are listed and shown in **Table 4.1** and **Figure 4.1**. **Appendix 4.1** shows the established Action/Limit Levels for the monitoring works.

Table 4.1 Noise Monitoring Station

Monitoring Station ID	Location
NM1	Wai Loi Tsuen
NM2	Fu Tei Au
NM3	Man Kok Village

NOISE MONITORING PARAMETERS, FREQUENCY AND DURATION

4.1.2. The monitoring parameters, frequency and duration of noise monitoring are summarized in **Table 4.2**.

Table 4.2 Noise Monitoring Parameters, Frequency and Duration

Monitoring Period	Duration	Sampling Parameter	Sampling Period ⁽¹⁾	Frequency
Impact Monitoring	Throughout the construction phase	1 set of Leq (30 min)	between 0700-1900 hours on normal weekdays;	on a per week basis when noise generating activities are underway

Remark (1): Additional weekly impact monitoring shall be carried out during evening and night-time works if construction works are extended to include works during the hours of 1900-0700

MONITORING EQUIPMENT

4.1.3. Noise monitoring was performed using sound level meter at the designated monitoring locations. The sound level meters shall comply with the International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1) specifications. Acoustic calibrator shall be deployed to check the sound level meters at a known sound pressure level. Brand and model of the equipment is given in **Table 4.3**.

Table 4.3 Noise Monitoring Equipment

Equipment	Brand and Model	Series Number	Expiry Date
Integrated Sound Level Meter	Nti XL2	A2A-15269-EO	9-Mar-2024
	Larson Davis LxT1	0003737	11-May-2024
Acoustic Calibrator	LD CAL200	13098	20-Mar-2024

4.1.4. The calibration certificates of the noise monitoring equipment are attached in [Appendix 4.2](#).

SAMPLING PROCEDURE AND MONITORING EQUIPMENT

4.1.5. Monitoring Procedure

- (a) Noise measurements shall not be made in fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s. The wind speed shall be checked with a portable wind speed meter capable of measuring the wind speed in m/s
- (b) The monitoring station shall normally be at a point 1 m from the exterior of the sensitive receiver building facade and be at a position 1.2 m above the ground. If there is problem with access to the normal monitoring position, an alternative position may be chosen, and a correction to the measurements shall be made. For reference, a correction of +3 dB(A) shall be made to the free field measurements.
- (c) The battery condition was checked to ensure the correct functioning of the meter.
- (d) Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
 - Frequency weighting: A
 - Time weighting: Fast
 - Time measurement: Leq (30min) for noise monitoring
- (e) Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1.0 dB, the measurement would be considered invalid and repeat of noise measurement would be required after recalibration or repair of the equipment.
- (f) The wind speed was checked with the portable wind meter before noise monitoring.
- (g) At the end of the monitoring period, the Leq, L90 and L10 were recorded. In addition, site conditions and noise sources were recorded on a record sheet.

4.1.6. Maintenance and Calibration

- (a) The microphone head of the sound level and calibrator would be cleaned with soft cloth regularly.
- (b) The noise monitoring equipment shall be calibrated annually.

CONSTRUCTION NOISE LEVEL

4.1.7. The construction noise level refers the corrected noise level based on the calculated difference between SPL of the Measured Noise Level and the SPL of the Baseline Noise Level. In the event of the Baseline Noise Level exceeds the Measured Noise Level, no correction would be applied and the Construction Noise Level would be indicated as below baseline noise level (<BL).

EVENT AND ACTION PLAN

4.1.8. Noise Standards for Daytime Construction Activities are specified under EIAO-TM. The Action and Limit levels for construction noise are defined in **Table 4.4** and [Appendix 4.1](#). Should non-compliance of the criteria occurs, action in accordance with the Event and Action Plan in [Appendix 6.1](#) shall be carried out.

Table 4.4 Action and Limit Level for Noise Monitoring

Time Period	Action Level	Limit Level
0700-1900 hrs on normal weekdays	When one documented complaint is received	75 dB

4.2 Air Monitoring

AIR QUALITY MONITORING STATIONS

4.2.1. The air monitoring stations for the Project are listed and shown in **Table 4.5** and **Figure 4.2**.

Table 4.5 Air Monitoring Station

Monitoring Station ID	Location	Measurement
AM1	House No. 15, Wai Loi Tsuen	1-hour TSP
AM2	Fu Tei Au	1-hour TSP
AM1a* ⁽¹⁾	Site boundary of the Shek Wu Hui STW (East), Roof floor of the control room of SWHSTW	24-hour TSP
AM2a	Site boundary of the Shek Wu Hui STW (North)	24-hour TSP

(1) Due to close proximity to construction works and heavy machines, presence of physical barrier and safety concerns, find adjustment for the location of AM1a was proposed in accordance to Section 2.2.4.6 of the EM&A Manual. It was adjusted from the ground level near the control room of SWHSTW to the roof floor of that control room. The proposal has sought approval from ER and IEC, and agreement from EPD in May 2022.

AIR MONITORING PARAMETERS, FREQUENCY AND DURATION

4.2.2. 24-hour TSP shall be sampled at least once in every 6 days, while sampling for 1-hour TSP shall be at least 3 times in every 6 days when the highest dust impact takes place.

4.2.3. One-hour and 24-hour TSP levels should be measured to indicate the impacts of construction dust on air quality.

SAMPLING PROCEDURE AND MONITORING EQUIPMENT

4.2.4. 24-hour TSP Measuring Installation (HVS)

- (a) 0.6 – 1.7 m³ per minute adjustable flow range
- (b) Equipped with a timing / control device with +/- 5 minutes accuracy for 24 hours operation;
- (c) Installed with elapsed-time meter with +/- 2 minutes accuracy for 24 hours operation;
- (d) Capable of providing a minimum exposed area of 406 cm²;
- (e) Flow control accuracy: +/- 2.5% deviation over 24-hour sampling period;
- (f) Equipped with a shelter to protect the filter and sampler;
- (g) Incorporated with an electronic mass flow rate controller or other equivalent devices;
- (h) Equipped with a flow recorder for continuous monitoring;
- (i) Provided with a peaked roof inlet;
- (j) Incorporated with a manometer;
- (k) Able to hold and seal the filter paper to the sampler housing at horizontal position;

- (l) Easily changeable filter; and
- (m) Capable of operating continuously for a 24-hour period

Initial calibration of dust monitoring equipment shall be conducted upon installation and thereafter at bi-monthly intervals. The transfer standard shall be traceable to the internationally recognized primary standard and be calibrated annually. All the data should be converted into standard temperature and pressure condition.

24-hour Measuring Procedures

- (a) Check the power supply to ensure the sampler works properly.
- (b) Remove the filter hold down by loosening the four nuts and carefully centre a new filter, with stamped number upward, on a supporting screen.
- (c) Properly align the filter on the screen so that the gasket will form an airtight seal on the outer edges of the filter.
- (d) Fasten the filter hold down frame to the filter holder with swing bolts. The pressure applied should be sufficient to avoid air leakage at the edges.
- (e) Close shelter lid and secure catch with the aluminum strip.
- (f) Record the flow indicator reading and determine the sampler flow rate. If it is outside the acceptable range, adjust the sampler flow rate.
- (g) Set the programmable timer and record the starting sampling time, weather condition and the filter identification number.
- (h) At the end of sampling, the filter was transferred from the filter holder of the HVS to a filter bag and sent to the accredited laboratory for weighing. The elapsed time was also recorded.

4.2.5. 1-hour Measuring Procedures

Portable dust meter will be proposed and sufficient information will be submitted to IC (E) to prove that the instrument is capable of achieving a comparable result as that of the HVS and used for 1-hour sampling

- (a) Slide the power switch to turn the power on
- (b) Select the period of measurement to 60mins
- (c) Check and set the correct time
- (d) Select the appropriate unit display for the equipment
- (e) Collected the sampled data for analysis

The portable dust meter is calibrated at 2-years interval and checked with HVS yearly to determine the accuracy and validity of the results measured. The checking of portable dust meter will be carried out in order to determine the conversion factor between the portable dust meter and the standard equipment, HVS.

The calibration check is to be considered valid if the calculated correlation coefficient is >0.90.

4.2.6. Maintenance and Calibration

- (a) The direct reading dust meter was calibrated at 2-years interval and checked with High Volume Sampler (HVS) yearly to determine the accuracy and validity of the results measured.
- (b) Checking of direct reading dust meter will be carried out in order to determine the conversion factor between the direct reading dust meter and the standard equipment, HVS. The comparison check is to be considered valid based on correlation coefficient checked by HOKLAS laboratory

4.2.7. Laboratory measurement / analysis

- (a) A clean laboratory with constant temperature and humidity control, and equipped with necessary measuring and conditioning instruments to handle the dust samples collected, shall be available for sample analysis, and equipment calibration and maintenance. The laboratory should be HOKLAS accredited.
- (b) Filter paper of size 8” x 10” shall be labelled before sampling. It shall be a clean filter paper with no pinholes, and shall be conditioned in a humidity-controlled chamber for over 24 hours and be pre-weighed before use for the sampling.
- (c) After sampling, the filter paper loaded with dust shall be kept in a clean and tightly sealed plastic bag. The filter paper shall then be returned to the laboratory for reconditioning in the humidity-controlled chamber followed by accurate weighing by an electronic balance with readout down to 0.1 mg. The balance shall be regularly calibrated against a traceable standard.

4.2.8. High Volume Sampler (HVS – Model TE-5025A) completed with the appropriate sampling inlets were installed for the 24-hour TSP sampling. 1-hour TSP air quality monitoring was performed by using portable direct reading dust meters at each designated monitoring station. The brand and model of the equipment are given in **Table 4.6**.

Table 4.6 Air Quality Monitoring Equipment

Equipment	Brand and model	Series Number	Expiry Date
Portable direct reading dust meter	Met One BT- 645 / Met One AEROCET831	C15622 Y23153	3-Feb-2024
Calibration Kit	Tisch Environmental (Calibration Model: TE-5025A)	3166	31-Mar-2024

High Volume Sampler	Tisch Total Suspended Particulate Mass Flow	2036	8-Jan-2024
	Controlled High Volume Air Sampler (Model no. G3101)	774	10-Dec-2023
Wind Anemometer	YGY-FSXY1	YG 21071630T0924	17-Mar-2024

4.2.9. The calibration certificates of the air quality monitoring equipment are attached in [Appendix 4.2](#).

WIND DATA

4.2.10. Wind data monitoring equipment was set up at roof floor (about 4/F) of the SWHSTW control room for logging wind speed and wind direction such that the wind sensors were clear of obstructions or turbulence caused by building. The wind data monitoring equipment was re-calibrated at least once every six months and the wind directions were divided into 16 sections of 22.5 degrees each. The wind data obtained from the on-site wind station during the reporting period is provided in [Appendix 4.3](#).

EVENT AND ACTION PLAN

4.2.11. The Action and Limit Levels for construction air quality are defined in **Table 4.7** and [Appendix 4.1](#). Should non-compliance of the air quality criteria occur, action in accordance with the Event and Action Plan in Appendix 6.1 shall be carried out.

Table 4.7 Action and Limit Level for Air Quality Monitoring

Parameter	Monitoring Station	Action Level (µgm-3)	Limit Level (µgm-3)
24-hour TSP Level	Site boundary of the Shek Wu Hui STW (East), Root Floor	189	260.0
	Site boundary of the Shek Wu Hui STW (North)	187	
1-hour TSP Level	House No. 15, Wai Loi Tsuen	320	500.0
	Fu Tei Au	322	

4.3 Ecological Monitoring

- 4.3.1. According to the Updated EM&A Manual, weekly transect at both high and low tides shall be undertaken to identify and enumerate all bird species utilising the river channels and identify any sources of actual or potential disturbance to birds due to construction activities throughout the construction period. [Appendix 4.1](#) shows the established Action/Limit Levels for ecological monitoring works.
- 4.3.2. The monitoring should be conducted by the ET and supervised by a qualified ecologist who will be a member of the ET.

MONITORING LOCATIONS

- 4.3.3. Transect and point count surveys were proposed within the 500m boundary of Ng Tung River, Sheung Yue River and Shek Sheung River of the assessment area. Three transects and seven-point count locations during high and low tides were applied. These locations are shown in [Figure 4.3](#) and summarized in [Table 4.8](#) The photo of each transect is provided in [Appendix 5.5](#).

Table 4.8 Ecological Monitoring Stations

Monitoring Stations	Descriptions	Influenced by Tidal Action
Transect T1	Along Ng Tung River	No
Point Count Location P1		
Point Count Location P2		
Transect T2		Yes
Point Count Location P3		
Point Count Location P4		
Point Count Location P5	At Shek Sheung River (Low-flow Channel)	No
Transect T3	Along Shek Sheung River & Sheung Yue River	Yes
Point Count Location P6	At Shek Sheung River	Yes

Point Count Location P7	At Intersection between Sheung Yue River and Shek Sheung River	Yes
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MONITORING PARAMETERS, FREQUENCY AND DURATION

4.3.4. Monitoring surveys were conducted on a weekly basis at both high and low tides (it is considered high tide when tidal levels are above 1.5m and low tide when tidal level are below 1.5m at Tsim Bei Tsui Station). The magnitude of how much above or below 1.5m was subject to tidal conditions of that week as it varied throughout different times of the year. Nonetheless, the high and low tide relative to that week’s tidal condition were taken into consideration. The ecological monitoring schedule is shown in [Appendix 5.1](#).

MONITORING METHODOLOGY

4.3.5. Transect survey was undertaken along the concerned rivers (Ng Tung River, Sheung Yue River and Shek Sheung River) adjacent to proposed construction activities. As the sensitive receivers (large waterbirds) are easily visible and the surveyor has used auxiliary equipment such as camera(s) and binoculars (magnification 7-10x). The transect route only follows one bank of these rivers.

4.3.6. At point count locations, surveyors identified and recorded bird species which were seen or heard along the river channel. For each point count, surveyors quantitatively recorded all species seen and heard for the duration of five minutes up to the distance where birds were still detectable. All avifauna along the walk transect were recorded. Noticeable behaviours (e.g. breeding behaviours such as nesting and presence of recently fledged juveniles, roosting and feeding activities, etc.) were recorded as well.

4.3.7. Ornithological nomenclature used in report should follow *The Avifauna of Hong Kong (Carey et al. (2001))*, *The Birds of Hong Kong and South China (Viney et al. (2005))* and the most recent updated list from other sources (e.g. Hong Kong Bird Watching Society).

4.3.8. Weather conditions, tidal information at the time of the survey and other noticeable activities occurring within or in the vicinity of the survey areas (e.g. ongoing routine drainage channel maintenance works and other human activities that could create disturbances to birds) were recorded.

ANALYTICAL METHODOLOGY

4.3.9. The number and species of waterbirds utilizing the rivers fluctuate every day naturally. Therefore, the survey data were collectively analyzed on a monthly basis to increase the sample size and to reduce random error on one survey day. Since occurrence of waterbirds has distinctive seasonal pattern, the construction phase data for all waterbirds and

representative waterbirds were compared with the baseline data for the respective month and season. The representatives of waterbirds are listed in **Table 4.9**.

Table 4.9 Representative Waterbirds

Species Name	Common Name	Chinese Name
<i>Egretta garzetta</i>	Little Egret	小白鷺
<i>Ardea cinerea</i>	Grey Heron	蒼鷺
<i>Ardeola bacchus</i>	Chinese Pond Heron	池鷺
<i>Phalacrocorax carbo</i>	Great Cormorant	普通鸕鶿
<i>Ardea alba</i>	Great Egret	大白鷺
<i>Bubulcus coromandus</i>	Eastern Cattle Egret	牛背鷺

4.3.10. When a decline in abundance of all or representative waterbird is identified, one-tailed Student t-test was adopted to statistically analyse whether the drop is significant. If the collected data for the reporting month fails to show no significant difference from that in the baseline phase at 95% confidence level, the action level will be triggered. Likewise, the limit level is set at 99% confidence level.

4.3.11. In addition, if important behaviours such as breeding, brooding, nesting and presence of recently fledged juveniles of species of conservation importance are observed, the Resident Engineer, Contractor and IEC should be notified immediately after the survey. The Contractor should review current construction programme and minimize disturbance due to construction activities

5 Monitoring Results

- 5.0.1 The environmental monitoring will be implemented based on the division of works areas of each designed projects. Overall layout showing work areas and monitoring stations is shown in [Figure 2.1](#) and [Figure 4.1 – 4.4](#) respectively.
- 5.0.2 The environmental monitoring schedules for reporting month and coming month are presented in [Appendix 5.1](#).

5.1 Noise Monitoring Results

- 5.1.1 Noise monitoring results measured in this reporting period are reviewed and summarized. Details of noise monitoring results and graphical presentation are shown in **Table 5.1** and [Appendix 5.2](#).

Table 5.1 Summary Table of Noise Monitoring Results

Monitoring Location	Range, Leq (30min) dB(A)	Limit Level
NM1	53.8 – 56.5	75 dB
NM2	54.2 – 60.1	
NM3	53.2 – 68.7	

Remark: +3dB(A) façade correction included

- 5.1.2 No action or limit level exceedance was recorded in this reporting month.
- 5.1.3 According to our field observations, the major noise source identified were nearby road traffic and human activities.
- 5.1.4 The noise monitoring result measured in reporting month was similar to previous months. The noise monitoring result was slightly varied in the reporting month, and no increasing trend was identified due to the construction works conducted in the reporting month. No correlation between the project’s construction work and the monitoring data was identified.

5.2 Air Quality Monitoring Results

5.2.1 Air quality monitoring results measured in this reporting period are reviewed and summarized. Details of air monitoring results and graphical presentation can be referred in **Table 5.2**, **Table 5.3** and [Appendix 5.3](#).

Table 5.2 Summary Table of 1-hour TSP Monitoring Results

Monitoring Station	Concentration (µg/m ³)		Action Level, (µg/m ³)	Limit Level, (µg/m ³)
	Average	Range		
AM1	25	15 – 42	320	500
AM2	26	16 – 42	322	500

Table 5.3 Summary Table of 24-hour TSP Monitoring Results

Monitoring Station	Concentration (µg/m ³)		Action Level, (µg/m ³)	Limit Level, (µg/m ³)
	Average	Range		
AM1a*	77	57 – 112	189	500
AM2a	98	60 - 133	187	500

- 5.2.2 No action or limit level exceedance was recorded in this reporting period.
- 5.2.3 According to our field observations, the major dust source identified were nearby road traffic.
- 5.2.4 The air quality monitoring result measured in reporting month was similar to previous months. The air quality monitoring result was slightly varied in the reporting month, and no increasing trend was identified due to the construction works conducted in the reporting month. No correlation between the project’s construction work and the monitoring data was identified.

5.3 Ecology Monitoring Results

5.3.1 For this reporting month, the numbers of species and individuals recorded were provided in **Table 5.4** and the abundance of representative species were shown in **Table 5.5**.

Table 5.4 Total Bird Species and Abundance in the Reporting Month

	Number of Species	Abundance
All Avifauna	41	1746
Waterbirds	18	465

Table 5.5 Abundance of Representative Waterbirds in the Reporting Month

Species Name	Common Name	Chinese Name	Abundance
<i>Egretta garzetta</i>	Little Egret	小白鷺	101
<i>Ardea cinerea</i>	Grey Heron	蒼鷺	110
<i>Ardeola bacchus</i>	Chinese Pond Heron	池鷺	0
<i>Phalacrocorax carbo</i>	Great Cormorant	普通鸕鶿	48
<i>Ardea alba</i>	Great Egret	大白鷺	48
<i>Bubulcus coromandus</i>	Eastern Cattle Egret	牛背鷺	27
Total			334

Ecological Analysis

5.3.2 The result of student t-tests for all waterbirds and representative waterbirds are compiled in **Table 5.6** and **Table 5.7** respectively. Further details are provided in **Appendix 5.4**.

Table 5.6 T-test Result for All Waterbirds in the Reporting Month

T-values of Data in Reporting Month			Confidence Level (Critical Value)	
			95%	99%
Abundance	Monthly	1.339	✓	✓
	Seasonal	3.390	✓	✓

Remarks:

- ✓ = T-value falls within the confidence level; the impact monitoring data shows no significant difference to the baseline data.
- ✗ = T-value falls outside the confidence level; the impact monitoring data shows significant difference to the baseline data.

Table 5.7 T-test Result for Representative Waterbirds in the Reporting Month

Common Name of Representative Waterbird	T-value	Confidence Level (Critical Value)		T-value	Confidence Level (Critical Value)		Overall**
	Monthly	95% (-2.132)	99% (-3.747)	Seasonal	95% (-2.132)	99% (-3.747)	
Little Egret	1.323	✓	✓	1.764	✓	✓	✓
Grey Heron	2.138	✓	✓	5.345	✓	✓	✓
Chinese Pond Heron	-0.453	✓	✓	0.755	✓	✓	✓
Great Cormorant	-2.957	X	✓	0.806	✓	✓	✓
Great Egret	0.957	✓	✓	1.467	✓	✓	✓
Eastern Cattle Egret	2.150	✓	✓	0.000	✓	✓	✓

Remarks:

✓ = T-value falls within the confidence level; the impact monitoring data shows no significant difference to the baseline data.

X = T-value falls outside the confidence level; the impact monitoring data shows significant difference to the baseline data.

* Great Cormorant (*Phalacrocorax carbo*) and Grey Heron (*Ardea cinerea*) were not recognised as representative waterbird species during wet season.

**According to section 7.2 of the approved ecological baseline report, action/Limit level shall be triggered if reduction in bird abundance is found in both the respective month and season.

- 5.3.3 No Action Level and Limit Level was triggered for ecological monitoring in the reporting month.
- 5.3.4 Site observation in the reporting month shows that construction activities are similar to previous months. The photos are provided in [Appendix 5.5](#).
- 5.3.5 In recent months, it is found that there are different construction sites for example excavation and sheet-piling, and human activities including cycling, fishing, grazing and landscape planting around the project site. The photos are provided in Appendix 5.5. These construction and human activities may affect activities of the waterbird. Although, there is no significant impact reduction in number of waterbirds, but it is recommended that construction site should continue keeping the good site practice to minimize disturbance caused to waterbirds.

Observations

5.3.6 Waterbird behaviour observed during ecological monitoring are listed below:

- Flying
- Foraging
- Soaring
- Resting
- Fighting

5.3.7 The anthropogenic activities observed during ecological monitoring are listed in **Table 5.8**.

Table 5.8 Observations during Ecological Monitoring in the Reporting Month

Location(s)	Observations	
	Project Related	Non-project Related
T1 (PC1, PC2)	N/A	Human Activities such as Cycling, Grazing, Playing remote control boat and Fishing Construction activities such as excavation, and breaking works
T2 (PC3, PC4)	Construction activities such as generator & welding works, Scaffolding, sedimentation tank, Excavation and crane	Human Activities such as Fishing, Cycling, Grazing and Landscape Planting Construction activities such as Sheet-piling, generator & welding works, Scaffolding, sedimentation tank, Excavation, crane and breaking works
PC5	Construction activities such as Excavation and crane	N/A
T3 (PC6, PC7)	Construction activities such as Sheet-piling	Human Activities such as Cycling, Grazing and Fishing Construction activities such as Excavation, Sheet-piling, generator & welding works, Scaffolding, lifting works

5.4 Waste Management

5.4.1 The quantities of waste for disposal in the Reporting Period are summarized in **Table 5.9** to **5.12**. The Monthly Summary Waste Flow Table is shown in [Appendix 5.9](#). Whenever possible, materials were reused on-site as far as practicable.

Table 5.9 Summary of Quantities of Inert C&D Materials and C&D Wastes for Contract No. DC/2018/06

Waste Type	Quantity (Previous month)	Quantity (Reporting month)	Annual Cumulative Quantity (2023)
Hard Rock and Large Broken Concrete (Inert) (in '000m ³)	0.000	0.000	0.000
Reused in this Contract (Inert) (in '000m ³)	0.000	0.000	0.000
Reused in other Projects (Inert) (in '000m ³)	0.000	0.000	0.000
Disposal as Public Fill (Inert) (in '000m ³)	0.947	0.399	13.694
Metals (in '000kg)	0.000	0.000	0.000
Paper / Cardboard Packing (in '000kg)	0.000	0.000	0.000
Plastics (in '000kg)	0.000	0.000	0.000
Chemical Wastes (in '000kg)	0.000	0.000	0.000
General Refuses (in '000m ³)	0.049	0.036	0.808

Table 5.10 Summary of Quantities of Inert C&D Materials and C&D Wastes for Contract No. DC/2018/07

Waste Type	Quantity (Previous month)	Quantity (Reporting month)	Annual Cumulative Quantity (2023)
Hard Rock and Large Broken Concrete (Inert) (in '000m ³)	0.000	0.000	0.000

Waste Type	Quantity (Previous month)	Quantity (Reporting month)	Annual Cumulative Quantity (2023)
Reused in this Contract (Inert) (in '000m ³)	0.000	0.000	0.000
Reused in other Projects (Inert) (in '000m ³)	0.000	0.000	0.000
Disposal as Public Fill (Inert) (in '000m ³)	0.095	0.323	23.601
Metals (in '000kg)	0.000	0.000	0.000
Paper / Cardboard Packing (in '000kg)	0.000	0.000	0.000
Plastics (in '000kg)	0.000	0.000	0.000
Chemical Wastes (in '000kg)	0.000	0.000	0.000
General Refuses (in '000m ³)	0.051	0.087	0.730

Table 5.11 Summary of Quantities of Inert C&D Materials and C&D Wastes for Contract No. DE/2018/03

Waste Type	Quantity (Previous month)	Quantity (Reporting month)	Annual Cumulative Quantity (2023)
Hard Rock and Large Broken Concrete (Inert) (in '000kg)	0.000	0.000	0.000
Reused in this Contract (Inert) (in '000kg)	0.000	0.000	0.000
Reused in other Projects (Inert) (in '000kg)	0.000	0.000	0.000
Disposal as Public Fill (Inert) (in '000m ³)	0.000	0.000	638.380
Metals (in '000kg)	1.010	3.070	146.200

Waste Type	Quantity (Previous month)	Quantity (Reporting month)	Annual Cumulative Quantity (2023)
Paper / Cardboard Packing (in '000kg)	0.129	0.257	1.495
Plastics (in '000kg)	0.020	0.010	0.090
Chemical Wastes (in '000kg)	0.000	0.000	0.000
General Refuses (in '000kg)	62.980	60.980	318.340

Table 5.12 Summary of Quantities of Inert C&D Materials and C&D Wastes for Contract No. DE/2018/04

Waste Type	Quantity (Previous month)	Quantity (Reporting month)	Annual Cumulative Quantity (2023)
Hard Rock and Large Broken Concrete (Inert) (in '000kg)	0.000	0.000	0.000
Reused in this Contract (Inert) (in '000kg)	0.000	0.000	0.000
Reused in other Projects (Inert) (in '000m ³)	0.000	0.000	0.000
Disposal as Public Fill (Inert) (in '000m ³)	0.000	0.000	119.590
Metals (in '000kg)	0.000	0.000	36.230
Paper / Cardboard Packing (in '000kg)	0.000	0.000	0.200
Plastics (in '000kg)	0.000	0.000	0.000
Chemical Wastes (in '000kg)	0.000	0.000	0.800
General Refuses (in '000kg)	0.000	0.000	13.970

6 Compliance Audit

6.0.1 The Event Action Plan for construction noise, air quality and ecological monitoring are presented in [Appendix 6.1](#).

6.0.2 The summary of exceedance is presented in [Appendix 6.2](#).

6.1 Noise Monitoring

6.1.1 No action or limit level exceedance was recorded in this reporting period.

6.2 Air Quality Monitoring

6.2.1 No action or limit level exceedance was recorded in this reporting period.

6.3 Ecological Monitoring

6.3.1 No action Level or Limit level was triggered for ecological monitoring in the reporting month.

6.4 Review of the Reasons for and the Implications of Non-compliance

6.4.1 No environmental non-compliance was recorded in the reporting month

6.5 Summary of action taken in the event of and follow-up on non-compliance

6.5.1 There was no particular action taken since no non-compliance was recorded in the reporting period.

7 Environmental Site Audit

7.1.1. Within this reporting month, weekly environmental site audits were conducted on 7(DE/2018/03 and DE/2018/04), 9(DC/2018/06 and DC/2018/07), 14(DE/2018/03 and DE/2018/04), 16(DC/2018/06 and DC/2018/07), 21 and 28 November 2023 and biweekly landscape inspection on 9 and 21 November 2023. IEC attended the joint site inspection on 28 November 2023.

7.1.2. No non-compliance was found during the environmental site inspection while reminders on environmental measures were recommended. Results and findings of these inspections in this reporting month are listed below in **Table 7.1 to 7.4**.

Table 7.1 Summary of Environmental Inspections of Contract No. DC/2018/06

Item	Date	Reminder(s)/ Observation(s)	Action taken by Contractor	Outcome
20231109_1	9-Nov-2023	The broken sandbags should be replaced in order to maintain the functionality of sandbag barrier.	The broken sandbags have been replaced.	Rectified on 16-Nov-2023.
20231109_2	9-Nov-2023	The green fence should be properly maintained.	The green fence has been properly maintained.	Rectified on 16-Nov-2023.
20231116_1	16-Nov-2023	Dust suppression measure should be provided to the dusty site surface area and stockpile	Dust suppression measure has been provided to the dusty site surface area and stockpile	Rectified on 21-Nov-2023.
20231121_1	21-Nov-2023	Dust suppression measures should be provided to the exposed stockpile.	Dust suppression measures have been provided to the exposed stockpile.	Rectified on 28-Nov-2023.

Table 7.2 Summary of Environmental Inspections of Contract No. DC/2018/07

Item	Date	Reminder(s)/ Observation(s)	Action taken by Contractor	Outcome
20231116_2	16-Nov-2023	Water spraying should be provided to the dusty exposed area.	Water spraying has been provided to the dusty exposed area.	Rectified on 21-Nov-2023.
20231121_2	21-Nov-2023	Drip tray should be provided for the storage of chemical	Chemical containers have been removed.	Rectified on 28-Nov-2023.

20231121_3	21-Nov-2023	Top and 3 side enclosure should be provided to the grout mixing works.	Grout mixing equipment has been removed.	Rectified on 28-Nov-2023.
20231128_1	28-Nov-2023	Contractor was reminded that wastewater generated in site shall be properly treated by Wetsep before discharge.	N/A	N/A

Table 7.3 Summary of Environmental Inspections of Contract No. DE/2018/03

Item	Date	Reminder(s)/ Observation(s)	Action taken by Contractor	Outcome
20231128_2	28-Nov-2023	Refuse should be collected on a regular basis (sidestream).	Contractor has clean up the refuse deposited outside sidestream.	Rectified on 7-Dec-2023.

Table 7.4 Summary of Environmental Inspections of Contract No. DE/2018/04

Item	Date	Reminder(s)/ Observation(s)	Action taken by Contractor	Outcome
-	-	-	-	-

8 Complaints, Notification of Summons and Prosecution

- 8.1.1. No environmental complaint, notification of summons and successful prosecution regarding construction works was recorded in the reporting period.
- 8.1.2. The details environmental complaints for the Project are summarized by complaint log in [Appendix 8.1](#).
- 8.1.3. Cumulative statistics on complaints and successful prosecutions are summarized in **Table 8.1** and **Table 8.2** respectively.

Table 8.1 Cumulative Statistics on Complaints in the Reporting Month

Reporting Period	No. of Complaints
Commencement works (Feb 2018) to last reporting month	4
November 2023	0
Total	4

Table 8.2 Cumulative Statistics on Successful Prosecutions

Environmental Parameters	Cumulative no. Brought Forward	No. of Successful Prosecutions this month (Offence Date)	Cumulative No. Project-to-Date
Air	-	0	0
Noise	-	0	0
Water	-	0	0
Waste	-	0	0
Total	-	0	0

9 Conclusion

- 9.1.1. The EM&A programme was carried out in accordance with the EM&A Manual requirements, minor alterations to the programme proposed were made in response to changing circumstances.
- 9.1.2. Mitigation measures according to the environmental mitigation implementation schedule and the EIA were generally implemented by the Contractor. Hence, the EM&A programme was considered effective and shall be maintained.
- 9.1.3. The scheduled construction activities and the recommended mitigation measures for the coming 3 months are listed in **Table 9.1**. The construction programmes of individual activities are provided in [Appendix 9.1](#).

Table 9.1 Construction Activities and Recommended Mitigation Measures in Coming Reporting Month

Contract No.	Key Construction Works	Recommended Mitigation Measures
DC/2018/06	<ul style="list-style-type: none"> • RC works • Pipe jacking • Sewage, utility and pipe works • Road works • ABWF works • ELS 	<ul style="list-style-type: none"> • Implement proper dust mitigation measures on dusty surface, stockpiles and related dusty works • Implement proper measures to prevent excavated material, silt or debris being deposited or washed into existing drainage systems and waterbodies • Implement proper noise mitigation measures to prevent potential noise nuisances to nearby sensitive receivers • Proper maintenance of the on-site drainage system • Provision of protection to ensure no runoff out of site area or direct discharge into public drainage system • Good site practices should be adopted to check for any accumulation of waste materials on site and dispose waste materials at designated areas. • Segregate and store different types of waste to enhance reuse or recycling of materials and their proper disposal • Ensure all on-site regulated machines have displayed valid NRMM labels and the application of ULSD as fuel for diesel-powered machinery.
DC/2018/07	<ul style="list-style-type: none"> • RC works • ABWF works 	<ul style="list-style-type: none"> • Implement proper dust mitigation measures on dusty surface and stockpiles

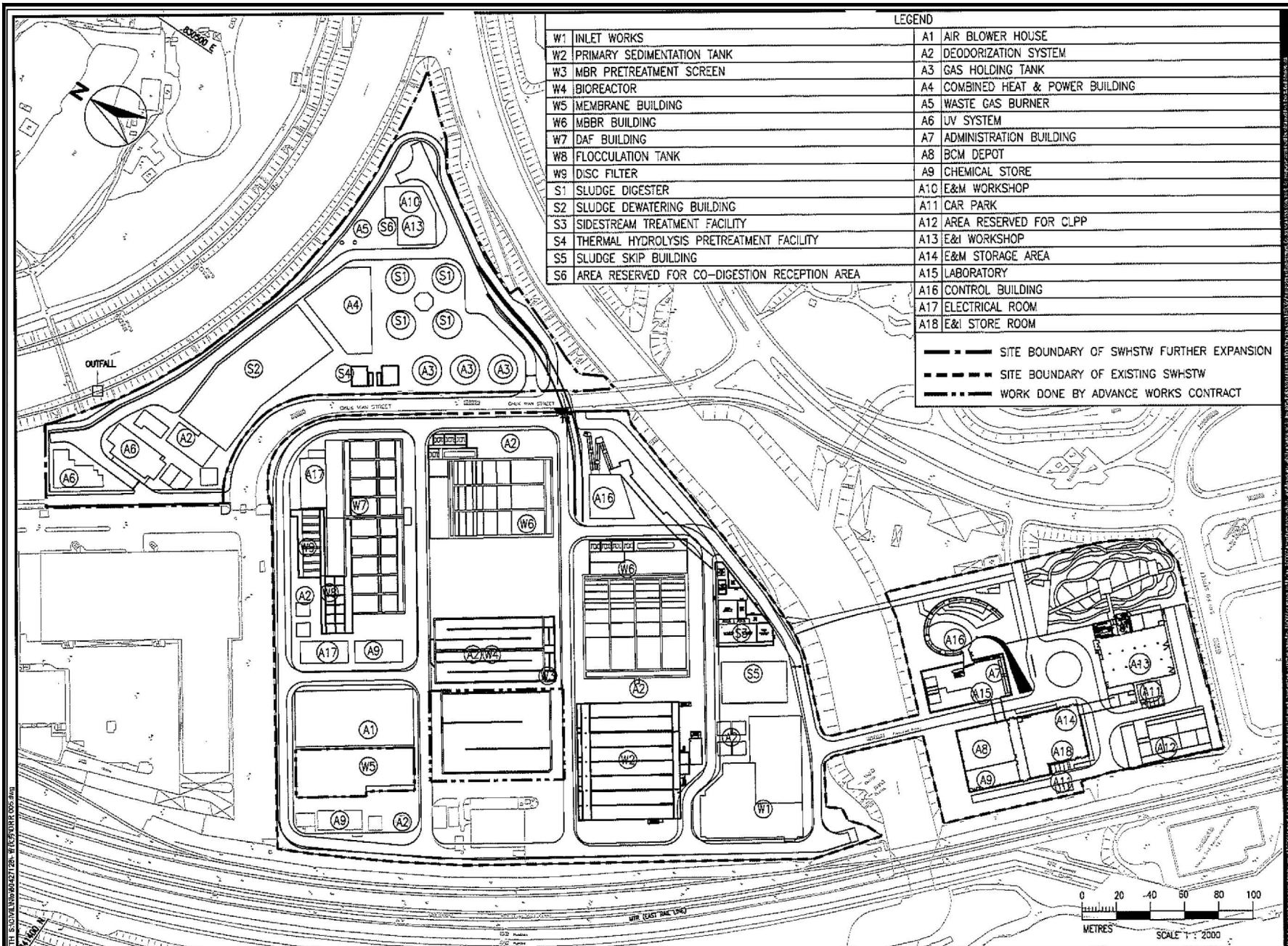
Contract No.	Key Construction Works	Recommended Mitigation Measures
	<ul style="list-style-type: none"> • Pile laying 	<ul style="list-style-type: none"> • Implement proper measures to prevent excavated material, silt or debris being deposited or washed into existing drainage systems and waterbodies • Implement proper noise mitigation measures to prevent potential noise nuisances to nearby sensitive receivers, especially screening noise during piling related activities • Proper maintenance of the on-site drainage system • Provision of protection to ensure no runoff out of site area or direct discharge into public drainage system • Good site practices should be adopted to check for any accumulation of waste materials on site and dispose waste materials at designated areas. • Segregate and store different types of waste to enhance reuse or recycling of materials and their proper disposal. • Ensure all on-site regulated machines have displayed valid NRMM labels and the application of ULSD as fuel for diesel-powered machinery.
DE/2018/03	<ul style="list-style-type: none"> • Construction of Superstructure • Electrical Installation • MVAC Installation • Plumbing System Installation • MFA and AFA installation • SPR Installation • EOT and Monorail Installation • Bio-Gas Holding Tank Installation • Transportation and Installation of Steam Boiler System • Penstock and Stoplog 	<ul style="list-style-type: none"> • Implement proper noise mitigation measures to prevent potential noise nuisances to nearby sensitive receivers • Implement proper waste mitigation measures to prevent accidental leakage of chemical • Good site practices should be adopted to check for any accumulation of waste materials on site and dispose waste materials at designated areas. • Proper maintenance of the on-site drainage system • Segregate and store different types of waste to enhance reuse or recycling of materials and their proper disposal. • Ensure all on-site regulated machines have displayed valid NRMM labels and the application of ULSD as fuel for diesel-powered machinery.

Contract No.	Key Construction Works	Recommended Mitigation Measures
	Installation <ul style="list-style-type: none"> • Pipework Installation • Draft Tube Mixer Installation 	
DE/2018/04	<ul style="list-style-type: none"> • E&M works for Leachate Pre-treatment Plant at existing compressor house, BR No 3&4 and MFB1 • E&M works at Portion B-5, MFB2. • E&M works at Portion B-7, including DOU No.3A, Emergency Generator House and FS & Sprinkler Pumping Room, Chemical System No.1, Street Fire Hydrant & Booster Pump Room and Temporary Chemical System. • E&M works at Portion B-4, BR 2A & 2B. • E&M works at Portion B-2, Inlet Works. • E&M works at Portion B-3, PST No. 1-4. 	<ul style="list-style-type: none"> • Good site practices should be adopted to check for any accumulation of waste materials on site and dispose waste materials at designated areas. • Segregate and store different types of waste to enhance reuse or recycling of materials and their proper disposal. • Implement proper dust mitigation measures during the demolition of existing compressor house. • Implement proper noise mitigation measures to prevent potential noise nuisances to nearby sensitive receivers. • Ensure all on-site regulated machines have displayed valid NRMM labels and the application of ULSD as fuel for diesel-powered machinery.



Figure 2.1

Project Layout



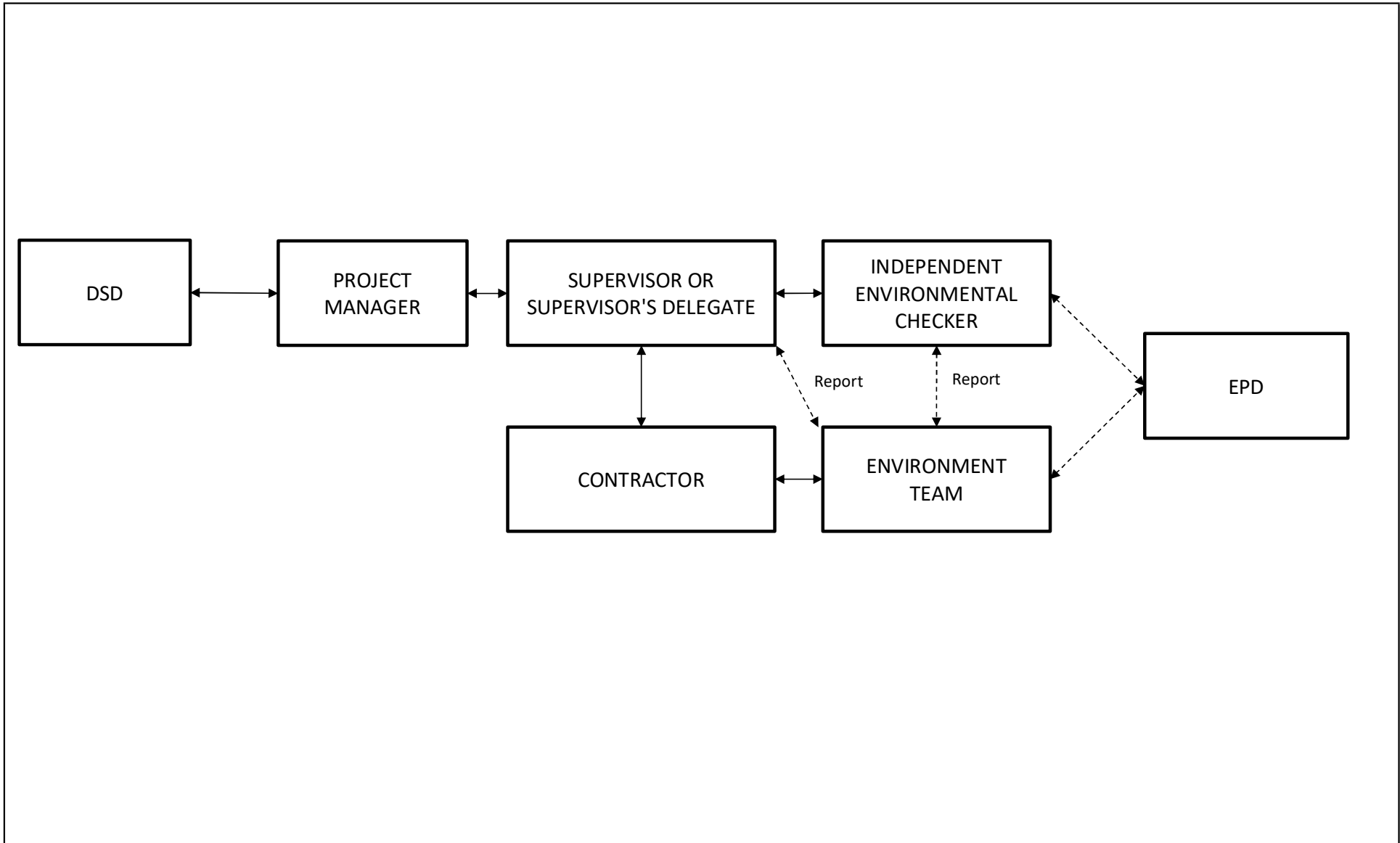
LEGEND	
W1	INLET WORKS
W2	PRIMARY SEDIMENTATION TANK
W3	MBR PRETREATMENT SCREEN
W4	BIOREACTOR
W5	MEMBRANE BUILDING
W6	MBBR BUILDING
W7	DAF BUILDING
W8	FLOCCULATION TANK
W9	DISC FILTER
S1	SLUDGE DIGESTER
S2	SLUDGE DEWATERING BUILDING
S3	SIDESTREAM TREATMENT FACILITY
S4	THERMAL HYDROLYSIS PRETREATMENT FACILITY
S5	SLUDGE SKIP BUILDING
S6	AREA RESERVED FOR CO-DIGESTION RECEPTION AREA
A1	AIR BLOWER HOUSE
A2	DEODORIZATION SYSTEM
A3	GAS HOLDING TANK
A4	COMBINED HEAT & POWER BUILDING
A5	WASTE GAS BURNER
A6	UV SYSTEM
A7	ADMINISTRATION BUILDING
A8	BCM DEPOT
A9	CHEMICAL STORE
A10	E&M WORKSHOP
A11	CAR PARK
A12	AREA RESERVED FOR CLPP
A13	E&I WORKSHOP
A14	E&M STORAGE AREA
A15	LABORATORY
A16	CONTROL BUILDING
A17	ELECTRICAL ROOM
A18	E&I STORE ROOM
- - - - - SITE BOUNDARY OF SWHSTW FURTHER EXPANSION	
- - - - - SITE BOUNDARY OF EXISTING SWHSTW	
- - - - - WORK DONE BY ADVANCE WORKS CONTRACT	

Shek Wu Hui Effluent Polishing Plant
General Site Layout Of SWHEPP

SCALE	As Shown	DATE	SEP 2019
CHECK	JM	DRAWN	SY
JOB No.		FIGURE NO.	1.1
		REV	-

Figure 2.2

Project Organization Chart



Shek Wu Hui Effluent Polishing Plant - Project Organisation For Environmental Monitoring and Audit	SCALE	N.T.S.	DATE	Sep 2019
	CHECK	JW	DRAWN	SY
	JOB NO.		FIGURE NO.	1.2

Figure 4.1

Locations of Noise Monitoring Stations



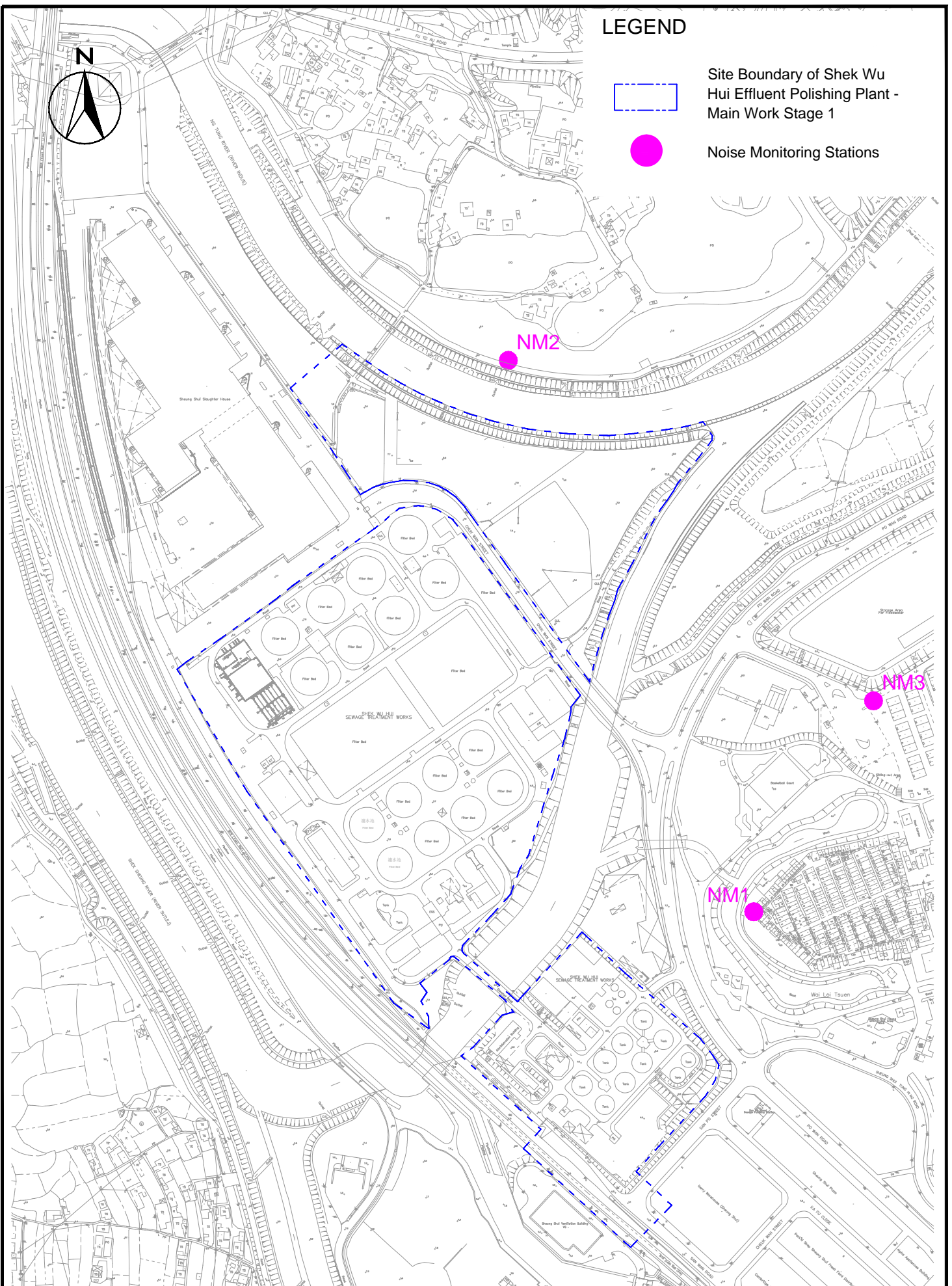
LEGEND



Site Boundary of Shek Wu Hui Effluent Polishing Plant - Main Work Stage 1



Noise Monitoring Stations



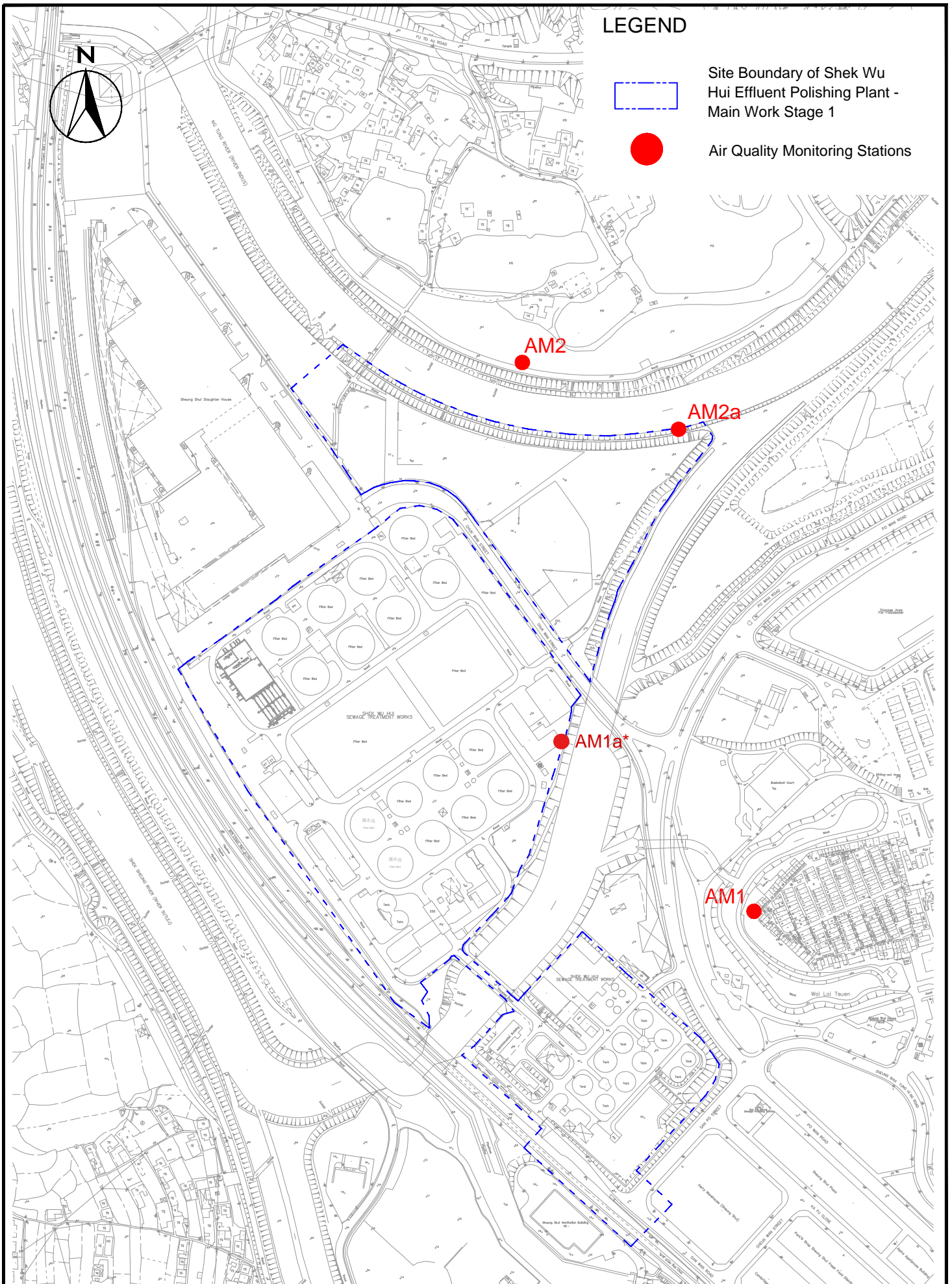
Shek Wu Hui Effluent Polishing Plant

Location of Noise Monitoring Stations

SCALE	1:4000@A4	DATE	SEP 2019
CHECK	JM	DRAWN	SY
JOB No.	MA19019	FIGURE NO.	3
		REV	-

Figure 4.2

Locations of Air Quality Monitoring Stations



LEGEND



Site Boundary of Shek Wu Hui Effluent Polishing Plant - Main Work Stage 1



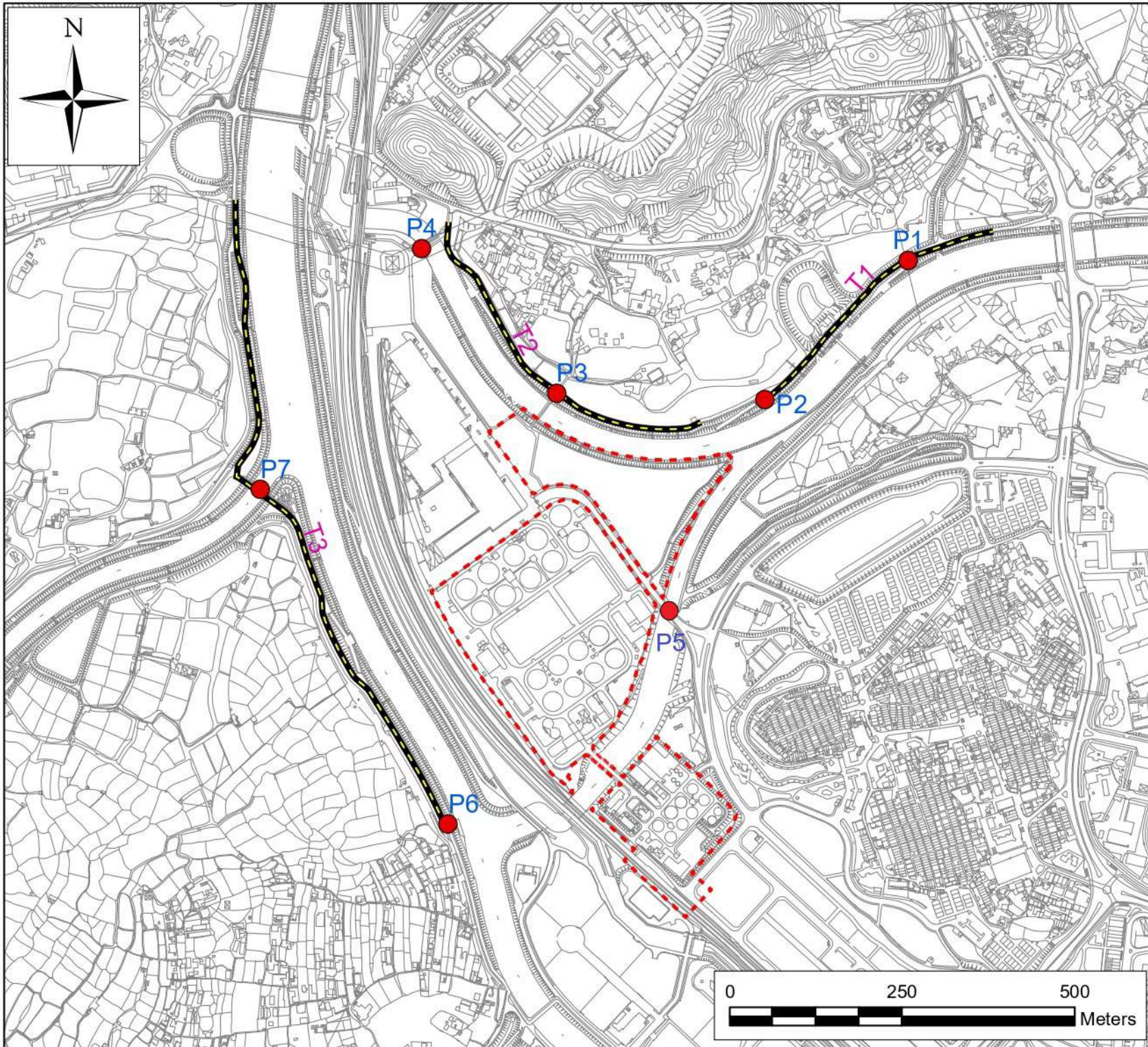
Air Quality Monitoring Stations

Shek Wu Hui Effluent Polishing Plant - Location of Air Quality Monitoring Stations

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CHECK	JM	DRAWN	SY	
JOB No.		FIGURE NO.	2	REV -

Figure 4.3

Locations of Ecological Monitoring Stations



- Legend**
- - - Project Site Boundary
 - Walk Transects
 - Point Count Locations

PREPARED BY
Lam Environmental Services Limited
 19/F Remex Centre
 42 Wong Chuk Hang Road,
 Hong Kong
 Telephone: (852) 2882-3939
 Facsimile: (852) 2882-3331
 E-mail: info@lamenviro.com
 Website: <http://www.lamenviro.com>

CONTRACT NO.
SPW 12/2021

PROJECT TITLE
**Shek Wu Hui Effluent Polishing
 Plant - Main Works
 Survey Location for Ecological
 Monitoring**

SCALE 1:7500@A4	DATE Sept 2021
DRAWN BY AL	CHECK BY MC
FIGURE NO. 1	REVISION NO. -



Appendix 2.1

Layout Plan of Construction Activities and Site Record Photos



Site Record Photos



DC/2018/06



SD&THP



CHP



SDB

DC/2018/07



BR2



MFB



PST



Inlet



DE/2018/03



Sidestream



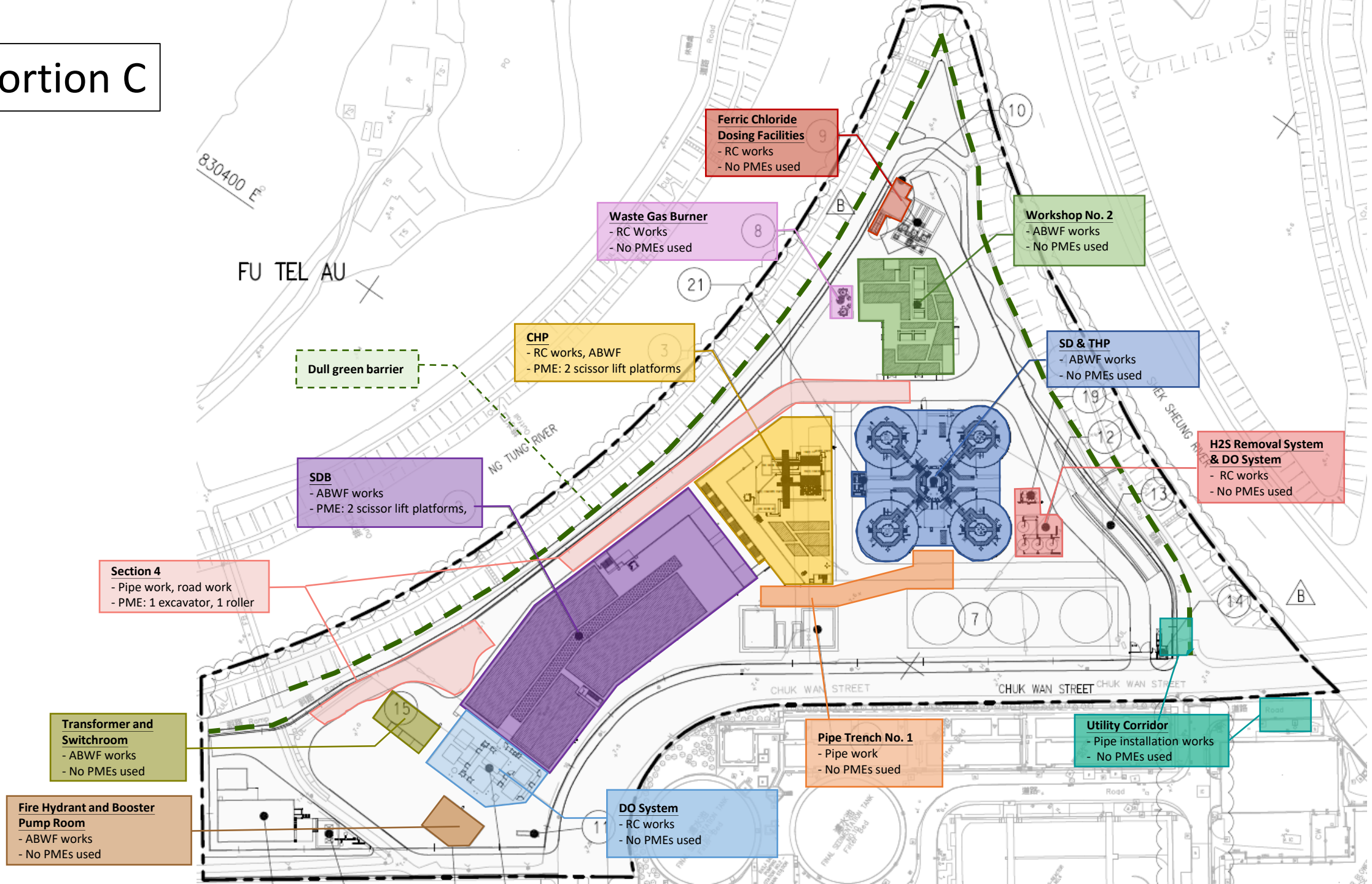
Bio Gas Tank

DE/2018/04

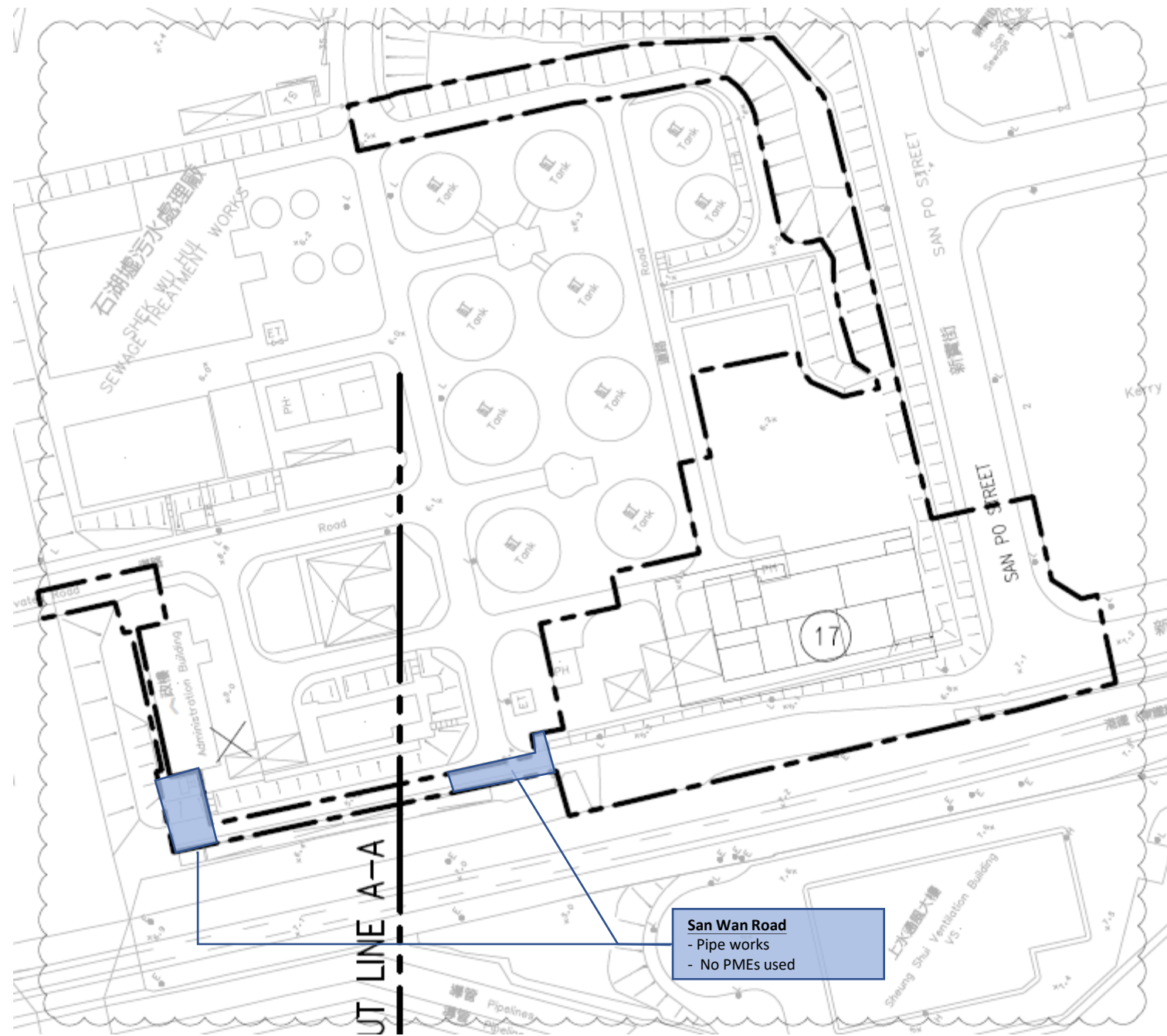


Compressor House

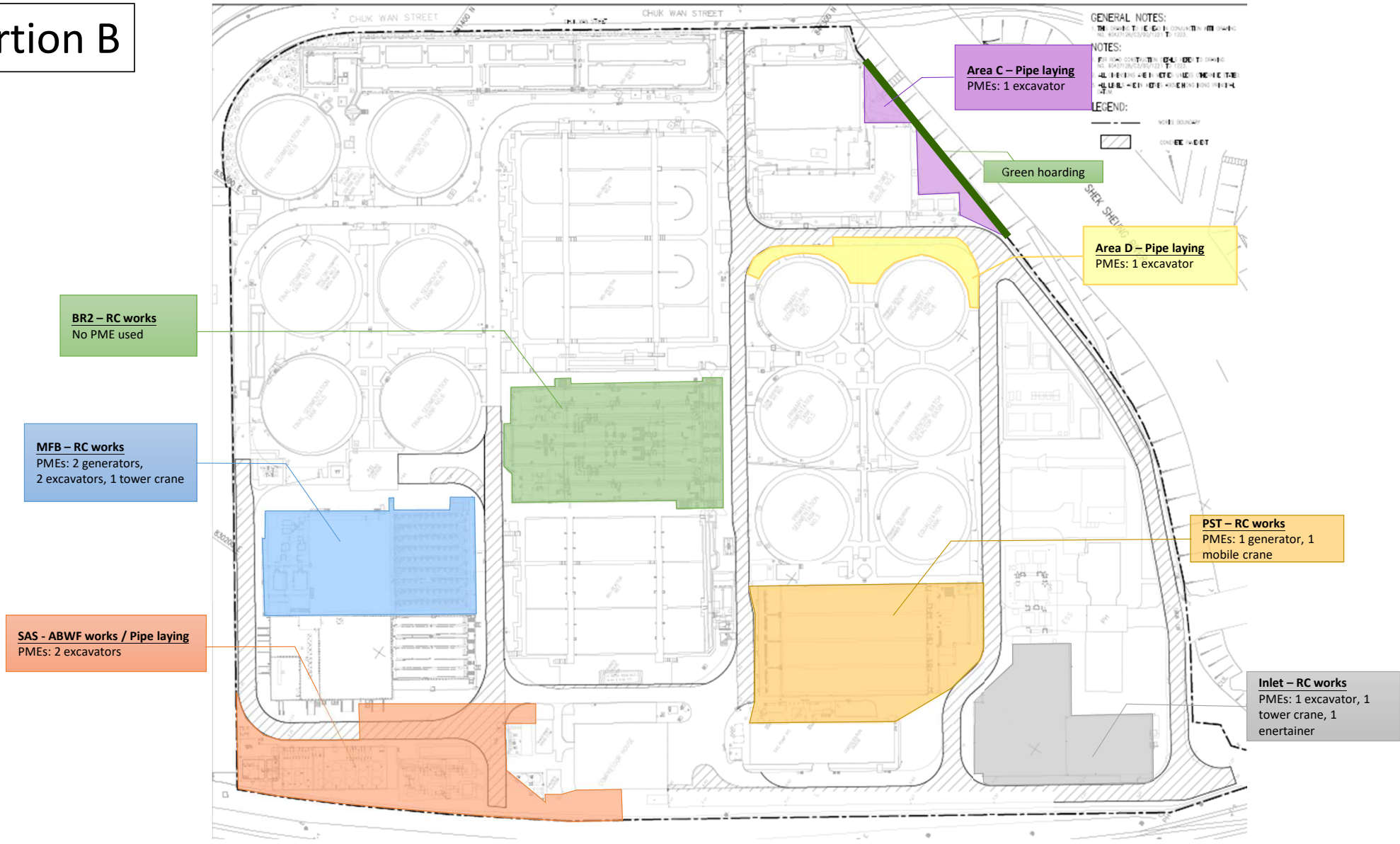
Portion C



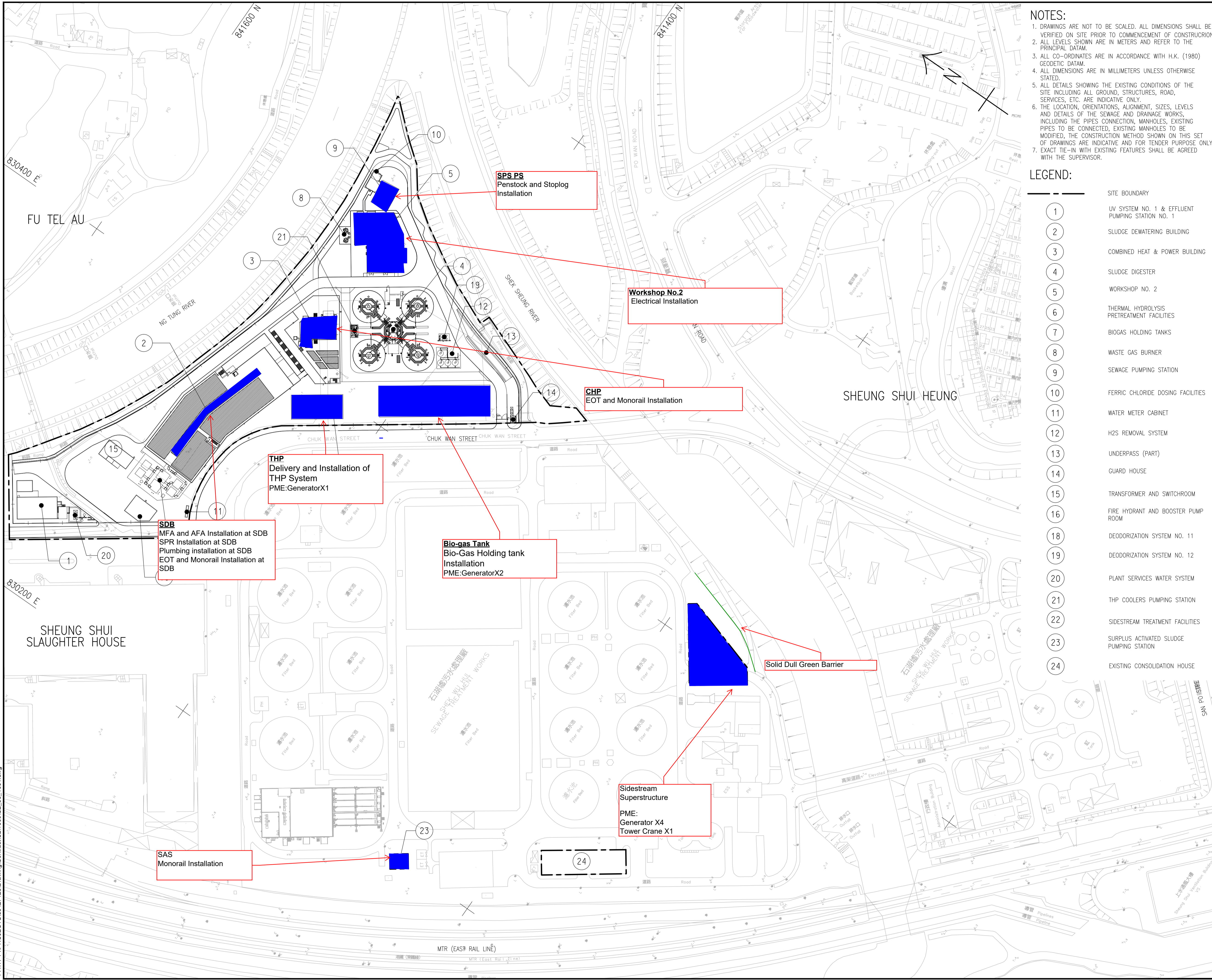
Portion A



Portion B



Plot File by: GuoX 26/03/2019
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 Project Management Initials: Designer: KYTM Checked: TLST Approved: ELIM
 ISO A1 594mm x 841mm



NOTES:

1. DRAWINGS ARE NOT TO BE SCALED. ALL DIMENSIONS SHALL BE VERIFIED ON SITE PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. ALL LEVELS SHOWN ARE IN METERS AND REFER TO THE PRINCIPAL DATUM.
3. ALL CO-ORDINATES ARE IN ACCORDANCE WITH H.K. (1980) GEODETIC DATUM.
4. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
5. ALL DETAILS SHOWING THE EXISTING CONDITIONS OF THE SITE INCLUDING ALL GROUND, STRUCTURES, ROAD, SERVICES, ETC. ARE INDICATIVE ONLY.
6. THE LOCATION, ORIENTATIONS, ALIGNMENT, SIZES, LEVELS AND DETAILS OF THE SEWAGE AND DRAINAGE WORKS, INCLUDING THE PIPES CONNECTION, MANHOLES, EXISTING PIPES TO BE CONNECTED, EXISTING MANHOLES TO BE MODIFIED, THE CONSTRUCTION METHOD SHOWN ON THIS SET OF DRAWINGS ARE INDICATIVE AND FOR TENDER PURPOSE ONLY.
7. EXACT TIE-IN WITH EXISTING FEATURES SHALL BE AGREED WITH THE SUPERVISOR.

LEGEND:

①	SITE BOUNDARY
②	UV SYSTEM NO. 1 & EFFLUENT PUMPING STATION NO. 1
③	SLUDGE DEWATERING BUILDING
④	COMBINED HEAT & POWER BUILDING
⑤	SLUDGE DIGESTER
⑥	WORKSHOP NO. 2
⑦	THERMAL HYDROLYSIS PRETREATMENT FACILITIES
⑧	BIOGAS HOLDING TANKS
⑨	WASTE GAS BURNER
⑩	SEWAGE PUMPING STATION
⑪	FERRIC CHLORIDE DOSING FACILITIES
⑫	WATER METER CABINET
⑬	H2S REMOVAL SYSTEM
⑭	UNDERPASS (PART)
⑮	GUARD HOUSE
⑯	TRANSFORMER AND SWITCHROOM
⑰	FIRE HYDRANT AND BOOSTER PUMP ROOM
⑱	DEODORIZATION SYSTEM NO. 11
⑲	DEODORIZATION SYSTEM NO. 12
⑳	PLANT SERVICES WATER SYSTEM
㉑	THP COOLERS PUMPING STATION
㉒	SIDESTREAM TREATMENT FACILITIES
㉓	SURPLUS ACTIVATED SLUDGE PUMPING STATION
㉔	EXISTING CONSOLIDATION HOUSE



PROJECT
 SHEK WU HUI EFFLUENT POLISHING PLANT

CONTRACT TITLE
 SHEK WU HUI EFFLUENT POLISHING PLANT - MAIN WORKS STAGE 1 - SIDESTREAM TREATMENT FACILITIES AND E&M WORKS FOR SLUDGE TREATMENT FACILITIES

CLIENT
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 Drainage Services Department

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SUB-CONSULTANTS
 分判工程師有限公司

ISSUE/REVISION

NO.	DATE	DESCRIPTION	CHK.
1	MAR. 19	TENDER DRAWING	TLST

STATUS
 預備

SCALE
 A1 1:1000

DIMENSION UNIT
 METRES

KEY PLAN
 索引圖

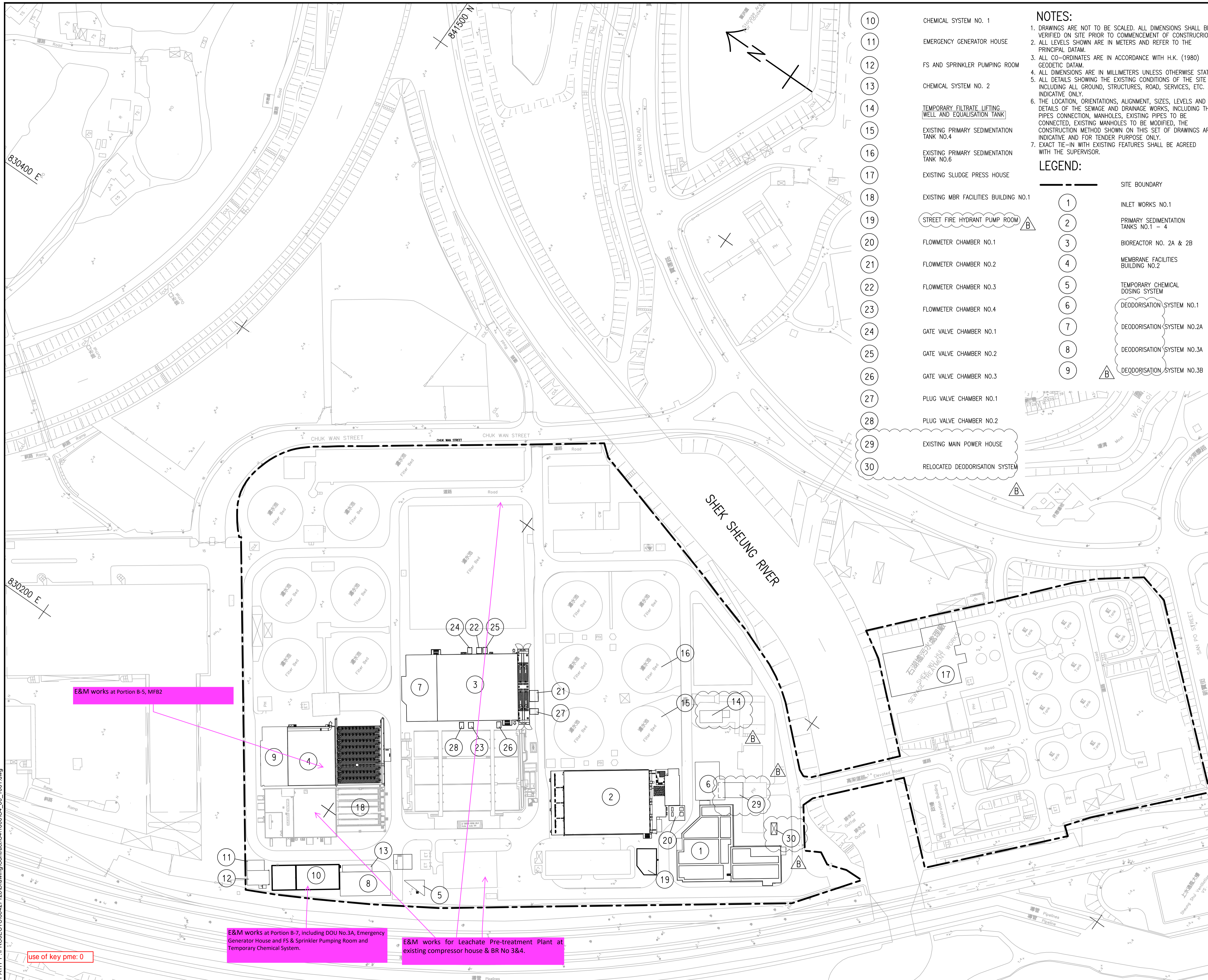
PROJECT NO.
 項目編號
 60427128

CONTRACT NO.
 合約編號
 DE/2018/03

SHEET TITLE
 圖紙名稱
 SHEK WU HUI EFFLUENT POLISHING PLANT GENERAL LAYOUT PLAN

SHEET NUMBER
 圖紙編號
 60427128/C2/00/1001

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- 10 CHEMICAL SYSTEM NO. 1
- 11 EMERGENCY GENERATOR HOUSE
- 12 FS AND SPRINKLER PUMPING ROOM
- 13 CHEMICAL SYSTEM NO. 2
- 14 TEMPORARY FILTRATE LIFTING WELL AND EQUALISATION TANK
- 15 EXISTING PRIMARY SEDIMENTATION TANK NO.4
- 16 EXISTING PRIMARY SEDIMENTATION TANK NO.6
- 17 EXISTING SLUDGE PRESS HOUSE
- 18 EXISTING MBR FACILITIES BUILDING NO.1
- 19 STREET FIRE HYDRANT PUMP ROOM
- 20 FLOWMETER CHAMBER NO.1
- 21 FLOWMETER CHAMBER NO.2
- 22 FLOWMETER CHAMBER NO.3
- 23 FLOWMETER CHAMBER NO.4
- 24 GATE VALVE CHAMBER NO.1
- 25 GATE VALVE CHAMBER NO.2
- 26 GATE VALVE CHAMBER NO.3
- 27 PLUG VALVE CHAMBER NO.1
- 28 PLUG VALVE CHAMBER NO.2
- 29 EXISTING MAIN POWER HOUSE
- 30 RELOCATED DEODORISATION SYSTEM

NOTES:

1. DRAWINGS ARE NOT TO BE SCALED. ALL DIMENSIONS SHALL BE VERIFIED ON SITE PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. ALL LEVELS SHOWN ARE IN METERS AND REFER TO THE PRINCIPAL DATUM.
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7. EXACT TIE-IN WITH EXISTING FEATURES SHALL BE AGREED WITH THE SUPERVISOR.

- LEGEND:**
- 1 SITE BOUNDARY
 - 2 INLET WORKS NO.1
 - 3 PRIMARY SEDIMENTATION TANKS NO.1 - 4
 - 4 BIOREACTOR NO. 2A & 2B
 - 5 MEMBRANE FACILITIES BUILDING NO.2
 - 6 TEMPORARY CHEMICAL DOSING SYSTEM
 - 7 DEODORISATION SYSTEM NO.1
 - 8 DEODORISATION SYSTEM NO.2A
 - 9 DEODORISATION SYSTEM NO.3A
 - 10 DEODORISATION SYSTEM NO.3B



PROJECT
 SHEK WU HUI EFFLUENT POLISHING PLANT

CONTRACT TITLE
 SHEK WU HUI EFFLUENT POLISHING PLANT - MAIN WORKS STAGE 1 - E&M WORKS FOR SEWAGE TREATMENT FACILITIES

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SUB-CONSULTANTS
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ISSUE/REVISION

REV	DATE	DESCRIPTION	CHK.
B	AUG. 19	TENDER ADDENDUM NO. 3	TLST
A	JUL. 19	TENDER ADDENDUM NO. 2	TLST
-	APR. 19	TENDER DRAWING	TLST

STATUS
 階段

SCALE
 比例: A1 1:1000

DIMENSION UNIT
 尺寸單位: METRES

KEY PLAN
 索引圖

PROJECT NO.
 項目編號: 60427128

CONTRACT NO.
 合約編號: DE/2018/04

SHEET TITLE
 圖紙名稱: GENERAL LAYOUT PLAN

SHEET NUMBER
 圖紙編號: 60427128/C4/00/1001B

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Appendix 3.1

Environmental Mitigation Implementation Schedule

Appendix 3.1 Environmental Mitigation Implementation Schedule

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Remark
Air Quality Monitoring							
S2.4.1.3	Dust suppression measures stipulated in the Air Pollution Control (Construction Dust) Regulation and good site practices:						
	<ul style="list-style-type: none"> Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; 	To minimize the dust impact	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	Air Pollution Control Ordinance (APCO) and Air Pollution Control (Construction Dust)	^
	<ul style="list-style-type: none"> Any dusty material remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads; 						^
	<ul style="list-style-type: none"> A stockpile of dusty material should not be extended beyond the pedestrian barriers, fencing or traffic cones; 						^
	<ul style="list-style-type: none"> The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle; 						^
	<ul style="list-style-type: none"> Where practicable, vehicle washing facilities with high pressure water jet should be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the road section between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores; 						^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Remark
	<ul style="list-style-type: none"> When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided as far as practicable along the site boundary with provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period. 						^
	<ul style="list-style-type: none"> The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials; 						^
	<ul style="list-style-type: none"> Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously; 						^
	<ul style="list-style-type: none"> Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet; 						^
	<ul style="list-style-type: none"> Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding; 						^
	<ul style="list-style-type: none"> Any skip hoist for material transport should be totally enclosed by impervious sheeting; 						^
	<ul style="list-style-type: none"> Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides; 						^
	<ul style="list-style-type: none"> Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed; 						^

	<ul style="list-style-type: none"> • Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system; and 						^
	<ul style="list-style-type: none"> • Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shortcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies 						^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Remark
Noise Impact							
S3.4.1.1	Use of movable barrier, enclosure, acoustic mat and quiet plant. Use of wooden frames barrier with a small-cantilevered upper portion of superficial density not less than 14kg/m ² on a skid footing with 25mm thick internal sound absorptive lining.	To minimize construction noise impact arising from the Project at the affected noise sensitive receivers (NSRs)	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	EIAO-TM, Noise Control Ordinance (NCO)	^
S3.4.1.2	<p>Good Site Practice:</p> <ul style="list-style-type: none"> Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program. Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program. Mobile plant, if any, should be sited as far away from NSRs as possible. Machines and plant (such as trucks) that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum. Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs. Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities. 	To minimize construction noise impact arising from the Project at the affected NSRs	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	EIAO-TM, NCO	^ ^ ^ ^ ^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Remark
Ecological Impact							
S4.2.1.1	Solid dull green noise/visual barriers of at least 2m high shall be erected and maintained between active works area and all areas of ecological importance.	Minimize noise and human disturbances during construction phase.	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	EIAO-TM	^
S4.2.1.2	Avoid unnecessary lighting.	Minimize mortality impacts on birds.	Design / Contractor/ Plant Operator	Work Sites	Construction and operation phase of Main Works Stage 1, Stage 2 and Stage 3	EIAO-TM	^
S4.2.1.3	Good construction site practice to minimise dust generation should be followed on all construction sites. Measures to avoid, minimise and mitigate impacts on air quality are detailed in this schedule.	Minimize dust generation from construction sites.	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	EIAO-TM	^
S4.2.1.4	The following measures to avoid, minimise and mitigate impact on water quality during construction phase shall be implemented						
	<ul style="list-style-type: none"> Temporary sewerage and drainage to be designed and installed to collect wastewater and prevent it from entering water bodies; 	Avoid, minimise and mitigate impact on water quality	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	EIAO-TM	^
	<ul style="list-style-type: none"> Proper locations well away from nearby water bodies should be used for temporary storage of materials (i.e. equipment, filling materials, chemicals and fuel) and temporary stockpiles of construction debris and spoil, and these should be identified before commencement of works; 						^
	<ul style="list-style-type: none"> To prevent muddy water entering nearby water bodies, work sites close to nearby water bodies should be isolated, using such items as sandbags or silt curtains with lead edge at bottom and properly supported props. Other protective measures should also be taken to ensure that no pollution or siltation occurs to the water gathering grounds of the work sites; 						^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Remark
	<ul style="list-style-type: none"> • Vehicles containing any excavated materials should be suitably covered to limit potential dust emissions or contaminated run-off, and truck bodies and tailgates should be sealed to prevent discharge during transport or during wet season; 						^
	<ul style="list-style-type: none"> • Speed control for the trucks carrying contaminated materials should be enforced; 						^
	<ul style="list-style-type: none"> • Vehicle wheel washing facilities at construction sites' exit points should be established and used, where necessary; and 						^
	<ul style="list-style-type: none"> • Other measures as detailed in this schedule. 						^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Remark
Water Quality Impact							
S5.2.2.1	Construction Site Runoff Practices and measures provided in the Practice Note for Professional Persons on Construction Site Drainage, (PROPECC PN1/94) should be followed where applicable.	Control construction runoff	Contractors	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	EIAO-TM, WPCO, EIAO	^
S5.2.2.2 – S5.2.2.3	Sewage from Workforce <ul style="list-style-type: none"> Portable chemical toilets and sewage holding tanks should be provided for handling the construction sewage generated by the workforce. A licensed Contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance; Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction phase of the Project. Regular environmental audit on construction site should be conducted in order to provide an effective control of any malpractices and achieve continual improvement of environmental performance on site. It is anticipated that sewage generation during the construction phase of the Project would not cause water quality impact after undertaking all required measures 	Handling of site sewage	Contractors	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	EIAO-TM, WPCO, EIAO	^ ^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Remark
Waste Management							
S6.2.2.1	<p>Good Site Practices and Waste Reduction Measures</p> <ul style="list-style-type: none"> Nomination of an approved person, such as a site manager, to be responsible for the implementation of good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site; Training of site personnel in site cleanliness, appropriate waste management procedures and concepts of waste reduction, reuse and recycling; Provision of sufficient waste disposal points and regular collection for disposal; Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; An Environmental Management Plan (EMP) should be prepared by the contractor and submitted to the Supervisor for approval. 	Minimize waste generation during construction	Contractors	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	Waste Disposal Ordinance (WDO)	^ ^ ^ ^ ^
S6.2.3.1	<p>Waste Reduction Measures</p> <ul style="list-style-type: none"> Segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling of materials and their proper disposal; Proper storage and site practices to minimize the potential for damage and contamination of construction materials; Plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste; Sort out demolition debris and excavated materials from demolition works to recover reusable/recyclable portions (i.e. soil, broken concrete, metal etc.); and Provide training to workers on the importance of appropriate waste management procedures, including waste reduction, reuse and recycling. 	Reduce waste generation	Contractors	Work Sites	Prior to the commencement of construction of Main Works Stage 1, Stage 2 and Stage 3	WDO	^ ^ ^ ^ ^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Remark
S6.2.4.1	Storage, Collection and Transportation of Waste Should any temporary storage or stockpiling of waste is required, recommendations to minimize the impacts include:	Minimize waste impacts arising from waste storage	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	WDO	^
	<ul style="list-style-type: none"> Waste, such as soil, should be handled and stored well to ensure secure containment, thus minimizing the potential of pollution; 						^
	<ul style="list-style-type: none"> Stockpiling area should be provided with covers and water spraying system to prevent materials from windblown or being washed away; and 						^
	<ul style="list-style-type: none"> Different locations should be designated to stockpile each material to enhance reuse. 						^
S6.2.4.2	Storage, Collection and Transportation of Waste (con't)	Minimize waste impacts arising from waste storage	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	WDO	*
	<ul style="list-style-type: none"> Remove waste in timely manner; 						^
	<ul style="list-style-type: none"> Employ the trucks with cover or enclosed containers for waste transportation; 						^
	<ul style="list-style-type: none"> Obtain relevant waste disposal permits from the appropriate authorities; and Disposal of waste should be done at licensed waste disposal facilities 						^
S6.2.5.2	C&D Materials from Site Formation	Minimize waste impacts arising from waste storage	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	Land (Miscellaneous Provisions) Ordinance, WDO, ETWB TCW No. 19/2005	^
	<ul style="list-style-type: none"> Maintain temporary stockpiles and reuse excavated fill material for backfilling; 						^
	<ul style="list-style-type: none"> Carry out on-site sorting; 						^
	<ul style="list-style-type: none"> Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate; 						^
	<ul style="list-style-type: none"> Adopt "selective demolition" technique to demolish the existing structure and facilities with a view to recovering broken concrete effectively for recycling purpose, where possible; and 						^
S6.2.5.3	C&D Material from Buildings Demolition and New Building Construction						^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Remark
	<ul style="list-style-type: none"> The Contractor should recycle as much as possible of the C&DM on-site. Public fill and C&DM waste should be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. For example, concrete and masonry can be crushed and used as fill, and steel reinforcing bar can be used by scrap steel mills. Different areas of the work sites should be designated for such segregation and storage. The use of wooden hoardings shall not be allowed. An alternative material, such as metal, aluminium or alloy etc, could be used. Government has developed a charging policy for the disposal of waste to landfill at present. It will provide additional incentive to reduce the volume of generated waste and ensure proper segregation to allow reuse of the inert material on site when implemented. In order to minimize the impacts of the demolition works, the generated wastes must be cleared as quickly as possible after demolition. Therefore, the demolition and clearance works should be undertaken simultaneously. To facilitate proper segregation of inert and non-inert C&D material arising from demolition works, selective demolition method should be adopted. 	Minimize waste impacts arising from waste storage	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	Land (Miscellaneous Provisions) Ordinance, WDO, ETWB TCW No. 19/2005	^
							^
							^
							^
S6.2.5.4	Chemical Waste						
	<ul style="list-style-type: none"> If chemical wastes are produced at the construction site, the Contractors should register with EPD as chemical waste producers. Chemical wastes should be stored in appropriate containers and collected by a licensed chemical waste contractor. Chemical wastes (e.g. spent lubricant oil) should be recycled at an appropriate facility as far as possible, while the chemical waste that cannot be recycled should be disposed of at either the Chemical Waste Treatment Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation. 	Control the chemical waste and ensure proper storage, handling and disposal	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	Waste Disposal (Chemical Waste General) Regulation, Code of Practice on the Packaging, Labelling and Storage of Chemical Waste	^
							^
S6.2.5.5	General Refuse						

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Remark
	<ul style="list-style-type: none"> • General refuse should be stored in enclosed bins separately from construction and chemical wastes. • Recycling bins should also be placed to encourage recycling. • Preferably enclosed and covered areas should be provided for general refuse collection and routine cleaning for these areas should also be implemented to keep areas clean. • A reputable waste collector should be employed to remove general refuse on a daily basis. 	Minimize production of the general refuse and avoid odour, pest and litter impacts	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	Waste Disposal (Chemical Waste General) Regulation	^ ^ ^ ^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Remark
Landscape and Visual							
S7.3.1.1	<p>Good Site Practices Measures</p> <ul style="list-style-type: none"> For areas unavoidably disturbed by the Project on a short term basis e.g. works areas, the general principle to try and restore these to their former state to suit future land use, should be adhered to. With regard to topsoil, where identified, it should be stripped, treated appropriately, and where suitable and practical stored for re-use in the construction of the soft landscape works such as roadside amenity strips, and open space sites. 	Minimize the impact to the landscape and visual	Contractor	Work Sites	Prior to construction and construction phase		N/A
							N/A
S7.3.2.1	<p>MM4 - Tree Protection & Preservation</p> <ul style="list-style-type: none"> Existing trees to be retained within the Project Site should be carefully protected during construction. In particular Old and Valuable Trees (OVTs) will be preserved according to ETWB TC (Works) No. 29/2004. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in Contractor's works areas. A detailed tree survey will be carried out for the Tree Removal Application (TRA) process which will be carried out at the later detailed design stage of the Project. The detailed tree survey will propose which trees should be retained, transplanted or felled and will include details of tree protection measures for those trees to be retained. 	Protect and Preserve Trees	Designer / Contractor	Work Sites	Prior to construction and construction phase	ETWB TCW No. 29/2004 and DEVB TC(W) No.7/2015	^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Remark
S7.3.2.1	<p>MM5 - Tree Transplantation</p> <ul style="list-style-type: none"> Trees unavoidably affected by the Project works should be transplanted where practical. Trees should be transplanted straight to their final receptor site and not held in a temporary nursery as far as possible. A detailed Tree Transplanting Specification shall be provided in the Contract Specification, where applicable. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme. A detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBTC No. 2/2004 and DEVB TC(W) No. 7/2015 and final locations of transplanted trees should be agreed prior to commencement of the work. For trees associated with highways e.g. roadside planting along highways, that are unavoidably affected and should be transplanted, HyD HQ/GN/13 'Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation Maintenance Ambit' should be referred to. 	Transplant Trees where suitable for transplantation	Designer / Contractor	Work Sites where possible. Otherwise consider offsite locations	Prior to construction, construction phase and operation phase	DEVB TC(W) No. 7/2015 and ETWB TCW No.2/2004 HyD HQ/GN/13 Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation Maintenance Ambit	N/A
S7.3.2.1	<p>MM6 - Slope Landscaping</p> <ul style="list-style-type: none"> Site formation should be reduced as far as possible. Hydroseeding of modified slopes should be done as soon as grading works are completed to prevent erosion and subsequent loss of landscape resources and character. Woodland tree seedlings and/or shrubs should be planted where slope gradient and site conditions allow. In addition, landscape planting should be provided for the retaining structures associated with modified slopes where conditions allow. All slope landscaping 	To avoid substantial slope cutting and fill slopes. To prevent erosion and subsequent loss of landscape resources and character. To ensure manmade slopes are as visually amenable as possible.	Designer / Contractor	Work Sites	Prior to construction, construction phase and operation phase	GEO Publication (1999) - Use of Vegetation as Surface Protection on Slope; GEO Publication No. 1/2011- Technical Guidelines on Landscape Treatment for Slopes	N/A
S7.3.2.1	MM7 - Compensatory Planting						

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Remark
	<ul style="list-style-type: none"> Compensatory tree planting for felled trees shall be provided to the satisfaction of relevant Government departments. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Removal Application process under DEVB TC(W) No. 7/2015. Compensatory planting is proposed at the potential open areas such as open spaces, amenity areas, open areas of the streetscapes, as well as the open areas within development lots. Compensatory planting for shrubs should be considered in suitable locations. Native species such as <i>Melastoma malabathricum</i>, <i>Diospyros vaccinioides</i>, <i>Gardenia jasminoides</i>, <i>Ixora chinensis</i>, <i>Ligustrum sinense</i>, <i>Litsea rotundifolia</i>, <i>Melastoma dodecandrum</i>, <i>Atalantia buxifolia</i>, <i>Rhodomyrtus tomentosa</i>, <i>Rhaphiolepis indica</i>, and <i>Rhododendron simsii</i> are suggested. 	Compensate for trees and shrubs lost due to the Project	Designer / Contractor	Work Sites where possible. Otherwise consider offsite locations	Prior to construction, construction phase and operation phase	DEVB TC(W) No. 7/2015 and ETWB TCW No. 2/2004	N/A
							N/A
							N/A
S7.3.2.1	MM9 - Vertical Greening <ul style="list-style-type: none"> Planting of climbers to grow up vertical surfaces were appropriate. 	Soften hard surfaces and facilities	Designer / Contractor	On appropriate structures	Prior to construction, construction phase and operation phase	ETWB TCW No.11/2004 – Cyber Manual for Greening	N/A
S7.3.2.1	MM10 - Green Roof <ul style="list-style-type: none"> Roof greening where appropriate should be established on proposed buildings as per the guidelines stated. These guidelines provide further details including information regarding structural loading, design, maintenance, etc. considerations as well as providing information on what types of plants might be suitable. 	Reduce exposure to untreated concrete surfaces and particularly mitigate visual impact to visually sensitive receivers (VSRs) at high levels. Provide greening	Designer / Contractor	On appropriate buildings	Prior to construction, construction phase and operation phase	CIBSE HK Branch, Technical Guidelines for Green Roof Systems in Hong Kong (2011); ArchSD/Urbis Study on Green Roof Application in HK (2007)	N/A

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Remark
S7.3.2.1	<p>MM11 - Screen Planting</p> <ul style="list-style-type: none"> Tall screen/buffer trees and shrubs should be planted. This measure may additionally form part of the compensatory planting. 	To screen proposed structures such as roads and buildings. Improve compatibility with the surrounding environment and create a pleasant pedestrian environment	Designer / Contractor	Along roads, around suitable built structures, or around VSRs to contain their view out to the structures.	Prior to construction, construction phase and operation phase	ETWB TCW No. 10/2013 and 3/2006	N/A
S7.3.2.1	<p>MM16 - Screen Hoarding</p> <ul style="list-style-type: none"> Screen hoarding shall be erected along areas of the construction works site boundary where the works site borders publically accessible routes and/or is close to visually sensitive receivers (VSRs). It is proposed that the screening be compatible with the surrounding environment and where possible, non-reflective, recessive colours be used. Any works areas near the ecological sensitive areas should erect 2m high dull green site boundary fence. Details can refer to the ecological impact assessment. [Chapter 13 of the EIA Report of NENT NDAs (Register No. AEIAR-175- 2013)] 	To screen undesirable views of the works site.	Designer	Work Sites	Construction phase		N/A
S7.3.2.1	<p>MM17 - Light Control</p> <ul style="list-style-type: none"> Construction day and night time lighting should be controlled to minimize glare impact to adjacent VSRs during the Construction phase. Street and night time lighting shall also be controlled to minimize glare impact to adjacent VSRs during the operation phase. 	To minimize glare impact to adjacent VSRs.	Designer / Contractor	Work Sites and/or the Plant	Construction phase and operation phase		N/A

Remarks:

- ^ Implemented
- * To be followed-up by Contractor
- # Not Implemented
- N/A Not Applicable



Appendix 4.1

Action and Limit Level



Action and Limit Levels

Air Quality Monitoring

Monitoring Station	1-hour TSP Level in $\mu\text{g}/\text{m}^3$		24-hour TSP Level in $\mu\text{g}/\text{m}^3$	
	Action Level	Limit Level	Action Level	Limit Level
AM1	320	500	189	260
AM2	322	500	187	260

Noise Monitoring

Monitoring Stations	Leq(30min),dB(A)	
	Action Level (dB(A))	Limit Level (dB(A))
NM1	When one documented complaint is received	75*
NM2		
NM3		

*Notes: (1) If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) used by the Noise Control Authority should be followed.

(2) The limit level shall be 70 dB(A) and 65 dB(A) for educational institute during normal teaching periods and school examination periods, respectively.

Ecological Monitoring of Waterbirds using Ng Tung, Sheung Yue and Shek Sheung Rivers during Construction Phase

Action Level	Limit Level
Decline in numbers of all waterbird species relative to numbers during Baseline Monitoring such that Action Level response is triggered.	Decline in numbers of all waterbird species relative to numbers during Baseline Monitoring such that the Limit Level response is triggered.
Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Action Level Response is triggered.	Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Limit Level response is triggered.

*Note: Whether numbers are significant depend on species and season after collection and evaluation of baseline data.



Appendix 4.2

Copies of Calibration Certificates

Certificate of Calibration

Calibration Certification Information			
Cal. Date: March 31, 2023	Rootsmeter S/N: 438320	Ta: 294	°K
Operator: Jim Tisch		Pa: 749.0	mm Hg
Calibration Model #: TE-5025A	Calibrator S/N: 3166		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4500	3.2	2.00
2	3	4	1	1.0210	6.4	4.00
3	5	6	1	0.9120	8.0	5.00
4	7	8	1	0.8710	8.8	5.50
5	9	10	1	0.7170	12.8	8.00

Data Tabulation					
Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H \left(\frac{Pa}{Pstd} \right) \left(\frac{Tstd}{Ta} \right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H (Ta/Pa)}$ (y-axis)
0.9947	0.6860	1.4135	0.9957	0.6867	0.8860
0.9905	0.9701	1.9990	0.9915	0.9711	1.2530
0.9883	1.0837	2.2349	0.9893	1.0848	1.4009
0.9873	1.1335	2.3440	0.9883	1.1346	1.4693
0.9819	1.3695	2.8270	0.9829	1.3709	1.7720
QSTD	m=	2.07036	QA	m=	1.29643
	b=	-0.00719		b=	-0.00451
	r=	0.99999		r=	0.99999

Calculations	
Vstd= $\Delta Vol \left(\frac{Pa - \Delta P}{Pstd} \right) \left(\frac{Tstd}{Ta} \right)$	Va= $\Delta Vol \left(\frac{Pa - \Delta P}{Pa} \right)$
Qstd= Vstd/ΔTime	Qa= Va/ΔTime
For subsequent flow rate calculations:	
Qstd= $1/m \left(\left(\sqrt{\Delta H \left(\frac{Pa}{Pstd} \right) \left(\frac{Tstd}{Ta} \right)} \right) - b \right)$	Qa= $1/m \left(\left(\sqrt{\Delta H (Ta/Pa)} \right) - b \right)$

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg
Key	
ΔH: calibrator manometer reading (in H2O)	
ΔP: rootsmeter manometer reading (mm Hg)	
Ta: actual absolute temperature (°K)	
Pa: actual barometric pressure (mm Hg)	
b: intercept	
m: slope	

RECALIBRATION
US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30



Lam Environmental Services Limited

Calibration Data for High Volume Sampler (TSP Sampler)

Location : AM1a*
 Equipment no. : 2036

Calibration Date : 11-Sep-23
 Calibration Due Date : 11-Nov-23

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition			
Temperature, T _a	300	Kelvin	Pressure, P _a
			1007 mmHg

Orifice Transfer Standard Information					
Equipment No.	3166	Slope, m _c	2.07036	Intercept, b _c	-0.00719
Last Calibration Date	31-Mar-23	$(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$ $= m_c \times Q_{std} + b_c$			
Next Calibration Date	30-Mar-24				

Calibration of TSP						
Calibration Point	Manometer Reading H (inches of water)			Q _{std} (m ³ / min.) X-axis	Continuous Flow Recorder, W (CFM)	IC (W(P _a /1013.3x298/T _a) ^{1/2} /35.31) Y-axis
	(up)	(down)	(difference)			
1	1.5	1.5	3.0	0.8347	28	27.8196
2	2.4	2.4	4.8	1.0549	34	33.7810
3	3.8	3.8	7.6	1.3265	43	42.7230
4	5.1	5.1	10.2	1.5361	50	49.6779
5	6.5	6.5	13.0	1.7338	56	55.6392

By Linear Regression of Y on X

Slope, m = 31.3910 Intercept, b = 1.2083

Correlation Coefficient* = 0.9995

Calibration Accepted = Yes/Ne**

* if Correlation Coefficient < 0.990, check and recalibration again.

** Delete as appropriate.

Remarks : Serial No.:2036

Calibrated by : William Cheung
 Date : 11-Sep-23

Checked by : Derek Lo
 Date : 11-Sep-23



Lam Environmental Services Limited

Calibration Data for High Volume Sampler (TSP Sampler)

Location : AM1a*
 Equipment no. : 2036

Calibration Date : 8-Nov-23
 Calibration Due Date : 8-Jan-24

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition			
Temperature, T _a	298	Kelvin	Pressure, P _a
			1016 mmHg

Orifice Transfer Standard Information					
Equipment No.	3166	Slope, m _c	2.07036	Intercept, b _c	-0.00719
Last Calibration Date	31-Mar-23	$(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$ $= m_c \times Q_{std} + b_c$			
Next Calibration Date	30-Mar-24				

Calibration of TSP						
Calibration Point	Manometer Reading H (inches of water)			Q _{std} (m ³ / min.) X-axis	Continuous Flow Recorder, W (CFM)	IC (W(P _a /1013.3x298/T _a) ^{1/2} /35.31) Y-axis
	(up)	(down)	(difference)			
1	1.5	1.5	3.0	0.8412	30	30.0399
2	2.6	2.6	5.2	1.1064	39	39.0519
3	3.6	3.6	7.2	1.3012	47	47.0626
4	4.7	4.7	9.4	1.4863	55	55.0732
5	5.7	5.7	11.4	1.6365	59	59.0786

By Linear Regression of Y on X

Slope, m = 37.6133 Intercept, b = -1.8700

Correlation Coefficient* = 0.9982

Calibration Accepted = Yes/Ne**

* if Correlation Coefficient < 0.990, check and recalibration again.

** Delete as appropriate.

Remarks : Serial No.:2036

Calibrated by : William Cheung
 Date : 8-Nov-23

Checked by : Derek Lo
 Date : 8-Nov-23



Lam Environmental Services Limited

Calibration Data for High Volume Sampler (TSP Sampler)

Location : AM2a
 Equipment no. : 774

Calibration Date : 10-Oct-23
 Calibration Due Date : 10-Dec-23

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition			
Temperature, T _a	298	Kelvin	Pressure, P _a
			1016 mmHg

Orifice Transfer Standard Information					
Equipment No.	3166	Slope, m _c	2.07036	Intercept, b _c	-0.00719
Last Calibration Date	31-Mar-23	$(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$ $= m_c \times Q_{std} + b_c$			
Next Calibration Date	30-Mar-24				

Calibration of TSP						
Calibration Point	Manometer Reading			Q _{std} (m ³ / min.) X-axis	Continuous Flow Recorder, W (CFM)	IC (W(P _a /1013.3x298/T _a) ^{1/2} /35.31) Y-axis
	(up)	(down)	(difference)			
1	1.2	1.2	2.4	0.7526	20	20.0227
2	1.8	1.8	3.6	0.9210	27	27.0306
3	2.5	2.5	5.0	1.0847	34	34.0386
4	3.5	3.5	7.0	1.2828	41	41.0465
5	4.8	4.8	9.6	1.5017	48	48.0544

By Linear Regression of Y on X

Slope, m = 37.5214 Intercept, b = -7.5564

Correlation Coefficient* = 0.9980

Calibration Accepted = Yes/Ne**

* if Correlation Coefficient < 0.990, check and recalibration again.

** Delete as appropriate.

Remarks : Serial No.:774

Calibrated by : William Cheung
 Date : 10-Oct-23

Checked by : Derek Lo
 Date : 10-Oct-23

Certificate of Calibration

BT-645
Particulate Monitor

Recommended calibration interval is 24 months from first day of use.

Unit Info

Model: BT-645 81865 Firmware Rev: 1.3.0
Serial Number: C15622 81113 0.2.4
Calibrated By: J. Walker AT28 Cal. Date: 07/07/2022
Quality Inspector: Coni Chuske Date: 07/07/2022
Calibration Hz/ $\mu\text{g}/\text{m}^3$: 7.10

Final Test

Flow (2.0 L/M): Pass Ambient T (C) 23.8
RH, % 38.7
Serial Communication: Pass
BT-645 Conc.: 425.64 Standard Conc.: 420.49

Calibration Standards

Standards	Manufacturer	Model	SN	Cal Due
RMS Multimeter	Fluke	189 Multimeter	94060816	11/08/2022
RH & TEMPERATURE	Met One Instruments	083E-1-35	GP-679	05/17/2023
Primary Flow Meter	TSI	4040	40401945009	01/31/2023
Digital Dust Indicator	SIBATA	LD-3	476795	08/23/2022

The standards used for this calibration have accuracy equal to or greater than the instrument tested. These standards are on record and traceable to NIST to the extent allowed by the institute's calibration facility. Unless otherwise stated, all instruments are calibrated to meet the manufacturer's published specifications.



Calibration Certificate

Certificate No. **211036**

Page 1 of 2 Pages

Customer : Lam Environmental Services Limited

Address : 19/F, Remex Centre, 42 Wong Chuk Hang Road, Hong Kong

Order No. : Q24331

Date of receipt : 24-Nov-22

Item Tested

Description : Aerosol Mass Monitor

Manufacturer : Met One

I.D. : --

Model : Aerocet 831

Serial No. : Y23153

Test Conditions

Date of Test : 13-Dec-22

Supply Voltage : --

Ambient Temperature : (23 ± 3)°C

Relative Humidity : (50 ± 25) %

Test Specifications

Calibration check.

Calibration procedure : Manufacturer recommended method (gravimetric), Z28.

Test Results

All results were within the tolerance(s).

The results are shown in the attached page(s).

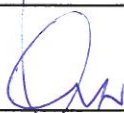
Main Test equipment used:

<u>Equipment No.</u>	<u>Description</u>	<u>Cert. No.</u>	<u>Traceable to</u>
S136B	Stop Watch	201879	SCL-HKSAR
S238	Micro Balance	108228	NIM-PRC
S201	Std. Test Dust	61291	NIST
S207B	Std. Flowmeter	LL-2104002489	NIM-PRC

The values given in this Calibration Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to International System of Units (SI), or by reference to a natural constant.

The test results apply to the above Unit-Under-Test only

Calibrated by : 
Kin Wong

Approved by : 
Steve Kwan

This Certificate is issued by:

Hong Kong Calibration Ltd.

Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong Kong.

Tel: 2425 8801 Fax: 2425 8646

Date: 13-Dec-22



Calibration Certificate

Certificate No. 211036

Page 2 of 2 Pages

Results :

1. General

Internal Filters : checked and found clean.

2. Flow Meter

UUT Nominal Value (LPM)	Measured Value (LPM)	Tolerance (LPM)	Uncertainty
2.83	2.80	± 0.15	± 0.05

3. Timer

Reference Value	UUT Reading	Tolerance	Uncertainty
10' 00" 40	10 min	± 2 sec/hr	± 0.5 sec/hr

4. Dust Particle (PM₁₀)

Applied Value (µg/m ³)	UUT Reading (µg/m ³) K Factor : 1.26	Tolerance	Uncertainty
350	364	± 20 %	± 10 %

- Remark :
1. UUT: Unit-Under-Test
 2. The uncertainty claimed is for a confidence probability of not less than 95%.
 3. ISO 12103-1 A1 respirable standard test dust was used for the calibration.
 4. The K Factor had been adjusted from 3.00 to 1.26.

----- END -----



Calibration Data for High Volume Sampler (TSP Sampler)

Equipment no.	2493
Calibration Date	3/2/2023
Calibration Due Date	3/4/2023
Location	G/FL;No.20,Pak Kung Street,Hung Hom ,Kowloon.

Ambient Condition			
Temperature, T _a	292	Kelvin	Pressure, P _a
			1018 mmHg

Orifice Transfer Standard Information					
Equipment No.	3880	Slope, m _c	2.07013	Intercept, b _c	-0.00727
Last Calibration Date	28/6/2022	$(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$ $= m_c \times Q_{std} + b_c$			
Next Calibration Date	28/6/2023				

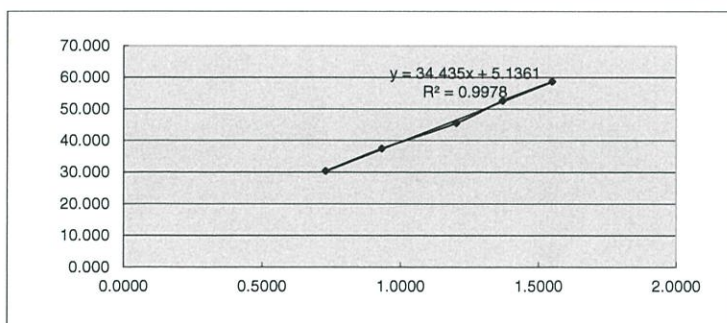
Calibration of TSP						
Calibration Point	Manometer Reading			Q _{std} (m ³ / min.) X-axis	Continuous Flow Recorder, W (CFM)	IC $(W(P_a/1013.3 \times 298/T_a)^{1/2}/35.31)$ Y-axis
	(up)	(down)	(difference)			
1	1.1	1.1	2.2	0.7290	30	30.3769
2	1.8	1.8	3.6	0.9316	37	37.4648
3	3.0	3.0	6.0	1.2016	45	45.5653
4	3.9	3.9	7.8	1.3696	52	52.6532
5	5.0	5.0	10.0	1.5503	58	58.7286

By Linear Regression of Y on X

Slope, m = 34.4355 Intercept, b = 5.1361

Correlation Coefficient* = 0.9989

Calibration Accepted = Yes/No**



* if Correlation Coefficient < 0.990, check and recalibration again.

** Delete as appropriate.

Remarks : _____

Calibrated by : Wai Hung Poon
 Poon Wai Hung

Checked by : Lo Kam Chuen
 Lo Kam Chuen

Date : 3/4/2023

Date : 3/4/2023



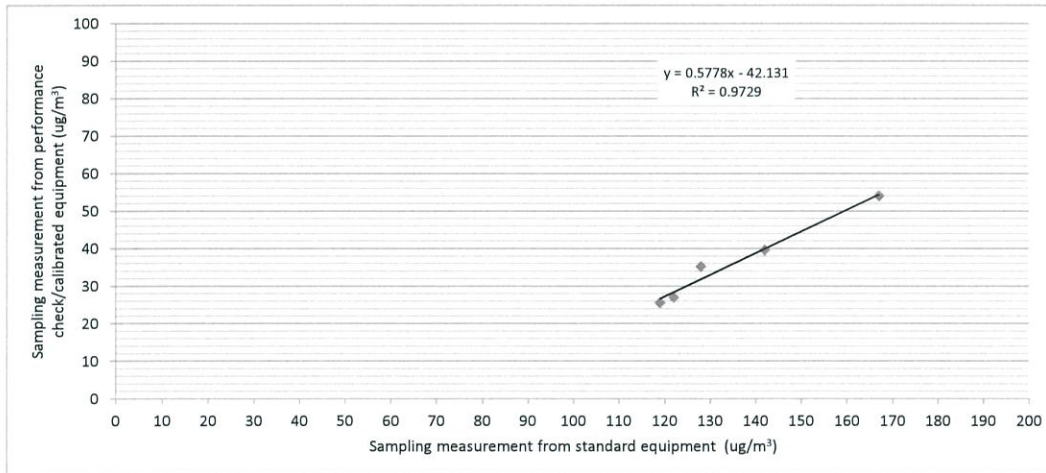
Equipment	Portable Dust Meter	Standard Equipment (High Volume Sampler)
Manufacturer	MET ONE INSTRUMENTS	TISCH
Model Number	BT-645	TE-5170
Serial Number	C15622	2493
Date	3/2/2023	3/2/2023
Location	GCE laboratory - G/FL; No.20, Pak Kung Street, Hung Hom, Kowloon.	

Portable Dust Meter Performance Check Results

Check Point	Date & Time	Mean Temp (°C)	Mean Pressure (hPa)	Concentration in ug/m ³	Concentration in ug/m ³
				(Standard equipment) (X - Axis)	(Performance Check / Calibrated equipment) (Y - Axis)
1	3/2/2023 9:30 -10:30	18	1019	167	54
2	3/2/2023 11:32 -12:32	18	1019	142	40
3	3/2/2023 12:34 - 13:34	18	1019	128	35
4	3/2/2023 13:36 - 14:36	18	1019	122	27
5	3/2/2023 14:38 - 15:38	18	1019	119	25

Linear Regression of Y on X

Slope (K- factor) : 1.7000
 Correlation Coefficient : 0.9863
 Validity of Performance Check / Calibration Record : 3/2/2024



Operator: Poon Wai Hung Date: 9/2/2023
 Checked by: Ho Kam Chien Date: 9/2/2023



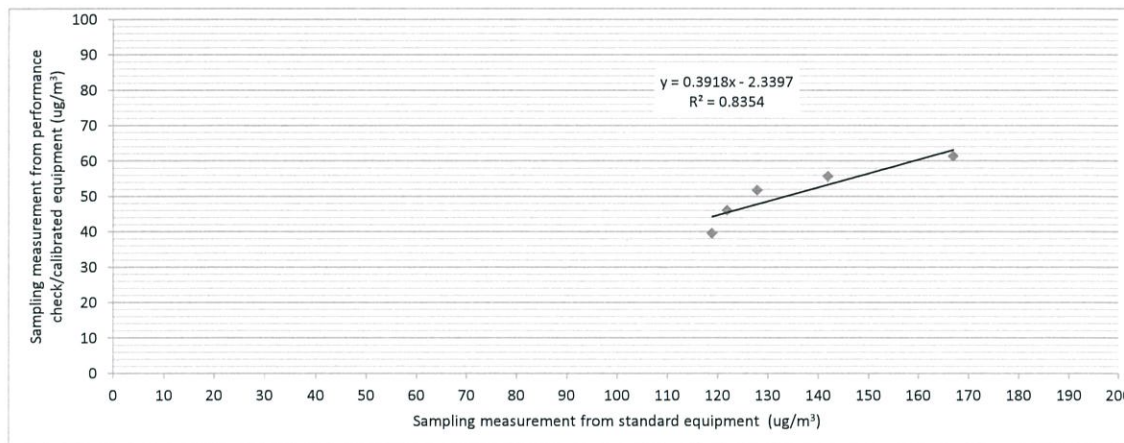
Equipment	Portable Dust Meter	Standard Equipment (High Volume Sampler)
Manufacturer	MET ONE INSTRUMENTS	TISCH
Model Number	AEROGET831	TE-5170
Serial Number	Y23153	2493
Date	3/2/2023	3/2/2023
Location	GCE laboratory-G/FL;No.20 Pak Kung Street., Hung Hom, Kowloon	

Portable Dust Meter Performance Check Results

Check Point	Date & Time	Mean Temp (°C)	Mean Pressure (hPa)	Concentration in ug/m ³ (Standard equipment) (X - Axis)	Concentration in ug/m ³ (Performance Check / Calibrated equipment) (Y - Axis)
1	3/2/2023 9:30 -10:30	18	1019	167	61
2	3/2/2023 11:32 -12:32	18	1019	142	56
3	3/2/2023 12:34 - 13:34	18	1019	128	52
4	3/2/2023 13:36 - 14:36	18	1019	122	46
5	3/2/2023 14:38 - 15:38	18	1019	119	40

Linear Regression of Y on X

Slope (K- factor) : 2.2000
 Correlation Coefficient : 0.9140
 Validity of Performance Check / Calibration Record : 3/2/2024



Operator: Poon Wai Hung Poon Wai Hung

Date: 9/2/2023

Checked by: Lo Kam Chuen Lo Kam Chuen

Date: 9/2/2023



CERTIFICATE OF CALIBRATION

Certificate No.: 23CA0308 01 Page 1 of 2

Item tested

Description:	Sound Level Meter (Type 1)	,	Microphone	Preamp
Manufacturer:	Nti	,	Nti Andio	
Type/Model No.:	XL2	,	MC230A	MA220
Serial/Equipment No.:	A2A-15269-EO	,	A16673	8034
Adaptors used:	-	,		

Item submitted by

Customer Name: Lam Environmental Services Limited.
Address of Customer: -
Request No.: -
Date of receipt: 08-Mar-2023

Date of test: 09-Mar-2023

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Multi function sound calibrator	B&K 4226	2288444	23-Aug-2023	CIGISMEC
Signal generator	DS 360	61227	08-Jun-2023	CEPREI

Ambient conditions

Temperature: 22 ± 1 °C
Relative humidity: 55 ± 10 %
Air pressure: 1010 ± 5 hPa

Test specifications

- 1, The Sound Level Meter has been calibrated in accordance with the requirements as specified in BS 7580: Part 1: 1997 and the lab calibration procedure SMTP004-CA-152.
- 2, The electrical tests were performed using an electrical signal substituted for the microphone which was removed and replaced by an equivalent capacitance within a tolerance of $\pm 20\%$.
- 3, The acoustic calibration was performed using an B&K 4226 sound calibrator and corrections was applied for the difference between the free-field and pressure responses of the Sound Level Meter.

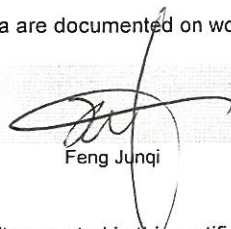
Test results

This is to certify that the Sound Level Meter conforms to BS 7580: Part 1: 1997 for the conditions under which the test was performed.

Details of the performed measurements are presented on page 2 of this certificate.

Actual Measurement data are documented on worksheets.

Approved Signatory:



Feng Junqi

Date: 13-Mar-2023

Company Chop:



Comments: The results reported in this certificate refer to the condition of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument. The results apply to the item as received.



CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.:

23CA0308 01

Page 2 of 2

1, Electrical Tests

The electrical tests were performed using an equivalent capacitance substituted for the microphone. The results are given in below with test status and the estimated uncertainties. The "Pass" means the result of the test is inside the tolerances stated in the test specifications. The "-" means the result of test is outside these tolerances.

Test:	Subtest:	Status:	Expanded Uncertainty (dB)	Coverage Factor
Self-generated noise	A	Pass	0.3	2.1
	C	Pass	0.8	
	Lin	Pass	1.6	
Linearity range for Leq	At reference range , Step 5 dB at 4 kHz	Pass	0.3	2.2
	Reference SPL on all other ranges	Pass	0.3	
	2 dB below upper limit of each range	Pass	0.3	
	2 dB above lower limit of each range	Pass	0.3	
Linearity range for SPL	At reference range , Step 5 dB at 4 kHz	Pass	0.3	
	A	Pass	0.3	
	C	Pass	0.3	
Time weightings	Lin	Pass	0.3	
	Single Burst Fast	Pass	0.3	
	Single Burst Slow	Pass	0.3	
Peak response	Single 100µs rectangular pulse	Pass	0.3	
	R.M.S. accuracy	Pass	0.3	
Time weighting I	Single burst 5 ms at 2000 Hz	Pass	0.3	
	Repeated at frequency of 100 Hz	Pass	0.3	
Time averaging	1 ms burst duty factor 1/10 ³ at 4kHz	Pass	0.3	
	1 ms burst duty factor 1/10 ⁴ at 4kHz	Pass	0.3	
Pulse range	Single burst 10 ms at 4 kHz	Pass	0.4	
Sound exposure level	Single burst 10 ms at 4 kHz	Pass	0.4	
Overload indication	SPL	Pass	0.3	
	Leq	Pass	0.4	

2, Acoustic tests

The complete sound level meter was calibrated on the reference range using a B&K 4226 acoustic calibrator with 1000Hz and SPL 94 dB. The sensitivity of the sound level meter was adjusted. The test result at 125 Hz and 8000 Hz are given in below with test status and the estimated uncertainties.

Test:	Subtest	Status	Expanded Uncertainty (dB)	Coverage Factor
Acoustic response	Weighting A at 125 Hz	Pass	0.3	
	Weighting A at 8000 Hz	Pass	0.5	

3, Response to associated sound calibrator

N/A

The expanded uncertainties have been calculated in accordance with the ISO Publication "Guide to the expression of uncertainty in measurement", and gives an interval estimated to have a level of confidence of 95%. A coverage factor of 2 is assumed unless explicitly stated.

Calibrated by:

Date:

Fung Chi Yip
09-Mar-2023

- End -

Checked by:

Date:

Chan Yuk Yiu
13-Mar-2023

The standard(s) and equipment used in the calibration are traceable to national or international recognised standards and are calibrated on a schedule to maintain the required accuracy level.



Test Data for Sound Level Meter

Page 1 of 6

Sound level meter type: XL2 Serial No. A2A-15269-EO Date 09-Mar-2023
Microphone type: MC230A Serial No. A16673
Report: 23CA0308 01

SELF GENERATED NOISE TEST

The noise test is performed in the most sensitive range of the SLM with the microphone replaced by an equivalent impedance.

Noise level in A weighting	11.5	dB
Noise level in C weighting	15.4	dB
Noise level in Lin	20.4	dB

LINEARITY TEST

The linearity is tested relative to the reference sound pressure level using a continuous sinusoidal signal of frequency 4 kHz. The measurement is made on the reference range for indications at 5 dB intervals starting from the 94 dB reference sound pressure level. And until within 5 dB of the upper and lower limits of the reference range, the measurements shall be made at 1 dB intervals.(SLM set to LEQ/SPL)

Reference/Expected level	Actual level		Tolerance	Deviation	
	non-integrated	integrated		non-integrated	integrated
dB	dB	dB	+/- dB	dB	dB
94.0	94.0	94.0	0.7	0.0	0.0
99.0	99.0	99.0	0.7	0.0	0.0
104.0	104.0	104.0	0.7	0.0	0.0
109.0	109.0	109.0	0.7	0.0	0.0
114.0	114.0	114.0	0.7	0.0	0.0
115.0	115.0	115.0	0.7	0.0	0.0
116.0	116.0	116.0	0.7	0.0	0.0
117.0	117.0	117.0	0.7	0.0	0.0
118.0	118.0	118.0	0.7	0.0	0.0
119.0	119.0	119.0	0.7	0.0	0.0
120.0	120.0	120.0	0.7	0.0	0.0
89.0	89.0	89.0	0.7	0.0	0.0
84.0	84.0	84.0	0.7	0.0	0.0
79.0	79.0	79.0	0.7	0.0	0.0
74.0	74.0	74.0	0.7	0.0	0.0
69.0	69.0	69.0	0.7	0.0	0.0
64.0	64.0	64.0	0.7	0.0	0.0
59.0	59.0	59.0	0.7	0.0	0.0
54.0	54.0	54.0	0.7	0.0	0.0
49.0	49.0	49.0	0.7	0.0	0.0
44.0	44.0	44.0	0.7	0.0	0.0
39.0	39.0	39.0	0.7	0.0	0.0
34.0	34.1	34.1	0.7	0.1	0.1
33.0	33.1	33.1	0.7	0.1	0.1



Test Data for Sound Level Meter

Page 2 of 6

Sound level meter type: XL2 Serial No. A2A-15269-EO Date 09-Mar-2023
Microphone type: MC230A Serial No. A16673

Report: 23CA0308 01

32.0	32.2	32.2	0.7	0.2	0.2
31.0	31.2	31.2	0.7	0.2	0.2
30.0	30.3	30.3	0.7	0.3	0.3

Measurements for an indication of the reference SPL on all other ranges which include it

Other ranges	Expected level	Actual level	Tolerance	Deviation
dB	dB	dB	+/- dB	dB
40-140	94.0	94.0	0.7	0.0
20-120	94.0	94.0	0.7	0.0
0-100	94.0	94.0	0.7	0.0

Measurements on all level ranges for indications 2 dB below the upper limit and 2 dB above the lower limit

Ranges	Reference/Expected level	Actual level	Tolerance	Deviation
dB	dB	dB	+/- dB	dB
40-140	51.0	51.7	0.7	0.7
	138.0	138.0	0.7	0.0
20-120	30.0	30.3	0.7	0.3
	118.0	118.0	0.7	0.0
0-100	30.0	30.0	0.7	0.0
	98.0	98.0	0.7	0.0

FREQUENCY WEIGHTING TEST

The frequency response of the weighting networks are tested at octave intervals over the frequency ranges 31.5 Hz to 12500 Hz. The signal level at 1000 Hz is set to give an indication of the reference SPL.

Frequency weighting A:

Frequency	Ref. level	Expected level	Actual level	Tolerance(dB)		Deviation
				+	-	
Hz	dB	dB	dB			dB
1000.0	94.0	94.0	94.0	0.0	0.0	0.0
31.6	94.0	54.6	54.4	1.5	1.5	-0.2
63.1	94.0	67.8	67.7	1.5	1.5	-0.1
125.9	94.0	77.9	77.8	1.0	1.0	-0.1
251.2	94.0	85.4	85.3	1.0	1.0	-0.1
501.2	94.0	90.8	90.7	1.0	1.0	-0.1
1995.0	94.0	95.2	95.2	1.0	1.0	0.0
3981.0	94.0	95.0	95.0	1.0	1.0	0.0
7943.0	94.0	92.9	92.9	1.5	3.0	0.0
12590.0	94.0	89.7	89.5	3.0	6.0	-0.2

Frequency weighting C:

Frequency	Ref. level	Expected level	Actual level	Tolerance(dB)		Deviation
				+	-	
Hz	dB	dB	dB			dB



Test Data for Sound Level Meter

Page 3 of 6

Sound level meter type: XL2 Serial No. A2A-15269-EO Date 09-Mar-2023
Microphone type: MC230A Serial No. A16673

Report: 23CA0308 01

1000.0	94.0	94.0	94.0	0.0	0.0	0.0
31.6	94.0	91.0	90.8	1.5	1.5	-0.2
63.1	94.0	93.2	93.1	1.5	1.5	-0.1
125.9	94.0	93.8	93.8	1.0	1.0	0.0
251.2	94.0	94.0	93.9	1.0	1.0	-0.1
501.2	94.0	94.0	94.0	1.0	1.0	0.0
1995.0	94.0	93.8	93.8	1.0	1.0	0.0
3981.0	94.0	93.2	93.2	1.0	1.0	0.0
7943.0	94.0	91.0	91.0	1.5	3.0	0.0
12590.0	94.0	87.8	87.6	3.0	6.0	-0.2

Frequency weighting Lin:

Frequency Hz	Ref. level dB	Expected level dB	Actual level dB	Tolerance(dB)		Deviation dB
				+	-	
1000.0	94.0	94.0	94.0	0.0	0.0	0.0
31.6	94.0	94.0	93.8	1.5	1.5	-0.2
63.1	94.0	94.0	93.9	1.5	1.5	-0.1
125.9	94.0	94.0	93.9	1.0	1.0	-0.1
251.2	94.0	94.0	93.9	1.0	1.0	-0.1
501.2	94.0	94.0	93.9	1.0	1.0	-0.1
1995.0	94.0	94.0	93.9	1.0	1.0	-0.1
3981.0	94.0	94.0	94.0	1.0	1.0	0.0
7943.0	94.0	94.0	94.0	1.5	3.0	0.0
12590.0	94.0	94.0	93.9	3.0	6.0	-0.1

Note: No corrections for the frequency response of the microphone, instrument case and windshield are made to the sound level meter.

TIME WEIGHTING FAST TEST

Time weighting F is tested on the reference range with a single sinusoidal burst of duration 200 ms at a frequency 2000 Hz and an amplitude which produces an indication 4 dB below the upper limit of the primary indicator range when the signal is continuous. (Weight A, Maximum hold)

Ref. level dB	Expected level dB	Actual level dB	Tolerance(dB)		Deviation dB
			+	-	
116.0	115.0	114.9	1.0	1.0	-0.1

TIME WEIGHTING SLOW TEST

Time weighting S is tested on the reference range with a single sinusoidal burst of duration 500 ms at a frequency 2000 Hz and an amplitude which produces an indication 4 dB below the upper limit of the primary indicator range when the signal is continuous. (Weight A, Maximum hold)

Ref. level dB	Expected level dB	Actual level dB	Tolerance(dB)		Deviation dB
			+	-	
116.0	111.9	111.9	1.0	1.0	0.0



Test Data for Sound Level Meter

Page 4 of 6

Sound level meter type: XL2 Serial No. A2A-15269-EO Date 09-Mar-2023
Microphone type: MC230A Serial No. A16673

Report: 23CA0308 01

PEAK RESPONSE TEST

The onset time of the peak detector is tested on the reference range by comparing the response to a 100 us rectangular test pulse with the response to a 10 ms reference pulse of the same amplitude. The amplitude of the 10 ms reference pulse is such as to produce an indication 1 dB below the upper limit of the primary indicator range.

Positive polarities: (Weighting Z, set the generator signal to single, Lzpeak)

Ref. level	Response to 10 ms	Response to 100 us	Tolerance	Deviation
dB	dB	dB	+/- dB	dB
119.0	119.0	119.5	2.0	0.5

Negative polarities:

Ref. level	Response to 10 ms	Response to 100 us	Tolerance	Deviation
dB	dB	dB	+/- dB	dB
119.0	119.0	119.5	2.0	0.5

RMS ACCURACY TEST

The RMS detector accuracy is tested on the reference range for a crest factor of 3.

Test frequency: 2000 Hz
Amplitude: 2 dB below the upper limit of the primary indicator range.
Burst repetition frequency: 40 Hz
Tone burst signal: 11 cycles of a sine wave of frequency 2000 Hz. (Set to INT)

Time weighting	Ref. Level	Expected level	Tone burst signal	Tolerance	Deviation
	dB	dB	indication(dB)	+/- dB	dB
Slow	118.0+6.6	118.0	117.9	0.5	-0.1

TIME WEIGHTING IMPULSE TEST

Time weighting I is tested on the reference range (Set the SLM to LAImax)

Test frequency: 2000 Hz
Amplitude: The upper limit of the primary indicator range.

Single sinusoidal burst of duration 5 ms:

Ref. Level	Single burst indication		Tolerance	Deviation
	dB	Expected (dB)	Actual (dB)	+/- dB
120.0	111.2	111.1	2.0	-0.1

Repeated at 100 Hz

Ref. Level	Repeated burst indication		Tolerance	Deviation
	dB	Expected (dB)	Actual (dB)	+/- dB
120.0	117.3	117.1	1.0	-0.2

TIME AVERAGING TEST

This test compares the SLM reading for continuous sine signals with readings obtained from a sine tone burst sequence having the same RMS level. The test level is 30 dB below the upper limit of the linearity range and repeated for Type 1 SLM with 40 dB below the upper limit of the linearity.

Frequency of tone burst: 4000 Hz

Duration of tone burst: 1 ms

Repetition Time	Level of tone burst	Expected Leq	Actual Leq	Tolerance	Deviation	Remarks



Test Data for Sound Level Meter

Page 5 of 6

Sound level meter type: XL2 Serial No. A2A-15269-EO Date 09-Mar-2023
Microphone type: MC230A Serial No. A16673
Report: 23CA0308 01

msec	dB	dB	dB	+/- dB	dB	
1000	90.0	90.0	90.0	1.0	0.0	60s integ.
10000	80.0	80.0	80.0	1.0	0.0	6min. integ.

PULSE RANGE AND SOUND EXPOSURE LEVEL TEST

The test tone burst signal is superimposed on a baseline signal corresponding to the lower limit of reference range

Test frequency: 4000 Hz

Integration time: 10 sec

The integrating sound level meter set to Leq:

Duration	Rms level of	Expected	Actual	Tolerance	Deviation
msec	tone burst (dB)	dB	dB	+/- dB	dB
10	88.0	58.0	58.0	1.7	0.0

The integrating sound level meter set to SEL:

Duration	Rms level of	Expected	Actual	Tolerance	Deviation
msec	tone burst (dB)	dB	dB	+/- dB	dB
10.0	88.0	68.0	68.0	1.7	0.0

OVERLOAD INDICATION TEST

For SLM capable of operating in a non-integrating mode.

Test frequency: 2000 Hz

Amplitude: 2 dB below the upper limit of the primary indicator range.

Burst repetition frequency: 40 Hz

Tone burst signal: 11 cycles of a sine wave of frequency 2000 Hz.

Level	Level reduced by	Further reduced	Difference	Tolerance	Deviation
at overload (dB)	1 dB	3 dB	dB	dB	dB
121.5	120.5	117.5	3.0	1.0	0.0

For integrating SLM, with the instrument indicating Leq.

For integrating SLM, with the instrument indicating Leq and set to the reference range. The test signal as following:

The test tone burst signal is superimposed on a baseline signal corresponding to the lower limit of reference range

Test frequency: 4000 Hz

Integration time: 10 sec

Single burst duration: 1 msec

Rms level	Level reduced by	Expected level	Actual level	Tolerance	Deviation
at overload (dB)	1 dB	dB	dB	dB	dB
127.5	126.5	86.5	86.5	2.2	0.0

ACOUSTIC TEST

The acoustic test of the complete SLM is tested at the frequency 125 Hz and 8000 Hz using a B&K type 4226 Multifunction Acoustic Calibrator. The test is performed in A weighting.

Frequency	Expected level	Actual level	Tolerance (dB)		Deviation
Hz	dB	Measured (dB)	+	-	dB



Test Data for Sound Level Meter

Page 6 of 6

Sound level meter type: XL2 Serial No. A2A-15269-EO Date 09-Mar-2023

Microphone type: MC230A Serial No. A16673

Report: 23CA0308 01

1000	94.0	94.0	0.0	0.0	0.0
125	77.9	77.9	1.0	1.0	0.0
8000	92.9	92.6	1.5	3.0	-0.3

-----END-----



CERTIFICATE OF CALIBRATION

Certificate No.: 23CA0508 02-01 Page 1 of 2

Item tested

Description:	Sound Level Meter (Type 1)	, Microphone	Preamp
Manufacturer:	Larson Davis	, PCB	PCB
Type/Model No.:	LxT1	, 377B02	PRMLxT1L
Serial/Equipment No.:	0003737	, 340739	042622
Adaptors used:	-	, -	-

Item submitted by

Customer Name: Lam Environmental Services Limited.
Address of Customer: -
Request No.: -
Date of receipt: 08-May-2023

Date of test: 11-May-2023

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Multi function sound calibrator	B&K 4226	2288444	23-Aug-2023	CIGISMEC
Signal generator	DS 360	61227	08-Jun-2023	CEPREI

Ambient conditions

Temperature: 22 ± 1 °C
Relative humidity: 55 ± 10 %
Air pressure: 1005 ± 5 hPa

Test specifications

- 1, The Sound Level Meter has been calibrated in accordance with the requirements as specified in BS 7580: Part 1: 1997 and the lab calibration procedure SMTP004-CA-152.
- 2, The electrical tests were performed using an electrical signal substituted for the microphone which was removed and replaced by an equivalent capacitance within a tolerance of $\pm 20\%$.
- 3, The acoustic calibration was performed using an B&K 4226 sound calibrator and corrections was applied for the difference between the free-field and pressure responsiveness of the Sound Level Meter.

Test results

This is to certify that the Sound Level Meter conforms to BS 7580: Part 1: 1997 for the conditions under which the test was performed.

Details of the performed measurements are presented on page 2 of this certificate.

Actual Measurement data are documented on worksheets.

Approved Signatory:

Feng Junqi

Date: 13-May-2023

Company Chop:



Comments: The results reported in this certificate refer to the condition of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument. The results apply to the item as received.



CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.: 23CA0508 02-01 Page 2 of 2

1, Electrical Tests

The electrical tests were performed using an equivalent capacitance substituted for the microphone. The results are given in below with test status and the estimated uncertainties. The "Pass" means the result of the test is inside the tolerances stated in the test specifications. The "-" means the result of test is outside these tolerances.

Test:	Subtest:	Status:	Expanded Uncertainty (dB)	Coverage Factor
Self-generated noise	A	Pass	0.3	
	C	Pass	0.8	2.1
	Lin	Pass	1.6	2.2
Linearity range for Leq	At reference range, Step 5 dB at 4 kHz	Pass	0.3	
	Reference SPL on all other ranges	Pass	0.3	
	2 dB below upper limit of each range	Pass	0.3	
	2 dB above lower limit of each range	Pass	0.3	
Linearity range for SPL	At reference range, Step 5 dB at 4 kHz	Pass	0.3	
	A	Pass	0.3	
	C	Pass	0.3	
	Lin	Pass	0.3	
Time weightings	Single Burst Fast	Pass	0.3	
	Single Burst Slow	Pass	0.3	
Peak response	Single 100µs rectangular pulse	Pass	0.3	
	R.M.S. accuracy	Crest factor of 3	Pass	0.3
Time weighting I	Single burst 5 ms at 2000 Hz	Pass	0.3	
	Repeated at frequency of 100 Hz	Pass	0.3	
Time averaging	1 ms burst duty factor 1/10 ³ at 4kHz	Pass	0.3	
	1 ms burst duty factor 1/10 ⁴ at 4kHz	Pass	0.3	
Pulse range	Single burst 10 ms at 4 kHz	Pass	0.4	
Sound exposure level	Single burst 10 ms at 4 kHz	Pass	0.4	
Overload indication	SPL	Pass	0.3	
	Leq	Pass	0.4	

2, Acoustic tests

The complete sound level meter was calibrated on the reference range using a B&K 4226 acoustic calibrator with 1000Hz and SPL 94 dB. The sensitivity of the sound level meter was adjusted. The test result at 125 Hz and 8000 Hz are given in below with test status and the estimated uncertainties.

Test:	Subtest	Status	Expanded Uncertainty (dB)	Coverage Factor
Acoustic response	Weighting A at 125 Hz	Pass	0.3	
	Weighting A at 8000 Hz	Pass	0.5	

3, Response to associated sound calibrator

N/A

The expanded uncertainties have been calculated in accordance with the ISO Publication "Guide to the expression of uncertainty in measurement", and gives an interval estimated to have a level of confidence of 95%. A coverage factor of 2 is assumed unless explicitly stated.

- End -

Calibrated by:

Date:

Fung Chi Yip
11-May-2023

Checked by:

Date:

Chan Yuk Yiu
13-May-2023

The standard(s) and equipment used in the calibration are traceable to national or international recognised standards and are calibrated on a schedule to maintain the required accuracy level.



Sound level meter type: LxT1 Serial No. 0003737 Date 11-May-2023
 Microphone type: 377B02 Serial No. 340739
 Report: 23CA0508 02-01

SELF GENERATED NOISE TEST

The noise test is performed in the most sensitive range of the SLM with the microphone replaced by an equivalent impedance.

Noise level in A weighting	10.6	dB
Noise level in C weighting	13.3	dB
Noise level in Lin	22.2	dB

LINEARITY TEST

The linearity is tested relative to the reference sound pressure level using a continuous sinusoidal signal of frequency 4 kHz. The measurement is made on the reference range for indications at 5 dB intervals starting from the 94 dB reference sound pressure level. And until within 5 dB of the upper and lower limits of the reference range, the measurements shall be made at 1 dB intervals.(SLM set to LEQ/SPL)

Reference/Expected level	Actual level		Tolerance	Deviation	
	non-integrated	integrated		non-integrated	integrated
dB	dB	dB	+/- dB	dB	dB
94.0	94.0	94.0	0.7	0.0	0.0
99.0	99.0	99.0	0.7	0.0	0.0
104.0	104.0	104.0	0.7	0.0	0.0
109.0	109.0	109.0	0.7	0.0	0.0
114.0	114.0	114.0	0.7	0.0	0.0
115.0	115.0	115.0	0.7	0.0	0.0
116.0	116.0	116.0	0.7	0.0	0.0
117.0	117.0	117.0	0.7	0.0	0.0
118.0	118.0	118.0	0.7	0.0	0.0
119.0	119.0	119.0	0.7	0.0	0.0
120.0	120.0	120.0	0.7	0.0	0.0
89.0	89.0	89.0	0.7	0.0	0.0
84.0	84.0	84.0	0.7	0.0	0.0
79.0	79.0	79.0	0.7	0.0	0.0
74.0	74.0	74.0	0.7	0.0	0.0
69.0	69.0	69.0	0.7	0.0	0.0
64.0	64.0	64.0	0.7	0.0	0.0
59.0	59.0	59.0	0.7	0.0	0.0
54.0	54.0	54.0	0.7	0.0	0.0
49.0	49.0	49.0	0.7	0.0	0.0
44.0	44.0	44.0	0.7	0.0	0.0
39.0	39.0	39.0	0.7	0.0	0.0
34.0	34.0	34.0	0.7	0.0	0.0
33.0	32.9	32.9	0.7	-0.1	-0.1



Test Data for Sound Level Meter

Page 2 of 5

Sound level meter type: LxT1 Serial No. 0003737 Date 11-May-2023
 Microphone type: 377B02 Serial No. 340739

Report: 23CA0508 02-01

32.0	31.9	31.9	0.7	-0.1	-0.1
31.0	30.9	30.9	0.7	-0.1	-0.1
30.0	29.9	29.9	0.7	-0.1	-0.1

Measurements for an indication of the reference SPL on all other ranges which include it

Other ranges	Expected level	Actual level	Tolerance	Deviation
dB	dB	dB	+/- dB	dB
20-120	94.0	94.0	0.7	0.0

Measurements on all level ranges for indications 2 dB below the upper limit and 2 dB above the lower limit

Ranges	Reference/Expected level	Actual level	Tolerance	Deviation
dB	dB	dB	+/- dB	dB
20-120	30.0	29.9	0.7	-0.1
	118.0	118.0	0.7	0.0

FREQUENCY WEIGHTING TEST

The frequency response of the weighting networks are tested at octave intervals over the frequency ranges 31.5 Hz to 12500 Hz. The signal level at 1000 Hz is set to give an indication of the reference SPL.

Frequency weighting A:

Frequency Hz	Ref. level dB	Expected level dB	Actual level dB	Tolerance(dB)		Deviation dB
				+	-	
1000.0	94.0	94.0	94.0	0.0	0.0	0.0
31.6	94.0	54.6	54.5	1.5	1.5	-0.1
63.1	94.0	67.8	67.7	1.5	1.5	-0.1
125.9	94.0	77.9	77.9	1.0	1.0	0.0
251.2	94.0	85.4	85.4	1.0	1.0	0.0
501.2	94.0	90.8	90.8	1.0	1.0	0.0
1995.0	94.0	95.2	95.2	1.0	1.0	0.0
3981.0	94.0	95.0	95.0	1.0	1.0	0.0
7943.0	94.0	92.9	92.9	1.5	3.0	0.0
12590.0	94.0	89.7	89.6	3.0	6.0	-0.1

Frequency weighting C:

Frequency Hz	Ref. level dB	Expected level dB	Actual level dB	Tolerance(dB)		Deviation dB
				+	-	
1000.0	94.0	94.0	94.0	0.0	0.0	0.0
31.6	94.0	91.0	90.9	1.5	1.5	-0.1
63.1	94.0	93.2	93.1	1.5	1.5	-0.1
125.9	94.0	93.8	93.8	1.0	1.0	0.0
251.2	94.0	94.0	94.0	1.0	1.0	0.0
501.2	94.0	94.0	94.0	1.0	1.0	0.0



Test Data for Sound Level Meter

Sound level meter type: LxT1 Serial No. 0003737 Date 11-May-2023
Microphone type: 377B02 Serial No. 340739
Report: 23CA0508 02-01

1995.0	94.0	93.8	93.8	1.0	1.0	0.0
3981.0	94.0	93.2	93.2	1.0	1.0	0.0
7943.0	94.0	91.0	91.0	1.5	3.0	0.0
12590.0	94.0	87.8	87.7	3.0	6.0	-0.1

Frequency weighting Lin:

Frequency Hz	Ref. level dB	Expected level dB	Actual level dB	Tolerance(dB)		Deviation dB
				+	-	
1000.0	94.0	94.0	94.0	0.0	0.0	0.0
31.6	94.0	94.0	93.9	1.5	1.5	-0.1
63.1	94.0	94.0	93.9	1.5	1.5	-0.1
125.9	94.0	94.0	93.9	1.0	1.0	-0.1
251.2	94.0	94.0	94.0	1.0	1.0	0.0
501.2	94.0	94.0	94.0	1.0	1.0	0.0
1995.0	94.0	94.0	94.0	1.0	1.0	0.0
3981.0	94.0	94.0	94.0	1.0	1.0	0.0
7943.0	94.0	94.0	94.0	1.5	3.0	0.0
12590.0	94.0	94.0	94.0	3.0	6.0	0.0

TIME WEIGHTING FAST TEST

Time weighting F is tested on the reference range with a single sinusoidal burst of duration 200 ms at a frequency 2000 Hz and an amplitude which produces an indication 4 dB below the upper limit of the primary indicator range when the signal is continuous. (Weight A, Maximum hold)

Ref. level dB	Expected level dB	Actual level dB	Tolerance(dB)		Deviation dB
			+	-	
116.0	115.0	114.9	1.0	1.0	-0.1

TIME WEIGHTING SLOW TEST

Time weighting S is tested on the reference range with a single sinusoidal burst of duration 500 ms at a frequency 2000 Hz and an amplitude which produces an indication 4 dB below the upper limit of the primary indicator range when the signal is continuous. (Weight A, Maximum hold)

Ref. level dB	Expected level dB	Actual level dB	Tolerance(dB)		Deviation dB
			+	-	
116.0	111.9	111.8	1.0	1.0	-0.1

PEAK RESPONSE TEST

The onset time of the peak detector is tested on the reference range by comparing the response to a 100 us rectangular test pulse with the response to a 10 ms reference pulse of the same amplitude. The amplitude of the 10 ms reference pulse is such as to produce an indication 1 dB below the upper limit of the primary indicator range. Positive polarities: (Weighting Z, set the generator signal to single, Lzpeak)

Ref. level dB	Response to 10 ms dB	Response to 100 us dB	Tolerance +/- dB	Deviation dB



Test Data for Sound Level Meter

Sound level meter type: LxT1 Serial No. 0003737 Date 11-May-2023
 Microphone type: 377B02 Serial No. 340739
 Report: 23CA0508 02-01

Negative polarities:

Ref. level	Response to 10 ms	Response to 100 us	Tolerance	Deviation
dB	dB	dB	+/- dB	dB
119.0	119.0	119.5	2.0	0.5

RMS ACCURACY TEST

The RMS detector accuracy is tested on the reference range for a crest factor of 3.

Test frequency: 2000 Hz
 Amplitude: 2 dB below the upper limit of the primary indicator range.
 Burst repetition frequency: 40 Hz
 Tone burst signal: 11 cycles of a sine wave of frequency 2000 Hz. (Set to INT)

Time weighting	Ref. Level	Expected level	Tone burst signal	Tolerance	Deviation
	dB	dB	indication(dB)	+/- dB	dB
Slow	114.0+6.6	114.0	113.8	0.5	-0.2

TIME WEIGHTING IMPULSE TEST

Time weighting I is tested on the reference range (Set the SLM to LAImax)

Test frequency: 2000 Hz
 Amplitude: The upper limit of the primary indicator range.

Single sinusoidal burst of duration 5 ms:

Ref. Level	Single burst indication		Tolerance	Deviation
	Expected (dB)	Actual (dB)		
120.0	111.2	111.1	2.0	-0.1

Repeated at 100 Hz

Ref. Level	Repeated burst indication		Tolerance	Deviation
	Expected (dB)	Actual (dB)		
120.0	117.3	117.1	1.0	-0.2

TIME AVERAGING TEST

This test compares the SLM reading for continuous sine signals with readings obtained from a sine tone burst sequence having the same RMS level. The test level is 30 dB below the upper limit of the linearity range and repeated for Type 1 SLM with 40 dB below the upper limit of the linearity.

Frequency of tone burst: 4000 Hz

Duration of tone burst: 1 ms

Repetition Time	Level of tone burst	Expected Leq	Actual Leq	Tolerance	Deviation	Remarks
msec	dB	dB	dB	+/- dB	dB	
1000	90.0	90.0	89.8	1.0	-0.2	60s integ.
10000	80.0	80.0	79.9	1.0	-0.1	6min. integ.

PULSE RANGE AND SOUND EXPOSURE LEVEL TEST

The test tone burst signal is superimposed on a baseline signal corresponding to the lower limit of reference range

Test frequency: 4000 Hz

Integration time: 10 sec



Test Data for Sound Level Meter

Page 5 of 5

Sound level meter type: LxT1 Serial No. 0003737 Date 11-May-2023
Microphone type: 377B02 Serial No. 340739 Report: 23CA0508 02-01

The integrating sound level meter set to Leq:

Duration	Rms level of	Expected	Actual	Tolerance	Deviation
msec	tone burst (dB)	dB	dB	+/- dB	dB
10	88.0	58.0	57.9	1.7	-0.1

The integrating sound level meter set to SEL:

Duration	Rms level of	Expected	Actual	Tolerance	Deviation
msec	tone burst (dB)	dB	dB	+/- dB	dB
10.0	88.0	68.0	67.9	1.7	-0.1

OVERLOAD INDICATION TEST

For SLM capable of operating in a non-integrating mode.

Test frequency: 2000 Hz
Amplitude: 2 dB below the upper limit of the primary indicator range.
Burst repetition frequency: 40 Hz
Tone burst signal: 11 cycles of a sine wave of frequency 2000 Hz.

Level	Level reduced by	Further reduced	Difference	Tolerance	Deviation
at overload (dB)	1 dB	3 dB	dB	dB	dB
115.0	114.0	111.0	3.0	1.0	0.0

For integrating SLM, with the instrument indicating Leq.

For integrating SLM, with the instrument indicating Leq and set to the reference range. The test signal as following:
The test tone burst signal is superimposed on a baseline signal corresponding to the lower limit of reference range
Test frequency: 4000 Hz
Integration time: 10 sec
Single burst duration: 1 msec

Rms level	Level reduced by	Expected level	Actual level	Tolerance	Deviation
at overload (dB)	1 dB	dB	dB	dB	dB
121.5	120.5	80.5	80.4	2.2	-0.1

ACOUSTIC TEST

The acoustic test of the complete SLM is tested at the frequency 125 Hz and 8000 Hz using a B&K type 4226 Multifunction Acoustic Calibrator. The test is performed in A weighting.

Frequency	Expected level	Actual level		Tolerance (dB)		Deviation
		Hz	Measured (dB)	+	-	
1000	94.0		94.0	0.0	0.0	0.0
125	77.9		77.9	1.0	1.0	0.0
8000	92.9		90.4	1.5	3.0	-2.5

-----END-----



CERTIFICATE OF CALIBRATION

Certificate No.: 23CA0317 02-04

Page: 1 of 2

Item tested

Description: Acoustical Calibrator (Class 1)
Manufacturer: Larson Davis
Type/Model No.: CAL200
Serial/Equipment No.: 13098
Adaptors used: -

Item submitted by

Customer: Lam Environmental Services Limited.
Address of Customer: -
Request No.: -
Date of receipt: 17-Mar-2023

Date of test: 20-Mar-2023

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Lab standard microphone	B&K 4180	2412857	23-May-2023	SCL
Preamplifier	B&K 2673	2743150	28-Jun-2023	CEPREI
Measuring amplifier	B&K 2610	2346941	30-Jun-2023	CEPREI
Signal generator	DS 360	61227	08-Jun-2023	CEPREI
Digital multi-meter	34401A	US36087050	30-May-2023	CEPREI
Audio analyzer	8903B	GB41300350	06-Jul-2023	CEPREI
Universal counter	53132A	MY40003662	13-Jun-2023	CEPREI

Ambient conditions

Temperature: 22 ± 1 °C
Relative humidity: 55 ± 10 %
Air pressure: 1010 ± 5 hPa

Test specifications

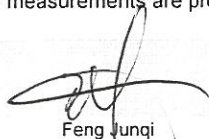
- The Sound Calibrator has been calibrated in accordance with the requirements as specified in IEC 60942 1997 Annex B and the lab calibration procedure SMTP004-CA-156.
- The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.
- The results are rounded to the nearest 0.01 dB and 0.1 Hz and have not been corrected for variations from a reference pressure of 1013.25 hectoPascals as the maker's information indicates that the instrument is insensitive to pressure changes.

Test results

This is to certify that the sound calibrator conforms to the requirements of annex B of IEC 60942: 1997 for the conditions under which the test was performed. This does not imply that the sound calibrator meets IEC 60942 under any other conditions.

Details of the performed measurements are presented on page 2 of this certificate.

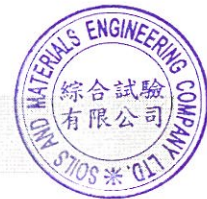
Approved Signatory:



Feng Junqi

Date: 21-Mar-2023

Company Chop:



Comments: The results reported in this certificate refer to the condition of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument. The results apply to the item as received.



CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.: 23CA0317 02-04

Page: 2 of 2

1, Measured Sound Pressure Level

The output Sound Pressure Level in the calibrator head was measured at the setting and frequency shown using a calibrated laboratory standard microphone and insert voltage technique. The results are given in below with the estimated uncertainties.

(Output level in dB re 20 μ Pa)

Frequency Shown Hz	Output Sound Pressure Level Setting dB	Measured Output Sound Pressure Level dB	Estimated Expanded Uncertainty dB
1000	94.00	93.82	0.10

2, Sound Pressure Level Stability - Short Term Fluctuations

The Short Term Fluctuations was determined by measuring the maximum and minimum of the fast weighted DC output of the B&K 2610 measuring amplifier over a 20 second time interval as required in the standard. The Short Term Fluctuation was found to be:

At 1000 Hz STF = 0.011 dB

Estimated expanded uncertainty 0.005 dB

3, Actual Output Frequency

The determination of actual output frequency was made using a B&K 4180 microphone together with a B&K 2673 preamplifier connected to a B&K 2610 measuring amplifier. The AC output of the B&K 2610 was taken to an universal counter which was used to determine the frequency averaged over 20 second of operation as required by the standard. The actual output frequency at 1 KHz was:

At 1000 Hz Actual Frequency = 999.9 Hz

Estimated expanded uncertainty 0.1 Hz Coverage factor k = 2.2

4, Total Noise and Distortion

For the Total Noise and Distortion measurement, the unfiltered AC output of the B&K 2610 measuring amplifier was connected to an Agilent Type 8903 B distortion analyser. The TND result at 1 KHz was:

At 1000 Hz TND = 0.7 %

Estimated expanded uncertainty 0.7 %

The expanded uncertainties have been calculated in accordance with the ISO Publication "Guide to the expression of uncertainty in measurement", and gives an interval estimated to have a level of confidence of 95%. A coverage factor of 2 is assumed unless explicitly stated.

Calibrated by:

Date:

Fung Chi Yip

20-Mar-2023

- End -

Checked by:

Date:

Chan Yuk Yiu

21-Mar-2023

The standard(s) and equipment used in the calibration are traceable to national or international recognised standards and are calibrated on a schedule to maintain the required accuracy level.



Wind Station Performance Check Record

Type : Weather Station

Manufacturer : 武汉辰云科技有限公司

Model Number : YGY-FSXY1

Serial Number : YG 21071630T0924

Performance Check Date : 18-Sep-2023

Performance Check Results

Wind Speed Range (m/s)	Reading Value (V1, m/s)	Anemometer Value (V2, m/s)	Difference (V1 - V2, m/s)
Zero Check	0.0	0.0	0.0
1 - 2	1.5	1.8	-0.3
3 - 4	4.2	4.4	-0.2
5 - 6	5.5	5.3	0.2
7 - 8	7.7	7.5	0.2

Wind Direction (°)	Reading Value (W1, °)	Compass Value (W2, °)	Difference (W1 - W2, °)
0	0	0	0
90	90	90	0
180	183	180	3
270	268	270	-2

Test Reference:

1. Wind Speed Check - Speed reading checked on-site against anemometer logged value.
2. Wind Direction Check - Direction reading checked on on-site against compass marked reading.

Conducted by: Harry Po

Checked by: William Cheung



Appendix 4.3

Wind Data



Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
1-Nov-23	00:00	0.0	71(ENE)
	01:00	0.5	116(ESE)
	02:00	0.0	113(ESE)
	03:00	0.9	129(SE)
	04:00	0.0	168(SSE)
	05:00	0.0	117(ESE)
	06:00	0.0	127(SE)
	07:00	0.0	119(ESE)
	08:00	0.0	59(ENE)
	09:00	0.0	62(ENE)
	10:00	0.5	126(SE)
	11:00	0.0	141(SE)
	12:00	0.0	223(SW)
	13:00	0.0	194(SSW)
	14:00	0.0	76(ENE)
	15:00	0.0	155(SSE)
	16:00	0.0	217(SW)
	17:00	0.0	355(N)
	18:00	0.0	54(NE)
	19:00	0.0	236(SW)
	20:00	0.0	239(WSW)
	21:00	0.0	141(SE)
	22:00	0.0	206(SSW)
23:00	0.0	221(SW)	
2-Nov-23	00:00	0.0	328(NNW)
	01:00	0.0	292(WNW)
	02:00	0.0	112(ESE)
	03:00	0.0	313(NW)
	04:00	0.9	89(E)
	05:00	0.0	126(SE)
	06:00	0.0	318(NW)
	07:00	0.0	198(SSW)
	08:00	0.0	291(WNW)
	09:00	0.0	147(SSE)
	10:00	0.0	115(ESE)
	11:00	0.0	282(WNW)
	12:00	0.0	69(ENE)
	13:00	1.5	140(SE)
	14:00	0.0	110(ESE)
	15:00	0.0	128(SE)
	16:00	0.0	157(SSE)
	17:00	0.0	124(SE)
	18:00	0.0	243(WSW)
	19:00	0.0	223(SW)
	20:00	0.0	169(S)
	21:00	0.0	229(SW)
	22:00	0.0	196(SSW)
23:00	0.7	322(NW)	



Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
3-Nov-23	00:00	0.0	279(W)
	01:00	0.0	223(SW)
	02:00	0.0	322(NW)
	03:00	0.0	247(WSW)
	04:00	0.0	89(E)
	05:00	0.0	73(ENE)
	06:00	0.0	95(E)
	07:00	0.0	74(ENE)
	08:00	0.5	73(ENE)
	09:00	0.0	346(NNW)
	10:00	0.0	226(SW)
	11:00	0.0	173(S)
	12:00	0.0	248(WSW)
	13:00	0.0	174(S)
	14:00	0.0	158(SSE)
	15:00	0.0	149(SSE)
	16:00	1.7	87(E)
	17:00	0.0	126(SE)
	18:00	0.0	226(SW)
	19:00	0.0	106(ESE)
	20:00	0.0	174(S)
	21:00	0.0	18(NNE)
	22:00	0.0	296(WNW)
23:00	0.0	114(ESE)	
4-Nov-23	00:00	0.0	223(SW)
	01:00	0.0	219(SW)
	02:00	0.0	60(ENE)
	03:00	0.0	220(SW)
	04:00	0.0	161(SSE)
	05:00	0.9	7(N)
	06:00	0.0	198(SSW)
	07:00	0.0	52(NE)
	08:00	0.0	349(N)
	09:00	0.0	144(SE)
	10:00	0.0	353(N)
	11:00	0.0	305(NW)
	12:00	0.0	142(SE)
	13:00	0.0	134(SE)
	14:00	0.0	196(SSW)
	15:00	0.0	184(S)
	16:00	0.0	140(SE)
	17:00	0.0	199(SSW)
	18:00	0.0	167(SSE)
	19:00	0.0	308(NW)
	20:00	0.0	199(SSW)
	21:00	0.0	192(SSW)
	22:00	0.0	206(SSW)
23:00	0.0	240(WSW)	



Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
5-Nov-23	00:00	0.0	73(ENE)
	01:00	0.0	249(WSW)
	02:00	0.0	87(E)
	03:00	0.0	61(ENE)
	04:00	0.0	357(N)
	05:00	0.0	39(NE)
	06:00	0.0	231(SW)
	07:00	0.0	213(SSW)
	08:00	0.0	174(S)
	09:00	0.0	129(SE)
	10:00	0.0	155(SSE)
	11:00	0.0	231(SW)
	12:00	0.0	182(S)
	13:00	0.0	176(S)
	14:00	0.0	217(SW)
	15:00	0.7	231(SW)
	16:00	0.0	207(SSW)
	17:00	0.0	73(ENE)
	18:00	0.0	24(NNE)
	19:00	0.0	286(WNW)
	20:00	0.0	249(WSW)
	21:00	0.0	174(S)
	22:00	0.0	209(SSW)
23:00	0.0	243(WSW)	
6-Nov-23	00:00	0.0	171(S)
	01:00	0.0	279(W)
	02:00	0.0	313(NW)
	03:00	0.0	301(WNW)
	04:00	0.0	76(ENE)
	05:00	0.0	90(E)
	06:00	0.0	76(ENE)
	07:00	0.0	88(E)
	08:00	0.0	193(SSW)
	09:00	0.0	57(ENE)
	10:00	0.0	306(NW)
	11:00	0.5	245(WSW)
	12:00	0.0	238(WSW)
	13:00	0.0	171(S)
	14:00	0.0	205(SSW)
	15:00	0.0	185(S)
	16:00	1.7	40(NE)
	17:00	1.7	46(NE)
	18:00	0.0	142(SE)
	19:00	0.0	299(WNW)
	20:00	0.0	277(W)
	21:00	0.0	340(NNW)
	22:00	0.0	127(SE)
23:00	0.0	34(NE)	



Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
7-Nov-23	00:00	0.0	215(SW)
	01:00	0.0	307(NW)
	02:00	0.0	278(W)
	03:00	0.0	236(SW)
	04:00	0.0	201(SSW)
	05:00	0.0	19(NNE)
	06:00	0.0	213(SSW)
	07:00	0.5	157(SSE)
	08:00	0.5	222(SW)
	09:00	1.9	158(SSE)
	10:00	0.0	226(SW)
	11:00	0.0	82(E)
	12:00	0.5	21(NNE)
	13:00	0.0	141(SE)
	14:00	0.0	94(E)
	15:00	0.0	296(WNW)
	16:00	0.0	160(SSE)
	17:00	0.7	54(NE)
	18:00	0.0	73(ENE)
	19:00	0.0	168(SSE)
	20:00	1.5	167(SSE)
	21:00	0.0	305(NW)
	22:00	2.7	66(ENE)
23:00	0.0	159(SSE)	
8-Nov-23	00:00	0.9	49(NE)
	01:00	0.0	274(W)
	02:00	0.0	214(SW)
	03:00	0.0	211(SSW)
	04:00	0.0	308(NW)
	05:00	0.0	6(N)
	06:00	0.9	182(S)
	07:00	0.0	288(WNW)
	08:00	1.5	38(NE)
	09:00	0.0	21(NNE)
	10:00	0.9	193(SSW)
	11:00	1.5	121(ESE)
	12:00	0.0	164(SSE)
	13:00	0.9	28(NNE)
	14:00	0.9	196(SSW)
	15:00	0.0	166(SSE)
	16:00	0.0	241(WSW)
	17:00	0.0	208(SSW)
	18:00	0.9	101(E)
	19:00	0.5	217(SW)
	20:00	0.0	0(N)
	21:00	0.0	323(NW)
	22:00	1.5	56(NE)
23:00	1.1	88(E)	



Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
9-Nov-23	00:00	0.0	165(SSE)
	01:00	0.0	82(E)
	02:00	0.0	329(NNW)
	03:00	0.0	96(E)
	04:00	1.5	193(SSW)
	05:00	0.0	236(SW)
	06:00	2.1	78(ENE)
	07:00	0.0	243(WSW)
	08:00	0.0	357(N)
	09:00	1.1	273(W)
	10:00	0.0	221(SW)
	11:00	1.7	97(E)
	12:00	3.1	132(SE)
	13:00	1.5	114(ESE)
	14:00	5.1	105(ESE)
	15:00	1.3	100(E)
	16:00	1.9	137(SE)
	17:00	0.9	63(ENE)
	18:00	1.1	61(ENE)
	19:00	2.3	122(ESE)
	20:00	1.3	98(E)
	21:00	1.1	65(ENE)
	22:00	0.0	6(N)
23:00	0.0	89(E)	
10-Nov-23	00:00	0.9	189(S)
	01:00	1.7	66(ENE)
	02:00	1.1	196(SSW)
	03:00	0.0	132(SE)
	04:00	1.7	53(NE)
	05:00	0.5	124(SE)
	06:00	1.5	173(S)
	07:00	1.5	188(S)
	08:00	1.7	164(SSE)
	09:00	1.9	99(E)
	10:00	1.7	84(E)
	11:00	2.3	152(SSE)
	12:00	2.1	121(ESE)
	13:00	0.9	328(NNW)
	14:00	4.3	183(S)
	15:00	1.3	70(ENE)
	16:00	1.5	94(E)
	17:00	1.3	79(E)
	18:00	0.9	35(NE)
	19:00	1.1	152(SSE)
	20:00	1.5	51(NE)
	21:00	1.5	116(ESE)
	22:00	1.5	106(ESE)
23:00	1.9	83(E)	



Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
11-Nov-23	00:00	2.5	153(SSE)
	01:00	1.7	139(SE)
	02:00	1.9	162(SSE)
	03:00	1.7	313(NW)
	04:00	2.1	94(E)
	05:00	0.9	149(SSE)
	06:00	0.0	217(SW)
	07:00	0.5	247(WSW)
	08:00	1.5	90(E)
	09:00	0.9	76(ENE)
	10:00	1.7	77(ENE)
	11:00	2.1	165(SSE)
	12:00	2.1	94(E)
	13:00	1.9	127(SE)
	14:00	2.1	102(ESE)
	15:00	1.9	107(ESE)
	16:00	1.9	82(E)
	17:00	2.3	175(S)
	18:00	1.1	70(ENE)
	19:00	2.1	137(SE)
	20:00	0.5	58(ENE)
	21:00	1.3	131(SE)
	22:00	1.5	120(ESE)
23:00	1.1	108(ESE)	
12-Nov-23	00:00	1.7	81(E)
	01:00	1.9	101(E)
	02:00	0.9	128(SE)
	03:00	2.3	77(ENE)
	04:00	1.9	59(ENE)
	05:00	1.1	131(SE)
	06:00	2.7	87(E)
	07:00	2.1	55(NE)
	08:00	1.9	82(E)
	09:00	3.7	88(E)
	10:00	2.1	282(WNW)
	11:00	2.3	74(ENE)
	12:00	2.5	50(NE)
	13:00	2.7	67(ENE)
	14:00	3.5	64(ENE)
	15:00	2.5	103(ESE)
	16:00	3.3	101(E)
	17:00	1.7	134(SE)
	18:00	2.5	84(E)
	19:00	2.3	90(E)
	20:00	3.1	54(NE)
	21:00	5.1	70(ENE)
	22:00	2.5	111(ESE)
23:00	4.3	59(ENE)	



Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
13-Nov-23	00:00	3.7	74(ENE)
	01:00	1.3	83(E)
	02:00	2.7	123(ESE)
	03:00	4.5	44(NE)
	04:00	3.7	41(NE)
	05:00	6.5	76(ENE)
	06:00	2.1	51(NE)
	07:00	3.1	40(NE)
	08:00	2.3	73(ENE)
	09:00	2.7	70(ENE)
	10:00	2.7	59(ENE)
	11:00	3.7	43(NE)
	12:00	5.9	55(NE)
	13:00	1.3	173(S)
	14:00	3.5	54(NE)
	15:00	2.1	90(E)
	16:00	2.1	56(NE)
	17:00	3.1	34(NE)
	18:00	1.7	112(ESE)
	19:00	4.7	51(NE)
	20:00	3.7	56(NE)
	21:00	2.5	42(NE)
	22:00	1.9	121(ESE)
23:00	2.5	105(ESE)	
14-Nov-23	00:00	0.5	58(ENE)
	01:00	1.7	70(ENE)
	02:00	2.7	64(ENE)
	03:00	1.3	73(ENE)
	04:00	3.1	61(ENE)
	05:00	3.9	51(NE)
	06:00	2.1	99(E)
	07:00	1.3	250(WSW)
	08:00	3.5	92(E)
	09:00	1.7	321(NW)
	10:00	4.5	46(NE)
	11:00	2.3	116(ESE)
	12:00	1.1	39(NE)
	13:00	4.1	81(E)
	14:00	0.9	186(S)
	15:00	2.1	44(NE)
	16:00	1.1	103(ESE)
	17:00	1.9	48(NE)
	18:00	1.7	86(E)
	19:00	1.1	128(SE)
	20:00	1.1	25(NNE)
	21:00	0.7	64(ENE)
	22:00	1.7	59(ENE)
23:00	0.9	44(NE)	



Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
15-Nov-23	00:00	0.0	172(S)
	01:00	0.7	117(ESE)
	02:00	1.3	341(NNW)
	03:00	1.7	128(SE)
	04:00	0.0	276(W)
	05:00	1.1	20(NNE)
	06:00	1.7	69(ENE)
	07:00	3.3	57(ENE)
	08:00	1.1	130(SE)
	09:00	2.7	64(ENE)
	10:00	0.9	179(S)
	11:00	1.9	117(ESE)
	12:00	1.7	108(ESE)
	13:00	3.1	118(ESE)
	14:00	2.7	49(NE)
	15:00	1.7	50(NE)
	16:00	1.5	43(NE)
	17:00	1.3	155(SSE)
	18:00	1.1	43(NE)
	19:00	0.9	74(ENE)
	20:00	1.1	84(E)
	21:00	0.0	195(SSW)
	22:00	0.9	97(E)
23:00	0.0	68(ENE)	
16-Nov-23	00:00	0.0	55(NE)
	01:00	0.0	86(E)
	02:00	0.0	86(E)
	03:00	0.9	47(NE)
	04:00	0.0	47(NE)
	05:00	0.0	47(NE)
	06:00	1.5	22(NNE)
	07:00	1.1	22(NNE)
	08:00	0.5	137(SE)
	09:00	4.3	46(NE)
	10:00	2.7	38(NE)
	11:00	2.7	321(NW)
	12:00	5.5	106(ESE)
	13:00	3.7	57(ENE)
	14:00	2.3	109(ESE)
	15:00	2.9	64(ENE)
	16:00	1.1	86(E)
	17:00	3.5	103(ESE)
	18:00	1.9	133(SE)
	19:00	1.3	178(S)
	20:00	1.9	335(NNW)
	21:00	4.9	79(E)
	22:00	3.9	68(ENE)
23:00	1.5	49(NE)	



Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
17-Nov-23	00:00	2.7	24(NNE)
	01:00	1.1	78(ENE)
	02:00	0.7	163(SSE)
	03:00	2.3	91(E)
	04:00	4.3	67(ENE)
	05:00	2.5	76(ENE)
	06:00	3.7	121(ESE)
	07:00	2.5	65(ENE)
	08:00	2.9	78(ENE)
	09:00	6.5	57(ENE)
	10:00	5.9	71(ENE)
	11:00	6.7	58(ENE)
	12:00	6.9	63(ENE)
	13:00	4.5	50(NE)
	14:00	5.3	78(ENE)
	15:00	1.9	39(NE)
	16:00	3.7	83(E)
	17:00	1.7	95(E)
	18:00	0.9	50(NE)
	19:00	1.1	57(ENE)
	20:00	1.3	67(ENE)
	21:00	0.0	185(S)
	22:00	1.9	54(NE)
23:00	2.1	84(E)	
18-Nov-23	00:00	4.1	61(ENE)
	01:00	0.9	257(WSW)
	02:00	4.7	58(ENE)
	03:00	2.3	46(NE)
	04:00	1.5	261(W)
	05:00	3.9	55(NE)
	06:00	2.3	100(E)
	07:00	2.3	28(NNE)
	08:00	2.5	41(NE)
	09:00	4.7	55(NE)
	10:00	1.5	114(ESE)
	11:00	1.7	46(NE)
	12:00	2.7	88(E)
	13:00	2.3	40(NE)
	14:00	1.3	74(ENE)
	15:00	0.0	250(WSW)
	16:00	0.0	122(ESE)
	17:00	0.5	133(SE)
	18:00	0.0	109(ESE)
	19:00	1.3	94(E)
	20:00	0.7	48(NE)
	21:00	0.0	138(SE)
	22:00	0.0	217(SW)
23:00	0.0	263(W)	

**Wind Speed and Wind Direction**

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
19-Nov-23	00:00	0.0	59(ENE)
	01:00	0.0	25(NNE)
	02:00	0.0	351(N)
	03:00	0.0	349(N)
	04:00	0.0	3(N)
	05:00	0.0	320(NW)
	06:00	0.0	214(SW)
	07:00	0.0	48(NE)
	08:00	1.9	120(ESE)
	09:00	1.9	51(NE)
	10:00	0.0	319(NW)
	11:00	1.9	120(ESE)
	12:00	1.7	146(SE)
	13:00	2.1	132(SE)
	14:00	1.5	101(E)
	15:00	0.0	241(WSW)
	16:00	1.7	308(NW)
	17:00	0.7	205(SSW)
	18:00	0.0	125(SE)
	19:00	0.0	194(SSW)
	20:00	0.0	277(W)
	21:00	0.0	155(SSE)
	22:00	0.0	91(E)
23:00	0.0	51(NE)	
20-Nov-23	00:00	0.0	52(NE)
	01:00	0.0	52(NE)
	02:00	0.0	55(NE)
	03:00	0.0	59(ENE)
	04:00	0.0	73(ENE)
	05:00	0.0	69(ENE)
	06:00	0.0	82(E)
	07:00	0.0	76(ENE)
	08:00	0.0	74(ENE)
	09:00	0.9	91(E)
	10:00	2.1	55(NE)
	11:00	1.5	144(SE)
	12:00	1.1	68(ENE)
	13:00	3.9	78(ENE)
	14:00	0.7	136(SE)
	15:00	1.1	284(WNW)
	16:00	0.0	94(E)
	17:00	1.3	137(SE)
	18:00	0.0	113(ESE)
	19:00	0.0	47(NE)
	20:00	0.0	64(ENE)
	21:00	0.0	346(NNW)
	22:00	0.0	23(NNE)
23:00	0.0	74(ENE)	



Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
21-Nov-23	00:00	0.0	73(ENE)
	01:00	0.0	128(SE)
	02:00	0.0	128(SE)
	03:00	0.0	133(SE)
	04:00	0.0	130(SE)
	05:00	0.0	134(SE)
	06:00	0.0	133(SE)
	07:00	0.0	123(ESE)
	08:00	0.0	61(ENE)
	09:00	0.0	289(WNW)
	10:00	3.3	84(E)
	11:00	2.7	49(NE)
	12:00	1.9	161(SSE)
	13:00	2.5	144(SE)
	14:00	0.7	32(NNE)
	15:00	3.3	58(ENE)
	16:00	1.7	76(ENE)
	17:00	1.1	133(SE)
	18:00	1.7	225(SW)
	19:00	0.0	51(NE)
	20:00	0.0	128(SE)
	21:00	0.0	306(NW)
	22:00	0.0	314(NW)
23:00	0.0	260(W)	
22-Nov-23	00:00	0.0	75(ENE)
	01:00	0.0	81(E)
	02:00	0.7	82(E)
	03:00	0.0	33(NNE)
	04:00	0.0	33(NNE)
	05:00	0.9	64(ENE)
	06:00	0.0	73(ENE)
	07:00	0.0	132(SE)
	08:00	0.0	95(E)
	09:00	2.1	110(ESE)
	10:00	0.5	270(W)
	11:00	4.1	89(E)
	12:00	1.1	166(SSE)
	13:00	0.0	267(W)
	14:00	1.1	70(ENE)
	15:00	0.0	267(W)
	16:00	2.1	146(SE)
	17:00	0.9	328(NNW)
	18:00	0.0	331(NNW)
	19:00	0.9	341(NNW)
	20:00	0.0	54(NE)
	21:00	1.3	54(NE)
	22:00	0.0	54(NE)
23:00	0.0	54(NE)	



Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
23-Nov-23	00:00	0.0	54(NE)
	01:00	0.0	54(NE)
	02:00	0.0	54(NE)
	03:00	0.0	54(NE)
	04:00	0.0	54(NE)
	05:00	0.0	53(NE)
	06:00	0.0	53(NE)
	07:00	0.0	53(NE)
	08:00	0.0	53(NE)
	09:00	0.0	53(NE)
	10:00	0.0	284(WNW)
	11:00	1.3	90(E)
	12:00	4.3	46(NE)
	13:00	0.0	15(NNE)
	14:00	1.1	267(W)
	15:00	0.0	285(WNW)
	16:00	0.0	28(NNE)
	17:00	0.5	243(WSW)
	18:00	0.9	73(ENE)
	19:00	0.5	47(NE)
	20:00	1.3	58(ENE)
	21:00	0.5	53(NE)
	22:00	1.1	356(N)
23:00	0.0	357(N)	
24-Nov-23	00:00	0.0	29(NNE)
	01:00	0.0	343(NNW)
	02:00	0.0	76(ENE)
	03:00	0.0	75(ENE)
	04:00	0.0	129(SE)
	05:00	0.0	95(E)
	06:00	0.0	96(E)
	07:00	0.0	96(E)
	08:00	0.0	68(ENE)
	09:00	3.1	117(ESE)
	10:00	1.9	65(ENE)
	11:00	4.7	85(E)
	12:00	2.7	83(E)
	13:00	5.1	93(E)
	14:00	4.7	109(ESE)
	15:00	0.9	200(SSW)
	16:00	2.3	163(SSE)
	17:00	2.1	74(ENE)
	18:00	2.1	107(ESE)
	19:00	0.9	49(NE)
	20:00	1.3	62(ENE)
	21:00	1.9	101(E)
	22:00	1.7	130(SE)
23:00	1.5	98(E)	



Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
25-Nov-23	00:00	1.1	85(E)
	01:00	0.9	345(NNW)
	02:00	2.7	66(ENE)
	03:00	0.9	106(ESE)
	04:00	0.0	137(SE)
	05:00	1.1	120(ESE)
	06:00	0.0	89(E)
	07:00	0.0	80(E)
	08:00	0.0	109(ESE)
	09:00	1.7	93(E)
	10:00	1.7	104(ESE)
	11:00	4.3	156(SSE)
	12:00	2.3	204(SSW)
	13:00	0.0	1(N)
	14:00	1.5	29(NNE)
	15:00	1.9	129(SE)
	16:00	2.7	149(SSE)
	17:00	0.9	179(S)
	18:00	1.1	75(ENE)
	19:00	0.9	209(SSW)
	20:00	2.5	96(E)
	21:00	2.5	115(ESE)
	22:00	2.9	77(ENE)
23:00	1.5	64(ENE)	
26-Nov-23	00:00	2.1	75(ENE)
	01:00	1.9	109(ESE)
	02:00	1.3	54(NE)
	03:00	1.7	109(ESE)
	04:00	0.7	114(ESE)
	05:00	0.0	114(ESE)
	06:00	0.0	114(ESE)
	07:00	0.0	114(ESE)
	08:00	0.0	114(ESE)
	09:00	1.1	84(E)
	10:00	0.9	135(SE)
	11:00	1.7	292(WNW)
	12:00	1.5	63(ENE)
	13:00	1.7	62(ENE)
	14:00	2.3	53(NE)
	15:00	0.9	139(SE)
	16:00	2.9	74(ENE)
	17:00	0.0	74(ENE)
	18:00	0.7	74(ENE)
	19:00	0.9	67(ENE)
	20:00	0.0	127(SE)
	21:00	0.0	167(SSE)
	22:00	0.0	100(E)
23:00	0.0	94(E)	



Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
27-Nov-23	00:00	0.0	280(W)
	01:00	0.0	283(WNW)
	02:00	0.0	279(W)
	03:00	0.0	11(N)
	04:00	0.0	288(WNW)
	05:00	0.0	94(E)
	06:00	0.0	345(NNW)
	07:00	0.0	49(NE)
	08:00	0.0	60(ENE)
	09:00	0.0	91(E)
	10:00	0.9	69(ENE)
	11:00	1.3	19(NNE)
	12:00	3.3	81(E)
	13:00	3.5	81(E)
	14:00	2.3	74(ENE)
	15:00	1.1	101(E)
	16:00	2.1	70(ENE)
	17:00	0.0	102(ESE)
	18:00	0.0	68(ENE)
	19:00	0.0	276(W)
	20:00	0.0	0(N)
	21:00	0.0	9(N)
	22:00	0.0	68(ENE)
23:00	0.0	332(NNW)	
28-Nov-23	00:00	0.0	293(WNW)
	01:00	1.3	136(SE)
	02:00	2.7	32(NNE)
	03:00	3.9	43(NE)
	04:00	1.1	31(NNE)
	05:00	0.0	88(E)
	06:00	1.5	65(ENE)
	07:00	0.0	127(SE)
	08:00	1.3	148(SSE)
	09:00	1.7	59(ENE)
	10:00	2.3	44(NE)
	11:00	2.9	132(SE)
	12:00	0.7	46(NE)
	13:00	1.5	64(ENE)
	14:00	2.1	38(NE)
	15:00	1.3	130(SE)
	16:00	2.1	82(E)
	17:00	1.1	113(ESE)
	18:00	1.7	105(ESE)
	19:00	0.0	65(ENE)
	20:00	0.0	64(ENE)
	21:00	0.0	121(ESE)
	22:00	0.0	85(E)
23:00	0.5	102(ESE)	



Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
29-Nov-23	00:00	0.0	322(NW)
	01:00	2.3	121(ESE)
	02:00	2.3	123(ESE)
	03:00	1.3	55(NE)
	04:00	1.7	54(NE)
	05:00	1.5	12(NNE)
	06:00	0.7	59(ENE)
	07:00	1.3	81(E)
	08:00	2.7	89(E)
	09:00	1.7	51(NE)
	10:00	1.9	121(ESE)
	11:00	2.5	66(ENE)
	12:00	2.9	45(NE)
	13:00	1.7	29(NNE)
	14:00	2.7	113(ESE)
	15:00	1.3	95(E)
	16:00	1.5	92(E)
	17:00	0.9	122(ESE)
	18:00	0.5	112(ESE)
	19:00	0.0	125(SE)
	20:00	0.0	117(ESE)
	21:00	0.0	93(E)
	22:00	0.0	186(S)
23:00	0.0	115(ESE)	
30-Nov-23	00:00	0.0	140(SE)
	01:00	0.0	140(SE)
	02:00	0.0	140(SE)
	03:00	0.0	140(SE)
	04:00	0.0	140(SE)
	05:00	0.0	310(NW)
	06:00	0.0	135(SE)
	07:00	0.0	17(NNE)
	08:00	0.0	92(E)
	09:00	0.0	61(ENE)
	10:00	0.7	41(NE)
	11:00	1.9	105(ESE)
	12:00	1.5	253(WSW)
	13:00	2.7	83(E)
	14:00	2.5	149(SSE)
	15:00	2.3	119(ESE)
	16:00	1.9	67(ENE)
	17:00	0.9	124(SE)
	18:00	0.5	131(SE)
	19:00	2.5	87(E)
	20:00	1.5	84(E)
	21:00	0.7	62(ENE)
	22:00	0.9	185(S)
23:00	0.0	122(ESE)	



Appendix 5.1

Monitoring Schedule for Reporting Month and Next Reporting Month



Contract No. SPW 12/2021
Environmental Team (2021-2024)
for Shek Wui Effluent Polishing Plant - Main Works
Impact Monitoring Schedule
Nov 2023

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1-Nov AQM+24hr TSP	2-Nov AQM + 1hr TSP NM	3-Nov Ecological Monitoring	4-Nov
5-Nov	6-Nov	7-Nov AQM+24hr TSP	8-Nov AQM + 1hr TSP NM	9-Nov	10-Nov Ecological Monitoring	11-Nov
12-Nov	13-Nov AQM+24hr TSP	14-Nov AQM + 1hr TSP NM	15-Nov Ecological Monitoring	16-Nov	17-Nov	18-Nov AQM+24hr TSP
19-Nov	20-Nov AQM + 1hr TSP NM	21-Nov Ecological Monitoring	22-Nov	23-Nov	24-Nov AQM+24hr TSP	25-Nov AQM + 1hr TSP
26-Nov	27-Nov	28-Nov	29-Nov Ecological Monitoring	30-Nov AQM+24hr TSP		

Remarks

- AQM: Air Quality Monitoring
- NM: Noise Monitoring, the monitoring dates are tentative and subject to change
- Ecological Monitoring dates are tentative and subject to change based on real-time tide.



Contract No. SPW 12/2021
Environmental Team (2021-2024)
for Shek Wui Effluent Polishing Plant - Main Works
Tentative Impact Monitoring Schedule
Dec 2023

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1-Dec AQM + 1hr TSP NM	2-Dec
3-Dec	4-Dec	5-Dec Ecological Monitoring	6-Dec AQM+24hr TSP	7-Dec AQM + 1hr TSP NM	8-Dec	9-Dec
10-Dec	11-Dec	12-Dec AQM+24hr TSP	13-Dec AQM + 1hr TSP NM Ecological Monitoring	14-Dec	15-Dec	16-Dec
17-Dec	18-Dec AQM+24hr TSP	19-Dec AQM + 1hr TSP NM	20-Dec Ecological Monitoring	21-Dec	22-Dec AQM+24hr TSP	23-Dec AQM + 1hr TSP
24-Dec	25-Dec	26-Dec	27-Dec	28-Dec AQM+24hr TSP	29-Dec AQM + 1hr TSP NM Ecological Monitoring	30-Dec
31-Dec						

Remarks

- AQM: Air Quality Monitoring
- NM: Noise Monitoring, the monitoring dates are tentative and subject to change
- Ecological Monitoring dates are tentative and subject to change based on real-time tide.



Contract No. SPW 12/2021
Environmental Team (2021-2024)
for Shek Wui Effluent Polishing Plant - Main Works
Tentative Impact Monitoring Schedule
Jan 2024

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1-Jan	2-Jan	3-Jan AQM+24hr TSP	4-Jan AQM + 1hr TSP NM	5-Jan Ecological Monitoring	6-Jan
7-Jan	8-Jan	9-Jan AQM+24hr TSP	10-Jan AQM + 1hr TSP NM	11-Jan	12-Jan Ecological Monitoring	13-Jan
14-Jan	15-Jan AQM+24hr TSP	16-Jan AQM + 1hr TSP NM	17-Jan	18-Jan	19-Jan Ecological Monitoring	20-Jan AQM+24hr TSP
21-Jan	22-Jan AQM + 1hr TSP NM	23-Jan	24-Jan	25-Jan	26-Jan AQM+24hr TSP Ecological Monitoring	27-Jan AQM + 1hr TSP
28-Jan	29-Jan	30-Jan	31-Jan Ecological Monitoring			

Remarks

- AQM: Air Quality Monitoring
- NM: Noise Monitoring, the monitoring dates are tentative and subject to change
- Ecological Monitoring dates are tentative and subject to change based on real-time tide.



Appendix 5.2

Noise Monitoring Results and Graphical Presentations



Noise Monitoring Result

Location: NM1 - G/F, Wai Loi Tsuen

Date	Time	Weather	Wind Speed (m/s)	Measurement Noise Level			Baseline Level	Construction Noise Level	Limit Level
				Leq	L10	L90	Leq	Leq	Leq
Unit: dB(A), (30min)									
02/11/2023	11:15	Fine	0.0	54.7	56.5	51.5	63.4	54.7	75
08/11/2023	15:50	Fine	0.0	54.9	56.0	50.9	63.4	54.9	75
14/11/2023	13:10	Fine	0.0	53.8	55.7	51.0	63.4	53.8	75
20/11/2023	14:05	Fine	0.0	56.5	59.0	50.8	63.4	56.5	75

Location: NM2 - G/F, Fu Tei Au

Date	Time	Weather	Wind Speed (m/s)	Measurement Noise Level			Baseline Level	Construction Noise Level	Limit Level
				Leq	L10	L90	Leq	Leq	Leq
Unit: dB(A), (30-min)									
02/11/2023	8:55	Fine	0.0	59.5	61.2	55.7	58.0	54.2	75
08/11/2023	15:05	Fine	0.0	60.4	62.0	57.7	58.0	56.7	75
14/11/2023	12:30	Fine	0.0	62.2	53.6	46.4	58.0	60.1	75
20/11/2023	10:15	Fine	0.0	56.3	58.2	52.3	58.0	56.3	75

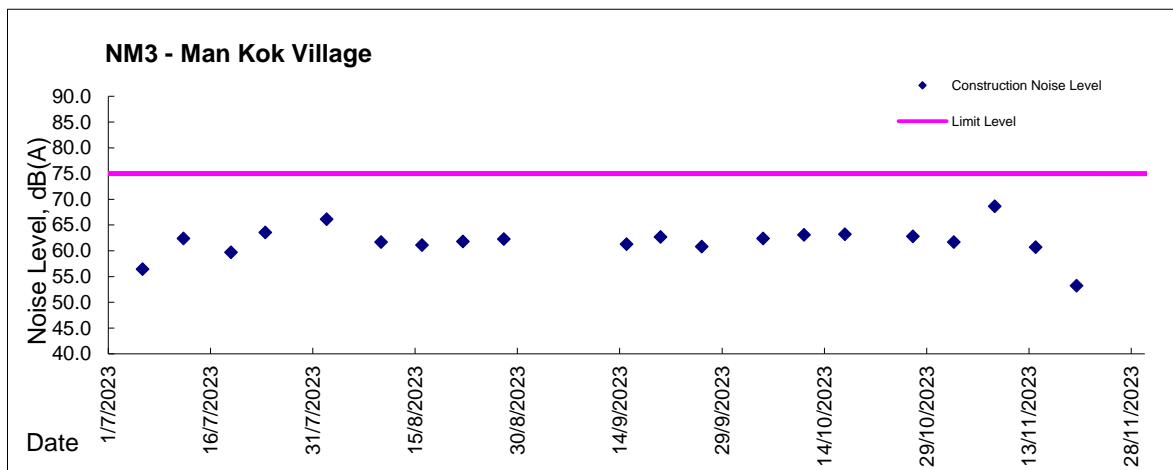
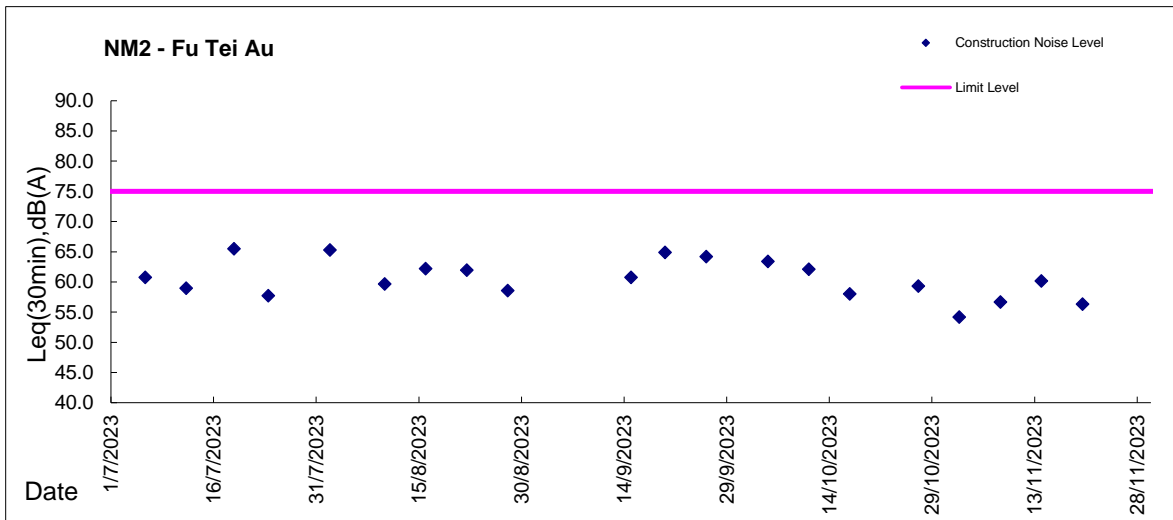
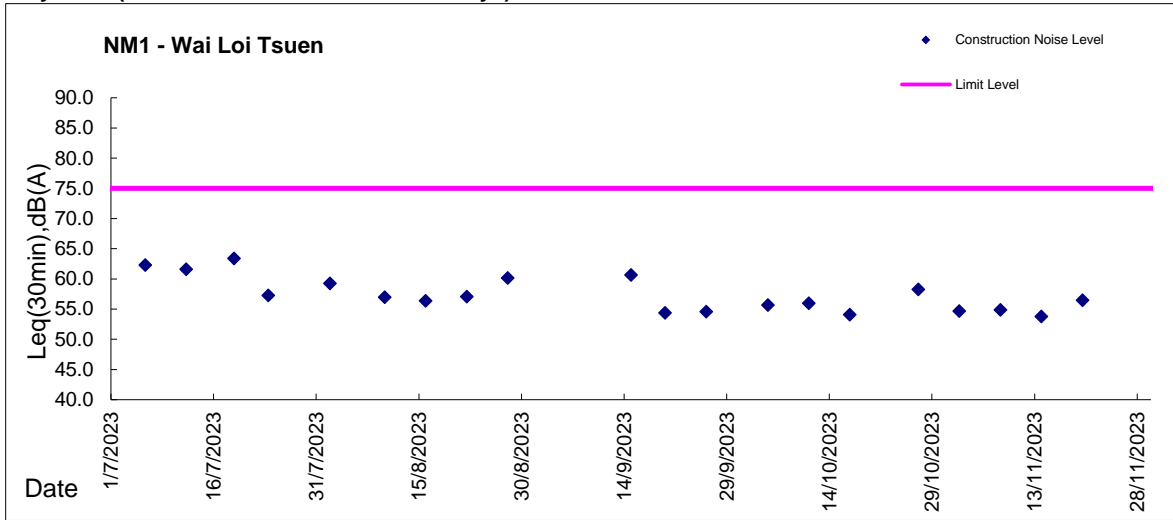
Location: NM3 - G/F, Man kok Village

Date	Time	Weather	Wind Speed (m/s)	Measurement Noise Level			Baseline Level	Construction Noise Level	Limit Level
				Leq	L10	L90	Leq	Leq	Leq
Unit: dB(A), (30min)									
02/11/2023	10:10	Fine	0.0	61.7	63.2	54.3	63.4	61.7	75
08/11/2023	14:20	Fine	0.0	69.8	70.7	67.1	63.4	68.7	75
14/11/2023	14:20	Fine	0.0	60.7	61.8	56.2	63.4	60.7	75
20/11/2023	10:55	Fine	0.0	63.8	65.3	59.8	63.4	53.2	75

* Free field correction (Additional 3dB(A)) was made on NM1, NM2, and NM3 measurement result



Graphic Presentation of Noise Monitoring Result
Day Time (0700 - 1900hrs on normal weekdays)





Appendix 5.3

Air Quality Monitoring Results and Graphical Presentations



Report on 1-hour TSP monitoring at AM1 - Wai Loi Tsuen
Action Level ($\mu\text{g}/\text{m}^3$) - 320
Limit Level ($\mu\text{g}/\text{m}^3$) - 500

Date	Weather Condition	Time	Mass Concentration ($\mu\text{g}/\text{m}^3$)	Model No.	Serial No.
2-Nov-23	Fine	8:27	18	AEROCET 831	C15622
2-Nov-23	Fine	9:28	16		
2-Nov-23	Fine	10:29	15		
8-Nov-23	Fine	11:28	20		
8-Nov-23	Fine	12:29	20		
8-Nov-23	Fine	13:30	20		
14-Nov-23	Fine	8:34	37		
14-Nov-23	Fine	9:35	31		
14-Nov-23	Fine	10:36	33		
20-Nov-23	Fine	9:39	26		
20-Nov-23	Fine	10:40	21		
20-Nov-23	Fine	11:41	20		
25-Nov-23	Fine	7:41	42		
25-Nov-23	Fine	8:42	31		
25-Nov-23	Fine	9:42	26		



Report on 1-hour TSP monitoring at AM2 - Fu Tei Au

Action Level ($\mu\text{g}/\text{m}^3$) - 322
Limit Level ($\mu\text{g}/\text{m}^3$) - 500

Date	Weather Condition	Time	Mass Concentration ($\mu\text{g}/\text{m}^3$)	Model No.	Serial No.
2-Nov-23	Fine	8:40	18	AEROCET 831	Y23153
2-Nov-23	Fine	9:41	16		
2-Nov-23	Fine	10:42	16		
8-Nov-23	Fine	11:18	22		
8-Nov-23	Fine	12:19	22		
8-Nov-23	Fine	13:20	22		
14-Nov-23	Fine	8:46	39		
14-Nov-23	Fine	9:47	32		
14-Nov-23	Fine	10:48	34		
20-Nov-23	Fine	9:52	26		
20-Nov-23	Fine	10:53	22		
20-Nov-23	Fine	11:54	21		
25-Nov-23	Fine	7:53	42		
25-Nov-23	Fine	8:54	31		
25-Nov-23	Fine	9:55	26		



Location: AM1a* - Site boundary of the Shek Wu Hui STW (East), Roof floor of the control room of SWHSTW
 Impact Monitoring Result on 24-hour TSP monitoring

Date	Sampling Time	Weather Condition	Pressure, hPa		Temp., °C		Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling Time, hr	Flow Rate, m ³ /min			Total Volume, m ³	TSP Level, ug/m ³	Model No.	Serial No.
			Initial	Final	Initial	Final		Initial	Final	Initial, Qsi	Final, Qsf		Average						
01-Nov-23	8:00	Fine	1017.7	1015.5	25.8	25.8	AM1a_24hr_011235	2.7527	2.8544	17603.86	17627.86	24.00	1.24	1.24	1.24	1781	57	G3101	2036
07-Nov-23	8:00	Fine	1016.5	1015.8	25.9	25.2	AM1a_24hr_011237	2.7525	2.8912	17627.86	17651.86	24.00	1.24	1.24	1.24	1781	78		
13-Nov-23	8:00	Fine	1022.7	1022.6	22.0	20.8	AM1a_24hr_011239	2.7591	2.8654	17651.86	17675.86	24.00	1.24	1.29	1.27	1825	58		
18-Nov-23	8:00	Fine	1022.9	1020.9	19.5	20.5	AM1a_24hr_011241	2.7661	2.9069	17675.86	17699.86	24.00	1.29	1.29	1.29	1860	76		
24-Nov-23	8:00	Fine	1019.6	1021.0	22.9	21.9	AM1a_24hr_011243	2.7566	2.9534	17675.86	17699.86	24.00	1.24	1.20	1.22	1758	112		
30-Nov-23	8:00	Fine	1019.9	1021.5	23.8	21.5	AM1a_24hr_008001	2.6335	2.7855	17699.86	17723.86	24.00	1.29	1.29	1.29	1854	82		

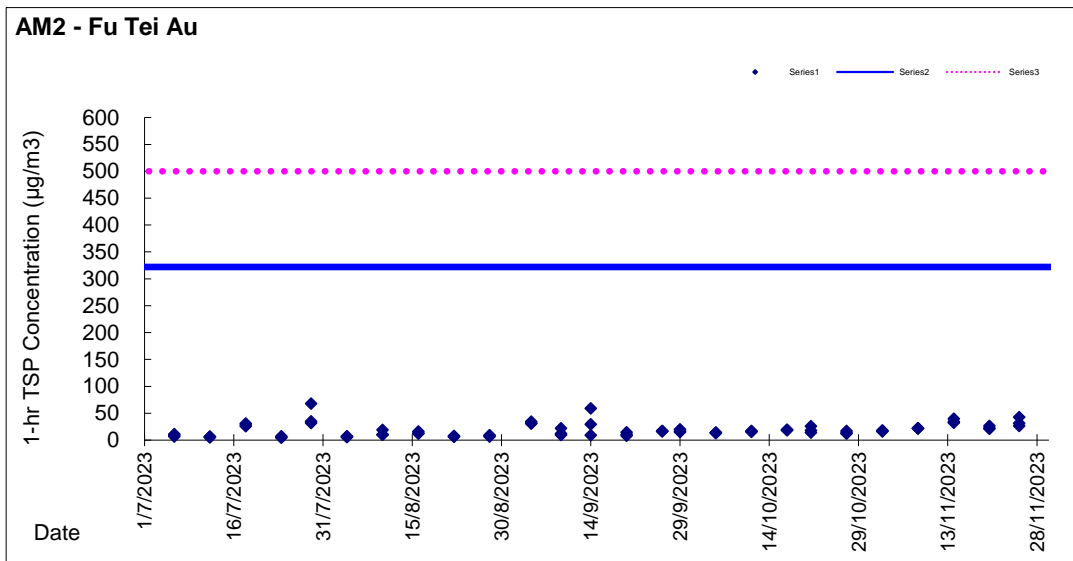
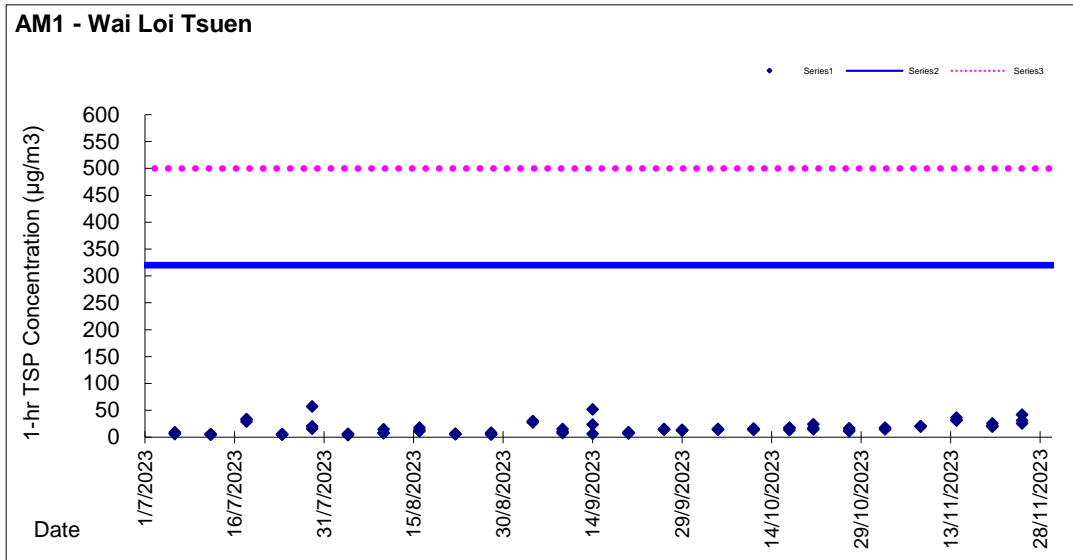


Location: AM2a - Site Boundary of the Shek Wu Hui STW (North)
 Impact Monitoring Result on 24-hour TSP monitoring

Date	Sampling Time	Weather Condition	Pressure, hPa		Temp., °C		Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling Time, hr	Flow Rate, m ³ /min			Total Volume, m ³	TSP Level, ug/m ³	Model No.	Serial No.
			Initial	Final	Initial	Final		Initial	Final	Initial, Qsi	Final, Qsf		Average						
01-Nov-23	8:00	Fine	1017.7	1015.5	25.8	25.8	AM2a_24hr_011236	2.7493	2.9088	13942.26	13966.26	24.00	1.60	1.60	1.60	2305	69	G3101	774
07-Nov-23	8:00	Fine	1016.5	1015.8	25.9	25.2	AM2a_24hr_011238	2.7484	3.0433	13990.26	14014.26	24.00	1.60	1.60	1.60	2305	128		
13-Nov-23	8:00	Fine	1022.7	1022.6	22.0	20.8	AM2a_24hr_011240	2.7530	2.8912	14014.26	14038.26	24.00	1.61	1.61	1.61	2320	60		
18-Nov-23	8:00	Fine	1022.9	1020.9	19.5	20.5	AM2a_24hr_011242	2.7508	2.9791	14038.26	14062.26	24.00	1.68	1.68	1.68	2422	94		
24-Nov-23	8:00	Fine	1019.6	1021.0	22.9	21.9	AM2a_24hr_011244	2.7641	3.0756	14062.26	14086.26	24.00	1.63	1.63	1.63	2349	133		
30-Nov-23	8:00	Fine	1019.9	1021.5	23.8	21.5	AM2a_24hr_008002	2.6328	2.8700	14086.26	14110.26	24.00	1.58	1.59	1.58	2282	104		

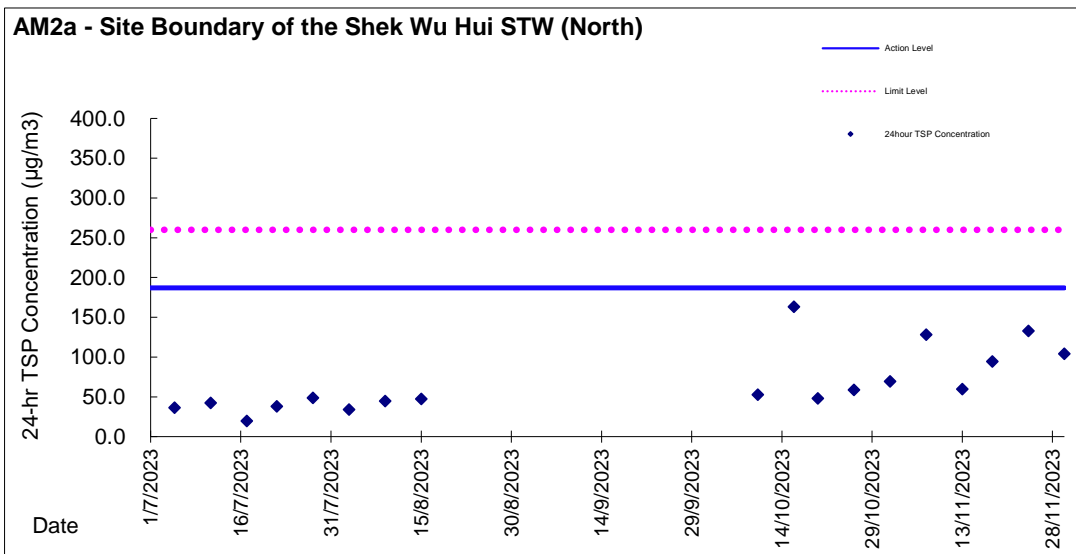
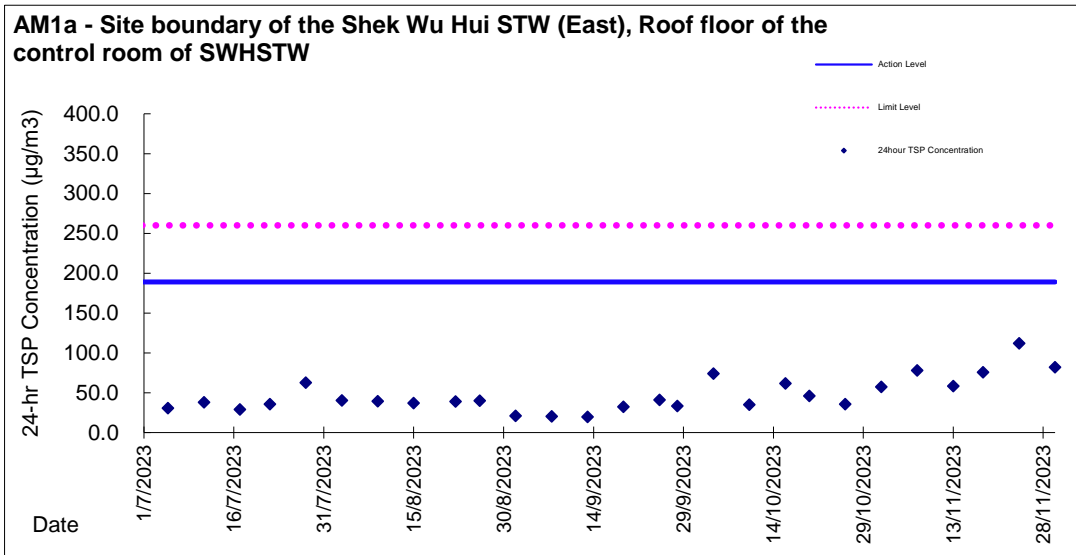


Graphic Presentation of TSP Result





Graphic Presentation of TSP Result





Appendix 5.4

Details of Ecological Monitoring Results in the Reporting Month

Summary data of the Ecological Monitoring

Scientific Names	Common Names	Chinese Names	Waterbird	Point Count Abundance	Transect Count Abundance
<i>Anas crecca</i>	Eurasian Teal	綠翅鴨	X	0	+
<i>Ardeola bacchus</i>	Chinese Pond Heron	池鷺	X	54	+++++
<i>Bubulcus coromandus</i>	Eastern Cattle Egret	牛背鷺	X	27	++++
<i>Ardea cinerea</i>	Grey Heron	蒼鷺	X	110	+++++
<i>Ardea alba</i>	Great Egret	大白鷺	X	48	+++++
<i>Egretta garzetta</i>	Little Egret	小白鷺	X	101	+++++
<i>Phalacrocorax carbo</i>	Great Cormorant	普通鸕鶿	X	48	+++++
<i>Milvus migrans</i>	Black Kite	夜鷺	X	5	+
<i>Amauornis phoenicurus</i>	White-breasted Waterhen	白胸苦惡鳥	X	3	+
<i>Himantopus himantopus</i>	Black-winged Stilt	黑翅長腳鷺	X	11	+++
<i>Vanellus cinereus</i>	Grey-headed Lapwing	灰頭麥雞	X	1	+
<i>Charadrius dubius</i>	Little Ringed Plover	金眶鸻	X	3	+
<i>Tringa stagnatilis</i>	Marsh Sandpiper	澤鷺	X	1	+
<i>Actitis hypoleucos</i>	Common Sandpiper	磯鷺	X	38	+++++
<i>Spilopelia chinensis</i>	Spotted Dove	珠頸斑鳩		48	+++++
<i>Halcyon smyrnensis</i>	White-throated Kingfisher	白胸翡翠	X	6	+

Scientific Names	Common Names	Chinese Names	Waterbird	Point Count Abundance	Transect Count Abundance
<i>Alcedo atthis</i>	Common Kingfisher	普通翠鳥	X	1	+
<i>Ceryle rudis</i>	Pied Kingfisher	斑魚狗	X	1	+
<i>Urocissa erythroryncha</i>	Red-billed Blue Magpie	紅嘴藍鵲		1	+
<i>Pica pica</i>	Eurasian Magpie	喜鵲		3	+
<i>Corvus torquatus</i>	Collared Crow	白頸鴉	X	7	+
<i>Parus cinereus</i>	Cinereous Tit	蒼背山雀		3	+
<i>Pycnonotus jocosus</i>	Red-whiskered Bulbul	紅耳鶇		127	+++++
<i>Pycnonotus sinensis</i>	Chinese Bulbul	白頭鶇		39	+++++
<i>Hirundo rustica</i>	Barn Swallow	家燕		11	++
<i>Phylloscopus fuscatus</i>	Dusky Warbler	褐柳鶇		4	+
<i>Phylloscopus proregulus</i>	Pallas's Leaf Warbler	黃腰柳鶇		8	+
<i>Phylloscopus inornatus</i>	Yellow-browed Warbler	黃眉柳鶇		17	+++
<i>Prinia flaviventris</i>	Yellow-bellied Prinia	黃腹鷦鶯		6	+
<i>Prinia inornata</i>	Plain Prinia	純色鷦鶯		7	+
<i>Orthotomus sutorius</i>	Common Tailorbird	長尾縫葉鶯		23	+++++
<i>Garrulax perspicillatus</i>	Masked Laughingthrush	黑臉噪鶯		42	+++++

Scientific Names	Common Names	Chinese Names	Waterbird	Point Count Abundance	Transect Count Abundance
<i>Zosterops japonicus</i>	Japanese White-eye	暗綠繡眼鳥		32	++++
<i>Acridotheres cristatellus</i>	Crested Myna	八哥		282	+++++
<i>Gracupica nigricollis</i>	Black-collared Starling	黑領椋鳥		55	+++++
<i>Copsychus saularis</i>	Oriental Magpie Robin	鵲鴝		7	++
<i>Phoenicurus aureus</i>	Daurian Redstart	北紅尾鶇		2	+
<i>Passer montanus</i>	Eurasian Tree Sparrow	樹麻雀		39	+++++
<i>Motacilla cinerea</i>	Grey Wagtail	灰鶇鶇		0	+
<i>Motacilla alba</i>	White Wagtail	白鶇鶇		61	+++++
<i>Chloris sinica</i>	Grey-capped Greenfinch	金翅雀		0	+

Remarks:

X: Waterbird ;

Transect abundance, +: <10, ++: 11-20, +++: 21-30, ++++: 31-40, +++++: >40

According to S4.7 of the approved Baseline Monitoring Report (Ecology), "waterbirds" was defined as "waterbirds and wetland-dependent species", which was referenced to Monthly Waterbird Monitoring Biannual Reports prepared by the Hong Kong Bird Watching Society (Anon, 2020).

Also, S.13.11.3.2 of NENT NDA EIA Study requires "Monitoring of Measures to Mitigate for Impacts of the Project on Wetland-dependent Fauna using the Ng Tung, Sheung Yue and Shek Sheung Rivers". Therefore, "wetland-dependent birds" should be considered as "waterbirds". As raptors and Collared Crow are "wetland-dependent species", they should be taken into consideration in data analysis and impact assessment on waterbirds.

Waterbird Ecological Monitoring Result

Total Bird Abundance from Point Count						
Survey Information				Total Bird Abundance from Point Count		
No.	Date	Time	Tide Level	Individuals Recorded	Total	Species Recorded
1	3/11/2023	14:00	H	119	271	24
		10:45	L	152		26
2	10/11/2023	10:15	H	102	240	21
		14:30	L	138		27
3	15/11/2023	13:00	H	120	277	25
		15:15	L	157		26
4	21/11/2023	16:15	H	102	210	22
		14:00	L	108		24
5	29/11/2023	13:00	H	136	284	22
		15:00	L	148		24

Remarks: H: High Tide; L: Low Tide

Total Waterbird Abundance from Point Count					
Survey Information				Total Waterbird Abundance from Point Count	
No.	Date	Time	Tide Level	Individuals Recorded	Total
1	3/11/2023	12:15	H	28	82
		10:00	L	54	
2	10/11/2023	10:15	H	36	109
		14:30	L	73	
3	15/11/2023	13:00	H	19	66
		15:15	L	47	
4	21/11/2023	16:15	H	25	103
		14:00	L	78	
5	29/11/2023	13:00	H	47	105
		15:00	L	58	

Remarks: H: High Tide; L: Low Tide

T-Test Analysis for All Waterbirds

Baseline Data

Monthly Average Abundance (November)	79.00
Seasonal Average Abundance (Winter season)	62.15

T-Test

The following hypothesis was made and a one-tail t-test will be used to test the data collected from the monitoring:

H₀: The data collected in the reporting month falls within the normal distribution when compared to the baseline monitoring data;

H₁: The data collected does not falls within the normal distribution when compared to the baseline monitoring data.

If t-test value is **smaller** than the critical value, then rejects H₀.

For the data in the reporting month, the critical values are:

Crit. Value = -2.132 (95% Confidence Level)

Crit. Value = -3.747 (99% Confidence Level)

T-values of Data in Reporting Month			Confidence Level (Critical Value)	
			95% (-2.132)	99% (-3.747)
Abundance	Monthly	1.339	✓	✓
	Seasonal	3.390	✓	✓

Remarks:

✓ = T-value falls within the confidence level; the impact monitoring data shows no significant difference to the baseline data.

✗ = T-value falls outside the confidence level; the impact monitoring data shows significant difference to the baseline da

Abundance of Representative Waterbirds from Point Count											
Representative Species			Recorded Abundance						Average	Baseline Data	
Species Name	Common Name	Chinese Name	Week 1	Week 2	Week 3	Week 4	Week 5	Total		Average (Nov)	Avg (winter)
<i>Egretta garzetta</i>	Little Egret	小白鷺	16	26	15	19	25	101	19	16	15
<i>Ardea cinerea</i>	Grey Heron	蒼鷺	20	26	19	27	18	110	23	19	13
<i>Ardeola bacchus</i>	Chinese Pond Heron	池鷺	10	16	8	7	13	54	10	11	9
<i>Phalacrocorax carbo</i>	Great Cormorant	普通鸕鶿	9	3	10	12	14	48	9	14	7
<i>Ardea alba</i>	Great Egret	大白鷺	3	14	3	23	5	48	11	7	5
<i>Bubulcus coromandus</i>	Eastern Cattle Egret	牛背鷺	3	7	0	6	11	27	4	0	4

T-test Analysis for Representative Waterbirds from Point Count

The following hypothesis was made and a one-tail t-test will be used to test the data collected from the monitoring:

H₀: The data collected in the reporting month falls within the normal distribution when compared to the baseline monitoring data;

H₁: The data collected does not falls within the normal distribution when compared to the baseline monitoring data.

If t-test value is **smaller** than the critical value, then rejects H₀.

For the data in the reporting month, the critical values are:

Crit. Value = -2.132 (95% Confidence Level)

Crit. Value = -3.747 (99% Confidence Level)

Common Name of Representative Waterbird	T-value	Confidence Level (Critical Value)		T-value	Confidence Level (Critical Value)		Overall
	Monthly	95% (-2.132)	99% (-3.747)	Seasonal	95% (-2.132)	99% (-3.747)	
Little Egret	1.323	✓	✓	1.764	✓	✓	✓
Grey Heron	2.138	✓	✓	5.345	✓	✓	✓
Chinese Pond Heron	-0.453	✓	✓	0.755	✓	✓	✓
Great Cormorant	-2.957	X	✓	0.806	✓	✓	✓
Great Egret	0.957	✓	✓	1.467	✓	✓	✓
Eastern Cattle Egret	2.150	✓	✓	0.000	✓	✓	✓

Remarks:

✓ = T-value falls within the confidence level; the impact monitoring data shows no significant difference to the baseline data.

X = T-value falls outside the confidence level; the impact monitoring data shows significant difference to the baseline data.

* Great Cormorant (*Phalacrocorax carbo*) and Grey Heron (*Ardea cinerea*) were not recognised as representative waterbird species during wet season.



Appendix 5.5
Photo Record of Ecological
Monitoring

Conditions of Rivers



Sheung Yue River – Survey Point 7 (Taken on 29 Nov 2023)



Shek Sheung River – Survey Point 6 (Taken on 10 Nov 2023)



Shek Sheung River - Survey Point 5 (Taken on 3 Nov 2023)



Ng Tung River - Survey Point 4 (Taken on 10 Nov 2023)

Human Activities & Site Conditions



Construction Activities (Ng Tung River)
(Project-related, taken on 15 Nov 2023)



Construction Activities (Shek Sheung River)
(Project-related, taken on 21 Nov 2023)



Construction Activities (Sheung Yue River)
(Non-project-related, taken on 21 Nov 2023)



Construction Activities (Ng Tung River)
(Non-Project-related, taken on 10 Nov 2023)



Human Activities (Sheung Yue River)
(Non-project-related, taken on 3 Nov 2023)



Human Activities (Ng Tung River)
(Non-project-related, taken on 29 Nov 2023)



Human Activities (Ng Tung River)
(Non-project-related, taken on 15 Nov 2023)



Construction Activities (Ng Tung River)
(Non-Project-related, taken on 15 Nov 2023)



Construction Activities (Sheung Yue River)
(Non-project-related, taken on 21 Nov 2023)



Construction Activities (Sheung Yue River)
(Non-project-related, taken on 29 Nov 2023)

Waterbird Species



Great Egret



Great Cormorant



Grey-headed Lapwing



Collared Crow



Little Ringed Plover



Waterbird in Shek Sheung River



Appendix 5.9

Monthly Summary Waste Flow Table

Monthly Summary Waste Flow Table for 2023

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	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	Chemical Waste	Others, e.g. general refuse
	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³)
Jan	0.442	0.000	0.000	0.000	0.442	3.796	0.000	0.000	0.000	0.000	0.061
Feb	1.381	0.000	0.000	0.000	1.381	2.962	0.000	0.000	0.000	0.000	0.078
Mar	2.528	0.000	0.000	0.000	2.528	3.530	0.000	0.000	0.000	0.000	0.090
Apr	1.633	0.000	0.000	0.000	1.633	0.280	0.000	0.000	0.000	0.000	0.083
May	2.067	0.000	0.000	0.000	2.067	0.791	0.000	0.000	0.000	0.000	0.073
Jun	1.013	0.000	0.000	0.000	1.013	0.250	0.000	0.000	0.000	0.000	0.084
Sub-total	9.064	0.000	0.000	0.000	9.064	11.609	0.000	0.000	0.000	0.000	0.469
Jul	1.310	0.000	0.000	0.000	1.310	0.111	0.000	0.000	0.000	0.000	0.054
Aug	1.114	0.000	0.000	0.000	1.114	0.112	0.000	0.000	0.000	0.000	0.091
Sep	0.862	0.000	0.000	0.000	0.862	0.036	0.000	0.000	0.000	0.000	0.108
Oct	0.947	0.000	0.000	0.000	0.947	0.309	0.000	0.000	0.000	0.000	0.049
Nov	0.399	0.000	0.000	0.000	0.399	0.087	0.000	0.000	0.000	0.000	0.036
Dec											
Total	13.694	0.000	0.000	0.000	13.694	12.265	0.000	0.000	0.000	0.000	0.808

- Notes:
1. Assume the density of soil fill is 2 ton/m³.
 2. Assume the density of rock and broken concrete is 2.5 ton/m³.
 3. Assume the density of general refuse is 0.9 ton/m³.
 4. Assume density of waste oil is assumed to be 0.8 kg/L.
 5. The inert C&D materials except slurry and bentonite are disposed at Tuen Mun 38.
 6. The non-inert C&D wastes are disposed at NENT.
 7. The quantities of C&D material disposed at Public Fill Facilities and Landfill was until 19/10/2023.

Monthly Summary Waste Flow Table for 2023

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	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	Chemical Waste	Others, e.g. general refuse
	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³)
Jan	8.960	0.000	0.000	0.000	8.960	0.089	0.00	0.000	0.000	0.000	0.025
Feb	3.950	0.000	0.000	0.000	3.950	0.043	0.00	0.000	0.000	0.000	0.070
Mar	0.341	0.000	0.000	0.000	0.341	0.000	0.00	0.000	0.000	0.000	0.074
Apr	0.213	0.000	0.000	0.000	0.213	0.000	0.00	0.000	0.000	0.000	0.047
May	1.877	0.000	0.000	0.000	1.877	0.000	0.00	0.000	0.000	0.000	0.072
Jun	1.004	0.000	0.000	0.000	1.004	0.093	0.00	0.000	0.000	0.000	0.065
Sub-total	16.346	0.000	0.000	0.000	16.346	0.225	0.000	0.000	0.000	0.000	0.352
Jul	2.555	0.000	0.000	0.000	2.555	0.070	0.00	0.000	0.000	0.000	0.093
Aug	3.369	0.000	0.000	0.000	3.369	0.134	0.00	0.000	0.000	0.000	0.061
Sep	0.913	0.000	0.000	0.000	0.913	0.088	0.00	0.000	0.000	0.000	0.085
Oct	0.095	0.000	0.000	0.000	0.095	0.057	0.00	0.000	0.000	0.000	0.051
Nov	0.323	0.000	0.000	0.000	0.323	0.197	0.000	0.000	0.000	0.000	0.087
Dec											
Total	23.601	0.000	0.000	0.000	23.601	0.771	0.000	0.000	0.000	0.000	0.730

- Notes:
1. Assume the density of soil fill and special waste (i.e. sediment from DSD sedimentation tank) is 2 ton/m³.
 2. Assume the density of rock and broken concrete is 2.5 ton/m³
 3. Assume the density of general refuse is 0.9 ton/m³
 4. Density of waste oil is assumed to be 0.8 kg/L. Chemical waste includes waste oil.
 5. The inert C&D materials except slurry and bentonite are disposed at Tuen Mun 38
 6. The slurry and bentonite are disposed at Tseung Kwun O 137
 7. The non-inert C&D wastes, including general refuse & special waste (i.e. sediment from DSD sedimentation tank) are disposed at NENT
 8. The quantities of C&D material disposal at Public Fill Facilities and Landfill was until 19/10/2023.

EM&A Monthly Reporting Template (cut-off at the end of each month)

Name of Department: ArchSD/CEDD/DSD/EMSD/HyD/WSD

Contract No.: DE/2018/03

Monthly Summary Waste Flow Table for 2023 (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	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 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³)
Jan	0	0	0	0	0	0	0	0.13	0	0	10.51T
Feb	0	0	0	0	0	0	0	0	0	0	17.33T
Mar	0	0	0	0	0	0	0	0.155	0.01	0	18.31T
Apr	0	0	0	0	0	0	4.81	0	0	0	12.62T
May	0	0	0	0	0	0	8.66	0.154	0	0	15.69T
June	0	0	0	0	0	0	75.09	0.155	0.01	0	19.34T
Sub-total	0	0	0	0	0	0	88.56	0.594	0.02	0	93.8T
July	62.33	0	0	0	62.33	0	41.04	0.156	0	0	24.83T
Aug	576.05	0	0	0	576.05	0	12.52	0.251	0.04	0	21.41T
Sept	0	0	0	0	0	0	0	0.108	0	0	54.34T
Oct	0	0	0	0	0	0	1.01	0.129	0.02	0	62.98T
Nov	0	0	0	0	0	0	3.07	0.257	0.01	0	60.98T
Dec											
Total	638.38	0	0	0	638.38	0	146.20	1.495	0.09	0	318.34T

Monthly Summary Waste Flow Table for 2023 (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	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 '000 kg)	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 kg)
Jan	7.26	0	0	0	7.26	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0	1.97
Mar	0	0	0	0	0	0	0	0	0	0	0
Apr	0	0	0	0	0	0	36.23	0	0	0.8	0
May	0	0	0	0	0	0	0	0	0	0	1.06
June	74.73	0	0	0	74.73	0	0	0	0	0	2.05
Sub-total	81.99	0	0	0	81.99	0	36.23	0	0	0.8	5.08
July	28.34	0	0	0	28.34	0	0	0	0	0	0
Aug	9.26	0	0	0	9.26	0	0	0	0	0	7.97
Sept	0	0	0	0	0	0	0	0.2	0	0	0.92
Oct	0	0	0	0	0	0	0	0	0	0	0
Nov	0	0	0	0	0	0	0	0	0	0	0
Dec											
Total	119.59	0	0	0	119.59	0	36.23	0.2	0	0.8	13.97



Appendix 6.1

Event and Action Plans

Event and Action Plan

Event and Action Plan for Construction Noise

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

Event and Action Plan for Construction Dust Monitoring

Event	Action			
	ET	IEC	ER	Contractor
Action Level				
Action level being exceeded by one sampling	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of complaint and propose remedial measures; 2. Inform IEC and ER; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET; 2. Check Contractor's working method. 	<ol style="list-style-type: none"> 1. Notify the Contractor. 	<ol style="list-style-type: none"> 1. Rectify any unacceptable practices. 2. Amend working methods agreed with the ER as appropriate.
Action level being exceeded by two or more consecutive sampling	<ol style="list-style-type: none"> 1. Identify sources. 2. Inform the IEC and ER. 3. Advise the ER on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings. 5. Increase monitoring frequency to daily. 6. Discuss with the IEC, ER and Contractor on remedial action required. 7. If exceedance continues, arrange meeting with the IEC, Contractor and ER. 8. If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ET on the effectiveness of the proposed remedial measures; 5. Supervise Implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented. 	<ol style="list-style-type: none"> 1. Submit proposals for remedial actions to IEC within three working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate.
Limit Level				
Limit level being exceeded by one sampling	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform Contractor, IEC, ER, and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within three working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate.



Event	Action			
	ET	IEC	ER	Contractor
	ER informed of the results.			
Limit level being exceeded by two or more consecutive sampling	<ol style="list-style-type: none"> 1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> 1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within three working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event and Action Plan for Ecological Monitoring

Action level	Response	Limit Level	Response
Construction Phase			
Decline in numbers of all waterbird species relative to numbers during Baseline Monitoring such that the Action Level response is triggered.	Investigate cause and if cause identified as related to the Project instigate remedial action to remove or reduce source of disturbance.	Decline in numbers of all waterbird species relative to numbers during Baseline Monitoring such that the Limit Level response is triggered.	Investigate cause and if caused identified as related to the Project instigate remedial action.
Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Action Level response is triggered	Investigate cause and if cause identified as related to the Project instigate remedial action to remove or reduce source of disturbance.	Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Limit Level response is triggered.	Investigate cause and if caused identified as related to the Project instigate remedial action.

Event and Action Plan for Landscape and Visual

Event	Action			
	ET	IEC	ER	Contractor
Non-conformity on one occasion	<ol style="list-style-type: none"> 1. Inform the Contractor, IEC and ER; 2. Discuss remedial actions with IEC, ER and Contractor 3. Monitor remedial actions until rectification has been completed. 	<ol style="list-style-type: none"> 1. Check inspection report; 2. Check Contractor's working method; 3. Discuss with ET, ER and Contractor on possible remedial measures; 4. Advise ER on effectiveness of proposed remedial measures.. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Review and agree on the remedial measures proposed by the Contractor; 3. Supervise implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Identify source and investigate the non-conformity; 2. Implement remedial measures; 3. Amend working methods agreed with ER as appropriate; 4. Rectify damage and undertake any necessary replacement.
Repeated Non-conformity	<ol style="list-style-type: none"> 1. Identify source; 2. Inform IEC, ER, EPD; 3. Discuss inspection frequency; 4. Discuss remedial actions with IEC, ER and Contractor; 5. Monitor remedial actions until rectification has been completed; 6. If non-conformity stops, cease additional monitoring 	<ol style="list-style-type: none"> 1. Check inspection report; 2. Check Contractor's working method; 3. Discuss with ET, ER and Contractor on possible remedial measures; 4. Advise ER on effectiveness of proposed remedial measures. 	<ol style="list-style-type: none"> 1. Notify the Contractor; 2. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented; 3. Supervise implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Identify source and investigate the non-conformity; 2. Implement remedial measures; 3. Amend working methods agreed with ER as appropriate; 4. Rectify damage and undertake any necessary replacement. Stop relevant portion of works as determined by ER until the non-conformity is abated.



Appendix 6.2

Summary of Notification of Exceedance



Summary for Notification of Exceedance

Reporting Period: November 2023

Ref No.	Date	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up Action
-	-	-	-	-	-	-	-

Ref. No.	Date	Time	Location	Construction Noise Level	Parameter	Action Level	Limit Level	Follow-up action
-	-	-	-	-	-	-	-	-



Appendix 8.1

Complaint Log



Summary of Environmental Complaints Log

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
1	18 March 2020	EPD	Expansion Site of SWHSTP (Portion C)	Water contamination	<p>Muddy water was suspected to be discharged from the expansion site of SWHSTP to Shek Sheung River, manholes and foul drains nearby</p> <p>The investigation and mitigation measures included</p> <ul style="list-style-type: none">- Employed suction truck and dump truck to clear the silt and mud at Shek Sheung River- Arranged to repair the wastewater treatment system- Installed additional sedimentation tanks and wastewater treatment system to increase the on-site treatment capacity- Clean the slurry sediment released from the outlet regularly by suction trucks- Avoid damage of underground drains and pipes caused by existing construction works- Avoid illegal discharge from the Site into foul drains and manholes	Closed
2	19 February 2021	EPD	SWHEPP	Odour nuisance	<p>Significant odour nuisance was suspected to be emitted from the construction activities of SWHEPP</p> <p>The investigation and mitigation measures included</p> <ul style="list-style-type: none">- Ensured only PMEs with valid NRMM label were used on-site- Conducted regular visual checking against emission quality of exhaust pipe of equipment by using the Ringlemann Chart- Used ULSD for diesel-powered equipment- Provided water spraying and water sprinklers system for haul road access and demolition works- Used battery powered solution to provide power to the tower crane- Provided cover for all rubbish bins on-site- Separated general refuse from construction waste	Closed



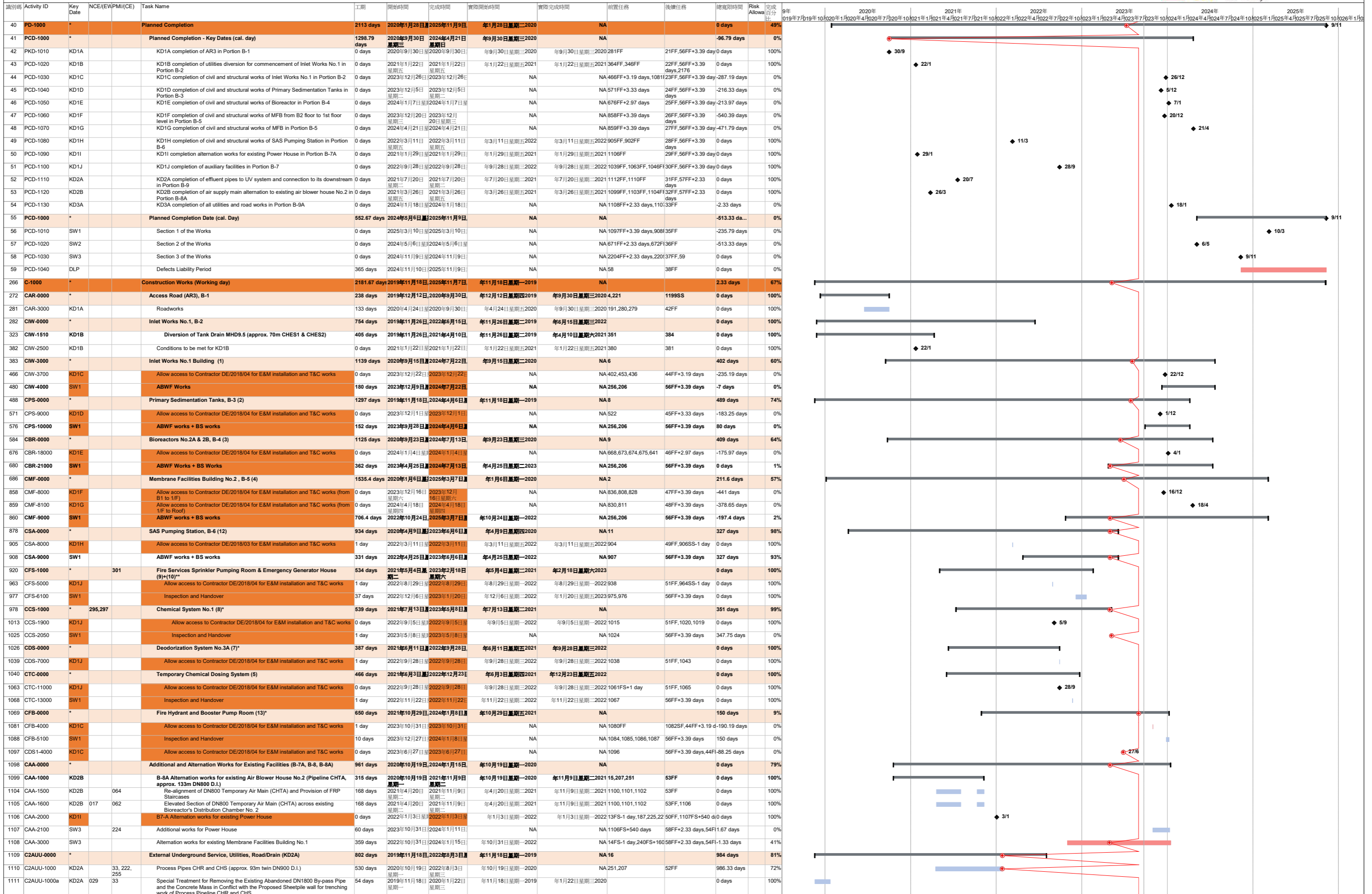
Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
3	9 August 2021	EPD	SWHEPP	Air Quality	<p>Air nuisance was suspected to be originated from the construction activities of SWHEPP</p> <p>The investigation and mitigation measures included</p> <ul style="list-style-type: none">- Ensured only PMEs with valid NRMM label were used on-site- Conducted regular visual checking against emission quality of exhaust pipe of equipment by using the Ringlemann Chart- Used ULSD for diesel-powered equipment- Used battery powered solution to provide power to the tower crane- Carried out plant maintenance in a timely manner	Closed
20220304	4 March 2022	EPD	SWHEPP	Odour nuisance	<p>The complainant alleged the odour nuisance was sourced from the construction site of Shek Wu Hui Effluent Polishing Plant on 4 March 2022. Thus, all four contracts (Contract Nos. DC/2018/06, DC/2018/07, DE/2018/03 and DE/2018/04) were involved in the complaint investigation.</p> <p>After investigation, no construction activities undertaken by all four contracts was associated with the odour nuisance received on 4 March 2022. Nevertheless, the contractors were reminded and recommended to:</p> <ul style="list-style-type: none">• Ensure only equipment with valid NRMM label is allowed to be used at site and regular maintenance of equipment• Provide regular visual checking against emission quality of exhaust pipe of equipment by using the Ringlemann Chart• Use ULSD as fuel for diesel-powered equipment• Maintain proper segregation and storage of general refuse	Closed on 22 April 2022 as confirmed with EPD.



Appendix 9.1

Construction Programme of Individual Contracts

ID	Activity ID	KD	Task Name	Incllement Weather CE no. (NCE no.)	PMI & CE no. (NCE no.)	Duration	Start	Finish	Actual Start	Actual Finish	Predecessors	Successors	% Complete	Time Risk Allowa									
1	CD-00000		Contract Dates			1842.8 day	Mon 16 Sep '19	Sat 22 Nov '25	Mon 16 Sep '19		NA		0%										
34	PD-00000	*	Planned Completion - Key Date (cal. day)			1791.8 day	Fri 1 Nov '19	Fri 7 Nov '25	Fri 1 Nov '19		NA		26%										
51	DE-00000		Delaying Events Other than Change of Works Information to be considered			1532.8 day	Fri 1 Nov '19	Thu 9 Jan '25	Fri 1 Nov '19		NA		43%										
153	SUB-00000		Submissions (cal. day)			1590 days	Mon 16 Sep '19	Sat 1 Feb '25	Mon 16 Sep '19		NA		93%										
264	CPW-00000		Site Preliminary Works			300 days	Mon 16 Sep '19	Thu 17 Sep '20	Mon 16 Sep '19	Thu 17 Sep '20			100%										
265	CPW-01000		Mobilization for Hoarding			5 days	Thu 21 Nov '19	Tue 26 Nov '19	Thu 21 Nov '19	Tue 26 Nov '19		266	100%										
266	CPW-02000		Hoarding Erection at Portion C			0 days	Wed 27 Nov '19	Sat 29 Feb '20	Wed 27 Nov '19	Sat 29 Feb '20	265,207,208,209,267,163		100%										
267	CPW-03000		Project Signboard Erection			11 days	Sun 15 Dec '19	Mon 30 Dec '19	Sun 15 Dec '19	Mon 30 Dec '19	217		100%										
268	CPW-04000		Utility applications and Connection			87 days	Mon 16 Sep '19	Mon 30 Dec '19	Mon 16 Sep '19	Mon 30 Dec '19	269FF		100%										
270	CWPC-00000	*	Construction Works of Portion C of the Site			1772.8 day	Mon 16 Sep '19	Tue 2 Sep '25	Mon 16 Sep '19		NA		57%										
271	CUV1-00000	*	UV System No. 1 & Effluent Pumping Station No. 1 (1)			971 days?	Mon 16 Sep '19	Thu 22 Dec '22	Mon 16 Sep '19	Thu 22 Dec '22			100%										
272	CUV1-01000		Preliminary Works			114 days	Mon 16 Sep '19	Tue 4 Feb '20	Mon 16 Sep '19	Tue 4 Feb '20			100%										
273	CUV1-01010		Site Clearance & Site Set Up	(5), (6)		23 days	Mon 16 Sep '19	Mon 14 Oct '19	Mon 16 Sep '19	Mon 14 Oct '19		274	100%										
274	CUV1-01020		Tree Felling Works	50		6 days	Tue 15 Oct '19	Sun 20 Oct '19	Tue 15 Oct '19	Sun 20 Oct '19	273		100%										
275	CUV1-01030		Trial Pit Excavation & UU Detection Works			5 days	Tue 15 Oct '19	Sat 19 Oct '19	Tue 15 Oct '19	Sat 19 Oct '19	274		100%										
276	CUV1-01040		Temporary Footpath Diversion			20 days	Mon 14 Oct '19	Tue 5 Nov '19	Mon 14 Oct '19	Tue 5 Nov '19	277,280		100%										
277	CUV1-01050		Temporary diverted footpath open to public			1 day	Tue 10 Dec '19	Tue 10 Dec '19	Tue 10 Dec '19	Tue 10 Dec '19	279,278		100%										
278	CUV1-01060		Removal of Existing Street light and Provision of Temporary Street light (PMI no.005, NCE no. 0022)		23, 26, (7)	28 days	Sat 30 Nov '19	Sat 4 Jan '20	Sat 30 Nov '19	Sat 4 Jan '20	279		100%										
279	CUV1-01070					8 days	Thu 23 Jan '20	Tue 4 Feb '20	Thu 23 Jan '20	Tue 4 Feb '20	212,277,278	573	100%										
280	CUV1-01080		Pre-drilling Works (8no. 1rig, 3days/drillhole/rig)		(10)	12 days	Wed 27 Nov '19	Tue 10 Dec '19	Wed 27 Nov '19	Tue 10 Dec '19		281	100%										
281	CUV1-01090		Installation of Monitoring Points			1 day	Thu 19 Dec '19	Thu 19 Dec '19	Thu 19 Dec '19	Thu 19 Dec '19		283,282	100%										
282	CUV1-02000		Sheetpile Installation (FSP IV, 2200sq.m, 1 Rig)- stage 1	17, 21	23	97 days	Sat 4 Jan '20	Wed 6 May '20	Sat 4 Jan '20	Wed 6 May '20	281		100%	6.5, 2.5, 4									
314	CSDC-00000	*	Sludge Digesters and Distribution Chamber (4)			1395.8 day	Sat 7 Dec '19	Mon 2 Sep '24	Sat 7 Dec '19		NA		67%										
315	CSDC-01000		Site Clearance & Site Set Up			6 days	Sat 7 Dec '19	Fri 13 Dec '19	Sat 7 Dec '19	Fri 13 Dec '19	316SF		100%										
316	CSDC-02000		Trial Pit Excavation & UU Detection Works			6 days	Sat 14 Dec '19	Fri 20 Dec '19	Sat 14 Dec '19	Fri 20 Dec '19	318SF	315SF	100%										
318	CSDC-04000		Pre-drilling Works (50no., 4rig, 3 days/drillhole/rig) - Change to Work Information		(10)	10 days	Sat 28 Dec '19	Thu 9 Jan '20	Sat 28 Dec '19	Thu 9 Jan '20	160,177,188,189,190,192,191	319,316SF,324	100%										
319	CSDC-05000		Installation of Monitoring Points			0 days	Thu 19 Dec '19	Thu 19 Dec '19	Thu 19 Dec '19	Thu 19 Dec '19	318	322	100%										
320	CSDC-06000		Sheetpile Installation- original	(310)		24 days	Wed 15 Jan '20	Fri 7 Feb '20	Wed 15 Jan '20	Fri 7 Feb '20			100%										
321	CSDC-07000		Setting up plant for pre-bored socketed H-pile Installation			6 days	Mon 3 Feb '20	Sat 8 Feb '20	Mon 3 Feb '20	Sat 8 Feb '20		322	100%										
322	CSDC-08000		Pre-bored Socketed H-Pile Installation (127nos, 3rig, 3days/rig/pile) (NCE no. 18A,25)	17, 21, 22, 33	(10)	69 days	Sat 8 Feb '20	Fri 5 Jun '20	Sat 8 Feb '20	Fri 5 Jun '20	161,319,324SS+20 days,321	323	100%	6									
357	CSDB-00000	*	Sludge Dewatering Building (2)			875.8 days	Tue 26 Nov '19	Wed 9 Nov '22	Tue 26 Nov '19		NA		65%										
358	CSDB-01000		Site Clearance & Site Set Up			6 days	Tue 26 Nov '19	Mon 2 Dec '19	Tue 26 Nov '19	Mon 2 Dec '19		359	100%										
359	CSDB-02000		Pre-drilling Works (39no.4rig, 3days/drillhole/rig) - Change to Work Information (Additional Pre-drill and Steel H-Pile)		(10)	20 days	Thu 28 Nov '19	Fri 20 Dec '19	Thu 28 Nov '19	Fri 20 Dec '19	160,358	361,360	100%										
360	CSDB-03000		Additional Pre-drilling Works (11no.)			8 days	Mon 23 Dec '19	Mon 30 Dec '19	Mon 23 Dec '19	Mon 30 Dec '19	359		100%										
361	CSDB-04000		Installation of Monitoring Points			4 days	Fri 10 Jan '20	Tue 14 Jan '20	Fri 10 Jan '20	Tue 14 Jan '20	359,360	366FS-3 days,362	100%										
362	CSDB-05000		Sheet Pile Installation - Original	17		52 days	Wed 15 Jan '20	Fri 6 Mar '20	Wed 15 Jan '20	Fri 6 Mar '20	361	364,363	100%										
363	CSDB-06000		Setting up plant for pre-bored socketed H-pile Installation	17		5 days	Sat 7 Mar '20	Thu 12 Mar '20	Sat 7 Mar '20	Thu 12 Mar '20	362	364	100%										
364	CSDB-07000		Pre-bored Socketed H-Pile Installation (202 Nos, 4 Rig, 3days/rig/pile)	17, 21, 22, 33	(10)	67 days	Fri 13 Mar '20	Fri 5 Jun '20	Fri 13 Mar '20	Fri 5 Jun '20	161,363,362	411,365	100%	24									
366	CSDB-09000		Sheet Pile Installation- stage2 - Additional Works (Removal of uncharted reinforced concrete structure at SD)	17, 21, 22, 33, 45, 46, 257, 333, 258, (92)	(47), (40), (14), (24), (33), (113), (153), 364, 328, 424, 46, (10)	295 days	Tue 3 Dec '19	Mon 30 Nov '20	Tue 3 Dec '19	Mon 30 Nov '20	361FS-3 days	367	100%	56									
383	CHPB-00000	*	Combined Heat Power Building (3)			1393.8 day	Tue 10 Dec '19	Mon 2 Sep '24	Tue 10 Dec '19		NA		51%										
384	CHPB-01000		Site Clearance & Site Set Up			6 days	Tue 10 Dec '19	Mon 16 Dec '19	Tue 10 Dec '19	Mon 16 Dec '19	385SF		100%										
385	CHPB-02000		Pre-drilling Works (15no. 2rig, 3days/drillhole/rig) - Change to Work Information (Additional Pre-drill and Steel H-Pile)		(10)	15 days	Tue 10 Dec '19	Sat 28 Dec '19	Tue 10 Dec '19	Sat 28 Dec '19		386,384SF	100%										
386	CHPB-03000		Installation of Monitoring Points			4 days	Fri 3 Jan '20	Tue 7 Jan '20	Fri 3 Jan '20	Tue 7 Jan '20	385	388	100%										
387	CHPB-04000		Setting up plant for pre-bored socketed H-pile Installation			6 days	Wed 8 Jan '20	Tue 14 Jan '20	Wed 8 Jan '20	Tue 14 Jan '20		388	100%										
388	CHPB-05000		Pre-bored Socketed H-Pile Installation (50 Nos, 2 Rig 3days/rig/pile) (PMI no.005)	17, 21	(10), (420)	77 days	Wed 15 Jan '20	Tue 21 Apr '20	Wed 15 Jan '20	Tue 21 Apr '20	161,386,387,660	389	100%	6									
407	CSPS-00000	*	Sewage Pumping Station (9)			1414.8 day	Fri 15 Nov '19	Mon 2 Sep '24	Fri 15 Nov '19		NA		79%										
408	CSPS-01000		Site Clearance & Site Set Up			14 days	Fri 15 Nov '19	Sat 30 Nov '19	Fri 15 Nov '19	Sat 30 Nov '19		409	100%										
409	CSPS-02000		Pre-drilling Works (4no.1rig, 3days/drillhole/rig)			0 days	Mon 2 Dec '19	Mon 30 Dec '19	Mon 2 Dec '19	Mon 30 Dec '19		410	100%										
421	CWS2-00000	*	Workshop No. 2 (5)			1381.8 day	Tue 24 Dec '19	Mon 2 Sep '24	Tue 24 Dec '19		NA		74%										
422	CWS2-01000		Site Clearance & Site Set Up			3 days	Tue 24 Dec '19	Sat 28 Dec '19	Tue 24 Dec '19	Sat 28 Dec '19		423	100%										
423	CWS2-02000		Pre-drilling Works (10no.1rig, 3days/drillhole/rig)		16, (10)	8 days	Thu 2 Jan '20	Fri 10 Jan '20	Thu 2 Jan '20	Fri 10 Jan '20		424	100%										
424	CWS2-03000		Installation of Monitoring Points			4 days	Tue 25 Feb '20	Fri 28 Feb '20	Tue 25 Feb '20	Fri 28 Feb '20	423	426,425	100%										
425	CWS2-04000		Setting up plant for pre-bored socketed H-pile Installation	17		0 days	Tue 10 Mar '20	Tue 17 Mar '20	Tue 10 Mar '20	Tue 17 Mar '20	424,284	426	100%										
426	CWS2-05000		Pre-bored Socketed H-Pile Installation (36 Nos, 2 Rig, 3days/rig/pile)	17, 21, 22, 33	(10)	64 days	Wed 18 Mar '20	Sat 6 Jun '20	Wed 18 Mar '20	Sat 6 Jun '20	161,424,425	427,446	100%	6									
440	CTHP-00000	*	Thermal Hydrolysis Pretreatment (6)			1385.8 day	Thu 19 Dec '19	Mon 2 Sep '24	Thu 19 Dec '19		NA		35%										
441	CTHP-01000		Site Clearance & Site Set Up			18 days	Thu 19 Dec '19	Sat 11 Jan '20	Thu 19 Dec '19	Sat 11 Jan '20		442,443	100%										
442	CTHP-02000		Pre-drilling Works (3no.1rig, 3days/drillhole/rig)		21/24, (10)	1 day	Fri 10 Jan '20	Mon 13 Jan '20	Fri 10 Jan '20	Mon 13 Jan '20	160FS+24 days,441	444	100%										
443	CTHP-03000		Additional Pre-drilling Works (4no.)		(12)	1 day	Fri 10 Jan '20	Mon 13 Jan '20	Fri 10 Jan '20	Mon 13 Jan '20	441	4											



Activity ID	Key Date	NCE/(EWPMI)/(CE)	Task Name	工期	開始時間	完成時間	實際開始時間	實際完成時間	前置任務	後續任務	總寬限期	Risk Allowance	完成百分比	Gantt Chart (2019-2026)											
1112	C2AUU-1000b	KD2A	255	Trenchless work for Process Pipes CHR and CHS (approx. 7m twin DN900 D.I.)	60 days	2020年12月21日	2021年3月6日	2020年12月21日	2021年3月6日	52FF	0 days	100%	[Gantt Chart Data]												
1113	C2AUU-1001	KD2A	033	Removal of Abandoned DN1800 Concrete Pipe and Concrete Mass near Existing UV Disinfection Channel at CHR & CHS Process Pipe Works Area	43 days	2019年11月18日	2020年1月9日	2019年11月18日	2020年1月9日		0 days	100%	[Gantt Chart Data]												
1114	C2AUU-1002	KD2A	222	Grouting for Sheung Shui Slaughter House Boundary Walls along CHR & CHS Pipes Works Area	16.83 days	2019年11月18日	2019年12月6日	2019年11月18日	2019年12月6日		0 days	100%	[Gantt Chart Data]												
1115	C2AUU-1004	KD2A	(076)	Delay Delivery of DI pipes due to COVID-19	75 days	2019年11月18日	2020年2月19日	2019年11月18日	2020年2月19日		0 days	100%	[Gantt Chart Data]												
1116	CS2-0000	SW2		External Underground Service, Utilities, Road/Drain (Section 2)	1268 days	2020年1月20日	2024年5月3日	2020年1月20日	2024年5月3日	NA	57FF+2.33 days	-135 days	66%	[Gantt Chart Data]											
1144	CS2-1000	SW2		Sewerage and utilities in Workfront A2	539 days	2021年6月30日	2023年4月25日	2021年6月30日	2023年4月25日	NA	-20 days	94%	[Gantt Chart Data]												
1162	CS2-1100	SW2		Workfront A2b: Construction of 2 nos. of DN250 DI sludge pipe (CHPS1, CHPS2 CH157-190), 2 nos. of DN350 DI sewage pipe (CHT CH62-91, CHY CH62-91) and 3 nos. of DN150 DI pipe (CHW, CHX, CHZ CH62-91)	539 days	2021年6月30日	2023年4月25日	2021年6月30日	2023年4月25日	1145	-20 days	85%	[Gantt Chart Data]												
1172	CS2-2000	SW2		Sewerage and utilities in Workfront A3	695 days	2021年6月2日	2023年10月4日	2021年6月2日	2023年10月4日	NA	-150 days	61%	[Gantt Chart Data]												
1189	CS2-2100	SW2		Workfront A3b: Construction of 2 nos. of DN250 DI sludge pipe (CHPS1, CHPS2 CH133-146), 2 nos. of DN350 DI sewage pipe (CHT CH100-114, CHY CH100-114) and 3 nos. of DN150 DI pipe (CHW CH100-114, CHX&CHZ CH100-114); Watermains	695 days	2021年6月2日	2023年10月4日	2021年6月2日	2023年10月4日	NA 1934	-242.33 days	64%	[Gantt Chart Data]												
1200	CS2-3000a	SW2		Sewerage and utilities in Workfront A5a	531 days	2022年3月18日	2024年1月2日	2022年3月18日	2024年1月2日	1991, 1984	-80 days	64%	[Gantt Chart Data]												
1202	CS2-3100a	SW2		Construction of DN825 concrete pipe (CHU CH9.81-67.72) and manhole MHS01-MHS03	531 days	2022年3月18日	2024年1月2日	2022年3月18日	2024年1月2日	NA	-80 days	63%	[Gantt Chart Data]												
1230	CS2-3000b	SW2		Sewerage and utilities in Workfront A5b	316 days	2022年12月29日	2024年1月22日	2022年12月29日	2024年1月22日	1991, 1984	-149 days	34%	[Gantt Chart Data]												
1240	CS2-3300	SW2		Sewerage and utilities in Workfront A6	940 days	2021年3月1日	2024年5月3日	2021年3月1日	2024年5月3日	NA	-135 days	61%	[Gantt Chart Data]												
1242	CS2-3310	SW2		Construction of CHPS1 CH274.233 - 355.037; CHPSW1 CH0-7	171 days	2022年10月6日	2023年5月5日	2022年10月6日	2023年5月5日	NA	58 days	76%	[Gantt Chart Data]												
1289	CS2-4000	SW2		Sewerage and utilities in Workfront B1	680 days	2021年8月4日	2023年11月17日	2021年8月4日	2023年11月17日	NA	-117 days	43%	[Gantt Chart Data]												
1302	CS2-4100	SW2		Workfront B1b: DN600 concrete pipe (CHU CH0-9.81)	117 days	2023年6月30日	2023年11月17日	2023年6月30日	2023年11月17日	NA	-279.33 da...	0%	[Gantt Chart Data]												
1318	CS2-5000	SW2		Sewerage and utilities in Workfront C1	427 days	2022年6月21日	2023年11月24日	2022年6月21日	2023年11月24日	NA	-65 days	42%	[Gantt Chart Data]												
1319	CS2-5100	SW2		Workfront C1a: Construction of 2 nos. of DN250 DI sludge pipe (CHPS1, CHPS2 CH50-133), 2 nos. of DN350 DI sewage pipe (CHT&CHY CH114-189) and 3 nos. of DN150 DI pipe (CHW CH114-140, CHX&CHZ CH114-140), MHFB64B-MHFB64C	427 days	2022年6月21日	2023年11月24日	2022年6月21日	2023年11月24日	NA 1482	-73 days	57%	[Gantt Chart Data]												
1346	CS2-5100	SW2		Workfront C1b: Construction of 2 nos. of DN250 DI sludge pipe (CHPS1, CHPS2 CH50-133), 2 nos. of DN350 DI sewage pipe (CHT&CHY CH114-189) and 3 nos. of DN150 DI pipe (CHW CH114-140, CHX&CHZ CH114-140), MHFB64B-MHFB64C, CHPSW-5	179 days	2023年2月6日	2023年9月11日	2023年2月6日	2023年9月11日	NA	-4 days	24%	[Gantt Chart Data]												
1363	CS2-6000	SW2		Sewerage and utilities in Workfront C2	423 days	2022年8月9日	2024年1月10日	2022年8月9日	2024年1月10日	NA	-422 days	1%	[Gantt Chart Data]												
1364	CS2-6100	SW2		Construction of 2 nos. of DN250 DI sludge pipe (CHPS1, CHPS2 CH25-50), CH PSW-7	423 days	2022年8月9日	2024年1月10日	2022年8月9日	2024年1月10日	NA 1346	-422 days	1%	[Gantt Chart Data]												
1381	CS2-7000	SW2		Sewerage and utilities in Workfront C3	768 days	2021年3月13日	2023年10月14日	2021年3月13日	2023年10月14日	2026	-191 days	71%	[Gantt Chart Data]												
1382	CS2-7100	SW2		Construction of DN1000 HDPE odour pipe (CHD02), DN250 DI sludge pipe (CHPS1, CHPS2, CH0-25), DN250 DI pipe (CHPSW-6), DN300 DI pipe (CHTF2), manhole MHD5A and its associated backdrop manhole	353 days	2021年3月13日	2022年5月24日	2021年3月13日	2022年5月24日	1476	0 days	100%	[Gantt Chart Data]												
1416	CS2-8000	SW2		Sewerage and utilities in Workfront D1	438 days	2022年8月5日	2024年1月24日	2022年8月5日	2024年1月24日	NA	-260 days	33%	[Gantt Chart Data]												
1417	CS2-8100	SW2		Construction of DN250 DI pipe (CHTF2-2), DN800 MS pipe (CHTA) and watermains	438 days	2022年8月5日	2024年1月24日	2022年8月5日	2024年1月24日	NA 1334, 1355	-260 days	36%	[Gantt Chart Data]												
1443	CS2-9000	SW2		Sewerage and utilities in Workfront D2	100 days	2021年8月2日	2021年11月29日	2021年8月2日	2021年11月29日	2021	0 days	100%	[Gantt Chart Data]												
1444	CS2-9100	SW2		Construction of DN350 DI temporary flow diversion pipe (CHTE(A), CHTE(B))	100 days	2021年8月2日	2021年11月29日	2021年8月2日	2021年11月29日	2021	0 days	100%	[Gantt Chart Data]												
1454	CS2-10000	SW2		Sewerage and utilities in Workfront D3	734 days	2021年8月31日	2024年2月22日	2021年8月31日	2024年2月22日	NA	-356.33 da...	84%	[Gantt Chart Data]												
1456	CS2-10100	SW2		Construction of DN100 DI pretreatment screen pipe (CHPT2)	642 days	2021年12月20日	2024年2月22日	2021年12月20日	2024年2月22日	NA 1363	-356.33 da...	66%	[Gantt Chart Data]												
1470	CS2-11000	SW2		Sewerage and utilities in Portion D4	695 days	2021年9月1日	2024年1月5日	2021年9月1日	2024年1月5日	NA	-70 days	72%	[Gantt Chart Data]												
1471	CS2-11100	SW2		Construction of DN350 DI pipe (CHPSW-1)	191 days	2021年9月1日	2022年4月26日	2021年9月1日	2022年4月26日	2022	0 days	100%	[Gantt Chart Data]												
1500	CS2-12000	SW2		Sewerage and utilities in Portion E1	162 days	2022年11月1日	2023年5月20日	2022年11月1日	2023年5月20日	NA	0 days	88%	[Gantt Chart Data]												
1501	CS2-12100	SW2		Construction of watermains	162 days	2022年11月1日	2023年5月20日	2022年11月1日	2023年5月20日	2023	0 days	100%	[Gantt Chart Data]												
1521	CS2-13000	SW2		Sewerage and utilities in Portion E2	52 days	2023年12月28日	2024年3月1日	2023年12月28日	2024年3月1日	NA	-363.33 da...	0%	[Gantt Chart Data]												
1522	CS2-13100	SW2		Construction of DN1600 DI sewage pipe (CHI CH75-95)	52 days	2023年12月28日	2024年3月1日	2023年12月28日	2024年3月1日	NA	-363.33 da...	0%	[Gantt Chart Data]												
1537	CS2-14000	SW2		Sewerage and utilities in Portion E3	52 days	2023年11月7日	2024年1月9日	2023年11月7日	2024年1月9日	NA	-321.33 da...	0%	[Gantt Chart Data]												
1538	CS2-14100	SW2		Construction of DN1600 DI sewage pipe (CHI CH35-75), CHJ	52 days	2023年11月7日	2024年1月9日	2023年11月7日	2024年1月9日	NA 1554FS-3 days	-321.33 da...	0%	[Gantt Chart Data]												
1554	CS2-15000	SW2		Sewerage and utilities in Portion E4	703 days	2021年6月29日	2023年11月9日	2021年6月29日	2023年11月9日	NA	-321.33 da...	67%	[Gantt Chart Data]												
1557	CS2-15100	SW2		Construction of DN1600 DI sewage pipe CHH, CHG	703 days	2021年6月29日	2023年11月9日	2021年6月29日	2023年11月9日	NA	-321.33 da...	1%	[Gantt Chart Data]												
1573	CS2-16000	SW2		Sewerage and utilities in Workfront E5	593 days	2021年9月13日	2023年9月13日	2021年9月13日	2023年9月13日	NA	-226.33 da...	4%	[Gantt Chart Data]												
1574	CS2-16100a	SW2		Workfront E5a: Process Pipe CHG chainage 0-50, CHH chainage 0-80, CHJ chainage 0-40, CHPSW-4, CHPT1, CHPT2 diversion pipe, manhole MHS44A, MHS44R	582 days	2021年9月13日	2023年8月31日	2021年9月13日	2023年8月31日	NA 1771	-215.33 days	8%	[Gantt Chart Data]												
1585	CS2-16100b	SW2		Workfront E5b: Process Pipe CHI chainage 0-35	113 days	2023年5月2日	2023年9月13日	2023年5月2日	2023年9月13日	NA	-226.33 da...	0%	[Gantt Chart Data]												
1612	CS2-17000	SW2		Sewerage and utilities in Workfront F1	381 days	2022年5月5日	2023年8月16日	2022年5月5日	2023年8月16日	NA	-16 days	45%	[Gantt Chart Data]												
1613	CS2-17100a	SW2		Workfront F1a: Process Pipe CHPSW-1 CH100-108, DN150 DI SAS pipe CHZB, Bioreactor Tank Drain CHTD1, watermains of CHPSW-1 and chemical trench	381 days	2022年5月5日	2023年8月16日	2022年5月5日	2023年8月16日	NA	-16 days	55%	[Gantt Chart Data]												
1630	CS2-17100b	SW2		Workfront F1b: Bioreactor Tank Drain CHTD1, cable ducts laying	53 days	2023年6月12日	2023年8月14日	2023年6月12日	2023年8月14日	NA	-200.33 da...	0%	[Gantt Chart Data]												
1640	CS2-18000	SW2		Sewerage and utilities in Workfront F2	494 days	2022年2月4日	2023年10月4日	2022年2月4日	2023年10月4日	NA	-114 days	63%	[Gantt Chart Data]												
1641	CS2-18100	SW2		Workfront F2a: Construction of Process Pipe CHPSW-4	494 days	2022年2月4日	2023年10月4日	2022年2月4日	2023年10月4日	NA	-220 days	76%	[Gantt Chart Data]												
1666	CS2-19000	SW2		Sewerage and utilities in Workfront F3	890 days	2021年1月5日	2024年1月5日	2021年1月5日	2024年1月5日	NA	-120 days	75%	[Gantt Chart Data]												
1685	CS2-19300	SW2		Construction of DN350 DI process pipe CHPSW-1	276 days	2022年6月12日	2023年5月17日	2022年6月12日	2023年5月17日	NA	-127.33 da...	63%	[Gantt Chart Data]												
1710	CS2-20000	SW2		Sewerage and utilities in Workfront G1	96 days	2022年8月25日	2022年12月17日	2022年8月25日	2022年12月17日	2022	0 days	100%	[Gantt Chart Data]												
1711	CS2-20100	SW2		Process Pipe DN900 DI RAS pipe (CHP) and 2 nos. of DN250 DI sludge pipe (CHSS1 CH140-183, CHSS2 CH140-182)	96 days	2022年8月25日	2022年12月17日	2022年8月25日	2022年12月17日	1866	0 days	100%	[Gantt Chart Data]												
1725	CS2-21000	SW2		Sewerage and utilities in Workfront G2	887 days	2021年1月11日	2024年1月9日	2021年1月11日	2024年1月9日	NA	-233 days	85%	[Gantt Chart Data]												
1727	CS2-21100	SW2		Process Pipe DN1400 DI sewage pipe (CHK CH0-6), 2 nos. of DN250 DI sludge pipe (CHSS1, CHSS2 CH100-140)	887 days	2021年1月11日	2024年1月9日	2021年1月11日	2024年1月9日	NA	-233 days	79%	[Gantt Chart Data]												
1754	CS2-22000	SW2		Sewerage and utilities in Workfront G3	732 days	2021年6月24日	2023年12月9日	2021年6月24日	2023年12月9日	NA	-210 days	80%	[Gantt Chart Data]												
1757	CS2-22100	SW2		Process Pipe DN1400 DI sewage pipe of CHK CH6-43.5, CHL CH0-31, DN300 CHN CH54-79, 2x DN250 CHSS1, CHSS2 (CH80-100), SAS gravity system and watermains	732 days	2021年6月24日	2023年12月9日	2021年6月24日	2023年12月9日	NA	-210 days	70%	[Gantt Chart Data]												
1788	CS2-23000	SW2		Sewerage and utilities in Workfront G4	390 days	2021年6月30日	2022年10月21日	2021年6月30日	2022年10月21日	2022	0 days	100%	[Gantt Chart Data]												
1789	CS2-23100	SW2		DN700 CHER CH0-38	390 days	2021年6月30日	2022年10月21日	2021年6月30日	2022年10月21日	2022	0 days	100%	[Gantt Chart Data]												
1801	CS2-24000	SW2		Sewerage and utilities in Workfront G5	483 days	2022年5月3日	2023年12月13日	2022年5月3日	2023年12月13日	NA	1856SS+21 days	-150 days	56%	[Gantt Chart Data]											
1802	CS2-24100	SW2	310 489	Process Pipe CHM, CHN, CHO, CHP, CHQ, CHV	483 days	2022年5月3日	2023年12月13日	2022年5月3日	2023年12月13日	NA	-150 days	61%	[Gantt Chart Data]												
1827	CS2-25000	SW2		Sewerage and utilities in Workfront G6	700 days	2021年7月27日	2023年12月2日	2021年7月27日	2023年12月2日	NA	-181 days	30%	[Gantt Chart Data]												

識別碼	Activity ID	Key Date	NCE/(EW/PMI)/(CE)	Task Name	工期	開始時間	完成時間	實際開始時間	實際完成時間	前置任務	後續任務	總寬限期	Risk Allowance	完成百分比	9年	2020年	2021年	2022年	2023年	2024年	2025年	
1829	CS2-25100a	SW2		Workfront G6a: Process Pipe CHN, CHPSW-1, CHSS1, CHSS2	700 days	2021年7月27日	2023年12月2日	年7月27日 星期二 2021		NA 1851	1891	-351.33 da...		5%								
1840	CS2-25100b	SW2		Workfront G6b: Process Pipe CHN, CHPSW-1, CHSS1, CHSS2	491 days	2022年1月5日	2023年9月1日	年1月5日 星期三 2022		NA 1737SS+36 days		-105 days		38%								
1855	CS2-26000	SW2		Sewerage and utilities in Workfront H1	178 days	2022年4月1日	2022年11月7日	年4月1日 星期五 2022	年11月7日 星期一 2022			0 days		100%								
1856	CS2-26100	SW2		Process Pipe CHSS1, CHSS2 CH181-254	178 days	2022年4月1日	2022年11月7日	年4月1日 星期五 2022	年11月7日 星期一 2022	1801SS+21 days		0 days		100%								
1867	CS2-27000	SW2		Sewerage and utilities in Workfront I1	370 days	2020年7月8日	2021年10月2日	年7月8日 星期三 2020	年10月2日 星期六 2021			0 days		100%								
1868	CS2-27100	SW2		Process Pipe CHS CH0-72, CHR CH 57-132	370 days	2020年7月8日	2021年10月2日	年7月8日 星期三 2020	年10月2日 星期六 2021			0 days		100%								
1879	CS2-28000	SW2		Sewerage and utilities in Workfront I2	1072 days	2020年7月8日	2024年2月16日	年7月8日 星期三 2020		NA		-351.33 da...		40%								
1880	CS2-28100	SW2		Process Pipe CHR CH0-26	963 days	2020年7月8日	2023年10月4日	年7月8日 星期三 2020		NA		-242.33 da...		55%								
1896	CS2-29000	SW2		Sewerage and utilities in Workfront I3	592 days	2021年7月21日	2023年7月20日	年7月21日 星期三 2021		NA	2164	-13 days		97%								
1897	CS2-29100	SW2	294,286,2	Construction of manhole MHFB51A, MHFB51, MHFB52, PSW3	509 days	2021年7月21日	2023年4月6日	年7月21日 星期三 2021		NA		0 days		97%								
1934	CS2-30000	SW2		Sewerage and utilities in Workfront I4	661 days	2021年6月5日	2023年8月26日	年6月5日 星期六 2021		NA	2153,1189,2175,2176	-30 days		69%								
1937	CS2-30100	SW2	230,238,2	Construction of Process Pipes CHPSW3; CHDO1, chemical trench	661 days	2021年6月5日	2023年8月26日	年6月5日 星期六 2021		NA		-33 days		91%								
1971	CS3-0000	*		Remaining drainage and utilities (Section 3)	830 days	2021年7月27日	2024年5月16日	年7月27日 星期二 2021		NA	2188,58FF+2.33 day	14.67 days		28%								
2186	CS3CK-PMI-496g	SW3	496	ABWF works + BS works	90 days	2024年1月26日	2024年6月5日		NA	NA 2185	58FF+2.33 days	106.57 days		0%								
2187	CRW-0000	*		Road Works (Section 3)	130 days	2024年5月17日	2024年10月21日		NA	NA	58FF+2.33 days	14.67 days		0%								
2198	CRW-2000	SW3		Footpath Road Pavement	60 days	2024年8月9日	2024年10月21日		NA	NA 2197SS+5 days	58FF+2.33 days	14.67 days		0%								
2199	CRW-2100	SW3		Signages	20 days	2024年7月29日	2024年8月20日		NA	NA 2196SS	58FF+2.33 days	64.67 days		0%								
2202	CLW-0000	*		Landscaping Works (Section 3)	871.67 days	2022年12月15日	2025年11月7日	年12月15日 星期四 2022		NA 16		1.33 days		0%								
2203	CLW-1000	SW3		Irrigation System	120 days	2022年12月15日	2023年5月16日	年12月15日 星期四 2022		NA	2204,58FF+2.33 day	0 days		0%								
2204	CLW-2000	SW3		Hard Landscaping Works	214 days	2023年5月19日	2024年2月9日		NA	NA 2203	58FF+2.33 days	2200 days	5	0%								
2205	CLW-3000	SW3		Soft Landscaping Works	214 days	2024年2月19日	2024年11月7日		NA	NA 2204FS+10 days	2206,58FF+2.33 day	0 days	5	0%								
2206	CLW-4000	DLP		Establishment Works (365 days)	365 days	2024年11月7日	2025年11月7日		NA	NA 2205,208	60FF	2.33 days	5	0%								

Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	2020	2021	2022	2023	2024	2025	2026
SWH - Main Works Stage 1 Sidestream Treatment Facilities & E&M W		705	11-Oct-19 A	24-Sep-25	31-Oct-21	24-Sep-25	0										
Contract Data		705	11-Oct-19 A	24-Sep-25	24-May-22	24-Sep-25	0										
Starting Date & Completion Date		705	11-Oct-19 A	24-Sep-25	24-May-22	24-Sep-25	0										
CD1000	Contract Date (LOA)	0	11-Oct-19 A		24-May-22				CD1010, S1P1000, PL1460								
CD1010	Starting Date	0	23-Oct-19 A		24-May-22			CD1000	S1D1040, AD1050, CD1000								
CD1020	Whole Contract Period (1626 days from starting date)	167	23-Oct-19 A	04-Apr-24	21-Oct-23	04-Apr-24	0	CD1010	CD1040, CD1030		[Gantt bar: 23-Oct-19 to 04-Apr-24]						
CD1030	Extension of Time Granted (Total 139days)	139	05-Apr-24	21-Aug-24*	05-Apr-24	21-Aug-24	0	CD1020	CD1040						[Gantt bar: 05-Apr-24 to 21-Aug-24]		
CD1040	Completion Date for the whole of the Works	0		24-Sep-25		24-Sep-25	0	CD1020, CD1010,									
Access Date		1	23-Oct-19 A	21-Oct-23	24-May-22	24-Sep-25	704										
AD1000	Portion C-1A (within 480 to 550 days from starting date)	0	23-Oct-19 A	24-Apr-21 A	06-Jan-23	06-Jan-23		CD1010	AD1010		[Gantt bar: 23-Oct-19 to 06-Jan-23]						
AD1010	Planned Access Date for Portion C-1A (Partial Access)	0	24-Apr-21 A	24-Apr-21 A	06-Jan-23	06-Jan-23		CD1010, AD1000	PL1470, S4C1010								
AD1020	Planned Access Date for Portion C-1A (Access for Remaining Area)	0	12-May-21 A	12-May-21 A	06-Jan-23	06-Jan-23			S4C1010								
AD1030	Portion C-2A (within 705 to 795 days from starting date) (SS by NCE-NCE-288, within 705 to 831 days from starting date)	0	23-Oct-19 A	30-Jan-22 A	24-Sep-25	24-Sep-25		CD1010	AD1040		[Gantt bar: 23-Oct-19 to 24-Sep-25]						
AD1040	Planned Access Date for Portion C-2A	0	09-Sep-22 A	09-Sep-22 A	24-Sep-25	24-Sep-25		CD1010, AD1030									
AD1050	Portion C-2B (within 765 to 855 days from starting date) (SS by NCE-NCE-286, within 765 to 880 days from starting date)	0	23-Oct-19 A	20-Mar-22 A	25-Feb-23	25-Feb-23		CD1010	AD1060		[Gantt bar: 23-Oct-19 to 25-Feb-23]						
AD1060	Planned Access Date for Portion C-2B	0	07-Dec-22 A	07-Dec-22 A	25-Feb-23	25-Feb-23		CD1010, AD1050	S5CHPC1020								
AD1070	Portion C-2C (within 715 to 805 days from starting date) (SS by NCE-NCE-287, within 715 to 934 days from starting date)	0	23-Oct-19 A	13-May-22 A	23-Dec-22	23-Dec-22		CD1010	AD1080		[Gantt bar: 23-Oct-19 to 23-Dec-22]						
AD1080	Planned Access Date for Portion C-2-C	0	20-Jul-23 A	20-Jul-23 A	23-Dec-22	23-Dec-22		CD1010, AD1070	S5DIGC1040, S5DIGC1210								
AD1090	Portion C-2D (within 825 to 945 days from starting date)	0	23-Oct-19 A	24-May-22 A	24-May-22	24-May-22		CD1010	AD1100		[Gantt bar: 23-Oct-19 to 24-May-22]						
AD1100	Planned Access Date for Portion C-2D	1	21-Oct-23	21-Oct-23*	24-May-22	24-May-22	-515	AD1090	S5BIOC1020, S5BIOC1030,								
AD1110	Portion C-3 (within 615 to 705 days from starting date) (SS by NCE-NCE-273, within 615 to 815 days from starting date)	0	23-Oct-19 A	31-Dec-21 A	05-Apr-23	05-Apr-23		CD1010	AD1120		[Gantt bar: 23-Oct-19 to 05-Apr-23]						
AD1120	Planned Access Date for Portion C-3 (SS by NCE-NCE-273)	0	31-Dec-21 A	31-Dec-21 A	05-Apr-23	05-Apr-23		AD1110, S2D1110	KD1060, S5WS2C1000,								
AD1130	Portion B-1 (within 285 to 345 days from starting date)	0	23-Oct-19 A	30-Sep-20 A	21-Oct-23	21-Oct-23		CD1010	AD1140		[Gantt bar: 23-Oct-19 to 21-Oct-23]						
AD1140	Planned Access Date for Portion B-1	0	30-Sep-20 A	30-Sep-20 A	21-Oct-23	21-Oct-23		AD1130	KD1030, S3C1020,								
AD1150	Portion B-2a (within 615 to 705 days from starting date) (SS by NCE-NCE-219, within 771 to 891 days from starting date)	0	23-Oct-19 A	23-Mar-22 A	26-Dec-22	26-Dec-22		CD1010	AD1160		[Gantt bar: 23-Oct-19 to 26-Dec-22]						
AD1160	Planned Access Date for Portion B-2a (SS by NCE-NCE-219)	0	23-Mar-22 A	23-Mar-22 A	26-Dec-22	26-Dec-22		AD1150	S5SASC1010, S5SASC1000								
AD1170	Portion B-2b (within 615 to 705 days from starting date) (SS by NCE-NCE-219)	0	23-Oct-19 A	24-Sep-21 A	24-Sep-25	24-Sep-25					[Gantt bar: 23-Oct-19 to 24-Sep-25]						
AD1180	Planned Access Date for Portion B-2b (SS by NCE-NCE-219)	0	24-Sep-21 A	24-Sep-21 A	24-Sep-25	24-Sep-25											
AD1190	Works Area WA1-B (starting date)	0	23-Oct-19 A	23-Oct-19 A	16-Dec-22	16-Dec-22		CD1010	AD1200								
AD1200	Planned Access Date for Works Area WA1-B	0	23-Oct-19 A	23-Oct-19 A	16-Dec-22	16-Dec-22		CD1010, AD1190	PL1000, PL1020								
AD1210	Works Area WA3 (starting date)	0	23-Oct-19 A	23-Oct-19 A	07-Jan-25	07-Jan-25		CD1010	AD1220								
AD1220	Planned Access Date for Works Area WA3	0	23-Oct-19 A	23-Oct-19 A	07-Jan-25	07-Jan-25		CD1010, AD1210	PL1000, PL1030								
Key Dates		418	23-Oct-19 A	11-Dec-24	05-Feb-23	24-Sep-25	287										
Contractual Completion (Include Implemented CE)		169	23-Oct-19 A	06-Apr-24	05-Feb-23	24-Sep-25	536										
KD1000	KD1A Submission of Civil Requirement Dwgs, Elec. Schematic Dwgs of UV System No.1 and Effluent Pumping Station No.1	0	23-Oct-19 A	05-May-20 A	05-Feb-23	05-Feb-23		CD1010, S1D1040, S1D1100	CD1040, S4P1040		[Gantt bar: 23-Oct-19 to 05-Feb-23]						



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- Remaining Work
- Critical Activity
- Actual Progress
- ◆ Milestone

Contract No. DE/2018/03
Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1
Sidestream Treatment Facilities and E&M Works for Sludge Treatment Facilities
Revised Programme - as at 20 October 2023

Date	Revision	Checked	Approved
30-Jun-23	Rev.35	IM/LT	KM
31-Jul-23	Rev.36	IM/LT	KM
31-Aug-23	Rev.37	IM/LT	KM
30-Sep-23	Rev.38	IM/LT	KM
31-Oct-23	Rev.39	IM/LT	KM

Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	Gantt Chart (2020-2026)											
KD1010	KD2A Submission of Civil Requirement Dwgs, Elec. Schematic Dwgs of SD Bldg, SD & DC, CHP Bldg, Workshop No.2, etc.	0	23-Oct-19 A	04-Jun-20 A	24-Sep-25	24-Sep-25		CD1010, S2D1080, S2D1160	KD1020		[Gantt bar: 23-Oct-19 to 04-Jun-20]											
KD1020	KD2B Submission of Remaining Civil Requirement Dwgs, Elec. Schematic Dwgs of SD Bldg, SD & DC, CHP Bldg, etc.	0	23-Oct-19 A	16-Jan-21 A	24-Sep-25	24-Sep-25		CD1010, S2D1120, S2D1220, KD1010	SC21110		[Gantt bar: 23-Oct-19 to 16-Jan-21]											
KD1030	KD3A Completion of Phase 1 Commissioning of Sidestream Treatment Facilities (1140d after Portion B-1 Access)	25	30-Sep-20 A	14-Nov-23*	21-Oct-23	14-Nov-23	0	AD1140	KD1040		[Gantt bar: 30-Sep-20 to 14-Nov-23]											
KD1040	Extension of Time Granted for KD3A (Total 144days)	144	15-Nov-23	06-Apr-24	15-Nov-23	06-Apr-24	0	KD1030	KD1050, SC31120		[Gantt bar: 15-Nov-23 to 06-Apr-24]											
KD1050	Revised Completion Date for KD3A	0		06-Apr-24*		06-Apr-24	0	KD1040			[Milestone: 06-Apr-24]											
KD1060	KD5A - Completion of BS Fitting at CLP Sub-Station at Workshop No.2 (245d after Portion C-3 Access)(Impacted by NCE-273)	0	31-Dec-21 A	02-Sep-22 A	24-Sep-25	24-Sep-25		AD1120, S5WS2C1010			[Gantt bar: 31-Dec-21 to 02-Sep-22]											
Expected Completion (Include Non-implemented CE)		287	30-Sep-20 A	02-Aug-24	21-Oct-23	02-Aug-24	0				[Summary bar: 30-Sep-20 to 02-Aug-24]											
KD1030-1	KD3A Completion of Phase 1 Commissioning of Sidestream Treatment Facilities (1140d after Portion B-1 Access)	25	30-Sep-20 A	14-Nov-23*	21-Oct-23	14-Nov-23	0	AD1140	KD1040-1		[Gantt bar: 30-Sep-20 to 14-Nov-23]											
KD1040-1	Extension of Time Granted for KD3A (Total 144 days)	144	15-Nov-23	06-Apr-24	15-Nov-23	06-Apr-24	0	KD1030-1	KD1045, SC31120		[Gantt bar: 15-Nov-23 to 06-Apr-24]											
KD1045	Extension of Time for KD3A - Non-implemented (Total 70days)	118	07-Apr-24	02-Aug-24	07-Apr-24	02-Aug-24	0	KD1040-1	KD1050-1		[Gantt bar: 07-Apr-24 to 02-Aug-24]											
KD1050-1	Expected Completion Date for KD3A	0		02-Aug-24*		02-Aug-24	0	KD1045			[Milestone: 02-Aug-24]											
Planned Completion		0	02-Sep-22 A	11-Dec-24	06-Apr-24	24-Sep-25	287				[Summary bar: 02-Sep-22 to 11-Dec-24]											
KD1050-2	Planned Completion Date for KD3A	0		11-Dec-24*		06-Apr-24	-249	S3T1230	SC31120		[Milestone: 11-Dec-24]											
KD1060-1	Planned Completion Date for KD5A	0		02-Sep-22 A		24-Sep-25		AD1120, S5WS2C1010			[Milestone: 02-Sep-22]											
Completion Date		705	23-Oct-19 A	24-Sep-25	21-Oct-23	24-Sep-25	0				[Summary bar: 23-Oct-19 to 24-Sep-25]											
Section 1 - Complete All Design at UV System No.1 & EP Station No. 1		0	23-Oct-19 A	08-Aug-20 A	24-Sep-25	24-Sep-25					[Summary bar: 23-Oct-19 to 08-Aug-20]											
SC11000	Contract Duration of Section 1	0	23-Oct-19 A	08-Aug-20 A	24-Sep-25	24-Sep-25		CD1010	SC11100		[Gantt bar: 23-Oct-19 to 08-Aug-20]											
SC11100	Completion date - Section 1 (290 days after starting date)	0		08-Aug-20 A		24-Sep-25		SC11000	SC11120		[Milestone: 08-Aug-20]											
Time Risk Allowance and Planned Completion		0	08-Aug-20 A	08-Aug-20 A	24-Sep-25	24-Sep-25					[Summary bar: 08-Aug-20 to 08-Aug-20]											
SC11110	Time Risk Allowance for Section 1	0	08-Aug-20 A	08-Aug-20 A	24-Sep-25	24-Sep-25		S1P1000, S1P1040,	SC11120		[Gantt bar: 08-Aug-20 to 08-Aug-20]											
SC11120	Planned Completion for Section 1	0		08-Aug-20 A		24-Sep-25		SC11110, SC11100	CD1040		[Milestone: 08-Aug-20]											
Section 2 - Complete All Designs (exclude Sec. 1 & 3)		0	23-Oct-19 A	11-Jun-21 A	24-Sep-25	24-Sep-25					[Summary bar: 23-Oct-19 to 11-Jun-21]											
SC21000	Contract Duration of Section 2	0	23-Oct-19 A	11-Jun-21 A	24-Sep-25	24-Sep-25		CD1010	SC21100		[Gantt bar: 23-Oct-19 to 11-Jun-21]											
SC21100	Completion date - Section 2 (600 days after starting date)	0		11-Jun-21 A		24-Sep-25		SC21000	SC21120		[Milestone: 11-Jun-21]											
Time Risk Allowance and Planned Completion		0	11-Jun-21 A	11-Jun-21 A	24-Sep-25	24-Sep-25					[Summary bar: 11-Jun-21 to 11-Jun-21]											
SC21110	Time Risk Allowance for Section 2	0	11-Jun-21 A	11-Jun-21 A	24-Sep-25	24-Sep-25		S2P1000, S2P1010,	SC21120		[Gantt bar: 11-Jun-21 to 11-Jun-21]											
SC21120	Planned Completion for Section 2	0		11-Jun-21 A		24-Sep-25		SC21110, SC21100, PL1490, PL1530	CD1040		[Milestone: 11-Jun-21]											
Section 3 - Complete Design, Construction & T&C for Sidestream Facilities		705	23-Oct-19 A	24-Sep-25	21-Oct-23	13-Jul-25	-73				[Summary bar: 23-Oct-19 to 24-Sep-25]											
Contractual Completion (Include Implemented CE)		306	23-Oct-19 A	21-Aug-24	21-Oct-23	21-Aug-24	0				[Summary bar: 23-Oct-19 to 21-Aug-24]											
SC31000	Contract Duration of Section 3	167	23-Oct-19 A	04-Apr-24	21-Oct-23	04-Apr-24	0		SC31001		[Gantt bar: 23-Oct-19 to 04-Apr-24]											
SC31001	Completion date - Section 3 (1625 days after starting date)	0		04-Apr-24*		04-Apr-24	0	SC31000	SC31002		[Milestone: 04-Apr-24]											
SC31002	NICE-CNE-0248 - Inclement Weather (May 2021) - 5days (Implemented)	5	05-Apr-24	09-Apr-24	05-Apr-24	09-Apr-24	0	SC31001	SC31003		[Gantt bar: 05-Apr-24 to 09-Apr-24]											
SC31003	NICE-CNE-0256 Inclement Weather (June 2021) - 14.5days (Implemented)	15	10-Apr-24	24-Apr-24	10-Apr-24	24-Apr-24	0	SC31002	SC31005		[Gantt bar: 10-Apr-24 to 24-Apr-24]											
SC31005	NICE-CNE-0264 Inclement Weather (July 2021) - 15days (Implemented)	15	24-Apr-24	09-May-24	24-Apr-24	09-May-24	0	SC31003	SC31006		[Gantt bar: 24-Apr-24 to 09-May-24]											
SC31006	NICE-CNE-0292 Inclement Weather (August 2021) - 19days (Implemented)	19	09-May-24	28-May-24	09-May-24	28-May-24	0	SC31005	SC31007		[Gantt bar: 09-May-24 to 28-May-24]											
SC31007	NICE-CNE-0293 Inclement Weather (September 2021) - 3.5days (Implemented)	4	28-May-24	31-May-24	28-May-24	31-May-24	0	SC31006	SC31010		[Gantt bar: 28-May-24 to 31-May-24]											



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Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	2020	2021	2022	2023	2024	2025	2026
SC31010	NICE-CNE-0313 Inclement Weather (November 2021) - 0.5days (Implemented)	1	01-Jun-24	01-Jun-24	01-Jun-24	01-Jun-24	0	SC31007	SC31011								
SC31011	NICE-CNE-0343 Inclement Weather (December 2021) - 4days (Implemented)	4	01-Jun-24	05-Jun-24	01-Jun-24	05-Jun-24	0	SC31010	SC31012								
SC31012	NICE-CNE-0344 Inclement Weather (January 2022) - 0.5days (Implemented)	1	05-Jun-24	05-Jun-24	05-Jun-24	05-Jun-24	0	SC31011	SC31013								
SC31013	NICE-CNE-0345 Inclement Weather (February 2022) - 6.5days (Implemented)	7	06-Jun-24	12-Jun-24	06-Jun-24	12-Jun-24	0	SC31012	SC31014								
SC31014	NICE-CNE-0386 Inclement Weather (March 2022) - 3.5days (Implemented)	4	12-Jun-24	15-Jun-24	12-Jun-24	15-Jun-24	0	SC31013	SC31015								
SC31015	NICE-CNE-0387 Inclement Weather (April 2022) - 2.5days (Implemented)	3	16-Jun-24	18-Jun-24	16-Jun-24	18-Jun-24	0	SC31014	SC31016								
SC31016	NICE-CNE-0391 Inclement Weather (May 2022) - 8.5days (Implemented)	9	18-Jun-24	26-Jun-24	18-Jun-24	26-Jun-24	0	SC31015	SC31026								
SC31026	NICE-CNE-0397 Inclement Weather (June 2022) - 11.5days (Implemented)	12	27-Jun-24	08-Jul-24	27-Jun-24	08-Jul-24	0	SC31016	SC31027								
SC31027	NICE-CNE-0405 Inclement Weather (July 2022) - 5.5days (Implemented)	6	08-Jul-24	13-Jul-24	08-Jul-24	13-Jul-24	0	SC31026	SC31028								
SC31028	NICE-CNE-0409 Inclement Weather (August 2022) - 17.5days (Implemented)	18	14-Jul-24	31-Jul-24	14-Jul-24	31-Jul-24	0	SC31027	SC31029								
SC31029	NICE-CNE-0427 Inclement Weather (September 2022) - 7days (Implemented)	7	31-Jul-24	07-Aug-24	31-Jul-24	07-Aug-24	0	SC31028	SC31030								
SC31030	NICE-CNE-0428 Inclement Weather (October 2022) - 2days (Implemented)	2	07-Aug-24	09-Aug-24	07-Aug-24	09-Aug-24	0	SC31029	SC31031								
SC31031	NICE-CNE-0433 Inclement Weather (November 2022) - 7.5days (Implemented)	8	09-Aug-24	16-Aug-24	09-Aug-24	16-Aug-24	0	SC31030	SC31032								
SC31032	NICE-CNE-0441 Inclement Weather (December 2022) - 5days (Implemented)	5	17-Aug-24	21-Aug-24	17-Aug-24	21-Aug-24	0	SC31031	SC31100								
SC31100	Revised Completion for Section 3	0		21-Aug-24*		21-Aug-24	0	SC31032									
Expected Completion (Include Non-implemented CE)		632	23-Oct-19 A	13-Jul-25	21-Oct-23	13-Jul-25	0										
SC31000-1	Contract Duration of Section 3	167	23-Oct-19 A	04-Apr-24	21-Oct-23	04-Apr-24	0	CD1010	SC31001-1								
SC31001-1	Completion date - Section 3 (1625 days after starting date)	0		04-Apr-24*		04-Apr-24	0	SC31000-1	SC31002-1, SC31120								
SC31002-1	NICE-CNE-0248 - Inclement Weather (May 2021) - 5days (Implemented)	5	05-Apr-24	09-Apr-24	05-Apr-24	09-Apr-24	0	SC31001-1	SC31003-1								
SC31003-1	NICE-CNE-0256 Inclement Weather (June 2021) - 14.5days (Implemented)	15	10-Apr-24	24-Apr-24	10-Apr-24	24-Apr-24	0	SC31002-1	SC31004-1								
SC31004-1	CNE-007 Black and Red Rainstorm Warning (June 2021) - 1day	1	24-Apr-24	25-Apr-24	24-Apr-24	25-Apr-24	0	SC31003-1	SC31005-1								
SC31005-1	NICE-CNE-0264 Inclement Weather (July 2021) - 15days (Implemented)	15	25-Apr-24	10-May-24	25-Apr-24	10-May-24	0	SC31004-1	SC31006-1								
SC31006-1	NICE-CNE-0292 Inclement Weather (August 2021) - 19days (Implemented)	19	10-May-24	29-May-24	10-May-24	29-May-24	0	SC31005-1	SC31007-1								
SC31007-1	NICE-CNE-0293 Inclement Weather (September 2021) - 3.5days (Implemented)	4	29-May-24	01-Jun-24	29-May-24	01-Jun-24	0	SC31006-1	SC31009-1								
SC31009-1	CNE-020 Inclement Weather (October 2021) (Time and Cost Implication) - 4days	4	02-Jun-24	05-Jun-24	02-Jun-24	05-Jun-24	0	SC31007-1	SC31010-1								
SC31010-1	NICE-CNE-0313 Inclement Weather (November 2021) - 0.5days (Implemented)	1	06-Jun-24	06-Jun-24	06-Jun-24	06-Jun-24	0	SC31009-1	SC31011-1								
SC31011-1	NICE-CNE-0343 Inclement Weather (December 2021) - 4days (Implemented)	4	06-Jun-24	10-Jun-24	06-Jun-24	10-Jun-24	0	SC31010-1	SC31012-1								
SC31012-1	NICE-CNE-0344 Inclement Weather (January 2022) - 0.5days (Implemented)	1	10-Jun-24	10-Jun-24	10-Jun-24	10-Jun-24	0	SC31011-1	SC31013-1								
SC31013-1	NICE-CNE-0345 Inclement Weather (February 2022) - 6.5days (Implemented)	7	11-Jun-24	17-Jun-24	11-Jun-24	17-Jun-24	0	SC31012-1	SC31014-1								
SC31014-1	NICE-CNE-0386 Inclement Weather (March 2022) - 3.5days (Implemented)	4	17-Jun-24	20-Jun-24	17-Jun-24	20-Jun-24	0	SC31013-1	SC31015-1								
SC31015-1	NICE-CNE-0387 Inclement Weather (April 2022) - 2.5days (Implemented)	3	21-Jun-24	23-Jun-24	21-Jun-24	23-Jun-24	0	SC31014-1	SC31016-1								
SC31016-1	NICE-CNE-0391 Inclement Weather (May 2022) - 8.5days (Implemented)	9	23-Jun-24	01-Jul-24	23-Jun-24	01-Jul-24	0	SC31015-1	SC31017-1								



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Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	2020	2021	2022	2023	2024	2025	2026
SC41012	NICE-CNE-0345 Inclement Weather (February 2022) - 4.5days (Implemented)	0	19-May-22 A	23-May-22 A	24-Sep-25	24-Sep-25		SC41010	SC41013								
SC41013	NICE-CNE-0386 Inclement Weather (March 2022) - 4.5days (Implemented)	0	24-May-22 A	28-May-22 A	24-Sep-25	24-Sep-25		SC41012	SC41014								
SC41014	NICE-CNE-0387 Inclement Weather (April 2022) - 1.5days (Implemented)	0	28-May-22 A	29-May-22 A	24-Sep-25	24-Sep-25		SC41013	SC41015								
SC41015	NICE-CNE-0391 Inclement Weather (May 2022) - 10.5days (Implemented)	0	30-May-22 A	09-Jun-22 A	24-Sep-25	24-Sep-25		SC41014	SC41016								
SC41016	NICE-CNE-0397 Inclement Weather (June 2022) - 4.5days (Implemented)	0	09-Jun-22 A	13-Jun-22 A	24-Sep-25	24-Sep-25		SC41015	SC41100								
SC41100	Revised Completion for Section 4	0		14-Sep-22 A		24-Sep-25		SC41016					◆				
Expected Completion (Include Non-implemented CE)		0	23-Oct-19 A	14-Sep-22 A	24-Sep-25	24-Sep-25											
SC41000-1	Contract Duration of Section 4	0	23-Oct-19 A	26-Mar-22 A	24-Sep-25	24-Sep-25		CD1010	SC41001-1		■						
SC41001-1	Completion date - Section 4 (885 days after starting date)	0		26-Mar-22 A		24-Sep-25		SC41000-1	SC41110, SC41002-1				◆				
SC41002-1	NICE-CNE-0256 Inclement Weather (June 2021) - 6.5days (Implemented)	0	27-Mar-22 A	02-Apr-22 A	24-Sep-25	24-Sep-25		SC41001-1	SC41004-1, SC41003-1								
SC41003-1	CNE-007 Black and Red Rainstorm Warning (June 2021) - 1day	0	02-Apr-22 A	03-Apr-22 A	24-Sep-25	24-Sep-25		SC41002-1	SC41004-1								
SC41004-1	NICE-CNE-0264 Inclement Weather (July 2021) - 19days (Implemented)	0	03-Apr-22 A	22-Apr-22 A	24-Sep-25	24-Sep-25		SC41002-1, SC41003-1	SC41005-1								
SC41005-1	NICE-CNE-0292 Inclement Weather (August 2021) - 16days (Implemented)	0	22-Apr-22 A	08-May-22 A	24-Sep-25	24-Sep-25		SC41004-1	SC41006-1								
SC41006-1	NICE-CNE-0293 Inclement Weather (September 2021) - 4.5days (Implemented)	0	08-May-22 A	12-May-22 A	24-Sep-25	24-Sep-25		SC41005-1	SC41007-1								
SC41007-1	NICE-CNE-0309 Inclement Weather (October 2021) - 3days (Implemented)	0	13-May-22 A	15-May-22 A	24-Sep-25	24-Sep-25		SC41006-1	SC41008-1								
SC41008-1	CNE-020 Inclement Weather (October 2021) (Time and Cost Implication) - 4days	0	16-May-22 A	19-May-22 A	24-Sep-25	24-Sep-25		SC41007-1	SC41009-1								
SC41009-1	NICE-CNE-0313 Inclement Weather (November 2021) - 0.5days (Implemented)	0	20-May-22 A	20-May-22 A	24-Sep-25	24-Sep-25		SC41008-1	SC41010-1								
SC41010-1	NICE-CNE-0343 Inclement Weather (December 2021) - 4days (Implemented)	0	20-May-22 A	24-May-22 A	24-Sep-25	24-Sep-25		SC41009-1	SC41012-1								
SC41012-1	NICE-CNE-0345 Inclement Weather (February 2022) - 4.5days (Implemented)	0	24-May-22 A	28-May-22 A	24-Sep-25	24-Sep-25		SC41010-1	SC41013-1								
SC41013-1	NICE-CNE-0386 Inclement Weather (March 2022) - 4.5days (Implemented)	0	29-May-22 A	02-Jun-22 A	24-Sep-25	24-Sep-25		SC41012-1	SC41014-1								
SC41014-1	NICE-CNE-0387 Inclement Weather (April 2022) - 1.5days (Implemented)	0	02-Jun-22 A	03-Jun-22 A	24-Sep-25	24-Sep-25		SC41013-1	SC41015-1								
SC41015-1	NICE-CNE-0391 Inclement Weather (May 2022) - 10.5days (Implemented)	0	04-Jun-22 A	14-Jun-22 A	24-Sep-25	24-Sep-25		SC41014-1	SC41016-1								
SC41016-1	NICE-CNE-0397 Inclement Weather (June 2022) - 4.5days (Implemented)	0	14-Jun-22 A	18-Jun-22 A	24-Sep-25	24-Sep-25		SC41015-1	SC41017-1								
SC41017-1	CNE-053 Inclement Weather (June 2022) (Time and Cost Implication) - 2day	0	19-Jun-22 A	20-Jun-22 A	24-Sep-25	24-Sep-25		SC41016-1	SC41018-1								
SC41018-1	CNE-054 Inclement Weather (July 2022) - 4days	0	21-Jun-22 A	24-Jun-22 A	24-Sep-25	24-Sep-25		SC41017-1	SC41019-1								
SC41019-1	CNE-055 Inclement Weather (July 2022) (Time and Cost Implication) - 1day	0	25-Jun-22 A	25-Jun-22 A	24-Sep-25	24-Sep-25		SC41018-1	SC41020-1								
SC41020-1	CNE-056 Inclement Weather (August 2022) - 13.5days	0	26-Jun-22 A	09-Jul-22 A	24-Sep-25	24-Sep-25		SC41019-1	SC41021-1								
SC41021-1	CNE-057 Inclement Weather (August 2022) (Time and Cost Implication) - 1day	0	09-Jul-22 A	10-Jul-22 A	24-Sep-25	24-Sep-25		SC41020-1	SC41022-1								
SC41022-1	CNE-058 Inclement Weather (September 2022) - 8days	0	10-Jul-22 A	18-Jul-22 A	24-Sep-25	24-Sep-25		SC41021-1	SC41023-1								
SC41023-1	CNE-059 Inclement Weather (October 2022) - 4days	0	18-Jul-22 A	22-Jul-22 A	24-Sep-25	24-Sep-25		SC41022-1	SC41024-1								
SC41024-1	CNE-061 Inclement Weather (November 2022) - 13days	0	22-Jul-22 A	04-Aug-22 A	24-Sep-25	24-Sep-25		SC41023-1	SC41025-1								
SC41025-1	CNE-062 Inclement Weather (November 2022) (Time and Cost Implication) - 2days	0	04-Aug-22 A	06-Aug-22 A	24-Sep-25	24-Sep-25		SC41024-1	SC41100-1								
SC41100-1	Expected Completion for Section 4	0		14-Sep-22 A		24-Sep-25		SC41025-1					◆				
Time Risk Allowance and Planned Completion		0	14-Sep-22 A	14-Sep-22 A	24-Sep-25	24-Sep-25											



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SC41110	Time Risk Allowance for Section 4	0	14-Sep-22 A	14-Sep-22 A	24-Sep-25	24-Sep-25		SC41001-1, S4C1100,	SC41120								
SC41120	Planned Completion for Section 4	0		14-Sep-22 A		24-Sep-25		SC41110	CD1040								
Section 5 - Complete all remaining Works (incl. T&C)		705	23-Oct-19 A	24-Sep-25	21-Oct-23	13-Jul-25	-73										
Contractual Completion (Include Implemented CE)		287	23-Oct-19 A	02-Aug-24	21-Oct-23	02-Aug-24	0										
SC51000	Contract Duration of Section 5	167	23-Oct-19 A	04-Apr-24	21-Oct-23	04-Apr-24	0		SC51001								
SC51001	Completion date - Section 5 (1625 days after starting date)	0		04-Apr-24*		04-Apr-24	0	SC51000	SC51002								
SC51002	NICE-CNE-0264 Inclement Weather (July 2021) - 14days (Implemented)	14	05-Apr-24	18-Apr-24	05-Apr-24	18-Apr-24	0	SC51001	SC51003								
SC51003	NICE-CNE-0292 Inclement Weather (August 2021) - 19days (Implemented)	19	19-Apr-24	07-May-24	19-Apr-24	07-May-24	0	SC51002	SC51004								
SC51004	NICE-CNE-0293 Inclement Weather (September 2021) - 3.5days (Implemented)	4	08-May-24	11-May-24	08-May-24	11-May-24	0	SC51003	SC51007								
SC51007	NICE-CNE-0313 Inclement Weather (November 2021) - 0.5days (Implemented)	1	11-May-24	11-May-24	11-May-24	11-May-24	0	SC51004	SC51008								
SC51008	NICE-CNE-0343 Inclement Weather (December 2021) - 5days (Implemented)	5	12-May-24	16-May-24	12-May-24	16-May-24	0	SC51007	SC51009								
SC51009	NICE-CNE-0344 Inclement Weather (January 2022) - 0.5days (Implemented)	1	17-May-24	17-May-24	17-May-24	17-May-24	0	SC51008	SC51010								
SC51010	NICE-CNE-0345 Inclement Weather (February 2022) - 5.5days (Implemented)	6	17-May-24	22-May-24	17-May-24	22-May-24	0	SC51009	SC51011								
SC51011	NICE-CNE-0386 Inclement Weather (March 2022) - 4.5days (Implemented)	5	23-May-24	27-May-24	23-May-24	27-May-24	0	SC51010	SC51012								
SC51012	NICE-CNE-0387 Inclement Weather (April 2022) - 1.5days (Implemented)	2	27-May-24	28-May-24	27-May-24	28-May-24	0	SC51011	SC51013								
SC51013	NICE-CNE-0391 Inclement Weather (May 2022) - 8.5days (Implemented)	9	29-May-24	06-Jun-24	29-May-24	06-Jun-24	0	SC51012	SC51014								
SC51014	NICE-CNE-0397 Inclement Weather (June 2022) - 11.5ays (Implemented)	12	06-Jun-24	17-Jun-24	06-Jun-24	17-Jun-24	0	SC51013	SC51015								
SC51015	NICE-CNE-0405 Inclement Weather (July 2022) - 6.5days (Implemented)	7	18-Jun-24	24-Jun-24	18-Jun-24	24-Jun-24	0	SC51014	SC51016								
SC51016	NICE-CNE-0409 Inclement Weather (August 2022) - 17.5days (Implemented)	18	24-Jun-24	11-Jul-24	24-Jun-24	11-Jul-24	0	SC51015	SC51017								
SC51017	NICE-CNE-0427 Inclement Weather (September 2022) - 7days (Implemented)	7	12-Jul-24	18-Jul-24	12-Jul-24	18-Jul-24	0	SC51016	SC51018								
SC51018	NICE-CNE-0428 Inclement Weather (October 2022) - 2days (Implemented)	2	19-Jul-24	20-Jul-24	19-Jul-24	20-Jul-24	0	SC51017	SC51019								
SC51019	NICE-CNE-0433 Inclement Weather (November 2022) - 8.5days (Implemented)	9	21-Jul-24	29-Jul-24	21-Jul-24	29-Jul-24	0	SC51018	SC51020								
SC51020	NICE-CNE-0441 Inclement Weather (December 2022) - 4days (Implemented)	4	29-Jul-24	02-Aug-24	29-Jul-24	02-Aug-24	0	SC51019	SC51100								
SC51100	Revised Completion for Section 5	0		02-Aug-24*		02-Aug-24	0	SC51020									
Expected Completion (Include Non-implemented CE)		632	23-Oct-19 A	13-Jul-25	21-Oct-23	13-Jul-25	0										
SC51000-1	Contract Duration of Section 5	167	23-Oct-19 A	04-Apr-24	21-Oct-23	04-Apr-24	0	CD1010	SC51001-1								
SC51001-1	Completion date - Section 5 (1625 days after starting date)	0		04-Apr-24*		04-Apr-24	0	SC51000-1	SC51002-1, SC51120								
SC51002-1	NICE-CNE-0264 Inclement Weather (July 2021) - 14days (Implemented)	14	05-Apr-24	18-Apr-24	05-Apr-24	18-Apr-24	0	SC51001-1	SC51003-1								
SC51003-1	NICE-CNE-0292 Inclement Weather (August 2021) - 19days (Implemented)	19	19-Apr-24	07-May-24	19-Apr-24	07-May-24	0	SC51002-1	SC51004-1								
SC51004-1	NICE-CNE-0293 Inclement Weather (September 2021) - 3.5days (Implemented)	4	08-May-24	11-May-24	08-May-24	11-May-24	0	SC51003-1	SC51006-1								
SC51006-1	CNE-020 Inclement Weather (October 2021) (Time and Cost Implication) - 4days	4	11-May-24	15-May-24	11-May-24	15-May-24	0	SC51004-1	SC51007-1								
SC51007-1	ICE-CNE-0313 Inclement Weather (November 2021) - 0.5days (Implemented)	1	15-May-24	15-May-24	15-May-24	15-May-24	0	SC51006-1	SC51008-1								
SC51008-1	NICE-CNE-0343 Inclement Weather (December 2021) - 5days (Implemented)	5	16-May-24	20-May-24	16-May-24	20-May-24	0	SC51007-1	SC51009-1								
SC51009-1	NICE-CNE-0344 Inclement Weather (January 2022) - 0.5days (Implemented)	1	21-May-24	21-May-24	21-May-24	21-May-24	0	SC51008-1	SC51010-1								



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Contract No. DE/2018/03
Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1
Sidestream Treatment Facilities and E&M Works for Sludge Treatment Facilities
Revised Programme - as at 20 October 2023

Date	Revision	Checked	Approved
30-Jun-23	Rev.35	IM/LT	KM
31-Jul-23	Rev.36	IM/LT	KM
31-Aug-23	Rev.37	IM/LT	KM
30-Sep-23	Rev.38	IM/LT	KM
31-Oct-23	Rev.39	IM/LT	KM

Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	2019	2020	2021	2022	2023	2024	2025	2026
CE0005	CE No.005 - Revised Size of Penstock at UV System No.1 & Effluent Pumping Station No.1 for Ex. Outfall	0	30-Mar-20 A	24-Sep-25														
CE0006	CE No.006 - Additional Duty Point for Effluent Transfer Pumps	0	27-Mar-20 A	24-Sep-25														
CE0007	CE No.007 - Additional Adjustable Weir at UV System No.1 & Effluent Pumping Station No.1	0	30-Jun-20 A	24-Sep-25														
CE0008	CE No.008 - Provision of Additional 2nd Temp. Power Supply for UV System No.1 & Effluent Pumping Station No.1	0	03-Aug-20 A	24-Sep-25														
CE0009	CE No.009 - Employment of Temporary Staff under Anti-Epidemic Fund	0	07-Jul-20 A	24-Sep-25														
CE0010	CE No.010 - Revised Setting Out Plan for Sidestream Treatment Facilities	0	07-Jul-20 A	24-Sep-25														
CE0012	CE No.012 - Provision of Touchscreen Display System for the Project Manager's Office	0	06-Oct-20 A	24-Sep-25														
CE0013	CE No.013 - Feasibility Study for Adopting emMiC & DfMA	0	22-Oct-20 A	24-Sep-25														
CE0014	CE No.014 - Revised FS Water Supply Arrangement for CHP, Guard House, Workshop No.2, Sludge Digester & Distribution Chamber	0	28-Oct-20 A	24-Sep-25														
CE0015	CE No.015 - Revised Plumbing Arrangement for Workshop No.2, UV & Effluent No.1, CHP, SPS & FCDF, DOU No.11 & 12, H2S, SDDC	0	30-Oct-20 A	24-Sep-25														
CE0016	CE No.016 - Elect. Provisions for Addit. 800A ACB w/ CMPD as Standby Supply for MBBR for UV No.2 for Future Expansion	0	28-Oct-20 A	24-Sep-25														
CE0018	CE No.018 - MVAC Layout for Plant Service Water System	0	05-Nov-20 A	24-Sep-25														
CE0020	CE No.020 - Addit. set of 11kV power feeder panel at 11kV SB in CHP for future connection to Zone B in Stage 2	0	09-Nov-20 A	24-Sep-25														
CE0201	NCE-PMI-0201 - Provision of Access Platform for EOT cranes in UV System No.1 & Effluent Pumping Station No.1	0	16-Nov-20 A	24-Sep-25														
CE0202	NCE-PMI-0202 - Revised Plumbing Arrangement for Sludge Dewatering Building	0	26-Nov-20 A	24-Sep-25														
CE0203	NCE-PPMI-0203 - MVAC Layout for SAS Pumping Station	0	25-Nov-20 A	24-Sep-25														
CE0204	NCE-PMI-0204 - CHP - Provisional of Additional ATS for Power Supply for UPS	0	08-Dec-20 A	24-Sep-25														
CE0205	NCE-PPMI-0205 - Fibre Optics Network Connection for SCADA Systems between Zone B & Zone C	0	23-Nov-20 A	24-Sep-25														
CE0206	NCE-PMI-0206 - SDB - Provisional of Additional ATS for Power Supply for UPS	0	15-Dec-20 A	24-Sep-25														
CE0207	NCE-PMI-0207 - TX Rm & Switch Rm - Provision of ATS for Power Supply for UPS	0	01-Dec-20 A	24-Sep-25														
CE0208	NCE-PPMI-0208 - Provision of Drainage service Layout for SAS Pumping Station	0	26-Nov-20 A	24-Sep-25														
CE0209	NCE-PPMI-0209 - Drainage System for Plant Service Water System	0	26-Nov-20 A	24-Sep-25														
CE0210	NCE-PPMI-0210 - Electrical provisions for MVAC & Drainage Systems in SAS Pumping Station	0	08-Dec-20 A	24-Sep-25														
CE0211	NCE-PPMI-0211 - Revised MVAC Layout & Electrical Provisions for MVAC in TX and Switch Rm	0	02-Dec-20 A	24-Sep-25														
CE0212	NCE-PMI-0212 - Provision of Louvre Panel for Outdoor AC Units at Contractor's Site Accommodation	0	07-Dec-20 A	24-Sep-25														
CE0213	NCE-PPMI-0213 - Electrical provisions for MVAC & Drainage System in UV System No.1 & Effluent Pumping Station No.1	0	21-Dec-20 A	24-Sep-25														
CE0214	NCE-PPMI-0214 - Additional Sump Pump & Drain Pipes at UV System No.1 & Effluent Pumping Station	0	14-Dec-20 A	24-Sep-25														
CE0215	NCE-PPMI-0215 - Revised MVAC Layout for UV System No.1 & Effluent Pumping Station No.1	0	14-Dec-20 A	24-Sep-25														
CE0216	NCE-PPMI-0216 - Electrical Provisions for MVAC & drainage Systems in Plant Service Water System	0	31-Dec-20 A	24-Sep-25														
CE0217	NCE-PMI-0217 - Revised Duty Points for Effluent Transfer Pumps	0	29-Dec-20 A	24-Sep-25														
CE0218	NCE-PMI-0218 - Scoping Study for Application of Digital Twin & IoT in Zone B & Zone C of SWHEPP	0	04-Jan-21 A	24-Sep-25														
CE0219	NCE-NCE-0219 - Change of Site Access Date to SAS Pumping Station Forming Part of Portion B-2 of the Site	0	19-Dec-20 A	24-Sep-25														



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Contract No. DE/2018/03
Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1
Sidestream Treatment Facilities and E&M Works for Sludge Treatment Facilities
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Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	Gantt Chart (2020-2026)											
CE0219a	NCE-NCE-0219 - Portion B-2a (within 771 to 891 days from starting date)	0	23-Oct-19 A	23-Mar-22 A	26-Dec-22	26-Dec-22		CD1010	CE0219b		[Gantt bar from Oct 2019 to Mar 2022]											
CE0219b	NCE-NCE-0219 - Revised Access Date for Portion B-2a	0	23-Mar-22 A	23-Mar-22 A	26-Dec-22	26-Dec-22		CE0219a	S5SASC1010		[Gantt bar from Mar 2022 to Dec 2022]											
CE0219c	NCE-NCE-0219 - Portion B-2b (within 615 to 705 days from starting date)	0	23-Oct-19 A	24-Sep-21 A	13-Mar-23	13-Mar-23			CE0219d		[Gantt bar from Oct 2019 to Sep 2021]											
CE0219d	NCE-NCE-0219 - Revised Access Date for Portion B-2b	0	24-Sep-21 A	24-Sep-21 A	13-Mar-23	13-Mar-23		CE0219c	S5ECHC1000		[Gantt bar from Sep 2021 to Mar 2023]											
CE0220	NCE-PMI-0220 - Supply of Puddle Pipes for Effluent to Shek Sheung River	0		30-Dec-20 A		24-Sep-25					[Milestone diamond at Dec 2020]											
CE0221	NCE-PPMI-0221 - General Arrangement for Fire Hydrant & Booster Pump Room	0		24-Dec-20 A		24-Sep-25					[Milestone diamond at Dec 2020]											
CE0222	NCE-PMI-0222 - Revised Water Supply Arrangement (FS Water) to Sludge Dewatering Building	0		12-Jan-21 A		24-Sep-25					[Milestone diamond at Jan 2021]											
CE0223	NCE-PMI-0223 - Construction of Trial Pits for Sidestream Treatment Facilities	0		15-Jan-21 A		24-Sep-25					[Milestone diamond at Jan 2021]											
CE0224	NCE-PMI-0224 - Independent Inspection Body (IIB) for the Factory Acceptance Test (FAT) for UV Disinfection System	0		25-Jan-21 A		24-Sep-25					[Milestone diamond at Jan 2021]											
CE0225	NCE-PMI-0225 - Supply of Ductile Iron Puddle Pipes at the Basement of Sludge Dewatering Building	0		09-Mar-21 A		24-Sep-25					[Milestone diamond at Mar 2021]											
CE0226	NCE-PMI-0226 - Provision of Solar Water Heating System at the Contractor's Site Accomodation	0		09-Mar-21 A		24-Sep-25					[Milestone diamond at Mar 2021]											
CE0227	NCE-PMI-0227 - Dual Power Fedder for LV Switch Panel at Sewage Pumping Station	0		11-Mar-21 A		24-Sep-25					[Milestone diamond at Mar 2021]											
CE0228	NCE-PMI-0228 - Provision of Effluent Pipes and Associated Valve and Supply of Supports for Effluent to Shek Sheung River	0		11-Mar-21 A		24-Sep-25					[Milestone diamond at Mar 2021]											
CE0230	NCE-PMI-0230 - Provision of Project Jackets with Fleece Vests	0		26-Mar-21 A		24-Sep-25					[Milestone diamond at Mar 2021]											
CE0231	NCE-PMI-0231 - Extension of Sampling Pipe From Low Level on Sludge Digesters	0		12-Apr-21 A		24-Sep-25					[Milestone diamond at Apr 2021]											
CE0232	NCE-PMI-0232 - Dual Power Fedder for LV Switch Panel at 1/F LV Switch Room of Combined Heat and Power (CHP) Building	0		22-Apr-21 A		24-Sep-25					[Milestone diamond at Apr 2021]											
CE0233	NCE-PMI-0233 - Sampling, Simulating and Testing of Existing Sludge for Obtaining the Viscosity of the Mixed Sludge	0		06-May-21 A		24-Sep-25					[Milestone diamond at May 2021]											
CE0234	NCE-PMI-0234 - Provision of FRP Walkway, Access Platform & Handrailing for Sludge Digester No. 2	0		02-Jun-21 A		24-Sep-25					[Milestone diamond at Jun 2021]											
CE0237	NCE-CNE-0237 - Provision of Inspectin Windows for Sludge Digester	0		25-Jun-21 A		24-Sep-25					[Milestone diamond at Jun 2021]											
CE0238	NCE-PMI-0238 - Supply of Stainless Steel Puddle Pipes for Surplus Activated Sludge (SAS) Pumping Station	0		27-May-21 A		24-Sep-25					[Milestone diamond at May 2021]											
CE0239	NCE-PMI-0239 - Revised the Arrangement for Process Water Supply and Plant Services Water System	0		01-Jun-21 A		24-Sep-25					[Milestone diamond at Jun 2021]											
CE0240	NCE-PMI-0240 - Revised Coping and Invert Levels for Penstock and Stoplog of SAS Pumping Station	0		09-Jun-21 A		24-Sep-25					[Milestone diamond at Jun 2021]											
CE0241	NCE-PMI-0241 - Revised Diesel Fuel Tank at Combined Heat and Power (CHP) Building	0		04-Jun-21 A		24-Sep-25					[Milestone diamond at Jun 2021]											
CE0242	NCE-PMI-0242 - Revised Fire Services Provision of UV System No. 1 and Effluent Pumping Station No. 1	0		15-Jun-21 A		24-Sep-25					[Milestone diamond at Jun 2021]											
CE0243	NCE-PMI-0243 - Provision of Flow Signal Inputs for UV Disinfection System	0		12-Jul-21 A		24-Sep-25					[Milestone diamond at Jul 2021]											
CE0244	RCNE-CNE-0244 - Access to and use of portion C-1A	0		29-Jun-21 A		24-Sep-25					[Milestone diamond at Jun 2021]											
CE0245	NCE-PMI-0245 - Provision of Augmented Reality (AR) Mobile Application	0		30-Jun-21 A		24-Sep-25					[Milestone diamond at Jun 2021]											
CE0245-1	NCE-PMI-0245-1 - Provision of Augmented Reality (AR) Mobile Application	0		08-Mar-23 A		24-Sep-25					[Milestone diamond at Mar 2023]											
CE0246	NCE-PMI-0246 - Revised HV Remote Control Panels at CHP & Workshop No. 2	0		06-Jul-21 A		24-Sep-25					[Milestone diamond at Jul 2021]											
CE0247	NCE-PMI-0247 - Temporary 4G System for SCADA System Monitoring	0		07-Jul-21 A		24-Sep-25					[Milestone diamond at Jul 2021]											
CE0248	NCE-PMI-0248 - Inclement Weather - May 2021 (Time Implication)	0		05-Jul-21 A		24-Sep-25					[Milestone diamond at Jul 2021]											
CE0250	NCE-PMI-0250 - Provision of Front Access LV Switch Panel in the LV Switch Room on G/F Workshop No. 2	0		14-Jul-21 A		24-Sep-25					[Milestone diamond at Jul 2021]											



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30-Jun-23	Rev.35	IM/LT	KM
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31-Oct-23	Rev.39	IM/LT	KM

Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	Gantt Chart (2020-2026)											
CE0287	NCE-NCE-0287 - Change of Site Access Date to Sludge Digester & Distribution Chamber Forming Part of Portion C- 2C	0		24-Dec-21 A		24-Sep-25					[Gantt Chart: CE0287 is a milestone diamond at the end of 2021]											
CE0287a	NCE-NCE-0287 - Portion C-2C (within 715 to 934 days from starting date)	0	23-Oct-19 A	13-May-22 A	24-Sep-25	24-Sep-25			CE0287b		[Gantt Chart: CE0287a is a blue bar from Oct 2021 to Sep 2025]											
CE0287b	NCE-NCE-0287 - Revised Access Date for Portion C2-C	0	20-Jul-23 A	20-Jul-23 A	24-Sep-25	24-Sep-25		CE0287a			[Gantt Chart: CE0287b is a milestone diamond at the end of 2023]											
CE0288	NCE-NCE-0288 - Change of Site Access Date to Sludge Dewatering Building Forming Part of the Portion C- 2A of the site	0		18-Dec-21 A		24-Sep-25					[Gantt Chart: CE0288 is a milestone diamond at the end of 2021]											
CE0288a	NCE-NCE-0288 - Portion C-2A (within 705 to 831 days from starting date)	0	23-Oct-19 A	30-Jan-22 A	24-Sep-25	24-Sep-25			CE0288b		[Gantt Chart: CE0288a is a blue bar from Oct 2021 to Sep 2025]											
CE0288b	NCE-NCE-0288 - Revised Access Date for Portion C-2A	0	09-Sep-22 A	09-Sep-22 A	24-Sep-25	24-Sep-25		CE0288a			[Gantt Chart: CE0288b is a milestone diamond at the end of 2022]											
CE0292	RCNE-CNE-0292 - Inclement Weather - August 2021 (Time Implication)	0		02-Nov-21 A		24-Sep-25					[Gantt Chart: CE0292 is a milestone diamond at the end of 2021]											
CE0293	RCNE-CNE-0293 - Inclement Weather - September 2021 (Time Implication)	0		02-Nov-21 A		24-Sep-25					[Gantt Chart: CE0293 is a milestone diamond at the end of 2021]											
CE0294	NCE-PMI-0294 - IIB for FAT for THP System	0		30-Nov-21 A		24-Sep-25					[Gantt Chart: CE0294 is a milestone diamond at the end of 2021]											
CE0296	NCE-PMI-0296 - Provision of emMIC Adoption of FRP Walkway and Platform for Sludge Digesters	0		03-Dec-21 A		24-Sep-25					[Gantt Chart: CE0296 is a milestone diamond at the end of 2021]											
CE0297	NCE-PMI-0297-Provision of Addit. Module BIM Collaboration Pro to existing CDE&Omission of Procurement Maintenance of CDE	0		03-Dec-21 A		24-Sep-25					[Gantt Chart: CE0297 is a milestone diamond at the end of 2021]											
CE0298	NCE-PMI-0298 - Additional Light Fittings at Roof Floor of UV System No.1 & Effluent Pumping Station No.1	0		30-Nov-21 A		24-Sep-25					[Gantt Chart: CE0298 is a milestone diamond at the end of 2021]											
CE0299	NCE-PMI-0299 - Revised Plumbing Layout for UV System No.1 & Effluent Pumping Station No.1	0		14-Dec-21 A		24-Sep-25					[Gantt Chart: CE0299 is a milestone diamond at the end of 2021]											
CE0300	NCE-PMI-0300 - Revised Plumbing Layout for CHP, DOU 12 and SD&DC	0		10-Mar-22 A		24-Sep-25					[Gantt Chart: CE0300 is a milestone diamond at the end of 2022]											
CE0301	NCE-PMI-0301 - Revised Plumbing Layout for SDB & FeCl3 Dosing System	0		24-Feb-22 A		24-Sep-25					[Gantt Chart: CE0301 is a milestone diamond at the end of 2022]											
CE0302	NCE-PMI-0302 - Revised Lighting Layout Plan for Workshop No.2	0		17-Dec-21 A		24-Sep-25					[Gantt Chart: CE0302 is a milestone diamond at the end of 2021]											
CE0303	NCE-CNE-0303 - Revise Fire Services Provision for Server Room of Workshop No.2	0		19-Jan-22 A		24-Sep-25					[Gantt Chart: CE0303 is a milestone diamond at the end of 2022]											
CE0304	NCE-PMI-0304 - Provision of Digital Displaying Screen and Softwarewithin Portion B Area	0		29-Dec-21 A		24-Sep-25					[Gantt Chart: CE0304 is a milestone diamond at the end of 2021]											
CE0305	NCE-PMI-0305 - Process Review for Advance Works	0		12-Jan-22 A		24-Sep-25					[Gantt Chart: CE0305 is a milestone diamond at the end of 2022]											
CE0306	NCE-CNE-0306 - Additional Trial Pits & the Associated Modification Works for Uncharted Utilities at STF	0		01-Mar-22 A		24-Sep-25					[Gantt Chart: CE0306 is a milestone diamond at the end of 2022]											
CE0307	NCE-PMI-0307 - Revised Quantity for Stoplogs of Sewage Pumping Station	0		13-Dec-21 A		24-Sep-25					[Gantt Chart: CE0307 is a milestone diamond at the end of 2021]											
CE0309	RCNE-CNE-0309 - Inclement Weather - October 2021 (Time Implication)	0		16-Dec-21 A		24-Sep-25					[Gantt Chart: CE0309 is a milestone diamond at the end of 2021]											
CE0310	NCE-PMI-0310 - Temp. Leased Line for UV System No.1, Effluent PS No.1 & existing Control Room at Zone B	0		20-Dec-21 A		24-Sep-25					[Gantt Chart: CE0310 is a milestone diamond at the end of 2021]											
CE0311	NCE-PMI-0311 - Temp. Setup for SCADA System Monitoring & CCTV System Surveillance	0		29-Dec-21 A		24-Sep-25					[Gantt Chart: CE0311 is a milestone diamond at the end of 2021]											
CE0312	CNE-0312 - Weather Condition Affecting the Site in Oct due to Typhoon Signal No.8 or above, Red/Black Rainstorm Warning	0		29-Dec-21 A		24-Sep-25					[Gantt Chart: CE0312 is a milestone diamond at the end of 2021]											
CE0313	CNE-0313 - Inclement Weather - November 2021 (Time Implication)	0		29-Dec-21 A		24-Sep-25					[Gantt Chart: CE0313 is a milestone diamond at the end of 2021]											
CE0315	NCE-PMI-0315 - Modification of Monorail LA-01-04 in Sludge Dewatering Building	0		30-Dec-21 A		24-Sep-25					[Gantt Chart: CE0315 is a milestone diamond at the end of 2021]											
CE0317	NCE-PMI-0317 - Revised CCTV Layout Plan & Addition of CCTV Camera for UV System No.1 & Effluent Pumping Station	0		11-Jan-22 A		24-Sep-25					[Gantt Chart: CE0317 is a milestone diamond at the end of 2022]											
CE0325	NCE-PMI-0325 - Provision of 2 Nos. of 3 Tons Mobile A-frame with Electrical Hoist in Sludge Dewatering Building	0		14-Mar-22 A		24-Sep-25					[Gantt Chart: CE0325 is a milestone diamond at the end of 2022]											
CE0327	NCE-PMI-0327 - Change of Material for Electrical Wiring Accessories	0		08-Mar-22 A		24-Sep-25					[Gantt Chart: CE0327 is a milestone diamond at the end of 2022]											
CE0328	NCE-PMI-0328 - Provision of Chequer Plates at SAS Pumping Station	0		22-Mar-22 A		24-Sep-25					[Gantt Chart: CE0328 is a milestone diamond at the end of 2022]											
CE0329	NCE-PMI-0329 - Provision of IIB for FAT for Sludge Thickening and Dewatering Centrifuges	0		23-Mar-22 A		24-Sep-25					[Gantt Chart: CE0329 is a milestone diamond at the end of 2022]											
CE0331	RCNE-CNE-0331 - Unavailability of Temporary Power Supply by CLP	0		13-Jun-23 A		24-Sep-25					[Gantt Chart: CE0331 is a milestone diamond at the end of 2023]											
CE0333	NCE-PMI-0333 - Revised MVAC Layout and Control Schematic for Workshop No.2	0		30-May-22 A		24-Sep-25					[Gantt Chart: CE0333 is a milestone diamond at the end of 2022]											



File Name: DE/2018/03 RP R39
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- Remaining Work
- Critical Activity
- ◆ Milestone
- Actual Progress

Contract No. DE/2018/03
Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1
Sidestream Treatment Facilities and E&M Works for Sludge Treatment Facilities
Revised Programme - as at 20 October 2023

Date	Revision	Checked	Approved
30-Jun-23	Rev.35	IM/LT	KM
31-Jul-23	Rev.36	IM/LT	KM
31-Aug-23	Rev.37	IM/LT	KM
30-Sep-23	Rev.38	IM/LT	KM
31-Oct-23	Rev.39	IM/LT	KM

Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	2020	2021	2022	2023	2024	2025	2026	
PL1000	Provision of Equipment / Facilities for the PM's Office	261	23-Oct-19 A	07-Jul-24	07-Jan-25	24-Sep-25	444	AD1200, AD1220, CD1010	CD1040		[Gantt bar: 23-Oct-19 to 07-Jul-24]							
PL1010	Mobilisation	0	23-Oct-19 A	19-Nov-19 A	29-Aug-22	29-Aug-22		CD1010	PL1240, S2P1010,		[Gantt bar: 23-Oct-19 to 19-Nov-19]							
PL1020	Design, Procurement & PO & Construction of Contractor's Site Office (Works Area WA1-B)	0	20-Nov-19 A	27-Nov-20 A	16-Dec-22	16-Dec-22		AD1200, PL1010	PL1040, S2D1930,		[Gantt bar: 20-Nov-19 to 27-Nov-20]							
PL1030	Design, Procurement & PO & Construction of Contractor's Storage Area (Works Area WA3)	0	20-Nov-19 A	05-Apr-21 A	07-Jan-25	07-Jan-25		AD1220, PL1010	PL1050		[Gantt bar: 20-Nov-19 to 05-Apr-21]							
PL1040	Maintain Contractor's Site Office	231	28-Nov-20 A	07-Jun-24	07-Jan-25	25-Aug-25	444	PL1020	PL1060		[Gantt bar: 28-Nov-20 to 07-Jun-24]							
PL1050	Maintain Contractor's Storage Area	231	06-Apr-21 A	07-Jun-24	07-Jan-25	25-Aug-25	444	PL1030	PL1060		[Gantt bar: 06-Apr-21 to 07-Jun-24]							
PL1060	Removal of Site Office, Storage & Relevant Facilities	30	08-Jun-24	07-Jul-24	26-Aug-25	24-Sep-25	444	PL1040, PL1050	CD1040		[Gantt bar: 08-Jun-24 to 07-Jul-24]							
Site Preliminaries		705	23-Oct-19 A	24-Sep-25	26-Dec-23	24-Sep-25	0											
PL1070	Provision of Insurance, Third Party Insurances & PII	261	23-Oct-19 A	07-Jul-24	07-Jan-25	24-Sep-25	444	CD1010	CD1040		[Gantt bar: 23-Oct-19 to 07-Jul-24]							
PL1080	Provision of 2 Contract Car for the Use of the PM & Supervisor	261	23-Oct-19 A	07-Jul-24	07-Jan-25	24-Sep-25	444	CD1010	CD1040		[Gantt bar: 23-Oct-19 to 07-Jul-24]							
PL1090	Provision of 1 Electric Car for the Use of the PM & Supervisor	261	22-Jan-20 A	07-Jul-24	07-Jan-25	24-Sep-25	444	CD1010, PL1010	CD1040		[Gantt bar: 22-Jan-20 to 07-Jul-24]							
PL1100	Provision of Photographs	261	20-Nov-19 A	07-Jul-24	07-Jan-25	24-Sep-25	444	CD1010, PL1010	CD1040		[Gantt bar: 20-Nov-19 to 07-Jul-24]							
PL1110	Provision of Environmental Mitigation Measures	261	20-Nov-19 A	07-Jul-24	07-Jan-25	24-Sep-25	444	CD1010, PL1010	CD1040		[Gantt bar: 20-Nov-19 to 07-Jul-24]							
PL1120	Provision of Air Pollution Abatement	261	20-Nov-19 A	07-Jul-24	07-Jan-25	24-Sep-25	444	CD1010, PL1010	CD1040		[Gantt bar: 20-Nov-19 to 07-Jul-24]							
PL1130	Provision of Noise Pollution Abatement	261	20-Nov-19 A	07-Jul-24	07-Jan-25	24-Sep-25	444	CD1010, PL1010	CD1040		[Gantt bar: 20-Nov-19 to 07-Jul-24]							
PL1140	Provision of Wastewater Pollution Abatement	261	20-Nov-19 A	07-Jul-24	07-Jan-25	24-Sep-25	444	CD1010, PL1010	CD1040		[Gantt bar: 20-Nov-19 to 07-Jul-24]							
PL1150	Provision of Wastement Management	261	20-Nov-19 A	07-Jul-24	07-Jan-25	24-Sep-25	444	CD1010, PL1010	CD1040		[Gantt bar: 20-Nov-19 to 07-Jul-24]							
PL1160	Provision of Monitoring the Use of Ultra Low Sulphur Diesel	261	20-Nov-19 A	07-Jul-24	07-Jan-25	24-Sep-25	444	CD1010, PL1010	CD1040		[Gantt bar: 20-Nov-19 to 07-Jul-24]							
PL1170	Provision of Environmental Management	261	20-Nov-19 A	07-Jul-24	07-Jan-25	24-Sep-25	444	CD1010, PL1010	CD1040		[Gantt bar: 20-Nov-19 to 07-Jul-24]							
PL1180	Provision of Site Management Plan for Trip Ticket System	261	20-Nov-19 A	07-Jul-24	07-Jan-25	24-Sep-25	444	CD1010, PL1010	CD1040		[Gantt bar: 20-Nov-19 to 07-Jul-24]							
PL1190	Provision of As-constructed Drawings for Section 3	121	22-Jun-24	20-Oct-24	23-Apr-24	21-Aug-24	-60	CD1010, S3C1150	CD1040, SC31120		[Gantt bar: 22-Jun-24 to 20-Oct-24]							
PL1200	Provision of As-constructed Drawings for Section 4	1	13-Oct-22 A	21-Oct-23	24-Sep-25	24-Sep-25	704	CD1010, S4C1160,	CD1040, SC41110		[Gantt bar: 13-Oct-22 to 21-Oct-23]							
PL1210	Provision of As-constructed Drawings for Section 5	151	01-Sep-24	29-Jan-25	04-Mar-24	02-Aug-24	-181	CD1010, S5DIGC1040,	CD1040, SC51120		[Gantt bar: 01-Sep-24 to 29-Jan-25]							
PL1220	Provision of Systematic Risk Management	260	20-Nov-19 A	06-Jul-24	08-Jan-25	24-Sep-25	445	CD1010, PL1010	CD1040		[Gantt bar: 20-Nov-19 to 06-Jul-24]							
PL1230	Provision of Site Liaison Group & Community Liaison Group	260	20-Nov-19 A	06-Jul-24	08-Jan-25	24-Sep-25	445	CD1010, PL1010	CD1040		[Gantt bar: 20-Nov-19 to 06-Jul-24]							
PL1240	Provision of 24-Hour Telephone Line	260	20-Nov-19 A	06-Jul-24	08-Jan-25	24-Sep-25	445	CD1010, PL1010	CD1040		[Gantt bar: 20-Nov-19 to 06-Jul-24]							
PL1260	Submission & Acceptance of Training Programme, Training Manual & Syllabus for Section 3	90	28-Jan-25	27-Apr-25	26-Dec-23	24-Mar-24	-399		PL1270		[Gantt bar: 28-Jan-25 to 27-Apr-25]							
PL1270	Provision of Training for Employer's Staff for Section 3	60	27-Jul-25	24-Sep-25	23-Jun-24	21-Aug-24	-399	CD1010, PL1260	CD1040, SC31120		[Gantt bar: 27-Jul-25 to 24-Sep-25]							
PL1280	Submission & Acceptance of Training Programme, Training Manual & Syllabus for Section 4	27	21-Oct-23	16-Nov-23	17-Aug-25	12-Sep-25	666		PL1290		[Gantt bar: 21-Oct-23 to 16-Nov-23]							
PL1290	Provision of Training for Employer's Staff for Section 4	12	17-Nov-23	28-Nov-23	13-Sep-25	24-Sep-25	666	CD1010, S4T1020, PL1280	CD1040, SC41110		[Gantt bar: 17-Nov-23 to 28-Nov-23]							
PL1300	Submission & Acceptance of Training Programme, Training Manual & Syllabus for Section 5	90	08-Feb-25	08-May-25	05-Jan-24	04-Apr-24	-400		PL1310		[Gantt bar: 08-Feb-25 to 08-May-25]							



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PL1310	Provision of Training for Employer's Staff for Section 5	30	07-Aug-25	05-Sep-25	03-Jul-24	02-Aug-24	-400	CD1010, S5T1180, S5DIGC1040, PL1300	CD1040, SC51120								
PL1320	Prepare & Submit O&M Manual for Section 3	90	16-Apr-25	14-Jul-25	13-Mar-24	10-Jun-24	-399	CD1010	CD1040, PL1330								
PL1330	PM Reivew & Comment O&M Manual for Section 3	21	15-Jul-25	04-Aug-25	11-Jun-24	01-Jul-24	-399	PL1320	PL1340								
PL1340	Revise & Re-submit O&M Manual for Section 3	30	05-Aug-25	03-Sep-25	02-Jul-24	31-Jul-24	-399	PL1330	PL1350								
PL1350	PM Reivew & Approval of O&M Manual for Section 3	21	04-Sep-25	24-Sep-25	01-Aug-24	21-Aug-24	-399	PL1340	CD1040, SC31120								
PL1360	Prepare & Submit O&M Manual for Section 4	0	07-Feb-22 A	28-Mar-22 A	03-Sep-25	03-Sep-25		CD1010	CD1040, PL1370								
PL1370	PM Reivew & Comment O&M Manual for Section 4	0	29-Mar-22 A	03-May-22 A	03-Sep-25	03-Sep-25		PL1360	PL1380								
PL1380	Revise & Re-submit O&M Manual for Section 4	1	04-May-22 A	21-Oct-23	03-Sep-25	03-Sep-25	683	PL1370	PL1390								
PL1390	PM Reivew & Approval of O&M Manual for Section 4	21	22-Oct-23	11-Nov-23	04-Sep-25	24-Sep-25	683	PL1380	CD1040, SC41110								
PL1400	Prepare & Submit O&M Manual for Section 5	90	16-Apr-25	14-Jul-25	22-Feb-24	22-May-24	-419	CD1010	CD1040, PL1410								
PL1410	PM Reivew & Comment O&M Manual for Section 5	21	15-Jul-25	04-Aug-25	22-May-24	12-Jun-24	-419	PL1400	PL1420								
PL1420	Revise & Re-submit O&M Manual for Section 5	30	05-Aug-25	03-Sep-25	12-Jun-24	12-Jul-24	-419	PL1410	PL1430								
PL1430	PM Reivew & Approval of O&M Manual for Section 5	21	04-Sep-25	24-Sep-25	12-Jul-24	02-Aug-24	-419	PL1420	CD1040, SC51120								
PL1440	Provision of ICE for Certification of the Design, Cal, Dwgs, Plans and all relevant Doc and Process Commissioning	258	20-Nov-19 A	04-Jul-24	10-Jan-25	24-Sep-25	447	CD1010, PL1010	CD1040								
Site Upkeeping		228	20-Nov-19 A	04-Jun-24	09-Feb-25	24-Sep-25	477										
PL1450	General Site Upkeeping of the Site	228	20-Nov-19 A	04-Jun-24	09-Feb-25	24-Sep-25	477	CD1010, PL1010	CD1040								
Safety and Environmental Management		228	10-Nov-19 A	04-Jun-24	09-Feb-25	24-Sep-25	477										
PL1460	Construction Health and Safety Plan	228	10-Nov-19 A	04-Jun-24	09-Feb-25	24-Sep-25	477	CD1000	CD1040								
PL1470	Site Traffic Safety Management Plan	228	25-Apr-21 A	04-Jun-24	09-Feb-25	24-Sep-25	477	AD1010	CD1040								
Compliance with BEAM Requirements		586	11-Jun-21 A	28-May-25	24-Dec-23	02-Aug-24	-300										
Sludge Dewatering Building		389	11-Jun-21 A	12-Nov-24	02-Mar-24	02-Aug-24	-103										
PL1490	Material Submission & Design Calculation Approved	0		11-Jun-21 A		02-Mar-24		S2D1290, S2D1330,	PL1500, SC21120								
PL1500	Issued approved submission & Calculation to Cinotech	0	21-Sep-21 A	11-Mar-22 A	02-Mar-24	02-Mar-24		PL1490	PL1510								
PL1510	Monthly Review & Submission	93	09-Sep-22 A	21-Jan-24	02-Mar-24	03-Jun-24	134	PL1500	PL1520								
PL1520	Submission & Approval of Test Record	60	14-Sep-24	12-Nov-24	03-Jun-24	02-Aug-24	-103	PL1510, S5T1060, S5T1055	SC51120								
CHP Building		586	11-Jun-21 A	28-May-25	24-Dec-23	02-Aug-24	-300										
PL1530	Material Submission & Design Calculation Approved	0		11-Jun-21 A		24-Dec-23		S2D1610	PL1540, SC21120								
PL1540	Issued approved submission & Calculation to Cinotech	0	21-Sep-21 A	11-Mar-22 A	24-Dec-23	24-Dec-23		PL1530	PL1550								
PL1550	Monthly Review & Submission	162	07-Dec-22 A	30-Mar-24	24-Dec-23	03-Jun-24	65	S5CHPC1020, PL1540	PL1560								
PL1560	Submission & Approval of Test Record	60	30-Mar-25	28-May-25	03-Jun-24	02-Aug-24	-300	PL1550, S5T1100	SC51120								
BIM		165	24-Oct-19 A	02-Apr-24	13-Apr-25	24-Sep-25	540										
PL1570	Prepare & Submit Construction Stage BIM Execution Plan	0	24-Oct-19 A	22-Nov-19 A	13-Apr-25	13-Apr-25		CD1010	PL1580, PL1630, PL1620								
PL1580	PM Reivew & Comment Construction Stage BIM Execution Plan	0	23-Nov-19 A	13-Dec-19 A	13-Apr-25	13-Apr-25		PL1570	PL1590								
PL1590	Revise & Re-submit Construction Stage BIM Execution Plan	0	14-Dec-19 A	27-Dec-19 A	13-Apr-25	13-Apr-25		PL1580	PL1600								
PL1600	PM Reivew & Approval of Construction Stage BIM Execution Plan	0	28-Dec-19 A	17-Jan-20 A	13-Apr-25	13-Apr-25		PL1590	PL1630, PL1620								



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Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	Gantt Chart (2020-2026)											
PL1610	Contractor Review & Study Design Stage BIM	0	24-Oct-19 A	23-Jan-20 A	13-Apr-25	13-Apr-25		CD1010	CD1040, PL1640, PL1630, PL1620		[Gantt bar: 24-Oct-19 to 23-Jan-20]											
PL1620	Contractor Develop 1st Construction Stage BIM	0	24-Jan-20 A	23-Mar-20 A	13-Apr-25	13-Apr-25		PL1600, PL1570, PL1610	CD1040, PL1640, PL1630, PL1630		[Gantt bar: 24-Jan-20 to 23-Mar-20]											
PL1630	Review & Update BIM Execution Plan & BIM Model	109	24-Mar-20 A	06-Feb-24	13-Apr-25	30-Jul-25	540	PL1570, PL1620, PL1600, PL1610, PL1620	CD1040, PL1640		[Gantt bar: 24-Mar-20 to 30-Jul-25]											
PL1640	Prepare & Submit the Fully Coordinated BIM	60	09-Dec-23	06-Feb-24	01-Jun-25	30-Jul-25	540	PL1620, PL1630, PL1610	PL1650		[Gantt bar: 09-Dec-23 to 06-Feb-24]											
PL1650	PM Reivew & Comment Fully Coordinated BIM	21	07-Feb-24	27-Feb-24	31-Jul-25	20-Aug-25	540	PL1640	PL1660		[Gantt bar: 07-Feb-24 to 27-Feb-24]											
PL1660	Revise & Re-submit Fully Coordinated BIM	14	28-Feb-24	12-Mar-24	21-Aug-25	03-Sep-25	540	PL1650	PL1670		[Gantt bar: 28-Feb-24 to 12-Mar-24]											
PL1670	PM Reivew & Approval of Fully Coordinated BIM	21	13-Mar-24	02-Apr-24	04-Sep-25	24-Sep-25	540	PL1660	CD1040		[Gantt bar: 13-Mar-24 to 02-Apr-24]											
Section 1 - Design for UV System No. 1 & Effluent Pumping Station I		0	21-Nov-19 A	08-Aug-20 A	28-Oct-22	24-Sep-25					[Gantt bar: 21-Nov-19 to 08-Aug-20]											
Major Plant & Materials Procurement		0	21-Nov-19 A	17-Jul-20 A	28-Oct-22	05-Feb-23					[Gantt bar: 21-Nov-19 to 17-Jul-20]											
S1P1000	Procurement & PO for UV Disinfection System (S10)	0	21-Nov-19 A	28-Apr-20 A	28-Oct-22	28-Oct-22		CD1000, CD1010, PL1010	SC11110, S4P1040, S1D1000, S1P1030		[Gantt bar: 21-Nov-19 to 28-Apr-20]											
S1P1010	Procurement & PO for Lift-up Pumps (S11)	0	21-Nov-19 A	28-Apr-20 A	28-Oct-22	28-Oct-22		CD1010, PL1010	SC11110, S4P1070, S1D1000		[Gantt bar: 21-Nov-19 to 28-Apr-20]											
S1P1020	Procurement & PO for Transfer Pumps (S13)	0	21-Nov-19 A	28-Apr-20 A	28-Oct-22	28-Oct-22		CD1010, PL1010	SC11110, S4P1080, S1P1040, S1P1050, S1D1000, S4P1090		[Gantt bar: 21-Nov-19 to 28-Apr-20]											
S1P1030	Procurement & PO for EOT Cranes (2T & 5T) (S19)	0	19-Jan-20 A	03-Jul-20 A	06-Jan-23	06-Jan-23		S1P1000	SC11110, S4P1100		[Gantt bar: 19-Jan-20 to 03-Jul-20]											
S1P1040	Procurement & PO for Stoplogs (S21)	0	18-Apr-20 A	17-Jul-20 A	05-Feb-23	05-Feb-23		S1P1020, PL1010	SC11110, S4P1110, S2P1160		[Gantt bar: 18-Apr-20 to 17-Jul-20]											
S1P1050	Procurement & PO for Penstocks (S21)	0	18-Apr-20 A	17-Jul-20 A	05-Feb-23	05-Feb-23		S1P1020, PL1010	SC11110, S4P1120, S2P1170		[Gantt bar: 18-Apr-20 to 17-Jul-20]											
Design & Submission		0	27-Jan-20 A	08-Aug-20 A	28-Oct-22	24-Sep-25					[Gantt bar: 27-Jan-20 to 08-Aug-20]											
General Arrangement Drawings		0	27-Jan-20 A	08-Aug-20 A	28-Oct-22	24-Sep-25					[Gantt bar: 27-Jan-20 to 08-Aug-20]											
S1D1000	Prepare & Submit General Arrangement Drawings	0	27-Jan-20 A	19-Feb-20 A	28-Oct-22	28-Oct-22		S1P1000, S1P1010, S1P1020, PL1010	S1D1010, S1D1040, S1D1100, S1D1180, S1D1260, S4P1010		[Gantt bar: 27-Jan-20 to 19-Feb-20]											
S1D1010	Review & Comment on General Arrangement Drawings by PM	0	20-Feb-20 A	04-Mar-20 A	24-Sep-25	24-Sep-25		S1D1000	S1D1020		[Gantt bar: 20-Feb-20 to 04-Mar-20]											
S1D1020	Revise & Re-submit General Arrangement Drawings	0	16-May-20 A	05-Aug-20 A	24-Sep-25	24-Sep-25		S1D1010	S1D1030		[Gantt bar: 16-May-20 to 05-Aug-20]											
S1D1030	Review & Accept of General Arrangement Drawings by PM	0	06-Aug-20 A	08-Aug-20 A	24-Sep-25	24-Sep-25		S1D1020	SC11110		[Gantt bar: 06-Aug-20 to 08-Aug-20]											
Civil & Dimensional / Tolerance Requirement Drawings		0	07-Mar-20 A	08-Aug-20 A	05-Feb-23	24-Sep-25					[Gantt bar: 07-Mar-20 to 08-Aug-20]											
S1D1040	Prepare & Submit Civil Requirement Drawings	0	07-Mar-20 A	08-Apr-20 A	05-Feb-23	05-Feb-23		CD1010, S1D1000	S1D1050, KD1000		[Gantt bar: 07-Mar-20 to 08-Apr-20]											
S1D1050	Review & Comment on Civil Requirement Drawings by PM	0	09-Apr-20 A	20-Apr-20 A	24-Sep-25	24-Sep-25		S1D1040	S1D1060		[Gantt bar: 09-Apr-20 to 20-Apr-20]											
S1D1060	Revise & Re-submit Civil Requirement Drawings	0	21-Apr-20 A	29-Apr-20 A	24-Sep-25	24-Sep-25		S1D1050	S1D1070		[Gantt bar: 21-Apr-20 to 29-Apr-20]											
S1D1070	Review & Comment of Civil Requirement Drawings by PM	0	30-Apr-20 A	25-May-20 A	24-Sep-25	24-Sep-25		S1D1060	SC11110, S1D1080		[Gantt bar: 30-Apr-20 to 25-May-20]											



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30-Sep-23	Rev.38	IM/LT	KM
31-Oct-23	Rev.39	IM/LT	KM

Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	2020	2021	2022	2023	2024	2025	2026
S1D1080	Revise & Re-submit Civil Requirement Drawings	0	26-May-20 A	05-Aug-20 A	24-Sep-25	24-Sep-25		S1D1070	S1D1090								
S1D1090	Review & Accept of Civil Requirement Drawings by PM	0	06-Aug-20 A	08-Aug-20 A	24-Sep-25	24-Sep-25		S1D1080	SC11110								
Electrical Schematic Drawings		0	25-Feb-20 A	03-Jun-20 A	28-Oct-22	06-Jan-23											
S1D1100	Prepare & Submit Elec. Schematic Drawings	0	25-Feb-20 A	03-Apr-20 A	28-Oct-22	28-Oct-22		CD1010, S1D1000	S1D1110, KD1000, S1D1140, S1D1220								
S1D1110	Review & Comment on Elec. Schematic Drawings by PM	0	04-Apr-20 A	16-Apr-20 A	06-Jan-23	06-Jan-23		S1D1100	S1D1120								
S1D1120	Revise & Re-submit Elec. Schematic Drawings	0	17-Apr-20 A	04-May-20 A	06-Jan-23	06-Jan-23		S1D1110	S1D1130								
S1D1130	Review & Accept of Elec. Schematic Drawings by PM	0	05-May-20 A	03-Jun-20 A	06-Jan-23	06-Jan-23		S1D1120	S5TXRP1000, S4C1000, S4C1010, S4P1020, SC11110								
UV System No. 1		0	24-Mar-20 A	08-Aug-20 A	12-Nov-22	24-Sep-25											
S1D1140	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	0	24-Mar-20 A	08-May-20 A	12-Nov-22	12-Nov-22		CD1010, S1D1100	S1D1150, S1D1180								
S1D1150	Review & Comment on Wiring Dwgs, Cable Schedule & Design Cal.	0	09-May-20 A	01-Jun-20 A	24-Sep-25	24-Sep-25		S1D1140	S1D1160								
S1D1160	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	0	02-Jun-20 A	10-Jul-20 A	24-Sep-25	24-Sep-25		S1D1150	S1D1170								
S1D1170	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	0	11-Jul-20 A	06-Aug-20 A	24-Sep-25	24-Sep-25		S1D1160	SC11110								
S1D1180	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	0	15-Apr-20 A	29-May-20 A	12-Nov-22	12-Nov-22		CD1010, S1D1140, S1D1000	S1D1190, S4C1020								
S1D1190	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	0	30-May-20 A	19-Jun-20 A	12-Nov-22	12-Nov-22		S1D1180	S1D1200								
S1D1200	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	0	20-Jun-20 A	23-Jul-20 A	12-Nov-22	12-Nov-22		S1D1190	S1D1210								
S1D1210	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	0	24-Jul-20 A	08-Aug-20 A	12-Nov-22	12-Nov-22		S1D1200	S4P1040, S5TXRP1000, S5TXRP1010, SC11110								
Effluent Pumping Station No. 1		0	24-Mar-20 A	08-Aug-20 A	28-Oct-22	24-Sep-25											
S1D1220	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	0	24-Mar-20 A	08-May-20 A	28-Oct-22	28-Oct-22		CD1010, S1D1100	S1D1230, S1D1260, S1D1300								
S1D1230	Review & Comment on Wiring Dwgs, Cable Schedule & Design Cal.	0	09-May-20 A	01-Jun-20 A	24-Sep-25	24-Sep-25		S1D1220	S1D1240								
S1D1240	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	0	02-Jun-20 A	10-Jul-20 A	24-Sep-25	24-Sep-25		S1D1230	S1D1250								
S1D1250	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	0	11-Jul-20 A	08-Aug-20 A	24-Sep-25	24-Sep-25		S1D1240	SC11110								
S1D1260	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	0	15-Apr-20 A	29-May-20 A	28-Oct-22	28-Oct-22		CD1010, S1D1220, S1D1000	S1D1270, S4C1020								
S1D1270	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	0	30-May-20 A	19-Jun-20 A	28-Oct-22	28-Oct-22		S1D1260	S1D1280								
S1D1280	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	0	20-Jun-20 A	23-Jul-20 A	28-Oct-22	28-Oct-22		S1D1270	S1D1290								
S1D1290	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	0	24-Jul-20 A	08-Aug-20 A	28-Oct-22	28-Oct-22		S1D1280	S4P1110, S4P1120, S4P1070, S4P1080, S4P1090, S4P1100, S5TXRP1000, S5TXRP1010, S5TXRP1020, S4P1130, SC11110								
Building Services		0	15-Mar-20 A	06-Aug-20 A	23-Mar-23	24-Sep-25											
S1D1300	Prepare & Submit BS Works Design & Dwgs UV System No.1 & Effluent Pumping Station No.1	0	15-Mar-20 A	27-Jul-20 A	23-Mar-23	23-Mar-23		S1D1220	S1D1320, S1D1310								



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30-Jun-23	Rev.35	IM/LT	KM
31-Jul-23	Rev.36	IM/LT	KM
31-Aug-23	Rev.37	IM/LT	KM
30-Sep-23	Rev.38	IM/LT	KM
31-Oct-23	Rev.39	IM/LT	KM

Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	2020	2021	2022	2023	2024	2025	2026
S1D1310	Review & Accept of BS Works Design & Dwgs UV System No.1 & Effluent Pumping Station No.1	0	21-Jul-20 A	05-Aug-20 A	23-Mar-23	23-Mar-23		S1D1300	SC11110, S5TXRC1030, S4C1110								
S1D1320	Prepare & Submit FS Works Design & Dwgs UV System No.1 & Effluent Pumping Station No.1	0	14-Apr-20 A	05-Aug-20 A	24-Sep-25	24-Sep-25		S1D1300	S1D1330								
S1D1330	Review & Accept of FS Works Design & Dwgs UV System No.1 & Effluent Pumping Station No.1	0	09-Jul-20 A	06-Aug-20 A	24-Sep-25	24-Sep-25		S1D1320	SC11110, S4P1030, S4P1140, S4P1150								
Section 2 - Complete All Designs (exclude Sec. 1 & 3)		1	20-Nov-19 A	21-Oct-23	31-Oct-21	24-Sep-25	704										
Major Plant & Materials Procurement		0	20-Nov-19 A	23-Apr-21 A	29-Aug-22	24-Sep-25											
S2P1000	Procurement & PO for Sludge Screening System (S2)	0	18-May-20 A	16-Oct-20 A	29-Sep-22	29-Sep-22		S2P1020	SC21110, S2D1260, S5P1000, S2P1060, S2P1150, S5P1030								
S2P1010	Procurement & PO for Sludge Thickening System (S3)	0	20-Nov-19 A	08-Jun-20 A	29-Sep-22	29-Sep-22		PL1010, CD1010	SC21110, S2D1300, S2P1030								
S2P1020	Procurement & PO for Sludge Digestion System (S5)	0	18-Feb-20 A	12-Aug-20 A	29-Sep-22	29-Sep-22		CD1010, S2P1040	SC21110, S5DIGP1000, S2D1420, S5DIGP1010, S2P1180, S2P1210, S5P1040, S2P1000, S5P1020								
S2P1030	Procurement & PO for Sludge Dewatering System (S6)	0	20-Nov-19 A	08-Jun-20 A	29-Sep-22	29-Sep-22		PL1010, CD1010, S2P1010	SC21110, S2D1460								
S2P1040	Procurement & PO for THP System (S4)	0	20-Nov-19 A	05-Jun-20 A	29-Sep-22	29-Sep-22		CD1010, PL1010	SC21110, S5THPP1000, S2D1340, S2P1020								
S2P1050	Procurement & PO for Biogas Holding Tanks(S7)	0	20-Nov-19 A	20-Aug-20 A	29-Aug-22	29-Aug-22		PL1010	SC21110, S5BIOP1010, S2D1500								
S2P1060	Procurement & PO for H2S Removal System (S7)	0	17-Jul-20 A	17-Mar-21 A	29-Sep-22	29-Sep-22		S2P1000	SC21110, S5H2SP1000, S2D1500								
S2P1070	Procurement & PO for CHP System (S8)	0	20-Nov-19 A	08-Jun-20 A	29-Sep-22	29-Sep-22		PL1010	SC21110, S5CHPP1010, S2D1540, S2P1110								
S2P1080	Procurement & PO for Waste Gas Burning System (S9)	0	17-Jul-20 A	15-Jan-21 A	14-Apr-23	14-Apr-23			SC21110, S5WGBP1000								
S2P1090	Procurement & PO for Plant Service Water System (S12)	0	18-May-20 A	30-Sep-20 A	29-Sep-22	29-Sep-22			SC21110, S5PSWP1000, S2D1660, S2P1190								
S2P1100	Procurement & PO for SAS Pumping System (S14)	0	18-May-20 A	30-Sep-20 A	13-Mar-23	13-Mar-23			SC21110, S5SASP1000, S2D1700, S2P1220								
S2P1110	Procurement & PO for Transformers (S17)	0	18-Feb-20 A	13-Jul-20 A	29-Sep-22	29-Sep-22		S2P1070	SC21110, S5WS2P1000, S2P1120, S2P1140, S5TXRP1000								



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31-Aug-23	Rev.37	IM/LT	KM
30-Sep-23	Rev.38	IM/LT	KM
31-Oct-23	Rev.39	IM/LT	KM

Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	2020	2021	2022	2023	2024	2025	2026
S2P1120	Procurement & PO for 11 kV Switchboard (S17)	0	18-Feb-20 A	13-Jul-20 A	29-Sep-22	29-Sep-22		S2P1110	SC21110, S5WS2P1060, S2P1130								
S2P1130	Procurement & PO for 380V Switchboard (S17)	0	21-Nov-20 A	23-Apr-21 A	29-Sep-22	29-Sep-22		S2P1120, S2D1220	SC21110, S5WS2P1090, S5P1050, S5TXRP1010								
S2P1140	Procurement & PO for Control & Monitoring System (S18)	0	17-Jul-20 A	11-Jan-21 A	28-Oct-22	28-Oct-22		PL1010, S2P1110	SC21110, S5TXRP1020								
S2P1150	Procurement & PO for DO System (S21)	0	15-Apr-20 A	24-Jun-20 A	16-Dec-22	16-Dec-22		S2P1000	SC21110, S5DOUP1000, S2D1930								
S2P1160	Procurement & PO for Stoplog (S21)	0	18-Apr-20 A	17-Jul-20 A	08-Apr-23	08-Apr-23		PL1010, S1P1040	SC21110, S5SASP1010, S2P1170								
S2P1170	Procurement & PO for Penstock (S21)	0	18-Apr-20 A	17-Jul-20 A	08-Apr-23	08-Apr-23		PL1010, S2P1160, S1P1050	SC21110, S5SASP1020								
S2P1180	Procurement & PO for Sewage Pump (S21)	0	18-May-20 A	30-Sep-20 A	14-Apr-23	14-Apr-23		S2P1020	SC21110, S5SPSP1000, S2D1940, S2P1200								
S2P1190	Procurement & PO for Process Water Pump (S21)	0	18-May-20 A	30-Sep-20 A	24-Sep-25	24-Sep-25		S2P1090	SC21110, S2D1950								
S2P1200	Procurement & PO for External Sludge Transfer Pump (S21)	0	18-May-20 A	14-Apr-21 A	11-May-23	11-May-23		S2P1180	SC21110, S2D1960								
S2P1210	Procurement & PO for THP Cooling Pump (S21)	0	18-May-20 A	04-Dec-20 A	11-May-23	11-May-23		S2P1020	SC21110, S5TCWP1000, S2D1970								
S2P1220	Procurement & PO for Temporary Primary Sludge Pump (S21)	0	18-May-20 A	14-Apr-21 A	13-Mar-23	13-Mar-23		PL1010, S2P1100	SC21110, S5ECHP1000								
Design & Submission		0	20-Nov-19 A	11-Jun-21 A	29-Aug-22	24-Sep-25											
General Arrangement Drawings		0	20-Nov-19 A	11-Jun-21 A	29-Aug-22	24-Sep-25											
S2D1000	Prepare & Submit General Arrangement Drawings (from formation level up to +8mPD)	0	20-Nov-19 A	29-May-20 A	29-Aug-22	29-Aug-22		PL1010	S2D1010, S2D1080, S2D1160, S2D1040, S2D1340								
S2D1010	Review & Comment on General Arrangement Drawings by PM (from formation level up to +8mPD)	0	07-May-20 A	02-Jul-20 A	24-Sep-25	24-Sep-25		S2D1000	S2D1020								
S2D1020	Revise & Re-submit General Arrangement Drawings (from formation level up to +8mPD)	0	26-May-20 A	10-Jun-21 A	24-Sep-25	24-Sep-25		S2D1010	S2D1030								
S2D1030	Review & Accept of General Arrangement Drawings by PM (from formation level up to +8mPD)	0	26-Mar-21 A	11-Jun-21 A	24-Sep-25	24-Sep-25		S2D1020	SC21110								
S2D1040	Prepare & Submit General Arrangement Drawings (remaining)	0	17-Jul-20 A	15-Jan-21 A	29-Aug-22	29-Aug-22		PL1010, S2D1000	S2D1050, S2D1120								
S2D1050	Review & Comment on General Arrangement Drawings by PM (remaining)	0	05-Sep-20 A	08-Feb-21 A	29-Aug-22	29-Aug-22		S2D1040	S2D1060								
S2D1060	Revise & Re-submit General Arrangement Drawings (remaining)	0	06-Oct-20 A	10-Jun-21 A	29-Aug-22	29-Aug-22		S2D1050	S2D1070								
S2D1070	Review & Accept of General Arrangement Drawings by PM (remaining)	0	26-Mar-21 A	11-Jun-21 A	29-Aug-22	29-Aug-22		S2D1060	SC21110, S5S1060, S5P1010, S5S1050								
Civil & Dimensional / Tolerance Requirement Drawings		0	04-Mar-20 A	11-Jun-21 A	29-Sep-22	24-Sep-25											
S2D1080	Prepare & Submit Civil Requirement Drawings (from formation level up to +8mPD) -KD2A	0	04-Mar-20 A	04-Jun-20 A	29-Sep-22	29-Sep-22		S2D1000	S2D1090, S2D1660, KD1010								
S2D1090	Review & Comment on Civil Requirement Drawings by PM (from formation level up to +8mPD)	0	30-Apr-20 A	23-Jun-20 A	05-Apr-23	05-Apr-23		S2D1080	S2D1100								



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30-Jun-23	Rev.35	IM/LT	KM
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31-Oct-23	Rev.39	IM/LT	KM

Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	2020	2021	2022	2023	2024	2025	2026
S2D1100	Revise & Re-submit Civil Requirement Drawings (from formation level up to +8mPD)	0	26-May-20 A	10-Jun-21 A	05-Apr-23	05-Apr-23		S2D1090	S2D1110								
S2D1110	Review & Accept of Civil Requirement Drawings by PM (from formation level up to +8mPD)	0	17-Apr-21 A	11-Jun-21 A	05-Apr-23	05-Apr-23		S2D1100	SC21110, AD1120								
S2D1120	Prepare & Submit Civil Requirement Drawings (remaining) -KD2B	0	15-Sep-20 A	15-Jan-21 A	24-Sep-25	24-Sep-25		S2D1040	S2D1130, KD1020								
S2D1130	Review & Comment on Civil Requirement Drawings by PM (remaining)	0	28-Sep-20 A	08-Feb-21 A	24-Sep-25	24-Sep-25		S2D1120	S2D1140								
S2D1140	Revise & Re-submit Civil Requirement Drawings (remaining)	0	12-Jan-21 A	10-Jun-21 A	24-Sep-25	24-Sep-25		S2D1130	S2D1150								
S2D1150	Review & Accept of Civil Requirement Drawings by PM (remaining)	0	17-Apr-21 A	11-Jun-21 A	24-Sep-25	24-Sep-25		S2D1140	SC21110								
Electrical Schematic Drawings		0	05-Mar-20 A	11-Jun-21 A	29-Sep-22	24-Sep-25											
S2D1160	Prepare & Elec. Schematic Drawings (from formation level up to +8mPD) -KD2A	0	05-Mar-20 A	16-Mar-20 A	29-Sep-22	29-Sep-22		S2D1000	S2D1170, S2D1260, S2D1660, KD1010, S2D1220								
S2D1170	Review & Comment on Elec. Schematic Drawings by PM (from formation level up to +8mPD)	0	17-Mar-20 A	24-Mar-20 A	29-Sep-22	29-Sep-22		S2D1160	S2D1180								
S2D1180	Revise & Re-submit Elec. Schematic Drawings (from formation level up to +8mPD)	0	25-Mar-20 A	23-Apr-20 A	29-Sep-22	29-Sep-22		S2D1170	S2D1190, S2D1220								
S2D1190	Review & Comment of Elec. Schematic Drawings by PM (from formation level up to +8mPD)	0	24-Apr-20 A	08-May-20 A	29-Sep-22	29-Sep-22		S2D1180	S2D1250, S5WS2P1090, S2D1220, S2D1200								
S2D1200	Revise & Re-submit Elec. Schematic Drawings (from formation level up to +8mPD)	0	09-May-20 A	10-Jun-21 A	24-Sep-25	24-Sep-25		S2D1190	S2D1210								
S2D1210	Review & Accept of Elec. Schematic Drawings by PM (from formation level up to +8mPD)	0	21-May-21 A	11-Jun-21 A	24-Sep-25	24-Sep-25		S2D1200	SC21110								
S2D1220	Prepare & Submit Elec. Schematic Drawings (remaining) -KD2B	0	05-Mar-20 A	16-Mar-20 A	29-Sep-22	29-Sep-22		S2D1160, S2D1180, S2D1190	S2D1230, KD1020, S2P1130								
S2D1230	Review & Comment on Elec. Schematic Drawings by PM (remaining)	0	17-Mar-20 A	24-Mar-20 A	17-Jan-24	17-Jan-24		S2D1220	S2D1240								
S2D1240	Revise & Re-submit Elec. Schematic Drawings (remaining)	0	25-Mar-20 A	10-Jun-21 A	17-Jan-24	17-Jan-24		S2D1230	S2D1250								
S2D1250	Review & Accept of Elec. Schematic Drawings by PM (remaining)	0	24-May-21 A	11-Jun-21 A	17-Jan-24	17-Jan-24		S2D1240, S2D1190	SC21110, S5WS2P1090								
Sludge Screening (SSc)		0	02-Jul-20 A	11-Jun-21 A	29-Sep-22	02-Mar-24											
S2D1260	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	0	02-Jul-20 A	10-Jun-21 A	29-Sep-22	29-Sep-22		S2D1160, S2P1000	S2D1270								
S2D1270	Review & Accept on Wiring Dwgs, Cable Schedule & Design Cal.	0	24-May-21 A	11-Jun-21 A	29-Sep-22	29-Sep-22		S2D1260	S5WS2P1090, S5P1050, SC21110								
S2D1280	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	0	10-Sep-20 A	10-Jun-21 A	02-Mar-24	02-Mar-24			S2D1290								
S2D1290	Review & Accept on the Schedule, Design Cal. & Fixing Details of Equipment	0	24-May-21 A	11-Jun-21 A	02-Mar-24	02-Mar-24		S2D1280	SC21110, PL1490								
Sludge Thickening (STh)		0	02-Jul-20 A	11-Jun-21 A	29-Sep-22	02-Mar-24											
S2D1300	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	0	02-Jul-20 A	10-Jun-21 A	29-Sep-22	29-Sep-22		S2P1010	S2D1310								
S2D1310	Review & Accept on Wiring Dwgs, Cable Schedule & Design Cal.	0	24-May-21 A	11-Jun-21 A	29-Sep-22	29-Sep-22		S2D1300	SC21110, S5P1050								
S2D1320	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	0	10-Sep-20 A	10-Jun-21 A	02-Mar-24	02-Mar-24			S2D1330								
S2D1330	Review & Accept on the Schedule, Design Cal. & Fixing Details of Equipment	0	24-May-21 A	11-Jun-21 A	02-Mar-24	02-Mar-24		S2D1320	SC21110, PL1490								
Thermal Hydrolysis Process (THP)		0	18-May-20 A	11-Jun-21 A	29-Sep-22	05-Jan-23											
S2D1340	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	0	18-May-20 A	07-Jan-21 A	29-Sep-22	29-Sep-22		S2P1040, S2D1000	S2D1350, S2D1970								
S2D1350	Review & Comment on Wiring Dwgs, Cable Schedule & Design Cal.	0	08-Jan-21 A	27-Jan-21 A	29-Sep-22	29-Sep-22		S2D1340	S2D1360								
S2D1360	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	0	28-Jan-21 A	17-May-21 A	29-Sep-22	29-Sep-22		S2D1350	S2D1370								



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- Remaining Work
- Critical Activity
- Milestone
- Actual Progress

Contract No. DE/2018/03
Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1
Sidestream Treatment Facilities and E&M Works for Sludge Treatment Facilities
Revised Programme - as at 20 October 2023

Date	Revision	Checked	Approved
30-Jun-23	Rev.35	IM/LT	KM
31-Jul-23	Rev.36	IM/LT	KM
31-Aug-23	Rev.37	IM/LT	KM
30-Sep-23	Rev.38	IM/LT	KM
31-Oct-23	Rev.39	IM/LT	KM

Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	2020	2021	2022	2023	2024	2025	2026
S2D1370	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	0	18-May-21 A	11-Jun-21 A	29-Sep-22	29-Sep-22		S2D1360	SC21110, S5THPP1000, S5TCWP1000, S5P1050								
S2D1380	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	0	17-Jul-20 A	07-Jan-21 A	05-Jan-23	05-Jan-23			S2D1390								
S2D1390	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	0	08-Jan-21 A	27-Jan-21 A	05-Jan-23	05-Jan-23		S2D1380	S2D1400								
S2D1400	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	0	28-Jan-21 A	17-May-21 A	05-Jan-23	05-Jan-23		S2D1390	S2D1410								
S2D1410	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	0	18-May-21 A	11-Jun-21 A	05-Jan-23	05-Jan-23		S2D1400	S5THPP1000, SC21110								
Sludge Digestion (SDI)		0	01-Aug-20 A	11-Jun-21 A	29-Sep-22	23-Dec-22											
S2D1420	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	0	01-Aug-20 A	10-Jun-21 A	29-Sep-22	29-Sep-22		S2P1020	S2D1430								
S2D1430	Review & Accept on Wiring Dwgs, Cable Schedule & Design Cal.	0	24-May-21 A	11-Jun-21 A	29-Sep-22	29-Sep-22		S2D1420	SC21110, S5P1050								
S2D1440	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	0	31-Aug-20 A	10-Jun-21 A	23-Dec-22	23-Dec-22			S2D1450								
S2D1450	Review & Accept on the Schedule, Design Cal. & Fixing Details of Equipment	0	24-May-21 A	11-Jun-21 A	23-Dec-22	23-Dec-22		S2D1440	S5DIGP1000, SC21110, PL1490								
Sludge Dewatering (SDe)		0	02-Jul-20 A	11-Jun-21 A	29-Sep-22	02-Mar-24											
S2D1460	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	0	02-Jul-20 A	10-Jun-21 A	29-Sep-22	29-Sep-22		S2P1030	S2D1470								
S2D1470	Review & Accept on Wiring Dwgs, Cable Schedule & Design Cal.	0	24-May-21 A	11-Jun-21 A	29-Sep-22	29-Sep-22		S2D1460	SC21110, S5P1050								
S2D1480	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	0	31-Aug-20 A	10-Jun-21 A	02-Mar-24	02-Mar-24			S2D1490								
S2D1490	Review & Accept on the Schedule, Design Cal. & Fixing Details of Equipment	0	24-May-21 A	11-Jun-21 A	02-Mar-24	02-Mar-24		S2D1480	SC21110, PL1490								
Biogas Storage & Pre-Treatment (BSPT)		0	31-Aug-20 A	11-Jun-21 A	29-Aug-22	29-Sep-22											
S2D1500	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	0	31-Aug-20 A	10-Jun-21 A	29-Sep-22	29-Sep-22		S2P1060, S2P1050	S2D1510								
S2D1510	Review & Accept on Wiring Dwgs, Cable Schedule & Design Cal.	0	24-May-21 A	11-Jun-21 A	29-Sep-22	29-Sep-22		S2D1500	SC21110, S5P1050								
S2D1520	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	0	22-Oct-20 A	10-Jun-21 A	29-Aug-22	29-Aug-22			S2D1530								
S2D1530	Review & Accept on the Schedule, Design Cal. & Fixing Details of Equipment	0	24-May-21 A	11-Jun-21 A	29-Aug-22	29-Aug-22		S2D1520	S5BIOP1010, S5H2SP1000, SC21110								
Combined Heat & Power Generation (CHP)		0	18-May-20 A	11-Jun-21 A	29-Sep-22	05-Jan-23											
S2D1540	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	0	18-May-20 A	21-Jul-20 A	29-Sep-22	29-Sep-22		S2P1070	S2D1550								
S2D1550	Review & Comment on Wiring Dwgs, Cable Schedule & Design Cal.	0	22-Jul-20 A	11-Aug-20 A	29-Sep-22	29-Sep-22		S2D1540	S2D1560, S2D1870								
S2D1560	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	0	12-Aug-20 A	21-Dec-20 A	29-Sep-22	29-Sep-22		S2D1550	S2D1570								
S2D1570	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	0	22-Dec-20 A	11-Jun-21 A	29-Sep-22	29-Sep-22		S2D1560	SC21110, S5P1050								
S2D1580	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	0	18-May-20 A	21-Jul-20 A	05-Jan-23	05-Jan-23			S2D1590								
S2D1590	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	0	22-Jul-20 A	11-Aug-20 A	05-Jan-23	05-Jan-23		S2D1580	S2D1600								
S2D1600	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	0	12-Aug-20 A	21-Dec-20 A	05-Jan-23	05-Jan-23		S2D1590	S2D1610								
S2D1610	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	0	22-Dec-20 A	11-Jun-21 A	05-Jan-23	05-Jan-23		S2D1600	S5CHPP1010, SC21110, S5S1020, PL1530								
Waste Gas Burning System (WGB)		0	15-Oct-20 A	11-Jun-21 A	29-Sep-22	14-Apr-23											
S2D1620	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	0	15-Oct-20 A	10-Jun-21 A	29-Sep-22	29-Sep-22			S2D1630								



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- Remaining Work
- Critical Activity
- Milestone
- Actual Progress

Contract No. DE/2018/03
Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1
Sidestream Treatment Facilities and E&M Works for Sludge Treatment Facilities
Revised Programme - as at 20 October 2023

Date	Revision	Checked	Approved
30-Jun-23	Rev.35	IM/LT	KM
31-Jul-23	Rev.36	IM/LT	KM
31-Aug-23	Rev.37	IM/LT	KM
30-Sep-23	Rev.38	IM/LT	KM
31-Oct-23	Rev.39	IM/LT	KM

Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	Gantt Chart (2020-2026)											
S2D1630	Review & Accept on Wiring Dwgs, Cable Schedule & Design Cal.	0	24-May-21 A	11-Jun-21 A	29-Sep-22	29-Sep-22		S2D1620	SC21110, S5P1050		[Gantt bar for S2D1630: 24-May-21 to 11-Jun-21]											
S2D1640	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	0	29-Nov-20 A	10-Jun-21 A	14-Apr-23	14-Apr-23			S2D1650		[Gantt bar for S2D1640: 29-Nov-20 to 10-Jun-21]											
S2D1650	Review & Accept on the Schedule, Design Cal. & Fixing Details of Equipment	0	24-May-21 A	11-Jun-21 A	14-Apr-23	14-Apr-23		S2D1640	S5WGBP1000, SC21110		[Gantt bar for S2D1650: 24-May-21 to 11-Jun-21]											
Plant Service Water System (PSW)		0	16-Aug-20 A	11-Jun-21 A	29-Sep-22	12-Feb-23					[Gantt bar for PSW: 16-Aug-20 to 11-Jun-21]											
S2D1660	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	0	16-Aug-20 A	10-Jun-21 A	29-Sep-22	29-Sep-22		S2D1080, S2D1160, S2P1090	S2D1670		[Gantt bar for S2D1660: 16-Aug-20 to 10-Jun-21]											
S2D1670	Review & Accept on Wiring Dwgs, Cable Schedule & Design Cal.	0	24-May-21 A	11-Jun-21 A	29-Sep-22	29-Sep-22		S2D1660	SC21110, S5P1050		[Gantt bar for S2D1670: 24-May-21 to 11-Jun-21]											
S2D1680	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	0	15-Oct-20 A	10-Jun-21 A	12-Feb-23	12-Feb-23			S2D1690		[Gantt bar for S2D1680: 15-Oct-20 to 10-Jun-21]											
S2D1690	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	0	24-May-21 A	11-Jun-21 A	12-Feb-23	12-Feb-23		S2D1680	S5PSWP1000, SC21110		[Gantt bar for S2D1690: 24-May-21 to 11-Jun-21]											
Surplus Activated Sludge Pumping Station (SAS)		0	01-Aug-20 A	11-Jun-21 A	08-Apr-23	24-Sep-25					[Gantt bar for SAS: 01-Aug-20 to 11-Jun-21]											
S2D1700	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	0	01-Aug-20 A	17-Nov-20 A	24-Sep-25	24-Sep-25		S2P1100	S2D1710		[Gantt bar for S2D1700: 01-Aug-20 to 17-Nov-20]											
S2D1710	Review & Comment on Wiring Dwgs, Cable Schedule & Design Cal.	0	18-Nov-20 A	24-Nov-20 A	24-Sep-25	24-Sep-25		S2D1700	S2D1720		[Gantt bar for S2D1710: 18-Nov-20 to 24-Nov-20]											
S2D1720	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	0	25-Nov-20 A	10-Jun-21 A	24-Sep-25	24-Sep-25		S2D1710	S2D1730		[Gantt bar for S2D1720: 25-Nov-20 to 10-Jun-21]											
S2D1730	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	0	24-May-21 A	11-Jun-21 A	24-Sep-25	24-Sep-25		S2D1720	SC21110		[Gantt bar for S2D1730: 24-May-21 to 11-Jun-21]											
S2D1740	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	0	16-Aug-20 A	17-Nov-20 A	08-Apr-23	08-Apr-23			S2D1750		[Gantt bar for S2D1740: 16-Aug-20 to 17-Nov-20]											
S2D1750	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	0	18-Nov-20 A	24-Nov-20 A	08-Apr-23	08-Apr-23		S2D1740	S2D1760		[Gantt bar for S2D1750: 18-Nov-20 to 24-Nov-20]											
S2D1760	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	0	25-Nov-20 A	10-Jun-21 A	08-Apr-23	08-Apr-23		S2D1750	S2D1770		[Gantt bar for S2D1760: 25-Nov-20 to 10-Jun-21]											
S2D1770	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	0	24-May-21 A	11-Jun-21 A	08-Apr-23	08-Apr-23		S2D1760	S5SASP1000, SC21110		[Gantt bar for S2D1770: 24-May-21 to 11-Jun-21]											
Control and Monitoring System		0	30-Oct-20 A	11-Jun-21 A	24-Sep-25	24-Sep-25					[Gantt bar for CMS: 30-Oct-20 to 11-Jun-21]											
S2D1780	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	0	30-Oct-20 A	11-May-21 A	24-Sep-25	24-Sep-25			S2D1790		[Gantt bar for S2D1780: 30-Oct-20 to 11-May-21]											
S2D1790	Review & Accept on Wiring Dwgs, Cable Schedule & Design Cal.	0	12-May-21 A	11-Jun-21 A	24-Sep-25	24-Sep-25		S2D1780	SC21110		[Gantt bar for S2D1790: 12-May-21 to 11-Jun-21]											
S2D1800	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	0	14-Dec-20 A	11-May-21 A	24-Sep-25	24-Sep-25			S2D1810		[Gantt bar for S2D1800: 14-Dec-20 to 11-May-21]											
S2D1810	Review & Accept on the Schedule, Design Cal. & Fixing Details of Equipment	0	12-May-21 A	11-Jun-21 A	24-Sep-25	24-Sep-25		S2D1800	SC21110		[Gantt bar for S2D1810: 12-May-21 to 11-Jun-21]											
Lifting Appliances		0	17-Jul-20 A	11-Jun-21 A	24-Sep-25	24-Sep-25					[Gantt bar for LA: 17-Jul-20 to 11-Jun-21]											
S2D1820	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	0	17-Jul-20 A	10-Jun-21 A	24-Sep-25	24-Sep-25			S2D1830		[Gantt bar for S2D1820: 17-Jul-20 to 10-Jun-21]											
S2D1830	Review & Accept on Wiring Dwgs, Cable Schedule & Design Cal.	0	24-May-21 A	11-Jun-21 A	24-Sep-25	24-Sep-25		S2D1820	SC21110		[Gantt bar for S2D1830: 24-May-21 to 11-Jun-21]											
S2D1840	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	0	30-Oct-20 A	10-Jun-21 A	24-Sep-25	24-Sep-25			S2D1850		[Gantt bar for S2D1840: 30-Oct-20 to 10-Jun-21]											
S2D1850	Review & Accept on the Schedule, Design Cal. & Fixing Details of Equipment	0	24-May-21 A	11-Jun-21 A	24-Sep-25	24-Sep-25		S2D1840	SC21110		[Gantt bar for S2D1850: 24-May-21 to 11-Jun-21]											
Building Services		0	02-Jul-20 A	11-Jun-21 A	17-Nov-22	24-Sep-25					[Gantt bar for BS: 02-Jul-20 to 11-Jun-21]											
S2D1860	Submit & Accept BS Works Design & Dwgs for Sludge Dewatering Building	0	21-Nov-20 A	11-Jun-21 A	17-Nov-22	17-Nov-22			SC21110, S5S1010, S5S1120		[Gantt bar for S2D1860: 21-Nov-20 to 11-Jun-21]											
S2D1870	Submit & Accept BS Works Design & Dwgs for CHP Building	0	14-Nov-20 A	11-Jun-21 A	11-Mar-23	11-Mar-23		S2D1550	SC21110, S5S1120		[Gantt bar for S2D1870: 14-Nov-20 to 11-Jun-21]											
S2D1880	Submit & Accept BS Works Design & Dwgs for Sludge Digester & Distribution Chamber	0	21-Nov-20 A	11-Jun-21 A	11-Mar-23	11-Mar-23			SC21110, S5S1120		[Gantt bar for S2D1880: 21-Nov-20 to 11-Jun-21]											
S2D1890	Submit & Accept BS Works Design & Dwgs for Workshop No. 2	0	02-Jul-20 A	11-Jun-21 A	11-Mar-23	11-Mar-23			SC21110, S5S1030, S5S1120		[Gantt bar for S2D1890: 02-Jul-20 to 11-Jun-21]											
S2D1900	Submit & Accept BS Works Design & Dwgs for Other Facilities	0	29-Nov-20 A	11-Jun-21 A	11-Mar-23	11-Mar-23			S2D1920, SC21110, S5S1120		[Gantt bar for S2D1900: 29-Nov-20 to 11-Jun-21]											



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- Remaining Work
- Critical Activity
- Actual Progress
- ◆ Milestone

Contract No. DE/2018/03
Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1
Sidestream Treatment Facilities and E&M Works for Sludge Treatment Facilities
Revised Programme - as at 20 October 2023

Date	Revision	Checked	Approved
30-Jun-23	Rev.35	IM/LT	KM
31-Jul-23	Rev.36	IM/LT	KM
31-Aug-23	Rev.37	IM/LT	KM
30-Sep-23	Rev.38	IM/LT	KM
31-Oct-23	Rev.39	IM/LT	KM

Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	2020	2021	2022	2023	2024	2025	2026
S2D1910	Submit & Accept BS Works Design & Dwgs for FS Installation	0	02-Jul-20 A	11-Jun-21 A	11-Mar-23	11-Mar-23			SC21110, S5S1120								
S2D1920	Submit & Accept BS Works Design & Dwgs for Outdoor Lighting Installation	0	28-Jan-21 A	11-Jun-21 A	24-Sep-25	24-Sep-25		S2D1900	SC21110								
Miscellaneous		0	05-Oct-20 A	11-Jun-21 A	24-Nov-22	24-Sep-25											
S2D1930	Submit & Accept Design & Dwgs for DO System	0	14-Dec-20 A	11-Jun-21 A	16-Dec-22	16-Dec-22		S2P1150, PL1020	S5DOUP1000, SC21110								
S2D1940	Submit & Accept Design & Dwgs for Sewage Pumping Station	0	30-Oct-20 A	11-Jun-21 A	14-Apr-23	14-Apr-23		S2P1180	S5SPSP1000, SC21110								
S2D1950	Submit & Accept Design & Dwgs for Process Water Pumping System	0	05-Oct-20 A	11-Jun-21 A	24-Sep-25	24-Sep-25		S2P1190	SC21110								
S2D1960	Submit & Accept Design & Dwgs for External Sludge Transfer Pumping System	0	14-Nov-20 A	11-Jun-21 A	11-May-23	11-May-23		S2P1200	S2D1970, SC21110								
S2D1970	Submit & Accept Design & Dwgs for THP Cooling Water Pumping Station	0	14-Nov-20 A	10-Jun-21 A	11-May-23	11-May-23		S2D1340, S2D1960, S2P1210	S5TCWP1000, SC21110								
S2D1980	Submit & Accept Design & Dwgs for Ferric Chloride Dosing System	0	14-Nov-20 A	11-Jun-21 A	24-Nov-22	24-Nov-22			S5FCDP1000, S5FCDP1010, SC21110								
S2D1990	Submit & Accept Design & Dwgs for Temporary Primary Sludge Pumping Facility	0	04-Jan-21 A	11-Jun-21 A	13-Mar-23	13-Mar-23		PL1020	S5ECHP1000, SC21110								
S2D2000	Submit & Accept Design & Dwgs for Gas Detection System	0	29-Nov-20 A	24-May-21 A	16-Jan-23	16-Jan-23			SC21110, S5CHPP1040								
S2D2010	Submit & Accept Design & Dwgs for CCTV System	0	29-Nov-20 A	26-May-21 A	24-Sep-25	24-Sep-25			SC21110								
Outstanding Works		1	02-Jul-21 A	21-Oct-23	31-Oct-21	24-Sep-25	704										
S2D2020	Certificate of Completion - Section 2 of the works (Ref: RCYK:ccm:60427128/92-2021004626w)	0	02-Jul-21 A			24-Sep-25											
S2D2030	Provide ICE Certificate for all design, calculations, drawings, plans & relevant documents	1	02-Jul-21 A	21-Oct-23*	31-May-22	31-May-22	-508										
S2D2040	Submit finalized design calculations, drawings & material submissions for BS systems (Workshop No.2)	0	02-Jul-21 A	15-Sep-21 A	24-Sep-25	24-Sep-25											
S2D2050	Submit finalized design calculations, drawings & material submissions for BS systems (except Workshop No.2)	1	02-Jul-21 A	21-Oct-23*	30-Apr-22	30-Apr-22	-539										
S2D2060	Submit finalized sizing calculations for the actuators and stems for penstocks	0	02-Jul-21 A	30-Sep-21 A	24-Sep-25	24-Sep-25											
S2D2070	Submit finalized cable schedules & sizing calculation (LV System)	1	02-Jul-21 A	21-Oct-23*	31-Dec-21	31-Dec-21	-659										
S2D2080	Submit finalized pumps and associated motor and VSD calculations	1	02-Jul-21 A	21-Oct-23*	31-Dec-21	31-Dec-21	-659										
S2D2090	Submit finalized electrical loads to verify the rating of the switchgears, transformers and protective devices	1	02-Jul-21 A	21-Oct-23*	31-Dec-21	31-Dec-21	-659										
S2D2100	Submit finalized material submissions of the cables, cable tray, ladder and accessories	0	02-Jul-21 A	31-Dec-21 A	24-Sep-25	24-Sep-25											
S2D2110	Submit finalized cable route drawings	1	02-Jul-21 A	21-Oct-23*	31-Dec-21	31-Dec-21	-659										
S2D2120	Submit finalized layout and control wiring diagrams for switchboard, MCC, control panel, etc	1	02-Jul-21 A	21-Oct-23*	31-Jan-22	31-Jan-22	-628										
S2D2130	Submit finalized design submissions of the CHP system	0	02-Jul-21 A	31-Jan-22 A	24-Sep-25	24-Sep-25											
S2D2140	Submit finalized interlock devices for electrical equipment and system	1	02-Jul-21 A	21-Oct-23*	30-Apr-22	30-Apr-22	-539										
S2D2150	Submit finalized calculations for total harmonic distortion, electrical faults and touch voltage	1	02-Jul-21 A	21-Oct-23*	30-Apr-22	30-Apr-22	-539										
S2D2160	Submit finalized design calculations, drawings & material submissions for ELV systems	1	02-Jul-21 A	21-Oct-23*	31-Dec-21	31-Dec-21	-659										
S2D2170	Submit finalized design submissions of SCADA, PMS, CMMS, IDMS, UPS for FCS	1	02-Jul-21 A	21-Oct-23*	31-Dec-21	31-Dec-21	-659										
S2D2180	Submit finalized configuration of SCADA/ PLC system, CMMS & PMS	1	02-Jul-21 A	21-Oct-23*	31-Dec-21	31-Dec-21	-659										
S2D2190	Submit finalized PLC and MCC panel design	1	02-Jul-21 A	21-Oct-23*	28-Feb-22	28-Feb-22	-600										
S2D2200	Submit finalized design & philosophy of the process instrument	1	02-Jul-21 A	21-Oct-23*	31-Dec-21	31-Dec-21	-659										
S2D2210	Submit finalized Process Design Submission	1	02-Jul-21 A	21-Oct-23*	30-Nov-21	30-Nov-21	-690										
S2D2220	Submit finalized acoustic and noise calculations for all equipment	1	02-Jul-21 A	21-Oct-23*	30-Apr-22	30-Apr-22	-539										
S2D2230	Submit finalized design of THP feeding system	1	02-Jul-21 A	21-Oct-23*	31-Oct-21	31-Oct-21	-720										
S2D2240	Submit finalized design of the centrifuge discharge system	1	02-Jul-21 A	21-Oct-23*	30-Nov-21	30-Nov-21	-690										



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30-Jun-23	Rev.35	IM/LT	KM
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31-Oct-23	Rev.39	IM/LT	KM

Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	2020	2021	2022	2023	2024	2025	2026
Section 3 - Complete Design, Construction & T&C for Sidestream Fa		705	20-Nov-19 A	24-Sep-25	17-Sep-22	24-Sep-25	0										
Major Subcontractor / Supplier Procurement		0	20-Nov-19 A	06-Sep-21 A	11-Nov-22	24-Sep-25											
Design		0	20-Nov-19 A	12-Jul-20 A	11-Nov-22	24-Sep-25											
S3P1000	Procurement & PO for Deammonification Sidestream Treatment Facilities	0	20-Nov-19 A	05-Jun-20 A	11-Nov-22	11-Nov-22		CD1010, PL1010	S3D1000, S3D1440								
S3P1010	E&M (Process) Designer Award	0	05-Jun-20 A	05-Jun-20 A	24-Sep-25	24-Sep-25											
S3P1020	Civil & BS Designer Award	0	26-Jun-20 A	26-Jun-20 A	24-Sep-25	24-Sep-25			S3P1030								
S3P1030	Mobilisation	0	27-Jun-20 A	12-Jul-20 A	24-Sep-25	24-Sep-25		S3P1020									
Civil & Building Contractor		0	05-Aug-20 A	06-Sep-21 A	26-Oct-23	26-Oct-23											
For Site Clearance & Survey		0	05-Aug-20 A	12-Oct-20 A	26-Oct-23	26-Oct-23											
S3P1040	Submit Tender proposal of Civil Contractor (Site Clearance & Survey)	0	05-Aug-20 A	20-Aug-20 A	26-Oct-23	26-Oct-23			S3P1050								
S3P1050	Review & Comment the Tender proposal of Civil Contractor (Site Clearance & Survey)	0	21-Aug-20 A	01-Sep-20 A	26-Oct-23	26-Oct-23		S3P1040	S3P1060								
S3P1060	Re-submit Tender proposal of Civil Contractor (Site Clearance & Survey)	0	02-Sep-20 A	02-Sep-20 A	26-Oct-23	26-Oct-23		S3P1050	S3P1070								
S3P1070	Review & Accept Tender proposal of Civil Contractor (Site Clearance & Survey)	0	03-Sep-20 A	23-Sep-20 A	26-Oct-23	26-Oct-23		S3P1060	S3P1080								
S3P1080	Civil Contractor (Site Clearance & Survey) Award	0	07-Oct-20 A	07-Oct-20 A	26-Oct-23	26-Oct-23		S3P1070	S3P1090								
S3P1090	Mobilisation	0	08-Oct-20 A	12-Oct-20 A	26-Oct-23	26-Oct-23		S3P1080	S3C1010								
For Ground Investigation		0	29-Aug-20 A	08-Dec-20 A	26-Oct-23	26-Oct-23											
S3P1100	Submit Tender proposal of Civil Contractor (Ground Investigation)	0	29-Aug-20 A	29-Sep-20 A	26-Oct-23	26-Oct-23			S3P1110								
S3P1110	Review & Accept the Tender proposal of Civil Contractor (Ground Investigation)	0	30-Sep-20 A	27-Oct-20 A	26-Oct-23	26-Oct-23		S3P1100	S3P1120								
S3P1120	Tender Invitation of Civil Contractor (Ground Investigation)	0	02-Nov-20 A	13-Nov-20 A	26-Oct-23	26-Oct-23		S3P1110	S3P1130								
S3P1130	Submission of Tender Report	0	14-Nov-20 A	18-Nov-20 A	26-Oct-23	26-Oct-23		S3P1120	S3P1140								
S3P1140	Review & Accept the Tender Report by PM	0	19-Nov-20 A	19-Nov-20 A	26-Oct-23	26-Oct-23		S3P1130	S3P1150								
S3P1150	Contract Preparation	0	20-Nov-20 A	23-Nov-20 A	26-Oct-23	26-Oct-23		S3P1140	S3P1160								
S3P1160	Civil Contractor (Ground Investigation) Award	0	24-Nov-20 A	24-Nov-20 A	26-Oct-23	26-Oct-23		S3P1150	S3P1170								
S3P1170	Mobilisation	0	25-Nov-20 A	08-Dec-20 A	26-Oct-23	26-Oct-23		S3P1160	S3C1020								
For Pre-drilling & Post-drilling		0	26-Oct-20 A	21-Feb-21 A	26-Oct-23	26-Oct-23											
S3P1180	Submit Tender proposal of Civil Contractor (Pre-drilling & Post-drilling)	0	26-Oct-20 A	06-Jan-21 A	26-Oct-23	26-Oct-23		S3D1300, S3D1240	S3P1190								
S3P1190	Review & Accept the Tender proposal of Civil Contractor (Predrill & Proof drill)	0	07-Jan-21 A	27-Jan-21 A	26-Oct-23	26-Oct-23		S3P1180	S3P1200								
S3P1200	Tender Invitation of Civil Contractor (Pre-drilling & Post-drilling)	0	28-Jan-21 A	04-Feb-21 A	26-Oct-23	26-Oct-23		S3P1190	S3P1210								
S3P1210	Submission of Tender Report	0	05-Feb-21 A	10-Feb-21 A	26-Oct-23	26-Oct-23		S3P1200	S3P1220								
S3P1220	Review & Accept the Tender Report by PM	0	11-Feb-21 A	16-Feb-21 A	26-Oct-23	26-Oct-23		S3P1210	S3P1230								
S3P1230	Contract Preparation	0	17-Feb-21 A	17-Feb-21 A	26-Oct-23	26-Oct-23		S3P1220	S3P1240								
S3P1240	Civil Contractor (Pre-drilling & Post-drilling) Award	0	18-Feb-21 A	18-Feb-21 A	26-Oct-23	26-Oct-23		S3P1230	S3P1250								
S3P1250	Mobilisation	0	19-Feb-21 A	21-Feb-21 A	26-Oct-23	26-Oct-23		S3P1240	S3C1030								
For Piling		0	04-Jan-21 A	01-Apr-21 A	26-Oct-23	26-Oct-23											
S3P1260	Submit Tender proposal of Civil Contractor (Piling)	0	04-Jan-21 A	10-Feb-21 A	26-Oct-23	26-Oct-23			S3P1270								
S3P1270	Review & Accept the Tender proposal of Civil Contractor (Piling)	0	11-Feb-21 A	12-Mar-21 A	26-Oct-23	26-Oct-23		S3P1260	S3P1280								
S3P1280	Tender Invitation of Civil Contractor (Piling)	0	12-Mar-21 A	19-Mar-21 A	26-Oct-23	26-Oct-23		S3P1270	S3P1290								
S3P1290	Submission of Tender Report	0	20-Mar-21 A	22-Mar-21 A	26-Oct-23	26-Oct-23		S3P1280	S3P1300								
S3P1300	Review & Accept the Tender Report by PM	0	23-Mar-21 A	23-Mar-21 A	26-Oct-23	26-Oct-23		S3P1290	S3P1310								
S3P1310	Contract Preparation	0	24-Mar-21 A	25-Mar-21 A	26-Oct-23	26-Oct-23		S3P1300	S3P1320								
S3P1320	Civil Contractor (Piling) Award	0	26-Mar-21 A	26-Mar-21 A	26-Oct-23	26-Oct-23		S3P1310	S3P1330								
S3P1330	Mobilisation	0	26-Mar-21 A	01-Apr-21 A	26-Oct-23	26-Oct-23		S3P1320	S3C1030								
For Main Civil Works		0	17-Mar-21 A	06-Sep-21 A	26-Oct-23	26-Oct-23											
S3P1340	Submit Tender proposal of Civil Contractor (Main Civil Works)	0	17-Mar-21 A	21-May-21 A	26-Oct-23	26-Oct-23			S3P1350								
S3P1350	Review & Accept the Tender proposal of Civil Contractor (Main Civil Works)	0	22-May-21 A	19-Jul-21 A	26-Oct-23	26-Oct-23		S3P1340	S3P1360								
S3P1360	Tender Invitation of Civil Contractor (Main Civil Works)	0	21-Jul-21 A	11-Aug-21 A	26-Oct-23	26-Oct-23		S3P1350	S3P1370								
S3P1370	Submission of Tender Report	0	12-Aug-21 A	19-Aug-21 A	26-Oct-23	26-Oct-23		S3P1360	S3P1380								



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Contract No. DE/2018/03
Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1
Sidestream Treatment Facilities and E&M Works for Sludge Treatment Facilities
Revised Programme - as at 20 October 2023

Date	Revision	Checked	Approved
30-Jun-23	Rev.35	IM/LT	KM
31-Jul-23	Rev.36	IM/LT	KM
31-Aug-23	Rev.37	IM/LT	KM
30-Sep-23	Rev.38	IM/LT	KM
31-Oct-23	Rev.39	IM/LT	KM

Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	2020	2021	2022	2023	2024	2025	2026
S3P1380	Review & Accept the Tender Report by PM	0	20-Aug-21 A	31-Aug-21 A	26-Oct-23	26-Oct-23		S3P1370	S3P1390								
S3P1390	Contract Preparation	0	01-Sep-21 A	05-Sep-21 A	26-Oct-23	26-Oct-23		S3P1380	S3P1400								
S3P1400	Civil Contractor (Main Civil Works) Award	0	06-Sep-21 A	06-Sep-21 A	26-Oct-23	26-Oct-23		S3P1390	S3D1360, S3C1070								
Design & Submission		1	07-Jun-20 A	21-Oct-23	17-Sep-22	24-Sep-25	704										
Architectural		1	07-Jun-20 A	21-Oct-23	25-Oct-23	25-Oct-23	4										
S3D1000	Prepare & Submit Building Layout Plan	0	07-Jun-20 A	21-Oct-20 A	25-Oct-23	25-Oct-23		CD1010, S3P1000	S3D1010, S3D1050, S3D1100								
S3D1010	Review & Comment on Building Layout Plan by PM	0	22-Oct-20 A	17-Nov-20 A	25-Oct-23	25-Oct-23		S3D1000	S3D1020								
S3D1020	Revise & Re-submit Building Layout Plan	0	18-Nov-20 A	24-Dec-20 A	25-Oct-23	25-Oct-23		S3D1010	S3D1030								
S3D1030	Review & Accept of Building Layout Plan by PM	0	01-Jan-21 A	16-Sep-21 A	25-Oct-23	25-Oct-23		S3D1020	S3D1090								
S3D1040	Coordination Meeting with DSD (Employer) for the Architectural Drawing	0		15-Nov-21 A		25-Oct-23			S3D1090								
S3D1050	Prepare & Submit Architectural Design / Drawings	0	17-Jun-20 A	21-Oct-20 A	25-Oct-23	25-Oct-23		S3D1000	S3D1060								
S3D1060	Review & Comment on Architectural Design / Drawings by PM	0	22-Oct-20 A	17-Nov-20 A	25-Oct-23	25-Oct-23		S3D1050	S3D1070								
S3D1070	Revise & Re-submit Architectural Design / Drawings	0	18-Nov-20 A	24-Dec-20 A	25-Oct-23	25-Oct-23		S3D1060	S3D1080								
S3D1080	Review & Accept of Architectural Design / Drawings by PM	1	25-Dec-20 A	21-Oct-23	25-Oct-23	25-Oct-23	4	S3D1070	S3D1090								
S3D1090	Review & Accept of Architectural Design / Drawings by DSD (incl. VCAB) & DAP of ArchSD	1	15-Nov-21 A	21-Oct-23	25-Oct-23	25-Oct-23	4	S3D1080, S3D1130, S3D1030, S3D1040	S3C1140, S3P2150								
S3D1100	Prepare & Submit ABWF Works Drawings	0	03-Nov-20 A	24-Dec-20 A	25-Oct-23	25-Oct-23		S3D1000	S3D1110								
S3D1110	Review & Comment on ABWF Works Drawings by PM	0	25-Dec-20 A	29-Jan-21 A	25-Oct-23	25-Oct-23		S3D1100	S3D1120								
S3D1120	Revise & Re-submit ABWF Works Drawings	0	30-Jan-21 A	11-Mar-21 A	25-Oct-23	25-Oct-23		S3D1110	S3D1130								
S3D1130	Review & Accept of ABWF Works Drawings by PM	1	12-Mar-21 A	21-Oct-23	25-Oct-23	25-Oct-23	4	S3D1120	S3C1140, S3D1090								
Civil / Structural		0	13-Jul-20 A	18-Feb-22 A	17-Sep-22	24-Sep-25											
S3D1140	Prepare & Submit Loading Plan to ICE	0	13-Jul-20 A	25-Sep-20 A	26-Oct-23	26-Oct-23			S3D1150								
S3D1150	Review & Comment on Loading Plan by ICE	0	26-Sep-20 A	23-Oct-20 A	26-Oct-23	26-Oct-23		S3D1140	S3D1160								
S3D1160	Revise & Re-submit Loading Plan to ICE	0	24-Oct-20 A	20-Apr-21 A	26-Oct-23	26-Oct-23		S3D1150	S3D1170								
S3D1170	Review & Accept of Loading Plan by ICE	0	21-Apr-21 A	26-Apr-21 A	26-Oct-23	26-Oct-23		S3D1160	S3D1180								
S3D1180	Prepare & Submit Loading Plan to PM	0	27-Apr-21 A	27-Apr-21 A	26-Oct-23	26-Oct-23		S3D1170	S3D1190								
S3D1190	Review & Accept of Loading Plan by PM & DSD (incl. BCM)	0	28-Apr-21 A	18-Feb-22 A	26-Oct-23	26-Oct-23		S3D1180	S3C1090								
S3D1200	Prepare & Submit GI Plan	0	13-Jul-20 A	26-Aug-20 A	26-Oct-23	26-Oct-23			S3D1210								
S3D1210	Review & Comment on GI Plan by PM	0	27-Aug-20 A	10-Sep-20 A	26-Oct-23	26-Oct-23		S3D1200	S3D1220								
S3D1220	Revise & Re-submit GI Plan	0	11-Sep-20 A	28-Sep-20 A	26-Oct-23	26-Oct-23		S3D1210	S3D1230								
S3D1230	Review & Accept of GI Plan by PM	0	29-Sep-20 A	02-Nov-20 A	26-Oct-23	26-Oct-23		S3D1220	S3C1020								
S3D1240	Prepare & Submit Foundation Design / Drawings to ICE & PM	0	20-Aug-20 A	09-Oct-20 A	17-Sep-22	17-Sep-22			S3D1250, S3C1010, S3D1300, S3P1180								
S3D1250	Review & Comment on Foundation Design / Drawings by ICE & PM	0	10-Oct-20 A	27-Nov-20 A	24-Sep-25	24-Sep-25		S3D1240	S3D1260								
S3D1260	Revise & Re-submit Foundation Design / Drawings to ICE & PM	0	28-Nov-20 A	29-Jan-21 A	24-Sep-25	24-Sep-25		S3D1250	S3D1270								
S3D1270	Review & Accept of Foundation Design / Drawings by ICE & PM	0	30-Jan-21 A	26-Feb-21 A	24-Sep-25	24-Sep-25		S3D1260	S3D1280								
S3D1280	Prepare & Submit Foundation Design / Drawings to DSD (incl. BCM)	0	27-Feb-21 A	05-Mar-21 A	24-Sep-25	24-Sep-25		S3D1270	S3D1290								
S3D1290	Review & Accept of Foundation Design / Drawings by DSD (incl. BCM)	0	06-Mar-21 A	26-Mar-21 A	24-Sep-25	24-Sep-25		S3D1280									
S3D1300	Prepare & Submit Substructure / Superstructure Design / Drawings to ICE & PM	0	10-Oct-20 A	05-Nov-20 A	17-Sep-22	17-Sep-22		S3D1240	S3D1310, S3P1180								
S3D1310	Review & Comment on Substructure / Superstructure Design / Drawings by ICE & PM	0	06-Nov-20 A	30-Dec-20 A	17-Sep-22	17-Sep-22		S3D1300	S3D1320								
S3D1320	Revise & Re-submit Substructure / Superstructure Design / Drawings to ICE & PM	0	31-Dec-20 A	26-Apr-21 A	17-Sep-22	17-Sep-22		S3D1310	S3D1330								
S3D1330	Review & Accept of Substructure / Superstructure Design / Drawings by ICE & PM	0	27-Apr-21 A	18-Feb-22 A	17-Sep-22	17-Sep-22		S3D1320	S3D1340								
S3D1340	Prepare & Submit Substructure / Superstructure Design / Drawings to DSD (incl. BCM)	0	13-Dec-21 A	23-Dec-21 A	17-Sep-22	17-Sep-22		S3D1330	S3D1350								



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- Remaining Work
- Critical Activity
- ◆ Milestone
- Actual Progress

Contract No. DE/2018/03
Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1
Sidestream Treatment Facilities and E&M Works for Sludge Treatment Facilities
Revised Programme - as at 20 October 2023

Date	Revision	Checked	Approved
30-Jun-23	Rev.35	IM/LT	KM
31-Jul-23	Rev.36	IM/LT	KM
31-Aug-23	Rev.37	IM/LT	KM
30-Sep-23	Rev.38	IM/LT	KM
31-Oct-23	Rev.39	IM/LT	KM

Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	2020 2021 2022 2023 2024 2025 2026											
S3D1350	Review & Accept of Substructure / Superstructure Design / Drawings by DSD (incl. BCM)	0	24-Dec-21 A	18-Feb-22 A	17-Sep-22	17-Sep-22		S3D1340	S3C1100		[Gantt chart bars for S3D1350]											
ELS		0	07-Sep-21 A	26-Apr-22 A	26-Oct-23	26-Oct-23					[Gantt chart bars for ELS]											
S3D1360	Prepare & Submit ELS Plan to ICE	0	07-Sep-21 A	20-Oct-21 A	26-Oct-23	26-Oct-23		S3P1400	S3D1370		[Gantt chart bars for S3D1360]											
S3D1370	Review & Accept of ELS Plan by ICE	0	21-Oct-21 A	18-Nov-21 A	26-Oct-23	26-Oct-23		S3D1360	S3D1380		[Gantt chart bars for S3D1370]											
S3D1380	Prepare & Submit ELS Plan to PM	0	19-Nov-21 A	19-Nov-21 A	26-Oct-23	26-Oct-23		S3D1370	S3D1390		[Gantt chart bars for S3D1380]											
S3D1390	Review & Accept of ELS Plan by PM	0	20-Nov-21 A	26-Apr-22 A	26-Oct-23	26-Oct-23		S3D1380	S3C1080		[Gantt chart bars for S3D1390]											
Process Design		0	06-Jul-20 A	29-Oct-21 A	24-Sep-25	24-Sep-25					[Gantt chart bars for Process Design]											
S3D1400	Prepare & Submit E&M Works (Process) Design Drawings	0	06-Jul-20 A	10-Nov-20 A	24-Sep-25	24-Sep-25			S3D1410		[Gantt chart bars for S3D1400]											
S3D1410	Review & Comment on E&M Works (Process) Design Drawings by PM	0	11-Nov-20 A	08-Dec-20 A	24-Sep-25	24-Sep-25		S3D1400	S3D1420		[Gantt chart bars for S3D1410]											
S3D1420	Revise & Re-submit E&M Works (Process) Design Drawings	0	09-Dec-20 A	26-Mar-21 A	24-Sep-25	24-Sep-25		S3D1410	S3D1430		[Gantt chart bars for S3D1420]											
S3D1430	Review & Accept of E&M Works (Process) Design Drawings by PM	0	27-Mar-21 A	29-Oct-21 A	24-Sep-25	24-Sep-25		S3D1420			[Gantt chart bars for S3D1430]											
E&M Design		0	07-Jun-20 A	14-Sep-23 A	11-Nov-22	11-Nov-22					[Gantt chart bars for E&M Design]											
S3D1440	Prepare & Submit General Arrangement Drawings	0	07-Jun-20 A	31-Mar-21 A	11-Nov-22	11-Nov-22		S3P1000	S3D1450, S3C1080		[Gantt chart bars for S3D1440]											
S3D1450	Review & Comment on General Arrangement Drawings by PM	0	01-Apr-21 A	07-May-21 A	11-Nov-22	11-Nov-22		S3D1440	S3D1460		[Gantt chart bars for S3D1450]											
S3D1460	Revise & Re-submit General Arrangement Drawings	0	08-May-21 A	06-Jan-22 A	11-Nov-22	11-Nov-22		S3D1450	S3D1470		[Gantt chart bars for S3D1460]											
S3D1470	Review & Accept of General Arrangement Drawings by PM	0	07-Jan-22 A	14-Sep-23 A	11-Nov-22	11-Nov-22		S3D1460	S3C1995		[Gantt chart bars for S3D1470]											
BS		0	03-Jul-20 A	07-Jul-23 A	11-Nov-22	11-Nov-22					[Gantt chart bars for BS]											
S3D1480	Prepare & Submit BS Works Design & Dwgs for Sidestream Treatment Facilities	0	03-Jul-20 A	10-Dec-20 A	11-Nov-22	11-Nov-22			S3D1490		[Gantt chart bars for S3D1480]											
S3D1490	Review & Comment on BS Works Design & Dwgs for Sidestream Treatment Facilities by PM	0	11-Dec-20 A	11-Jan-21 A	11-Nov-22	11-Nov-22		S3D1480	S3D1500		[Gantt chart bars for S3D1490]											
S3D1500	Revise & Re-submit BS Works Design & Dwgs for Sidestream Treatment Facilities	0	05-Jan-21 A	31-Mar-21 A	11-Nov-22	11-Nov-22		S3D1490	S3D1510		[Gantt chart bars for S3D1500]											
S3D1510	Review & Accept of BS Works Design & Dwgs for Sidestream Treatment Facilities by PM	0	01-Apr-21 A	07-Jul-23 A	11-Nov-22	11-Nov-22		S3D1500	S3S1020		[Gantt chart bars for S3D1510]											
S3D1520	Submission & Submit FS Works Design & Dwgs for Sidestream Treatment Facilities	0	03-Aug-20 A	10-Dec-20 A	11-Nov-22	11-Nov-22			S3D1530		[Gantt chart bars for S3D1520]											
S3D1530	Review & Comment on FS Works Design & Dwgs for Sidestream Treatment Facilities by PM	0	11-Dec-20 A	19-Jan-21 A	11-Nov-22	11-Nov-22		S3D1520	S3D1540		[Gantt chart bars for S3D1530]											
S3D1540	Revise & Re-submit FS Works Design & Dwgs for Sidestream Treatment Facilities	0	20-Jan-21 A	19-Mar-21 A	11-Nov-22	11-Nov-22		S3D1530	S3D1550		[Gantt chart bars for S3D1540]											
S3D1550	Review & Accept of FS Works Design & Dwgs for Sidestream Treatment Facilities by PM	0	20-Mar-21 A	06-Mar-23 A	11-Nov-22	11-Nov-22		S3D1540	S3S1020		[Gantt chart bars for S3D1550]											
Major Plant & Materials Procurement		193	18-Feb-20 A	30-Apr-24	26-Sep-22	23-Jan-24	-98				[Gantt chart bars for Major Plant & Materials Procurement]											
Civil & Structure		0	01-Feb-21 A	19-Apr-22 A	26-Oct-23	26-Oct-23					[Gantt chart bars for Civil & Structure]											
S3P1410	Procurement, Manufacture & Delivery of Piling	0	01-Feb-21 A	14-Apr-21 A	26-Oct-23	26-Oct-23			S3C1040		[Gantt chart bars for S3P1410]											
S3P1420	Procurement, Manufacture & Delivery of Metal Works Material	0	09-May-21 A	07-Jul-21 A	26-Oct-23	26-Oct-23			S3C1080		[Gantt chart bars for S3P1420]											
S3P1430	Procurement, Manufacture & Delivery of Steel Reinforcement	0	11-Mar-22 A	25-Mar-22 A	26-Oct-23	26-Oct-23			S3C1090		[Gantt chart bars for S3P1430]											
S3P1440	Procurement, Manufacture & Delivery of Concrete Mix	0	21-Mar-22 A	19-Apr-22 A	26-Oct-23	26-Oct-23			S3C1090		[Gantt chart bars for S3P1440]											
ABWF		11	01-Sep-23 A	31-Oct-23	15-Oct-23	26-Oct-23	-6				[Gantt chart bars for ABWF]											
S3P1450	Procurement, Manufacture & Delivery of ABWF Works Material	11	01-Sep-23 A	31-Oct-23	15-Oct-23	25-Oct-23	-6		S3C1140		[Gantt chart bars for S3P1450]											
S3P1460	Procurement, Manufacture & Delivery of Water Proofing Material	0	01-Sep-23 A	16-Oct-23 A	26-Oct-23	26-Oct-23			S3C1130		[Gantt chart bars for S3P1460]											
E&M Process		193	20-May-22 A	30-Apr-24	26-Sep-22	04-Jul-23	-301				[Gantt chart bars for E&M Process]											
S3P1470	Manufacture & Delivery of Primary and Secondary Clarifiers for Phospaq	0	20-May-22 A	16-Sep-23 A	31-Mar-23	31-Mar-23			S3C2280, S3C2090		[Gantt chart bars for S3P1470]											
S3P1480	Manufacture & Delivery of Drum sludge thickener	42	31-May-22 A	01-Dec-23	21-Feb-23	03-Apr-23	-242		S3C2240		[Gantt chart bars for S3P1480]											
S3P1490	Manufacture & Delivery of Tilted Plates for Phospaq and Anammox internals	0	11-Jun-22 A	16-Sep-23 A	14-Mar-23	14-Mar-23			S3C2100, S3C2110		[Gantt chart bars for S3P1490]											
S3P1500	Procurement of Air Blower System	0	04-Jul-22 A	08-Aug-22 A	26-Sep-22	26-Sep-22			S3P1510		[Gantt chart bars for S3P1500]											
S3P1510	Manufacture & Delivery of Air Blower System	121	09-Aug-22 A	18-Feb-24	26-Sep-22	24-Jan-23	-390	S3P1500	S3C2310		[Gantt chart bars for S3P1510]											
S3P1520	Procurement of Diffusers for Phospaq and Anammox Internals	0	21-Aug-22 A	02-Dec-22 A	21-Dec-22	21-Dec-22			S3P1950		[Gantt chart bars for S3P1520]											
S3P1530	Procurement of Ancillary Air Blower	0	21-Aug-22 A	02-Dec-22 A	12-Nov-22	12-Nov-22			S3P1970		[Gantt chart bars for S3P1530]											
S3P1540	Procurement of Buffer tank Lifting Pump	0	21-Aug-22 A	27-Sep-22 A	14-Jan-23	14-Jan-23			S3P1760		[Gantt chart bars for S3P1540]											
S3P1550	Procurement of Anammox feed pump and Sludge Discharge pump	0	21-Aug-22 A	27-Sep-22 A	14-Jan-23	14-Jan-23			S3P1770		[Gantt chart bars for S3P1550]											



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Contract No. DE/2018/03
Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1
Sidestream Treatment Facilities and E&M Works for Sludge Treatment Facilities
Revised Programme - as at 20 October 2023

Date	Revision	Checked	Approved
30-Jun-23	Rev.35	IM/LT	KM
31-Jul-23	Rev.36	IM/LT	KM
31-Aug-23	Rev.37	IM/LT	KM
30-Sep-23	Rev.38	IM/LT	KM
31-Oct-23	Rev.39	IM/LT	KM

Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	Gantt Chart (2020-2026)											
S3P1560	Procurement of Metering Pump	0	21-Aug-22 A	14-Oct-22 A	14-Jan-23	14-Jan-23			S3P1850		[Gantt Bar: 21-Aug-22 to 14-Oct-22]											
S3P1570	Procurement of 2nd Sludge Pump	0	21-Aug-22 A	19-Sep-22 A	14-Jan-23	14-Jan-23			S3P1780		[Gantt Bar: 21-Aug-22 to 19-Sep-22]											
S3P1580	Procurement of Struvite Pump	0	21-Aug-22 A	27-Sep-22 A	14-Jan-23	14-Jan-23			S3P1790		[Gantt Bar: 21-Aug-22 to 27-Sep-22]											
S3P1590	Procurement of Primary Sludge Pump	0	21-Aug-22 A	27-Sep-22 A	14-Jan-23	14-Jan-23			S3P1800		[Gantt Bar: 21-Aug-22 to 27-Sep-22]											
S3P1600	Procurement of Drum Thickener Feed Pump	0	21-Aug-22 A	27-Sep-22 A	14-Jan-23	14-Jan-23			S3P1810		[Gantt Bar: 21-Aug-22 to 27-Sep-22]											
S3P1610	Procurement of FRP Tanks (NaOH, Micro-Nutrient, Anti-foamer and Polymer)	0	21-Aug-22 A	25-Nov-22 A	10-Nov-22	10-Nov-22			S3P1930		[Gantt Bar: 21-Aug-22 to 25-Nov-22]											
S3P1620	Procurement of NaOH Dosing Pump	0	21-Aug-22 A	14-Oct-22 A	15-Jan-23	15-Jan-23			S3P1860		[Gantt Bar: 21-Aug-22 to 14-Oct-22]											
S3P1630	Procurement of Micro-Nutrient Dosing Pump	0	21-Aug-22 A	14-Oct-22 A	15-Jan-23	15-Jan-23			S3P1870		[Gantt Bar: 21-Aug-22 to 14-Oct-22]											
S3P1640	Procurement of Anti-foamer Dosing Pump	0	21-Aug-22 A	14-Oct-22 A	15-Jan-23	15-Jan-23			S3P1880		[Gantt Bar: 21-Aug-22 to 14-Oct-22]											
S3P1650	Procurement of Polymer Dosing Pump	0	21-Aug-22 A	27-Sep-22 A	15-Jan-23	15-Jan-23			S3P1750		[Gantt Bar: 21-Aug-22 to 27-Sep-22]											
S3P1660	Procurement of DOU no.4	0	21-Aug-22 A	02-Dec-22 A	05-Dec-22	05-Dec-22			S3P1980		[Gantt Bar: 21-Aug-22 to 02-Dec-22]											
S3P1670	Procurement of SCADA System	0	21-Aug-22 A	10-Nov-22 A	14-Nov-22	14-Nov-22			S3P1910		[Gantt Bar: 21-Aug-22 to 10-Nov-22]											
S3P1680	Procurement of Local control panel parts for Drum Sludge Thickener	0	21-Aug-22 A	02-Dec-22 A	08-Jan-23	08-Jan-23			S3P1990		[Gantt Bar: 21-Aug-22 to 02-Dec-22]											
S3P1690	Procurement of uPVC pipe and GRP Pipe	12	21-Aug-22 A	01-Nov-23	30-Sep-22	11-Oct-22	-386		S3P2020		[Gantt Bar: 21-Aug-22 to 01-Nov-23]											
S3P1700	Procurement of EM Flowmeter	0	21-Aug-22 A	14-Nov-22 A	02-Feb-23	02-Feb-23			S3P1920		[Gantt Bar: 21-Aug-22 to 14-Nov-22]											
S3P1710	Procurement of Instrument	0	21-Aug-22 A	02-Dec-22 A	18-Jan-23	18-Jan-23			S3P2000		[Gantt Bar: 21-Aug-22 to 02-Dec-22]											
S3P1720	Procurement of PAM dosing pump	0	21-Aug-22 A	27-Sep-22 A	15-Jan-23	15-Jan-23			S3P1820		[Gantt Bar: 21-Aug-22 to 27-Sep-22]											
S3P1730	Procurement of Lifting Appliance	0	23-Aug-22 A	16-Sep-22 A	17-Oct-22	17-Oct-22			S3P1740		[Gantt Bar: 23-Aug-22 to 16-Sep-22]											
S3P1740	Manufacture & Delivery of Lifting Appliance	72	17-Sep-22 A	31-Dec-23	17-Oct-22	27-Dec-22	-369	S3P1730	S3C2170, S3C2180, S3C2190, S3C2260, S3C2270, S3C2290		[Gantt Bar: 17-Sep-22 to 31-Dec-23]											
S3P1750	Manufacture & Delivery of Polymer Dosing Pump	0	28-Sep-22 A	15-Sep-23 A	15-Jan-23	15-Jan-23		S3P1650	S3C2200		[Gantt Bar: 28-Sep-22 to 15-Sep-23]											
S3P1760	Manufacture & Delivery of Buffer tank Lifting Pump	0	29-Sep-22 A	04-Sep-23 A	14-Jan-23	14-Jan-23		S3P1540	S3C2000		[Gantt Bar: 29-Sep-22 to 04-Sep-23]											
S3P1770	Manufacture & Delivery of Anammox feed pump and Anammox Sludge pump	0	29-Sep-22 A	15-Sep-23 A	14-Jan-23	14-Jan-23		S3P1550	S3C2020, S3C2040		[Gantt Bar: 29-Sep-22 to 15-Sep-23]											
S3P1780	Manufacture & Delivery of 2nd Sludge Pump	0	29-Sep-22 A	04-Sep-23 A	14-Jan-23	14-Jan-23		S3P1570	S3C2010		[Gantt Bar: 29-Sep-22 to 04-Sep-23]											
S3P1790	Manufacture & Delivery of Struvite Pump	0	29-Sep-22 A	15-Sep-23 A	14-Jan-23	14-Jan-23		S3P1580	S3C2050		[Gantt Bar: 29-Sep-22 to 15-Sep-23]											
S3P1800	Manufacture & Delivery of Primary Sludge Pump	0	29-Sep-22 A	15-Sep-23 A	14-Jan-23	14-Jan-23		S3P1590	S3C2070		[Gantt Bar: 29-Sep-22 to 15-Sep-23]											
S3P1810	Manufacture & Delivery of Drum Thickener Feed Pump	0	29-Sep-22 A	15-Sep-23 A	14-Jan-23	14-Jan-23		S3P1600	S3C2060		[Gantt Bar: 29-Sep-22 to 15-Sep-23]											
S3P1820	Manufacture & Delivery of PAM dosing pump	0	29-Sep-22 A	15-Sep-23 A	15-Jan-23	15-Jan-23		S3P1720	S3C2200		[Gantt Bar: 29-Sep-22 to 15-Sep-23]											
S3P1830	Procurement of PE pipework	0	15-Oct-22 A	11-Feb-23 A	14-Jan-23	14-Jan-23			S3P2060		[Gantt Bar: 15-Oct-22 to 11-Feb-23]											
S3P1840	Procurement of Flushing pump	0	24-Oct-22 A	28-Feb-23 A	02-Nov-22	02-Nov-22			S3P2050		[Gantt Bar: 24-Oct-22 to 28-Feb-23]											
S3P1850	Manufacture & Delivery of Metering Pump	0	31-Oct-22 A	30-Sep-23 A	14-Jan-23	14-Jan-23		S3P1560	S3C2030		[Gantt Bar: 31-Oct-22 to 30-Sep-23]											
S3P1860	Manufacture & Delivery of NaOH Dosing pump	0	31-Oct-22 A	15-Sep-23 A	15-Jan-23	15-Jan-23		S3P1620	S3C2200		[Gantt Bar: 31-Oct-22 to 15-Sep-23]											
S3P1870	Manufacture & Delivery of Micro-Nutrient Dosing Pump	0	31-Oct-22 A	15-Sep-23 A	15-Jan-23	15-Jan-23		S3P1630	S3C2200		[Gantt Bar: 31-Oct-22 to 15-Sep-23]											
S3P1880	Manufacture & Delivery of Anti-foamer Dosing Pump	0	31-Oct-22 A	15-Sep-23 A	15-Jan-23	15-Jan-23		S3P1640	S3C2200		[Gantt Bar: 31-Oct-22 to 15-Sep-23]											
S3P1900	Procurement of Mixer	0	11-Nov-22 A	02-Dec-22 A	23-Feb-23	23-Feb-23			S3P1960		[Gantt Bar: 11-Nov-22 to 02-Dec-22]											
S3P1910	Manufacture & Delivery of SCADA System	87	11-Nov-22 A	15-Jan-24	14-Nov-22	08-Feb-23	-341	S3P1670	S3C2400		[Gantt Bar: 11-Nov-22 to 15-Jan-24]											
S3P1920	Manufacture & Delivery of EM Flowmeter	41	15-Nov-22 A	30-Nov-23	02-Feb-23	14-Mar-23	-261	S3P1700	S3C2430		[Gantt Bar: 15-Nov-22 to 30-Nov-23]											
S3P1930	Manufacture & Delivery of FRP Tanks (NaOH, Micro-Nutrient, Anti-foamer and Polymer)	73	26-Nov-22 A	01-Jan-24	10-Nov-22	21-Jan-23	-345	S3P1610	S3C2210		[Gantt Bar: 26-Nov-22 to 01-Jan-24]											
S3P1940	Procurement of SS pipe and Fittings	0	01-Dec-22 A	25-Jul-23 A	11-Nov-22	11-Nov-22			S3P2070, S3P1945		[Gantt Bar: 01-Dec-22 to 25-Jul-23]											
S3P1945	Procurement of Ductile Iron Pipes and Fittings	0	01-Dec-22 A	30-Jun-23 A	19-Nov-22	19-Nov-22		S3P1940	S3P2160		[Gantt Bar: 01-Dec-22 to 30-Jun-23]											
S3P1950	Manufacture & Delivery of Diffusers for Phospaq and Anammox Internals	104	03-Dec-22 A	01-Feb-24	21-Dec-22	03-Apr-23	-304	S3P1520	S3C2130, S3C2140		[Gantt Bar: 03-Dec-22 to 01-Feb-24]											
S3P1960	Manufacture & Delivery of Mixer	56	03-Dec-22 A	15-Dec-23	23-Feb-23	19-Apr-23	-240	S3P1900	S3C2120		[Gantt Bar: 03-Dec-22 to 15-Dec-23]											
S3P1970	Manufacture & Delivery of Ancillary air blower	98	03-Dec-22 A	26-Jan-24	12-Nov-22	17-Feb-23	-343	S3P1530	S3C2340		[Gantt Bar: 03-Dec-22 to 26-Jan-24]											
S3P1980	Manufacture & Delivery of DOU no.4	90	02-Jan-24*	31-Mar-24	05-Dec-22	04-Mar-23	-393	S3P1660	S3C2300		[Gantt Bar: 02-Jan-24 to 31-Mar-24]											
S3P1990	Manufacture & Delivery of Local control panel parts for Drum Sludge Thickener	56	03-Dec-22 A	15-Dec-23	08-Jan-23	04-Mar-23	-286	S3P1680	S3C2430		[Gantt Bar: 03-Dec-22 to 15-Dec-23]											



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- Remaining Work
- Critical Activity
- Actual Progress
- ◆ Milestone

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Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	Gantt Chart (2020-2026)											
S3P2000	Manufacture & Delivery of Instrument	56	03-Dec-22 A	15-Dec-23	18-Jan-23	14-Mar-23	-276	S3P1710	S3C2430		[Gantt bar: 03-Dec-22 to 15-Dec-23]											
S3P2020	Manufacture & Delivery of uPVC pipe and FRP Pipe	105	02-Nov-23	14-Feb-24	12-Oct-22	24-Jan-23	-386	S3P1690	S3C2250, S3C2350, S3C2150		[Gantt bar: 02-Nov-23 to 14-Feb-24]											
S3P2050	Manufacture & Delivery of Flushing pump	72	30-Mar-23 A	31-Dec-23	02-Nov-22	12-Jan-23	-353	S3P1840	S3C2350, S3T1030, S3C2080		[Gantt bar: 30-Mar-23 to 31-Dec-23]											
S3P2060	Manufacture & Delivery of PE pipework	0	21-Feb-23 A	16-Sep-23 A	14-Jan-23	14-Jan-23		S3P1830	S3C2250, S3C2150, S3C2350		[Gantt bar: 21-Feb-23 to 16-Sep-23]											
S3P2070	Manufacture & Delivery of SS pipe and Fittings	75	26-Sep-23 A	03-Jan-24	11-Nov-22	24-Jan-23	-344	S3P1940	S3C2150, S3C2250, S3C2350		[Gantt bar: 26-Sep-23 to 03-Jan-24]											
S3P2160	Manufacture & Delivery of Ductile Iron Pipes and Fittings	56	21-Jul-23 A	15-Dec-23	19-Nov-22	13-Jan-23	-336	S3P1945	S3C2150, S3C2350, S3C2250		[Gantt bar: 21-Jul-23 to 15-Dec-23]											
S3P2170	Manufacture & Delivery of Actuators	90	01-Feb-24*	30-Apr-24	29-Jan-23	28-Apr-23	-368		S3C2230, S3C2550, S3C2570		[Gantt bar: 01-Feb-24 to 30-Apr-24]											
S3P2180	Manufacture & Delivery of Polymer System	75	01-Feb-24*	15-Apr-24	21-Apr-23	04-Jul-23	-286		S3C2320		[Gantt bar: 01-Feb-24 to 15-Apr-24]											
S3P2190	Manufacture & Delivery of NaOH Tank	62	01-Dec-23*	31-Jan-24	08-Dec-22	08-Feb-23	-358		S3C2160		[Gantt bar: 01-Dec-23 to 31-Jan-24]											
BS		104	18-Feb-20 A	01-Feb-24	07-Dec-22	03-May-23	-274				[Gantt bar: 18-Feb-20 to 01-Feb-24]											
S3P2080	Procurement of Transformer	0	18-Feb-20 A	13-Jul-20 A	20-Dec-22	20-Dec-22			S3P2120		[Gantt bar: 18-Feb-20 to 13-Jul-20]											
S3P2090	Procurement of Low Voltage Switchboard and Accessories	0	21-Nov-20 A	23-Apr-21 A	07-Dec-22	07-Dec-22			S3P2110		[Gantt bar: 21-Nov-20 to 23-Apr-21]											
S3P2100	Procurement of MVAC System	0	08-Mar-23 A	15-Sep-23 A	19-Dec-22	19-Dec-22			S3P2130		[Gantt bar: 08-Mar-23 to 15-Sep-23]											
S3P2110	Manufacture & Delivery of Low Voltage Switchboard and Accessories	74	18-Mar-23 A	02-Jan-24	07-Dec-22	18-Feb-23	-318	S3P2090	S3C2380		[Gantt bar: 18-Mar-23 to 02-Jan-24]											
S3P2120	Manufacture & Delivery of Transformer	41	10-Aug-23 A	30-Nov-23	20-Dec-22	29-Jan-23	-305	S3P2080	S3C2360		[Gantt bar: 10-Aug-23 to 30-Nov-23]											
S3P2130	Manufacture & Delivery of MVAC System	45	01-Dec-23*	14-Jan-24	19-Dec-22	01-Feb-23	-347	S3P2100	S3C2490, S3C2500, S3C2530		[Gantt bar: 01-Dec-23 to 14-Jan-24]											
S3P2140	Procurement, Manufacture & Delivery of BS Works Material	104	05-Oct-23 A	01-Feb-24	20-Jan-23	03-May-23	-274		S3C2420, S3T1270		[Gantt bar: 05-Oct-23 to 01-Feb-24]											
Fitting-out		60	02-Nov-23	31-Dec-23	25-Nov-23	23-Jan-24	23				[Gantt bar: 02-Nov-23 to 31-Dec-23]											
S3P2150	Procurement, Manufacture & Delivery of Fit-out Works Material	60	02-Nov-23*	31-Dec-23	25-Nov-23	23-Jan-24	23	S3D1090	S3C1140		[Gantt bar: 02-Nov-23 to 31-Dec-23]											
Ground Settlement, Tilting & Utility Monitoring		141	12-Dec-20 A	09-Mar-24	03-Apr-24	21-Aug-24	165				[Gantt bar: 12-Dec-20 to 09-Mar-24]											
S3C1000	Ground Settlement, Tilting & Utility Monitoring	141	12-Dec-20 A	09-Mar-24	03-Apr-24	21-Aug-24	165	S3C1010	SC31120		[Gantt bar: 12-Dec-20 to 09-Mar-24]											
Civil Works Construction		705	30-Sep-20 A	24-Sep-25	17-Sep-22	21-Aug-24	-399				[Gantt bar: 30-Sep-20 to 24-Sep-25]											
S3C1010	Site Clearance & Survey	0	30-Sep-20 A	12-Dec-20 A	26-Oct-23	26-Oct-23		S3D1240, AD1140, S3P1090	S3C1020, S3C1000		[Gantt bar: 30-Sep-20 to 12-Dec-20]											
S3C1020	Ground Investigation	0	12-Dec-20 A	18-Jan-21 A	26-Oct-23	26-Oct-23		AD1140, S3C1010, S3P1170, S3D1230	S3C1030		[Gantt bar: 12-Dec-20 to 18-Jan-21]											
S3C1030	Pre-drilling Works	0	22-Feb-21 A	19-Mar-21 A	26-Oct-23	26-Oct-23		S3C1020, S3P1250, S3P1330	S3C1040		[Gantt bar: 22-Feb-21 to 19-Mar-21]											
S3C1040	Minor Civil Works & Preperation Works for Piling	0	20-Mar-21 A	20-May-21 A	26-Oct-23	26-Oct-23		S3C1030, S3P1410	S3C1050		[Gantt bar: 20-Mar-21 to 20-May-21]											
S3C1050	Piling Works (Impacted by Inclement Weather)	0	21-May-21 A	21-Aug-21 A	26-Oct-23	26-Oct-23		S3C1040	S3C1060		[Gantt bar: 21-May-21 to 21-Aug-21]											
S3C1060	Post-drilling, Proof test & remaining works (Impacted by Inclement Weather)	0	22-Aug-21 A	17-Sep-21 A	26-Oct-23	26-Oct-23		S3C1050	S3C1080, S3C1070		[Gantt bar: 22-Aug-21 to 17-Sep-21]											
S3C1070	Site Set-up / Mobilisation (Impacted by Inclement Weather)	0	18-Sep-21 A	20-Nov-21 A	26-Oct-23	26-Oct-23		S3C1060, S3P1400	S3C1080		[Gantt bar: 18-Sep-21 to 20-Nov-21]											
S3C1080	Excavation / ELS (Impacted by Inclement Weather)	0	24-Nov-21 A	31-Aug-22 A	26-Oct-23	26-Oct-23		S3D1440, S3P1420, S3D1390, S3C1060, S3C1070	S3C1090		[Gantt bar: 24-Nov-21 to 31-Aug-22]											



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S3C1090	Pile Caps installation & Basement Slab	0	01-Sep-22 A	11-Feb-23 A	26-Oct-23	26-Oct-23		S3C1080, S3P1440, S3P1430, S3D1190	S3C1130								
S3C1100	Construction of Basement up to G/F Slab	0	12-Feb-23 A	29-Aug-23 A	17-Sep-22	17-Sep-22		S3D1350, S3S1010	S3C1110, S3C1130, S3C1995								
S3C1110	Construction of G/F up to 1/F Slab	18	30-Aug-23 A	07-Nov-23	17-Sep-22	04-Oct-22	-399	S3C1100	S3C1120, S3C1130, S3C2155, S3C1125								
S3C1120	Construction of 1/F up to Roof	47	08-Nov-23	24-Dec-23	09-Dec-22	24-Jan-23	-334	S3C1110	S3C1130, S3C2285								
S3C1125	Water tightness Test for all concrete tank	60	13-Nov-23*	11-Jan-24	19-Feb-23	19-Apr-23	-267	S3C1110	S3C2120								
S3C1130	Waterproofing	45	25-Dec-23	07-Feb-24	26-Oct-23	09-Dec-23	-60	S3P1460, S3C1120, S3C1090, S3C1100, S3C1110	S3C1140								
S3C1140	External & Internal Finishes - 1st Fix (Blockwork, Plastering, Wet Trade)	90	25-Dec-23	23-Mar-24	26-Oct-23	23-Jan-24	-60	S3C1130, S3P1450, S3D1090, S3D1130, S3P2150	S3C1150, S3C1160								
S3C1150	External & Internal Finishes - 2nd Fix (Ceiling / Wall / Floor Finishing, Door)	90	24-Mar-24	21-Jun-24	24-Jan-24	22-Apr-24	-60	S3C1140	S3S1170, S3C1160, PL1190, SC31120								
S3C1160	Landscaping Works	120	28-May-25	24-Sep-25	24-Apr-24	21-Aug-24	-399	S3C1140, S3C1150	SC31120								
E&M Installation		174	08-Sep-23 A	05-Jun-24	11-Nov-22	22-Jul-24	47										
Mechanical Installations		156	08-Sep-23 A	05-Jun-24	11-Nov-22	22-Jul-24	47										
Basement		156	08-Sep-23 A	05-Jun-24	11-Nov-22	19-May-23	-383										
S3C1995	Access to Sidestream Treatment Facilities (B/F)	0	08-Oct-23 A			11-Nov-22		S3C1100, S3D1470	S3C2000, S3C2450, S3C2460								
S3C2000	Installation of Buffer Tank Lifting pumps (3 nos.)	0	08-Oct-23 A	14-Oct-23 A	14-Jan-23	14-Jan-23		S3P1760, S3C1995	S3C2020, S3C2150, S3T1030, S3C2010								
S3C2010	Installation of Secondary Clarifier Sludge discharge pumps (3 nos.)	0	08-Sep-23 A	14-Sep-23 A	14-Jan-23	14-Jan-23		S3P1780, S3C2000	S3C2030, S3C2150, S3T1030								
S3C2020	Installation of Anammox Feed pumps (3 nos.)	0	08-Oct-23 A	14-Oct-23 A	14-Jan-23	14-Jan-23		S3C2000, S3P1770	S3C2040, S3C2150, S3T1030								
S3C2030	Installation of Metering Pumps (2 nos.)	0	08-Oct-23 A	14-Oct-23 A	14-Jan-23	14-Jan-23		S3C2010, S3P1850	S3C2050, S3C2150, S3T1030								
S3C2040	Installation of Anammox Sludge discharge pumps (2 nos.)	0	08-Oct-23 A	14-Oct-23 A	14-Jan-23	14-Jan-23		S3C2020, S3P1770	S3C2060, S3C2150, S3T1030								
S3C2050	Installation of Struvite Pumps (3 nos.)	0	08-Oct-23 A	14-Oct-23 A	14-Jan-23	14-Jan-23		S3C2030, S3P1790	S3C2070, S3C2150, S3T1030								
S3C2060	Installation of Thickener feed pumps (2 nos.)	0	08-Oct-23 A	14-Oct-23 A	14-Jan-23	14-Jan-23		S3C2040, S3P1810	S3C2080, S3C2150, S3T1030								
S3C2070	Installation of Primary Clarifier sludge discharge pump (3 nos.)	0	08-Oct-23 A	14-Oct-23 A	14-Jan-23	14-Jan-23		S3C2050, S3P1800	S3C2150, S3T1030								



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31-Aug-23	Rev.37	IM/LT	KM
30-Sep-23	Rev.38	IM/LT	KM
31-Oct-23	Rev.39	IM/LT	KM

Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	Gantt Chart (2020-2026)																																																
S3C2080	Installation of Flushing Pump (2 nos.)	7	02-Jan-24	08-Jan-24	14-Jan-23	20-Jan-23	-353	S3C2060, S3P2050	S3C2150, S3C2240, S3T1030		[Gantt Chart]																																																
S3C2090	Installation of Secondary Clarifiers No.1 and 2	30	16-Apr-24	15-May-24	31-Mar-23	29-Apr-23	-382	S3P1470, S3C2180	S3T1110		[Gantt Chart]																																																
S3C2100	Installation of Separator for Phospaq No.1 and 2	21	16-Apr-24	06-May-24	14-Mar-23	03-Apr-23	-399	S3P1490, S3C2180	S3C2130, S3T1140		[Gantt Chart]																																																
S3C2110	Installation of Separator for Anammox No. 1 and 2	34	02-Mar-24	04-Apr-24	31-Mar-23	03-May-23	-337	S3P1490, S3C2260, S3C2270	S3T1150		[Gantt Chart]																																																
S3C2120	Installation of Mixer for Thickened Sludge Tank, Sludge Mixing Tank, Anammox Effluent Chamber and Filtrate Buffer Tank	14	16-May-24	29-May-24	20-Apr-23	03-May-23	-392	S3P1960, S3C2190, S3C1125	S3T1090		[Gantt Chart]																																																
S3C2130	Installation of Diffusers and pipework for Phospaq	30	07-May-24	05-Jun-24	04-Apr-23	03-May-23	-399	S3P1950, S3C2100	S3T1140, S3C2140		[Gantt Chart]																																																
S3C2140	Installation of Diffusers and pipework for Anammox	30	07-May-24	05-Jun-24	04-Apr-23	03-May-23	-399	S3P1950, S3C2130	S3T1150		[Gantt Chart]																																																
S3C2150	Installation of Pipeworks, Associate Valves and Fittings	90	02-Jan-24	31-Mar-24	14-Jan-23	13-Apr-23	-353	S3C2000, S3C2010, S3C2020, S3C2030, S3C2040, S3C2050, S3C2060, S3C2070, S3C2080, S3P2060, S3P2070, S3P2020, S3P2160	S3T1000, S3T1070, S3T1140, S3T1150, S3C2220, S3C2430		[Gantt Chart]																																																
S3C2220	Installation of Instruments	30	02-Mar-24	31-Mar-24	04-Apr-23	03-May-23	-333	S3C2150	S3T1154		[Gantt Chart]																																																
S3C2230	Installation of Actuator	21	01-May-24	21-May-24	29-Apr-23	19-May-23	-368	S3P2170	S3T1164		[Gantt Chart]																																																
G/F		111	01-Feb-24	21-May-24	29-Dec-22	03-Aug-23	-292					[Gantt Chart]																																															
S3C2155	Access to Sidestream Treatment Facilities (G/F)	0	01-Feb-24*		29-Dec-22		-399	S3C1110	S3C2200, S3C2170, S3C2210, S3C2240, S3C2250, S3C2160, S3C2280, S3C2360, S3C2260		[Gantt Chart]																																																
S3C2160	E&M installation of DG Plant Room (NaOH tank and FRP platform)	60	19-Feb-24*	18-Apr-24	08-Feb-23	09-Apr-23	-376	S3C2155, S3S1100, S3P2190	S3S1110		[Gantt Chart]																																																
S3C2170	Installation of EOT crane (LA-01)	45	02-Mar-24	15-Apr-24	28-Jan-23	13-Mar-23	-399	S3P1740, S3C2155, S3C2270	S3C2180, S3C2190, S3T1285, S3C2280		[Gantt Chart]																																																
S3C2180	Installation of EOT crane (LA-02)	45	02-Mar-24	15-Apr-24	28-Jan-23	13-Mar-23	-399	S3C2170, S3P1740	S3T1285, S3C2090, S3C2100		[Gantt Chart]																																																
S3C2190	Installation of Monorail (LA-03)	30	16-Apr-24	15-May-24	21-Mar-23	19-Apr-23	-392	S3P1740, S3C2170	S3C2120, S3T1285, S3C2290		[Gantt Chart]																																																
S3C2200	Installation of NaOH Dosing Pumps, Micro-Nutrient Dosing Pumps, Defoamer Dosing Pumps and PAM Dosing Pumps (12 nos.)	14	01-Feb-24	14-Feb-24	15-Jan-23	28-Jan-23	-382	S3P1860, S3P1870, S3P1880, S3P1820, S3C2155, S3P1750	S3C2250, S3T1030, S3T1020, S3C2210, S3C2250		[Gantt Chart]																																																

	File Name: DE/2018/03 RP R39 Layout: DE1803 RP (Oct 2023) - WBS Page 31 of 67	 Remaining Work  Critical Activity  Milestone  Actual Progress	Contract No. DE/2018/03 Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 Sidestream Treatment Facilities and E&M Works for Sludge Treatment Facilities Revised Programme - as at 20 October 2023				Date	Revision	Checked	Approved
					30-Jun-23	Rev.35	IM/LT	KM		
					31-Jul-23	Rev.36	IM/LT	KM		
					31-Aug-23	Rev.37	IM/LT	KM		
					30-Sep-23	Rev.38	IM/LT	KM		
				31-Oct-23	Rev.39	IM/LT	KM			

Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	Gantt Chart (2020-2026)											
S3C2210	Installation of Deformer dissolving Tank, Micro-nutrient tank and mixer	7	01-Feb-24	07-Feb-24	22-Jan-23	28-Jan-23	-375	S3P1930, S3C2155, S3C2200	S3C2250, S3T1020, S3C2250		[Gantt Chart: 2020-2026]											
S3C2240	Installation of Drum Sludge Thickener System (Including mixing valves, flocculation reactors)	30	01-Feb-24	01-Mar-24	04-Apr-23	03-May-23	-303	S3P1480, S3C2080, S3C2155	S3T1040		[Gantt Chart: 2020-2026]											
S3C2250	Installation of Pipeworks, Associate Valves and Fittings	75	19-Feb-24	03-May-24	29-Jan-23	13-Apr-23	-386	S3C2200, S3C2210, S3P2060, S3P2070, S3P2020, S3C2155, S3P2160, S3C2200, S3C2210	S3T1000, S3C2430, S3T1070, S3C2540		[Gantt Chart: 2020-2026]											
S3C2260	Installation of Monorail (LA-04)	30	01-Feb-24	01-Mar-24	29-Dec-22	27-Jan-23	-399	S3P1740, S3C2155	S3C2270, S3T1285, S3C2110		[Gantt Chart: 2020-2026]											
S3C2270	Installation of Monorail (LA-05)	30	01-Feb-24	01-Mar-24	29-Dec-22	27-Jan-23	-399	S3P1740, S3C2260	S3T1285, S3C2170, S3C2110		[Gantt Chart: 2020-2026]											
S3C2280	Installation of Primary Clarifiers No.1 and 2	30	16-Apr-24	15-May-24	04-Apr-23	03-May-23	-378	S3P1470, S3C2155, S3C2170	S3T1100		[Gantt Chart: 2020-2026]											
S3C2320	Installation of Polymer System	30	16-Apr-24	15-May-24	05-Jul-23	03-Aug-23	-286	S3P2180	S3T1020		[Gantt Chart: 2020-2026]											
S3C2540	Installation of Instruments	30	04-Apr-24	03-May-24	04-Apr-23	03-May-23	-366	S3C2250	S3T1154		[Gantt Chart: 2020-2026]											
S3C2550	Installation of Actuator	21	01-May-24	21-May-24	29-Apr-23	19-May-23	-368	S3P2170	S3T1164		[Gantt Chart: 2020-2026]											
1/F		120	01-Feb-24	30-May-24	25-Jan-23	22-Jul-24	53				[Gantt Chart: 2020-2026]											
S3C2285	Access to Sidestream Treatment Facilities (1/F)	0	01-Feb-24*		25-Jan-23		-372	S3C1120	S3C2290, S3C2300, S3C2310, S3C2340, S3C2350, S3T1030		[Gantt Chart: 2020-2026]											
S3C2290	Installation of EOT crane (LA-06)	45	16-Apr-24	30-May-24	08-Jun-24	22-Jul-24	53	S3P1740, S3C2285, S3C2190	S3T1285		[Gantt Chart: 2020-2026]											
S3C2300	Installation of Deodorisation System (DOU) No.4	45	01-Apr-24	15-May-24	05-Mar-23	18-Apr-23	-393	S3P1980, S3C2285	S3T1080		[Gantt Chart: 2020-2026]											
S3C2310	Installation of Air Blower System	45	19-Feb-24	03-Apr-24	25-Jan-23	10-Mar-23	-390	S3P1510, S3C2285	S3C2340, S3T1060		[Gantt Chart: 2020-2026]											
S3C2340	Installation of Ancillary Air Blower	45	19-Feb-24	03-Apr-24	18-Feb-23	03-Apr-23	-366	S3P1970, S3C2310, S3C2285	S3T1060, S3C2350		[Gantt Chart: 2020-2026]											
S3C2350	Installation of Pipeworks, Associate Valves and Fittings	45	19-Feb-24	03-Apr-24	28-Feb-23	13-Apr-23	-356	S3P2060, S3P2070, S3P2020, S3C2285, S3P2160, S3P2050, S3C2340	S3T1000, S3T1070, S3C2560, S3C2430		[Gantt Chart: 2020-2026]											
S3C2560	Installation of Instruments	30	05-Mar-24	03-Apr-24	04-Apr-23	03-May-23	-336	S3C2350	S3T1154		[Gantt Chart: 2020-2026]											
S3C2570	Installation of Actuator	21	01-May-24	21-May-24	29-Apr-23	19-May-23	-368	S3P2170	S3T1164		[Gantt Chart: 2020-2026]											
Electrical Installations		135	14-Jan-24	27-May-24	11-Dec-22	25-Apr-24	-32				[Gantt Chart: 2020-2026]											
S3C2360	Installation of Transformer room	55	01-Feb-24	26-Mar-24	30-Jan-23	25-Mar-23	-367	S3P2120, S3C2155	S3C2380, S3T1125		[Gantt Chart: 2020-2026]											
S3C2370	Installation of Electrical system - Cable Containment	60	14-Jan-24	13-Mar-24	11-Dec-22	08-Feb-23	-399	S3C2490	S3C2390, S3T1280, S3C2410, S3C2400		[Gantt Chart: 2020-2026]											



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Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1
Sidestream Treatment Facilities and E&M Works for Sludge Treatment Facilities
Revised Programme - as at 20 October 2023

Date	Revision	Checked	Approved
30-Jun-23	Rev.35	IM/LT	KM
31-Jul-23	Rev.36	IM/LT	KM
31-Aug-23	Rev.37	IM/LT	KM
30-Sep-23	Rev.38	IM/LT	KM
31-Oct-23	Rev.39	IM/LT	KM

Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	2020	2021	2022	2023	2024	2025	2026
S3C2380	Installation of LV Switchroom	60	21-Feb-24	20-Apr-24	19-Feb-23	19-Apr-23	-367	S3P2110, S3C2360	S3C2410, S3T1120								
S3C2390	Installation of Electrical system - Wall Mount Equipment, Conduit & Wiring	60	13-Feb-24	12-Apr-24	27-Jan-24	26-Mar-24	-17	S3C2370	S3C2440, S3T1280								
S3C2400	Installation of SCADA system	60	14-Mar-24	12-May-24	09-Feb-23	09-Apr-23	-399	S3C2370, S3P1910	S3T1050								
S3C2410	Power Cable laying and Termination	30	22-Feb-24	22-Mar-24	04-May-23	02-Jun-23	-294	S3C2380, S3C2370	S3T1160								
S3C2420	Installation of Gas Detection System	50	04-Apr-24	23-May-24	15-Mar-23	03-May-23	-386	S3P2140, S3C2430	S3T1152								
S3C2430	Installation of Online Monitoring instrument / Level Control Equipment	30	04-Apr-24	03-May-24	15-Mar-23	13-Apr-23	-386	S3P2000, S3P1920, S3P1990, S3C2250, S3C2350, S3C2150	S3C2420, S3T1154								
S3C2440	Installation of Electrical system - Lighting and Small Power Accessories	30	13-Apr-24	12-May-24	27-Mar-24	25-Apr-24	-17	S3C2390	S3T1280								
S3C2580	Installation of UPS	7	21-May-24	27-May-24	20-May-23	26-May-23	-367	S5P1090	S3T1174								
BS Equipment Installation		150	15-Dec-23	12-May-24	11-Nov-22	25-Apr-24	-17										
S3C2450	Installation of P&D System - Main Pipework	75	15-Dec-23	27-Feb-24	11-Nov-22	24-Jan-23	-399	S3C2460, S3S1020, S3C1995	S3C2470, S3C2490, S3T1250								
S3C2460	Installation of FS system - Main Pipework	75	15-Dec-23*	27-Feb-24	11-Nov-22	24-Jan-23	-399	S3S1020, S3C1995	S3C2480, S3C2450, S3T1240								
S3C2470	Installation of P&D System - Branch Pipework	50	08-Feb-24	28-Mar-24	28-Dec-23	15-Feb-24	-42	S3C2450	S3C2510, S3T1250								
S3C2480	Installation of FS system - Branch Pipework, Conduit & Wiring	50	08-Feb-24	28-Mar-24	28-Dec-23	15-Feb-24	-42	S3C2460	S3C2520, S3T1240								
S3C2490	Installation of MVAC system - Ceiling Mount Equipment, Main Ductwork & Pipework	60	14-Jan-24	13-Mar-24	11-Dec-22	08-Feb-23	-399	S3C2450, S3P2130	S3C2500, S3T1260, S3C2370								
S3C2500	Installation of MVAC system - Wall Mount Equipment, Branch Duct & pipework	50	23-Feb-24	12-Apr-24	06-Feb-24	26-Mar-24	-17	S3C2490, S3P2130	S3C2530, S3T1260								
S3C2510	Installation of P&D System - Sanitary Fitting	30	29-Mar-24	27-Apr-24	16-Feb-24	16-Mar-24	-42	S3C2470	S3T1250, S3S1030								
S3C2520	Installation of FS system - Dropper, Sprinkler Head, Detector & Devices	30	29-Mar-24	27-Apr-24	16-Feb-24	16-Mar-24	-42	S3C2480	S3T1240, S3S1030								
S3C2530	Installation of MVAC system - Air Grills & Diffuser	30	13-Apr-24	12-May-24	27-Mar-24	25-Apr-24	-17	S3C2500, S3P2130	S3T1260								
Testing & Commissioning		594	09-Feb-24	24-Sep-25	26-Jan-23	24-Sep-25	0										
For KD3A- Completion of Phase 1 Commissioning - 15 Jan 2024		328	09-Feb-24	01-Jan-25	26-Jan-23	24-Sep-25	266										
SAT of Sidestream Facilities		158	09-Feb-24	15-Jul-24	26-Jan-23	02-Sep-23	-317										
S3T1000	Pipe Pressure Test	100	09-Feb-24	18-May-24	26-Jan-23	05-May-23	-379	S3C2150, S3C2250, S3C2350	S3T1170, S3T1070								
S3T1020	SAT for Chemical Dosing system (i.e.NaOH, Micro-Nutrient and Defoamer)	30	16-Jun-24	15-Jul-24	04-Aug-23	02-Sep-23	-317	S3C2210, S3C2200, S3T1130, S3C2320	S3T1170								



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Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	2020	2021	2022	2023	2024	2025	2026
S3T1030	Dry Test for Pumps	14	11-Feb-24	24-Feb-24	22-Apr-23	05-May-23	-295	S3C2000, S3C2010, S3C2020, S3C2030, S3C2040, S3C2050, S3C2060, S3C2070, S3C2080, S3C2200, S3P2050, S3C2285	S3T1070, S3T1050								
S3T1040	SAT for Drum Sludge Thickener System	30	02-Mar-24	31-Mar-24	04-May-23	02-Jun-23	-303	S3C2240	S3T1170, S3T1050								
S3T1050	SAT for SCADA System (STF)	54	13-May-24	05-Jul-24	10-Apr-23	02-Jun-23	-399	S3C2400, S3T1030, S3T1040, S3T1060, S3T1080, S3T1090, S3T1100, S3T1110, S3T1120, S3T1130, S3T1140, S3T1150, S3T1152, S3T1154, S3T1174	S3T1170								
S3T1060	SAT for Air blowers and Ancillary Air Blower	30	28-Apr-24	27-May-24	04-Apr-23	03-May-23	-390	S3C2310, S3C2340	S3T1170, S3T1050, S3T1140, S3T1150								
S3T1070	Wet Test for Pumps	14	19-May-24	01-Jun-24	06-May-23	19-May-23	-379	S3T1030, S3C2350, S3C2250, S3C2150, S3T1000	S3T1130								
S3T1080	SAT for DOU no.4	45	16-May-24	29-Jun-24	19-Apr-23	02-Jun-23	-393	S3C2300	S3T1170, S3T1050								
S3T1090	SAT for mixer	30	30-May-24	28-Jun-24	04-May-23	02-Jun-23	-392	S3C2120	S3T1170, S3T1050								
S3T1100	SAT for Primary clarifier	30	16-May-24	14-Jun-24	04-May-23	02-Jun-23	-378	S3C2280	S3T1170, S3T1050								
S3T1110	SAT for Secondary clarifier	30	20-May-24	18-Jun-24	04-May-23	02-Jun-23	-382	S3C2090	S3T1170, S3T1050								
S3T1120	SAT for LV Switchboard	30	21-Apr-24	20-May-24	20-Apr-23	19-May-23	-367	S3C2380	S3T1160, S3T1140, S3T1150, S3T1050								
S3T1125	SAT for Transformer	14	27-Mar-24	09-Apr-24	20-May-23	02-Jun-23	-312	S3C2360	S3T1160								
S3T1130	Functional Test for Pumps	14	02-Jun-24	15-Jun-24	20-May-23	02-Jun-23	-379	S3T1070	S3T1170, S3T1050, S3T1020								
S3T1140	SAT for Phospaq Reactor	30	06-Jun-24	05-Jul-24	04-May-23	02-Jun-23	-399	S3C2130, S3C2100, S3C2150, S3T1120, S3T1060	S3T1170, S3T1050								



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Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	2020	2021	2022	2023	2024	2025	2026
S3T1280	SAT for Electrical System (BS)	30	13-May-24	11-Jun-24	26-Apr-24	25-May-24	-17	S3C2370, S3C2390, S3C2440	S3S1170								
S3T1285	SAT for Lifting Appliance	30	31-May-24	29-Jun-24	23-Jul-24	21-Aug-24	53	S3C2170, S3C2180, S3C2190, S3C2290, S3C2260, S3C2270	SC31120								
S3T1290	Phase 1 Post Commissioning with daily result to PM	17	12-Dec-24	28-Dec-24	09-Nov-23	25-Nov-23	-399	S3T1220	S3T1320, S3T1330								
S3T1300	Submission & Acceptance of Phase 1 Commissioning Tests Report	30	12-Dec-24	10-Jan-25	12-May-24	10-Jun-24	-214	S3T1220	S3T1350, S3T1330								
S3T1310	THP digested sludge centrate from Zone C Ready	0		28-Dec-24		25-Nov-23	-399		S3T1320								
S3T1315	Notice for Commencement of Phase 2 Commissioning Tests	7	05-Dec-24	11-Dec-24	19-Nov-23	25-Nov-23	-382	S3T1220	S3T1320								
S3T1320	Phase 2 Commissioning Tests with daily result to PM	221	29-Dec-24	06-Aug-25	26-Nov-23	03-Jul-24	-399	S3T1340, S3T1220, S5T1120, S5T1180, S3T1310, S3T1290, S3T1315	S3T1350, S3T1370, S3T1365								
S3T1330	Submission & Acceptance of Phase 1 Post Commissioning Report	30	11-Jan-25	09-Feb-25	11-Jun-24	10-Jul-24	-214	S3T1300, S3T1290	S3T1350								
S3T1340	Ready to Process start up of the first Anaerobic Digester in Zone C	0	29-Dec-24		26-Nov-23		-399	S5T1120	S3T1320, S3T1350								
S3T1350	Submission & Acceptance of Phase 2 Commissioning Tests Report	30	07-Aug-25	05-Sep-25	11-Jul-24	09-Aug-24	-392	S3T1320, S3T1340, S3T1300, S3T1220, S3T1330	S3T1380								
S3T1360	Commissioning of new Anaerobic Digesters (2 nos.) in Zone C Finished	0		06-Aug-25		03-Jul-24	-399	S5T1180	S3T1370, S3T1365								
S3T1365	Notice for Commencement of Phase 3 Commissioning Tests	7	07-Aug-25	13-Aug-25	04-Jul-24	10-Jul-24	-399	S3T1360, S3T1320	S3T1370								
S3T1370	Phase 3 Commissioning Tests with daily result to PM	30	14-Aug-25	12-Sep-25	11-Jul-24	09-Aug-24	-399	S3T1360, S3T1320, S3T1365	S3T1380								
S3T1380	Submission & Acceptance of Phase 3 Commissioning Tests Report	12	13-Sep-25	24-Sep-25	10-Aug-24	21-Aug-24	-399	S3T1370, S3T1350	SC31120								
Statutory Submission / Inspection (FSD)		381	12-Jan-21 A	04-Nov-24	17-Sep-22	21-Aug-24	-75										
S3S1000	Prepare & Submit GBP for FSD approval	0	12-Jan-21 A	10-Feb-21 A	17-Sep-22	17-Sep-22			S3S1010								
S3S1010	FSD Review & Approval of GBP	0	11-Feb-21 A	11-Jun-21 A	17-Sep-22	17-Sep-22		S3S1000	S3S1150, S3C1100								
S3S1020	Submit WWO46 Part I/II to WSD (FS / PD)	0	15-Dec-23		11-Nov-22		-399	S3D1550, S3D1510	S3C2460, S3C2450								
S3S1030	Submit WWO46 Part IV to WSD (FS / PD)	0	28-Apr-24		17-Mar-24		-42	S3C2510, S3C2520	S3S1040								
S3S1040	WSD Inspection	7	12-May-24	18-May-24	31-Mar-24	06-Apr-24	-42	S3S1030	S3S1060, S3S1050								
S3S1050	Issuance of FS Water Certificate	0		01-Jun-24		20-Apr-24	-42	S3S1040	S3S1150								
S3S1060	Issuance of Form WWO46 Part Va	0		01-Jun-24		23-Jun-24	22	S3S1040	S3S1080, S3S1070								
S3S1070	System Flushing / Sampling	45	02-Jun-24	16-Jul-24	24-Jun-24	07-Aug-24	22	S3S1060	S3S1080								
S3S1080	Issuance of Form WWO46 Part Vb	0		16-Jul-24		07-Aug-24	22	S3S1060, S3S1070	S3S1090								
S3S1090	Issuance of Water Certificate	0		30-Jul-24		21-Aug-24	22	S3S1080	SC31120								
S3S1100	Submission & Approval of DG Application to FSD	42	29-Apr-22 A	01-Dec-23	28-Dec-22	08-Feb-23	-297		S3C2160								
S3S1110	Submit Application to FSD for DG Licence	0	19-Apr-24		09-Apr-23		-376	S3C2160	S3S1120, S5S1270								



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30-Sep-23	Rev.38	IM/LT	KM
31-Oct-23	Rev.39	IM/LT	KM

Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	Gantt Chart (2020-2026)											
S3S1120	D.G. Inspection, Defects Rectification & Re-inspection (Ventilation Division)	21	10-May-24	30-May-24	25-Feb-24	16-Mar-24	-75	S3S1110	S3S1130		[Gantt Chart: S3S1120 bar from May 2024 to May 2024]											
S3S1130	D.G. Inspection, Defects Rectification & Re-inspection (DG Division)	21	31-May-24	20-Jun-24	17-Mar-24	06-Apr-24	-75	S3S1120	S3S1140		[Gantt Chart: S3S1130 bar from May 2024 to Jun 2024]											
S3S1140	DG Licence issued	0		04-Jul-24		20-Apr-24	-75	S3S1130	S3S1150		[Gantt Chart: S3S1140 milestone diamond at Jul 2024]											
S3S1150	Prepare & Submit FS/314, FS/501 & FS/501a	14	05-Jul-24	18-Jul-24	21-Apr-24	04-May-24	-75	S3S1010, S3S1140, S3S1050, S3T1270	S3S1160		[Gantt Chart: S3S1150 bar from Jul 2024 to Jul 2024]											
S3S1160	FSD Review & Approval of FS/314, FS/501 & FS/501a	21	19-Jul-24	08-Aug-24	05-May-24	25-May-24	-75	S3S1150	S3S1170		[Gantt Chart: S3S1160 bar from Jul 2024 to Aug 2024]											
S3S1170	F.S. Inspection, Defects Rectification & Re-inspection	60	09-Aug-24	07-Oct-24	26-May-24	24-Jul-24	-75	S3S1160, S3C1150, S3T1240, S3T1250, S3T1260, S3T1280	S3S1180		[Gantt Chart: S3S1170 bar from Aug 2024 to Oct 2024]											
S3S1180	Issuance of Acceptance Letter	28	08-Oct-24	04-Nov-24	25-Jul-24	21-Aug-24	-75	S3S1170	SC31120		[Gantt Chart: S3S1180 bar from Oct 2024 to Nov 2024]											
Section 4 - Complete Construction & T&C for UV System No.1 & EP		0	18-Apr-20 A	14-Sep-22 A	06-Jan-23	24-Sep-25					[Gantt Chart: Section 4 bar from Apr 2020 to Sep 2025]											
Major Plant & Materials Fabrication & Delivery		0	18-Apr-20 A	16-Mar-22 A	06-Jan-23	24-Sep-25					[Gantt Chart: Major Plant & Materials bar from Apr 2020 to Sep 2025]											
S4P1000	Procurement & PO for FRP Cover	0	18-Apr-20 A	31-May-21 A	15-Apr-23	15-Apr-23		PL1010	S4P1090		[Gantt Chart: S4P1000 bar from Apr 2020 to May 2021]											
S4P1010	Procurement & PO for Pipeworks & Associated Valves	0	25-Apr-20 A	15-Jul-20 A	06-Jan-23	06-Jan-23		S1D1000	S4P1130		[Gantt Chart: S4P1010 bar from Apr 2020 to Jul 2020]											
S4P1020	Procurement & PO for Elec. Materials	0	18-Jul-20 A	22-Jun-21 A	24-Sep-25	24-Sep-25		S1D1130	S4P1140		[Gantt Chart: S4P1020 bar from Jul 2020 to Jun 2021]											
S4P1030	Procurement & PO for FS System	0	02-Jul-20 A	04-Dec-20 A	24-Sep-25	24-Sep-25		S1D1330	S4P1150		[Gantt Chart: S4P1030 bar from Jul 2020 to Dec 2020]											
S4P1040	Fabrication of UV Disinfection System	0	18-Jan-21 A	17-Sep-21 A	05-Feb-23	05-Feb-23		S1P1000, KD1000, S1D1210	S4C1080, S4P1050		[Gantt Chart: S4P1040 bar from Jan 2021 to Sep 2021]											
S4P1050	FAT for UV Disinfection System	0	23-Jul-21 A	17-Sep-21 A	05-Feb-23	05-Feb-23		S4P1040	S4P1060		[Gantt Chart: S4P1050 bar from Jul 2021 to Sep 2021]											
S4P1060	Delivery of UV Disinfection System	0	01-Jun-21 A	22-Oct-21 A	05-Feb-23	05-Feb-23		S4P1050	S4C1080		[Gantt Chart: S4P1060 bar from Jun 2021 to Oct 2021]											
S4P1070	Fabrication & Delivery of Lift-up Pumps	0	11-Jan-21 A	26-Jul-21 A	06-Jan-23	06-Jan-23		S1P1010, S1D1290	S4C1040		[Gantt Chart: S4P1070 bar from Jan 2021 to Jul 2021]											
S4P1080	Fabrication & Delivery of Transfer Pumps	0	26-Feb-21 A	26-Jul-21 A	15-Apr-23	15-Apr-23		S1P1020, S1D1290	S5UVPC1000		[Gantt Chart: S4P1080 bar from Feb 2021 to Jul 2021]											
S4P1090	Fabrication & Delivery of FRP Cover	0	01-Nov-21 A	16-Mar-22 A	15-Apr-23	15-Apr-23		S1D1290, S4P1000, S1P1020, PL1010	S4T1010		[Gantt Chart: S4P1090 bar from Nov 2021 to Mar 2022]											
S4P1100	Fabrication & Delivery of EOT Cranes (2T & 5T)	0	28-Jan-21 A	27-May-21 A	06-Jan-23	06-Jan-23		S1P1030, S1D1290	S4C1020		[Gantt Chart: S4P1100 bar from Jan 2021 to May 2021]											
S4P1110	Fabrication & Delivery of Stoplogs	0	16-Dec-20 A	07-Oct-21 A	05-Feb-23	05-Feb-23		S1P1040, S1D1290	S4C1070		[Gantt Chart: S4P1110 bar from Dec 2020 to Oct 2021]											
S4P1120	Fabrication & Delivery of Penstocks	0	18-Jan-21 A	07-Oct-21 A	05-Feb-23	05-Feb-23		S1P1050, S1D1290	S4C1070		[Gantt Chart: S4P1120 bar from Jan 2021 to Oct 2021]											
S4P1130	Fabrication & Delivery of Pipeworks & Associated Valves	0	11-Jan-21 A	08-Sep-21 A	06-Jan-23	06-Jan-23		S4P1010, S1D1290	S4C1040		[Gantt Chart: S4P1130 bar from Jan 2021 to Sep 2021]											
S4P1140	Fabrication & Delivery of Elec. Materials	0	24-Jun-21 A	31-Dec-21 A	24-Sep-25	24-Sep-25		S4P1020, S1D1330	S4C1120		[Gantt Chart: S4P1140 bar from Jun 2021 to Dec 2021]											
S4P1150	Fabrication & Delivery of FS System	0	18-Apr-21 A	28-Oct-21 A	24-Sep-25	24-Sep-25		S4P1030, S1D1330	S4C1100		[Gantt Chart: S4P1150 bar from Apr 2021 to Oct 2021]											
S4P1160	Fabrication & Delivery of Temp. Switchboard	0	05-May-21 A	15-Dec-21 A	15-Apr-23	15-Apr-23			S4C1000		[Gantt Chart: S4P1160 bar from May 2021 to Dec 2021]											
E&M Installation		0	25-Apr-21 A	23-Jun-22 A	06-Jan-23	24-Sep-25					[Gantt Chart: E&M Installation bar from Apr 2021 to Jun 2022]											
S4C1000	Provision of Temporary Power for UV System No.1 & Effluent Transfer Pumping Station	0	15-Dec-21 A	11-Mar-22 A	15-Apr-23	15-Apr-23		S4C1010, S1D1130, S4P1160	S4T1010, S4C1140		[Gantt Chart: S4C1000 bar from Dec 2021 to Mar 2022]											
S4C1010	Mobilisation (Partial Access on 24 Apr 2021, Remaining Access on 12 May 2021)	0	25-Apr-21 A	12-Jun-21 A	06-Jan-23	06-Jan-23		AD1010, S1D1130, AD1020	S4C1020, S5TXRC1030, S4C1090, S4C1000		[Gantt Chart: S4C1010 bar from Apr 2021 to Jun 2021]											



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S4C1020	E&M Installation of EOT Cranes (2T)	0	25-Jun-21 A	17-Sep-21 A	06-Jan-23	06-Jan-23		S1D1180, S1D1260, S4C1010, S4P1100	S4T1010, S4C1030, S4C1040, S4C1110, S4C1090, S4T1000, S4C1080, S4C1070, PL1200								
S4C1030	E&M Installation of EOT Cranes (5T)	0	20-Oct-21 A	11-Dec-21 A	15-Apr-23	15-Apr-23		S4C1020	S5UVPC1000, S4T1000, PL1200								
S4C1040	E&M Installation of Transfer Pumps & Associated Pipeworks / Valves	0	21-Oct-21 A	05-Mar-22 A	06-Jan-23	06-Jan-23		S4C1020, S4P1070, S4P1130	S5TXRC1050, S4T1010, PL1200								
S4C1050	Preperation Works for E&M Installation of Penstocks & Stoplogs	0	17-Sep-21 A	19-Sep-21 A	05-Feb-23	05-Feb-23			S4C1070								
S4C1060	CNE-014 Access to and use to Portion C-1A for Installation of EOT, UV Equipment and Effluent Transfer Pump	0	16-Sep-21 A		05-Feb-23				S4C1070								
S4C1070	E&M Installation of Penstocks & Stoplogs (Impacted by CNE-014)	0	11-Nov-21 A	15-Jan-22 A	05-Feb-23	05-Feb-23		S4P1110, S4P1120, S4C1020, S4C1050, S4C1060	S4T1010, S5TXRC1050, PL1200								
S4C1080	E&M Installation of UV System	0	11-Nov-21 A	19-Feb-22 A	05-Feb-23	05-Feb-23		S4P1040, S4P1060, S4C1020	S4T1010, S5TXRC1050, PL1200								
S4C1090	FS Installation - Conduits, Trunking, & Pipeworks	0	08-Nov-21 A	18-Jan-22 A	24-Sep-25	24-Sep-25		S4C1010, S4C1020	S4C1100, PL1200								
S4C1100	FS Installation - Cable Laying, Termination, Associated Fitting & Field Devices	0	15-Nov-21 A	18-Jan-22 A	24-Sep-25	24-Sep-25		S4P1150, S4C1090	SC41110, S4S1010, PL1200								
S4C1110	BS Fitting Installation - Conduits, Trunking, & Ductworks	0	15-Nov-21 A	19-Feb-22 A	24-Sep-25	24-Sep-25		S4C1020, S1D1310	S4C1120, PL1200								
S4C1120	BS Fitting Installation - Cable Laying, Termination, Associated Fitting & Field Devices	0	13-Dec-21 A	21-May-22 A	24-Sep-25	24-Sep-25		S4C1110, S4P1140	S4C1150, PL1200								
S4C1130	Excavation Works & Cable Laying - by CLP (Impacted by CNE-035)	0	22-Dec-21 A	23-Jun-22 A	15-Apr-23	15-Apr-23			S4C1140								
S4C1140	Ready for Power Energization	0		23-Jun-22 A		15-Apr-23		S4C1000, S4C1130, S4S1000	S4S1030, S4T1010								
S4C1150	Installation of CCTV System	0	14-Mar-22 A	19-Apr-22 A	24-Sep-25	24-Sep-25		S4C1120	SC41110, PL1200								
S4C1160	Installation of FS Link	0	17-Nov-21 A	08-Feb-22 A	24-Sep-25	24-Sep-25			S4S1010, PL1200								
Statutory Submission / Inspection		0	17-Apr-21 A	02-Aug-22 A	15-Apr-23	24-Sep-25											
CLP Submission		0	17-Apr-21 A	15-Jun-22 A	15-Apr-23	15-Apr-23											
S4S1000	Submission & Approval of Electrical Schematic Wiring Diagram to CLP (Temp. Power)	0	17-Apr-21 A	15-Jun-22 A	15-Apr-23	15-Apr-23			S4C1140								
FSD Submission & Inspection		0	01-Apr-22 A	02-Aug-22 A	24-Sep-25	24-Sep-25											
S4S1010	Prepare & Submit FS/314, FS/501 & FS/501a	0	01-Apr-22 A	30-Jun-22 A	24-Sep-25	24-Sep-25		S4C1100, S4C1160	S4S1020								
S4S1020	FSD Review & Approval of FS/314, FS/501 & FS/501a	0	01-Jul-22 A	25-Jul-22 A	24-Sep-25	24-Sep-25		S4S1010	S4S1030								
S4S1030	F.S. Inspection, Defects Rectification & Re-inspection	0	26-Jul-22 A	29-Jul-22 A	24-Sep-25	24-Sep-25		S4S1020, S4C1140	S4S1040								
S4S1040	Issuance of Acceptance Letter	0	30-Jul-22 A	02-Aug-22 A	24-Sep-25	24-Sep-25		S4S1030	SC41110								
Testing & Commissioning		0	18-Sep-21 A	14-Sep-22 A	15-Apr-23	15-Apr-23											
S4T1000	T&C and R.P.E inspection for EOT Cranes	0	18-Sep-21 A	28-Jan-22 A	15-Apr-23	15-Apr-23		S4C1020, S4C1030	S4T1010								



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S4T1010	SAT for UV System No. 1 & Effluent Transfer Pumping Station No. 1 (Impacted by CNE-035)	0	10-Jan-22 A	14-Sep-22 A	15-Apr-23	15-Apr-23		S4C1020, S4C1070, S4C1080, S4C1000, S4T1000, S4C1040, S4P1090, S4C1140	S4T1020								
S4T1020	System Commissioning Tests	0	11-Sep-22 A	14-Sep-22 A	15-Apr-23	15-Apr-23		S4T1010	SC41110, PL1290, S5UVPC1000								
Section 5 - Complete all remaining Works (incl. T&C)		705	18-May-20 A	24-Sep-25	29-Aug-22	24-Sep-25	0										
Fabrication, FAT & Delivery of Major Plant & Materials		213	18-May-20 A	20-May-24	29-Sep-22	24-Sep-25	492										
S5P1000	Procurement & PO for Biogas Booster and Transfer Pumps	0	17-Jul-20 A	30-Nov-22 A	09-May-23	09-May-23		S2P1000	S5BIOP1000								
S5P1010	Procurement & PO for Pipeworks & Associated Valves	0	29-Jan-21 A	30-Jul-23 A	13-Dec-22	13-Dec-22		S2D1070	S5CHPP1070, S5DIGP1020								
S5P1020	Procurement & PO for Lifting Appliances	0	18-May-20 A	29-Oct-21 A	24-Sep-25	24-Sep-25		S2P1020									
S5P1030	Procurement & PO for Ferric Chloride Storage Tank	0	20-Jul-20 A	18-May-22 A	24-Nov-22	24-Nov-22		S2P1000	S5FCDP1000								
S5P1040	Procurement & PO for Ferric Chloride Dosing Pump	0	18-May-20 A	13-May-22 A	23-Feb-23	23-Feb-23		S2P1020	S5FCDP1010								
S5P1050	Procurement & PO for Electrical Sub-contractor	0	21-Jun-21 A	14-Dec-22 A	29-Sep-22	29-Sep-22		PL1010, S2P1130, S2D1370, S2D1570, S2D1270, S2D1310, S2D1430, S2D1470, S2D1510, S2D1630, S2D1670	S5SDBC1170, S5SDBC1310, S5SDBC1540, S5CHPC1100, S5CHPC1230, S5CHPC1290, S5TXRC1030, S5TXRC1040, S5DIGC1120, S5DIGC1160, S5DIGC1200, S5DIGC1260, S5EXAC1030, S5EXAC1080, S5EXAC1100, S5EXAC1110, S5EXAC1070								
S5P1070	Procurement & PO for mechanical ventilation system	0	28-Dec-21 A	28-Mar-22 A	24-Sep-25	24-Sep-25											
S5P1080	Fabrication and Delivery of Ventilation Fan	56	07-Sep-23 A	15-Dec-23	02-Nov-22	28-Dec-22	-353		S5SDBC1620, S5SDBC1720, S5SDBC1820, S5CHPC1090, S5CHPC1220, S5DIGC1290, S5WS2C1150								
S5P1090	Fabrication and Delivery of UPS	158	15-Dec-23*	20-May-24	13-Dec-22	19-May-23	-367		S5SDBC1900, S5SDBC1910, S5SASC1040, S3C2580, S5CHPC1430, S5CHPC1440, S5WS2C1200								
Sludge Dewatering Building		315	11-Aug-21 A	30-Aug-24	29-Sep-22	24-Sep-25	390										
Procurement, Fabrication, FAT & Delivery of Major Plant & Materials		132	11-Aug-21 A	29-Feb-24	29-Sep-22	27-Jul-23	-218										
Procurement		0	31-Jul-22 A	31-Mar-23 A	16-Nov-22	28-Apr-23											
S5SDBP1000	Procurement & PO for DI pipework (B/F)	0	17-Aug-22 A	30-Sep-22 A	22-Apr-23	22-Apr-23			S5SDBP1630								
S5SDBP1010	Procurement & PO for DI pipework (G/F and 1/F)	0	24-Aug-22 A	31-Mar-23 A	16-Nov-22	16-Nov-22			S5SDBP1640								
S5SDBP1020	Procurement & PO for FRP ductworks	0	31-Oct-22 A	30-Nov-22 A	14-Feb-23	14-Feb-23			S5SDBP1650								
S5SDBP1030	Procurement & PO for Genset	0	31-Jul-22 A	22-Feb-23 A	07-Jan-23	07-Jan-23			S5SDBP1670								
S5SDBP1040	Procurement & PO for Process Water Pumps	0	17-Dec-22 A	30-Jan-23 A	23-Jan-23	23-Jan-23			S5SDBP1210								
S5SDBP1050	Procurement & PO for Sludge Skip (PS Screen & Dewatering Screen)	0	18-Nov-22 A	31-Mar-23 A	28-Apr-23	28-Apr-23			S5SDBP1230								
Mechanical		132	11-Aug-21 A	29-Feb-24	29-Sep-22	27-Jul-23	-218										



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Fabrication and FAT		103	11-Aug-21 A	31-Jan-24	29-Sep-22	27-Jun-23	-219										
S5SDBP1060	Fabrication & Delivery of Lift	0	18-Dec-21 A	10-Aug-22 A	30-Apr-23	30-Apr-23			S5SDBC1780								
S5SDBP1070	Fabrication & FAT of External Sludge Transfer Pump	0	11-Apr-22 A	28-Oct-22 A	22-Apr-23	22-Apr-23			S5SDBP1400								
S5SDBP1080	Fabrication & FAT of PS Screen Feed Pump	0	11-Apr-22 A	28-Oct-22 A	12-May-23	12-May-23			S5SDBP1490								
S5SDBP1090	Fabrication & FAT of Sludge Screen	0	11-Aug-21 A	26-Jul-22 A	27-Mar-23	27-Mar-23			S5SDBP1520								
S5SDBP1100	Fabrication and FAT of Centrate Transfer Pumps	0	25-Mar-22 A	31-Jan-23 A	22-Feb-23	22-Feb-23			S5SDBP1360								
S5SDBP1110	Fabrication and FAT of Conveyor	103	17-Oct-22 A	31-Jan-24	25-Oct-22	05-Feb-23	-361		S5SDBP1370								
S5SDBP1120	Fabrication and FAT of Dewatering Centrifuge Feed Pumps	0	11-Apr-22 A	28-Oct-22 A	22-Apr-23	22-Apr-23			S5SDBP1380								
S5SDBP1130	Fabrication and FAT of Dewatering Polymer Powder Unit	0	06-Apr-22 A	17-Nov-22 A	29-Sep-22	29-Sep-22		S5SDBP1290	S5SDBP1390								
S5SDBP1140	Fabrication and FAT of FRP Tank (Thickening & Dewatering Polymer Dosing System)	103	14-Nov-22 A	31-Jan-24	11-Nov-22	22-Feb-23	-344		S5SDBP1410								
S5SDBP1150	Fabrication and FAT of Hoist	0	21-Mar-22 A	28-Feb-23 A	12-Feb-23	12-Feb-23			S5SDBP1420								
S5SDBP1160	Fabrication and FAT of Mixers (Digested Sludge Holding Tank)	0	22-Sep-22 A	14-Jun-23 A	17-Feb-23	17-Feb-23			S5SDBP1430								
S5SDBP1170	Fabrication and FAT of Polymer Dosing Pumps	0	11-Apr-22 A	28-Oct-22 A	12-Feb-23	12-Feb-23			S5SDBP1440								
S5SDBP1180	Fabrication and FAT of Polymer Transfer Pumps	0	11-Apr-22 A	28-Oct-22 A	22-Apr-23	22-Apr-23			S5SDBP1450								
S5SDBP1190	Fabrication and FAT of Preparation Tank Mixers	0	28-Mar-22 A	14-Jun-23 A	23-May-23	23-May-23			S5SDBP1460								
S5SDBP1200	Fabrication and FAT of Primary Sludge Holding Tank Mixer	0	22-Sep-22 A	14-Jun-23 A	08-Apr-23	08-Apr-23			S5SDBP1470								
S5SDBP1210	Fabrication and FAT of Process Water Pumps	72	31-Jan-23 A	31-Dec-23	23-Jan-23	05-Apr-23	-271	S5SDBP1040	S5SDBP1480								
S5SDBP1220	Fabrication and FAT of Recirculation Pumps	0	10-Mar-22 A	31-Aug-22 A	22-Feb-23	22-Feb-23			S5SDBP1500								
S5SDBP1230	Fabrication and FAT of Sludge Skip (PS Screen & Dewatering Screen)	60	30-Nov-23*	28-Jan-24	28-Apr-23	27-Jun-23	-216	S5SDBP1050	S5SDBP1530								
S5SDBP1240	Fabrication and FAT of Sludge Transfer Pumps (THP By Pass)	0	11-Apr-22 A	28-Oct-22 A	22-Apr-23	22-Apr-23			S5SDBP1550								
S5SDBP1250	Fabrication and FAT of Steel Work (EOT)	0	29-Aug-22 A	09-Dec-22 A	12-Feb-23	12-Feb-23			S5SDBP1560								
S5SDBP1260	Fabrication and FAT of Steel Work (Monorails)	0	29-Aug-22 A	03-Dec-22 A	12-May-23	12-May-23			S5SDBP1570								
S5SDBP1270	Fabrication and FAT of Storage Tank Mixers	0	28-Mar-22 A	14-Jun-23 A	23-May-23	23-May-23			S5SDBP1580								
S5SDBP1280	Fabrication and FAT of Thickening Centrifuge Feed Pump	0	11-Apr-22 A	28-Oct-22 A	22-Apr-23	22-Apr-23			S5SDBP1590								
S5SDBP1290	Fabrication and FAT of Thickening Polymer Powder Unit	0	06-Apr-22 A	17-Nov-22 A	29-Sep-22	29-Sep-22			S5SDBP1600, S5SDBP1130								
S5SDBP1300	Fabrication and FAT of Thickening Sludge Silo	103	01-Nov-22 A	31-Jan-24	09-Nov-22	20-Feb-23	-346		S5SDBP1610								
S5SDBP1310	Fabrication and FAT of THP Feed Pump	0	31-Aug-22 A	31-Jan-23 A	05-May-23	05-May-23			S5SDBP1620								
S5SDBP1320	Fabrication of Sludge Dewatering Centrifuges	0	10-Nov-21 A	05-Jul-22 A	27-Mar-23	27-Mar-23			S5SDBP1340								
S5SDBP1330	Fabrication of Sludge Thickening Centrifuges	0	22-Oct-21 A	15-May-22 A	27-Mar-23	27-Mar-23			S5SDBP1350								
S5SDBP1340	FAT of Sludge Dewatering Centrifuges	0	06-Jul-22 A	05-Sep-22 A	27-Mar-23	27-Mar-23		S5SDBP1320	S5SDBP1510								
S5SDBP1350	FAT of Sludge Thickening Centrifuges	0	16-May-22 A	31-May-22 A	27-Mar-23	27-Mar-23		S5SDBP1330	S5SDBP1540								
Delivery		132	01-Jun-22 A	29-Feb-24	29-Sep-22	27-Jul-23	-218										
S5SDBP1360	Delivery of Centrate Transfer Pumps	0	21-Feb-23 A	26-Jun-23 A	22-Feb-23	22-Feb-23		S5SDBP1100	S5SDBC1030								
S5SDBP1370	Delivery of Conveyor	29	01-Feb-24	29-Feb-24	05-Feb-23	06-Mar-23	-361	S5SDBP1110	S5SDBC1260								
S5SDBP1380	Delivery of Dewatering Centrifuges Feed Pumps	0	29-Oct-22 A	14-Jan-23 A	22-Apr-23	22-Apr-23		S5SDBP1120	S5SDBC1040								
S5SDBP1390	Delivery of Dewatering Polymer Powder Unit	0	18-Nov-22 A	20-Mar-23 A	29-Sep-22	29-Sep-22		S5SDBP1130	S5SDBC1050								
S5SDBP1400	Delivery of External Sludge Transfer Pump	0	29-Oct-22 A	14-Jan-23 A	22-Apr-23	22-Apr-23		S5SDBP1070	S5SDBC1070								
S5SDBP1410	Delivery of FRP Tank (Thickening & Dewatering Polymer Dosing System)	18	01-Feb-24	18-Feb-24	22-Feb-23	12-Mar-23	-344	S5SDBP1140	S5SDBC1480, S5SDBC1060								
S5SDBP1420	Delivery of Hoist	0	21-Mar-23 A	28-Mar-23 A	12-Feb-23	12-Feb-23		S5SDBP1150	S5SDBC1230, S5SDBC1450, S5SDBC1400, S5SDBC1390								
S5SDBP1430	Delivery of Mixers (Digested Sludge Holding Tank)	19	15-Jun-23 A	08-Nov-23	17-Feb-23	08-Mar-23	-246	S5SDBP1160	S5SDBC1420								
S5SDBP1440	Delivery of Polymer Dosing Pumps	0	29-Oct-22 A	20-Feb-23 A	12-Feb-23	12-Feb-23		S5SDBP1170	S5SDBC1500, S5SDBC1520								
S5SDBP1450	Delivery of Polymer Transfer Pumps	0	29-Oct-22 A	20-Feb-23 A	22-Apr-23	22-Apr-23		S5SDBP1180	S5SDBC1130, S5SDBC1280								
S5SDBP1460	Delivery of Preparation Tank Mixers	19	15-Jun-23 A	08-Nov-23	23-May-23	11-Jun-23	-151	S5SDBP1190	S5SDBC1430, S5SDBC1090								
S5SDBP1470	Delivery of Primary Sludge Holding Tank Mixer	19	15-Jun-23 A	08-Nov-23	08-Apr-23	27-Apr-23	-196	S5SDBP1200	S5SDBC1440								
S5SDBP1480	Delivery of Process Water Pumps	30	01-Jan-24	30-Jan-24	05-Apr-23	05-May-23	-271	S5SDBP1210	S5SDBC1110								
S5SDBP1490	Delivery of PS Screen Feed Pump	0	29-Oct-22 A	14-Jan-23 A	12-May-23	12-May-23		S5SDBP1080	S5SDBC1250								



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30-Sep-23	Rev.38	IM/LT	KM
31-Oct-23	Rev.39	IM/LT	KM

Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	Gantt Chart (2020-2026)											
S5SDBP1500	Delivery of Recirculation Pumps	0	01-Sep-22 A	31-Oct-22 A	22-Feb-23	22-Feb-23		S5SDBP1220	S5SDBC1120, S5SDBC1150		[Gantt bar: 01-Sep-22 to 31-Oct-22]											
S5SDBP1510	Delivery of Sludge Dewatering Centrifuges	0	07-Sep-22 A	30-Sep-22 A	27-Mar-23	27-Mar-23		S5SDBP1340	S5SDBC1490		[Gantt bar: 07-Sep-22 to 30-Sep-22]											
S5SDBP1520	Delivery of Sludge Screen Press	0	27-Jul-22 A	31-Oct-22 A	27-Mar-23	27-Mar-23		S5SDBP1090	S5SDBC1470		[Gantt bar: 27-Jul-22 to 31-Oct-22]											
S5SDBP1530	Delivery of Sludge Skip (PS Screen & Dewatering Screen)	30	29-Jan-24	27-Feb-24	27-Jun-23	27-Jul-23	-216	S5SDBP1230	S5SDBC1300		[Gantt bar: 29-Jan-24 to 27-Feb-24]											
S5SDBP1540	Delivery of Sludge Thickening Centrifuges	0	01-Jun-22 A	28-Oct-22 A	27-Mar-23	27-Mar-23		S5SDBP1350	S5SDBC1510		[Gantt bar: 01-Jun-22 to 28-Oct-22]											
S5SDBP1550	Delivery of Sludge Transfer Pumps (THP By Pass)	0	29-Oct-22 A	14-Jan-23 A	22-Apr-23	22-Apr-23		S5SDBP1240	S5SDBC1150		[Gantt bar: 29-Oct-22 to 14-Jan-23]											
S5SDBP1560	Delivery of Steel Work (EOT)	0	28-Oct-22 A	06-Dec-22 A	12-Feb-23	12-Feb-23		S5SDBP1250	S5SDBC1400, S5SDBC1390		[Gantt bar: 28-Oct-22 to 06-Dec-22]											
S5SDBP1570	Delivery of Steel Work (Monorails)	0	12-Sep-22 A	25-Sep-22 A	12-May-23	12-May-23		S5SDBP1260	S5SDBC1230, S5SDBC1450		[Gantt bar: 12-Sep-22 to 25-Sep-22]											
S5SDBP1580	Delivery of Storage Tank Mixers	19	15-Jun-23 A	08-Nov-23	23-May-23	11-Jun-23	-151	S5SDBP1270	S5SDBC1430, S5SDBC1090		[Gantt bar: 15-Jun-23 to 08-Nov-23]											
S5SDBP1590	Delivery of Thickening Centrifuges Feed Pump	0	29-Oct-22 A	31-Jan-23 A	22-Apr-23	22-Apr-23		S5SDBP1280	S5SDBC1140		[Gantt bar: 29-Oct-22 to 31-Jan-23]											
S5SDBP1600	Delivery of Thickening Polymer Powder Unit	0	18-Nov-22 A	20-Mar-23 A	29-Sep-22	29-Sep-22		S5SDBP1290	S5SDBC1270, S5SDBC1050		[Gantt bar: 18-Nov-22 to 20-Mar-23]											
S5SDBP1610	Delivery of Thickening Sludge Silo	14	01-Feb-24	14-Feb-24	20-Feb-23	06-Mar-23	-346	S5SDBP1300	S5SDBC1260		[Gantt bar: 01-Feb-24 to 14-Feb-24]											
S5SDBP1620	Delivery of THP Feed Pump	0	21-Apr-23 A	30-May-23 A	05-May-23	05-May-23		S5SDBP1310	S5SDBC1290		[Gantt bar: 21-Apr-23 to 30-May-23]											
S5SDBP1630	Fabrication and delivery of DI pipework (B/F)	0	21-Jan-23 A	21-Aug-23 A	22-Apr-23	22-Apr-23		S5SDBP1000	S5SDBC1100		[Gantt bar: 21-Jan-23 to 21-Aug-23]											
S5SDBP1640	Fabrication and delivery of DI pipework (G/F and 1/F)	41	15-May-23 A	30-Nov-23	16-Nov-22	27-Dec-22	-339	S5SDBP1010	S5SDBC1240, S5SDBC1460		[Gantt bar: 15-May-23 to 30-Nov-23]											
S5SDBP1650	Fabrication and delivery of FRP ductworks	132	21-Jan-23 A	29-Feb-24	14-Feb-23	26-Jun-23	-249	S5SDBP1020	S5SDBC1210		[Gantt bar: 21-Jan-23 to 29-Feb-24]											
Electrical and Control		72	26-Sep-22 A	31-Dec-23	10-Nov-22	28-Apr-23	-248															
S5SDBP1660	Fabrication & Delivery of Cable	41	15-Jun-23 A	30-Nov-23	18-Mar-23	28-Apr-23	-217		S5SDBC1350		[Gantt bar: 15-Jun-23 to 30-Nov-23]											
S5SDBP1670	Fabrication & Delivery of Genset	72	04-Aug-23 A	31-Dec-23	07-Jan-23	20-Mar-23	-287	S5SDBP1030	S5SDBC1770		[Gantt bar: 04-Aug-23 to 31-Dec-23]											
S5SDBP1680	Fabrication & Delivery of LV Switchboard for G/F	56	22-Mar-23 A	15-Dec-23	23-Feb-23	20-Apr-23	-240		S5SDBC1370		[Gantt bar: 22-Mar-23 to 15-Dec-23]											
S5SDBP1690	Fabrication & Delivery of LV Switchboard for 1/F	21	22-Mar-23 A	10-Nov-23	05-Apr-23	26-Apr-23	-199		S5SDBC1580		[Gantt bar: 22-Mar-23 to 10-Nov-23]											
S5SDBP1710	Fabrication & Delivery of SCADA System for 1/F	5	04-Nov-22 A	25-Oct-23	10-Nov-22	15-Nov-22	-345		S5SDBC1570		[Gantt bar: 04-Nov-22 to 25-Oct-23]											
S5SDBP1720	Fabrication of 380V Transformers	0	26-Sep-22 A	23-Jan-23 A	25-Feb-23	25-Feb-23			S5SDBP1730		[Gantt bar: 26-Sep-22 to 23-Jan-23]											
S5SDBP1730	FAT for 380V Transformers	0	10-Jan-23 A	23-Jan-23 A	25-Feb-23	25-Feb-23		S5SDBP1720	S5SDBP1740		[Gantt bar: 10-Jan-23 to 23-Jan-23]											
S5SDBP1740	Delivery of 380V Transformers	0	24-Jan-23 A	26-Mar-23 A	25-Feb-23	25-Feb-23		S5SDBP1730	S5SDBC1380		[Gantt bar: 24-Jan-23 to 26-Mar-23]											
Installation		241	06-Jun-22 A	17-Jun-24	29-Sep-22	24-Sep-25	464															
NCE-PMI-0325 - Provision of 2 nos of 3 Tons Mobile A-frame with Electrical Hoist in SDB		241	06-Jun-22 A	17-Jun-24	29-Sep-22	24-Sep-25	464															
S5SDBC1000	Access to Sludge Dewatering Building (Impacted by EWN-0314)	0	09-Sep-22 A	09-Sep-22 A	29-Sep-22	29-Sep-22			S5SDBC1020		[Gantt bar: 09-Sep-22 to 09-Sep-22]											
S5SDBC1010	Access to Sludge Dewatering Building (Impacted by EWN-0314-1)	0	09-Sep-22 A	09-Sep-22 A	29-Sep-22	29-Sep-22			S5SDBC1020		[Gantt bar: 09-Sep-22 to 09-Sep-22]											
S5SDBC1020	Mobilisation	0	09-Sep-22 A	23-Sep-22 A	29-Sep-22	29-Sep-22		S5SDBC1000, S5SDBC1010	S5SDBC1200, S5SDBC1680, S5SDBC1370, S5SDBC1590, S5SDBC1770, S5SDBC1120, S5SDBC1050		[Gantt bar: 09-Sep-22 to 23-Sep-22]											
E&M Installation		220	06-Jun-22 A	27-May-24	29-Sep-22	24-Sep-25	485															
Basement		166	21-Jan-23 A	03-Apr-24	29-Sep-22	11-Jul-23	-268															
Mechanical		122	21-Jan-23 A	03-Apr-24	29-Sep-22	11-Jul-23	-268															
S5SDBC1030	Installation of Centrate Transfer Pumps (3 nos.)	0	25-Sep-23 A	08-Oct-23 A	22-Feb-23	22-Feb-23		S5SDBP1360	S5SDBC1100, S5SDBT1000, S5SDBC1120		[Gantt bar: 25-Sep-23 to 08-Oct-23]											
S5SDBC1040	Installation of Dewatering Centrifuges Feed Pumps (3 nos.)	0	03-Apr-23 A	08-Apr-23 A	22-Apr-23	22-Apr-23		S5SDBP1380, S5SDBC1140	S5SDBT1000, S5SDBC1100, S5SDBC1110		[Gantt bar: 03-Apr-23 to 08-Apr-23]											
S5SDBC1050	Installation of Dewatering Polymer Powder Feed Units	0	24-Feb-23 A	31-May-23 A	29-Sep-22	29-Sep-22		S5SDBP1390, S5SDBP1600, S5SDBC1020	S5SDBC1170, S5SDBT1080, S5SDBC1420		[Gantt bar: 24-Feb-23 to 31-May-23]											
S5SDBC106	Installation of Dewatering Polymer Preparation Tanks	45	19-Feb-24	03-Apr-24	12-Mar-23	26-Apr-23	-344	S5SDBP1410	S5SDBC1480	4	[Gantt bar: 19-Feb-24 to 03-Apr-24]											
S5SDBC1070	Installation of External Sludge Transfer Pumps (2 nos.)	0	21-Jan-23 A	27-Jan-23 A	22-Apr-23	22-Apr-23		S5SDBP1400	S5SDBT1000, S5SDBC1100		[Gantt bar: 21-Jan-23 to 27-Jan-23]											



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Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	2020	2021	2022	2023	2024	2025	2026
S5SDBC108	Installation of Instruments	60	29-Dec-23	26-Feb-24	12-Apr-23	11-Jun-23	-261	S5SDBC1100	S5SDBT1160	6							
S5SDBC1090	Installation of Polymer Mixer	30	15-Dec-23*	13-Jan-24	11-Jun-23	11-Jul-23	-187	S5SDBP1580, S5SDBP1460	S5SDBT1170	3							
S5SDBC1100	Installation of Process Pipe	30	28-Aug-23 A	06-Feb-24	22-Apr-23	22-May-23	-261	S5SDBC1120, S5SDBC1030, S5SDBC1070, S5SDBC1130, S5SDBC1150, S5SDBC1140, S5SDBC1040, S5SDBC1110, S5SDBP1630	S5SDBT1040, S5SDBC1080	6							
S5SDBC1110	Installation of Process Water Pumps (3 nos.)	7	31-Jan-24	06-Feb-24	05-May-23	12-May-23	-271	S5SDBP1480, S5SDBC1040	S5SDBT1000, S5SDBC1100, S5SDBT1190, S5S1160								
S5SDBC1120	Installation of Recirculation Pumps for Centrate Tank, Sludge Blend Tanks & THP by-pass Sludge Holding Tank (6 nos.)	14	04-Dec-23*	17-Dec-23	22-Feb-23	08-Mar-23	-285	S5SDBP1500, S5SDBC1020, S5SDBC1030	S5SDBT1000, S5SDBC1100, S5SDBT1210								
S5SDBC1130	Installation of Sludge Dewatering Polymer Transfer Pumps (2 nos.)	0	21-Feb-23 A	27-Feb-23 A	22-Apr-23	22-Apr-23		S5SDBP1450	S5SDBT1000, S5SDBC1100, S5SDBC1150								
S5SDBC1140	Installation of Thickening Centrifuges Feed Pumps (4 nos.)	0	28-Feb-23 A	06-Mar-23 A	22-Apr-23	22-Apr-23		S5SDBP1590, S5SDBC1150	S5SDBT1000, S5SDBC1100, S5SDBC1040								
S5SDBC1150	Installation of THP by-pass Sludge Holding Tank Transfer Pumps (4 nos.)	0	21-Feb-23 A	27-Feb-23 A	22-Apr-23	22-Apr-23		S5SDBP1550, S5SDBP1500, S5SDBC1130	S5SDBT1000, S5SDBC1100, S5SDBC1140								
Electrical		95	08-May-23 A	23-Jan-24	29-Sep-22	10-Jul-23	-198										
S5SDBC1170	Installation of Electrical System - Cable Containment	72	08-May-23 A	31-Dec-23	29-Sep-22	10-Dec-22	-387	S5SDBC1050, S5SDBC1590, S5P1050	S5SDBC1180, S5SDBC1185, S5SDBC1310, S5T1060	3							
S5SDBC1180	Installation of Electrical System - Wall Mount Equipment, Conduit & Wiring	50	05-Nov-23	24-Dec-23	21-Apr-23	10-Jun-23	-198	S5SDBC1170	S5SDBC1190	5							
S5SDBC1185	Installation of Control Cable Laying	19	09-May-23 A	19-Jan-24	11-Dec-22	30-Dec-22	-386	S5SDBC1170	S5SDBC1530, S5T1060	2							
S5SDBC1190	Installation of Electrical System - Lighting and Small Power Accessories	30	25-Dec-23	23-Jan-24	10-Jun-23	10-Jul-23	-198	S5SDBC1180	S5SDBT1130	3							
Ground Floor		220	06-Jun-22 A	27-May-24	30-Nov-22	17-Aug-23	-285										
Mechanical		190	06-Jun-22 A	29-Apr-24	25-Feb-23	10-Aug-23	-264										
S5SDBC1200	Installation of A-Frame (Effected by NCE-PMI-0325)	0	06-Jun-22 A	06-Jun-22 A	12-Mar-23	12-Mar-23		S5SDBC1020	S5SDBC1480, S5SDBC1470, S5SDBC1400								
S5SDBC121	Installation of DOU Ductworks	45	01-Mar-24	14-Apr-24	26-Jun-23	10-Aug-23	-249	S5SDBP1650	S5T1060	4							
S5SDBC122	Installation of Instruments	60	20-Jan-24	19-Mar-24	12-Apr-23	11-Jun-23	-283	S5SDBC1240	S5SDBT1160	6							
S5SDBC1230	Installation of Monorail LA-01-01	0	25-Nov-22 A	16-May-23 A	12-May-23	12-May-23		S5SDBC1450, S5SDBP1570, S5SDBP1420	S5SDBC1280								
S5SDBC1240	Installation of Process Pipe	90	11-Dec-23*	09-Mar-24	25-Feb-23	26-May-23	-289	S5SDBP1640, S5SDBC1290, S5SDBC1280, S5SDBC1250, S5SDBC1270	S5SDBT1040, S5SDBC1220	9							
S5SDBC1250	Installation of PS Screen Feed Pumps (3 nos.)	0	13-Mar-23 A	19-Mar-23 A	12-May-23	12-May-23		S5SDBP1490	S5SDBT1000, S5SDBC1280, S5SDBC1240, S5SDBT1210								
S5SDBC1260	Installation of Silo & Conveyor	60	01-Mar-24	29-Apr-24	06-Mar-23	05-May-23	-361	S5SDBP1610, S5SDBP1370	S5SDBT1060	6							



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S5SDBC1270	Installation of Sludge Thickening Polymer Preparation Tanks	0	31-Jan-23 A	31-May-23 A	08-Mar-23	08-Mar-23		S5SDBP1600	S5SDBT1080, S5SDBC1420, S5SDBC1240								
S5SDBC1280	Installation of Sludge Thickening Polymer Transfer Pumps (2 nos.)	0	11-Sep-23 A	16-Sep-23 A	12-May-23	12-May-23		S5SDBP1450, S5SDBC1250, S5SDBC1230	S5SDBT1000, S5SDBC1240								
S5SDBC1290	Installation of THP Feed Pumps (4 nos.)	7	23-Oct-23*	29-Oct-23	05-May-23	12-May-23	-171	S5SDBP1620	S5SDBT1000, S5SDBC1240								
S5SDBC130	Position of Sludge Skips and Installation of Hydraulic System	14	28-Feb-24	12-Mar-24	27-Jul-23	10-Aug-23	-216	S5SDBP1530	S5T1060	1							
Electrical		220	12-Jun-23 A	27-May-24	30-Nov-22	17-Aug-23	-285										
S5SDBC1310	Installation of Electrical System - Cable Containment	30	22-Dec-23	20-Jan-24	30-Nov-22	30-Dec-22	-387	S5SDBC1680, S5P1050, S5SDBC1170	S5SDBC1320, S5SDBC1540, S5SDBC1340, S5SDBC1350, S5T1060	3							
S5SDBC1320	Installation of Electrical System - Wall Mount Equipment, Conduit & Wiring	50	29-Dec-23	16-Feb-24	21-Apr-23	10-Jun-23	-252	S5SDBC1310	S5SDBC1330	5							
S5SDBC1330	Installation of Electrical System - Lighting and Small Power Accessories	30	17-Feb-24	17-Mar-24	10-Jun-23	10-Jul-23	-252	S5SDBC1320	S5SDBT1130	3							
S5SDBC134	Installation of Control Cable Laying	30	21-Jan-24	19-Feb-24	11-Jul-23	10-Aug-23	-194	S5SDBC1310	S5T1060	3							
S5SDBC1350	Installation of Power Cable Laying and Termination	13	15-Jan-24*	27-Jan-24	28-Apr-23	11-May-23	-262	S5SDBC1370, S5SDBP1660, S5SDBC1310, S5SDBC1580	S5SDBT1050								
S5SDBC1370	LV Switchroom Installation	30	30-Jul-23 A	23-Dec-23	29-Mar-23	28-Apr-23	-240	S5SDBC1020, S5SDBP1680	S5SDBT1110, S5SDBC1350	3							
S5SDBC138	TX Room Installation	61	12-Jun-23 A	20-Dec-23	25-Feb-23	27-Apr-23	-238	S5SDBP1740	S5SDBT1120	6							
S5SDBC190	Installation of UPS	7	21-May-24	27-May-24	10-Aug-23	17-Aug-23	-285	S5P1090	S5SDBT1245								
First Floor		199	17-Nov-22 A	27-May-24	15-Nov-22	24-Sep-25	485										
Mechanical		101	17-Nov-22 A	27-Mar-24	27-Dec-22	24-Sep-25	546										
S5SDBC1390	Installation of EOT Crane LA-01-02	0	28-Nov-22 A	31-May-23 A	12-Feb-23	12-Feb-23		S5SDBP1560, S5SDBP1420	S5SDBC1490, S5SDBC1400, S5SDBC1470, S5SDBC1500, S5SDBC1520, S5SDBC1510								
S5SDBC1400	Installation of EOT Crane LA-01-03	0	22-Nov-22 A	15-Aug-23 A	24-Sep-25	24-Sep-25		S5SDBC1200, S5SDBP1560, S5SDBP1420, S5SDBC1390									
S5SDBC1410	Installation of Instruments	45	12-Feb-24	27-Mar-24	27-Apr-23	11-Jun-23	-291	S5SDBC1460	S5SDBT1160, S5T1270	4							
S5SDBC1420	Installation of Mixer for Digested Sludge Holding Tank	10	02-Jan-24*	11-Jan-24	08-Mar-23	18-Mar-23	-300	S5SDBP1430, S5SDBC1050, S5SDBC1270	S5SDBT1170, S5SDBT1178	1							
S5SDBC1430	Installation of Mixer for Polymer Tank	10	04-Mar-24	13-Mar-24	01-Jul-23	11-Jul-23	-247	S5SDBP1580, S5SDBP1460, S5SDBC1480	S5SDBT1170	1							
S5SDBC1440	Installation of Mixer for PS holding tank	10	02-Jan-24*	11-Jan-24	27-Apr-23	07-May-23	-250	S5SDBP1470, S5SDBC1470	S5SDBT1175	1							
S5SDBC1450	Installation of Monorail LA-01-04	0	17-Nov-22 A	15-Aug-23 A	12-May-23	12-May-23		S5SDBP1570, S5SDBP1420	S5SDBC1230								
S5SDBC1460	Installation of Process Pipe	90	18-Dec-23*	16-Mar-24	27-Dec-22	27-Mar-23	-356	S5SDBP1640, S5SDBC1480, S5SDBC1510, S5SDBC1490, S5SDBC1470, S5SDBC1500, S5SDBC1520	S5SDBT1040, S5SDBC1410	9							



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30-Jun-23	Rev.35	IM/LT	KM
31-Jul-23	Rev.36	IM/LT	KM
31-Aug-23	Rev.37	IM/LT	KM
30-Sep-23	Rev.38	IM/LT	KM
31-Oct-23	Rev.39	IM/LT	KM

Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	2020	2021	2022	2023	2024	2025	2026
S5SDBC1470	Installation of Screen Press	0	26-Jun-23 A	12-Sep-23 A	27-Mar-23	27-Mar-23		S5SDBC1200, S5SDBP1520, S5SDBC1390	S5SDBT1210, S5SDBC1440, S5SDBC1460, S5T1270								
S5SDBC1480	Installation of Sludge Dewatering / Thickening Polymer Dilution Tanks	15	19-Feb-24	04-Mar-24	12-Mar-23	27-Mar-23	-344	S5SDBC1200, S5SDBP1410, S5SDBC1060	S5SDBT1080, S5SDBC1430, S5SDBC1460	1							
S5SDBC1490	Installation of Sludge Dewatering Centrifuges (3 nos)	0	26-Jun-23 A	25-Sep-23 A	27-Mar-23	27-Mar-23		S5SDBC1390, S5SDBP1510	S5SDBT1090, S5SDBC1460								
S5SDBC1500	Installation of Sludge Dewatering Polymer Dosing Pumps (4 nos.)	0	21-Jan-23 A	27-Jan-23 A	12-Feb-23	12-Feb-23		S5SDBP1440, S5SDBC1390	S5SDBT1000, S5SDBC1520, S5SDBC1460								
S5SDBC1510	Installation of Sludge Thickening Centrifuges (4 nos.)	0	26-Jun-23 A	15-Sep-23 A	27-Mar-23	27-Mar-23		S5SDBP1540, S5SDBC1390	S5SDBT1100, S5SDBC1460, S5T1270								
S5SDBC1520	Installation of Sludge Thickening Polymer Dosing Pumps (5 nos.)	0	28-Jan-23 A	03-Feb-23 A	12-Feb-23	12-Feb-23		S5SDBP1440, S5SDBC1500, S5SDBC1390	S5SDBT1000, S5SDBC1460, S5T1270								
Electrical		199	11-Nov-23	27-May-24	15-Nov-22	17-Aug-23	-285										
S5SDBC1530	Installation of Control Cable Laying	30	22-Dec-23	20-Jan-24	30-Nov-22	30-Dec-22	-387	S5SDBC1540, S5SDBC1185	S5SDBC1570	3							
S5SDBC1540	Installation of Electrical System - Cable Containment	30	22-Dec-23	20-Jan-24	30-Nov-22	30-Dec-22	-387	S5SDBC1310, S5SDBC1790, S5P1050	S5SDBT1050, S5SDBC1550, S5SDBC1530	3							
S5SDBC1550	Installation of Electrical System - Wall Mount Equipment, Conduit & Wiring	45	21-Jan-24	05-Mar-24	26-Apr-23	10-Jun-23	-270	S5SDBC1540	S5SDBC1560	4							
S5SDBC1560	Installation of Electrical System - Lighting and Small Power Accessories	30	06-Mar-24	04-Apr-24	10-Jun-23	10-Jul-23	-270	S5SDBC1550	S5SDBT1130	3							
S5SDBC1570	Installation of SCADA System / Control Monitoring System (SPS, Process Water)	45	07-Dec-23	20-Jan-24	15-Nov-22	30-Dec-22	-387	S5SDBC1530, S5SDBP1710	S5T1002, S5T1060, S5T1270	4							
S5SDBC1580	LV Switchboard Installation	9	11-Nov-23	19-Nov-23	26-Apr-23	05-May-23	-199	S5SDBP1690	S5SDBC1350, S5SDBT1110								
S5SDBC191	Installation of UPS	7	21-May-24	27-May-24	10-Aug-23	17-Aug-23	-285	S5P1090	S5SDBT1245								
BS Installation		241	21-Nov-22 A	17-Jun-24	29-Sep-22	24-Sep-25	464										
Basement		241	21-Nov-22 A	17-Jun-24	29-Sep-22	24-Sep-25	464										
S5SDBC1590	Installation of FS System - Main Pipework	0	21-Nov-22 A	30-Dec-22 A	29-Sep-22	29-Sep-22		S5SDBC1020	S5SDBC1620, S5SDBC1170, S5SDBC1790, S5SDBC1680								
S5SDBC1600	Installation of FS System - Branch Pipework, Conduit & Wiring	0	16-Dec-22 A	14-Jan-23 A	07-Jul-23	07-Jul-23			S5SDBC1610, S5S1130, S5SDBC1690								
S5SDBC1610	Installation of FS System - Dropper, Sprinkler Head, Detector & Devices	0	01-Aug-23 A	30-Aug-23 A	25-Jul-23	25-Jul-23		S5SDBC1600	S5SDBT1150								
S5SDBC1620	Installation of MVAC System - Ceiling Mount Equipment, Main Ductwork and Pipework	26	31-Mar-23 A	29-Dec-23	20-May-23	15-Jun-23	-198	S5SDBC1590, S5P1080	S5SDBC1630	4							
S5SDBC1630	Installation of MVAC System - Wall Mount Equipment, Branch Duct & Pipework	30	01-Jun-23 A	08-Jan-24	26-May-23	25-Jun-23	-198	S5SDBC1620	S5SDBC1640	3							
S5SDBC1640	Installation of MVAC System - Air Grills & Diffuser	15	09-Jan-24	23-Jan-24	25-Jun-23	10-Jul-23	-198	S5SDBC1630, S5SDBC1840	S5SDBT1180, S5SDBC1730	1							
S5SDBC1650	Installation of Plumbing System - Main Pipework	71	10-May-23 A	30-Dec-23	27-Jan-25	07-Apr-25	464		S5SDBC1670, S5SDBC1660	7							
S5SDBC1660	Installation of Plumbing System - Branch Pipework	70	30-May-23 A	30-Dec-23	28-Jan-25	07-Apr-25	464	S5SDBC1650	S5SDBC1670, S5SDBC1740	7							
S5SDBC1670	Installation of Plumbing System - Sanitary Fitting	30	19-May-24	17-Jun-24	26-Aug-25	24-Sep-25	464	S5SDBC1650, S5SDBC1660, S5SDBC1870		3							
Ground Floor		241	21-Nov-22 A	17-Jun-24	30-Nov-22	24-Sep-25	464										
S5SDBC1680	Installation of FS System - Main Pipework	0	21-Nov-22 A	30-Dec-22 A	30-Nov-22	30-Nov-22		S5SDBC1020, S5SDBC1590	S5SDBC1710, S5SDBC1310								



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- Remaining Work
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Contract No. DE/2018/03
Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1
Sidestream Treatment Facilities and E&M Works for Sludge Treatment Facilities
Revised Programme - as at 20 October 2023

Date	Revision	Checked	Approved
30-Jun-23	Rev.35	IM/LT	KM
31-Jul-23	Rev.36	IM/LT	KM
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30-Sep-23	Rev.38	IM/LT	KM
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S5SDBC1690	Installation of FS System - Branch pipework, Conduit & Wiring	0	16-Dec-22 A	14-Jan-23 A	07-Jul-23	07-Jul-23		S5SDBC1600	S5SDBC1700, S5S1130								
S5SDBC1700	Installation of FS System - Dropper, Sprinkler Head, Detector & Devices	18	29-Sep-23 A	07-Nov-23	07-Jul-23	25-Jul-23	-106	S5SDBC1690	S5SDBT1150	1							
S5SDBC1710	Installation of MVAC System - Ceiling Mount Equipment, Main Ductwork and Pipework	20	31-May-23 A	09-Nov-23	25-Jun-23	15-Jul-23	-118	S5SDBC1680	S5SDBC1720	2							
S5SDBC1720	Installation of MVAC System - Wall Mount Equipment, Branch Duct & Pipework	19	10-Jun-23 A	29-Dec-23	06-Jun-23	25-Jun-23	-188	S5SDBC1710, S5P1080	S5SDBC1730	3							
S5SDBC1730	Installation of MVAC System - Air Grills & Diffuser	15	09-Jan-24	23-Jan-24	25-Jun-23	10-Jul-23	-198	S5SDBC1720, S5SDBC1640	S5SDBT1180								
S5SDBC1740	Installation of Plumbing System - Main Pipework	30	31-Dec-23	29-Jan-24	08-Apr-25	07-May-25	464	S5SDBC1660	S5SDBC1760, S5SDBC1750	3							
S5SDBC1750	Installation of Plumbing System - Branch Pipework	40	30-Jan-24	09-Mar-24	08-May-25	16-Jun-25	464	S5SDBC1740	S5SDBC1760, S5SDBC1850	4							
S5SDBC1760	Installation of Plumbing System - Sanitary Fitting	30	19-May-24	17-Jun-24	26-Aug-25	24-Sep-25	464	S5SDBC1740, S5SDBC1750, S5SDBC1870		3							
S5SDBC1770	Generator & Fuel Room Installation	90	13-Dec-23*	11-Mar-24	09-Jan-23	09-Apr-23	-338	S5SDBP1670, S5SDBC1020, S5S1010, S5S1260	S5SDBT1140, S5S1270	9							
S5SDBC1780	Installation of Lift	56	06-Sep-23 A	15-Dec-23	30-Apr-23	25-Jun-23	-174	S5SDBP1060, S5WS2C1190	S5SDBT1070	5							
S5SDBC1880	Installation of Gas Detection System	90	30-Dec-23	28-Mar-24	26-Apr-23	25-Jul-23	-248	S5CHPP1040	S5SDBC1890, S5SDBT1240	9							
First Floor		241	06-Dec-22 A	17-Jun-24	30-Nov-22	24-Sep-25	464										
S5SDBC1790	Installation of FS System - Main Pipework	0	06-Dec-22 A	15-Jan-23 A	30-Nov-22	30-Nov-22		S5SDBC1590	S5SDBC1800, S5SDBC1540, S5SDBC1820								
S5SDBC1800	Installation of FS System - Branch pipework, Conduit & Wiring	83	16-Jan-23 A	11-Jan-24	13-Apr-23	05-Jul-23	-191	S5SDBC1790	S5SDBC1810, S5S1130	8							
S5SDBC1810	Installation of FS System - Dropper, Sprinkler Head, Detector & Devices	20	12-Jan-24	31-Jan-24	05-Jul-23	25-Jul-23	-191	S5SDBC1800	S5SDBT1150	2							
S5SDBC1820	Installation of MVAC System - Ceiling Mount Equipment, Main Ductwork and Pipework	14	21-Aug-23 A	29-Dec-23	01-Jun-23	15-Jun-23	-198	S5SDBC1790, S5P1080	S5SDBC1830	1							
S5SDBC1830	Installation of MVAC System - Wall Mount Equipment, Branch Duct & Pipework	30	10-Dec-23	08-Jan-24	26-May-23	25-Jun-23	-198	S5SDBC1820	S5SDBC1840	3							
S5SDBC1840	Installation of MVAC System - Air Grills & Diffuser	15	09-Jan-24	23-Jan-24	25-Jun-23	10-Jul-23	-198	S5SDBC1830	S5SDBT1180, S5SDBC1640	1							
S5SDBC1850	Installation of Plumbing System - Main Pipework	30	10-Mar-24	08-Apr-24	17-Jun-25	16-Jul-25	464	S5SDBC1750	S5SDBC1870, S5SDBC1860	3							
S5SDBC1860	Installation of Plumbing System - Branch Pipework	40	09-Apr-24	18-May-24	17-Jul-25	25-Aug-25	464	S5SDBC1850	S5SDBC1870	4							
S5SDBC1870	Installation of Plumbing System - Sanitary Fitting	30	19-May-24	17-Jun-24	26-Aug-25	24-Sep-25	464	S5SDBC1850, S5SDBC1860	S5SDBC1760, S5SDBC1670	3							
S5SDBC1890	Installation of Gas Detection System	90	30-Dec-23	28-Mar-24	26-Apr-23	25-Jul-23	-248	S5SDBC1880	S5SDBT1240	9							
Testing and Commissioning		254	21-Dec-23	30-Aug-24	26-Jan-23	24-Aug-23	-373										
S5SDBT1000	Dry Test for Pumps	14	07-Feb-24	20-Feb-24	12-May-23	26-May-23	-271	S5SDBC1250, S5SDBC1120, S5SDBC1110, S5SDBC1070, S5SDBC1130, S5SDBC1150, S5SDBC1140, S5SDBC1040, S5SDBC1290, S5SDBC1280, S5SDBC1500, S5SDBC1520, S5SDBC1030, S5SDBT1050	S5SDBT1220, S5SDBT1230	1							



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S5SDBT1010	Functional Check for Pumps (excluded FS Water Pumps and Process Water Pumps)	26	05-Jun-24	30-Jun-24	15-Jun-23	11-Jul-23	-356	S5SDBT1220, S5SDBT1050	S5T1060, S5SDBT1250, S5SDBT1260, S5T1280	2							
S5SDBT1020	Functional Check for Pumps (FS Water Pumps and Process Water Pumps)	26	05-Jun-24	30-Jun-24	15-Jun-23	11-Jul-23	-356	S5SDBT1050, S5SDBT1230	S5S1220, S5T1055, S5T1050, S5SDBT1260, S5T1280, S5T1270	2							
S5SDBT1030	Permanent Power ready for T&C	0	29-Jan-24		26-May-23		-248	S5SDBT1050	S5SDBT1100, S5SDBT1230, S5SDBT1090								
S5SDBT1040	Pipe Pressure Test	120	17-Jan-24	15-May-24	26-Jan-23	26-May-23	-356	S5SDBC1460, S5SDBC1240, S5SDBC1100	S5T1060, S5SDBT1220, S5SDBT1230	12							
S5SDBT1050	Ready for Power Energisation - LV	1	28-Jan-24	28-Jan-24	11-May-23	12-May-23	-262	S5SDBC1540, S5SDBC1350, S5SDBT1120, S5WS2C1120, S5SDBT1110	S5SDBT1090, S5SDBT1070, S5SDBT1100, S5SDBT1020, S5SDBT1230, S5SDBT1080, S5SDBT1060, S5SDBT1130, S5SDBT1150, S5SDBT1180, S5SDBT1190, S5SDBT1170, S5SDBT1210, S5SDBT1160, S5SDBT1220, S5SDBT1010, S5SDBT1000, S5SDBT1030, S5SPST1000, S5FCDT1000, S5SDBT1178, S5T1060								
S5SDBT1060	SAT for Sludge Conveying and Discharge System	60	07-May-24	05-Jul-24	12-May-23	11-Jul-23	-361	S5SDBC1260, S5SDBT1050	S5T1060, S5T1002, S5SDBT1260, S5T1280	6							
S5SDBT1070	SAT for Lift	60	29-Jan-24	28-Mar-24	25-Jun-23	24-Aug-23	-218	S5SDBC1780, S5SDBT1050	S5S1090, S5T1002	6							
S5SDBT1080	SAT for Polymer Preparation, Storage and Dosing system for Thickening and Dewatering Sludge	60	05-Mar-24	03-May-24	12-May-23	11-Jul-23	-298	S5SDBC1480, S5SDBC1270, S5SDBC1050, S5SDBT1050	S5T1060, S5T1002, S5T1055, S5SDBT1260, S5T1280	6							
S5SDBT1090	SAT for Sludge Dewatering Centrifuges	30	10-Apr-24*	09-May-24	11-Jul-23	10-Aug-23	-274	S5SDBT1050, S5SDBC1490, S5SDBT1030	S5T1060, S5T1002	3							
S5SDBT1100	SAT for Sludge Thickening Cnetrifuge	30	10-Apr-24*	09-May-24	11-Jun-23	11-Jul-23	-304	S5SDBT1050, S5SDBC1510, S5SDBT1030	S5T1060, S5T1055, S5T1002, S5SDBT1250	3							
S5SDBT1110	SAT for Switchboard	6	24-Dec-23	29-Dec-23	05-May-23	11-May-23	-233	S5SDBC1370, S5SDBC1580	S5T1055, S5SDBT1050								
S5SDBT1120	SAT for Tranformer	14	21-Dec-23	03-Jan-24	27-Apr-23	11-May-23	-238	S5SDBC1380, S5WS2T1000	S5SDBT1050	2							



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- Remaining Work
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Contract No. DE/2018/03
Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1
Sidestream Treatment Facilities and E&M Works for Sludge Treatment Facilities
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S5CHPP1020	FAT for CHP Generators	0	07-Apr-22 A	30-Apr-22 A	16-Jan-23	16-Jan-23		S5CHPP1010	S5CHPP1030								
S5CHPP1030	Delivery of CHP Generators	0	02-May-22 A	14-Jul-22 A	16-Jan-23	16-Jan-23		S5CHPP1020	S5CHPC1050								
S5CHPP1040	Fabrication & Delivery of Gas Detection System	70	28-Jul-23 A	29-Dec-23	16-Jan-23	27-Mar-23	-278	S2D2000, PL1020	S5CHPC1170, S5CHPC1280, S5SDBC1880, S5CHPC1410, S5DIGC1270, S5BIOC1070	30							
S5CHPP1050	Fabrication & Delivery of LV Switchboard for G/F	144	31-Oct-23*	22-Mar-24	15-Jan-23	08-Jun-23	-289		S5CHPC1145	30							
S5CHPP1055	Fabrication & Delivery of LV Switchboard for 1/F	155	31-Oct-23*	02-Apr-24	04-Jan-23	08-Jun-23	-300		S5CHPC1260	30							
S5CHPP1060	Fabrication & Delivery of Lifting Appliances	0	24-Aug-22 A	28-Mar-23 A	13-Mar-23	13-Mar-23			S5CHPC1030, S5CHPC1160								
S5CHPP1070	Fabrication & Delivery of Pipeworks & Associated Valves	41	20-Jul-23 A	30-Nov-23	24-Jan-23	06-Mar-23	-270	S5P1010	S5CHPC1070, S5CHPC1200, S5CHPC1270, S5CHPC1280	15							
S5CHPP1080	Fabrication & Delivery of SCADA System for G/F	113	11-Nov-22 A	10-Feb-24	05-May-23	26-Aug-23	-169		S5CHPC1120	30							
S5CHPP1090	Fabrication & Delivery of SCADA System for 1/F	113	11-Nov-22 A	10-Feb-24	29-Mar-23	20-Jul-23	-206		S5CHPC1250	30							
Installation		220	19-Nov-22 A	27-May-24	10-Dec-22	24-Sep-25	485										
S5CHPC1000	Access to CHP Building (Impacted by EWN-0314)	0	07-Dec-22 A	07-Dec-22 A	25-Feb-23	25-Feb-23			S5CHPC1020								
S5CHPC1010	Access to CHP Building (Impacted by EWN-0314-1)	0	07-Dec-22 A	07-Dec-22 A	25-Feb-23	25-Feb-23			S5CHPC1020								
S5CHPC1020	Mobilisation	0	08-Dec-22 A	19-Dec-22 A	25-Feb-23	25-Feb-23		AD1060, S5S1020, S5CHPC1000, S5CHPC1010	PL1550, S5CHPC1030, S5CHPC1040, S5CHPC1080, S5CHPC1130, S5CHPC1140, S5CHPC1210								
E&M Installation		220	19-Nov-22 A	27-May-24	10-Dec-22	24-Sep-25	485										
Ground Floor		220	19-Nov-22 A	27-May-24	10-Dec-22	24-Sep-25	485										
S5CHPC1030	Installation of EOT Crane LA-04-01	0	19-Dec-22 A	10-Jul-23 A	13-Mar-23	13-Mar-23		S5CHPC1020, S5CHPP1060	S5CHPC1050, S5CHPC1160								
S5CHPC1040	Installation of Monorail LA-04-02 (total 3nos.)	0	19-Nov-22 A	31-Aug-23 A	24-Sep-25	24-Sep-25		S5CHPC1020									
S5CHPC1050	Installation of CHP System - Mechanical Work	56	26-Apr-23 A	15-Dec-23	16-Jan-23	13-Mar-23	-278	S5CHPC1030, S5CHPP1030	S5CHPC1100, S5CHPT1030, S5CHPC1270, S5CHPT1060	10							
S5CHPC1060	Installation of Steam Boiler System - Mechanical Work	56	29-Mar-23 A	15-Dec-23	12-Mar-23	07-May-23	-223		S5CHPC1070, S5CHPC1170, S5CHPT1050	15							
S5CHPC1070	Installation of pipework	133	02-Jan-24*	13-May-24	14-Mar-23	25-Jul-23	-294	S5CHPC1060, S5CHPP1070	S5CHPT1000, S5CHPT1022, S5CHPT1026	13							
S5CHPC1100	Installation of Electrical System	79	12-Dec-23	28-Feb-24	09-Mar-23	27-May-23	-278	S5CHPC1090, S5CHPC1050, S5P1050	S5CHPC1120, S5CHPT1050, S5CHPT1030	8							
S5CHPC1120	Installation of SCADA System	111	05-Jan-24	24-Apr-24	20-Jul-23	08-Nov-23	-169	S5CHPC1100, S5CHPP1080	S5T1100, S5CHPC1250, S5T1003, S5CHPT1030	11							
S5CHPC1130	Transformers Room Installation	0	04-Apr-23 A	30-Sep-23 A	04-Jun-23	04-Jun-23		S5WS2P1020, S5CHPC1020	S5CHPT1020, S5CHPC1260, S5CHPT1010								
S5CHPC1140	HV Switchroom Installation	0	03-Apr-23 A	30-Sep-23 A	14-Jun-23	14-Jun-23		S5CHPC1020, S5WS2P1080	S5CHPT1020, S5CHPT1010								
S5CHPC1145	LV Switchboard Installation	6	23-Mar-24	28-Mar-24	08-Jun-23	14-Jun-23	-289	S5CHPP1050	S5CHPT1010, S5CHPC1420								
S5CHPC1150	Diesel Storage & Pump Room Installation	120	04-Nov-23*	02-Mar-24	10-Dec-22	09-Apr-23	-329		S5S1280, S5S1270	12							



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Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	2020	2021	2022	2023	2024	2025	2026
S5CHPC1410	Installation of Gas Detection System	90	30-Dec-23	28-Mar-24	27-Mar-23	25-Jun-23	-278	S5CHPP1040	S5CHPC1400, S5CHPT1070								
S5CHPC1430	Installation of UPS	7	21-May-24	27-May-24	15-Dec-23	22-Dec-23	-158	S5P1090	S5CHPT1080								
First Floor		220	07-Mar-23 A	27-May-24	12-Mar-23	22-Dec-23	-158										
S5CHPC1160	Installation of Monorail / Davit LA-04-03 to LA-04-10 (total 8nos.)	52	07-Mar-23 A	11-Dec-23	26-May-23	17-Jul-23	-148	S5CHPP1060, S5CHPC1030	S5CHPC1170	8							
S5CHPC1170	Installation of Biogas Pre-treatment System - Mechanical Work	127	28-Sep-23 A	24-Feb-24	12-Mar-23	17-Jul-23	-223	S5CHPC1060, S5CHPC1160, S5CHPP1000, S5CHPP1040	S5CHPC1200, S5CHPC1230, S5CHPT1040	12							
S5CHPC1200	Installation of pipework	135	08-Jan-24*	21-May-24	12-Mar-23	25-Jul-23	-302	S5CHPC1170, S5CHPP1070	S5CHPT1000, S5CHPT1022, S5CHPT1026	13							
S5CHPC1230	Installation of Electrical System	85	01-Jan-24	25-Mar-24	14-Jun-23	07-Sep-23	-201	S5CHPC1170, S5P1050	S5CHPT1040, S5CHPC1250	8							
S5CHPC1250	Installation of SCADA System (THP, Digester, H2S removal System, Dou12, Biogas Holding Tank)	90	11-Feb-24	10-May-24	20-Jul-23	18-Oct-23	-206	S5CHPC1120, S5CHPP1090, S5CHPC1230	S5T1100, S5CHPT1030, S5T1250, S5T1260, S5T1220, S5T1230, S5T1240	9							
S5CHPC1260	LV Switchboard Installation	6	03-Apr-24	08-Apr-24	08-Jun-23	14-Jun-23	-300	S5CHPC1130, S5CHPP1055	S5CHPT1010, S5CHPC1420								
S5CHPC1400	Installation of Gas Detection System	90	30-Dec-23	28-Mar-24	27-Mar-23	25-Jun-23	-278	S5CHPC1410	S5CHPT1070								
S5CHPC1420	Cable Laying and termination	30	10-Mar-24*	08-Apr-24	23-May-23	22-Jun-23	-292	S5CHPC1260, S5CHPC1145	S5CHPT1020								
S5CHPC1440	Installation of UPS	7	21-May-24	27-May-24	15-Dec-23	22-Dec-23	-158	S5P1090	S5CHPT1080								
Roof		153	09-Oct-23 A	01-Apr-24	04-Feb-23	07-Jul-23	-270										
S5CHPC1270	Installation of CHP System - Mechanical Work	123	09-Oct-23 A	02-Mar-24	04-Feb-23	07-Jun-23	-270	S5CHPC1050, S5CHPP1070	S5CHPT1030, S5CHPC1280, S5CHPC1290, S5CHPT1060	12							
S5CHPC1280	Installation of Steam Boiler System - Mechanical Work	77	28-Nov-23	12-Feb-24	22-Mar-23	07-Jun-23	-251	S5CHPC1270, S5CHPP1070, S5CHPP1040	S5CHPT1050, S5CHPC1290	7							
S5CHPC1290	Installation of Electrical System	38	24-Feb-24	01-Apr-24	30-May-23	07-Jul-23	-270	S5CHPC1270, S5CHPC1280, S5P1050	S5CHPT1040, S5CHPT1020	4							
BS Installation		120	27-Feb-23 A	17-Feb-24	25-Feb-23	16-Feb-24	-2										
Ground Floor		86	27-Feb-23 A	14-Jan-24	25-Feb-23	28-May-23	-232										
S5CHPC1080	Installation of FS System	56	27-Feb-23 A	15-Dec-23	25-Feb-23	22-Apr-23	-238	S5CHPC1020, S5CHPC1210	S5CHPC1110, S5S1220	7							
S5CHPC1090	Installation of MVAC System	80	10-Jun-23 A	14-Jan-24	09-Mar-23	28-May-23	-232	S5P1080	S5CHPC1100, S5S1220, S5CHPC1220	6							
S5CHPC1110	Installation of Plumbing System	56	01-Jun-23 A	15-Dec-23	25-Feb-23	22-Apr-23	-238	S5CHPC1080	S5S1160, S5CHPC1240	5							
First Floor		120	27-Feb-23 A	17-Feb-24	25-Feb-23	16-Feb-24	-2										
S5CHPC1210	Installation of FS System	56	27-Feb-23 A	15-Dec-23	25-Feb-23	22-Apr-23	-238	S5CHPC1020	S5S1220, S5CHPC1080	7							
S5CHPC1220	Installation of MVAC System	120	21-Oct-23	17-Feb-24	19-Oct-23	16-Feb-24	-2	S5CHPC1090, S5P1080	S5S1220	12							
S5CHPC1240	Installation of Plumbing System	73	04-Sep-23 A	14-Jan-24	10-Mar-23	22-May-23	-238	S5CHPC1110	S5S1160	5							
Testing and Commissioning		425	01-Dec-23	28-Jan-25	26-Apr-23	08-May-24	-266										
S5CHPT1000	Pipe Pressure Test	120	22-Feb-24	20-Jun-24	26-Apr-23	24-Aug-23	-302	S5CHPC1200, S5CHPC1070	S5T1100, S5CHPT1030, S5CHPT1040, S5CHPT1050	12							
S5CHPT1005	SAT for Transformer	14	01-Dec-23	14-Dec-23	22-Jun-23	06-Jul-23	-162	S5WS2T1000	S5CHPT1020								



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S5CHPT1010	SAT for Switchboard	8	09-Apr-24	16-Apr-24	14-Jun-23	22-Jun-23	-300	S5CHPC1260, S5CHPC1140, S5CHPC1130, S5CHPC1145	S5CHPT1020								
S5CHPT1020	Ready for Power Energisation	1	01-May-24	01-May-24	06-Jul-23	07-Jul-23	-300	S5CHPC1130, S5CHPC1140, S5CHPT1010, S5CHPC1290, S5WS2C1110, S5CHPC1420, S5CHPT1005	S5CHPT1030, S5THPT1010, S5CHPT1040, S5CHPT1050, S5DIGT1010, S5BIOT1000, S5THPT1000, S5H2ST1000, S5WGBT1000, S5DOUT1010, S5TCWT1000								
S5CHPT1022	SAT of Instrumentation (Excluded Biogas Circuit)	30	22-May-24	20-Jun-24	07-Oct-23	06-Nov-23	-228	S5CHPC1200, S5CHPC1070	S5CHPT1030, S5T1003, S5CHPT1024	3							
S5CHPT1024	SAT for CHP System (excluded Biogas Circuit)	90	21-Jun-24	18-Sep-24	06-Nov-23	04-Feb-24	-228	S5CHPT1022, S5CHPT1040	S5CHPT1030								
S5CHPT1026	SAT of Instrumentation (Biogas Circuit)	30	31-Oct-24	29-Nov-24	05-Jan-24	04-Feb-24	-300	S5CHPC1200, S5CHPC1070	S5CHPT1030								
S5CHPT1030	SAT for CHP System (Biogas Circuit)	60	30-Nov-24	28-Jan-25	04-Feb-24	04-Apr-24	-300	S5CHPT1020, S5CHPC1050, S5CHPC1100, S5CHPC1270, S5CHPT1000, S5CHPC1250, S5CHPC1120, S5CHPT1022, S5T1110, S5CHPT1026, S5CHPT1040, S5CHPT1024	S5T1100, S5T1210	6							
S5CHPT1040	SAT for Pre-treatment System	60	22-Apr-24	20-Jun-24	07-Sep-23	06-Nov-23	-228	S5CHPC1170, S5CHPT1020, S5CHPC1230, S5CHPC1290, S5CHPT1000	S5T1003, S5CHPT1030, S5CHPT1024	6							
S5CHPT1050	SAT for Steam Boiler System	60	05-Jul-24	02-Sep-24	25-Jun-23	24-Aug-23	-376	S5CHPC1060, S5CHPC1100, S5CHPT1020, S5CHPC1280, S5CHPT1000, S5S1310	S5T1003, S5T1110, S5T1050	6							
S5CHPT1060	SAT for Ventilation System	45	19-Apr-24	02-Jun-24	24-Mar-24	08-May-24	-26	S5CHPC1270, S5CHPC1050	S5T1200, S5T1003	4							
S5CHPT1070	SAT for Gas Detection System	60	29-Mar-24	27-May-24	25-Jun-23	24-Aug-23	-278	S5CHPC1400, S5CHPC1410	S5T1110, S5T1003	6							
S5CHPT1080	SAT for UPS	7	28-May-24	03-Jun-24	22-Dec-23	29-Dec-23	-158	S5CHPC1440, S5CHPC1430	S5T1003								
Tx Rm & LV Switchroom (for UV)		214	04-Nov-22 A	21-May-24	28-Oct-22	08-Jun-23	-349										
Fabrication, FAT & Delivery of Major Plant & Materials		185	04-Nov-22 A	22-Apr-24	28-Oct-22	03-May-23	-356										
S5TXRP1000	Fabrication & Delivery of Transformers -UV (Tx 07 & 08)	0	03-Feb-23 A	20-Aug-23 A	23-Mar-23	23-Mar-23		S1D1130, S1D1290, S1D1210, S2P1110	S5TXRC1030								
S5TXRP1010	Fabrication & Delivery of LVSB -UV	172	03-Nov-23*	22-Apr-24	12-Nov-22	03-May-23	-356	S1D1210, S1D1290, S2P1130	S5TXRC1040	30							
S5TXRP1020	Fabrication & Delivery of SCADA System	70	04-Nov-22 A	29-Dec-23	28-Oct-22	06-Jan-23	-358	S1D1290, S2P1140	S5TXRC1050	60							



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Installation		191	05-Jul-23 A	28-Apr-24	06-Jan-23	07-Jun-23	-327										
S5TXRC1000	Access to TX Rm & LV Switchroom (Impacted by EWN-0314)	0	05-Jul-23 A	05-Jul-23 A	08-Apr-23	08-Apr-23			S5TXRC1020								
S5TXRC1010	Access to TX Rm & LV Switchroom (Impacted by EWN-0314-1)	0	05-Jul-23 A	05-Jul-23 A	08-Apr-23	08-Apr-23			S5TXRC1020								
S5TXRC1012	Access to TX Rm & LV Switchroom (Impacted by EWN-0314-2)	0	05-Jul-23 A	05-Jul-23 A	23-Mar-23	23-Mar-23			S5TXRC1015								
S5TXRC1015	Assume actual access Date	0	05-Jul-23 A		23-Mar-23			S5TXRC1012	S5TXRC1020, S5TXRC1030								
S5TXRC1020	BS Fitting Intallation (at Tx Rm & LV Switchroom)	60	27-Nov-23*	25-Jan-24	08-Apr-23	07-Jun-23	-233	S5TXRC1000, S5TXRC1010, S5TXRC1015	S5TXRT1010	6							
S5TXRC1030	E&M Installation of Transformers in Tx Rm	41	20-Aug-23 A	30-Nov-23	23-Mar-23	03-May-23	-212	S4C1010, S5TXRP1000, S1D1310, S5P1050, S5TXRC1015	S5TXRC1040, S5TXRT1000								
S5TXRC1040	E&M Installation of LVSB	6	23-Apr-24	28-Apr-24	03-May-23	09-May-23	-356	S5TXRC1030, S5TXRP1010, S5P1050	S5TXRT1000, S5EXAC1080								
S5TXRC1050	Installation of SCADA System (UV, DOU11, PSW)	30	30-Dec-23	28-Jan-24	06-Jan-23	05-Feb-23	-358	S4C1040, S5TXRP1020, S4C1070, S4C1080	S5T1200, S5T1120, PL1210, S5T1006	3							
Testing and Commissioning		173	01-Dec-23	21-May-24	16-May-23	08-Jun-23	-349										
S5TXRT0001	SAT for Transformer	14	01-Dec-23	14-Dec-23	24-May-23	07-Jun-23	-191	S5WS2T1000	S5TXRT1010								
S5TXRT1000	SAT for Switchboard	8	29-Apr-24	06-May-24	16-May-23	24-May-23	-349	S5TXRC1040, S5TXRC1030	S5TXRT1010								
S5TXRT1010	Ready for Power Energisation	1	21-May-24	21-May-24	07-Jun-23	08-Jun-23	-349	S5TXRC1020, S5WS2C1060, S5WS2C1040, S5WS2C1130, S5TXRT1000, S5TXRT0001	S5SHPT1000, S5DOUT1000, S5PSWT1000, SC51120								
Sludge Digesters & Distribution Chamber		315	06-Nov-21 A	30-Aug-24	13-Dec-22	24-Sep-25	390										
Fabrication, FAT & Delivery of Major Plant & Materials		0	06-Nov-21 A	20-Oct-23 A	13-Dec-22	13-Apr-23											
S5DIGP1000	Fabrication & Delivery of Sludge Digestion System	0	06-Nov-21 A	29-Mar-23 A	23-Dec-22	23-Dec-22		S2P1020, S2D1450	S5DIGC1210								
S5DIGP1010	Fabrication & Delivery of FRP Walkway / Cover	0	01-Mar-22 A	10-Jun-23 A	13-Apr-23	13-Apr-23		S2P1020	S5DIGC1040, S5DIGC1050, S5DIGC1060, S5DIGC1070, S5DIGC1080								
S5DIGP1020	Fabrication & Delivery of Pipeworks & Associated Valves	0	31-Jul-23 A	20-Oct-23 A	13-Dec-22	13-Dec-22		S5P1010	S5DIGC1110, S5DIGC1150, S5DIGC1190, S5DIGC1250								
Installation		201	29-Jun-23 A	08-May-24	13-Dec-22	24-Sep-25	504										
S5DIGC1000	Access to Sludge Digesters & Distribution Chamber (Impacted by EWN-0314)	0	20-Jul-23 A	20-Jul-23 A	24-Sep-25	24-Sep-25											
S5DIGC1010	Access to Sludge Digester No.1 & Distribution Chamber (Impacted by EWN-0314-1)	0	20-Jul-23 A	20-Jul-23 A	24-Sep-25	24-Sep-25											
S5DIGC1020	Access to Sludge Digesters - Remaining (Impacted by EWN-0314-1)	0	20-Jul-23 A	20-Jul-23 A	13-Jun-23	13-Jun-23			S5DIGC1050								
S5DIGC1022	Access to Sludge Digesters - Remaining (Impacted by EWN-0314-2)	0	20-Jul-23 A	20-Jul-23 A	23-Dec-22	23-Dec-22			S5DIGC1025								
S5DIGC1025	Actual Access Date	0	20-Jul-23 A		23-Dec-22			S5DIGC1022	S5DIGC1030								
S5DIGC1030	Mobilisation	0	20-Jul-23 A	03-Aug-23 A	23-Dec-22	23-Dec-22		S5DIGC1025	S5DIGC1210, S5DIGC1040								
E&M Installation		160	29-Jun-23 A	28-Mar-24	13-Dec-22	11-Jul-23	-262										
FRP Walkway / Cover Installation		110	20-Nov-23	08-Mar-24	13-Apr-23	11-Jul-23	-242										



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S5DIGC1040	Installation of Working Platform for Digester 1 (Roof)	14	04-Dec-23	17-Dec-23	30-May-23	13-Jun-23	-188	AD1080, S5DIGP1010, S5DIGC1030, S5DIGC1100, S5DIGC1060	PL1210, PL1310, S5DIGC1050, SC51120								
S5DIGC1050	Installation of Working Platform for Digester 3 (Roof)	14	19-Dec-23	01-Jan-24	13-Jun-23	27-Jun-23	-189	S5DIGC1020, S5DIGC1140, S5DIGP1010, S5DIGC1040	S5DIGC1080								
S5DIGC1060	Installation of Working Platform for Digester 4 (Roof)	14	20-Nov-23*	03-Dec-23	16-May-23	30-May-23	-188	S5DIGC1180, S5DIGP1010	S5DIGC1040								
S5DIGC1070	Installation of Working Platform for Distribution Chamber & Overflow Chamber	75	11-Dec-23*	23-Feb-24	13-Apr-23	27-Jun-23	-242	S5DIGP1010	S5DIGC1080	7							
S5DIGC1080	Installation of Working Platform for Digester 2 (Roof)	14	24-Feb-24	08-Mar-24	27-Jun-23	11-Jul-23	-242	S5DIGC1070, S5DIGP1010, S5DIGC1050	S5DIGT1020								
Sludge Digester 1		45	08-Aug-23 A	13-Mar-24	28-Jan-23	08-Jul-23	-250										
S5DIGC1090	Installation of Sludge Mixer (4 nos.)	0	08-Aug-23 A	26-Aug-23 A	28-Jan-23	28-Jan-23		S5DIGC1180	S5DIGC1100								
S5DIGC1100	Installation of Motor with Belt adjustment	0	27-Aug-23 A	13-Sep-23 A	28-Jan-23	28-Jan-23		S5DIGC1090	S5DIGC1110, S5DIGC1130, S5DIGC1040								
S5DIGC1110	Installation of Pipework, Valve, Inpsection Window, Telescopic Valve & Instruments	45	29-Jan-24*	13-Mar-24	28-Mar-23	12-May-23	-307	S5DIGC1100, S5DIGP1020, S5DIGC1150	S5DIGC1120, S5DIGT1015, S5DIGT1018, S5DIGT1000	4							
S5DIGC1120	Installation of Electrical System	45	29-Jan-24	13-Mar-24	24-May-23	08-Jul-23	-250	S5DIGC1110, S5P1050	S5DIGT1010	4							
Sludge Digester 3		145	14-Sep-23 A	13-Mar-24	28-Jan-23	08-Jul-23	-250										
S5DIGC1130	Installation of Sludge Mixer (4 nos.)	41	14-Sep-23 A	30-Nov-23	28-Jan-23	10-Mar-23	-266	S5DIGC1100	S5DIGC1140								
S5DIGC1140	Installation of Motor with Belt adjustment	18	01-Dec-23	18-Dec-23	10-Mar-23	28-Mar-23	-266	S5DIGC1130	S5DIGC1150, S5DIGC1050								
S5DIGC1150	Installation of Pipework, Valve, Inpsection Window, Telescopic Valve & Instruments	45	29-Jan-24*	13-Mar-24	28-Mar-23	12-May-23	-307	S5DIGC1140, S5DIGP1020	S5DIGC1160, S5DIGC1110, S5DIGC1190, S5DIGT1015, S5DIGT1018, S5DIGT1000	4							
S5DIGC1160	Installation of Electrical System	45	29-Jan-24	13-Mar-24	24-May-23	08-Jul-23	-250	S5DIGC1150, S5P1050	S5DIGT1010	4							
Sludge Digester 4		45	29-Jun-23 A	13-Mar-24	28-Jan-23	08-Jul-23	-250										
S5DIGC1170	Installation of Sludge Mixer (4 nos.)	0	29-Jun-23 A	20-Jul-23 A	28-Jan-23	28-Jan-23			S5DIGC1180								
S5DIGC1180	Installation of Motor with Belt adjustment	0	21-Jul-23 A	07-Aug-23 A	28-Jan-23	28-Jan-23		S5DIGC1170	S5DIGC1190, S5DIGC1090, S5DIGC1060								
S5DIGC1190	Installation of Pipework, Valve, Inpsection Window, Telescopic Valve & Instruments	45	29-Jan-24	13-Mar-24	28-Mar-23	12-May-23	-307	S5DIGC1180, S5DIGP1020, S5DIGC1150	S5DIGC1200, S5DIGT1015, S5DIGT1018, S5DIGT1000	4							
S5DIGC1200	Installation of Electrical System	45	29-Jan-24	13-Mar-24	24-May-23	08-Jul-23	-250	S5DIGC1190, S5P1050	S5DIGT1010	4							
Distribution Chamber		160	04-Aug-23 A	28-Mar-24	13-Dec-22	08-Jul-23	-265										
S5DIGC1210	Installation of Sludge Recirculation Pumps (5 nos.)	0	04-Aug-23 A	17-Oct-23 A	23-Dec-22	23-Dec-22		AD1080, S5DIGP1000, S5DIGC1030	S5DIGC1220, S5DIGC1280, S5DIGT1018								
S5DIGC1220	Installation of Heat Exchanger (3 nos.)	11	18-Oct-23 A	31-Oct-23	09-Mar-23	20-Mar-23	-226	S5DIGC1210	S5DIGC1230								
S5DIGC1230	Installation of Sludge Transfer Pump (2 nos.)	0	04-Aug-23 A	07-Sep-23 A	20-Mar-23	20-Mar-23		S5DIGC1220	S5DIGC1240								
S5DIGC1240	Installation of Vertical Mixer at Sludge Buffer Tank (2 nos.)	8	15-Dec-23*	22-Dec-23	20-Mar-23	28-Mar-23	-270	S5DIGC1230	S5DIGC1250								



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30-Sep-23	Rev.38	IM/LT	KM
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Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	2020	2021	2022	2023	2024	2025	2026
S5DIGC1250	Installation of Pipework, Valve & Instruments	135	16-Oct-23 A	03-Mar-24	13-Dec-22	27-Apr-23	-312	S5DIGC1240, S5DIGP1020	S5DIGC1260, S5DIGN1000, S5H2SC1020, S5DIGN1015, S5DIGN1018	13							
S5DIGC1260	Installation of Electrical System	135	16-Oct-23 A	03-Mar-24	23-Feb-23	08-Jul-23	-240	S5DIGC1250, S5P1050	S5DIGN1010	13							
S5DIGC1270	Installation of Gas Detection System	90	30-Dec-23	28-Mar-24	27-Mar-23	25-Jun-23	-278	S5CHPP1040	S5DIGN1030	9							
BS Installation		201	25-Aug-23 A	08-May-24	23-Dec-22	22-May-23	-353										
Distribution Chamber		201	25-Aug-23 A	08-May-24	23-Dec-22	22-May-23	-353										
S5DIGC1280	Installation of FS System	90	25-Aug-23 A	18-Jan-24	23-Dec-22	23-Mar-23	-302	S5DIGC1210	S5DIGC1290, S5S1220	9							
S5DIGC1290	Installation of MVAC System	90	11-Dec-23	09-Mar-24	23-Dec-22	23-Mar-23	-353	S5DIGC1280, S5P1080	S5DIGC1300, S5S1220	9							
S5DIGC1300	Installation of Plumbing System	60	10-Mar-24	08-May-24	23-Mar-23	22-May-23	-353	S5S1120, S5DIGC1290	S5S1160	6							
Testing and Commissioning		180	04-Mar-24	30-Aug-24	27-Apr-23	24-Aug-23	-373										
S5DIGN1000	Pipe Pressure Test	75	04-Mar-24	17-May-24	27-Apr-23	11-Jul-23	-312	S5DIGC1250, S5DIGC1190, S5DIGC1150, S5DIGC1110	S5DIGN1020	8							
S5DIGN1010	Ready for Power Energisation	3	29-Jul-24	31-Jul-24	08-Jul-23	11-Jul-23	-387	S5DIGC1260, S5DIGC1200, S5DIGC1160, S5DIGC1120, S5EXAC1030, S5CHPT1020	S5DIGN1020								
S5DIGN1015	SAT of Instrumentation	30	14-Mar-24	12-Apr-24	11-Jun-23	11-Jul-23	-277	S5DIGC1250, S5DIGC1190, S5DIGC1150, S5DIGC1110	S5DIGN1020, S5T1120, S5T1110, S5T1060, S5T1220	3							
S5DIGN1018	SAT for Digested Sludge Recirculation Pumps	60	14-Mar-24	12-May-24	12-May-23	11-Jul-23	-307	S5DIGC1210, S5DIGC1250, S5DIGC1190, S5DIGC1150, S5DIGC1110	S5DIGN1020, S5T1220	6							
S5DIGN1020	Self test for Sludge Anaerobic Digestion System	30	01-Aug-24	30-Aug-24	11-Jul-23	10-Aug-23	-387	S5DIGC1080, S5DIGN1010, S5DIGN1000, S5DIGN1015, S5DIGN1018	S5T1120, S5T1110, S5T1060, S5T1220, S5T1050, S5T1280	3							
S5DIGN1030	SAT for Gas detection System	60	29-Mar-24	27-May-24	25-Jun-23	24-Aug-23	-278	S5DIGC1270	S5T1110, S5T1220	6							
Workshop No. 2		343	29-Nov-21 A	27-Sep-24	11-Mar-23	08-May-24	-143										
Fabrication, FAT & Delivery of Major Plant & Materials		132	29-Nov-21 A	29-Feb-24	17-Mar-23	17-Jan-24	-44										
S5WS2P1000	Fabrication of 11kV to 380V Transformers	0	14-Jul-22 A	09-Jan-23 A	17-Mar-23	17-Mar-23		S2P1110	S5WS2P1010								
S5WS2P1010	FAT for 11kV to 380V Transformers	0	10-Jan-23 A	15-Feb-23 A	17-Mar-23	17-Mar-23		S5WS2P1000	S5WS2P1020								
S5WS2P1020	Delivery of 11kV to 380V Transformers	0	16-Feb-23 A	25-Mar-23 A	17-Mar-23	17-Mar-23		S5WS2P1010	S5CHPC1130, S5WS2C1070								
S5WS2P1060	Fabrication of 11 kV Switchboard	0	29-Nov-21 A	26-Jun-22 A	17-Mar-23	17-Mar-23		S2P1120	S5WS2P1070								
S5WS2P1070	FAT for 11 kV Switchboard	0	18-Oct-22 A	21-Oct-22 A	17-Mar-23	17-Mar-23		S5WS2P1060	S5WS2P1080								
S5WS2P1080	Delivery of 11kV Switchboard	0	01-Nov-22 A	25-Mar-23 A	17-Mar-23	17-Mar-23		S5WS2P1070	S5WS2C1060, S5CHPC1140, S5WS2T1000								
S5WS2P1090	Fabrication of LV Switchboard	0	04-Dec-22 A	07-Apr-23 A	17-Jan-24	17-Jan-24		S2P1130, S2D1250, S2D1190, S2D1270	S5WS2P1100								



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Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	Gantt Chart (2020-2026)												
S5WS2P1100	FAT for LV Switchboard	0	10-Apr-23 A	14-Apr-23 A	17-Jan-24	17-Jan-24		S5WS2P1090	S5WS2P1110		[Gantt Chart]												
S5WS2P1110	Delivery of LV Switchboard	0	20-Apr-23 A	14-Jul-23 A	17-Jan-24	17-Jan-24		S5WS2P1100	S5WS2C1080, S5WS2T1005		[Gantt Chart]												
S5WS2P1120	Fabrication & Delivery of Lift	0	18-Dec-21 A	10-Aug-22 A	30-Apr-23	30-Apr-23			S5WS2C1190		[Gantt Chart]												
S5WS2P1130	Fabrication, FAT & Delivery of SCADA System	132	04-Nov-22 A	29-Feb-24	18-Jul-23	27-Nov-23	-95		S5WS2C1180	60	[Gantt Chart]												
Installation												[Gantt Chart]											
S5WS2C1000	Mobilisation	0	31-Dec-21 A	12-Mar-22 A	05-Apr-23	05-Apr-23		AD1120, S5S1030	S5WS2C1010, S5WS2C1050		[Gantt Chart]												
CLP Substation												[Gantt Chart]											
S5WS2C1010	BS Fitting Installation (at CLP Sub-station in Workshop No.2)	0	14-Mar-22 A	02-Sep-22 A	05-Apr-23	05-Apr-23		S5WS2C1000, AD1120	KD1060, S5WS2C1020, S5WS2C1050, KD1060-1		[Gantt Chart]												
S5WS2C1020	Inspections, Rectification & H/O to CLP	0	03-Sep-22 A	13-Jun-23 A	05-Apr-23	05-Apr-23		S5WS2C1010	S5WS2C1030		[Gantt Chart]												
S5WS2C1030	E&M Installation of HV Transformer (By CLP)	63	26-Jun-23 A	22-Dec-23	05-Apr-23	07-Jun-23	-199	S5WS2C1020	S5WS2C1040		[Gantt Chart]												
S5WS2C1040	Energisation (By CLP)	1	23-Dec-23	23-Dec-23	07-Jun-23	08-Jun-23	-199	S5WS2C1030, S5WS2C1060, S5S1000, S5WS2T1000	S5TXRT1010		[Gantt Chart]												
HV Switchroom / Transformer Room / LV Switchroom												[Gantt Chart]											
S5WS2C1050	BS Fitting Installation	41	11-Apr-22 A	30-Nov-23	27-Jan-24	08-Mar-24	99	S5WS2C1000, S5WS2C1010	S5WS2T1010		[Gantt Chart]												
S5WS2C1060	HV Switchroom Installation	0	06-Apr-23 A	31-Aug-23 A	17-Mar-23	17-Mar-23		S5WS2P1080	S5WS2C1130, S5TXRT1010, S5WS2C1040, S5WS2C1070, S5WS2T1010, S5WS2T1000		[Gantt Chart]												
S5WS2C1070	TX Room Installation	41	28-Jul-23 A	30-Nov-23	17-Mar-23	27-Apr-23	-218	S5WS2C1060, S5WS2P1020	S5WS2T1010, S5WS2T1000		[Gantt Chart]												
S5WS2C1080	LV Switchroom Installation	23	20-Aug-23 A	12-Nov-23	17-Jan-24	09-Feb-24	89	S5WS2P1110	S5WS2T1005, S5WS2C1085		[Gantt Chart]												
S5WS2C1085	Cable Laying and Termination	12	02-Mar-24*	13-Mar-24	10-Feb-24	22-Feb-24	-21	S5WS2C1080	S5WS2T1010		[Gantt Chart]												
S5WS2C1090	Access to Other Peripheral Systems (Impacted by EWN-0314)	0	09-Oct-23 A	09-Oct-23 A	12-Mar-23	12-Mar-23			S5WS2C1110		[Gantt Chart]												
S5WS2C1100	Access to Other Peripheral Systems (Impacted by EWN-0314-1)	0	09-Oct-23 A	09-Oct-23 A	12-Mar-23	12-Mar-23			S5WS2C1110		[Gantt Chart]												
S5WS2C1105	Access to Stage 1 External Area	0	09-Oct-23 A		12-Mar-23				S5WS2C1110		[Gantt Chart]												
S5WS2C1110	HV Cables Laying between Workshop No.2 & Tx Rm for CHP Bldg and Termination	48	09-Oct-23 A	07-Dec-23	12-Mar-23	29-Apr-23	-223	S5WS2C1090, S5WS2C1105, S5WS2C1100	S5WS2C1120, PL1210, S5CHPT1020		[Gantt Chart]												
S5WS2C1120	HV Cables Laying between Workshop No.2 & Tx Rm for Sludge Dewatering Bldg and Termination	42	11-Oct-23 A	19-Dec-23	30-Mar-23	11-May-23	-223	S5WS2C1110	PL1210, S5SDBT1050		[Gantt Chart]												
S5WS2C1125	Access to Stage 3 External Area	0	16-Oct-23 A		13-Apr-23				S5WS2C1130		[Gantt Chart]												
S5WS2C1130	HV Cables Laying between Workshop No.2 & Tx Rm for UV System No.1 and Termination	55	16-Oct-23 A	14-Dec-23	13-Apr-23	07-Jun-23	-191	S5WS2C1060, S5WS2C1125	S5TXRT1010, PL1210		[Gantt Chart]												
S5WS2C1200	Installation of UPS	7	21-May-24	27-May-24	24-Apr-24	01-May-24	-27	S5P1090	S5WS2T1030		[Gantt Chart]												
Building Services												[Gantt Chart]											
S5WS2C1140	Installation of FS System	41	11-Apr-22 A	30-Nov-23	28-Oct-23	08-Dec-23	8	S5S1120	S5WS2C1150, S5S1130		[Gantt Chart]												
S5WS2C1150	Installation of MVAC System	72	19-Dec-22 A	31-Dec-23	06-Dec-23	16-Feb-24	47	S5WS2C1140, S5P1080	S5S1220		[Gantt Chart]												
S5WS2C1160	Installation of Electrical System	72	03-Oct-22 A	31-Dec-23	16-Sep-23	27-Nov-23	-35		S5WS2C1180		[Gantt Chart]												
S5WS2C1170	Installation of Plumbing System	72	10-Oct-22 A	31-Dec-23	11-Mar-23	22-May-23	-224	S5S1120	S5S1160		[Gantt Chart]												
S5WS2C1180	Installation of SCADA System	69	01-Mar-24	08-May-24	27-Nov-23	04-Feb-24	-95	S5WS2C1160, S5WS2P1130	S5T1200, S5S0990, PL1210, S5T1004	7	[Gantt Chart]												
S5WS2C1190	Installation of Lift	0	13-Sep-22 A	28-Feb-23 A	30-Apr-23	30-Apr-23		S5WS2P1120	S5WS2T1020, S5SDBC1780		[Gantt Chart]												



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Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	2020	2021	2022	2023	2024	2025	2026
Testing and Commissioning		320	13-Nov-23	27-Sep-24	27-Apr-23	08-May-24	-143										
S5WS2T1000	SAT for Transformer	14	01-Dec-23	14-Dec-23	27-Apr-23	11-May-23	-218	S5WS2P1080, S5WS2C1060, S5WS2C1070	S5WS2T1010, S5WS2C1040, S5CHPT1005, S5TXRT0001, S5SDBT1120								
S5WS2T1005	SAT for LV Switchboard	28	13-Nov-23	10-Dec-23	09-Feb-24	08-Mar-24	89	S5WS2P1110, S5WS2C1080	S5WS2T1010								
S5WS2T1010	Ready for Power Energisation	1	29-Jul-24	29-Jul-24	08-Mar-24	09-Mar-24	-143	S5EXAC1030, S5WS2C1060, S5WS2C1070, S5WS2T1000, S5WS2T1005, S5WS2C1050, S5WS2C1085	S5WS2T1020								
S5WS2T1020	SAT for Lift	60	30-Jul-24	27-Sep-24	09-Mar-24	08-May-24	-143	S5WS2C1190, S5WS2T1010	S5S1090, S5T1004	6							
S5WS2T1030	SAT for UPS	7	28-May-24	03-Jun-24	01-May-24	08-May-24	-27	S5WS2C1200	S5T1004								
Biogas Storage		346	29-Nov-21 A	30-Sep-24	29-Aug-22	24-Sep-25	359										
Fabrication, FAT & Delivery of Major Plant & Materials		62	29-Nov-21 A	21-Dec-23	29-Aug-22	10-Jul-23	-165										
S5BIOP1000	Fabrication & Delivery of Biogas Booster and Transfer Pumps	62	22-Jan-23 A	21-Dec-23	09-May-23	10-Jul-23	-165	S5P1000	S5BIOC1040	30							
S5BIOP1010	Fabrication & Delivery of Biogas Storage	0	29-Nov-21 A	30-Jul-22 A	29-Aug-22	29-Aug-22		S2P1050, S2D1530	S5BIOC1020, S5BIOC1030, S5BIOC1040								
E&M Installation		315	13-Sep-22 A	31-Aug-24	29-Aug-22	24-Sep-25	389										
S5BIOC1000	Access to Biogas Holding Tanks (Impacted by EWN-0314-1)	0	13-Sep-22 A	13-Sep-22 A	29-Aug-22	29-Aug-22			S5BIOC1010								
S5BIOC1010	Mobilisation	0	13-Sep-22 A	14-Oct-22 A	29-Aug-22	29-Aug-22		AD1100, S5BIOC1000	S5BIOC1020								
Mechanical Installation		315	03-Oct-22 A	31-Aug-24	29-Aug-22	10-Jul-23	-419										
S5BIOC1020	Mechanical Installation of Biogas Storage Tank 3	223	03-Oct-22 A	31-May-24	29-Aug-22	09-Apr-23	-419	AD1100, S5BIOP1010, S5S1060, S5BIOC1010	S5BIOC1030, S5BIOC1060, S5BIOT1010, S5S1070, S5BIOT1050	15							
S5BIOC1030	Mechanical Installation of Biogas Storage Tank 2	284	10-Oct-22 A	31-Jul-24	29-Aug-22	09-Jun-23	-419	AD1100, S5BIOC1020, S5BIOP1010	S5BIOC1040, S5BIOT1020, S5BIOC1060, S5S1070, S5BIOT1050	15							
S5BIOC1040	Mechanical Installation of Biogas Storage Tank 1	315	01-Jun-23 A	31-Aug-24	29-Aug-22	10-Jul-23	-419	AD1100, S5BIOC1030, S5BIOP1010, S5BIOP1000	PL1210, S5BIOT1030, S5BIOC1060, S5S1070, S5BIOT1050	15							
Electrical Installation		246	30-Dec-23	31-Aug-24	27-Mar-23	24-Sep-25	389										
S5BIOC1060	Electrical Installation for Biogas Holding Tanks	76	17-Jun-24	31-Aug-24	11-Jul-25	24-Sep-25	389	S5BIOC1020, S5BIOC1040, S5BIOC1030		14							
S5BIOC1070	Installation for Gas Detection System	90	30-Dec-23	28-Mar-24	27-Mar-23	25-Jun-23	-278	S5CHPP1040	S5BIOT1040	9							
Testing and Commissioning		186	29-Mar-24	30-Sep-24	25-Jun-23	08-May-24	-146										
S5BIOT1000	Ready for Power Energisation	1	29-Jul-24	29-Jul-24	09-Jul-23	10-Jul-23	-386	S5EXAC1050, S5CHPT1020	S5BIOT1030, S5BIOT1050								
S5BIOT1010	SAT for Biogas Storage Tank 3	30	01-Jun-24	30-Jun-24	25-Jul-23	24-Aug-23	-312	S5BIOC1020	S5T1120, S5T1110, S5T1260, S5S1070	3							
S5BIOT1020	SAT for Biogas Storage Tank 2	30	01-Aug-24	30-Aug-24	25-Jul-23	24-Aug-23	-373	S5BIOC1030	S5T1120, S5T1110, S5T1260, S5S1070	3							



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S5BIOT1030	SAT for Biogas Storage Tank 1	30	01-Sep-24	30-Sep-24	10-Jul-23	09-Aug-23	-419	S5BIOC1040, S5BIOT1000	S5T1110, S5T1260, S5S1070	3	[Gantt Chart: Red bar from 01-Sep-24 to 30-Sep-24]											
S5BIOT1040	SAT for Gas Detection System	60	29-Mar-24	27-May-24	25-Jun-23	24-Aug-23	-278	S5BIOC1070	S5T1110, S5T1260	6	[Gantt Chart: Red bar from 29-Mar-24 to 27-May-24]											
S5BIOT1050	SAT for Biogas Transfer and Booster Pumps	30	01-Sep-24	30-Sep-24	08-Apr-24	08-May-24	-146	S5BIOC1020, S5BIOC1030, S5BIOC1040, S5BIOT1000	S5T1260		[Gantt Chart: Red bar from 01-Sep-24 to 30-Sep-24]											
THP Area		312	29-Jun-21 A	28-Aug-24	05-Jan-23	22-Sep-23	-342				[Gantt Chart: Summary bar for THP Area]											
Fabrication, FAT & Delivery of Major Plant & Materials		0	29-Jun-21 A	23-May-22 A	05-Jan-23	05-Jan-23					[Gantt Chart: Summary bar for Fabrication, FAT & Delivery]											
S5THPP1000	Fabrication of THP System	0	29-Jun-21 A	18-Mar-22 A	05-Jan-23	05-Jan-23		S2P1040, S2D1410, S2D1370	S5THPP1010		[Gantt Chart: Blue bar from 29-Jun-21 to 18-Mar-22]											
S5THPP1010	FAT for THP System	0	03-Jan-22 A	17-May-22 A	05-Jan-23	05-Jan-23		S5THPP1000	S5THPP1020		[Gantt Chart: Blue bar from 03-Jan-22 to 17-May-22]											
S5THPP1020	Delivery of THP System	0	29-Mar-22 A	23-May-22 A	05-Jan-23	05-Jan-23		S5THPP1010	S5THPC1020		[Gantt Chart: Blue bar from 29-Mar-22 to 23-May-22]											
E&M Installation		184	22-Nov-22 A	22-Apr-24	05-Jan-23	23-Aug-23	-244				[Gantt Chart: Summary bar for E&M Installation]											
S5THPC1000	Access to THP Area (Impacted by EWN-0314)	0	22-Nov-22 A	22-Nov-22 A	05-Jan-23	05-Jan-23			S5THPC1020		[Gantt Chart: Vertical line at 22-Nov-22]											
S5THPC1010	Access to THP Area (Impacted by EWN-0314-1)	0	22-Nov-22 A	22-Nov-22 A	05-Jan-23	05-Jan-23			S5THPC1020		[Gantt Chart: Vertical line at 22-Nov-22]											
Mechanical Installation		108	20-Feb-23 A	06-Feb-24	05-Jan-23	23-Aug-23	-168				[Gantt Chart: Summary bar for Mechanical Installation]											
S5THPC1020	Mechanical Installation of THP System	102	20-Feb-23 A	31-Jan-24	05-Jan-23	17-Apr-23	-290	AD1100, S5THPP1020, S5S1020, S5THPC1000, S5THPC1010	S5THPC1030, S5THPT1010, S5THPC1050, S5WGBC1020, S5THPT1000	10	[Gantt Chart: Blue bar from 20-Feb-23 to 31-Jan-24]											
S5THPC1030	Mechanical Installation of Thickened Sludge Feed Pipe to THP System	30	08-Jan-24*	06-Feb-24	24-Jul-23	23-Aug-23	-168	S5THPC1020	S5THPT1010, PL1210	3	[Gantt Chart: Red bar from 08-Jan-24 to 06-Feb-24]											
Electrical Installation		82	01-Feb-24	22-Apr-24	17-Apr-23	22-Aug-23	-245				[Gantt Chart: Summary bar for Electrical Installation]											
S5THPC1050	Electrical Installation for THP Facilities	60	01-Feb-24	31-Mar-24	17-Apr-23	16-Jun-23	-290	S5THPC1020	S5THPT1000, S5THPT1005	6	[Gantt Chart: Red bar from 01-Feb-24 to 31-Mar-24]											
S5THPC1060	Installation of Control panel for THP	6	17-Apr-24*	22-Apr-24	25-Jul-23	31-Jul-23	-267		S5THPT0005		[Gantt Chart: Vertical line at 17-Apr-24]											
S5THPC1070	Cable Laying and Termination	12	02-Mar-24*	13-Mar-24	10-Aug-23	22-Aug-23	-205		S5THPT1000		[Gantt Chart: Vertical line at 02-Mar-24]											
Testing and Commissioning		128	23-Apr-24	28-Aug-24	09-Jul-23	22-Sep-23	-342				[Gantt Chart: Summary bar for Testing and Commissioning]											
S5THPT0005	SAT of LV switchboard	8	23-Apr-24	30-Apr-24	31-Jul-23	08-Aug-23	-267	S5THPC1060	S5THPT1000		[Gantt Chart: Vertical line at 23-Apr-24]											
S5THPT1000	Ready for Power Energisation	1	29-Jul-24	29-Jul-24	22-Aug-23	23-Aug-23	-342	S5THPC1020, S5EXAC1050, S5THPC1050, S5CHPT1020, S5THPC1070, S5THPT0005	S5THPT1010		[Gantt Chart: Vertical line at 29-Jul-24]											
S5THPT1005	SAT of Instrumentation	45	24-Apr-24	07-Jun-24	09-Jul-23	23-Aug-23	-290	S5THPC1050	S5THPT1010, S5T1230, S5T1050	4	[Gantt Chart: Red bar from 24-Apr-24 to 07-Jun-24]											
S5THPT1010	Self test for THP system	30	30-Jul-24	28-Aug-24	23-Aug-23	22-Sep-23	-342	S5THPC1020, S5THPC1030, S5CHPT1020, S5THPT1000, S5THPT1005	S5T1050, S5T1230, S5T1050	3	[Gantt Chart: Red bar from 30-Jul-24 to 28-Aug-24]											
H2S Removal Area		299	23-Jun-22 A	14-Aug-24	18-Mar-23	24-Sep-25	406				[Gantt Chart: Summary bar for H2S Removal Area]											
Fabrication, FAT & Delivery of Major Plant & Materials		41	23-Jun-22 A	30-Nov-23	18-Mar-23	28-Apr-23	-217				[Gantt Chart: Summary bar for Fabrication, FAT & Delivery]											
S5H2SP1000	Fabrication & Delivery of H2S Removal System	41	23-Jun-22 A	30-Nov-23	18-Mar-23	28-Apr-23	-217	S2P1060, S2D1530	S5H2SC1020	30	[Gantt Chart: Blue bar from 23-Jun-22 to 30-Nov-23]											
Installation		60	15-May-23 A	03-Mar-24	12-May-23	24-Sep-25	570				[Gantt Chart: Summary bar for Installation]											
S5H2SC1000	Access to H2S Removal Area (Impacted by EWN-0314)	0	15-May-23 A	15-May-23 A	12-May-23	12-May-23			S5H2SC1020		[Gantt Chart: Vertical line at 15-May-23]											
S5H2SC1010	Access to H2S Removal Area (Impacted by EWN-0314-1)	0	15-May-23 A	15-May-23 A	12-May-23	12-May-23			S5H2SC1020		[Gantt Chart: Vertical line at 15-May-23]											
S5H2SC1012	Access to H2S Removal Area (Impacted by EWN-0314-2)	0	15-May-23 A	15-May-23 A	24-Sep-25	24-Sep-25					[Gantt Chart: Vertical line at 15-May-23]											
S5H2SC1015	Actual Access Date	0	15-May-23 A		12-May-23				S5H2SC1020		[Gantt Chart: Vertical line at 15-May-23]											



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30-Sep-23	Rev.38	IM/LT	KM
31-Oct-23	Rev.39	IM/LT	KM

Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	2020	2021	2022	2023	2024	2025	2026
S5H2SC1020	E&M Installation of H2S Removal System	60	04-Jan-24	03-Mar-24	12-May-23	11-Jul-23	-237	AD1100, S5H2SP1000, S5H2SC1000, S5H2SC1010, S5H2SC1015, S5DIGC1250	PL1210, S5H2ST1010	6							
Testing and Commissioning		30	16-Jul-24	14-Aug-24	11-Jul-23	10-Aug-23	-371										
S5H2ST1000	Ready for Power Energisation	3	29-Jul-24	31-Jul-24	24-Jul-23	27-Jul-23	-371	S5EXAC1050, S5CHPT1020	S5H2ST1010								
S5H2ST1010	SAT of H2S Removal System	30	16-Jul-24	14-Aug-24	11-Jul-23	10-Aug-23	-371	S5H2ST1000, S5H2SC1020	S5T1110, S5T1120, S5T1110, S5T1060, S5T1250	3							
Waste Gas Burning Area		334	29-Mar-22 A	18-Sep-24	14-Apr-23	06-Nov-23	-318										
Fabrication, FAT & Delivery of Major Plant & Materials		41	29-Mar-22 A	30-Nov-23	14-Apr-23	25-May-23	-190										
S5WGBP1000	Fabrication of Waste Gas Burning System	0	29-Mar-22 A	26-Apr-23 A	14-Apr-23	14-Apr-23		S2P1080, S2D1650	S5WGBP1010								
S5WGBP1010	FAT for Waste Gas Burning System	0	20-Apr-23 A	26-Apr-23 A	14-Apr-23	14-Apr-23		S5WGBP100	S5WGBP102								
S5WGBP1020	Delivery of Waste Gas Burning System	41	27-Apr-23 A	30-Nov-23	14-Apr-23	25-May-23	-190	S5WGBP101	S5WGBC102	15							
Installation		120	31-Mar-23 A	04-Aug-24	25-May-23	22-Sep-23	-318										
S5WGBC1000	Access to Waste Gas Burning Area (Impacted by EWN-0314)	0	31-Mar-23 A	31-Mar-23 A	25-May-23	25-May-23			S5WGBC102								
S5WGBC1010	Access to Waste Gas Burning Area (Impacted by EWN-0314-1)	0	31-Mar-23 A	31-Mar-23 A	25-May-23	25-May-23			S5WGBC102								
S5WGBC1015	Actual Access Date	0	31-Mar-23 A	31-Mar-23 A	25-May-23	25-May-23			S5WGBC102								
S5WGBC1020	E&M Installation of Waste Gas Burning System	120	07-Apr-24*	04-Aug-24	25-May-23	22-Sep-23	-318	AD1100, S5WGBP1020, S5THPC1020, S5WGBC1000, S5WGBC1010, S5WGBC1015	S5WGBT1010, PL1210	12							
Testing and Commissioning		140	02-May-24	18-Sep-24	19-Sep-23	06-Nov-23	-318										
S5WGBT1000	Ready for Power Energisation	3	02-May-24	04-May-24	19-Sep-23	22-Sep-23	-226	S5EXAC1090, S5CHPT1020	S5WGBT1010								
S5WGBT1010	SAT for Flare (Waste Gas Burning System)	45	05-Aug-24	18-Sep-24	22-Sep-23	06-Nov-23	-318	S5WGBC1020, S5WGBT1000	S5T1120, S5T1110	4							
Plant Service Water Area		300	15-Dec-22 A	15-Aug-24	12-Feb-23	10-Aug-23	-372										
Fabrication, FAT & Delivery of Major Plant & Materials		41	15-Dec-22 A	30-Nov-23	12-Feb-23	25-Mar-23	-251										
S5PSWP1000	Fabrication & Delivery of Plant Service Water System	41	15-Dec-22 A	30-Nov-23	12-Feb-23	25-Mar-23	-251	S2P1090, S2D1690	S5PSWC1000	30							
Installation		90	01-Dec-23	28-Feb-24	25-Mar-23	23-Jun-23	-251										
S5PSWC1000	E&M Installation of Plant Service Water System	90	01-Dec-23	28-Feb-24	25-Mar-23	23-Jun-23	-251	AD1100, S5PSWP1000	S5PSWT1000, PL1210, S5PSWT1010, S5PSWT1005	9							
Testing and Commissioning		48	29-Jun-24	15-Aug-24	23-Jun-23	10-Aug-23	-372										
S5PSWT1000	Ready for Power Energisation	3	29-Jun-24	01-Jul-24	23-Jun-23	26-Jun-23	-372	S5PSWC1000, S5EXAC1080, S5TXRT1010	S5PSWT1010, S5PSWT1005								
S5PSWT1005	SAT of Instrumentation	30	02-Jul-24	31-Jul-24	11-Jul-23	10-Aug-23	-357	S5PSWC1000, S5PSWT1000	S5PSWT1010								
S5PSWT1010	SAT & System Commissioning Tests for Plant Services Water System	45	02-Jul-24	15-Aug-24	26-Jun-23	10-Aug-23	-372	S5PSWT1000, S5UVPC1000, S5PSWC1000, S5PSWT1005	S5T1060, S5T1006, S5T1055, S5T1050, S5T1280	5							
DO Area		315	10-Mar-22 A	30-Aug-24	16-Dec-22	10-Aug-23	-387										
Fabrication, FAT & Delivery of Major Plant & Materials		87	10-Mar-22 A	15-Jan-24	16-Dec-22	13-Mar-23	-309										
S5DOUP1000	Fabrication & Delivery of DO System	87	10-Mar-22 A	15-Jan-24	16-Dec-22	13-Mar-23	-309	S2P1150, S2D1930	S5DOUC1030, S5DOUC1040								



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Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	2020	2021	2022	2023	2024	2025	2026
Installation		90	01-Jun-23 A	14-Apr-24	13-Mar-23	11-Jul-23	-279										
S5DOUC1000	Access to DO Area (Impacted by EWN-0314)	0	01-Jun-23 A	01-Jun-23 A	13-Mar-23	13-Mar-23			S5DOUC1030, S5DOUC1040								
S5DOUC1010	Access to DO Area No.11 (Impacted by EWN-0314-1)	0	08-Jun-23 A	08-Jun-23 A	13-Mar-23	13-Mar-23			S5DOUC1030, S5DOUC1012								
S5DOUC1012	Access to DO Area No.11 (Impacted by EWN-0314-2)	0	08-Jun-23 A	08-Jun-23 A	13-Mar-23	13-Mar-23		S5DOUC1010	S5DOUC1025								
S5DOUC1020	Access to DO Area No.12 (Impacted by EWN-0314-1)	0	01-Jun-23 A	01-Jun-23 A	12-Apr-23	12-Apr-23			S5DOUC1040, S5DOUC1022								
S5DOUC1022	Access to DO Area No.12 (Impacted by EWN-0314-2)	0	01-Jun-23 A	01-Jun-23 A	12-Apr-23	12-Apr-23		S5DOUC1020	S5DOUC1035								
S5DOUC1025	Actual Access Date (DO Area No.11)	0	08-Jun-23 A		13-Mar-23			S5DOUC1012	S5DOUC1030					◆			
S5DOUC1030	E&M Installation of DO System No.11	90	16-Jan-24	14-Apr-24	13-Mar-23	11-Jun-23	-309	AD1100, S5DOUP1000, S5DOUC1000, S5DOUC1010, S5DOUC1025	S5DOUT1020	9							
S5DOUC1035	Actual Access Date (DO Area No.12)	0	01-Jun-23 A		12-Apr-23			S5DOUC1022	S5DOUC1040					◆			
S5DOUC1040	E&M Installation of DO System No.12	90	16-Jan-24	14-Apr-24	12-Apr-23	11-Jul-23	-279	AD1100, S5DOUP1000, S5DOUC1000, S5DOUC1020, S5DOUC1035	PL1210, S5DOUT1030	9							
Testing and Commissioning		63	29-Jun-24	30-Aug-24	08-Jun-23	10-Aug-23	-387										
S5DOUT1000	Ready for Power Energisation of DO No.11	3	29-Jun-24	01-Jul-24	08-Jun-23	11-Jun-23	-387	S5EXAC1080, S5TXRT1010	S5DOUT1020								
S5DOUT1010	Ready for Power Energisation of DO No.12	3	29-Jul-24	31-Jul-24	08-Jul-23	11-Jul-23	-387	S5EXAC1050, S5CHPT1020	S5DOUT1030								
S5DOUT1020	SAT & System Commissioning Tests for DO System No.11	30	02-Jul-24	31-Jul-24	11-Jun-23	11-Jul-23	-387	S5DOUT1000, S5DOUC1030	S5T1110, S5T1006, S5T1055, S5SDBT1250, S5T1280, S5T1270	6							
S5DOUT1030	SAT & System Commissioning Tests for DO System No.12	30	01-Aug-24	30-Aug-24	11-Jul-23	10-Aug-23	-387	S5DOUT1010, S5DOUC1040	S5T1110, S5T1240, S5T1050, S5T1280	6							
Sewage Pump Station		280	23-May-22 A	26-Jul-24	03-Nov-22	16-Feb-24	-162										
Fabrication, FAT & Delivery of Major Plant & Materials		206	23-May-22 A	13-May-24	03-Nov-22	28-May-23	-352										
S5SPSP1000	Fabrication & Delivery of Sewage Pump	0	23-May-22 A	17-Oct-23 A	14-Apr-23	14-Apr-23		S2P1180, S2D1940	S5SPSC1000								
S5SPSP1010	Fabrication & Delivery of LV Switchboard	206	28-Mar-23 A	13-May-24	03-Nov-22	28-May-23	-352		S5SPSC1001, S5SPST0990	30							
S5SPSP1020	Fabrication & Delivery of SCADA System	87	01-Aug-23 A	15-Jan-24	17-Nov-22	12-Feb-23	-338		S5SPSC1012								
Installation		203	17-Jul-23 A	10-Jun-24	12-Feb-23	16-Feb-24	-116										
E&M Installation		203	17-Jul-23 A	10-Jun-24	12-Feb-23	25-Jun-23	-352										
S5SPSC1000	E&M Installation of Sewage Pump	72	17-Jul-23 A	31-Jan-24	14-Apr-23	25-Jun-23	-221	AD1100, S5SPSP1000	S5SPSC1020, S5SPST1000, PL1210								
S5SPSC1001	LV Switchboard Installation	6	14-May-24	19-May-24	28-May-23	03-Jun-23	-352	S5SPSP1010	S5SPST0990								
S5SPSC1002	Cable Laying and Termination	101	02-Mar-24*	10-Jun-24	16-Mar-23	25-Jun-23	-352		S5SPST1000	10							
S5SPSC1012	SCADA System Installation	60	16-Jan-24	15-Mar-24	12-Feb-23	13-Apr-23	-338	S5SPSP1020	S5T1000	6							
BS Installation		60	01-Feb-24	31-Mar-24	18-Dec-23	16-Feb-24	-45										
S5SPSC1020	BS Installation for Sewage Pumping Station	60	01-Feb-24	31-Mar-24	18-Dec-23	16-Feb-24	-45	S5SPSC1000	S5S1220	6							
Testing and Commissioning		68	20-May-24	26-Jul-24	03-Jun-23	10-Aug-23	-352										
S5SPST0990	SAT of Switchboard	8	20-May-24	27-May-24	03-Jun-23	11-Jun-23	-352	S5SPSP1010, S5SPSC1001	S5SPST1000								



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S5SPST1000	Ready for Power Energisation	1	11-Jun-24	11-Jun-24	25-Jun-23	26-Jun-23	-352	S5SPSC1000, S5SPST0990, S5EXAC1070, S5SDBT1050, S5SPSC1002	S5SPST1010								
S5SPST1010	SAT & System Commissioning Tests for Sewage Pumping Station	45	12-Jun-24	26-Jul-24	26-Jun-23	10-Aug-23	-352	S5SPST1000	S5T1060, S5T1000, S5T1055								
THP Cooling Water Transfer Pumping Station		105	23-May-22 A	14-Sep-24	11-May-23	24-Aug-23	-388										
Fabrication, FAT & Delivery of Major Plant & Materials		0	23-May-22 A	15-Aug-23 A	11-May-23	11-May-23											
S5TCWP1000	Fabrication & Delivery of THP Cooling Pump	0	23-May-22 A	15-Aug-23 A	11-May-23	11-May-23		S2P1210, S2D1970, S2D1370	S5TCWC1020								
Installation		60	07-Jun-23 A	31-Jul-24	11-May-23	10-Jul-23	-388										
S5TCWC1000	Access to THP CW Transfer Pumping Station (Impacted by EWN-0314)	0	07-Jun-23 A	07-Jun-23 A	11-May-23	11-May-23			S5TCWC1020								
S5TCWC1010	Access to THP CW Transfer Pumping Station (Impacted by EWN-0314-1)	0	07-Jun-23 A	07-Jun-23 A	11-May-23	11-May-23			S5TCWC1020, S5TCWC1012								
S5TCWC1012	Access to THP CW Transfer Pumping Station (Impacted by EWN-0314-2)	0	07-Jun-23 A	07-Jun-23 A	11-May-23	11-May-23		S5TCWC1010	S5TCWC1015								
S5TCWC1015	Actual Access Date	0	07-Jun-23 A		11-May-23			S5TCWC1012	S5TCWC1020								
S5TCWC1020	E&M Installation of THP Cooling Pump	60	02-Jun-24	31-Jul-24	11-May-23	10-Jul-23	-388	AD1100, S5TCWP1000, S5TCWC1000, S5TCWC1010, S5TCWC1015	S5TCWT1000, PL1210, S5TCWT1010	6							
Testing and Commissioning		48	29-Jul-24	14-Sep-24	07-Jul-23	24-Aug-23	-388										
S5TCWT1000	Ready for Power Energisation	3	29-Jul-24	31-Jul-24	07-Jul-23	10-Jul-23	-388	S5TCWC1020, S5EXAC1030, S5CHPT1020	S5TCWT1010								
S5TCWT1010	SAT & System Commissioning Tests for THP Cooling Water Pumping System	45	01-Aug-24	14-Sep-24	10-Jul-23	24-Aug-23	-388	S5TCWT1000, S5TCWC1020	S5T1110	5							
Ferric Chloride Dosing Facility		280	14-May-22 A	26-Jul-24	03-Nov-22	10-Aug-23	-352										
Fabrication, FAT & Delivery of Major Plant & Materials		206	14-May-22 A	13-May-24	03-Nov-22	28-May-23	-352										
S5FCDP1000	Fabrication & Delivery of Ferric Chloride Storage Tank	61	09-Jan-23 A	20-Dec-23	24-Nov-22	24-Jan-23	-331	S5P1030, S2D1980	S5FCDC1020	15							
S5FCDP1010	Fabrication & Delivery of Ferric Chloride Dosing Pump	0	14-May-22 A	09-Dec-22 A	23-Feb-23	23-Feb-23		S5P1040, S2D1980	S5FCDC1030								
S5FCDP1020	Fabrication & Delivery of LV Switchboard	206	28-Mar-23 A	13-May-24	03-Nov-22	28-May-23	-352		S5FCDC1035	30							
Installation		151	20-Jun-23 A	19-May-24	24-Jan-23	03-Jun-23	-352										
S5FCDC1000	Access to Ferric Chloride Dosing Facility (Impacted by EWN-0314)	0	20-Jun-23 A	20-Jun-23 A	24-Jan-23	24-Jan-23			S5FCDC1020								
S5FCDC1010	Access to Ferric Chloride Dosing Facility (Impacted by EWN-0314-1)	0	20-Jun-23 A	20-Jun-23 A	24-Jan-23	24-Jan-23			S5FCDC1020, S5FCDC1012								
S5FCDC1012	Access to Ferric Chloride Dosing Facility (Impacted by EWN-0314-2)	0	20-Jun-23 A	20-Jun-23 A	24-Jan-23	24-Jan-23		S5FCDC1010	S5FCDC1015								
S5FCDC1015	Actual Access Date	0	20-Jun-23 A		24-Jan-23			S5FCDC1012	S5FCDC1020								
S5FCDC1020	E&M Installation of Ferric Chloride Storage Tank	45	21-Dec-23	03-Feb-24	24-Jan-23	10-Mar-23	-331	AD1100, S5FCDP1000, S5FCDC1000, S5FCDC1010, S5FCDC1015	S5FCDC1030, S5S1280, S5S1270	5							
S5FCDC1030	E&M Installation of Ferric Chloride Dosing Pump	45	20-Jan-24	04-Mar-24	23-Feb-23	09-Apr-23	-331	AD1100, S5FCDC1020, S5FCDP1010	S5FCDT1000, S5FCDT0990, PL1210, S5S1270	5							
S5FCDC1035	LV Switchboard Installation	6	14-May-24	19-May-24	28-May-23	03-Jun-23	-352	S5FCDP1020	S5FCDT0990								
Testing and Commissioning		68	20-May-24	26-Jul-24	03-Jun-23	10-Aug-23	-352										
S5FCDT0990	SAT of Switchboard	8	20-May-24	27-May-24	03-Jun-23	11-Jun-23	-352	S5FCDC1030, S5FCDC1035	S5FCDT1000, S5FCDT1000								



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30-Sep-23	Rev.38	IM/LT	KM
31-Oct-23	Rev.39	IM/LT	KM

Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	2020	2021	2022	2023	2024	2025	2026
S5FCDT1000	Ready for Power Energisation	1	11-Jun-24	11-Jun-24	25-Jun-23	26-Jun-23	-352	S5FCDC1030, S5FCDT0990, S5EXAC1070, S5SDBT1050, S5FCDT0990	S5FCDT1010								
S5FCDT1010	SAT & System Commissioning Tests for FeCl3 Dosing Facility	45	12-Jun-24	26-Jul-24	26-Jun-23	10-Aug-23	-352	S5FCDT1000	S5T1000, S5T1120, S5T1110, S5T1060	5							
Fire Hydrant and Booster Pump Room		245	18-Oct-22 A	31-Jul-24	06-Oct-23	16-Feb-24	-167										
Fabrication, FAT & Delivery of Major Plant & Materials		0	18-Oct-22 A	16-Dec-22 A	06-Oct-23	06-Oct-23											
S5SHPP1000	Fabrication & Delivery of Fire Hydrant and Booster Pump	0	18-Oct-22 A	16-Dec-22 A	06-Oct-23	06-Oct-23			S5SHPC1020								
Installation		63	07-Jun-23 A	31-Jan-24	06-Oct-23	08-Dec-23	-55										
S5SHPC1000	Access to Fire Hydrant and Booster Pump Room (Impacted by EWN-0314)	0	07-Jun-23 A	07-Jun-23 A	06-Oct-23	06-Oct-23			S5SHPC1020								
S5SHPC1010	Access to Fire Hydrant and Booster Pump Room (Impacted by EWN-0314-1)	0	07-Jun-23 A	07-Jun-23 A	06-Oct-23	06-Oct-23			S5SHPC1020, S5SHPC1012								
S5SHPC1012	Access to Fire Hydrant and Booster Pump Room (Impacted by EWN-0314-2)	0	07-Jun-23 A	07-Jun-23 A	06-Oct-23	06-Oct-23		S5SHPC1010	S5SHPC1015								
S5SHPC1015	Actual Access Date	0	07-Jun-23 A		06-Oct-23			S5SHPC1012	S5SHPC1020								
S5SHPC1020	Fire Hydrant and Booster Pump Room Installation	63	30-Nov-23*	31-Jan-24	06-Oct-23	08-Dec-23	-55	S5S1120, AD1100, S5SHPC1000, S5SHPC1010, S5SHPP1000, S5SHPC1015	S5S1130, S5SHPT1000, PL1210	6							
Testing and Commissioning		33	29-Jun-24	31-Jul-24	14-Jan-24	16-Feb-24	-167										
S5SHPT1000	Ready for Power Energisation	3	29-Jun-24	01-Jul-24	14-Jan-24	17-Jan-24	-167	S5SHPC1020, S5EXAC1080, S5TXRT1010	S5SHPT1010								
S5SHPT1010	SAT for Fire Hydrant and Booster Pump	30	02-Jul-24	31-Jul-24	17-Jan-24	16-Feb-24	-167	S5SHPT1000	S5S1220	3							
External Area		312	21-Oct-23	27-Aug-24	07-Feb-23	16-Feb-24	-194										
Installation		312	21-Oct-23	27-Aug-24	07-Feb-23	16-Feb-24	-194										
S5EXAC1000	Access to Other Peripheral Systems (Impacted by EWN-0314)	1	21-Oct-23*	21-Oct-23	19-Aug-23	20-Aug-23	-63		S5EXAC1100, S5EXAC1110								
S5EXAC1010	Access to Other Peripheral Systems (Impacted by EWN-0314-1)	1	21-Oct-23*	21-Oct-23	25-May-23	26-May-23	-149		S5EXAC1100, S5EXAC1110, S5EXAC1030								
S5EXAC1020	Access to Stage 1 External Area	0	21-Oct-23*		07-Feb-23		-256		S5EXAC1030								
S5EXAC1030	LV Cable Laying from CHP to Sludge Digester, Workshop no.2 and THP CW transfer PS (100 days) & Termination (50 days)	150	01-Mar-24*	28-Jul-24	07-Feb-23	07-Jul-23	-388	S5EXAC1010, S5P1050, S5EXAC1020	S5TCWT1000, S5WS2T1010, S5DIGT1010, PL1210	15							
S5EXAC1040	Access to Stage 2 External Area	0	21-Oct-23*		08-Feb-23		-255		S5EXAC1050, S5EXAC1045								
S5EXAC1045	E&M Installation of Pipe Trench No.1, No.2 (Duration assumed no interface work)	100	01-Mar-24*	08-Jun-24	14-Jun-23	22-Sep-23	-261	AD1100, S5EXAC1040	S5T1050, PL1210	10							
S5EXAC1050	LV Cable Laying from CHP to BHT, THP, DOU No.12, H2S removal & Guard Hse (90 days) & Termination (60 days)	150	01-Mar-24*	28-Jul-24	08-Feb-23	08-Jul-23	-387	S5EXAC1040	S5BIOT1000, S5THPT1000, S5DOUT1010, S5H2ST1000	15							
S5EXAC1060	Access to Stage 3 External Area	0	21-Oct-23*		08-Feb-23		-255		S5EXAC1090, S5EXAC1080, S5EXAC1070								
S5EXAC1070	LV Cable Laying from SDB to SPS (20 days) & Termination (25 days)	45	15-Jan-24*	28-Feb-24	11-May-23	25-Jun-23	-249	S5EXAC1060, S5P1050	S5SPST1000, S5FCDT1000	4							



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S5EXAC1080	LV Cable Laying from TX & SW Room to DOU no. 11, Street Hydrant Pump room and PSWS (75 days) & Termination (45 days)	120	01-Mar-24*	28-Jun-24	08-Feb-23	08-Jun-23	-387	S5P1050, S5EXAC1060, S5TXRC1040	S5SHPT1000, S5DOUT1000, S5PSWT1000, PL1210, S5EXAC1090	12							
S5EXAC1090	LV Cable Laying from CHP to FeCl3 Dosing Facility and Waste Gas Burning System (30 days) & Termination (30 days)	60	01-Mar-24	29-Apr-24	21-Jul-23	19-Sep-23	-224	S5EXAC1060, S5EXAC1080	S5WGBT1000	6							
S5EXAC1100	Road Lighting Installation	180	01-Mar-24*	27-Aug-24	20-Aug-23	16-Feb-24	-194	AD1100, S5EXAC1000, S5EXAC1010, S5P1050	S5S1220, PL1210	18							
S5EXAC1110	Landscape Lighting Installation	120	01-Mar-24*	28-Jun-24	19-Oct-23	16-Feb-24	-134	S5EXAC1000, S5EXAC1010, S5P1050	S5S1220, PL1210	12							
SAS Pumping Station		227	04-Jul-21 A	03-Jun-24	26-Dec-22	10-Aug-23	-299										
Fabrication, FAT & Delivery of Major Plant & Materials		87	04-Jul-21 A	15-Jan-24	11-Jan-23	13-May-23	-248										
S5SASP1000	Fabrication & Delivery of SAS Pumping System	0	16-Mar-22 A	20-Mar-23 A	08-Apr-23	08-Apr-23		S2P1100, S2D1770	S5SASC1010								
S5SASP1010	Fabrication & Delivery of Stoplog	0	04-Jul-21 A	27-Jan-22 A	08-Apr-23	08-Apr-23		S2P1160	S5SASC1010								
S5SASP1020	Fabrication & Delivery of Penstock	0	04-Jul-21 A	27-Jan-22 A	08-Apr-23	08-Apr-23		S2P1170	S5SASC1010								
S5SASP1030	Fabrication & Delivery of Lifting Appliances	0	30-Oct-21 A	28-Mar-23 A	08-Apr-23	08-Apr-23			S5SASC1010								
S5SASP1040	Delivery of Control & Monitoring System / SCADA System	87	04-Nov-22 A	15-Jan-24	11-Jan-23	08-Apr-23	-283		S5SASC1020								
S5SASP1050	Fabrication & Delivery of LV Switchboard	87	22-Mar-23 A	15-Jan-24	15-Feb-23	13-May-23	-248		S5SASC1030								
Installation		220	23-Mar-22 A	27-May-24	26-Dec-22	03-Aug-23	-299										
S5SASC1000	Access to SAS Pumping Station (Impacted by NCE-NCE-219)	0	23-Mar-22 A	23-Mar-22 A	26-Dec-22	26-Dec-22		AD1160	S5SASC1010								
S5SASC1010	E&M Installation of SAS Pumping System	103	23-Mar-22 A	31-Jan-24	26-Dec-22	08-Apr-23	-299	AD1160, S5SASP1000, CE0219b, S5SASP1010, S5SASP1020, S5SASC1000, S5SASP1030	S5SAST1000, PL1210, S5SASC1020	10							
S5SASC1020	Installation of SCADA System / Control Monitoring System	30	01-Feb-24	01-Mar-24	08-Apr-23	08-May-23	-299	S5SASP1040, S5SASC1010	S5T1001								
S5SASC1030	LV Switchboard Installation	10	16-Jan-24	25-Jan-24	13-May-23	23-May-23	-248	S5SASP1050	S5SAST1010								
S5SASC1040	Installation of UPS	7	21-May-24	27-May-24	27-Jul-23	03-Aug-23	-299	S5P1090	S5SAST1030								
Testing and Commissioning		130	26-Jan-24	03-Jun-24	23-May-23	10-Aug-23	-299										
S5SAST1000	SAT & System Commissioning Tests for SAS Pumping Station	45	29-Feb-24	13-Apr-24	26-Jun-23	10-Aug-23	-248	S5SASC1010, S5SAST1020	S5T1110, S5T1120, S5T1060, S5T1001, S5T1055	5							
S5SAST1010	SAT of Switchboard	4	26-Jan-24	29-Jan-24	23-May-23	27-May-23	-248	S5SASC1030	S5SAST1020								
S5SAST1020	Ready for Power Energisation	1	28-Feb-24	28-Feb-24	25-Jun-23	26-Jun-23	-248	S5SAST1010	S5SAST1000								
S5SAST1030	SAT for UPS	7	28-May-24	03-Jun-24	03-Aug-23	10-Aug-23	-299	S5SASC1040	S5T1001								
Existing Consolidation House		150	21-Feb-22 A	28-Jun-24	13-Mar-23	10-Aug-23	-324										
Fabrication, FAT & Delivery of Major Plant & Materials		0	21-Feb-22 A	20-Jul-22 A	13-Mar-23	13-Mar-23											
S5EHP1000	Fabrication & Delivery of Temporary Primary Sludge Pump	0	21-Feb-22 A	20-Jul-22 A	13-Mar-23	13-Mar-23		S2P1220, S2D1990	S5EHC1000								
Installation		120	31-Jan-24	29-May-24	13-Mar-23	11-Jul-23	-324										
S5EHC1000	E&M Installation of Existing Consolidation House	120	31-Jan-24*	29-May-24	13-Mar-23	11-Jul-23	-324	CE0219d, S5EHP1000	S5T1060, S5ECHT1000, PL1210	12							
Testing and Commissioning		30	30-May-24	28-Jun-24	11-Jul-23	10-Aug-23	-324										
S5ECHT1000	SAT for Temporary Primary Sludge Pump	30	30-May-24	28-Jun-24	11-Jul-23	10-Aug-23	-324	S5EHC1000	S5T1060, S5T1055, S5T1270	3							
Miscellaneous		190	19-Jun-23 A	27-Apr-24	15-Apr-23	16-Feb-24	-72										



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S5MISC1000	Access to Other Peripheral Systems - Guard House Only (Impacted by EWN-0314-4)	0	29-Jan-24*		18-Nov-23		-72		S5MISC1010								
S5MISC1010	E&M Installation - Guard House	90	29-Jan-24*	27-Apr-24	18-Nov-23	16-Feb-24	-72	S5MISC1000	S5S1220	9							
S5UVPC1000	E&M Installation of Lift-up Pumps & Associated Pipeworks / Valves	72	19-Jun-23 A	31-Dec-23	15-Apr-23	26-Jun-23	-189	S4C1030, S4P1080, S4T1020	S5PSWT1010, PL1210	7							
Testing & Commissioning		613	21-Jan-24	24-Sep-25	30-Dec-22	02-Aug-24	-419										
T&C of Control Monitoring System		374	21-Jan-24	28-Jan-25	30-Dec-22	08-May-24	-266										
S5T1000	SAT of SCADA System (SPS and FeCl3)	133	16-Mar-24	26-Jul-24	13-Apr-23	24-Aug-23	-338	S5SPSC1012, S5SPST1010, S5FCDT1010	S5T1110, S5T1004								
S5T1001	SAT of SCADA System (SAS PS)	94	02-Mar-24	03-Jun-24	08-May-23	10-Aug-23	-299	S5SASC1020, S5SAST1000, S5SAST1030	S5T1055, S5T1004								
S5T1002	SAT of SCADA (SDB)	237	21-Jan-24	13-Sep-24	30-Dec-22	24-Aug-23	-387	S5SDBC1570, S5SDBT1060, S5SDBT1070, S5SDBT1080, S5SDBT1090, S5SDBT1100, S5SDBT1130, S5SDBT1140, S5SDBT1150, S5SDBT1160, S5SDBT1170, S5SDBT1180, S5SDBT1190, S5SDBT1210, S5SDBT1240, S5T1055, S5T1060, S5SDBT1245	S5T1110, S5T1004								
S5T1003	SAT of SCADA (CHP System at CHP building) (Excluded Biogas Circuit)	131	04-Jun-24	12-Oct-24	29-Dec-23	08-May-24	-158	S5CHPC1120, S5CHPT1022, S5CHPT1040, S5CHPT1050, S5CHPT1070, S5CHPT1060, S5CHPT1080	S5T1140, S5T1004								
S5T1004	SAT of SCADA (WS2)	179	04-Jun-24	29-Nov-24	11-Nov-23	08-May-24	-206	S5WS2C1180, S5WS2T1020, S5T1000, S5T1001, S5T1002, S5T1003, S5T1006, S5T1220, S5T1230, S5T1240, S5T1250, S5T1260, S5WS2T1030	S5T1140								
S5T1006	SAT of SCADA (Transformer and Switchroom)	200	29-Jan-24	15-Aug-24	05-Feb-23	24-Aug-23	-358	S5TXRC1050, S5DOUT1020, S5PSWT1010	S5T1110, S5T1004								
S5T1210	SAT of SCADA (CHP System at CHP building) (Biogas Circuit)	60	30-Nov-24	28-Jan-25	04-Feb-24	04-Apr-24	-300	S5CHPT1030	S5T1100								
S5T1220	SAT of SCADA (Sludge Anaerobic Digestion System at CHP Building)	112	11-May-24	30-Aug-24	17-Jan-24	08-May-24	-115	S5DIGT1015, S5DIGT1018, S5DIGT1020, S5DIGT1030, S5CHPC1250	S5T1140, S5T1004								



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S5T1230	SAT of SCADA (THP system at CHP Building)	203	11-May-24	29-Nov-24	18-Oct-23	08-May-24	-206	S5THPT1005, S5THPT1010, S5T1050, S5CHPC1250	S5T1140, S5T1004																																																																																																																																																	
S5T1240	SAT of SCADA (DO System at CHP building)	112	11-May-24	30-Aug-24	17-Jan-24	08-May-24	-115	S5DOUT1030, S5CHPC1250	S5T1140, S5T1004																																																																																																																																																	
S5T1250	SAT of SCADA (H2S Removal System at CHP building)	96	11-May-24	14-Aug-24	02-Feb-24	08-May-24	-99	S5CHPC1250, S5H2ST1010	S5T1140, S5T1004																																																																																																																																																	
S5T1260	SAT of SCADA (Biogas Holding Tank at CHP building)	130	24-May-24	30-Sep-24	30-Dec-23	08-May-24	-146	S5CHPC1250, S5BIOT1010, S5BIOT1020, S5BIOT1030, S5BIOT1040, S5BIOT1050	S5T1140, S5T1004																																																																																																																																																	
S5T1270	SAT of SCADA (for Sludge Thickening System at SDB Building)	179	04-Feb-24	31-Jul-24	12-Feb-23	10-Aug-23	-357	S5SDBC1570, S5SDBC1510, S5SDBC1520, S5SDBC1470, S5SDBC1410, S5DOUT1020, S5SDBT1020, S5ECHT1000, S5SDBT1175	S5T1055																																																																																																																																																	
S5T1280	SAT of SCADA (for Sludge Dewatering System at SDB Building)	185	28-Feb-24	30-Aug-24	06-Feb-23	10-Aug-23	-387	S5PSWT1010, S5SDBT1020, S5SDBT1010, S5SDBT1080, S5SDBT1178, S5SDBT1060, S5DOUT1020, S5DOUT1030, S5DIGT1020, S5SDBT1160	S5T1060																																																																																																																																																	
T&C of E&M Process		390	31-Aug-24	24-Sep-25	10-Aug-23	02-Aug-24	-419																																																																																																																																																			
S5T1050	SAT of THP System & Auxiliary Equipment (including THP Cooling Water	45	16-Oct-24	29-Nov-24	22-Sep-23	06-Nov-23	-390	S5THPT1010, S5EXAC1045, S5T1055, S5T1110, S5PSWT1010, S5CHPT1050, S5SDBT1020, S5DOUT1030, S5SDBT1250, S5DIGT1020, S5THPT1005, S5THPT1010	S5T1120, S5T1230																																																																																																																																																	
S5T1055	SAT of Sludge Thickening System including Sludge Thickening Centrifuge	14	31-Aug-24	13-Sep-24	10-Aug-23	24-Aug-23	-387	S5SDBT1100, S5SDBT1110, S5SDBT1175, S5SDBT1178, S5T1001, S5SDBT1210, S5PSWT1010, S5SAST1000, S5SPST1010, S5SDBT1080, S5ECHT1000, S5SDBT1020, S5DOUT1020, S5SDBT1160, S5SDBT1250, S5T1270	S5T1050, S5T1002, PL1520																																																																																																																																																	



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S5T1060	SAT of Sludge Dewatering System including Sludge Dewatering Centrifuge	14	31-Aug-24	13-Sep-24	10-Aug-23	24-Aug-23	-387	S5EHC1000, S5SPST1010, S5SAST1000, S5ECHT1000, S5SDBT1100, S5SDBT1090, S5SDBT1160, S5SDBT1170, S5SDBT1080, S5SDBT1010, S5SDBT1210, S5SDBT1060, S5SDBT1040, S5SDBC1300, S5SDBC1210, S5PSWT1010, S5SDBC1570, S5SDBT1050, S5SDBC1170, S5SDBC1185, S5SDBC1340, S5SDBC1310, S5DIGT1020, S5H2ST1010, S5FCDT1010, S5DIGT1015, S5SDBT1260, S5T1280	S5T1120, S5T1002, PL1520											
S5T1100	CHP on-grid	60	29-Jan-25	29-Mar-25	04-Apr-24	03-Jun-24	-300	S5CHPT1030, S5S1310, S5CHPC1120, S5CHPT1000, S5CHPC1250, S5T1210	PL1560, S5T1200	6										
S5T1102	Sewage Pumping Station to inlet work pipework ready (by other)	0		15-Oct-24		24-Aug-23	-419		S5T1110											
S5T1104	Sludge pipe from existing consolidation house to sludge transfer to SDB ready	0		15-Oct-24		24-Aug-23	-419		S5T1110											
S5T1106	Sludge ready from Zone B	0		15-Oct-24		24-Aug-23	-419		S5T1110											



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Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	2020	2021	2022	2023	2024	2025	2026
S5T1110	Seeding Digester Tank no.4	74	16-Oct-24	28-Dec-24	24-Aug-23	06-Nov-23	-419	S5SAST1000, S5DOUT1020, S5DOUT1030, S5H2ST1010, S5T1102, S5T1104, S5T1106, S5T1122, S5T1124, S5BIOT1010, S5WGBT1010, S5TCWT1010, S5SDBT1240, S5CHPT1070, S5DIGT1030, S5BIOT1040, S5T1000, S5T1002, S5DIGT1020, S5H2ST1010, S5FCDT1010, S5DIGT1015, S5BIOT1020, S5T1006, S5S1210, S5S1070, S5BIOT1030, S5CHPT1050	S5T1120, S5T1050, S5CHPT1030								
S5T1120	Digester Tank no.4 feed THP sludge (Process start up)	120	29-Dec-24	27-Apr-25	06-Nov-23	05-Mar-24	-419	S5T1060, S5T1050, S5T1110, S5TXRC1050, S5SAST1000, S5BIOT1010, S5WGBT1010, S5DIGT1020, S5H2ST1010, S5FCDT1010, S5DIGT1015, S5BIOT1020	S5T1150, S5T1130, S3T1340, S3T1320	60							
S5T1122	Underground biogas pipe from SD to holding tank ready (by other)	0		01-Oct-24		10-Aug-23	-419		S5T1110								
S5T1124	Sludge pipe from distribution chamber back to SDB (by other)	0		15-Oct-24		24-Aug-23	-419		S5T1110								
S5T1130	Notice to Commence Phase 1 System Commissioning - Digester Tank no.4	7	28-Apr-25	04-May-25	01-May-24	08-May-24	-362	S5T1120	S5T1140								
S5T1140	Phase 1 System Commissioning - Digester Tank no.4	30	05-May-25	03-Jun-25	08-May-24	07-Jun-24	-362	S5T1130, S5T1003, S5T1220, S5T1230, S5T1240, S5T1250, S5T1260, S5T1004	S5T1180								
S5T1150	Digester Tank no.3 set-up (Process start up)	120	27-Feb-25	26-Jun-25	05-Jan-24	04-May-24	-419	S5T1120	S5T1160	30							
S5T1160	Notice to Commence Phase 1 System Commissioning - Digester Tank no.3	4	27-Jun-25	30-Jun-25	04-May-24	08-May-24	-419	S5T1150	S5T1170								
S5T1170	Phase 1 System Commissioning - Digester Tank no.3	30	01-Jul-25	30-Jul-25	08-May-24	07-Jun-24	-419	S5T1160	S5T1180								
S5T1180	Phase 2 System Commissioning - Digester Tank no.3 and no.4	7	31-Jul-25	06-Aug-25	07-Jun-24	14-Jun-24	-419	S5T1170, S5T1140	S5T1190, PL1310, S3T1360, S3T1320								
S5T1190	Notice to Commence Plant Commissioning	7	07-Aug-25	13-Aug-25	14-Jun-24	21-Jun-24	-419	S5T1180	S5T1200								



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Date	Revision	Checked	Approved
30-Jun-23	Rev.35	IM/LT	KM
31-Jul-23	Rev.36	IM/LT	KM
31-Aug-23	Rev.37	IM/LT	KM
30-Sep-23	Rev.38	IM/LT	KM
31-Oct-23	Rev.39	IM/LT	KM

Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	2020	2021	2022	2023	2024	2025	2026
S5T1200	Plant Commissioning Tests	42	14-Aug-25	24-Sep-25	21-Jun-24	02-Aug-24	-419	S5T1190, S5TXRC1050, S5WS2C1180, S5S1150, S5T1100, S5CHPT1060	SC51120	12							
Statutory Submission / Inspection		480	03-Oct-20 A	11-Feb-25	29-Aug-22	02-Aug-24	-194										
HKT Submission		180	09-May-24	04-Nov-24	04-Feb-24	02-Aug-24	-95										
S5S0990	Application of Telemetry Lines for Workshop No. 2.	180	09-May-24	04-Nov-24	04-Feb-24	02-Aug-24	-95	S5WS2C1180	SC51120	18							
CLP Submission		0	30-May-21 A	26-Sep-23 A	07-Jun-23	07-Jun-23											
S5S1000	Submission & Approval of Electrical Schematic Wiring Diagram to CLP	0	30-May-21 A	26-Sep-23 A	07-Jun-23	07-Jun-23			S5WS2C1040								
EPD Submission / Inspection		42	28-Aug-21 A	01-Dec-23	17-Nov-22	05-Jan-23	-331										
S5S1010	EPD Submission & Approval for Air Pollution Control - Genset	42	01-Mar-23 A	01-Dec-23	17-Nov-22	29-Dec-22	-338	S2D1860	S5SDBC1770	9							
S5S1020	EPD Submission & Approval for Air Pollution Control - CHP & Burner	0	28-Aug-21 A	29-Sep-22 A	05-Jan-23	05-Jan-23		S2D1610	S5THPC1020, S5CHPC1020								
EMSD Submission / Inspection		164	03-Oct-20 A	11-Feb-25	29-Aug-22	02-Aug-24	-194										
S5S1030	BEE0 Stage one: Submit EE1 & EE-SU to EMSD	0	03-Oct-20 A	02-Dec-20 A	05-Apr-23	05-Apr-23		S2D1890	S5WS2C1000								
S5S1040	BEE0 Stage two: Submit EE2 & EE-SU to EMSD	60	14-Dec-24	11-Feb-25	03-Jun-24	02-Aug-24	-194	S5S1250	SC51120								
S5S1050	Application & Approval of the Zone Classification of Hazardous Area - including Fire Risk Assessment Report	0	15-Nov-21 A	30-Aug-22 A	29-Aug-22	29-Aug-22		S2D1070	S5S1070, S5S1060								
S5S1060	Application for Construction Approval of Notifiable Gas Installation (Form 104)	0	15-Nov-21 A	30-Aug-22 A	29-Aug-22	29-Aug-22		S2D1070, S5S1050	S5S1070, S5BIOC1020								
S5S1070	Application for Approval of Use of Notifiable Gas Installation (Form 105) & EMSD inspection	45	01-Sep-24	15-Oct-24	10-Jul-23	24-Aug-23	-419	S5S1060, S5S1050, S5BIOC1020, S5BIOC1030, S5BIOC1040, S5BIOT1010, S5BIOT1020, S5BIOT1030	S5T1110	15							
S5S1090	Form 5 Submission to EMSD - Lift Installation	0	28-Sep-24		27-May-24		-124	S5WS2T1020, S5SDBT1070	S5S1100								
S5S1100	EMSD Inspection - Lift Installation	7	28-Oct-24	03-Nov-24	26-Jun-24	03-Jul-24	-124	S5S1090	S5S1110								
S5S1110	Issuance of Form 6 - Lift Installation	0		03-Dec-24		02-Aug-24	-124	S5S1100	SC51120								
WSD Submission / Inspection		192	01-Jul-21 A	10-Aug-24	11-Mar-23	16-Feb-24	-177										
S5S1120	Submit WWO46 Part I / II to WSD (FS/PD)	0	01-Jul-21 A	30-Jul-21 A	11-Mar-23	11-Mar-23		S2D1910, S2D1860, S2D1870, S2D1880, S2D1890, S2D1900	S5S1130, S5WS2C1140, S5SHPC1020, S5DIGC1300, S5WS2C1170								
S5S1130	Submit WWO46 Part IV to WSD (FS)	0	01-Feb-24		08-Dec-23		-55	S5S1120, S5WS2C1140, S5SHPC1020, S5SDBC1800, S5SDBC1690, S5SDBC1600	S5S1140, S5S1150								
S5S1140	WSD Inspection (FS)	28	15-Feb-24	13-Mar-24	22-Dec-23	19-Jan-24	-55	S5S1130	S5S1250, S5S1150								
S5S1150	Issuance of FS Water Certificate	0		10-Apr-24		16-Feb-24	-55	S5S1130, S5S1140	S5T1200, S5S1220								
S5S1160	Submit WWO46 Part IV to WSD (PD)	0	09-May-24		22-May-23		-353	S5CHPC1240, S5CHPC1110, S5DIGC1300, S5WS2C1170, S5SDBC1110	S5S1170								
S5S1170	WSD Inspection	7	23-May-24	29-May-24	05-Jun-23	12-Jun-23	-353	S5S1160	S5S1180								
S5S1180	Issuance of Form WWO46 Part Va	0		12-Jun-24		26-Jun-23	-353	S5S1170	S5S1200, S5S1190								
S5S1190	System Flushing / Sampling	45	13-Jun-24	27-Jul-24	26-Jun-23	10-Aug-23	-353	S5S1180	S5S1200								



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Sidestream Treatment Facilities and E&M Works for Sludge Treatment Facilities
Revised Programme - as at 20 October 2023

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Activity ID	Activity Name	Remaining Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors	Time Risk Allowance	2020	2021	2022	2023	2024	2025	2026
S5S1200	Issuance of Form WWO46 Part Vb	0		27-Jul-24		10-Aug-23	-353	S5S1180, S5S1190	S5S1210								
S5S1210	Issuance of Water Certificate	0		10-Aug-24		24-Aug-23	-353	S5S1200	SC51120, S5T1110	9							
FSD Submission / Inspection		420	29-Apr-22 A	13-Dec-24	28-Nov-22	03-Jun-24	-194										
S5S1220	Prepare & Submit FSI/314 & FSI/501	14	28-Aug-24	10-Sep-24	16-Feb-24	01-Mar-24	-194	S5WS2C1150, S5S1310, S5S1150, S5EXAC1100, S5EXAC1110, S5CHPC1080, S5CHPC1090, S5CHPC1210, S5CHPC1220, S5DIGC1280, S5DIGC1290, S5SHPT1010, S5SDBT1020, S5SDBT1150, S5SDBT1180, S5SDBT1130, S5MISC1010, S5SPSC1020	S5S1230								
S5S1230	FSD Review & Approval of FSI/314 & FSI/501	21	11-Sep-24	01-Oct-24	01-Mar-24	22-Mar-24	-194	S5S1220	S5S1240								
S5S1240	F.S. Inspection, Defects Rectification & Re-inspection	45	02-Oct-24	15-Nov-24	22-Mar-24	06-May-24	-194	S5S1230	S5S1250								
S5S1250	Issuance of Acceptance Letter	28	16-Nov-24	13-Dec-24	06-May-24	03-Jun-24	-194	S5S1240, S5S1140	S5S1040, SC51120								
S5S1260	Submission & Approval of DG Application to FSD	42	29-Apr-22 A	01-Dec-23	28-Nov-22	09-Jan-23	-327		S5S1270, S5SDBC1770								
S5S1270	Application of D.G. Licence	0	19-Apr-24		09-Apr-23		-376	S5S1260, S5CHPC1150, S5SDBC1770, S5FCDC1020, S5FCDC1030, S3S1110	S5S1280								
S5S1280	Apply for D.G. Inspection	21	19-Apr-24	09-May-24	09-Apr-23	30-Apr-23	-376	S5CHPC1150, S5FCDC1020, S5S1270	S5S1310, S5S1290								
S5S1290	D.G. Inspection, Defects Rectification & Re-inspection (Ventilation Division)	21	10-May-24	30-May-24	30-Apr-23	21-May-23	-376	S5S1280	S5S1310, S5S1300								
S5S1300	D.G. Inspection, Defects Rectification & Re-inspection (DG Division)	21	31-May-24	20-Jun-24	21-May-23	11-Jun-23	-376	S5S1290	S5S1310								
S5S1310	Issue D.G. Licence	14	21-Jun-24	04-Jul-24	11-Jun-23	25-Jun-23	-376	S5S1290, S5S1300, S5S1280	S5S1220, S5T1100, S5CHPT1050	30							



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Contract No. DE/2018/03
Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1
Sidestream Treatment Facilities and E&M Works for Sludge Treatment Facilities
Revised Programme - as at 20 October 2023

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31-Aug-23	Rev.37	IM/LT	KM
30-Sep-23	Rev.38	IM/LT	KM
31-Oct-23	Rev.39	IM/LT	KM

Contract No. DE/2018/04
 Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1
 - E&M Works for Sewage Treatment Facilities
 3 Month Rolling Programme (From 01/11/2023 to 01/01/2024)

Updated on: **20-Nov-23**

Item	Major Activities & Submission in coming 3 months	Time					Progress (E&M contract)				Action	Remarks / Status
		Contract Planned Commencement Date	Anticipated / Actual Commencement Date	Contract Planned Finish Date	Anticipated / Actual Finish Date	% of time elapsed based on "updated date")	Unit	Total Quantity	Completed Quantity	Actual Progress %		
Drawing Submission for Key Dates												
KD1A: Submission of civil and dimensional requirement drawing, electrical schematic drawings, etc. from formation level up to +8mPD in accordance with the contract requirement of Contract No. DC/2018/07 to carry out civil works construction	KD1A: Submission of Civil Requirement Drawing (Final)	28/8/2020	18/9/2020	5/11/2020	5/11/2020	Task Completed	no.	26	26	100%		
	KD1A: Submission of Electrical Schematic Drawing (Final)	15/7/2020	15/7/2020	5/11/2020	5/11/2020	Task Completed	no.	11	11	100%		
	KD1A: 6 November 2020											
KD1B: Submission of remaining civil and dimensional requirement drawings, electrical schematic drawing, etc. in accordance with the contract requirement of Contract No. DC/2018/07 to carry out civil works construction	KD1B: Submission of Civil Requirement Drawing (First Draft)	30/9/2020	28/9/2020	30/12/2020	31/3/2021	Task Completed	no.	47	47	100%		
	KD1B: Submission of Civil Requirement Drawing (Final)	6/11/2020	5/11/2020	4/6/2021	4/6/2021	Task Completed	no.	47	47	100%		All the CWR Drawings were submitted.
	KD1B: 4 June 2021											
KD3A: 04SC010 - Dismantle & Removal of Emergency Generators in existing Power House	Submission of subletting package for acceptance (C9)	1/3/2020	24/2/2020	14/3/2020	22/4/2020	Task Completed				100%	-	Bestwise resubmitted on 22 April 2020
	Acceptance of subletting package (C9)	14/3/2020	6/5/2020	1/4/2020	5/5/2020	Task Completed				100%	-	AECOM accepted subletting package on 5 May 2020
	Tender invitation (C9)	1/4/2020	15/5/2020	15/4/2020	22/5/2020	Task Completed				100%	-	Invitation to tender was commenced on 12 May 2020 and tender returned on 22 May 2020
	Tender award (C9)	15/4/2020	22/5/2020	29/4/2020	26/5/2020	Task Completed				100%	-	Bestwise submitted tender report on 26 May 2020
	Acceptance of tender award (C9)	-	-	-	6/6/2020	Task Completed				100%	-	AECOM accepted tender report on 2 June 2020, Letter of Acceptance was issued on 6 June
	Dismantle of existing BS equipment		15/6/2020		25/7/2020	Task Completed				100%		
	Removal of emergency generators	1/6/2020	15/6/2020	30/6/2020	25/7/2020	Task Completed				100%		
KD3A: 04SC010 - Dismantle & Removal of Emergency Generators in existing Power House	KD3A: Testing and Commissioning	1/7/2020	3/7/2020	29/7/2020	29/7/2020	Task Completed				100%		First test was conducted on 3 July 2020. Remaining test would be subjected to completion of civil works. KD3A - 29 July 2020. Joint Site Inspection was conducted on 24 July 2020 and Notice of completion of work was submitted on 28 July 2020
	KD3A: 29 July 2020											
KD3B: 6B.2.15 Operation Restoration of Existing Primary Sedimentation Tank (PST) No. 4 and 6	Submission of onsite survey plan on E&M aspects for	1/3/2020	25/3/2020	30/3/2020	27/4/2020	Task Completed				100%	-	Bestwise resubmitted onsite survey plan on 27 April 2020
	Acceptance of submission of onsite survey plan	1/3/2020	25/3/2020	30/3/2020	22/5/2020	Task Completed				100%	-	AECOM accepted the onsite survey plan on 22 May 2020. Onsite coordination with ST1 - Onsite survey conducted from 20 July 2020 to 22 July 2020. Bestwise submitted survey report on 5 August 2020. AECOM commented on 19 Aug 2020. Bestwise to resubmit upon conducting the remaining onsite survey. (Done) - Bestwise revised survey plan for remaining onsite checking of PST No. 6 on 1 Sep 2020. After discussion with plant operator, the remaining survey would be conducted after the dismantling work of PSTs. Formal survey record for PST No.4 was submitted on 24 May 2021. - Remaining survey (level of bridge & scraper) for PST 6 completed. - Formal survey report shall be submitted on 30 Jul 2021.
	KD3B: Submission of onsite survey report	11/7/2020	20/7/2020	16/7/2020	30/7/2021	Task Completed				100%	Bestwise	
	KD3B: Acceptance of onsite survey report	17/7/2020	6/8/2020	23/7/2020	6/8/2021	Task Completed				-		Acceptance for the center point, vertical and horizontal alignment of ductfoot installation of PST No.4 shall subject to joint site meeting conducted on 2 June 2021. Refer to E-RISC no. 000014A & 000016 result for details.
	KD3B: Preparation of procurement package (C11)	2/12/2019	1/8/2020	13/4/2020	7/8/2020	Task Completed				100%		
	KD3B: Tender invitation - Clarifier (C11)	2/12/2019	14/8/2020	13/4/2020	26/8/2020	Task Completed				100%		
	KD3B: Tender Award - Clarifier (C11)	2/12/2019	26/8/2020	13/4/2020	25/9/2020	Task Completed				100%		
	KD3B: Acceptance of tender award (C11)	2/12/2019	11/9/2020	13/4/2020	18/9/2020	Task Completed				-		
	KD3B: Tender invitation - DI Pipe (C11)	2/12/2019	13/1/2021	13/4/2020	19/1/2021	Task Completed				100%		
	KD3B: Tender Award - DI Pipe (C11)	2/12/2019	21/1/2021	13/4/2020	23/1/2021	Task Completed				100%		
	KD3B: Tender invitation - LCP (C11)	2/12/2019	3/2/2021	13/4/2020	5/2/2021	Task Completed				100%		
	KD3B: Tender Award - LCP (C11)	2/12/2019	6/2/2021	13/4/2020	8/2/2021	Task Completed				100%		
	KD3B: Preparation of subletting package for dismantling work (C9)	2/12/2019	21/9/2020	13/4/2020	21/10/2020	Task Completed				100%		
	KD3B: Tender invitation for dismantling work (C9)	2/12/2019	12/11/2020	13/4/2020	19/11/2020	Task Completed				100%		
	KD3B: Tender Award for dismantling work (C9)	2/12/2019	20/11/2020	13/4/2020	22/11/2020	Task Completed				100%		
	KD3B: Acceptance of tender award for dismantling work (C9)	2/12/2019	23/11/2020	13/4/2020	1/12/2020	Task Completed				100%		

Item	Major Activities & Submission in coming 3 months	Time					Progress (E&M contract)				Action	Remarks / Status
		Contract Planned Commencement Date	Anticipated / Actual Commencement Date	Contract Planned Finish Date	Anticipated / Actual Finish Date	% of time elapsed based on "updated date")	Unit	Total Quantity	Completed Quantity	Actual Progress %		
	KD3B: Preparation and Acceptance of subletting package for installation work (C9)	2/12/2019	15/12/2020	13/4/2020	1/3/2021	Task Completed				100%		
	KD3B: Tender invitation for installation work (C9)	2/12/2019	3/3/2021	13/4/2020	10/3/2021	Task Completed				100%		
	KD3B: Tender Award for installation work (C9)	2/12/2019	12/3/2021	13/4/2020	15/3/2021	Task Completed				100%		
	KD3B: Acceptance of tender award for installation work (C9)	2/12/2019	15/3/2021	13/4/2020	19/3/2021	Task Completed				100%		
	Submission and Acceptance of Drawing Submission	14/4/2020	5/8/2020	10/9/2020	11/1/2021	Task Completed				100%		
	Submission and Acceptance of P&M Submission	14/4/2020	5/8/2020	10/9/2020	30/6/2021	Task Completed						Formal resubmission of P&M for Rotating Bridge Scraper P&M-0024 (Rev.1) was submitted to AECOM on 24 June 2021 and is accepted by AECOM. P&M submission for Local Control Panel Rev.3 was submitted on 20 Mar 2021 and AECOM accepted on 26 Mar 2021.
	Submission and Acceptance of FAT Plan	1/12/2020	27/1/2021	15/12/2020	16/2/2021	Task Completed				100%		
	Submission and Acceptance of SAT Plan	1/3/2021	1/3/2021	1/4/2021	5/5/2021	Task Completed				100%		Bestwise submitted on 13 Apr 2021. AECOM accepted with comments on 5 May 2021.
	Submission and Acceptance of Design Submission (Support to DN700 Feed Pipe)	N/A	22/2/2021	N/A	13/5/2021	Task Completed						Advanced Calculation was provided on 17 Mar 2021 and revised on 18 Mar 2021. Bestwise proposed to use the existing support. Calculation was provided on 1 Apr 2021 via email. Dimension of support column was checked again on 14 Apr 2021. Proposal submitted on 30 Apr 2021. AECOM accepted with comments on 13 May 2021.
	Submission and Acceptance of Design Submission (Stainless steel support to FRP Cover of Effluent	N/A	24/2/2021	N/A	19/4/2021	Task Completed				100%		Advanced Calculation was provided on 17 Mar 2021 and revised on 18 Mar 2021. Bestwise formal submitted on 26 Mar 2021. AECOM accepted with comment on 19 Apr 2021.
	KD3B: Dismantle and Removal of E&M Equipment at PST No. 6	9/2/2021	21/12/2020	19/2/2021	15/1/2021	Task Completed				100%		
	Flow Diversion and drain out PST No.4	N/A	25/1/2021	N/A	26/3/2021	Task Completed				100%		
	KD3B: Dismantle and Removal of E&M Equipment at PST No. 4	9/2/2021	5/3/2021	19/2/2021	1/4/2021	Task Completed				100%		
	KD3B: Material Manufacturing (Clarifier)	12/9/2020	16/12/2020	12/12/2020	20/2/2021	Task Completed				100%		The clarifier would be manufactured in 2 batches (rotating bridge related and FRP launder cover). Manufacturing instruction was issued on 16 Dec 2020. Jash suggested 1st batch of material (clarifier) would be ready for shipping on 20 Feb 2021 and 2nd batch of material (FRP Launder Cover) would be ready for shipping on 13 Mar 2021. (To be confirmed by Jash by providing shipment booking, but supplier cannot provide updated information at this moment due to second surge of COVID-19 in india)
	KD3B: FAT of the Clarifier	N/A	24/2/2021	N/A	1/3/2021	Task Completed				100%		FAT Report submitted on 24 Feb 2021 and AECOM accepted subject to comment on 1 Mar 2021
	KD3B: Material Delivery (Clarifier)	13/12/2020	27/2/2021	18/1/2021	6/4/2021	Task Completed				100%		
	KD3B: Material Deliver to Site (Clarifier)	N/A	6/4/2021	N/A	8/4/2021	Task Completed				100%		
	KD3B: Material Manufacturing (DI pipes and fittings)	11/9/2020	26/1/2021	18/1/2021	15/3/2021	Task Completed				100%		Extracted from C9 package to C11 package to suit the installation programme
	KD3B: Material Delivery (DI pipes and fittings)	11/9/2020	16/3/2021	18/1/2021	24/3/2021	Task Completed				100%		
	KD3B: Material Delivery (FRP Cover)	N/A	26/3/2021	N/A	21/6/2021	Task Completed				100%		All the FRP covers were delivered to site.
	KD3B: Material Manufacturing (LCP)	11/9/2020	4/3/2021	18/1/2021	16/4/2021	Task Completed				100%		
	KD3B: Material Delivery (LCP)	11/9/2020	17/4/2021	18/1/2021	30/4/2021	Task Completed				100%		
	KD3B: Retrofitting Concrete Structure of PST No. 4	N/A	2/4/2021	N/A	22/4/2021	Task Completed				100%		
	KD3B: Installation of E&M Equipment at PST No. 4	27/2/2021	5/4/2021	10/5/2021	17/5/2021	Task Completed						
	KD3B: Testing and Commissioning for PST No. 4	11/5/2021	19/4/2021	9/6/2021	26/7/2021	Task Completed						Wet test for PST 4 completed on 26 July 2021.
	Flow Diversion from PST No.6 to Temporary Filtrate Equalization Tank	N/A	19/5/2021	N/A	20/5/2021	Task Completed				100%		Filtrate feeding to TFES was resumed on 19/5/2021 with fine-tuned control.
	Removal of Accumulated Sludge Inside PST No. 6	N/A	19/5/2021	N/A	30/5/2021	Task Completed				100%		NCE-0229, this includes removal of floating scum/ sludge and clearance of blockage of drain pipe
	KD3B: Retrofitting Concrete Structure of PST No. 6	N/A	28/5/2021	N/A	24/6/2021	Task Completed				100%		
	KD3B: Mechanical Installation of E&M Equipment at PST No. 6	27/2/2021	31/5/2021	10/5/2021	21/7/2021	Task Completed				100%		This includes PST Influent feed pipe, center bearing & slip ring assembly, motor & gearbox assembly, rotating bridge sludge & scum scraper assembly, circular baffle diffuser box, v-notched weir plate, scum baffle plate, scum collection box and FRP cover.
	KD3B: Electrical Installation of E&M Equipment at PST No. 6	27/2/2021	9/6/2021	10/5/2021	21/7/2021	Task Completed				100%		This includes installation of LCP, cable laying & terminations.

Item	Major Activities & Submission in coming 3 months	Time					Progress (E&M contract)				Action	Remarks / Status
		Contract Planned Commencement Date	Anticipated / Actual Commencement Date	Contract Planned Finish Date	Anticipated / Actual Finish Date	% of time elapsed based on "updated date")	Unit	Total Quantity	Completed Quantity	Actual Progress %		
	KD3B: Testing and Commissioning for PST No. 6	11/5/2021	22/6/2021	9/6/2021	20/8/2021	Task Completed				100%		Wet test (1st) completed on 20 Aug 2021 and wet test (2nd) completed on 3 Sep 2021.
KD3B: 6B.2.15 Operation Restoration of Existing Primary Sedimentation Tank (PST) No. 4 and 6	KD3B: System Commissioning for PST No. 4 & 6	N/A	22/6/2021	N/A	3/9/2021	Task Completed				100%		Wet test (2nd) for PST#6 completed on 3 Sep 2021 and pre-handover inspection arranged on 30 Aug 2021. Defect list (final) received on 17 Sep 2021 and defect rectification was completed. Site training/ demonstration shall be conducted by end Feb and PMI modification work shall be completed by end March.
	KD3B: 9 June 2021											
Section 1 of Works (outstanding works list)												
6B.2.12 Provision of New Replacement Filter Plates	Submission of onsite survey plan for acceptance	1/3/2020	25/3/2020	30/3/2020	21/4/2020	Task Completed				100%	-	Bestwise resubmitted onsite survey plan on 21 April 2020
	Acceptance of submission of onsite survey plan	1/3/2020	25/3/2020	30/3/2020	12/5/2020	Task Completed				100%	-	Survey plan acceptance received on 12 May 2020. Onsite discussion with ST1 was
	Submission of onsite survey report	21/5/2020	21/5/2020	29/5/2020	29/5/2020	Task Completed				100%		
	Acceptance of onsite survey report	30/5/2020	30/5/2020	15/6/2020	15/6/2020	Task Completed				-		
	Preparation of procurement package (C11)	22/6/2020	22/6/2020	6/7/2020	14/7/2020	Task Completed				100%		
	Tender invitation (C11)	15/7/2020	15/7/2020	22/7/2020	24/7/2020	Task Completed				100%		
	Tender Award (C11)	23/7/2020	25/7/2020	29/7/2020	31/7/2020	Task Completed				100%		Revised survey report (second draft) was sent to AECOM on 21 Oct 2020. Technical
	Material Submission	21/8/2020	21/8/2020	28/8/2020	7/12/2020	Task Completed				100%		Material submission (Rev.1) resubmitted on 7 Dec 2020. AECOM accepted subject to comments on 24 Dec 2020. Material submission (Rev. 2) resubmitted on 12 Jan 2021. AECOM accepted subject to comment on 22 Jan 2021.
6B.2.12 Provision of New Replacement Filter Plates for Existing Membrane Filter Presses at Existing Sludge Press House	Material Delivery	1/12/2020	1/12/2020	8/8/2021	8/8/2021	Task Completed				-		"Filter Press Plates and Cloths" were handed over to DSD.
6B.2.12 Provision of Membrane Filter Press System at Existing Sludge Press House	Submission of onsite survey plan for acceptance	1/3/2020	25/3/2020	30/3/2020	Task to be deleted	Task to be deleted				-	-	PPMI No.5 was issued by PM on 24 April 2020. Bestwise is requested to submit quotation on delete the provision of one (1) no. of membrane filter press system in pursuant to Particular Specification Clause 6B.2.12.
6B.2.16 Temporary Filtrate Equalisation System (Sub-programme was provided by Bestwise)	Submission of onsite survey plan on E&M aspects for acceptance	1/3/2020	1/4/2020	30/3/2020	7/5/2020	Task Completed				100%	-	Bestwise resubmitted onsite survey plan on 7 May 2020
	Acceptance of submission of onsite survey plan	1/3/2020	1/4/2020	30/3/2020	23/5/2020	Task Completed				100%	-	AECOM accepted the onsite survey plan on 23 May 2020
6B.2.16 Temporary Filtrate Equalisation System (Sub-programme was provided by Bestwise)	Submission and Acceptance of ELS Design for Lifting Well	15/06/2020 -> 17/08/2020*	2/9/2020	30/07/2020 -> 30/11/2020*	9/2/2021	Task Completed				100%	Bestwise	- * = PMI014 - Revised Location for Construction of Temporary Filtrate Equalization System received on 17 Aug 2020. - Re-design work was proceeded and the planned start date was revised to 17 Aug 2020. Bestwise submitted Rev.0 on 21 Oct 2020 and resubmitted Rev.2 on 23 Jan 2021. - AECOM provide consent for the ELS temporary works on 9 Feb 2021. AECOM accepted on 9 Feb 2021.
	Submission and Acceptance of Design for Filtrate Lifting Well Construction	15/06/2020 -> 17/08/2020*	2/9/2020	30/07/2020 -> 30/11/2020*	15/1/2021	Task Completed				100%		* = PMI014 - Revised Location for Construction of Temporary Filtrate Equalization System received on 17 Aug 2020. - Re-design work was proceeded and the planned start date was revised to 17 Aug 2020. AECOM commented on 21 Dec 2020. Bestwise submitted Rev.0 on 2 Nov 2020 and Rev.1 on 8 Jan 2021.
	Submission and Acceptance of Design of FRP Filtrate Equalization Tank	15/06/2020 -> 07/09/2020**	2/9/2020	30/07/2020 -> 22/10/2020*	15/1/2021	Task Completed				100%		** = Change of material of temporary filtrate equalization tank from concrete to FRP on 07 Sep 2020. - Re-design work was proceeded and the planned start date was revised to 17 Aug 2020. - Bestwise submitted Rev.0 on 08 Jan 2020.
	Submission and Acceptance of Design of footing for FRP Filtrate Equalization Tank	15/06/2020 -> 07/09/2020**	2/9/2020	30/07/2020 -> 22/10/2020*	19/2/2021	Task Completed				100%		** = Change of material of temporary filtrate equalization tank from concrete to FRP on 07 Sep 2020. - Re-design work was proceeded and the planned start date was revised to 17 Aug 2020. - Design of Footing was submitted on 8 Feb 2021.
	Submission and Acceptance of Design of Formwork & Flasework Design for Construction of Lifting Well	15/06/2020 -> 17/08/2020*	2/9/2020	30/07/2020 -> 30/11/2020*	15/1/2021	Task Completed				100%		- * = PMI014 - Revised Location for Construction of Temporary Filtrate Equalization System received on 17 Aug 2020. - Bestwise submitted Rev.0 on 12 Jan 2020.

Item	Major Activities & Submission in coming 3 months	Time					Progress (E&M contract)				Action	Remarks / Status
		Contract Planned Commencement Date	Anticipated / Actual Commencement Date	Contract Planned Finish Date	Anticipated / Actual Finish Date	% of time elapsed based on "updated date")	Unit	Total Quantity	Completed Quantity	Actual Progress %		
	Submission and Acceptance of Contractor's Design for Temporary Filtrate Equalisation System (E&M Works) (CDS010-2)	01/06/2020 -> 7/9/2020**	5/7/2020	30/07/2020 -> 30/11/2020*	30/7/2021	Task Completed				-	Bestwise	** = Change of material of temporary filtrate equalization tank from concrete to FRP on 07 Sep 2020. - Bestwise submitted (CDS 0010 Rev.0) on 6 August 2020, AECOM commented on 27 Aug 2020. Bestwise to resubmit (Separate submissions P&M0049, DWG0038, CDS0026, P&M0008, P&M0004, CDS0037, CDS0027, DWG0040 were submitted) - Control philosophy (CDS0027 Rev.0) was submitted on 22 Dec 2020. AECOM commented on 13 Jan 2021, Bestwise resubmitted on 27 May 2021 formally, AECOM accepted with comments on 4 Jun 2021.
	Drawing Submission	01/06/2020 -> 17/08/2020*	29/9/2020	30/07/2020 -> 30/11/2020*	5/3/2021	Task Completed				100%	Bestwise	- * = PMI014 - Revised Location for Construction of Temporary Filtrate Equalization System received on 17 Aug 2020. - Bestwise submitted (rev.0) on 29 Oct 2020 and resubmitted (rev.2) on 25 Jan 2021, AECOM accepted on 5 Feb 2021.
	Material Submission	01/06/2020 -> 17/08/2020*	29/11/2020	30/07/2020 -> 30/11/2020*	25/2/2021	Task Completed				100%	Bestwise	** = Change of material of temporary filtrate equalization tank from concrete to FRP on 07 Sep 2020. - P&M submission of temporary filtrate equalization tank (P&M 0030 Rev.1) on 29 Jan 2021. AECOM accepted subject to comments on 25 Feb 2021.
Subletting Package for Temporary Filtrate Equalization System	Tender invitation (C11) (EQT-002 & EQT-004)	17/4/2020	17/4/2020	7/5/2020	7/5/2020	Task Completed				100%		
	Tender award (C11) (EQT-002 & EQT-004)	14/4/2020	24/4/2020	13/5/2020	13/5/2020	Task Completed				100%	Bestwise	Bestwise submitted tender report on 29 April 2020 for filtrate pumps, AECOM commented on 29 May 2020, Bestwise to resubmit. Bestwise submitted tender report of instrument on 13 May 2020, AECOM noted on 26 May
	Acceptance of tender award (C11) (EQT-002 & EQT-004)	25/4/2020	25/4/2020	21/5/2020	21/5/2020	Task Completed				100%	Bestwise	
	Material Submission	20/07/2020 ->	16/10/2020	20/08/2020 ->	5/2/2021	Task Completed				-	Bestwise	** = Change of material of temporary filtrate equalization tank from concrete to FRP on 18
	Submission of subletting package for acceptance (C9)	1/3/2020	13/7/2020	14/3/2020	13/7/2020	Task Completed				100%		
	Acceptance of subletting package (C9)	15/3/2020	14/7/2020	28/3/2020	14/7/2020	Task Completed				100%		
	Tender invitation (C9)	29/3/2020	15/7/2020	11/4/2020	22/7/2020	Task Completed				100%		
	Tender award (C9)	12/4/2020	23/7/2020	25/4/2020	13/8/2020	Task Completed				100%		
	Acceptance of tender award for civil construction work (C9)	26/04/2020	14/8/2020	5/5/2020	2/9/2020	Task Completed				100%		
	Preparation of subletting package for mech work (C9)	01/08/2020 -> 01/12/2020*	25/1/2021	08/08/20 -> 08/12/2020*	1/3/2021	Task Completed				100%		* = PMI014 - Revised Location for Construction of Temporary Filtrate Equalization System received on 17 Aug 2020. Subletting package would be submitted on 25 Feb 2021 and AECOM accepted on 1 Mar
	Tender invitation for mech work (C9)	08/08/20 ->	2/3/2021	15/08/2020 ->	9/3/2021	Task Completed				100%		Tender invitation was conducted on 2 Mar 2021 and returned on 9 Mar 2021
	Tender Award for mech work (C9)	15/08/2020 ->	10/3/2021	22/08/2020 ->	15/3/2021	Task Completed				100%		Tender report was submitted on 15 Mar 2021
	Acceptance of tender award for mech work (C9)	22/08/2020 ->	15/3/2021	29/08/2020 ->	19/3/2021	Task Completed				100%		Tender award on 19 Mar 2021.
	Preparation of subletting package for elect work (C9)	01/08/2020 -> 01/12/2020*	2/2/2021	08/08/20 -> 08/12/2020*	1/3/2021	Task Completed				100%		* = PMI014 - Revised Location for Construction of Temporary Filtrate Equalization System received on 17 Aug 2020. Subletting package resubmitted on 26 Feb 2021 and AECOM accepted on 1 Mar 2021..
	Tender invitation for elect work (C9)	01/08/2020 ->	2/3/2021	15/08/2020 ->	9/3/2021	Task Completed				100%		Tender invitation was conducted on 2 Mar 2021 and returned on 9 Mar 2021
Tender Award for elect work (C9)	08/08/20 ->	10/3/2021	22/08/2020 ->	15/3/2021	Task Completed				100%		Tender report was submitted on 15 Mar 2021	
Acceptance of tender award for elect work (C9)	15/08/2020 -> 15/12/2020*	15/3/2021	29/08/2020 -> 29/12/2020*	19/3/2021	Task Completed				100%		Tender award on 19 Mar 2021.	
Construction of Temporary Filtrate Equalisation System	Construction of minor civil works under PMI 014	22/08/2020 -> 22/12/2020*	5/10/2020	15/10/2020	31/3/2021	Task Completed				100%	Bestwise	Utilities survey report of lifting well and EQ tank were submitted on 23 Sept 2020 and 29 Sept 2020. AECOM commented lifting well on 29 Sept 2020.
	RC Structure Works of lifting well	7/11/2020	12/1/2021	30/12/2020	25/2/2021	Task Completed				100%		
	Construction of concrete plinth for filtrate EQ tank	23/1/2021	8/2/2021	1/2/2021	26/2/2021	Task Completed				100%		
	Offsite fabrication and delivery of filtrate EQ tank	31/10/2020	16/1/2021	2/2/2021	4/3/2021	Task Completed				100%		First batch of filtrate EQ tank panel was delivered on 4 Mar 2021.
	Onsite assembly of filtrate EQ tank	2/2/2021	1/3/2021	12/3/2021	16/4/2021	Task Completed				100%		
6B.2.16 Temporary Filtrate Equalisation System	Mechanical Installation	17/3/2021	30/3/2021	12/4/2021	14/5/2021	Task Completed				-		
	Electrical Installation	13/3/2021	29/3/2021	15/4/2021	10/12/2021	Task Completed				-		PLC programme for water spray system (stage 1) is on-going, motorized gate valve for stage 2 under PMI is being fabricated and the delivery lead time is by end November.
	Testing and Commissioning	15/4/2021	22/4/2021	1/5/2021	30/11/2022	Completed				-		Defect rectification for BCM comments was partially completed and Site Acceptance Test (72 hours) was completed.
6B.1.17 Overall plant treatment process review by the Treatment Process Specialist	Submission of Treatment Process Specialist's review report	1/6/2020	1/6/2020	30/6/2020	2/7/2020	Task Completed				-	Bestwise	Preliminary Draft submitted, meeting completed on 15 May 2020 with SRE and TPS. Initial process design evaluation was submitted on 20 May 2020. Design calculation submitted on
	Acceptance of submission for further design	14/6/2020	3/7/2020	30/6/2020	17/7/2020	Task Completed				-		

Contract No. DE/2018/04
Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1
- E&M Works for Sewage Treatment Facilities
3 Month Rolling Programme (From 01/11/2023 to 01/01/2024)

Updated on: 20-Nov-23

Item	Major Activities & Submission in coming 3 months	Time					Progress (E&M contract)				Action	Remarks / Status
		Contract Planned Commencement Date	Anticipated / Actual Commencement Date	Contract Planned Finish Date	Anticipated / Actual Finish Date	% of time elapsed based on "updated date")	Unit	Total Quantity	Completed Quantity	Actual Progress %		
6B Overall plant process equipment sizing review	Submission of Contractor's Design Calculation for Acceptance of submission for further detail design	1/6/2020 14/6/2020	1/6/2020 3/7/2020	30/6/2020 30/6/2020	2/7/2020 17/7/2020	Task Completed Task Completed				- -	Bestwise	Preliminary Draft submitted, meeting completed on 15 May 2020 with SRE and TPS. Initial
6B.2.1 Inlet Works	Submission of Contractor's Design for Inlet Works No. 1	6/9/2020	16/11/2020	14/5/2021	30/11/2023	99%				-	Bestwise	All finalized design calculations for Inlet Works no.1 shall be submitted by 20 Jan 2023.
	Submission of P&M Submission	6/9/2020	7/9/2020	14/5/2021	30/11/2023	99%						P&M0022 - Inlet Pumps (status: B) P&M0003 - Coarse Screens & Fine Screens (status: B) P&M0085 - Grit Traps (status: B) P&M0084 - Screw Compactor (status: B) P&M0042 - Screw Conveyors for Coarse Screens and Fine Screens (status: B) All P&M for Inlet Works no.1 shall be submitted by 20 Jan 2023.
	Submission of P&ID Drawing	6/9/2020	6/9/2020	14/5/2021	29/12/2020	Task Completed						PID (rev.B) submitted on 13 Nov 2020. AECOM accepted subject to comments on 29 Dec 2020.
	Submission of GA Drawing	6/9/2020	5/1/2021	14/5/2021	30/11/2023	99%						E&M GA submission DWG0082 resubmitted on 9 July 2021. AECOM commented on 19 Feb 2021. Bestwise reviewed GA in BIM with AECOM on 12 Jan 2022. Electrical GA DWG0095 resubmitted on 3 July 2021. AECOM commented on 21 Apr 2021. Bestwise reviewed GA in BIM with AECOM on 12 Jan 2022. All finalized drawings for Inlet Works no.1 shall be submitted by 30 June 2022 and BIM GA review meeting is scheduled on 5, 12, 19/5/2022.
	Submission of Electrical Drawing	6/9/2020	15/1/2021	14/5/2021	30/11/2023	99%						Electrical SLD submitted on 5 Feb 2021. AECOM commented on 20 Feb 2021. Bestwise to resubmit. All finalized drawings for Inlet Works no.1 shall be submitted by 20 Jan 2023.
	Acceptance of submission	15/5/2021	15/5/2021	29/5/2021	30/11/2023	99%				-		
	Submission of detailed design for electrical installation for Inlet Works No. 1 (CDS021)	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of detailed design for LV Switchboards for Inlet Works No. 1 (CDS025-1)	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of detailed design for electrical installation BS for Inlet Works No. 1 (CDS034-1)	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of civil work requirements for Inlet Works No. 1 up to +8.0 mPD (CDS080-1)	1/9/2020	1/9/2020	30/10/2020	30/10/2020	Task Completed						
	KD1A: Submission of civil requirement drawing for Inlet Works No. 1 up to +8.0 mPD (First Draft)	15/7/2020	15/7/2020	15/8/2020	17/9/2020	Task Completed	no.	3	3	100%		1st draft of drawing submitted on 17 September 2020
	KD1A: Submission of civil requirement drawing for Inlet Works No. 1 up to +8.0 mPD (Final)	28/8/2020	18/9/2020	5/11/2020	5/11/2020	Task Completed	no.	3	3	100%	Bestwise	Bestwise resubmitted (rev.A) on 27 Oct 2020.
	KD1A: Submission of electrical schematic drawings for Inlet Works No. 1 (First Draft)	15/7/2020	15/7/2020	15/8/2020	30/9/2020	Task Completed	no.	2	2	100%		1st draft of drawing submitted on 30 September 2020
	KD1A: Submission of electrical schematic drawings for Inlet Works No. 1 (Final)	7/9/2020	1/10/2020	5/11/2020	20/10/2020	Task Completed	no.	2	2	100%	Bestwise	Bestwise submitted on 20 Oct 2020
	KD1A: 6 November 2020											Notice of completion works was submitted on 17 Nov 2020
6B.2.2 Primary Sedimentation Tank No. 1-4	Submission of Contractor's Design for Primary Sedimentation Tanks No. 1-4	6/9/2020	28/12/2020	14/5/2021	30/11/2023	99%				-	Bestwise	PFD (rev.B) under DWG0004 submitted on 22 June 2021. Finalized design calculations for PST shall be submitted by 20 Jan 2023.
	Submission of P&M Submission	6/9/2020	26/11/2020	14/5/2021	30/11/2023	99%						P&M0058 - Lamella Plate Settler (status: B) P&M0097 - Scum Skimmer and Scum Collection Pipe (status: B) P&M0086 - Sludge Bottom Scraper (status: B) P&M0051 - Drain Pump (status: B) P&M0044 - Primary Sludge Pump (status: B) Finalized material submissions for PST shall be submitted by 20 Jan 2023.
	Submission of P&ID Drawing	6/9/2020	2/10/2020	14/5/2021	24/6/2021	Task Completed						PID under DWG0037 (rev.1) submitted on 24 June 2021 and is accepted by AECOM.

Item	Major Activities & Submission in coming 3 months	Time					Progress (E&M contract)				Action	Remarks / Status
		Contract Planned Commencement Date	Anticipated / Actual Commencement Date	Contract Planned Finish Date	Anticipated / Actual Finish Date	% of time elapsed based on "updated date")	Unit	Total Quantity	Completed Quantity	Actual Progress %		
	Submission of GA Drawing	6/9/2020	3/2/2021	14/5/2021	30/11/2023	99%						Mechanical GA was submitted on 19 Jun 2021. Electrical GA under DWG0103 (rev.1) was submitted on 6 Jul 2021 and is accepted by AECOM. Finalized drawings for PST shall be submitted by 30 Aug 2022.
	Submission of Electrical Drawing	6/9/2020	15/1/2021	14/5/2021	30/11/2023	99%						Electrical SLD submitted on 5 Feb 2021. AECOM commented on 20 Feb 2021. Bestwise to resubmit. Finalized drawings for PST shall be submitted by 20 Jan 2023.
	Acceptance of submission	15/5/2021	2/4/2021	29/5/2021	30/11/2023	99%				-		Refer to outstanding list under "Certificate of completion no.1 - section 1 of the works".
	Submission of detailed design for electrical installation	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of detailed design for LV Switchboards for Primary Sedimentation Tanks (CDS025-2)	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of detailed design for electrical installation	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of civil work requirements for Primary Sedimentation Tanks up to +8.0 mPD (CDS080-2)	1/9/2020	1/9/2020	30/10/2020	30/10/2020	Task Completed						
	KD1A: Submission of civil requirement drawing for Primary Sedimentation Tanks No. 1-4 up to +8.0 mPD	15/7/2020	15/7/2020	15/8/2020	30/9/2020	Task Completed	no.	4	4	100%		1st part of drafted drawing (2 nos.) was submitted on 23 Sept 2020. Remaining drawings (2 nos.) were submitted on 30 Sept 2020.
	KD1A: Submission of civil requirement drawing for Primary Sedimentation Tanks No. 1-4 up to +8.0 mPD	28/8/2020	1/10/2020	5/11/2020	5/11/2020	Task Completed	no.	4	4	100%	Bestwise	Bestwise resubmitted (Rev.A) on 27 Oct & 13 Nov 2020.
	KD1A: Submission of electrical schematic drawings for Primary Sedimentation Tanks No. 1-4 (First Draft)	15/7/2020	15/7/2020	15/8/2020	30/9/2020	Task Completed	no.	1	1	100%		1st draft of drawing submitted on 30 September 2020
	KD1A: Submission of electrical schematic drawings for Primary Sedimentation Tanks No. 1-4 (Final)	7/9/2020	1/10/2020	5/11/2020	20/10/2020	Task Completed	no.	1	1	100%	Bestwise	Bestwise submitted on 20 Oct 2020
	KD1A: 6 November 2020											Notice of completion works was submitted on 17 Nov 2020
6B.2.3 Chemical Storage and Dosing System	Submission of Contractor's Design for Chemical Dosing System (CDS006)	6/9/2020	7/1/2021	14/5/2021	29/10/2021	Task Completed				-	Bestwise	Design calculation (rev.0) of CHS1 and TCHS submitted on 2 Sep 2020 and 28 Aug 2020, AECOM commented on 24 Sep and 6 Oct 2020, Bestwise submitted CDS0060 on 15 Jul 2021 and CDS0044 on 19 Jul 2021. Finalized design calculation for chemical systems was submitted on 29 Oct 2021.
	Submission of P&M Submission	6/9/2020	6/9/2020	14/5/2021	30/10/2021	Task Completed						Finalized material submissions for chemical system was submitted on 30 Oct 2021.
	Submission of P&ID Drawing	6/9/2020	11/12/2020	14/5/2021	29/6/2021	Task Completed						PID resubmitted under DWG0053 (rev.1) on 28 Jun 2021, DWG0057 (rev.1) on 29 Jun 2021 and DWG0058 (rev.1) on 29 Jun 2021.
	Submission of GA Drawing	6/9/2020	8/2/2021	14/5/2021	30/11/2023	99%						Electrical GA drawings for CS1 under DWG0096 submitted on 10 April 2021. AECOM accepted subject to comments on 17 Apr 2021. Mechanical GA drawings for CS1 submitted on 1 April 2021. AECOM commented on 24 April 2021. Bestwise resubmitted DWG0093 (rev.1) on 30 Jun 2021 and is accepted by AECOM. Mechanical GA for Temp CS submitted on 12 Jun 2021. All finalized drawings for chemical systems shall be submitted by 30 June 2022 and BIM GA review meeting is scheduled on 17, 21, 28/4/2022.
	Submission of Electrical Drawing	6/9/2020	15/1/2021	14/5/2021	30/11/2023	99%						Electrical SLD submitted on 5 Feb 2021. AECOM commented on 20 Feb 2021. Bestwise to resubmit. All finalized drawings for chemical system shall be submitted by 20 Jan 2023.
	Acceptance of submission	15/5/2021	15/5/2021	29/5/2021	30/11/2023	99%				-		
	Submission of detailed design for electrical installations	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of detailed design for electrical installations	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of detailed design for electrical installations	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of detailed design for electrical installation	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	KD1A: Submission of civil requirement drawing for	15/7/2020	15/7/2020	15/8/2020	16/9/2020	Task Completed	no.	2	2	100%		1st draft of drawing submitted on 15 September for CHS1 and 16 September 2020 for
	KD1A: Submission of civil requirement drawing for	7/9/2020	17/9/2020	5/11/2020	5/11/2020	Task Completed	no.	2	2	100%		Bestwise resubmitted (Rev.A) on 5 Nov 2020.
	KD1A: Submission of electrical schematic drawings for	15/7/2020	15/7/2020	15/8/2020	15/9/2020	Task Completed				-		1st draft of drawing to be submitted by 16 September 2020
	KD1A: Submission of electrical schematic drawings for Chemical System No. 1 and No. 2 (Final)	7/9/2020	16/9/2020	5/11/2020	5/11/2020	Task Completed						
	KD1A: Submission of civil requirement drawing for Temporary Chemical System up to +8.0 mPD (First	15/7/2020	15/7/2020	15/8/2020	15/9/2020	Task Completed	no.	1	1	100%		1st draft of drawing submitted on 15 September 2020

Item	Major Activities & Submission in coming 3 months	Time					Progress (E&M contract)				Action	Remarks / Status
		Contract Planned Commencement Date	Anticipated / Actual Commencement Date	Contract Planned Finish Date	Anticipated / Actual Finish Date	% of time elapsed based on "updated date")	Unit	Total Quantity	Completed Quantity	Actual Progress %		
	KD1A: Submission of civil requirement drawing for Temporary Chemical System up to +8.0 mPD (Final)	7/9/2020	16/9/2020	5/11/2020	5/11/2020	Task Completed	no.	1	1	100%		Bestwise resubmitted (Rev.A) on 5 Nov 2020.
	KD1A: Submission of electrical schematic drawings for Temporary Chemical System (First Draft)	15/7/2020	15/7/2020	15/8/2020	15/9/2020	Task Completed				-		1st draft of drawing to be submitted by 16 September 2020
	KD1A: Submission of electrical schematic drawings for KD1A: 6 November 2020	7/9/2020	16/9/2020	5/11/2020	5/11/2020	Task Completed						Notice of completion works was submitted on 17 Nov 2020
6B.2.4 Membrane Bioreactor (MBR) System - Bio Reactor 2A and 2B	Submission of Contractor's Design for Bioreactor 2A and 2B (CDS004)	6/9/2020	12/1/2021	14/5/2021	30/11/2023	99%				-	Bestwise	PFD (rev.1) submitted on 3 Nov 2020. AECOM accepted on 7 Dec 2020 subject to comment. MBR system process and design calculation (rev.2) submitted on 6 Nov 2020. AECOM accepted on 17 Nov 2020 subject to comments. Electrical CDS submitted on 23 Jun 2021. Finalized design calculations shall be submitted by 20 Jan 2023.
	Submission of P&M Submission	6/9/2020	26/11/2020	14/5/2021	30/11/2023	99%						P&M0060 - Pre-treatment Fine Screen (status: B) P&M0053 - MLR Pump (status: B) P&M0118 - Scum Skimmer & Scum Pump (status: C) P&M0088 - Fine Bubble Air Diffuser (status: B) P&M0xxx - Wash Compactor (status: B) P&M0041 - Submersible Mixer (status: B) Finalized material submission shall be submitted by 20 Jan 2023.
	Submission of P&ID Drawing	6/9/2020	2/11/2020	14/5/2021	2/7/2021	Task Completed						PID (Rev.1) under DWG0042 resubmitted on 6 July 2021.
	Submission of GA Drawing	6/9/2020	17/2/2021	14/5/2021	30/11/2023	99%						Mechanical GA under DWG0132 submitted on 26 Jun 2021 and is accepted by AECOM. Electrical GA submitted on 23 Jun 2021. Finalized drawing shall be submitted by 30 June 2022. BIM GA review meeting is scheduled on 1, 8, 15/6/2022.
	Submission of Electrical Drawing	6/9/2020	15/1/2021	14/5/2021	30/11/2023	99%						Electrical SLD submitted on 5 Feb 2021. AECOM commented on 20 Feb 2021. Bestwise to resubmit. Finalized drawing shall be submitted by 20 Jan 2023.
	Acceptance of submission	15/5/2021	15/5/2021	29/5/2021	30/11/2023	99%					-	
	Submission of detailed design for electrical installation	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of detailed design for LV Switchboards for BR 2A and 2B (CDS025-3)	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of detailed design for electrical installation	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of civil work requirements for BR 2A and 2B up to +8.0 mPD (CDS080-3)	1/9/2020	1/9/2020	30/10/2020	30/10/2020	Task Completed						
	KD1A: Submission of civil requirement drawing for BR 2A and 2B up to +8.0 mPD (First Draft)	15/7/2020	15/7/2020	15/8/2020	30/9/2020	Task Completed	no.	2	2	100%		1st draft of drawing submitted on 30 September 2020
	KD1A: Submission of civil requirement drawing for BR 2A and 2B up to +8.0 mPD (Final)	28/8/2020	1/10/2020	5/11/2020	5/11/2020	Task Completed	no.	2	2	100%	Bestwise	AECOM commented on 23 Oct 2020, Bestwise resubmitted on 5 Nov 2020.
	KD1A: Submission of electrical schematic drawings for BR 2A and 2B (First Draft)	15/7/2020	15/7/2020	15/8/2020	30/9/2020	Task Completed				-		1st draft of drawing was sent to AECOM via email on 15 September 2020
	KD1A: Submission of electrical schematic drawings for KD1A: 6 November 2020	7/9/2020	1/10/2020	5/11/2020	5/11/2020	Task Completed						Notice of completion works was submitted on 17 Nov 2020
6B.2.4 Membrane Bioreactor (MBR) System - Membrane Filtration System No. 2 (MFB No. 2)	Submission of Contractor's Design for Membrane Filtration System (CDS005)	6/9/2020	11/1/2021	14/5/2021	30/11/2023	99%				-	Bestwise	PFD (rev.1) submitted on 3 Nov 2020. AECOM accepted on 10 Dec 2020 subject to comment. MBR system process and design calculation (rev.2) submitted on 6 Nov 2020. AECOM accepted on 17 Nov 2020 subject to comments. Finalized design calculations shall be submitted by 30 Aug 2022.
	Submission of P&M Submission	6/9/2020	19/11/2020	14/5/2021	30/11/2023	99%						P&M0072 - Membrane Module (status: B) P&M0069 - Permeate Pump (status: B) P&M0047 - RAS Pump (status: B) P&M0050 - Drain Pump (status: B) P&M0074 - Air Scour Blower (status: C) P&M0073 - Aeration Blower (status: C) P&M0093 - Air Compressor (status: B) P&M0091 - Chemical Pump (status: B) P&M0xxx - Chemical Tank (to be submitted) Finalized material submission shall be submitted by 20 Jan 2023.
	Submission of P&ID Drawing	6/9/2020	30/10/2020	14/5/2021	2/7/2021	Task Completed						DWG0049 (Rev.1) was resubmitted on 2 Jul 2021.
	Submission of GA Drawing	31/3/2021	18/2/2021	14/5/2021	30/11/2023	99%						DWG0121 (rev.1) was resubmitted to AECOM on 17 Jul 2021 Finalized drawings shall be submitted by 30 June 2022. BIM GA review meeting is scheduled on 19, 26/5/2022 and 2/6/2022 (Lower part) BIM GA review meeting is scheduled on 16, 23, 30/6/2022 (Upper part)

Item	Major Activities & Submission in coming 3 months	Time					Progress (E&M contract)				Action	Remarks / Status
		Contract Planned Commencement Date	Anticipated / Actual Commencement Date	Contract Planned Finish Date	Anticipated / Actual Finish Date	% of time elapsed based on "updated date")	Unit	Total Quantity	Completed Quantity	Actual Progress %		
	Submission of Electrical Drawing	15/4/2021	15/1/2021	14/5/2021	30/11/2023	99%						Electrical SLD submitted on 5 Feb 2021. AECOM commented on 20 Feb 2021. Bestwise to resubmit. Electrical GA under DWG0079 (rev.1) was resubmitted on 8 Jul 2021. Finalized drawings shall be submitted by 20 Jan 2023.
	Acceptance of submission	15/5/2021	15/5/2021	29/5/2021	30/11/2023	99%				-		
	Submission of detailed design for electrical installation	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of detailed design for LV Switchboards for	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of detailed design for electrical installation BS for MFB (CDS034-4)	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of civil work requirements for MFB up to	1/9/2020	1/9/2020	30/9/2020	30/9/2020	Task Completed						
	KD1A: Submission of civil requirement drawing for	15/7/2020	15/7/2020	15/8/2020	30/9/2020	Task Completed	no.	7	7	100%		1st draft of drawing submitted on 30 September
	KD1A: Submission of civil requirement drawing for MFB No. 2 up to +8.0 mPD (Final)	28/8/2020	1/10/2020	5/11/2020	5/11/2020	Task Completed	no.	7	7	100%	Bestwise	Bestwise resubmitted (Rev.1) on 5 Nov 2020.
	KD1A: Submission of electrical schematic drawings for	15/7/2020	15/7/2020	15/8/2020	30/9/2020	Task Completed	no.	3	3	100%		1st draft of drawing submitted on 30 September 2020
	KD1A: Submission of electrical schematic drawings for MFB No. 2 (Final)	7/9/2020	1/10/2020	5/11/2020	20/10/2020	Task Completed	no.	3	3	100%	Bestwise	Bestwise submitted (Rev.1) on 20 Oct 2020
	KD1A: 6 November 2020											Notice of completion works was submitted on 17 Nov 2020
6B.2.6 Deodorisation System (EQT-001 - Deodorization Unit)	Tender invitation (C11)	17/4/2020	17/4/2020	24/4/2020	24/4/2020	Task Completed				100%		
6B.2.6 Deodorisation System (EQT-001 - Deodorization Unit)	Tender award (C11)	25/4/2020	25/4/2020	12/5/2020	12/5/2020	Task Completed				100%	Bestwise	Bestwise submitted tender report on 13 May 2020. AECOM commented on 23 July 2020, Bestwise to resubmit.
	Acceptance of tender award (C11)	13/5/2020	13/5/2020	21/5/2020	21/5/2020	Task Completed				100%		
	Submission of Contractor's Design for Deodorisation System , DOU No. 1 (CDS0019 & CDS0045)	6/9/2020	6/9/2020	14/5/2021	31/12/2021	Task Completed				-		Design Calculation (Rev.0) was submitted on 24 Nov 2020. AECOM commented on 6 Jan 2021, Bestwise to resubmit. Bestwise submitted CDS0045 on 3 June 2021. Finalized design was completed.
	Submission of P&ID Drawing of DOU No. 1	6/9/2020	5/8/2020	14/5/2021	2/7/2021	Task Completed				-	Bestwise	Bestwise resubmitted rev.3 on 29 Mar 2021. AECOM accepted subject to comments on 13 Apr 2021.
	Submission of GA Drawing of DOU No. 1	6/9/2020	6/9/2020	14/5/2021	30/11/2023	99%						GA submitted on 21 Jun 2021 Finalized drawings shall be submitted by 30 June 2022 and BIM GA review meeting is scheduled on 11, 18, 25/5/2022.
	Submission of Electrical Drawing of DOU No. 1	21/3/2021	30/1/2021	14/5/2021	30/11/2023	99%						Control wiring diagrams was resubmitted on 1 April 2021. AECOM commented on 23 Apr 2021. Bestwise to resubmit. Finalized drawings shall be submitted by 20 Jan 2023.
	Acceptance of submission	15/5/2021	15/5/2021	29/5/2021	30/11/2023	99%				-		
	KD1A: Submission of civil requirement drawing for Deodorisation System , DOU No. 1 up to +8.0 mPD (First Draft)	15/7/2020	15/7/2020	15/8/2020	28/9/2020	Task Completed	no.	1	1	100%		1st draft of drawing was submitted on 28 September 2020
	KD1A: Submission of civil requirement drawing for Deodorisation System , DOU No. 1 up to +8.0 mPD (Final)	28/8/2020	29/9/2020	2/11/2020	5/11/2020	Task Completed	no.	1	1	100%	Bestwise	Bestwise resubmitted (rev.1) on 5 Nov 2020.
	Submission of Contractor's Design for Deodorisation System , DOU No. 2A (CDS0019 & CDS0048)	6/9/2020	6/9/2020	14/5/2021	10/12/2021	Task Completed				-		CDS0019: Design Calculation for Deodorisation System (status: B) CDS0048: Design Calculation on DOU2A - air extraction fan (status: B)
	Submission of P&ID Drawing of DOU No. 2A	6/9/2020	5/8/2020	14/5/2021	2/7/2021	Task Completed				-	Bestwise	Bestwise resubmitted rev.3 on 29 Mar 2021. AECOM accepted subject to comments on 13 Apr 2021.
	Submission of GA Drawing of DOU No. 2A	6/9/2020	3/8/2020	14/5/2021	30/11/2023	99%				-	Bestwise	Bestwise submitted (rev.1) on 30 Nov 2020. AECOM commented on 16 Dec 2020. Bestwise to resubmit. Finalized drawings shall be submitted by 30 June 2022 and BIM GA review meeting is scheduled on 1, 8, 15/6/2022.
	Submission of Electrical Drawing of DOU No. 2A	21/3/2021	26/1/2021	14/5/2021	30/11/2023	99%						Bestwise submitted (rev.0) on 26 Jan 2021, AECOM commented on 4 Feb 2021. Bestwise to resubmit. Finalized drawing shall be submitted by 20 Jan 2023.
	Acceptance of submission	15/5/2021	15/5/2021	29/5/2021	30/11/2023	99%				-		
	Submission of Contractor's Design for Deodorisation System , DOU No. 3A (CDS0019 & CDS0055)	6/9/2020	6/9/2020	14/5/2021	10/12/2021	Task Completed				-		CDS0019: Design Calculation for Deodorisation System (status: B) CDS0055: Design Calculation on DOU3A - air extraction fan (status: B)
	Submission of P&ID Drawing of DOU No. 3A	6/9/2020	5/8/2020	14/5/2021	2/7/2021	Task Completed				-	Bestwise	Bestwise resubmitted rev.3 on 29 Mar 2021. AECOM accepted subject to comments on 13 Apr 2021.

Item	Major Activities & Submission in coming 3 months	Time					Progress (E&M contract)				Action	Remarks / Status
		Contract Planned Commencement Date	Anticipated / Actual Commencement Date	Contract Planned Finish Date	Anticipated / Actual Finish Date	% of time elapsed based on "updated date")	Unit	Total Quantity	Completed Quantity	Actual Progress %		
	Submission of GA Drawing of DOU No. 3A	6/9/2020	8/7/2020	14/5/2021	30/11/2023	99%				-	Bestwise	Bestwise submitted (rev.1) on 28 Oct 2020. AECOM commented on 16 Dec 2020. Bestwise resubmitted on 24 June 2021. Finalized drawings shall be submitted by 30 June 2022 and BIM GA review meeting is scheduled on 27/4/2022, 4, 11/5/2022.
	Submission of Electrical Drawing of DOU No. 3A	21/3/2021	26/2/2021	14/5/2021	30/11/2023	99%						Bestwise submitted on 17 Apr 2021. AECOM commented on 27 Apr 2021. Bestwise to resubmit. GA submitted on 24 Jun 2021. Finalized drawing shall be submitted by 20 Jan 2023.
	Acceptance of submission	15/5/2021	15/5/2021	29/5/2021	30/11/2023	99%						
	KD1A: Submission of civil requirement drawing for Deodorisation System , DOU No. 3A up to +8.0 mPD	15/7/2020	15/7/2020	15/8/2020	28/9/2020	Task Completed	no.	1	1	100%		1st draft of drawing was submitted on 28 September 2020
	KD1A: Submission of civil requirement drawing for Submission of Contractor's Design for Deodorisation System , DOU No. 3B (CDS0019 & CDS0049)	28/8/2020	29/9/2020	2/11/2020	5/11/2020	Task Completed	no.	1	1	100%	Bestwise	Bestwise resubmitted (rev.1) on 5 Nov 2020.
	Submission of P&ID Drawing of DOU No. 3B	6/9/2020	6/9/2020	14/5/2021	10/12/2021	Task Completed						CDS0019: Design Calculation for Deodorisation System (status: B) CDS0049: Design Calculation on DOU3B - air extraction fan (status: B)
	Submission of P&ID Drawing of DOU No. 3B	6/9/2020	5/8/2020	14/5/2021	2/7/2021	Task Completed				-	Bestwise	Bestwise resubmitted rev.3 on 29 Mar 2021. AECOM accepted subject to comments on 13 Apr 2021.
	Submission of GA Drawing of DOU No. 3B	6/9/2020	6/9/2020	14/5/2021	30/11/2023	99%						Bestwise submitted DWG0081 (rev.0) on 5 Feb 2021. AECOM commented on 12 Mar 2021. Bestwise to resubmit. Finalized drawings shall be submitted by 30 June 2022 and BIM GA review meeting is scheduled on 16, 23, 30/6/2022.
	Submission of Electrical Drawing of DOU No. 3B	21/3/2021	22/2/2021	14/5/2021	30/11/2023	99%						GA submitted on 24 Jun 2021. Finalized drawing shall be submitted by 20 Jan 2023.
	Acceptance of submission	15/5/2021	15/5/2021	29/5/2021	30/11/2023	99%				-		
	Submission of detailed design for electrical installation	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of detailed design for LV Switchboards for	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of detailed design for electrical installation	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of civil work requirements for MFB up to	1/9/2020	1/9/2020	30/9/2020	30/9/2020	Task Completed						
	Submission of civil requirement drawing for MFB up to	28/8/2020	28/8/2020	2/11/2020	2/11/2020	Task Completed						
	KD1A: Submission of electrical schematic drawings for	15/7/2020	15/7/2020	15/8/2020	30/9/2020	Task Completed				-		1st draft of drawing to be submitted by 30 September 2020
	KD1A: Submission of electrical schematic drawings for	7/9/2020	1/10/2020	5/11/2020	5/11/2020	Task Completed						
	KD1A: 6 November 2020											Notice of completion works was submitted on 17 Nov 2020
04SC008 - Design, Supply and Installation of detailed design for lifting appliances	Acceptance of tender award (C9)	-	-	-	6/7/2020	Task Completed				100%	-	AECOM accepted tender report on 6 July 2020.
	Submission of detailed design for lifting appliances for Inlet Works No. 1 (CDS050-1)	6/9/2020	5/12/2020	6/9/2020	30/11/2023	99%						DWG 0055 (Rev.0) was submitted on 13 Mar 2021. AECOM commented on 20 Apr 2021. Bestwise to resubmit. Bestwise submitted P&M0025 on 15 June 2021. Finalized design shall be submitted by 20 Jan 2023.
	Submission of detailed design for lifting appliances for Primary Sedimentation Tanks (CDS050-2)	6/9/2020	5/12/2020	6/9/2020	30/11/2023	99%						DWG 0054 (Rev.0) was submitted on 18 Jan 2021. AECOM commented on 9 Mar 2021. Bestwise to resubmit. Finalized design shall be submitted by 20 Jan 2023.
	Submission of detailed design for lifting appliances for BR 2A and 2B (CDS050-3)	6/9/2020	5/12/2020	6/9/2020	30/11/2023	99%						DWG 0065 (Rev.0) was submitted on 18 Jan 2021. AECOM commented on 9 Mar 2021. Bestwise to resubmit. P&M-0026 (Rev.1) received status B. Finalized design calculation shall be submitted by 20 Jan 2023.
	Submission of detailed design for lifting appliances for MFB (CDS050-4)	6/9/2020	5/12/2020	6/9/2020	30/11/2023	99%						DWG 0066 (Rev.1) was submitted on 1 Mar 2021. AECOM commented on 5 Mar 2021. Bestwise to resubmit. P&M-0027 (Rev.1) received status B. Finalized design calculation shall be submitted by 20 Jan 2023.
	Submission of detailed design for lifting appliances for Temporary Filtration Tank (CDS050-5)	6/9/2020	5/12/2020	6/9/2020	21/5/2021	Task Completed						DWG 0051 (Rev.2) was resubmitted on 7 May 2021 and acceptance by AECOM subject to condition on 21 May 2021. Bestwise submitted P&M0021 on 21 June 2021.
Building Services System	Submission for MVAC system	N/A	10/12/2020	N/A	30/11/2023	99%						Design calculations and drawings for inlet works was submitted on 16 Dec 2020. AECOM commented on 15 Jan 2021 and 20 Jan 2021. Design calculations and drawings for PST was submitted on 30 Dec 2020. AECOM commented on 22 Jan 2021 and 26 Jan 2021. Design calculations and drawings for MFB2 was submitted on 29 Jan 2021. AECOM commented on 26 Mar 2021. Subletting package resubmitted by 18 Mar 2021. AECOM accepted on 19 Mar 2021. Finalized design shall be submitted by 20 Jan 2023.

Item	Major Activities & Submission in coming 3 months	Time					Progress (E&M contract)				Action	Remarks / Status
		Contract Planned Commencement Date	Anticipated / Actual Commencement Date	Contract Planned Finish Date	Anticipated / Actual Finish Date	% of time elapsed based on "updated date")	Unit	Total Quantity	Completed Quantity	Actual Progress %		
Lightning Protection System for DOU3A (underground)	Submission and Acceptance for Lightning Protection System Design	6/12/2021	6/12/2021	31/1/2022	31/1/2022	Task Completed						
	Material Delivery	7/2/2022	7/2/2022	28/2/2022	28/2/2022	Task Completed						
	Installation Work	31/3/2022	26/4/2022	5/5/2022	5/5/2022	Task Completed						
	Testing & Commissioning	7/1/2023	7/1/2023	31/1/2023								
Lightning Protection System for Inlet Works (underground)	Submission and Acceptance for Lightning Protection System Design	20/12/2021	20/12/2021	31/1/2022	31/1/2022	Task Completed						
	Material Delivery	15/12/2022	1/10/2022	31/3/2022	31/10/2022	Task Completed						
	Installation Work	15/3/2022	1/11/2022	30/10/2022	14/12/2022	Task Completed						
	Testing & Commissioning	1/11/2022	15/12/2022	15/11/2022	31/12/2022							
MFB No.2	Rail Beam Installation at Basement 2	12/5/2023	22/5/2023	11/7/2023								
	MVAC Installation at Basement 2	8/5/2023	8/5/2023	7/7/2023								
	Fire Services Installation at Basement 2	8/5/2023	8/5/2023	7/7/2023								
	Plumbing Services Installation at Basement 2	8/5/2023	8/5/2023	7/7/2023								
	Fire Services Installation at Basement 1	18/11/2023										
Section 3 of Works												
6B.2.12 Provision of New Replacement Filter Plates	Submission of onsite survey plan for acceptance	1/3/2020	25/3/2020	30/3/2020	21/4/2020	Task Completed				100%	-	Bestwise resubmitted onsite survey plan on 21 April 2020
	Acceptance of submission of onsite survey plan	1/3/2020	25/3/2020	30/3/2020	12/5/2020	Task Completed				100%	-	Survey plan acceptance received on 12 May 2020. Onsite discussion with ST1 was
	Submission of onsite survey report	21/5/2020	21/5/2020	29/5/2020	29/5/2020	Task Completed				100%		
	Acceptance of onsite survey report	30/5/2020	30/5/2020	15/6/2020	15/6/2020	Task Completed				-		
	Preparation of procurement package (C11)	22/6/2020	22/6/2020	6/7/2020	14/7/2020	Task Completed				100%		
	Tender invitation (C11)	15/7/2020	15/7/2020	22/7/2020	24/7/2020	Task Completed				100%		
	Tender Award (C11)	23/7/2020	25/7/2020	29/7/2020	31/7/2020	Task Completed				100%		Revised survey report (second draft) was sent to AECOM on 21 Oct 2020. Technical
6B.2.12 Provision of New Replacement Filter Plates for Existing Membrane Filter Presses at Existing Sludge Press House	Material Submission	21/8/2020	21/8/2020	28/8/2020	7/12/2020	Task Completed				100%		Material submission (Rev.1) resubmitted on 7 Dec 2020. AECOM accepted subject to comments on 24 Dec 2020. Material submission (Rev. 2) resubmitted on 12 Jan 2021. AECOM accepted subject to comment on 22 Jan 2021.
	Material Delivery	1/12/2020	1/12/2020	8/8/2021	13/7/2021	Task Completed				-		Handed over to DSD.
Completion Date of Section 3: 22 September 2021												
Subcontracting												
	Submission of subletting package for acceptance	1/1/2020	6/3/2020	30/3/2020	6/3/2020	Task Completed				100%	-	
	Acceptance of subletting package	1/3/2020	21/3/2020	30/3/2020	21/3/2020	Task Completed				100%	-	
	Tender invitation	1/3/2020	24/3/2020	1/4/2020	30/3/2020	Task Completed				100%	-	
	Tender award	22/3/2020		14/4/2020	6/4/2020	Task Completed				100%	-	Bestwise submitted tender report on 6 April 2020
	Acceptance of tender award	-	-	-	15/4/2020	Task Completed				100%		AECOM accepted tender report on 15 April 2020
Construction of Contractor's site accommodation in WA1-C	Design of MiC	15/4/2020	16/4/2020	1/6/2020	15/8/2020	Task Completed				100%		Revised layout drawings received from AluHouse on 28 May 2020. Comments provided to AluHouse on 2 June 2020.
	Submission of detailed design including foundation works, septic tank	1/7/2020	1/7/2020	14/7/2020	4/9/2020	Task Completed				100%		Design calculation of foundation work was submitted on 7 July 2020, comment received on 27 July 2020. Bestwise to resubmit.
	Site Clearance Work	15/7/2020	20/7/2020	31/7/2020	15/8/2020	Task Completed				100%		Tender invitation commenced on 29 May 2020 and tenders received on 4 June 2020. Tender
	Off-site fabrication of Septic tank	15/7/2020	20/7/2020	31/7/2020	31/7/2020	Task Completed				100%		Site clearance work started on 20 July 2020
	Submission of method statement with ICE certificate	1/8/2020	1/8/2020	7/8/2020	8/10/2020	Task Completed				100%		CV of ICE was submitted on 4 August 2020 and accepted on 25 August 2020
	Submission of design calculation with ICE certificate	1/8/2020	1/8/2020	7/8/2020	8/10/2020	Task Completed				100%		Design calculation of foundation work was submitted on 7 July 2020, comment received on
	Acceptance of method statement and design calculation	8/8/2020	9/10/2020	14/8/2020	16/10/2020	Task Completed				100%		Method Statement and Design Calculation was submitted on 8 Oct 2020.
	Submission of method statement with ICE certificate	1/8/2020	1/8/2020	7/8/2020	23/11/2020	Task Completed				100%		
Submission of design calculation with ICE certificate	1/8/2020	1/8/2020	7/8/2020	23/11/2020	Task Completed				100%			

Item	Major Activities & Submission in coming 3 months	Time					Progress (E&M contract)				Action	Remarks / Status
		Contract Planned Commencement Date	Anticipated / Actual Commencement Date	Contract Planned Finish Date	Anticipated / Actual Finish Date	% of time elapsed based on "updated date")	Unit	Total Quantity	Completed Quantity	Actual Progress %		
	Acceptance of method statement and design calculation	8/8/2020	24/11/2020	14/8/2020	27/11/2020	Task Completed				100%		
	Excavation work	17/8/2020	21/10/2020	18/8/2020	21/10/2020	Task Completed				100%		
	Installation of septic tank	19/8/2020	21/10/2020	20/8/2020	22/10/2020	Task Completed				100%		
	Construction of RC foundation	21/8/2020	23/10/2020	31/8/2020	12/11/2020	Task Completed				100%		
	Off-site fabrication and delivery of MiC Office	1/6/2020	30/9/2020	31/7/2020	4/12/2020	Task Completed				100%		
	On-site installation of MiC Office	1/8/2020	4/12/2020	30/8/2020	5/1/2021	Task Completed				100%		
	Installation of car park shelter	4/1/2021	7/1/2021	11/1/2021	9/1/2021	Task Completed				100%		Subject to the completion of car park shelter of PM office and JEC office.
04SC003 - Building Information Modeling (BIM)	Submission of subletting package for acceptance (C9)	1/3/2020	25/3/2020	14/3/2020	25/3/2020	Task Completed				100%	-	
	Acceptance of subletting package (C9)	14/3/2020	2/4/2020	30/3/2020	2/4/2020	Task Completed				100%	-	
	Tender invitation (C9)	1/4/2020	1/4/2020	8/4/2020	9/4/2020	Task Completed				100%	-	
	Tender award (C9)	-	-	-	15/4/2020	Task Completed				100%	-	Bestwise submitted tender report on 15 April 2020
	Submission of subletting package for acceptance	14/3/2020	16/3/2020	30/3/2020	20/4/2020	Task Completed				100%	-	Bestwise resubmitted on 20 April 2020
	Acceptance of subletting package	28/3/2020	4/5/2020	13/4/2020	13/5/2020	Task Completed				100%	-	AECOM accepted subletting package on 13 May 2020
	Tender invitation	11/4/2020	19/6/2020	27/4/2020	26/6/2020	Task Completed				-	-	Invitation to tender was commenced on 19 June 2020 and tender returned on 26 June 2020
	Tender award	25/4/2020	27/6/2020	11/5/2020	4/7/2020	Task Completed				-	-	Bestwise submitted tender report on 30 June 2020
	Acceptance of tender award	-	-	-	18/7/2020					-	-	
04SC007 - Independent Beam Plus Consultant	Submission of subletting package for acceptance	1/3/2020	30/3/2020	14/3/2020	30/3/2020	Task Completed				100%	-	
	Acceptance of subletting package	14/3/2020	3/4/2020	30/3/2020	3/4/2020	Task Completed				100%	-	
	Tender invitation	30/3/2020	30/3/2020	9/4/2020	9/4/2020	Task Completed				100%	-	
	Tender award	-	-	-	15/4/2020	Task Completed				100%	-	Bestwise submitted tender report on 15 April 2020
	Acceptance of tender award	-	-	-	17/4/2020	Task Completed				100%	-	AECOM accepted tender report on 17 April 2020
	Introduction meeting with IBPC, Cinotech	-	-	-	28/4/2020	Task Completed				100%	-	Meeting completed on 28 April 2020 followed by planning work progress
04SC008 - Design, Supply and Installation of detailed	Submission of subletting package for acceptance (C9)	1/4/2020	17/3/2020	14/4/2020	17/3/2020	Task Completed				100%	-	Bestwise submitted subletting package on 3 April 2020
	Acceptance of subletting package (C9)	14/4/2020	17/4/2020	30/4/2020	28/4/2020	Task Completed				100%	-	AECOM accepted subletting package on 28 April 2020
	Tender invitation (C9)	30/4/2020	6/5/2020	14/5/2020	28/5/2020	Task Completed				100%	-	Invitation to tender was commenced on 6 May 2020 and tender returned on 28 May 2020
	Tender award (C9)	14/5/2020	29/5/2020	30/5/2020	9/6/2020	Task Completed				100%	-	Bestwise submitted tender report on 9 June 2020.
Temporary Primary Sludge Thickener and its	Submission of subletting package (C9) for acceptance	15/05/2020 ->	14/8/2020	15/05/2020 -	27/8/2020	Task Completed				100%	Bestwise	- *=Corresponding PMI No.009 and CE No.009 were issued by AECOM on 14 July 2020.
	Acceptance of subletting package (C9) (Mech)	30/05/2020 ->	15/8/2020	15/06/2020->	16/9/2020	Task Completed				100%		- *=Corresponding PMI No.009 and CE No.009 were issued by AECOM on 14 July 2020. CE was implemented on 15 July 2020.
	Tender invitation (C9) (Mech)	15/06/2020->	9/9/2020	22/06/2020->	14/10/2020	Task Completed				100%		- *=Corresponding PMI No.009 and CE No.009 were issued by AECOM on 14 July 2020. CE was implemented on 15 July 2020. - Tender invitation for FRP Tank was conducted on 9 Sep 2020, tender returned on 16 Sep 2020. - Tender invitation for mechanical installation was conducted on 29 Sept 2020, tender returned on 14 Oct 2020.
	Tender award (C9) (Mech)	22/06/2020->	17/9/2020	29/06/2020->	22/10/2020	Task Completed				100%		- *=Corresponding PMI No.009 and CE No.009 were issued by AECOM on 14 July 2020. CE was implemented on 15 July 2020. - Tender report for FRP Tank was submitted on 24 Sep 2020 and accepted on 9 Oct 2020. - Tender report for mechanical installation submitted on 22 Oct 2020 and accepted on 16 Nov 2020.
	Acceptance of tender award (C9) (Mech)	-	-	-	16/11/2020	Task Completed				100%		
	Submission of subletting package (C9) for acceptance (Elect)	15/05/2020 ->	9/12/2020	15/05/2020 -	28/1/2021	Task Completed				100%		- *=Corresponding PMI No.009 and CE No.009 were issued by AECOM on 14 July 2020. CE was implemented on 15 July 2020. - Bestwise resubmitted subcontracting package of electrical installation on 28 Jan 2021
	Acceptance of subletting package (C9) (Elect)	30/05/2020 ->	29/1/2021	15/06/2020->	1/2/2021	Task Completed				100%		- *=Corresponding PMI No.009 and CE No.009 were issued by AECOM on 14 July 2020. CE was implemented on 15 July 2020.
	Tender invitation (C9) (Elect)	15/06/2020->	1/2/2021	22/06/2020->	11/2/2021	Task Completed				100%		- *=Corresponding PMI No.009 and CE No.009 were issued by AECOM on 14 July 2020. CE was implemented on 15 July 2020. - Tender invitation commenced on 1 Feb 2021 and returned on 11 Feb 2021
	Tender award (C9) (Elect)	22/06/2020->	11/2/2021	29/06/2020->	23/2/2021	Task Completed				100%		- *=Corresponding PMI No.009 and CE No.009 were issued by AECOM on 14 July 2020. CE was implemented on 15 July 2020. - Tender report target submitted on 23 Feb 2021 and accepted on 24 Feb 2021
	Acceptance of tender award (C9) (Elect)	-	-	-	26/2/2021	Task Completed				100%		

Item	Major Activities & Submission in coming 3 months	Time					Progress (E&M contract)				Action	Remarks / Status
		Contract Planned Commencement Date	Anticipated / Actual Commencement Date	Contract Planned Finish Date	Anticipated / Actual Finish Date	% of time elapsed based on "updated date")	Unit	Total Quantity	Completed Quantity	Actual Progress %		
Tender invitation (C11)		30/04/2020->15/07/2020*	30/4/2020	30/06/2020->15/09/2020*	18/11/2020	Task Completed				100%	Bestwise	- *Corresponding PMI No.009 and CE No.009 were issued by AECOM on 14 July 2020. CE was implemented on 15 July 2020. -Tender invitation of Primary Sludge Thickener commenced on 22 April 2020 and tender was received on 29 April 2020. Tender queries was requested on 5 May 2020 and received on 7 May 2020. Tender report was commented by PM and resubmitted on 22 May 2020. Accepted by AECOM on 12 Jun 2020. - Tender Invitation of process pumps for the thickening system was commenced on 5 Jun 2020 and tenders were received on 10 June 2020. Tender report submitted to PM on 2 July 2020. - Tender Invitation of activated carbon filter was commenced on 22 Oct 2020 and to be returned on 2 Nov 2020. Tender report submitted on 5 Nov 2020 and accepted on 16 Nov 2020 - Tender Invitation of FRP platform was commenced on 13 Nov 2020 and to be returned on 20 Nov 2020. Tender report submitted on 30 Nov 2020 and accepted on 11 Jan 2020 - Tender Invitation of instrument was commenced on 18 Nov 2020 and to be returned on 25 Nov 2020. Tender report submitted on 30 Nov 2020 - Based on the control philosophy agreed on 23 Dec 2020, motorized and solenoid valves were selected
Tender award (C11)		15/05/2020->29/07/2020*	30/5/2020	15/07/2020->15/09/2020*	30/11/2020	Task Completed				100%		- *Corresponding PMI No.009 and CE No.009 were issued by AECOM on 14 July 2020. CE was implemented on 15 July 2020.
Acceptance of tender award (C11)		-	-	-	18/9/2020					-		
Design Submission		03/07/2020 ->15/07/2020*	5/8/2020	21/09/2020->02/10/2020*	10/5/2021	Task Completed				100%	Bestwise	- *Corresponding PMI No.009 and CE No.009 were issued by AECOM on 14 July 2020. CE was implemented on 15 July 2020. -Design submission of Process Pumps (Rev.3) resubmitted on 14 Apr 2021, AECOM accepted with comments on 7 May 2021. -Design submission of electrical calculation (rev.2) was resubmitted on 29 Apr 2021. AECOM accepted with comments on 10 May 2021. -Control Philosophy (Rev.2) resubmitted on 5 Mar 2021. AECOM accepted subject to comments on 26 Mar 2021.
Plant and Material Submission		21/07/2020 ->30/07/2020*	21/7/2020	31/08/2020 ->31/10/2020*	30/6/2021	Task Completed					Bestwise	- *Corresponding PMI No.009 and CE No.009 were issued by AECOM on 14 July 2020. CE was implemented on 15 July 2020. - Plant and Material submission of primary sludge thickener was resubmitted on 1 Sep 2020 (Rev. 3) and AECOM accepted on 8 Sep 2020. - Plant and Material submission P&M0002 (Rev.2) of process pumps was submitted on 5 August 2020 and AECOM commented on 26 Aug 2020, Bestwise to re-submitted to AECOM. - Plant and Material submission (Rev.0) for valves was submitted on 16 Nov 2020. AECOM accepted on 14 Dec 2020 subject to comments - Plant and Material submission (Rev.1) for DI pipes and fittings was resubmitted on 3 Dec 2020. AECOM accepted on 14 Dec 2020 - Plant and Material submission (Rev.0) for primary sludge equalization tank was submitted on 5 Feb 2021. AECOM accepted subject to comments on 25 Feb 2021. - Plant and Material submission (Rev.0) for activated carbon filter was submitted on 28 Jan 2021. AECOM accepted subject to comments on 5 Feb 2021. - Plant and Material submission (Rev. 1) for instruments was resubmitted on 13 Mar 2021. AECOM accepted subject to comments on 7 Apr 2021.
Drawing Submission		03/07/2020 ->30/07/2020*	3/8/2020	21/09/2020 ->21/11/2020*	10/2/2021	Task Completed				100%	Bestwise	- *Corresponding PMI No.009 and CE No.009 were issued by AECOM on 14 July 2020. CE was implemented on 15 July 2020. - PFD, P&ID, Schematic GA (Rev.3) resubmitted on 22 Jan 2021 according to the finalized control philosophy. AECOM accepted subject to comment on 29 Jan 2021. - Electrical drawing - Bestwise resubmitted electrical drawing (Rev.5) on 22 Mar 2021. AECOM accepted on 16 Apr 2021.
Material Manufacturing		31/07/2020 ->30/09/2020*	4/8/2020	21/10/2020 ->21/12/2020*	20/4/2021	Task Completed				100%		- *Corresponding PMI No.009 and CE No.009 were issued by AECOM on 14 July 2020. CE was implemented on 15 July 2020. - Manufacturing instruction of PS thickener was issued on 3 August 2020. - Manufacturing instruction of process pumps was issued on 24 September 2020 - Electrical sub-contractor is awarded and manufacturing LCP
Material Delivery		05/09/2020 ->	4/11/2020	16/11/2020 ->	21/6/2021	Task Completed						

Item	Major Activities & Submission in coming 3 months	Time					Progress (E&M contract)				Action	Remarks / Status
		Contract Planned Commencement Date	Anticipated / Actual Commencement Date	Contract Planned Finish Date	Anticipated / Actual Finish Date	% of time elapsed based on "updated date")	Unit	Total Quantity	Completed Quantity	Actual Progress %		
	Mechanical Installation	01/10/2020 -> 01/12/2020*	2/2/2021	15/11/2020 -> 15/01/2021*	17/5/2021	Task Completed				-		
	Offsite Fabrication and Delivery of FRP Tank		16/1/2021		7/4/2021	Task Completed				100%		First batch to be delivered on 23 Mar 2021
	Onsite Installation of FRP Tank		7/4/2021		30/7/2021	Task Completed						Water filling to tank completed; Tank hydraulic test completed.
	Electrical Installation	01/10/2020 -> 01/12/2020*	19/3/2021	15/11/2020 -> 15/01/2021*	19/7/2021	Task Completed				-		Energize of all LCPs on 24 May 2021 and isolated prior to system commissioning.
Temporary Primary Sludge Thickener and its accessories (Sub-programme was provided by Bestwise)	Testing and Commissioning	15/11/2020 -> 15/01/2021*	8/5/2021	22/11/2020 -> 22/01/2021*	30/9/2022	Completed				-		Improvement works under PMI are on-going and defect rectification for BCM comments was partially completed. - Testing and Commissioning (3 x 24hrs) completed by End September.
Modification of Existing Emergency Generator Electrical Works	Submission of subletting package (C9) for acceptance	15/10/2020	15/10/2020	31/10/2020	11/12/2020	Task Completed				100%		
	Acceptance of subletting package (C9)	1/11/2020	5/11/2020	15/11/2020	2/1/2021	Task Completed				100%		
	Tender invitation (C9)	16/11/2020	26/1/2021	30/11/2020	5/2/2021	Task Completed				100%		Tender invitation commenced on 26 Jan 2021, and returned on 5 Feb 2021
	Tender award (C9)	30/11/2020	18/2/2021	7/12/2020	18/2/2021	Task Completed				100%		Tender report was submitted on 18 Feb 2021 and accepted on 26 Feb 2021
	Acceptance of tender award (C9)	8/12/2020	18/2/2021	15/12/2020	26/2/2021	Task Completed				100%		
	Design Submission	15/12/2020	15/3/2021	15/1/2021	23/4/2021	Task Completed				100%		DWG-0100 was submitted on 23 Apr 2021. AECOM accepted with comments on 30 Apr
	Transportation of existing dismantled genset no. 2 (Genset No.2) to subcontractor (Click Ltd.)'s workshop	9/3/2021	9/3/2021	9/3/2021	9/3/2021	Task Completed				100%		
	Drawing submission (Drawing of General Layout for Existing 600kVA Genset Container)	23/4/2021	23/4/2021	30/4/2021	30/4/2021	Task Completed				100%		
	Drawing submission (Cable route ,general arrangement, etc)	14/5/2021	28/5/2021	21/5/2021	5 July 2021	Task Completed				100%		
	Material submission P431 P&M-0087	21 May 2021	19 June 2021	28 May 2021	12 July 2021	Task Completed				100%		
	Fabrication of container at PRC	21 June 2021	21 June 2021	TBC	12/8/2021	Task Completed				100%		
	Container deliver to HK	TBC	12/8/2021	10/8/2021	12/8/2021	Task Completed				100%		
	Off site modification work at HK factory	TBC	16/8/2021	24/8/2021	24/8/2021	Task Completed				100%		
	FAT plan of modified Genset No.2 P431 MS-036	12/7/2021	12/7/2021	20/8/2021	20/8/2021	Task Completed				100%		
	FAT of Genset No.2 after modification works	25/8/2021	25/8/2021	25/8/2021	25/8/2021	Task Completed				100%		
	Installation Work of I-beam Support	26/8/2021	26/8/2021	26/8/2021	26/8/2021	Task Completed				100%		
	Transportation of Genset No. 2 to existing power house in SWHSTW and completion of the Genset No.2 installation on I-beam supporting frame	27/8/2021	27/8/2021	27/8/2021	27/8/2021	Task Completed				100%		
	Provision of one (1) can of 160L diesel and a diesel hand pump placed at diesel daily tank of Genset No.1 for standby top up (PPMI-012 item L) Location to be coordinated and advised by SWHSTW operator DSD/ST1	27/7/2021	27/7/2021	31/8/2021								Location to be further coordinated with DSD.
	Modification works of existing switchboard	1/9/2021	1/9/2021	8/9/2021	8/9/2021	Task Completed				100%		
	Cables (including control cable and power cables) laying and installation of cable containment, busbar chamber	21/7/2021	30/7/2021	8/9/2021	8/9/2021	Task Completed				100%		
Supply of busbar chamber/ connection box	10/8/2021	10/8/2021	3/9/2021	3/9/2021	Task Completed				100%			
Completion of all Genset cables and cable termination work to existing power house in SWHSTW after the completion of Genset No. 2 installation work	1/9/2021	1/9/2021	8/9/2021	8/9/2021	Task Completed				100%			
Delivery of dummy load and self-test	9/9/2021	9/9/2021	14/9/2021	15/9/2021	Task Completed				100%			
SAT and T&C (witness by AECOM and DSD/ST1) Please allow 1 week advance notice for coordination with DSD/ST1, e.g. genset signal start, etc.)	15/9/2021	15/9/2021	15/9/2021	16/9/2021	Task Completed				100%			
04SC009 - Design, Supply and Installation of HVSB	Submission of subletting package for acceptance	21/4/2020		1/5/2020		-						
	Acceptance of subletting package	21/5/2020		30/5/2020		-						

Contract No. DE/2018/04
 Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1
 - E&M Works for Sewage Treatment Facilities
 3 Month Rolling Programme (From 01/11/2023 to 01/01/2024)

Updated on: 20-Nov-23

Item	Major Activities & Submission in coming 3 months	Time					Progress (E&M contract)				Action	Remarks / Status
		Contract Planned Commencement Date	Anticipated / Actual Commencement Date	Contract Planned Finish Date	Anticipated / Actual Finish Date	% of time elapsed based on "updated date")	Unit	Total Quantity	Completed Quantity	Actual Progress %		
	Tender invitation	1/6/2020		14/6/2020		-						
	Tender award	1/7/2020		14/7/2020		-						
04SC010 - Design, Supply and Installation of LVSB	Submission of subletting package for acceptance	1/5/2020		14/5/2020		-						
	Acceptance of subletting package	1/6/2020		14/6/2020		-						
	Tender invitation	14/6/2020		30/6/2020		-						
	Tender award	1/7/2020		14/7/2020		-						
04SC011 - Design and Installation of Building	Submission of subletting package for acceptance	14/4/2020		30/4/2020		-						
	Acceptance of subletting package	14/5/2020		30/5/2020		-						
	Tender invitation	30/5/2020		14/6/2020		-						
	Tender award	21/6/2020		30/6/2020		-						
04SC012 - Facility Computerized Systems	Submission of subletting package for acceptance	14/5/2020		30/5/2020		-						
	Acceptance of subletting package	14/6/2020		30/6/2020		-						
	Tender invitation	1/7/2020		14/7/2020		-						
	Tender award	21/7/2020		14/8/2020		-						
Plant and Materials (Marking Scheme)												
PS Clause no. 6B.2.1 Inlet Pump	Submission of marking scheme for PM's acceptance (fourth draft)	1/5/2020	1/5/2020	1/9/2020	19/8/2020	Task Completed				100%		AECOM commented on 14 August 2020, Bestwise resubmitted on 19 Aug 2020.
	Submission of marking scheme for PM's acceptance	1/5/2020	1/5/2020	1/9/2020	19/8/2020	Task Completed				100%		Bestwise resubmitted on 19 Aug 2020.
	Acceptance of marking scheme by the PM	15/5/2020	20/8/2020	15/9/2020	1/9/2020	Task Completed				100%		AECOM accepted on 1 Sep 2020
	Tender invitation	29/5/2020	9/9/2020	29/9/2020	18/9/2020	Task Completed				100%		Tender invitation was conducted on 9 Sept 2020 and returned on 18 Sept 2020.
PS Clause no. 6B.2.1 Inlet Pump	Tender award	5/6/2020	19/9/2020	5/10/2020	7/10/2020	Task Completed				100%		Technical Submission Evaluation Report was submitted on 5 Oct 2020, Tender report was submitted on 7 Oct 2020. AECOM noted on 8 Oct 2020.
	Acceptance of tender award	19/6/2020	17/10/2020	19/10/2020	15/11/2020	Task Completed				-		
	Submission of marking scheme for PM's acceptance (third draft)	1/5/2020	14/5/2020	1/9/2020	19/8/2020	Task Completed				100%		AECOM commented on 14 August 2020, Bestwise resubmitted on 19 Aug 2020
	Submission of marking scheme for PM's acceptance	1/5/2020	14/5/2020	1/9/2020	19/8/2020	Task Completed				100%		Bestwise resubmitted on 19 Aug 2020
PS Clause no. 6B.2.4 MBR Pre-treatment Screen	Acceptance of marking scheme by the PM	15/5/2020	20/8/2020	15/9/2020	1/9/2020	Task Completed				100%		AECOM accepted on 1 Sep 2020
	Tender invitation	29/5/2020	20/11/2020	29/9/2020	11/12/2020	Task Completed				100%		Tender invitation was conducted on 20 Nov 2020 and returned on 11 Dec 2020. Tender Technical Submission Evaluation Report was submitted on 12 Jan 2021. AECOM noted on 22 Jan 2021.
	Tender award	5/6/2020	13/12/2020	5/10/2020	3/3/2021	Task Completed				100%		Tender Report was submitted on 4 Feb 2021, AECOM commented on 19 Feb 2021, Bestwise submitted supplementary information on 26 Feb 2021. AECOM noted on 3 Mar
PS Clause no. 6B.2.4	Submission of marking scheme for PM's acceptance	1/5/2020	14/5/2020	1/9/2020	2/9/2020	Task Completed				100%		AECOM commented on 1 September 2020, Bestwise resubmitted on 2 Sep 2020
	Submission of marking scheme for PM's acceptance	1/5/2020	3/9/2020	1/9/2020	2/9/2020	Task Completed				100%		Bestwise resubmitted on 2 Sep 2020
PS Clause no. 6B.2.4 Air Diffusion System	Acceptance of marking scheme by the PM	15/5/2020	20/8/2020	15/9/2020	1/9/2020	Task Completed				100%		AECOM accepted on 1 Sep 2020, subject to conditions.
	Tender invitation	29/5/2020	17/2/2021	29/9/2020	12/3/2021	Task Completed				100%		Procurement package would follow the approved format (i.e. aeration blower) Tender invitation was conducted on 17 Feb 2021. Addendum No. 1 was issued on 18 Feb 2021. Tender return date was extended from 26 Feb 2021 to 12 Mar 2021. Tender returned on 12 Mar 2021
	Tender award	5/6/2020	18/3/2021	5/10/2020	20/4/2021	Task Completed				-		Technical Submission Evaluation Report was submitted on 18 Mar 2021. AECOM noted on 30 Mar 2021. Tender Report was submitted on 8 Apr 2021. LOI was issued to supplier.
	Acceptance of tender award	19/6/2020	20/2/2021	19/10/2020	12/3/2021	Task Completed				-		
PS Clause no. 6B.2.4	Submission of marking scheme for PM's acceptance	14/5/2020	14/5/2020	14/9/2020	19/8/2020	Task Completed				100%		AECOM commented on 14 August 2020, Bestwise resubmitted on 19 Aug 2020
	Submission of marking scheme for PM's acceptance	14/5/2020	14/5/2020	14/9/2020	19/8/2020	Task Completed				100%		Bestwise resubmitted on 19 Aug 2020
PS Clause no. 6B.2.4 BR Aeration Blower	Acceptance of marking scheme by the PM	28/5/2020	20/8/2020	28/9/2020	1/9/2020	Task Completed				100%		AECOM accepted on 1 Sep 2020
	Tender invitation	11/6/2020	3/2/2021	12/10/2020	3/3/2021	Task Completed				100%		Procurement package was submitted to AECOM under CGS-066. AECOM replied on 29 Jan 2021. Tender invitation was conducted on 3 Feb 2021. Tender returned on 3 Mar 2021
	Tender award	18/6/2020	4/3/2021	19/10/2020	12/4/2021	Task Completed				-		Technical Submission Evaluation Report was submitted on 10 Mar 2021. AECOM noted on 19 Mar 2021. Tender Report was submitted on 24 Mar 2021. LOI was issued to supplier.
	Acceptance of tender award	2/7/2020	4/3/2021	2/11/2020	25/3/2021	Task Completed				-		AECOM accepted on 1 Sep 2020, subject to conditions.
PS Clause no. 6B.2.4	Submission of marking scheme for PM's acceptance	14/5/2020	1/5/2020	14/9/2020	2/9/2020	Task Completed				100%		AECOM commented on 1 September 2020, Bestwise resubmitted on 2 Sep 2020
	Submission of marking scheme for PM's acceptance	14/5/2020	3/9/2020	14/9/2020	2/9/2020	Task Completed				100%		Bestwise resubmitted on 2 Sep 2020

