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

FEBRUARY 2023

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EXECUTIVE SUMMARY

i. This is the Environmental Monitoring and Audit (EM&A) Monthly Report – February 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 18th 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 February 2023 to 28 February 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
- Backfilling
- Sewage, utility and pipe works
- ABWF works
- Excavation and Lateral Support
- Construction of Outfall at Ng Tung River

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

- ELS works
- Sheet piling
- Excavation
- RC 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 Pile Cap
- Electrical Installation
- EOT and Monorail Installation
- SPR Installation
- Plumbing installation
- MFA and AFA Installation
- Bio-Gas Holding tank Installation
- Penstock and Stoplog Installation
- Delivery and Installation of THP System

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

- Improvement Works for Temporary Primary Sludge Thickener and its accessories

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. Malfunction of equipment was encountered at AM2a during the period from 18 February 2023 to 27 February 2023, so the 24hr AQM for AM2a was temporarily suspended.

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

Noise Monitoring

vi. Noise monitoring was conducted at three noise monitoring stations once per week in the reporting month.

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

Ecological Monitoring

viii. 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.

ix. No Action or Limit level was triggered in the reporting month.

Water Quality Monitoring

x. Water quality monitoring was conducted at two monitoring stations three days per week in the reporting month.

xi. Nine (9) limit level exceedances and three (3) action level exceedances were recorded in the reporting month. After investigation, all recorded exceedances were considered non-project related.

Site Inspections and Audit

xii. 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, 21 and 28 February 2023 and biweekly landscape inspection on 14 and 28 February 2023. IEC attended the joint site inspection on 28 February 2023. No non-compliance was found during the site inspection while reminders on environmental measures were recommended.

Complaints, Notifications of Summons and Successful Prosecutions

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

Reporting Changes

xiv. There are no particular reporting changes.

Future Key Issues

xv. 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
- Backfilling
- Sewage, utility and pipe works
- ABWF works
- Construction of Outfall at Ng Tung River

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

- ELS works
- Sheet piling
- RC works
- Excavation
- 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 Pile Cap
- Electrical Installation
- Pipework Installation
- EOT and Monorail Installation
- SPR Installation
- Plumbing installation
- MVAC Installation
- MFA and AFA Installation

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

- Improvement Works for Temporary Primary Sludge Thickener and its accessories
- E&M Installation 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 installation works at Portion B-2, Inert Works

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 93,000m^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	CPC	Mr. Hanes Hui	2594 7459
AECOM	Supervisor Representative	Resident Engineer	Mr. Alex Leung	3907 6145
Kwan Lee - Chun Wo Joint Venture	Contractor (DC/2018/06)	Environmental Engineer	Ms. Ruby Hui	6218 6408
		Assistant Environmental Engineer	Mr. Marco Chan	6235 6017
	Contractor (DC/2018/07)	Environmental Engineer	Ms. Tiffany Choi	9789 1027
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
		Environmental Team Respective	Mr. Alex Chan	2839 5629

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
- Backfilling
- Sewage, utility and pipe works
- ABWF works
- Excavation and Lateral Support
- Construction of Outfall at Ng Tung River

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

- ELS works
- Sheet piling
- Excavation
- RC 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 Pile Cap
- Electrical Installation
- EOT and Monorail Installation
- SPR Installation
- Plumbing installation
- MFA and AFA Installation
- Bio-Gas Holding tank Installation
- Penstock and Stoplog Installation
- Delivery and Installation of THP System

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

- Improvement Works for Temporary Primary Sludge Thickener and its accessories

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	8	Section 4, SDB, Outfall, SD, Jacking Pit, Transformer and Switchroom
	Tower Crane	1	Near Workshop No.2
	Mobile generator	1	Near Workshop No.2
	Scissor lift platform	4	SDB and CHP
DC/2018/07	Excavator	15	BR2, Inlet, MFB, PST and SAS
	Generator	3	BR2, MFB, PST and Inlet
	Air compressor	1	Inlet
	Mobile Crane	4	PST, MFB and Inlet
DE/2018/03	*Generator*	*6*	*UV No.1, Sidestream and Workshop No.2*
	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
- Backfilling
- Sewage, utility and pipe works
- ABWF works
- Construction of Outfall at Ng Tung River

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

- ELS works
- Sheet piling
- RC works
- Excavation
- 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 Pile Cap
- Electrical Installation
- Pipework Installation
- EOT and Monorail Installation
- SPR Installation
- Plumbing installation
- MVAC Installation
- MFA and AFA Installation
- Bio-Gas Holding tank Installation
- Delivery and Installation of THP System

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

- Improvement Works for Temporary Primary Sludge Thickener and its accessories
- E&M Installation 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 installation works at Portion B-2, Inert Works

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-RN1155-22	28 Nov 2022	28 Feb 2023	Valid until 28 Feb 2023

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
Special Waste	17144	17 Nov 2022	16 May 2023	Valid
Construction Noise Permit	GW-RN1155-22	28 Nov 2022	28 Feb 2023	Valid until 28 Feb 2023

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-RN1190-22	8 Dec 2022	7 Apr 2023	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	Pending for revision
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
NM2*	Footbridge between Fu Tei Au and SWHSTW
NM3	Man Kok Village

1. Remark: Due to close proximity to construction works and heavy machines from another construction project, presence of physical barrier and safety concerns, adjustment for the location of AM2/NM2 were proposed in accordance to Section 2.2.4.6 of the EM&A Manual. It was adjusted from Fu Tei Au to footbridge between Fu Tei Au and SWHSTW. The proposal has sought approval from ER and IEC, and agreement from EPD on 28 December 2022.

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
Integrated Sound Level Meter	NTi XL2	A2A-15269-EO
Acoustic Calibrator	LD CAL200	13437

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
AM2*(1)	Footbridge between Fu Tei Au and SWHSTW	1-hour TSP
AM1a*	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

Remarks

(1) Due to close proximity to construction works and heavy machines from another construction project, presence of physical barrier and safety concerns, adjustment for the location of AM2/NM2 were proposed in accordance to Section 2.2.4.6 of the EM&A Manual. It was adjusted from Fu Tei Au to footbridge between Fu Tei Au and the SWHSTW. The proposal has sought approval from ER and IEC, and agreement from EPD on 28 December 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 m^3 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
Portable direct reading dust meter	Met One BT- 645 / Met One AEROCET831	Y23153 C15622
High Volume Sampler	Tisch Total Suspended Particulate Mass Flow Controlled High Volume Air Sampler (Model no. G3101)	HVS001 (Serial number: 0401-1105) HVS003 (Serial number: 1096-2305)
Wind Anemometer	YGY-FSXY1	YG 21071630T0924

4.2.9. The calibration certificates of the air quality monitoring equipment are attached in ***Appendix 4.2***.

WIND DATA

4.2.10. Hong 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
	Footbridge between Fu Tei Au and SWHSTW	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 5.6***.

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

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
Egretta garzetta	Little Egret	小白鷺
Ardea cinerea	Grey Heron	蒼鷺
Ardeola bacchus	Chinese Pond Heron	池鷺
Phalacrocorax carbo	Great Cormorant	普通鸬鹚
Ardea alba	Great Egret	大白鷺
Bubulcus coromandus	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

4.4 Water Quality Monitoring

WATER QUALITY MONITORING STATIONS

4.4.1. Water quality monitoring was undertaken at 2 monitoring stations in the reporting month. The proposed water quality monitoring stations of the Project are shown in ***Table 4.10*** and ***Figure 4.4***.

Table 4.10 Water Quality Stations for Water Quality Monitoring

Stations	Description
M1	Impact Station, downstream of the proposed outfall
C1	Control Station, upstream of the proposed outfall

WATER QUALITY PARAMETERS, FREQUENCY AND DURATION

4.4.2. The levels of dissolved oxygen (DO), salinity, temperature, turbidity and pH shall be measured in situ while suspended solids (SS) is determined by laboratory analysis at all the designated monitoring stations.

4.4.3. In association with the water quality parameters, other relevant data shall also be recorded, such as monitoring location / position, time, DO saturation, weather conditions, and any special phenomena underway near the monitoring station.

4.4.4. During the course of the construction works at the outfall at Ng Tung River, impact monitoring shall be undertaken three days per week, with sampling/measurement at the monitoring stations. The ET should carry out spot check to ensure that the Contractor has undertaken all recommended control measures to prevent direct contact of pollutants with rainwater or runoff, and measures to abate contaminants in the stormwater runoff.

4.4.5. The interval between two sets of monitoring should not be less than 36 hours except where there are exceedances of Action and/or Limit Levels, in which case the monitoring frequency will be increased.

4.4.6. Replicate in-situ measurements should be carried out in each sampling event.

SAMPLING PROCEDURES AND MONITORING EQUIPMENT

Dissolved Oxygen and Temperature Measuring Equipment

4.4.7. The instrument should be a portable, weatherproof dissolved oxygen measuring instrument complete with cable, sensor, comprehensive operation manuals, and use a DC power source. It should be capable of measuring:

- a dissolved oxygen level in the range of 0-20 mg/l and 0-200% saturation
- a temperature of 0-45 degree Celsius

4.4.8. It should have a membrane electrode with automatic temperature compensation complete with a cable. Sufficient stocks of spare electrodes and cables should be available for replacement where necessary. (e.g. YSI model 59 meter, YSI 5739 probe, YSI 5795A submersible stirrer with reel and cable or an approved similar instrument).

4.4.9. Should salinity compensation not be build-in in the DO equipment, in-situ salinity shall be measured to calibrate the DO equipment prior to each DO measurement.

Turbidity Measurement Instrument

4.4.10. The instrument should be a portable, weatherproof turbidity-measuring instrument complete with comprehensive operation manual. The equipment should use a DC power source. It should have a photoelectric sensor capable of measuring turbidity between 0-1000 NTU and be complete with a cable (e.g. Hach model 2100P or an approved similar instrument).

Sampler

4.4.11. Due to low water level as mentioned in Section 6.4.3 of the EIA report, bucket sampler (Approximate 1L) will be use instead of water sampler in order to obtain surface water sample without disturb the stream sediment and collect representative results.

Salinity

4.4.12. A portable salinometer capable of measuring salinity in the range of 0-70 ppt shall be provided for measuring salinity of the water at each of monitoring location.

MONITORING METHODOLOGY

4.4.13. Monitoring Procedure

(a) The condition near the monitoring stations shall be observed and recorded on the data log sheet.
(b) Check of sensors and electrodes with certified standard solutions before each use.
(c) Wet bulb calibration for a DO meter should be carried out before measurement.
(d) Sample would be taken using bucket sampler at surface level.
(e) Transfer the sampled water carefully into cleaned water bottles (2x 1000ml) provided by the laboratory at the spot after the collection of the water sample for the subsequent laboratory Suspended Solid testing.
(f) Transfer the sampled water from the bucket sampler to the rinsed water container for in-situ measurement (In case of the in-situ measurement cannot be carried at spot due to safety and adverse weather condition, sampled water from the bucket sampler will be transfer to cleaned water bottles provided by laboratory. Then, In-situ measurement will be conducted at a safe location which sampled water inside cleaned water bottle will be transfer to the rinsed water container for in-situ measurement) In-situ measurement shall be measured in duplicate.

(g) Parameters including Water Temperature (°C), pH (units), Salinity (ppt), DO (mg/L), DO saturation (%) will be measured by the Multifunctional Meter and Turbidity (NTU) will be measured by turbid meter. (Water Temperature and Salinity will be measured as reference parameters)

(h) Record the result on the data log sheet and record any special finding during / after in-situ measurement.

(i) The water sample bottles will be stored in a cool box (at cooled to 4℃ without being frozen), which shall be delivered to HOKLAS laboratory (ALS Technichem (HK) Pty Ltd) for further testing to determine the level of SS.

4.4.14. Maintenance and Calibration

(a) The responses of sensors and electrodes of the water quality monitoring equipment were cleaned and checked at regular intervals.

(b) DO meter (Multifunctional Meter) and turbid meter was certified by a laboratory accredited under HOKLAS or any other international accreditation scheme, and subsequently re-calibrated at three monthly intervals.

4.4.15. Brand and model of the equipment are given in **Table 4.11**.

Table 4.11 Water Quality Monitoring Equipment

Equipment	Brand and model	Series Number
Multifunctional Meter	YSI Pro Quatro	20M100002/ 20M101455
Turbid meter	Xin Rui WGZ-3B	2202020

4.4.16. The calibration certificates of the water quality monitoring equipment are attached in **Appendix 4.2**.

LABORATORY MEASUREMENT / ANALYSIS

4.4.17. Analysis of suspended solids has been carried out in a HOKLAS accredited laboratory, which is ALS Technichem (HK) Pty Ltd.

EVENT AND ACTION PLAN

4.4.18. The Action and Limit levels for water quality are defined in **Table 4.12**. Should the monitoring results of the water quality parameters at impact station exceed the water quality criteria, action in accordance with the Event and Action Plan in **Appendix 6.1** shall be carried out.

Table 4.12 Action and Limit Level for Water Quality Monitoring

Parameter (Unit)	Depth	Action Level	Limit Level
DO (mg/L)	Depth-average	**≤ 7.8 mg/L**	**≤ 7.7 mg/L**
Turbidity (NTU)	Depth-average	**≥ 14.6 NTU** or 120% of upstream control station's Turbidity at the same tide of the same day	**≥ 15.6 NTU** or 130% of upstream control station's Turbidity at the same tide of the same day
SS (mg/L)	Depth-average	**≥ 18.8 mg/L** or 120% of upstream control station's SS at the same tide of the same day	**≥ 19.5 mg/L** or 130% of upstream control station's SS at the same tide of the same day

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	54.3 – 58.5	75 dB
NM2	68.9 – 71.9	
NM3	60.4 – 63.3	

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 variated 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/m3)		Action Level, (µg/m3)	Limit Level, (µg/m3)
	Average	Range		
AM1	33	12 – 57	320	500
AM2*	34	18 – 50	322	500

Table 5.3 Summary Table of 24-hour TSP Monitoring Results

Monitoring Station	Concentration (µg/m3)		Action Level, (µg/m3)	Limit Level, (µg/m3)
	Average	Range		
AM1a*	57	35 – 80	189	500
AM2a	53	44 – 67	187	500

5.2.2 Malfunction of equipment was encountered at AM2a during the period from 18 February 2023 to 27 February 2023, so the 24hr AQM for AM2a was temporarily suspended.

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

5.2.4 According to our field observations, the major dust source identified were nearby road traffic.

5.2.5 The air quality monitoring result measured in reporting month was similar to previous months. The air quality monitoring result was slightly variated 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	39	1066
Waterbirds	13	238

Table 5.5 Abundance of Representative Waterbirds in the Reporting Month

Species Name	Common Name	Chinese Name	Abundance
Egretta garzetta	Little Egret	小白鷺	65
Ardea cinerea	Grey Heron	蒼鷺	43
Ardeola bacchus	Chinese Pond Heron	池鷺	23
Phalacrocorax carbo	Great Cormorant	普通鸬鹚	44
Ardea alba	Great Egret	大白鷺	13
Bubulcus coromandus	Eastern Cattle Egret	牛背鷺	23
		Total	**211**

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**	**0.653**	✓	✓
	Seasonal	**-0.191**	✓	✓

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% (-2.353)	99% (-4.541)	Seasonal	95% (-2.353)	99% (-4.541)	
Little Egret	0.783	✔	✔	0.301	✔	✔	✔
Grey Heron	-2.941	X	✔	-0.913	✔	✔	✔
Chinese Pond Heron	-1.726	✔	✔	-2.493	X	✔	✔
Great Cormorant	1.480	✔	✔	1.480	✔	✔	✔
Great Egret	-2.092	✔	✔	-2.092	✔	✔	✔
Eastern Cattle Egret	0.999	✔	✔	0.636	✔	✔	✔

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.
* Great Cormorant (*Phalacrocorax carbo*) and Grey Heron (*Ardea cinerea*) were not recognised as representative waterbird species during wet 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 construction of footbridge, excavation and sheet-piling, and human activities including burning rubbish, jag walking, grazing, and fishing 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
- Soraing
- Resting

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 Jaywalking, and Fishing Construction activities such as footbridge construction, excavation, and breaking works
T2 (PC3, PC4)	Construction activities such as generator & welding works, Scaffolding, sedimentation tank, Excavation and crane	Human Activities such as Burning Rubbish, Fishing, 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 Jaywalking, Grazing, Fishing and Landscape Planting Construction activities such as Excavation, Sheet-piling, generator & wielding works, Scaffolding, lifting works

5.4 Water Quality Monitoring Results

5.4.1 Water quality monitoring results measured in this reporting period are reviewed and summarized. Details of water monitoring results and graphical presentation can be referred in **Table 5.9** and ***Appendix 5.7***. The laboratory analysis results can be referred in ***Appendix 5.8***.

Table 5.9 Summary Table of Water Quality Monitoring Results

Parameter	C1		M1		Action Level, (µg/m3)	Limit Level, (µg/m3)
	Range	Average	Range	Average		
DO (mg/L)	5.5 – 9.4	7.7	6.2 – 9.5	7.6	≤ 7.8 mg/L	≤ 7.7 mg/L
Turbidity (NTU)	6.2 – 15.3	8.8	5.2 – 14.8	8.3	≥ 14.6 NTU or When M1 ≥ 120% of C1	≥ 15.6 NTU or When M1 ≥ 130% of C1
SS (mg/L)	5.4 – 11.9	7.7	5.6 – 25.7	9.7	≥ 18.8 mg/L or When M1 ≥ 120% of C1	≥ 19.5 mg/L or When M1 ≥ 130% of C1

5.4.2 Nine (3) limit level exceedances and three (3) action level exceedances were recorded in the reporting month. **Table 5.10** shown all exceedances recorded in the reporting month.

Table 5.10 Summary Table of Exceedance

Date	Action Level (AL) / Limit Level (LL) Exceedance			Construction Works at Outfall (extracted from Site Diary of ER)
	DO	Turbidity	SS	
1 Feb 2023	LL	-	-	1. General site work 2. Pouring concrete surround and bend block of DI1400 and MS2000 pipe
3 Feb 2023	LL	-	LL	
6 Feb 2023	LL	-	-	1. General site work 2. Pouring No Fines concrete for slope
8 Feb 2023	LL	-	-	1. General site work 2. Laying Geotextile of slope
10 Feb 2023	LL	AL	LL	1. General site work
13 Feb 2023	-	-	LL	No activity
17 Feb 2023	LL	AL	-	1.Pouring No Fines concrete of slope
27 Feb 2023	-	AL	-	1.General site work

5.4.3 According to the Project Layout, most of construction works under the Project are considered as land-based construction. There is only one construction works for Outfall conducted at the slope between the Project site and the Ng Tung River, which may contribute water quality pollution to the Ng Tung River. The Project Layout and the location of the constructing outfall is shown in **Figure 2.1**.

5.4.4 ET conducted a site investigation after recorded exceedances. Excepted construction of outfall, there was no construction work or exposed area under the Project identified between site boundary and Ng Tung River. The photo record of site boundary took after the exceedance was annexed in **Appendix 5.10a**.

5.4.5 Considered only construction works for Outfall may affect the water quality of Ng Tung River, so the investigation report should focus on on-site practice and implementation of mitigation measures for outfall work instead of the entire Project area.

5.4.6 According to the site diary from ER and ET's photo record, the main construction works (excavation and sheet piling) for the outfall were completed in December 2022. Excepted on 23 February 2023, no excavation or sheet piling work was conducted in February 2023, and exceedance was not recorded before (22 Feb) and after (24 Feb) of the excavation works.

5.4.7 According to the ET's photo record, E&M works were observed at the outfall, and no heavy works, like excavation or sheet piling work, were observed during the reporting month. Also, all works conducted were within the area of outfall (land-based) and provided sufficient mitigation measures (concrete blocks and plastic barriers). The site diary provided by the ER was annexed in **Appendix 5.10b**, and the photo record taken by the ET for the outfall was annexed in **Appendix 5.10c**.

5.4.8 Considered only E&M works conducted in February 2023, and all works conducted were within the area of outfall with sufficient mitigation measures, so the exceedances recorded in the reporting month should be considered non-project related.

5.5 Waste Management

5.5.1 The quantities of waste for disposal in the Reporting Period are summarized in ***Table 5.11*** to ***5.14***. The Monthly Summary Waste Flow Table is shown in ***Appendix 5.9***. Whenever possible, materials were reused on-site as far as practicable.

Table 5.11 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)	0.442	0.618	1.060
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)	0.061	0.064	0.125

Table 5.12 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)	8.960	3.950	12.911
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)	0.025	0.070	0.094

Table 5.13 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 '000kg)	0.000	0.000	0.000
Metals (in '000kg)	0.000	0.000	0.000

Waste Type	Quantity (Previous month)	Quantity (Reporting month)	Annual Cumulative Quantity (2023)
Paper / Cardboard Packing (in '000kg)	0.130	0.000	0.130
Plastics (in '000kg)	0.000	0.000	0.000
Chemical Wastes (in '000kg)	0.000	0.000	0.000
General Refuses (in '000kg)	10.510	17.330	27.840

Table 5.14 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)	7.260	0.000	7.260
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 '000kg)	0.000	1.970	1.970

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.

6.2.2 Malfunction of equipment was encountered at AM2a during the period from 18 February 2023 to 27 February 2023, so the 24hr AQM for AM2a was temporarily suspended

6.3 Ecological Monitoring

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

6.4 Water Quality Monitoring

6.4.1 Nine (9) limit level exceedances and three (3) action level exceedances were recorded in the reporting month.

6.4.2 Investigation for the exceedances recorded in the reporting month was conducted, after investigation all recorded exceedances were considered non-project related.

6.4.3 The detail of investigation result can be referred to Section 5.4. The follow-up action for recorded exceedances can be referred to ***Appendix 6.2.***

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

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

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

6.6.1 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, 21 and 28 February 2023 and biweekly landscape inspection on 14 and 28 February 2023. IEC attended the joint site inspection on 28 February 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
20230207_1	7-Feb-2023	Exposed areas near SDB and Outfall were observed dry. The Contractor was advised to provide dust suppression measures to the exposed areas.	Watering was provided to exposed areas near SBD and Outfall.	Rectified on 14-Feb-23.
20230221_1	21-Feb-2023	Stockpile stored without mitigation measures was observed near Outfall. The Contractor was advised to provide dust mitigation measures to the stockpile stored onsite.	Cover was provided to stockpile stored near Outfall.	Rectified on 28-Feb-23.

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

Item	Date	Reminder(s)/ Observation(s)	Action taken by Contractor	Outcome
20230207_2	7-Feb-2023	Oil stain dropped from an excavator located near BR2 was observed. The Contractor was advised to provide maintenance to the excavator.	Maintenance was provided to the excavator near BR2.	Rectified on 14-Feb-23.

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

Item	Date	Reminder(s)/ Observation(s)	Action taken by Contractor	Outcome
20230228_3	28-Feb-2023	Improper storage of general refuses and recycle material was observed at sidestream. The Contractor was advised to provide a proper area for storage the general refuse. The Contractor was also advised to provide onsite sorting for recycle material.	The Improper stored general refuses was remove. The recycle material was sorted from general refuse.	Rectified on 7-Mar-23.

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
February 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

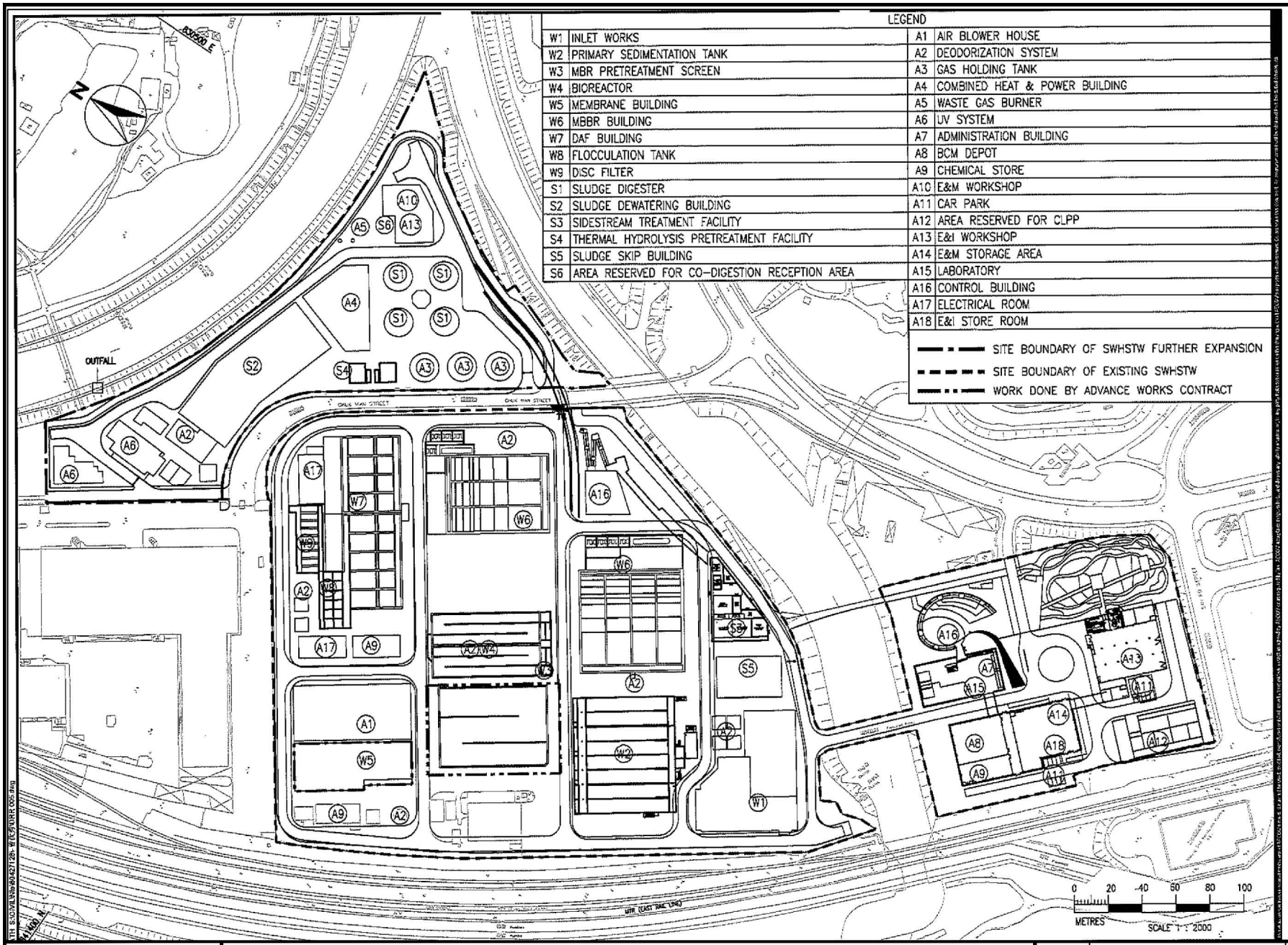
Contract No.	Key Construction Works	Recommended Mitigation Measures
DC/2018/06	• RC works • Sewage, utility and pipe works • Backfilling • ABWF works • Construction of Outfall at Ng Tung River	• Implement proper dust mitigation measures on dusty surface and stockpiles • Implement proper measures to prevent 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. • Implement proper water mitigation measures on Outfall works for preventing water pollution.

Contract No.	Key Construction Works	Recommended Mitigation Measures
DC/2018/07	• ELS works • Sheet piling • RC works • Excavation • Pile laying	• Implement proper dust mitigation measures on dusty surface and stockpiles • 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	• Construction of Pile Cap • Electrical Installation • EOT and Monorail Installation • SPR Installation • Plumbing installation • MFA and AFA Installation • Bio-Gas Holding tank Installation • Penstock and Stoplog Installation • Delivery and Installation of THP	• 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
	System	
DE/2018/04	• Improvement Works for Temporary Primary Sludge Thickener and its accessories • E&M Installation 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 installation works at Portion B-2, Inert Works	• 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.

Figure 2.1

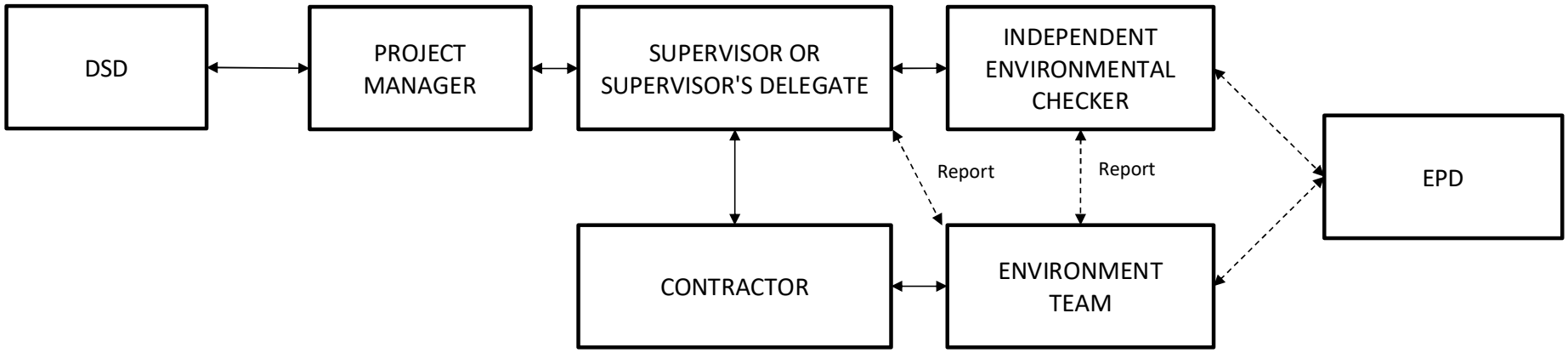
Project Layout



Shek Wu Hui E□luent Polishing Plant	SCALE	As Shown	DATE SEP 2019
	CHECK	JM	DRAWN SY
General Site Layout O□SWHEPP	JOB No.		FIGURE NO. 1.1 RE□ -

Figure 2.2

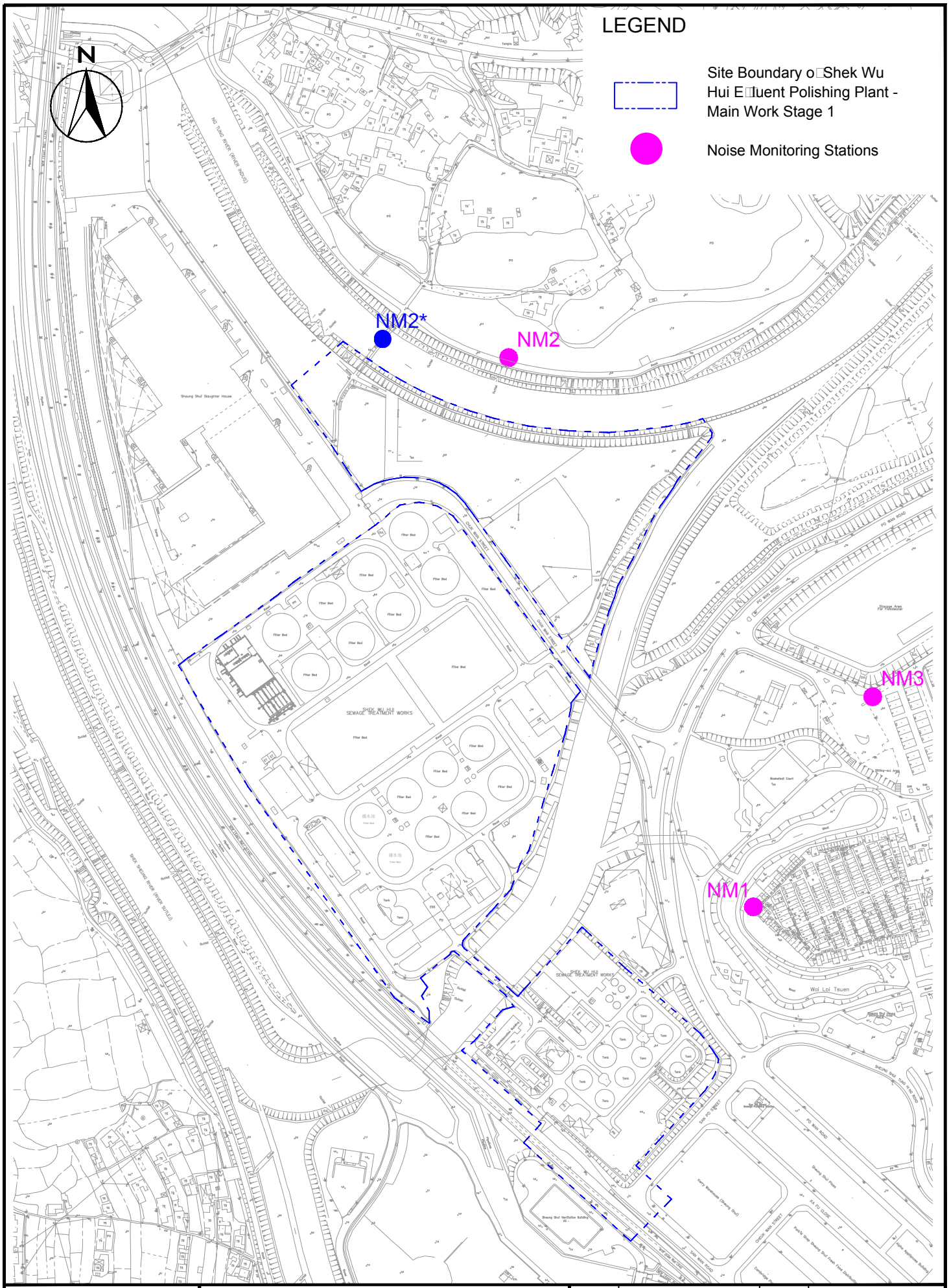
Project Organization Chart



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

Figure 4.1

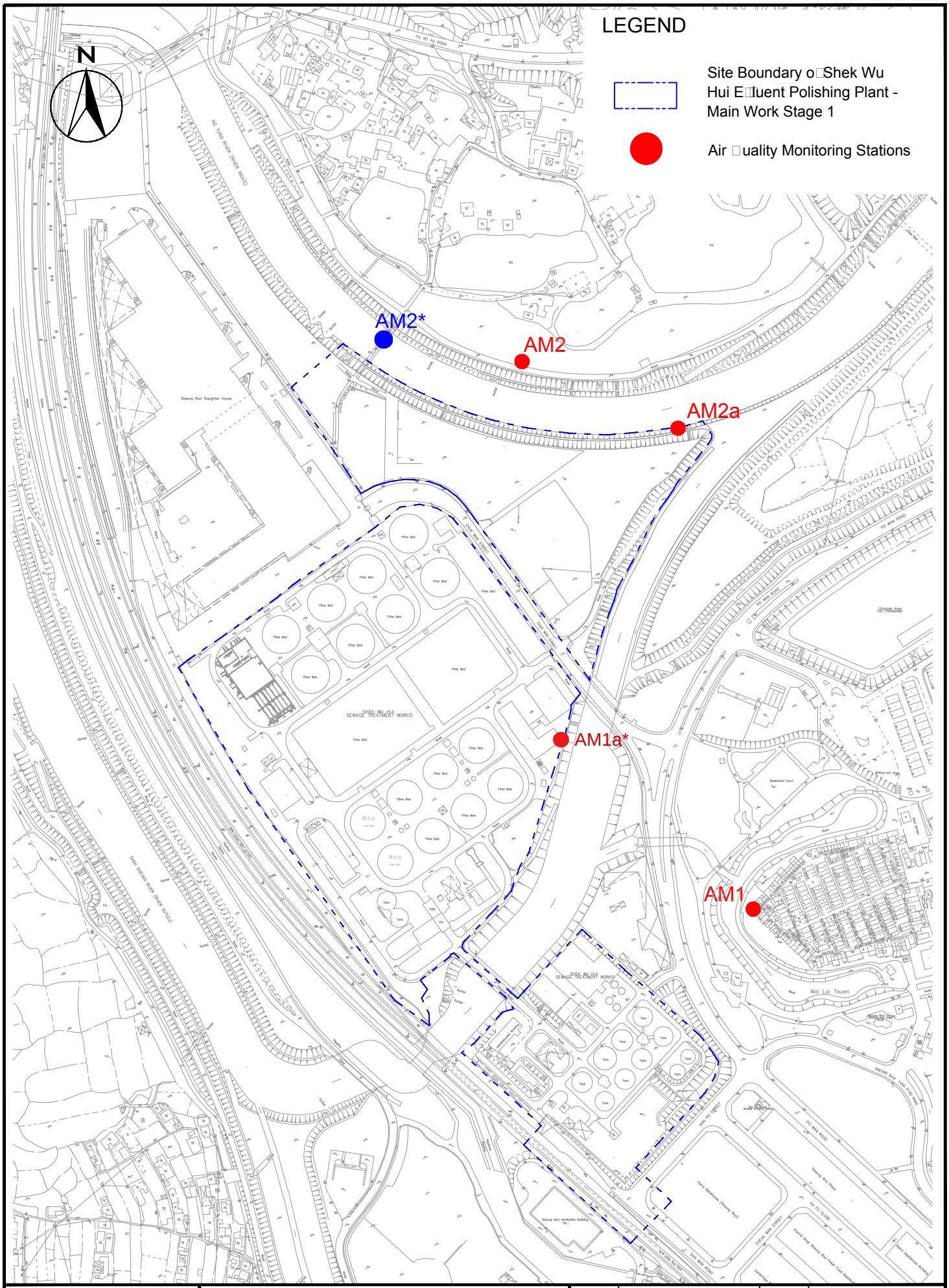
Locations of Noise Monitoring Stations



Shek Wu Hui E□luent Polishing Plant Location o□Noise Monitoring Stations	SCALE	1:4000□ A4	DATE	SEP 2019
	CHECK	JM	DRAWN	SY
	JOB No.	MA19019	FIGURE NO. 3	RE□ -

Figure 4.2

Locations of Air Quality Monitoring Stations

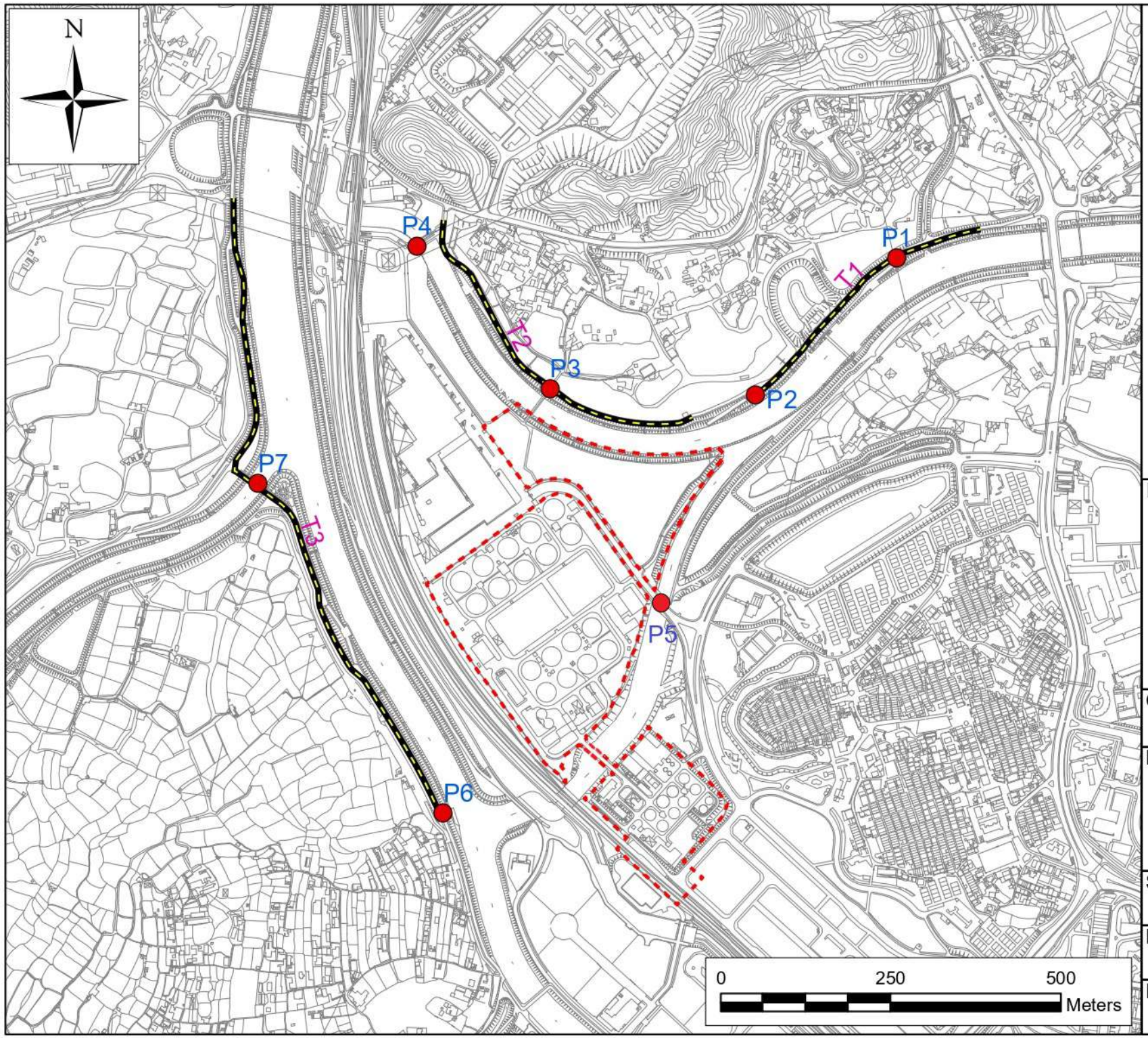


Shek Wu Hui E□luent Polishing Plant - Location o□Air □uality Monitoring Stations	SCALE	1:400□ A4	DATE	SEP 2019
	CHECK	JM	DRAWN	SY
	JOB No.		FIGURE NO. 2	RE□ -

F:/Project_drawings

Figure 4.3

Locations of Ecological Monitoring Stations



Legend

- Project Site Boundary
- Walk Transects
- Point Count Locations

PREPARED BY

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CONTRACT NO.

SPW 12/2021

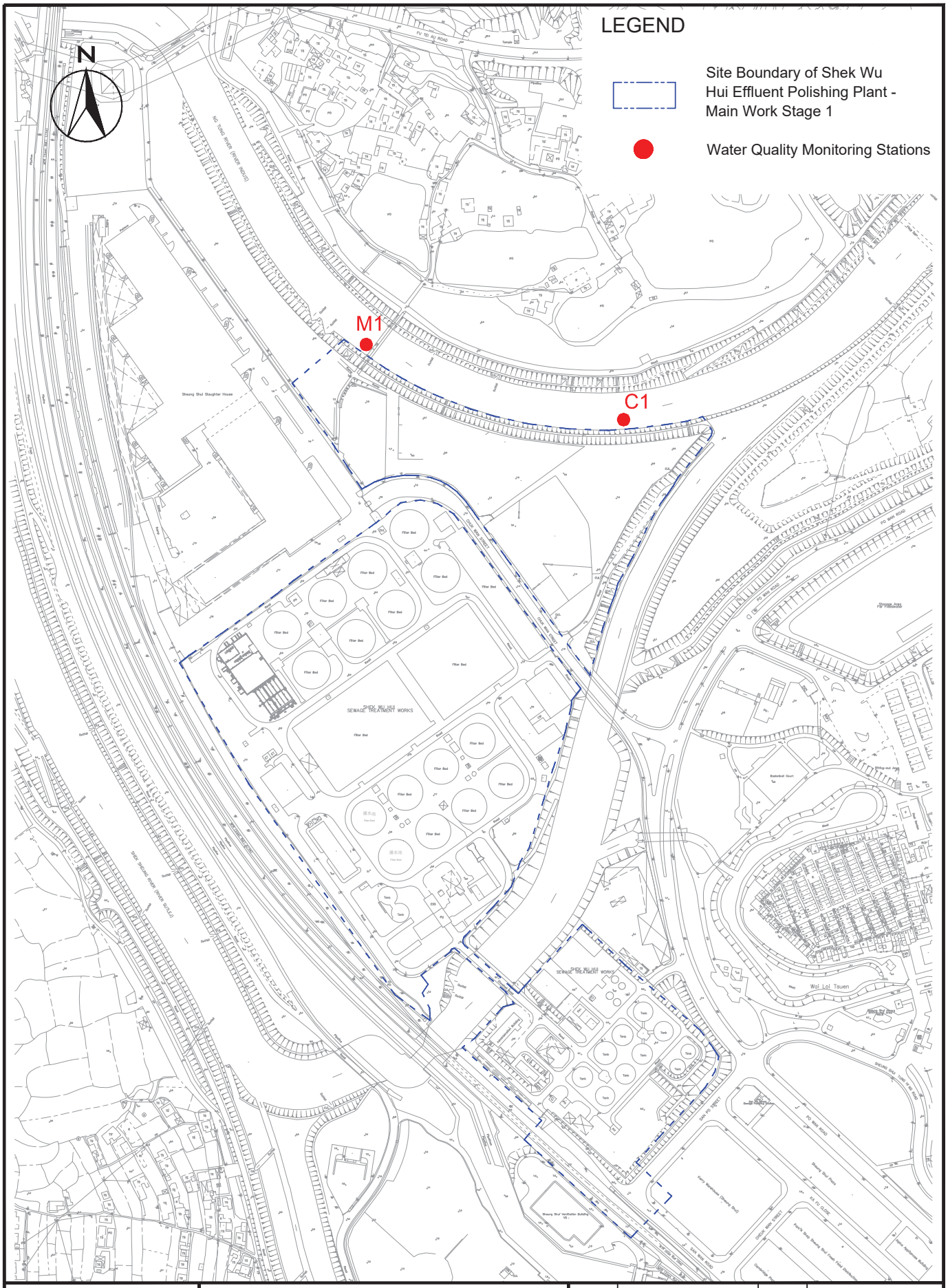
PROJECT TITLE

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

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

Figure 4.4

Locations of Water Quality Monitoring Stations



	Shek Wu Hui Effluent Polishing Plant - Location of Water Quality Monitoring Stations	SCALE	1:400@A4	DATE	OCT 2019
		CHECK	JM	DRAWN	SY
		JOB No.		FIGURE NO. 5	REV -

F:/Project_drawings

Appendix 2.1

Layout Plan of Construction Activities and Site Record Photos

Site Record Photos

DC/2018/06

SD&THP	CHP	SDB	Outfall

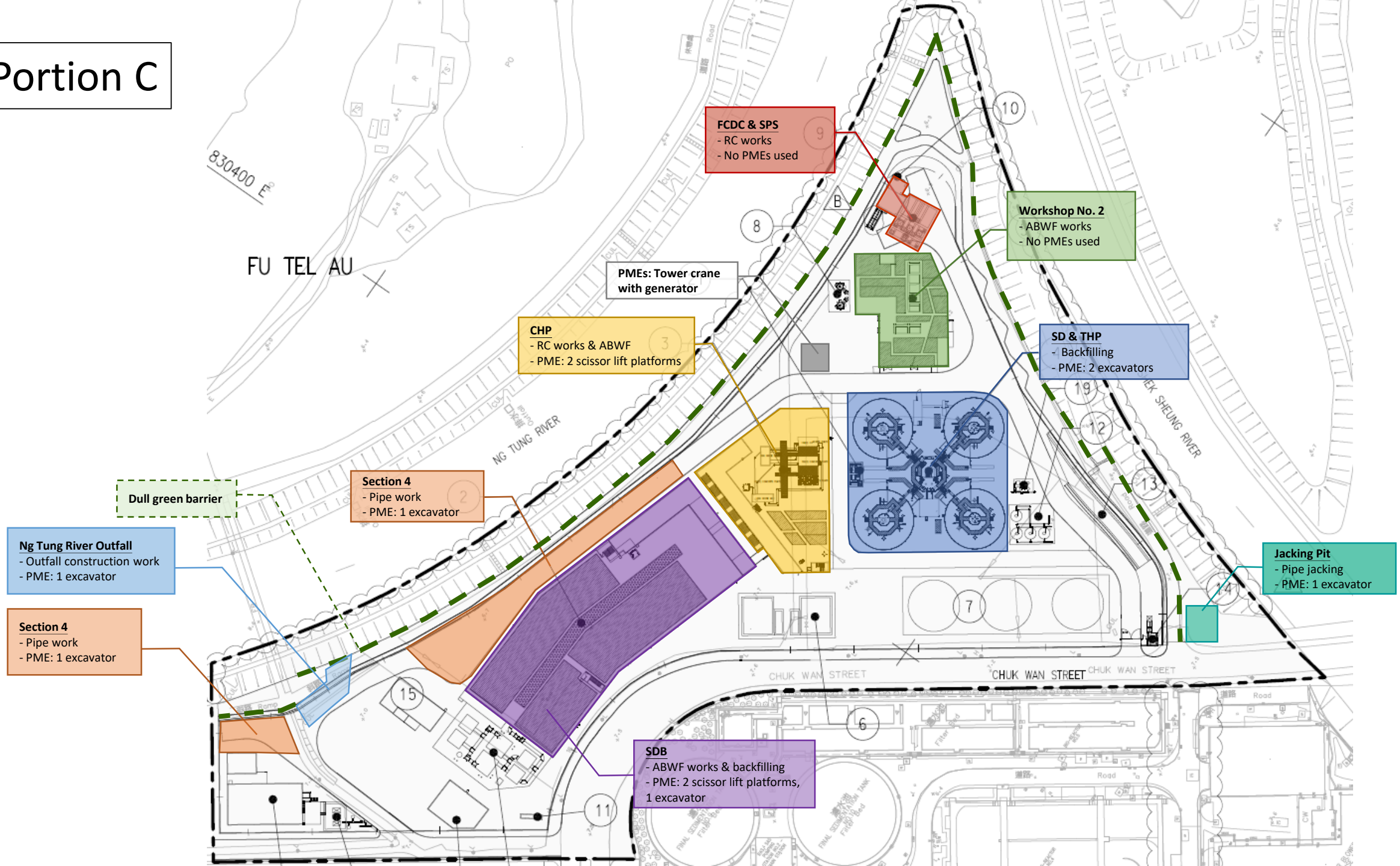
DC/2018/07

BR2	MFB	PST	Inlet

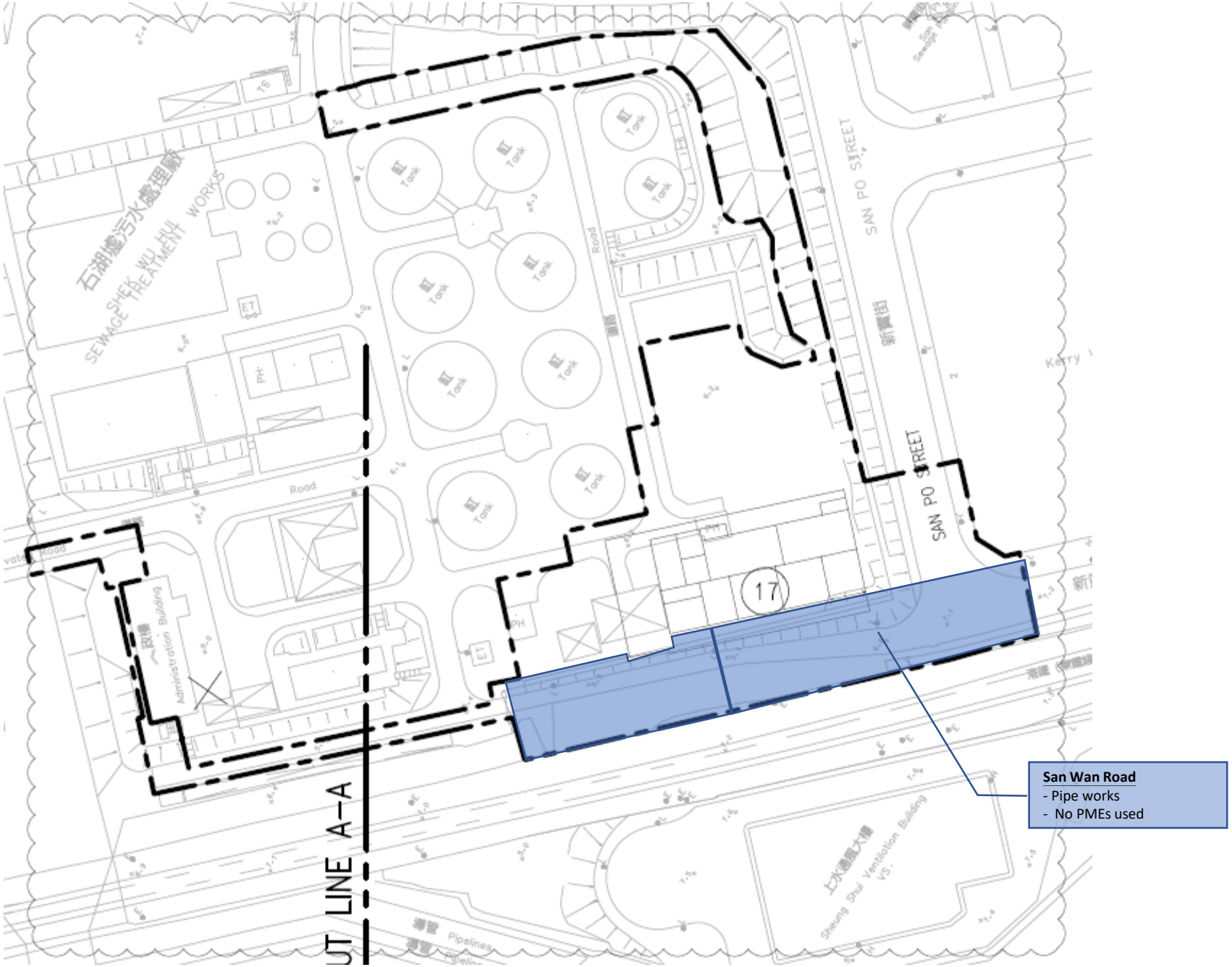
DE/2018/03

Sidestream

Portion C

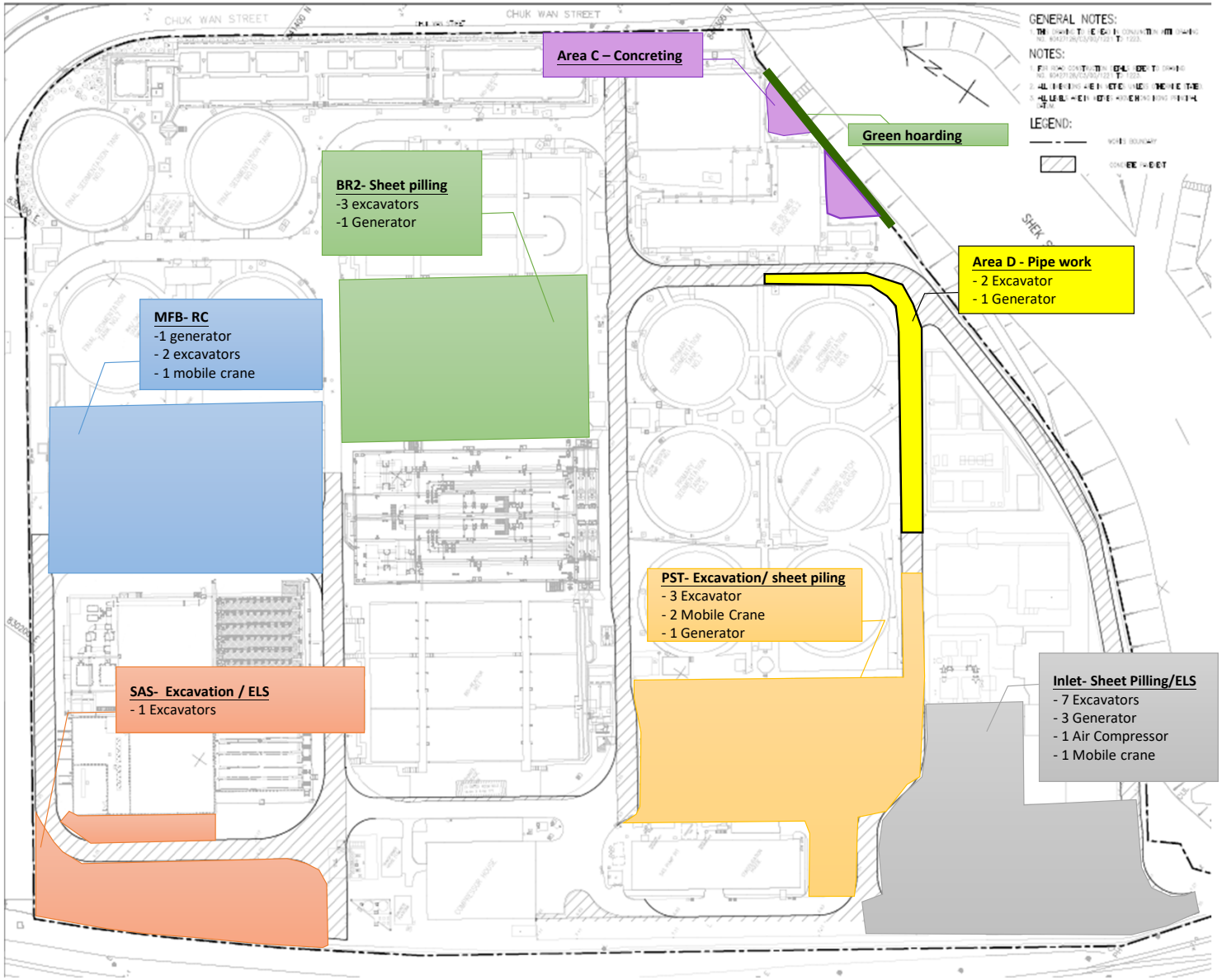

FCDC & SPS
- RC works
- No PMEs used
Workshop No. 2
- ABWF works
- No PMEs used
PMEs: Tower crane with generator
CHP
- RC works & ABWF
- PME: 2 scissor lift platforms
SD & THP
- Backfilling
- PME: 2 excavators
Dull green barrier
Section 4
- Pipe work
- PME: 1 excavator
Ng Tung River Outfall
- Outfall construction work
- PME: 1 excavator
Section 4
- Pipe work
- PME: 1 excavator
Jacking Pit
- Pipe jacking
- PME: 1 excavator
SDB
- ABWF works & backfilling
- PME: 2 scissor lift platforms, 1 excavator
830400 E
FU TEL AU
NG TUNG RIVER
SHEUNG RIVER
CHUK WAN STREET
CHUK WAN STREET
CHUK WAN STREET

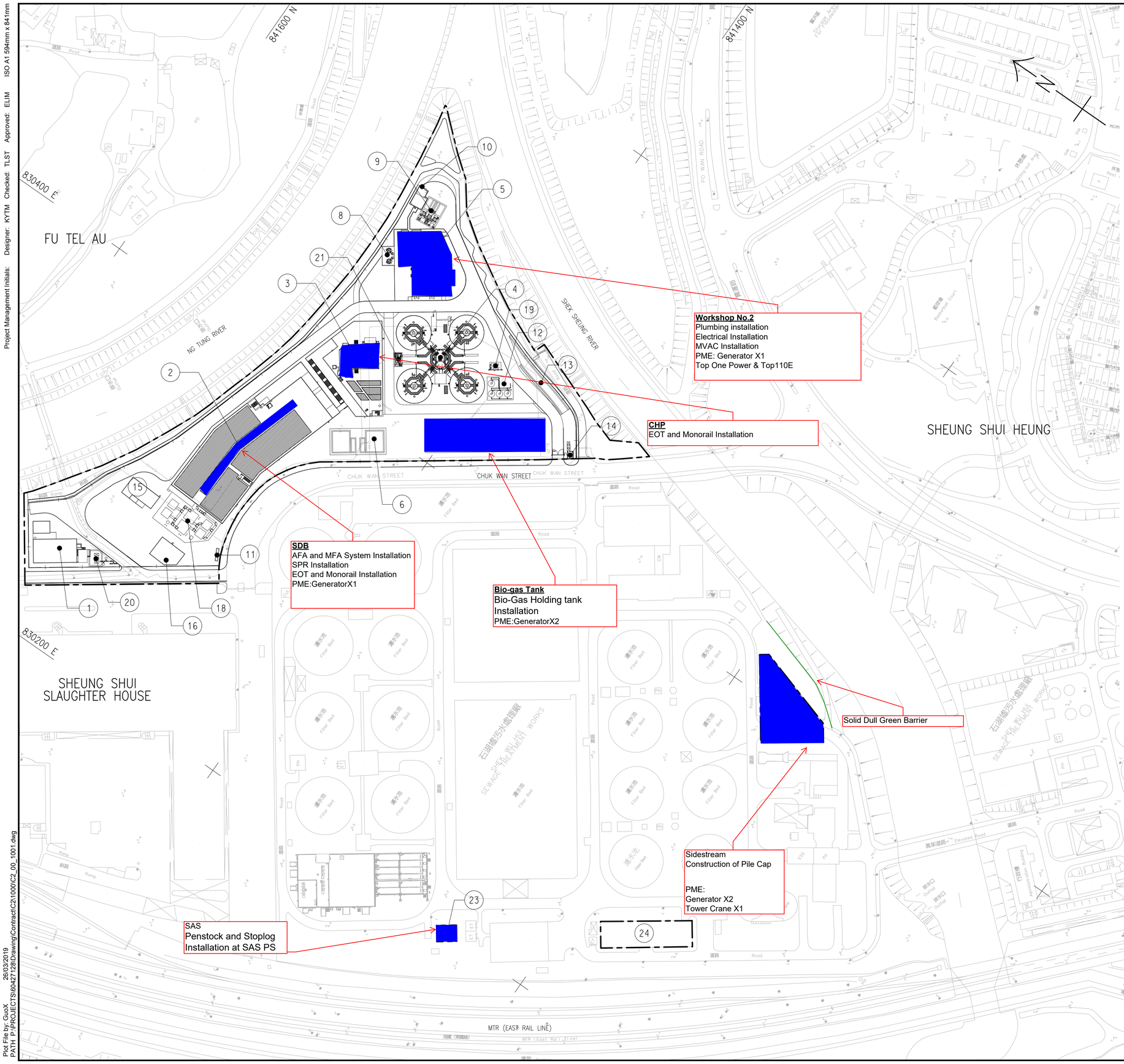
Portion A



SAN PO STREET
SAN PO STREET
17
UT LINE A–A
San Wan Road
- Pipe works
- No PMEs used

Portion B


CHUK WAN STREET
CHUK WAN STREET
GENERAL NOTES:
NOTES:
LEGEND:
Area C – Concreting
Green hoarding
BR2- Sheet pilling
-3 excavators
-1 Generator
Area D - Pipe work
- 2 Excavator
- 1 Generator
MFB- RC
-1 generator
- 2 excavators
- 1 mobile crane
PST- Excavation/ sheet piling
- 3 Excavator
- 2 Mobile Crane
- 1 Generator
SAS- Excavation / ELS
- 1 Excavators
Inlet- Sheet Pilling/ELS
- 7 Excavators
- 3 Generator
- 1 Air Compressor
- 1 Mobile crane



NOTES:

1. DRAWINGS ARE NOT TO BE SCALED. ALL DIMENSIONS SHALL BE VERIFIED ON SITE PRIOR TO COMMENCEMENT OF CONSTRUCRION
2. ALL LEVELS SHOWN ARE IN METERS AND REFER TO THE PRINCIPAL DATAM.
3. ALL CO-ORDINATES ARE IN ACCORDANCE WITH H.K. (1980) GEODETIC DATAM.
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:

— - —	SITE BOUNDARY
1	UV SYSTEM NO. 1 & EFFLUENT PUMPING STATION NO. 1
2	SLUDGE DEWATERING BUILDING
3	COMBINED HEAT & POWER BUILDING
4	SLUDGE DIGESTER
5	WORKSHOP NO. 2
6	THERMAL HYDROLYSIS PRETREATMENT FACILITIES
7	BIOGAS HOLDING TANKS
8	WASTE GAS BURNER
9	SEWAGE PUMPING STATION
10	FERRIC CHLORIDE DOSING FACILITIES
11	WATER METER CABINET
12	H2S REMOVAL SYSTEM
13	UNDERPASS (PART)
14	GUARD HOUSE
15	TRANSFORMER AND SWITCHROOM
16	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

AECOM

PROJECT 項目

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 業主

渠務署 Drainage Services Department

CONSULTANT 工程顧問公司

AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS 分判工程顧問公司

ISSUE/REVISION 修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 複核
-	MAR. 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/2018/03

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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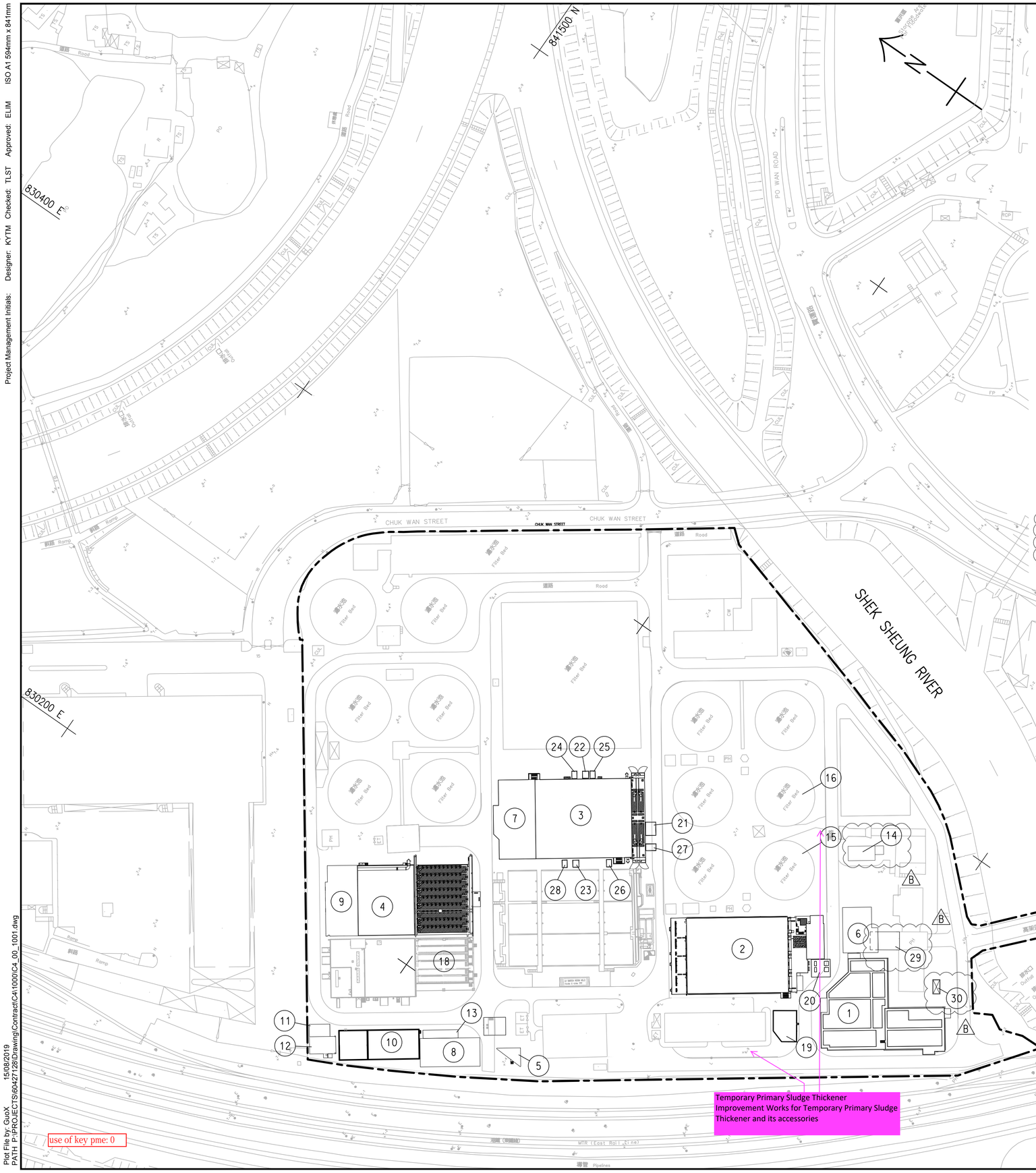
ISO A1 594mm x 841mm

Project Management Initials: Designer: KYTM Checked: TLST Approved: ELIM

Plot File by: GuoX 26/03/2019
PATH P:\PROJECTS\60427128\Drawing\Contract\C21000\C2_00_1001.dwg



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 (B)
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 (B)

NOTES:

1. DRAWINGS ARE NOT TO BE SCALED. ALL DIMENSIONS SHALL BE VERIFIED ON SITE PRIOR TO COMMENCEMENT OF CONSTRUCRION.
2. ALL LEVELS SHOWN ARE IN METERS AND REFER TO THE PRINCIPAL DATAM.
3. ALL CO-ORDINATES ARE IN ACCORDANCE WITH H.K. (1980) GEODETIC DATAM.
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:

— · —	SITE BOUNDARY
1	INLET WORKS NO.1
2	PRIMARY SEDIMENTATION TANKS NO.1 – 4
3	BIOREACTOR NO. 2A & 2B
4	MEMBRANE FACILITIES BUILDING NO.2
5	TEMPORARY CHEMICAL DOSING SYSTEM
6	DEODORISATION SYSTEM NO.1
7	DEODORISATION SYSTEM NO.2A
8	DEODORISATION SYSTEM NO.3A
9	(B) DEODORISATION SYSTEM NO.3B

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AECOM

PROJECT 項目

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

CLIENT 業主

渠務署 Drainage Services Department

CONSULTANT 工程顧問公司

AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS 分判工程顧問公司

ISSUE/REVISION 修訂

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

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

Plot File by: GuoX 15/08/2019
PATH P:\PROJECTS\60427128\Drawing\Contract\C41000\C4_00_1001.dwg

use of key pme: 0

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:						
	• 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)	*
	• Any dusty material remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads;						^
	• A stockpile of dusty material should not be extended beyond the pedestrian barriers, fencing or traffic cones;						*
	• 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;						^
	• 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
	• 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.						^
	• 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;						^
	• 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;						^
	• 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;						^
	• 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;						^
	• Any skip hoist for material transport should be totally enclosed by impervious sheeting;						^
	• 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;						^
	• 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;						^

	• 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						^
	• 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/m² 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	Good Site Practice:						
	• Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program.	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	^
	• 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.						^

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						
	• 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	^
	• 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;						^
	• 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
	• Construction debris and spoil should be covered and/or properly disposed of as soon as possible to avoid these being washed into nearby water bodies;						^
	• Proper locations for discharge outlets of temporary wastewater treatment facilities well away from sensitive receivers should be identified;						^
	• Adequate lateral support should be erected where necessary in order to prevent soil/mud from slipping into water bodies;						^
	• Site boundaries should be clearly marked and any works beyond the boundary strictly prohibited;						^
	• Regular water monitoring and site audit should be carried out at adequate points along any watercourses where construction works are underway upstream within their catchments and also on the Ng Tung, Sheung Yue and Shek Sheung Rivers. If the monitoring and audit results show that pollution occurs, adequate measures including temporarily cessation of works should be considered;						^
	• Excavation profiles should be properly designed and executed with attention to the relevant requirements for environment, health and safety;						^
	• Where soil to be excavated is situated beneath the groundwater table, it may be necessary to lower the groundwater table by installing well points or similar means; Stockpiling sites should be lined with impermeable sheeting and bunded. Stockpiles should be properly covered by impermeable sheeting to reduce dust emission during dry season or contaminated run-off during rainy season. Watering should be avoided on stockpiles of						^
	• contaminated soil to minimize contaminated runoff and construction materials should be properly covered and located away from nearby water bodies; and						^
	• Supply of suitable clean backfill material after excavation, if required.						^

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
	• 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;						^
	• Speed control for the trucks carrying contaminated materials should be enforced;						^
	• Vehicle wheel washing facilities at construction sites' exit points should be established and used, where necessary; and						^
	• 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						
	• 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;	Handling of site sewage	Contractors	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	EIAO-TM, WPCO, EIAO	^
	• 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						^

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	Good Site Practices and Waste Reduction Measures						
	• 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;	Minimize waste generation during construction	Contractors	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	Waste Disposal Ordinance (WDO)	^
	• 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.						^
S6.2.3.1	Waste Reduction Measures						
	• Segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling of materials and their proper disposal;	Reduce waste generation	Contractors	Work Sites	Prior to the commencement of construction of Main Works Stage 1, Stage 2 and Stage 3	WDO	*
	• 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.						^

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	^
	• Waste, such as soil, should be handled and stored well to ensure secure containment, thus minimizing the potential of pollution;						^
	• Stockpiling area should be provided with covers and water spraying system to prevent materials from windblown or being washed away; and						^
	• Different locations should be designated to stockpile each material to enhance reuse.						^
S6.2.4.2	Storage, Collection and Transportation of Waste (con't)						
	• Remove waste in timely manner;	Minimize waste impacts arising from waste storage	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	WDO	^
	• Employ the trucks with cover or enclosed containers for waste transportation;						^
	• 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						
	• Maintain temporary stockpiles and reuse excavated fill material for backfilling;	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	^
	• Carry out on-site sorting;						^
	• Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate;						^
	• 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						^
	• Implement a trip-ticket system for each works contract to ensure that the disposal of C&D materials are properly documented and verified.						^
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
	• 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.	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	*
	• 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.						^
S6.2.5.4	Chemical Waste						
	• If chemical wastes are produced at the construction site, the Contractors should register with EPD as chemical waste producers.	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	^
	• 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.						*
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
	• General refuse should be stored in enclosed bins separately from construction and chemical wastes.	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	^
	• 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.						^

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	Good Site Practices Measures						
	• 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.	Minimize the impact to the landscape and visual	Contractor	Work Sites	Prior to construction and construction phase		N/A
	• 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.						N/A
S7.3.2.1	MM4 - Tree Protection & Preservation • 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	MM5 - Tree Transplantation • 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	MM6 - Slope Landscaping						
	• 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 recourses and charter. Woodland tree seedings and/or shrubs should be planted where slope gradient and site conditions allow.	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
	• In addition, landscape planting should be provided for the retaining structures associated with modified slopes where conditions allow. All slope landscaping						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
	• 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.	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
	• 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.						N/A
	• Compensatory planting for shrubs should be considered in suitable locations. Native species such as *Melastoma malabathricum, Diospyros vaccinioides, Gardenia jasminoides, Ixora chinensis, Ligustrum sinense, Litsea rotundifolia, Melastoma dodecandrum, Atalantia buxifolia, Rhodomyrtus tomentosa, Rhaphiolepis indica, and Rhododendron simsii are suggested.*						N/A
S7.3.2.1	MM9 - Vertical Greening • 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 • 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	MM11 - Screen Planting • 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	MM16 - Screen Hoarding • 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	MM17 - Light Control • 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 μg/m^3		24-hour TSP Level in μg/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.

Water Quality Monitoring

Parameter (Unit)	Depth	Action Level	Limit Level
DO (mg/L)	Middle	**≤ 7.8 mg/L**	**≤ 7.7 mg/L**
Turbidity (NTU)	Depth-average	**≥ 14.6 NTU** or 120% of upstream control station's Turbidity at the same tide of the same day	**≥ 15.6 NTU** or 130% of upstream control station's Turbidity at the same tide of the same day
SS (mg/L)	Depth-average	**≥ 18.8 mg/L** or 120% of upstream control station's SS at the same tide of the same day	**≥ 19.5 mg/L** or 130% of upstream control station's SS at the same tide of the same day

Appendix 4.2

Copies of Calibration Certificates

TISCH Environmental

RECALIBRATION DUE DATE:
June 28, 2023

Certificate of Calibration

Calibration Certification Information					
Cal. Date:	June 28, 2022	**Rootsmeter S/N:** 438320		**Ta:** 296	°K
Operator:	Jim Tisch			**Pa:** 755.1	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **3880**			

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	1.0240	6.4	4.00
3	5	6	1	0.9130	7.9	5.00
4	7	8	1	0.8690	8.8	5.50
5	9	10	1	0.7180	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)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
0.9961	0.6870	1.4144	0.9958	0.6867	0.8854
0.9918	0.9686	2.0003	0.9915	0.9683	1.2522
0.9899	1.0842	2.2364	0.9895	1.0838	1.4000
0.9887	1.1377	2.3456	0.9883	1.1373	1.4683
0.9834	1.3696	2.8289	0.9830	1.3691	1.7708
QSTD	**m=**	**2.07013**	**QA**	**m=**	**1.29628**
	b=	**-0.00727**		**b=**	**-0.00455**
	r=	**0.99999**		**r=**	**0.99999**

Calculations

Vstd=	ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta)	**Va=**	ΔVol((Pa-ΔP)/Pa)
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= $1/m\left(\left(\sqrt{\Delta H\left(Ta/Pa\right)}\right)-b\right)$

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

Tisch Environmental, Inc.
145 South Miami Avenue
Village of Cleves, OH 45002

www.tisch-env.com
TOLL FREE: (877)263-7610
FAX: (513)467-9009

Lam Environmental Services Limited

Calibration Data for High Volume Sampler (TSP Sampler)

Location	:	AM1a	**Calbration Date**	:	4-Jan-23
Equipment no.	:	HVS001 (0401-1105)	**Calbration Due Date**	:	6-Mar-23

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition					
Temperature, T_a	302	Kelvin	**Pressure, P_a**	1008	mmHg

Orifice Transfer Standard Information					
Equipment No.	**3880**	**Slope, m_c**	2.07013	**Intercept, bc**	-0.00727
Last Calibration Date	28-Jun-22	$(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$			
Next Calibration Date	28-Jun-23	$= m_c \times Q_{std} + b_c$			

Calibration of TSP

Calibration Point	**Manometer Reading H (inches of water)** (up)	(down)	(difference)	**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**
1	1.4	1.4	2.8	0.8044	21	20.8058
2	2.3	2.3	4.6	1.0300	32	31.7041
3	3.5	3.5	7.0	1.2698	44	43.5932
4	4.3	4.3	8.6	1.4070	51	50.5285
5	5.6	5.6	11.2	1.6052	60	59.4452

By Linear Regression of Y on X

Slope, m	=	48.9134	Intercept, b	=	-17.5531
Correlation Coefficient*	=	0.9998			
Calibration Accepted	=	Yes/~~No~~**			

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

** Delete as appropriate.

Remarks : Serial No.:0401-1105

Calibrated by	:	Alan Ng	**Checked by**	:	Alex Chan
Date	:	4-Jan-23	**Date**	:	4-Jan-23

Lam Environmental Services Limited

Calibration Data for High Volume Sampler (TSP Sampler)

Location	:	AM2a	**Calbration Date**	:	4-Jan-23
Equipment no.	:	HVS003 (1096-2305)	**Calbration Due Date**	:	6-Mar-23

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition					
Temperature, T_a	302	Kelvin	**Pressure, P_a**	1008	mmHg

Orifice Transfer Standard Information					
Equipment No.	**3880**	**Slope, m_c**	2.07013	**Intercept, bc**	-0.00727
Last Calibration Date	28-Jun-22	$(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$			
Next Calibration Date	28-Jun-23	$= m_c \times Q_{std} + b_c$			

Calibration of TSP

Calibration Point	**Manometer Reading H (inches of water)** (up)	(down)	(difference)	**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**
1	2.3	2.3	4.6	1.0300	23	22.7873
2	3.5	3.5	7.0	1.2698	33	32.6949
3	4.6	4.6	9.2	1.4552	44	43.5932
4	5.2	5.2	10.4	1.5469	48	47.5562
5	6.1	6.1	12.2	1.6752	55	54.4915

By Linear Regression of Y on X

Slope, m	=	47.3405	Intercept, b	=	-26.2467
Correlation Coefficient*	=	0.9980			
Calibration Accepted	=	Yes/~~No~~**			

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

** Delete as appropriate.

Remarks : Serial No.: 1096-2305

Calibrated by	:	Alan Ng	**Checked by**	:	Alex Chan
Date	:	4-Jan-23	**Date**	:	4-Jan-23

Met One Instruments, Inc.
1600 NW Washington Blvd, Grants Pass, OR
TEL (541) 471-7111 Fax (541) 471-7116

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: Carri Chinkel **Date:** *07/07/2022*

Calibration Hz/µg/m³: *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.

Met One Instruments
1600 Washington Blvd
Grants Pass, OR 97526
(541) 471-7111
(541) 471-7116 (Fax)
Service@metone.com

Calibration Certificate

The calibration results on this report certify that this instrument complies with the product specifications at the time of calibration. Calibration was performed according to accepted industry methods using equipment, procedures, and standards that are traceable to NIST and ISO.

Recommended calibration interval is 12 months from the first day of use.

Instrument Model# *Aerocet 831* **Instrument Serial#** *Y23153*

Date of Calibration *9/9/2021* **Sensor #** *19493*

JGoddard AT 8 AT 1

Calibration Technician **Quality Check**

Temperature *22* *°C* **Relative Humidity** *41* *%*

Test Procedure: *Aerocet 831-6100*

PSL Size (µm)	Test Results	Test Spec.	Lot# NIST	Expiration
0.3	Pass	± 10%	223077	04/30/2023
0.5	Pass	± 10%	219480	11/30/2022
1.0	Pass	± 10%	229294	8/31/2023
2.0	Pass	± 10%	REF	NA
5.0	Pass	± 10%	REF	NA
3.0	Pass	± 10%	REF	NA
5.0	Pass	± 10%	REF	NA
10.0	Pass	± 10%	REF	NA

Standards	Model	SN	Cal Due
RH/TEMP SENSOR	083E-1-35	U20080	11/23/2021
Flowmeter	DCL-M	103751	4/1/2022
RH/TEMP SENSOR	083E-1-6	R20313	9/17/2021
DMM	289	27720071	8/24/2022

This calibration certificate shall not be reproduced except in full, without the written approval of Met One Instruments Inc.

GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.
6 KO SHAN RD., GROUND FL., HUNG HOM, KOWLOON, HONG KONG.
TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

Calibration Data for High Volume Sampler (TSP Sampler)

Equipment no.	2493
Calbration Date	3/2/2023
Calbration 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, bc**	-0.00727
Last Calibration Date	28/6/2022	$(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$			
Next Calibration Date	28/6/2023	$= m_c \times Q_{std} + b_c$			

Calibration of TSP

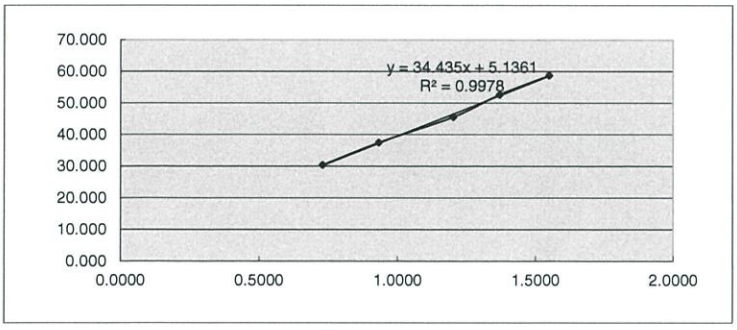
Calibration Point	**Manometer Reading H (inches of water)** (up)	(down)	(difference)	**Q_{std}** (m^3 / min.) **X-axis**	**Continuous Flow Recorder, W** (CFM)	**IC** $(W(P_a/1013.3 \times 298/T_a)^{1/2}/35.31)$ **Y-axis**
1	1.1	1.1	2.2	0.7290	30	30.3769
2	1.8	1.8	3.6	0.9316	37	37.4648
3	3.0	3.0	6.0	1.2016	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 : Poon Wai Hung

Checked by : Lo Kam Chuen

Date : 3/4/2023

Date : 3/4/2023

GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.
6 KO SHAN RD., GROUND FL., HUNG HOM, KOWLOON, HONG KONG.
TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

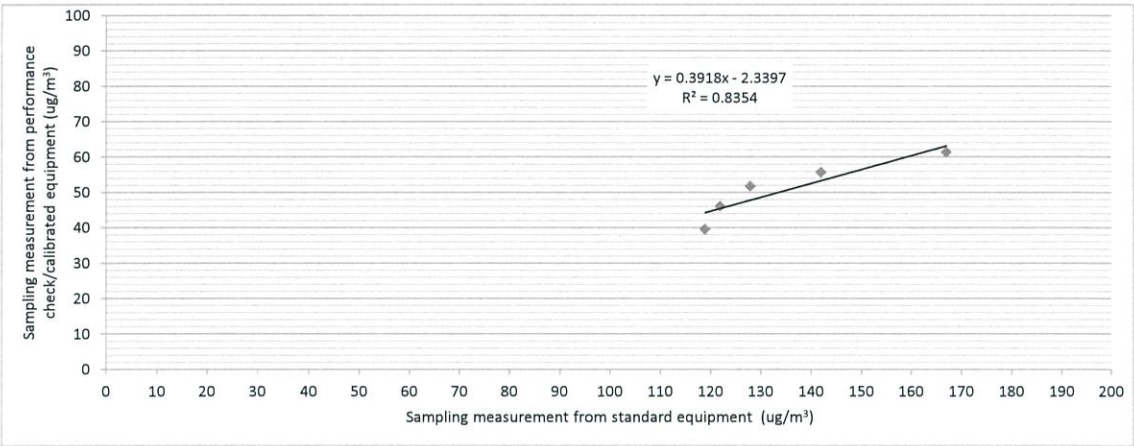
Equipment	Portable Dust Meter	Standard Equipment (High Volume Sampler)
Manufacturer	MET ONE INSTRUMENTS	TISCH
Model Number	AEROCET831	TE-5170
Serial Number	Y23153	2493
Date	3/2/2023	3/2/2023
Location	GCE laboratory-G/FL;No.20 Pak Kung Street., Hung Hom, Kowloon	

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 Date: 9/2/2023

Checked by: Lo Kam Chuen Date: 9/2/2023

GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.
6 KO SHAN RD., GROUND FL., HUNG HOM, KOWLOON, HONG KONG.
TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

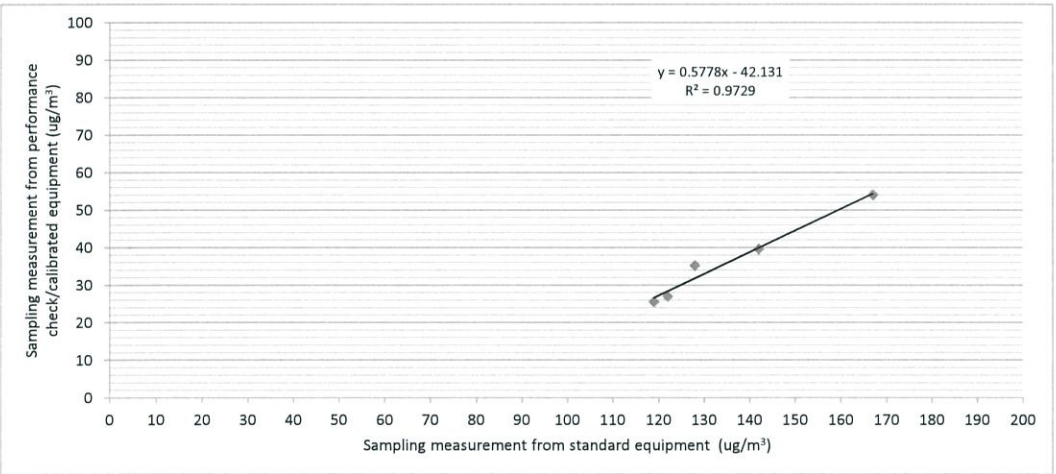
Equipment	Portable Dust Meter	Standard Equipment (High Volume Sampler)
Manufacturer	MET ONE INSTRUMENTS	TISCH
Model Number	BT-645	TE-5170
Serial Number	C15622	2493
Date	3/2/2023	3/2/2023
Location	GCE laboratory - G/FL; No.20, Pak Kung Street, Hung Hom,Kowloon.	

Portable Dust Meter Performance Check Results

Check Point	Date & Time	Mean Temp (°C)	Mean Pressure (hPa)	Concentration in ug/m^3 (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	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 Chuen Date: 9/2/2023

綜合試驗有限公司
SOILS & MATERIALS ENGINEERING CO., LTD.
香港新界葵涌永基路22-24號好爸爸創科大廈
Good Ba Ba Hitech Building, Nos. 22-24 Wing Kei Road, Kwai Chung, New Territories, Hong Kong
Tel: (852) 2873 6860 Fax: (852) 2555 7533 E-mail: smec@cigismec.com Website: www.cigismec.com

HOKLAS 028
CAL

CERTIFICATE OF CALIBRATION

Certificate No.: 22CA0224 04-02 **Page** 1 **of** 2

Item tested

Description:	Sound Level Meter (Type 1)	,	Microphone	Preamp
Manufacturer:	Nti	,	Nti Andio	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: 24-Feb-2022

Date of test: 01-Mar-2022

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Multi function sound calibrator	B&K 4226	2288444	23-Aug-2022	CIGISMEC
Signal generator	DS 360	33873	27-May-2022	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 ±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 responsess 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:** 02-Mar-2022 **Company Chop:** SOILS AND MATERIALS ENGINEERING COMPANY LTD. 綜合試驗有限公司

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.

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HKAS has accredited this laboratory (Reg. No. HOKLAS 028) under HOKLAS for specific calibration activities as listed in the HOKLAS directory of accredited laboratories. The results shown in this certificate are traceable to the International System of Units (SI) or recognised measurement standards. The results relate only to the item(s) calibrated. This certificate shall not be reproduced except in full without approval of the laboratory.

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SOILS & MATERIALS ENGINEERING CO., LTD.
香港新界葵涌永基路22-24號好爸爸創科大廈
Good Ba Ba Hitech Building, Nos. 22-24 Wing Kei Road, Kwai Chung, New Territories, Hong Kong
Tel: (852) 2873 6860 Fax: (852) 2555 7533 E-mail: smec@cigismec.com Website: www.cigismec.com

CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.: 22CA0224 04-02 **Page** 2 **of** 2

1, Electrical Tests

The electrical tests were perfomed 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 Uncertanity (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	
Frequency weightings	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 Uncertanity (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: Fung Chi Yip **Date:** 01-Mar-2022

Checked by: Chan Yuk Yiu **Date:** 02-Mar-2022

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.

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HKAS has accredited this laboratory (Reg. No. HOKLAS 028) under HOKLAS for specific calibration activities as listed in the HOKLAS directory of accredited laboratories. The results shown in this certificate are traceable to the International System of Units (SI) or recognised measurement standards. The results relate only to the item(s) calibrated. This certificate shall not be reproduced except in full without approval of the laboratory.

綜合試驗有限公司
SOILS & MATERIALS ENGINEERING CO., LTD.
香港新界葵涌永基路22-24號好爸爸創科大廈
Good Ba Ba Hitech Building, Nos. 22-24 Wing Kei Road, Kwai Chung, New Territories, Hong Kong
Tel: (852) 2873 6860 Fax: (852) 2555 7533 E-mail: smec@cigismec.com Website: www.cigismec.com

SMECLab

Sound level meter type:	XL2	Serial No.	A2A-15269-EO	Date	01-Mar-2022
Microphone type:	MC230A	Serial No.	A16673		
				Report:	22CA0224 04-02

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	11.0	dB
Noise level in C weighting	14.5	dB
Noise level in Lin	20.9	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	49.1	49.1	0.7	0.1	0.1
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

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Sound level meter type: XL2 Serial No. A2A-15269-EO Date 01-Mar-2022
Microphone type: MC230A Serial No. A16673
Report: 22CA0224 04-02

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 netwoks 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	95.1	1.0	1.0	-0.1
3981.0	94.0	95.0	94.9	1.0	1.0	-0.1
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

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SMECLab

Sound level meter type: XL2 Serial No. A2A-15269-EO Date 01-Mar-2022
Microphone type: MC230A Serial No. A16673
Report: 22CA0224 04-02

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	93.1	1.0	1.0	-0.1
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	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	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	93.9	1.0	1.0	-0.1
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	Expected level	Actual level	Tolerance(dB)		Deviation
dB	dB	dB	+	-	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	Expected level	Actual level	Tolerance(dB)		Deviation
dB	dB	dB	+	-	dB
116.0	111.9	111.9	1.0	1.0	0.0

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SMECLab

Sound level meter type: XL2 Serial No. A2A-15269-EO Date 01-Mar-2022
Microphone type: MC230A Serial No. A16673
Report: 22CA0224 04-02

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	119.3	2.0	0.3

Negative polarities:

Ref. level	Response to 10 ms	Response to 100 us	Tolerance	Deviation
dB	dB	dB	+/- dB	dB
119.0	119.0	119.3	2.0	0.3

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)

	Ref. Level	Expected level	Tone burst signal	Tolerance	Deviation
Time wighting	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	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	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

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SMECLab

Sound level meter type: XL2 Serial No. A2A-15269-EO Date 01-Mar-2022
Microphone type: MC230A Serial No. A16673
Report: 22CA0224 04-02

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
121.6	120.6	117.6	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
127.7	126.7	86.7	86.7	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

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SMECLab

Test Data for Sound Level Meter

Sound level meter type: XL2 Serial No. A2A-15269-EO Date 01-Mar-2022
Microphone type: MC230A Serial No. A16673
Report: 22CA0224 04-02

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	93.3	1.5	3.0	0.4

----------END---------

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CERTIFICATE OF CALIBRATION

Certificate No.: 22CA1101 02-02 **Page:** 1 **of** 2

Item tested

Description:	Acoustical Calibrator (Class 1)
Manufacturer:	Larson Davis
Type/Model No.:	CAL200
Serial/Equipment No.:	13437
Adaptors used:	-

Item submitted by

Curstomer:	Lam Environmental Services Ltd.
Address of Customer:	-
Request No.:	-
Date of receipt:	01-Nov-2022

Date of test: 04-Nov-2022

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	33873	21-Jan-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:	1005 ± 5 hPa

Test specifications

1, 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.

2, The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.

3, 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:** 05-Nov-2022 **Company Chop:** SOILS AND MATERIALS ENGINEERING COMPANY LTD. 綜合試驗有限公司

Comments: The results reported in this certificate refer to the conditon 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.

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HKAS has accredited this laboratory (Reg. No. HOKLAS 028) under HOKLAS for specific calibration activities as listed in the HOKLAS directory of accredited laboratories. The results shown in this certificate are traceable to the International System of Units (SI) or recognised measurement standards. The results relate only to the item(s) calibrated. This certificate shall not be reproduced except in full without approval of the laboratory.

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CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.: 22CA1101 02-02 **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 μPa)

Frequency Shown Hz	Output Sound Pressure Level Setting dB	Measured Output Sound Pressure Level dB	Estimated Expanded Uncertainty dB
1000	94.00	93.76	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 = 1000.0 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.

- End -

Calibrated by: Fung Chi Yip **Checked by:** Chan Yuk Yiu

Date: 04-Nov-2022 **Date:** 05-Nov-2022

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.

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Lam Environmental Services Limite

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 : 30-Sep-2022

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	2.0	2.1	-0.1
3 - 4	3.4	3.2	0.2
5 - 6	5.7	5.6	0.1
7 - 8	7.9	8.2	-0.3

Wind Direction (^{o})	Reading Value (W1, ^{o})	Compass Value (W2, ^{o})	Difference (W1 - W2, ^{o})
0	-1	0	-1
90	90	90	0
180	178	180	-2
270	272	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: William Cheung

Checked by: Raymond Dai

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	ELLEN YU	**WORK ORDER:**	HK2247977
CLIENT:	LAM GEOTECHNICS LIMITED		
ADDRESS:	19/F, REMEX CENTRE, 42 WONG CHUK HANG ROAD, HONG KONG	**SUB-BATCH:**	0
		LABORATORY:	HONG KONG
		DATE RECEIVED:	02-Dec-2022
		DATE OF ISSUE:	09-Dec-2022

SPECIFIC COMMENTS

Equipment information (Brand name, Model No., Serial No. and Equipment No.) is provided by client.
The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.
The "Tolerance Limit" quoted is the acceptance criteria applicable for similar equipment used by the laboratory or quoted from relevant international standards.

The "Next Calibration Date" is recommended according to best practice principle as practised by the laboratory or quoted from relevant international standards.

The validity of equipment/ meter performance only applies to the result(s) stated in the report.

Equipment Type:	Multifunctional Meter
Service Nature:	Performance Check
Scope:	Dissolved Oxygen, pH Value, Salinity and Temperature
Brand Name/ Model No.:	[YSI]/ [Pro Quatro]
Serial No./ Equipment No.:	[20M100002/20M101455]/ [N/A]
Date of Calibration:	09-December-2022

GENERAL COMMENTS

This report superseded any previous report(s) with same work order number.

Ms. Lin Wai Yu, Iris
Assistant Manager - Inorganics

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER: HK2247977

SUB-BATCH: 0
DATE OF ISSUE: 09-Dec-2022
CLIENT: LAM GEOTECHNICS LIMITED

Equipment Type: Multifunctional Meter
Brand Name/ Model No.: [YSI]/ [Pro Quatro]
Serial No./ Equipment No.: [20M100002/20M101455]/ [N/A]
Date of Calibration: 09-December-2022 Date of Next Calibration: 09-March-2023

PARAMETERS:

Dissolved Oxygen **Method Ref: APHA (23rd edition), 4500O: G**

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
1.70	1.75	+0.05
4.18	4.20	+0.02
7.00	7.10	+0.10
	Tolerance Limit (mg/L)	±0.20

pH Value **Method Ref: APHA (23rd edition), 4500H: B**

Expected Reading (pH unit)	Displayed Reading (pH unit)	Tolerance (pH unit)
4.0	3.97	-0.03
7.0	7.18	+0.18
10.0	9.92	-0.08
	Tolerance Limit (pH unit)	±0.20

Salinity **Method Ref: APHA (23rd edition), 2520B**

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.01	--
10	10.13	+1.3
20	19.08	-4.6
30	29.87	-0.4
	Tolerance Limit (%)	±10.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Ms. Lin Wai Yu, Iris
Assistant Manager - Inorganics

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER: HK2247977

SUB-BATCH: 0
DATE OF ISSUE: 09-Dec-2022
CLIENT: LAM GEOTECHNICS LIMITED

Equipment Type: Multifunctional Meter
Brand Name/ Model No.: [YSI]/ [Pro Quatro]
Serial No./ Equipment No.: [20M100002/20M101455]/ [N/A]
Date of Calibration: 09-December-2022 Date of Next Calibration: 09-March-2023

PARAMETERS:

Temperature

Method Ref: Section 6 of International Accreditation New Zealand Technical Guide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

Expected Reading (°C)	Displayed Reading (°C)	Tolerance (°C)
9.0	8.0	-1.0
23.0	21.8	-1.2
44.0	42.4	-1.6
	Tolerance Limit (°C)	±2.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Ms. Lin Wai Yu, Iris
Assistant Manager - Inorganics

FT Laboratories Ltd
科達測檢試驗所有限公司

REPORT OF EQUIPMENT PERFORMANCE CHECK / CALIBRATION

Information supplied by customer:

CONTACT:	**MR. DEREK LO**	**JOB REFERENCE NO.:**	**22777053-M15C3701**
CLIENT:	**LAM ENVIRONMENTAL SERVICES LTD.**		
DATE RECEIVED:	**15/12/2022**		
DATE OF ISSUE:	**21/12/2022**		
ADDRESS:	**19/F, REMAX CENTRE, 42 WONG CHUK HANG ROAD, HONG KONG**		
PROJECT:	---		

METHOD OF PERFORMANCE CHECK/ CALIBRATION:
Ref: APHA22nd ed 2130B

COMMENTS
It is certified that the item under performance check/calibration has been calibrated/checked by corresponding calibrated equipment in the laboratory.
Maximum Tolerance and calibration frequency stated in the report, unless otherwise stated, the internal acceptance criteria of FT Laboratories Ltd will be followed.

Scope of Test:	Turbidity
Equipment Type:	Turbidimeter
Brand Name:	Xin Rui
Model No.:	WGZ-3B
Serial No.:	2202020
Equipment No.:	---
Date of Calibration:	21/12/2022

Remarks:
This is the Final Report. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

Certified By: Rowena R De Jesus
Senior Chemist

Issue Date: 21/12/2022

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Address: Lot No. DD77 Section 1552 S.A. ss 1RP, Ng Chow South Road, Ping Che, N.T., H.K.
Tel: 27584861, Fax: 27588962

REPORT OF EQUIPMENT PERFORMANCE CHECK / CALIBRATION

WORK ORDER: 22777053-M15C3701
DATE OF ISSUE: 21/12/2022
CLIENT: LAM ENVIRONMENTAL SERVICES LTD.

Equipment Type:	Turbidimeter
Brand Name:	Xin Rui
Model No.:	WGZ-3B
Serial No.:	2202020
Equipment No.:	---
Date of Calibration:	21/12/2022
Date of next Calibation:	23/03/2023
Lab I.D.:	H220058-01

Parameters:
Turbidity

Method Ref: APHA 22nd ed. 2130B

Expected Reading (NTU)	Display Reading (NTU)	Tolerance
0	0.00	---
4	3.99	-0.2%
10	9.99	-0.1%
40	39.99	0.0%
100	99.85	-0.2%
400	400	0.0%
1000	1002	0.2%
	Tolerance Limit (±)	10%

Remark: "Displayed Reading" presents the figures shown on item under calibration/checking regardless of equipment precision or significant figures.

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Address: Lot No. DD77 Section 1552 S.A. ss 1RP, Ng Chow South Road, Ping Che, N.T., H.K.
Tel: 27584861, Fax: 27588962

Appendix 4.3

Wind Data

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
1-Feb-23	00:00	0.5	116(ESE)
	01:00	0.9	207(SSW)
	02:00	0.9	67(ENE)
	03:00	0.7	299(WNW)
	04:00	0.0	50(NE)
	05:00	0.0	64(ENE)
	06:00	0.0	147(SSE)
	07:00	0.0	48(NE)
	08:00	0.9	87(E)
	09:00	0.0	267(W)
	10:00	0.7	184(S)
	11:00	1.9	118(ESE)
	12:00	3.3	130(SE)
	13:00	0.9	175(S)
	14:00	1.5	102(ESE)
	15:00	1.9	181(S)
	16:00	0.7	49(NE)
	17:00	2.1	101(E)
	18:00	2.3	95(E)
	19:00	0.5	256(WSW)
	20:00	1.5	128(SE)
	21:00	1.7	105(ESE)
	22:00	1.1	116(ESE)
	23:00	2.3	87(E)
2-Feb-23	00:00	1.5	101(E)
	01:00	1.7	95(E)
	02:00	1.3	110(ESE)
	03:00	2.1	66(ENE)
	04:00	1.5	79(E)
	05:00	0.9	61(ENE)
	06:00	0.7	137(SE)
	07:00	0.0	125(SE)
	08:00	0.0	143(SE)
	09:00	0.0	111(ESE)
	10:00	1.1	44(NE)
	11:00	2.1	149(SSE)
	12:00	3.7	78(ENE)
	13:00	3.3	120(ESE)
	14:00	2.7	219(SW)
	15:00	2.3	72(ENE)
	16:00	2.9	180(S)
	17:00	1.5	249(WSW)
	18:00	2.7	135(SE)
	19:00	3.5	104(ESE)
	20:00	3.5	155(SSE)
	21:00	0.7	284(WNW)
	22:00	2.9	105(ESE)
	23:00	1.1	236(SW)

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
3-Feb-23	00:00	3.3	97(E)
	01:00	1.9	164(SSE)
	02:00	2.7	174(S)
	03:00	2.9	77(ENE)
	04:00	2.7	107(ESE)
	05:00	1.5	100(E)
	06:00	1.5	70(ENE)
	07:00	1.7	110(ESE)
	08:00	1.1	91(E)
	09:00	1.3	237(WSW)
	10:00	1.1	316(NW)
	11:00	0.5	214(SW)
	12:00	1.5	232(SW)
	13:00	0.5	282(WNW)
	14:00	1.5	163(SSE)
	15:00	1.9	87(E)
	16:00	2.5	149(SSE)
	17:00	1.3	151(SSE)
	18:00	0.7	352(N)
	19:00	0.9	164(SSE)
	20:00	1.1	47(NE)
	21:00	2.1	114(ESE)
	22:00	3.5	104(ESE)
	23:00	1.9	102(ESE)
4-Feb-23	00:00	3.7	88(E)
	01:00	2.3	136(SE)
	02:00	3.1	112(ESE)
	03:00	2.5	139(SE)
	04:00	1.3	92(E)
	05:00	2.5	174(S)
	06:00	1.1	116(ESE)
	07:00	2.9	90(E)
	08:00	0.7	166(SSE)
	09:00	1.5	112(ESE)
	10:00	3.3	82(E)
	11:00	2.1	232(SW)
	12:00	1.5	52(NE)
	13:00	2.1	81(E)
	14:00	1.9	112(ESE)
	15:00	1.3	185(S)
	16:00	0.9	89(E)
	17:00	1.7	83(E)
	18:00	2.3	86(E)
	19:00	1.1	123(ESE)
	20:00	2.1	113(ESE)
	21:00	1.5	151(SSE)
	22:00	1.3	70(ENE)
	23:00	2.5	102(ESE)

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
5-Feb-23	00:00	1.9	66(ENE)
	01:00	1.7	134(SE)
	02:00	1.3	62(ENE)
	03:00	1.7	92(E)
	04:00	2.1	80(E)
	05:00	1.1	101(E)
	06:00	2.1	93(E)
	07:00	1.5	106(ESE)
	08:00	1.7	77(ENE)
	09:00	2.1	140(SE)
	10:00	1.5	178(S)
	11:00	3.5	73(ENE)
	12:00	1.1	227(SW)
	13:00	0.7	163(SSE)
	14:00	1.5	94(E)
	15:00	1.1	336(NNW)
	16:00	0.9	46(NE)
	17:00	2.3	112(ESE)
	18:00	1.3	123(ESE)
	19:00	2.5	170(S)
	20:00	1.7	117(ESE)
	21:00	0.0	192(SSW)
	22:00	0.0	125(SE)
	23:00	0.0	112(ESE)
6-Feb-23	00:00	0.0	133(SE)
	01:00	0.0	96(E)
	02:00	0.0	133(SE)
	03:00	0.5	123(ESE)
	04:00	0.5	306(NW)
	05:00	0.5	54(NE)
	06:00	0.0	84(E)
	07:00	0.0	59(ENE)
	08:00	0.0	72(ENE)
	09:00	1.1	128(SE)
	10:00	1.3	81(E)
	11:00	1.5	29(NNE)
	12:00	1.1	143(SE)
	13:00	1.3	127(SE)
	14:00	3.5	181(S)
	15:00	3.1	162(SSE)
	16:00	2.3	159(SSE)
	17:00	1.3	116(ESE)
	18:00	1.3	224(SW)
	19:00	1.7	114(ESE)
	20:00	1.5	105(ESE)
	21:00	1.5	95(E)
	22:00	2.1	73(ENE)
	23:00	1.3	78(ENE)

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
7-Feb-23	00:00	1.3	148(SSE)
	01:00	1.5	130(SE)
	02:00	1.3	131(SE)
	03:00	1.3	114(ESE)
	04:00	1.3	85(E)
	05:00	0.0	132(SE)
	06:00	0.9	112(ESE)
	07:00	0.0	111(ESE)
	08:00	0.0	292(WNW)
	09:00	0.0	94(E)
	10:00	1.1	57(ENE)
	11:00	1.5	77(ENE)
	12:00	1.7	63(ENE)
	13:00	0.0	281(W)
	14:00	0.0	243(WSW)
	15:00	1.3	91(E)
	16:00	0.0	307(NW)
	17:00	0.0	244(WSW)
	18:00	0.0	252(WSW)
	19:00	1.5	80(E)
	20:00	1.7	117(ESE)
	21:00	2.3	116(ESE)
	22:00	2.9	128(SE)
	23:00	1.7	189(S)
8-Feb-23	00:00	3.3	149(SSE)
	01:00	3.5	54(NE)
	02:00	2.5	69(ENE)
	03:00	3.5	134(SE)
	04:00	1.5	73(ENE)
	05:00	4.7	92(E)
	06:00	2.3	117(ESE)
	07:00	1.7	111(ESE)
	08:00	0.7	47(NE)
	09:00	1.3	92(E)
	10:00	2.3	131(SE)
	11:00	3.3	106(ESE)
	12:00	1.1	148(SSE)
	13:00	0.7	55(NE)
	14:00	1.3	196(SSW)
	15:00	1.3	187(S)
	16:00	0.5	238(WSW)
	17:00	1.5	124(SE)
	18:00	2.1	106(ESE)
	19:00	2.9	120(ESE)
	20:00	1.3	163(SSE)
	21:00	3.1	154(SSE)
	22:00	3.1	142(SE)
	23:00	1.9	119(ESE)

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
9-Feb-23	00:00	0.9	113(ESE)
	01:00	1.9	112(ESE)
	02:00	2.5	130(SE)
	03:00	2.1	83(E)
	04:00	1.7	89(E)
	05:00	1.3	110(ESE)
	06:00	1.7	88(E)
	07:00	1.3	110(ESE)
	08:00	1.3	98(E)
	09:00	1.5	112(ESE)
	10:00	1.5	124(SE)
	11:00	1.1	280(W)
	12:00	2.3	232(SW)
	13:00	1.3	158(SSE)
	14:00	2.7	48(NE)
	15:00	1.9	156(SSE)
	16:00	0.9	166(SSE)
	17:00	0.5	75(ENE)
	18:00	1.7	88(E)
	19:00	1.7	146(SE)
	20:00	2.3	79(E)
	21:00	1.7	79(E)
	22:00	1.7	116(ESE)
	23:00	0.9	66(ENE)
10-Feb-23	00:00	1.7	58(ENE)
	01:00	0.9	349(N)
	02:00	1.1	55(NE)
	03:00	0.5	175(S)
	04:00	1.1	71(ENE)
	05:00	0.9	91(E)
	06:00	1.3	101(E)
	07:00	0.9	62(ENE)
	08:00	0.9	81(E)
	09:00	1.7	95(E)
	10:00	0.0	250(WSW)
	11:00	1.1	22(NNE)
	12:00	1.3	268(W)
	13:00	2.3	277(W)
	14:00	2.3	112(ESE)
	15:00	2.7	118(ESE)
	16:00	1.9	137(SE)
	17:00	1.5	170(S)
	18:00	2.1	100(E)
	19:00	0.0	113(ESE)
	20:00	0.9	117(ESE)
	21:00	1.5	100(E)
	22:00	1.5	86(E)
	23:00	2.1	101(E)

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
11-Feb-23	00:00	4.7	100(E)
	01:00	3.3	115(ESE)
	02:00	3.7	126(SE)
	03:00	2.3	148(SSE)
	04:00	2.7	107(ESE)
	05:00	1.9	315(NW)
	06:00	0.7	200(SSW)
	07:00	3.1	148(SSE)
	08:00	3.3	158(SSE)
	09:00	0.7	76(ENE)
	10:00	1.5	61(ENE)
	11:00	1.9	89(E)
	12:00	2.1	75(ENE)
	13:00	1.1	32(NNE)
	14:00	2.3	135(SE)
	15:00	0.0	229(SW)
	16:00	2.5	86(E)
	17:00	0.9	133(SE)
	18:00	1.9	88(E)
	19:00	3.3	88(E)
	20:00	2.1	71(ENE)
	21:00	3.3	177(S)
	22:00	1.1	142(SE)
	23:00	2.5	127(SE)
12-Feb-23	00:00	0.7	117(ESE)
	01:00	2.5	118(ESE)
	02:00	1.3	99(E)
	03:00	0.0	123(ESE)
	04:00	1.5	143(SE)
	05:00	0.7	127(SE)
	06:00	1.3	76(ENE)
	07:00	0.5	233(SW)
	08:00	1.1	205(SSW)
	09:00	1.1	202(SSW)
	10:00	2.9	107(ESE)
	11:00	2.5	134(SE)
	12:00	1.9	117(ESE)
	13:00	0.7	333(NNW)
	14:00	1.3	78(ENE)
	15:00	1.5	79(E)
	16:00	1.5	120(ESE)
	17:00	1.3	241(WSW)
	18:00	2.1	187(S)
	19:00	2.3	113(ESE)
	20:00	1.9	130(SE)
	21:00	2.1	174(S)
	22:00	2.5	195(SSW)
	23:00	0.7	52(NE)

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
13-Feb-23	00:00	1.1	45(NE)
	01:00	1.7	88(E)
	02:00	2.1	84(E)
	03:00	2.1	70(ENE)
	04:00	1.5	122(ESE)
	05:00	1.9	111(ESE)
	06:00	1.7	96(E)
	07:00	1.3	64(ENE)
	08:00	0.7	153(SSE)
	09:00	1.9	150(SSE)
	10:00	1.3	154(SSE)
	11:00	3.5	93(E)
	12:00	2.1	140(SE)
	13:00	0.9	155(SSE)
	14:00	1.3	56(NE)
	15:00	2.9	120(ESE)
	16:00	1.5	201(SSW)
	17:00	1.3	75(ENE)
	18:00	1.5	123(ESE)
	19:00	1.1	122(ESE)
	20:00	1.3	121(ESE)
	21:00	0.5	157(SSE)
	22:00	1.3	116(ESE)
	23:00	3.3	311(NW)
14-Feb-23	00:00	3.1	296(WNW)
	01:00	1.5	199(SSW)
	02:00	1.9	56(NE)
	03:00	5.7	109(ESE)
	04:00	4.3	93(E)
	05:00	3.3	51(NE)
	06:00	5.3	45(NE)
	07:00	3.1	110(ESE)
	08:00	5.1	31(NNE)
	09:00	7.1	35(NE)
	10:00	7.7	51(NE)
	11:00	2.5	117(ESE)
	12:00	5.1	105(ESE)
	13:00	1.3	295(WNW)
	14:00	2.7	98(E)
	15:00	3.3	96(E)
	16:00	1.9	222(SW)
	17:00	1.9	146(SE)
	18:00	3.3	58(ENE)
	19:00	2.9	85(E)
	20:00	1.3	78(ENE)
	21:00	1.3	60(ENE)
	22:00	1.1	125(SE)
	23:00	2.3	66(ENE)

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
15-Feb-23	00:00	2.9	58(ENE)
	01:00	4.1	91(E)
	02:00	3.3	85(E)
	03:00	2.1	58(ENE)
	04:00	2.1	105(ESE)
	05:00	0.0	133(SE)
	06:00	6.7	86(E)
	07:00	2.1	44(NE)
	08:00	3.5	104(ESE)
	09:00	1.5	55(NE)
	10:00	3.5	150(SSE)
	11:00	1.5	152(SSE)
	12:00	0.9	80(E)
	13:00	1.1	251(WSW)
	14:00	2.7	129(SE)
	15:00	2.9	91(E)
	16:00	1.5	131(SE)
	17:00	1.9	48(NE)
	18:00	2.3	131(SE)
	19:00	2.1	90(E)
	20:00	1.7	99(E)
	21:00	0.0	83(E)
	22:00	1.1	125(SE)
	23:00	1.7	92(E)
16-Feb-23	00:00	1.1	322(NW)
	01:00	1.5	127(SE)
	02:00	1.7	145(SE)
	03:00	2.1	162(SSE)
	04:00	1.5	339(NNW)
	05:00	1.9	61(ENE)
	06:00	3.1	41(NE)
	07:00	1.5	189(S)
	08:00	1.3	86(E)
	09:00	1.7	232(SW)
	10:00	5.1	65(ENE)
	11:00	0.9	292(WNW)
	12:00	1.5	283(WNW)
	13:00	1.1	311(NW)
	14:00	1.9	331(NNW)
	15:00	0.0	198(SSW)
	16:00	1.5	115(ESE)
	17:00	1.1	127(SE)
	18:00	2.7	158(SSE)
	19:00	1.1	142(SE)
	20:00	3.7	85(E)
	21:00	2.3	98(E)
	22:00	1.3	93(E)
	23:00	1.5	133(SE)

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
17-Feb-23	00:00	3.7	116(ESE)
	01:00	1.3	153(SSE)
	02:00	2.3	102(ESE)
	03:00	2.5	100(E)
	04:00	3.1	107(ESE)
	05:00	1.5	130(SE)
	06:00	1.1	85(E)
	07:00	1.5	85(E)
	08:00	0.5	131(SE)
	09:00	0.5	298(WNW)
	10:00	2.5	107(ESE)
	11:00	1.5	148(SSE)
	12:00	1.3	125(SE)
	13:00	1.3	329(NNW)
	14:00	2.7	150(SSE)
	15:00	1.1	290(WNW)
	16:00	2.9	254(WSW)
	17:00	1.3	218(SW)
	18:00	1.5	146(SE)
	19:00	0.9	112(ESE)
	20:00	1.9	106(ESE)
	21:00	1.3	114(ESE)
	22:00	1.5	117(ESE)
	23:00	1.5	88(E)
18-Feb-23	00:00	1.3	68(ENE)
	01:00	1.1	80(E)
	02:00	0.0	157(SSE)
	03:00	0.0	129(SE)
	04:00	0.0	343(NNW)
	05:00	0.9	103(ESE)
	06:00	0.0	191(S)
	07:00	0.9	129(SE)
	08:00	0.0	263(W)
	09:00	0.9	134(SE)
	10:00	0.9	106(ESE)
	11:00	0.5	302(WNW)
	12:00	1.7	210(SSW)
	13:00	2.5	124(SE)
	14:00	0.5	226(SW)
	15:00	1.7	121(ESE)
	16:00	1.5	228(SW)
	17:00	1.1	98(E)
	18:00	1.9	145(SE)
	19:00	1.3	96(E)
	20:00	0.7	73(ENE)
	21:00	0.7	112(ESE)
	22:00	0.9	117(ESE)
	23:00	0.5	95(E)

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
19-Feb-23	00:00	1.5	79(E)
	01:00	1.1	92(E)
	02:00	1.1	139(SE)
	03:00	0.9	95(E)
	04:00	0.7	128(SE)
	05:00	0.0	242(WSW)
	06:00	0.7	285(WNW)
	07:00	0.7	289(WNW)
	08:00	0.7	112(ESE)
	09:00	0.0	246(WSW)
	10:00	1.1	100(E)
	11:00	0.9	283(WNW)
	12:00	2.1	98(E)
	13:00	1.1	216(SW)
	14:00	2.9	222(SW)
	15:00	1.5	37(NE)
	16:00	2.5	73(ENE)
	17:00	2.7	51(NE)
	18:00	0.0	287(WNW)
	19:00	1.5	123(ESE)
	20:00	2.1	83(E)
	21:00	5.9	105(ESE)
	22:00	3.1	81(E)
	23:00	3.1	114(ESE)

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
20-Feb-23	00:00	1.3	128(SE)
	01:00	0.7	99(E)
	02:00	0.5	57(ENE)
	03:00	1.3	65(ENE)
	04:00	1.7	52(NE)
	05:00	0.7	127(SE)
	06:00	3.5	96(E)
	07:00	1.9	29(NNE)
	08:00	2.7	85(E)
	09:00	2.1	101(E)
	10:00	3.3	48(NE)
	11:00	1.7	94(E)
	12:00	3.3	112(ESE)
	13:00	1.9	75(ENE)
	14:00	0.5	107(ESE)
	15:00	1.3	140(SE)
	16:00	1.9	127(SE)
	17:00	0.7	252(WSW)
	18:00	0.5	235(SW)
	19:00	0.9	179(S)
	20:00	2.3	66(ENE)
	21:00	1.7	142(SE)
	22:00	1.5	116(ESE)
	23:00	1.7	102(ESE)
21-Feb-23	00:00	2.9	158(SSE)
	01:00	2.1	171(S)
	02:00	2.1	146(SE)
	03:00	0.7	213(SSW)
	04:00	0.7	123(ESE)
	05:00	1.7	66(ENE)
	06:00	0.9	134(SE)
	07:00	0.9	114(ESE)
	08:00	2.3	120(ESE)
	09:00	2.3	66(ENE)
	10:00	4.7	108(ESE)
	11:00	2.1	92(E)
	12:00	2.7	72(ENE)
	13:00	3.5	89(E)
	14:00	2.7	128(SE)
	15:00	2.9	124(SE)
	16:00	2.5	90(E)
	17:00	2.5	211(SSW)
	18:00	2.9	132(SE)
	19:00	1.9	180(S)
	20:00	5.3	88(E)
	21:00	1.9	109(ESE)
	22:00	5.1	124(SE)
	23:00	1.1	230(SW)

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
22-Feb-23	00:00	3.1	97(E)
	01:00	3.9	139(SE)
	02:00	2.1	114(ESE)
	03:00	3.5	106(ESE)
	04:00	1.1	74(ENE)
	05:00	2.3	110(ESE)
	06:00	2.5	76(ENE)
	07:00	1.5	113(ESE)
	08:00	1.9	72(ENE)
	09:00	3.7	114(ESE)
	10:00	1.7	163(SSE)
	11:00	2.1	123(ESE)
	12:00	0.9	116(ESE)
	13:00	1.7	328(NNW)
	14:00	1.3	113(ESE)
	15:00	0.9	150(SSE)
	16:00	3.3	132(SE)
	17:00	1.5	225(SW)
	18:00	4.5	145(SE)
	19:00	1.7	96(E)
	20:00	1.9	115(ESE)
	21:00	1.7	148(SSE)
	22:00	1.9	49(NE)
	23:00	1.5	71(ENE)
23-Feb-23	00:00	1.9	98(E)
	01:00	3.3	115(ESE)
	02:00	1.9	75(ENE)
	03:00	1.7	63(ENE)
	04:00	1.5	128(SE)
	05:00	0.9	147(SSE)
	06:00	1.3	113(ESE)
	07:00	1.7	84(E)
	08:00	1.3	89(E)
	09:00	0.7	206(SSW)
	10:00	0.7	293(WNW)
	11:00	2.7	139(SE)
	12:00	0.9	62(ENE)
	13:00	1.9	98(E)
	14:00	2.5	141(SE)
	15:00	0.7	187(S)
	16:00	1.7	45(NE)
	17:00	0.7	252(WSW)
	18:00	1.7	310(NW)
	19:00	1.9	107(ESE)
	20:00	1.7	94(E)
	21:00	1.5	107(ESE)
	22:00	1.1	101(E)
	23:00	1.1	101(E)

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
24-Feb-23	00:00	1.1	152(SSE)
	01:00	1.5	105(ESE)
	02:00	1.7	135(SE)
	03:00	1.1	138(SE)
	04:00	1.3	86(E)
	05:00	0.7	129(SE)
	06:00	1.1	86(E)
	07:00	0.7	75(ENE)
	08:00	0.9	140(SE)
	09:00	1.5	148(SSE)
	10:00	0.7	274(W)
	11:00	2.3	52(NE)
	12:00	1.5	43(NE)
	13:00	1.7	40(NE)
	14:00	1.3	223(SW)
	15:00	2.3	293(WNW)
	16:00	1.3	263(W)
	17:00	1.5	54(NE)
	18:00	1.3	113(ESE)
	19:00	1.9	97(E)
	20:00	2.1	85(E)
	21:00	2.1	71(ENE)
	22:00	2.3	52(NE)
	23:00	2.5	92(E)
25-Feb-23	00:00	3.3	104(ESE)
	01:00	6.3	62(ENE)
	02:00	3.7	107(ESE)
	03:00	2.7	73(ENE)
	04:00	1.7	92(E)
	05:00	3.3	81(E)
	06:00	3.9	41(NE)
	07:00	2.9	81(E)
	08:00	4.3	59(ENE)
	09:00	3.1	97(E)
	10:00	1.7	199(SSW)
	11:00	2.9	38(NE)
	12:00	2.9	58(ENE)
	13:00	2.1	74(ENE)
	14:00	2.5	70(ENE)
	15:00	1.9	71(ENE)
	16:00	3.1	99(E)
	17:00	7.7	78(ENE)
	18:00	3.9	103(ESE)
	19:00	4.7	97(E)
	20:00	4.3	99(E)
	21:00	2.5	202(SSW)
	22:00	3.7	49(NE)
	23:00	1.9	119(ESE)

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
26-Feb-23	00:00	2.3	115(ESE)
	01:00	1.7	51(NE)
	02:00	2.3	219(SW)
	03:00	2.3	96(E)
	04:00	2.3	88(E)
	05:00	1.5	87(E)
	06:00	5.1	98(E)
	07:00	1.1	203(SSW)
	08:00	3.5	60(ENE)
	09:00	1.7	152(SSE)
	10:00	1.7	71(ENE)
	11:00	2.9	58(ENE)
	12:00	1.9	150(SSE)
	13:00	2.5	76(ENE)
	14:00	2.3	42(NE)
	15:00	1.7	268(W)
	16:00	1.5	78(ENE)
	17:00	3.7	91(E)
	18:00	2.5	73(ENE)
	19:00	1.9	95(E)
	20:00	1.9	177(S)
	21:00	0.7	156(SSE)
	22:00	3.3	123(ESE)
	23:00	2.5	60(ENE)
27-Feb-23	00:00	1.7	145(SE)
	01:00	2.1	91(E)
	02:00	2.1	103(ESE)
	03:00	2.1	70(ENE)
	04:00	1.3	56(NE)
	05:00	1.7	74(ENE)
	06:00	1.9	114(ESE)
	07:00	0.9	74(ENE)
	08:00	0.7	121(ESE)
	09:00	2.5	107(ESE)
	10:00	2.7	78(ENE)
	11:00	1.7	125(SE)
	12:00	2.9	163(SSE)
	13:00	1.1	235(SW)
	14:00	3.1	151(SSE)
	15:00	2.1	110(ESE)
	16:00	4.1	126(SE)
	17:00	3.3	145(SE)
	18:00	1.7	66(ENE)
	19:00	2.3	194(SSW)
	20:00	1.3	127(SE)
	21:00	3.1	93(E)
	22:00	1.7	127(SE)
	23:00	3.9	92(E)

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
28-Feb-23	00:00	2.3	113(ESE)
	01:00	1.5	143(SE)
	02:00	2.7	80(E)
	03:00	1.7	57(ENE)
	04:00	1.1	172(S)
	05:00	1.5	124(SE)
	06:00	1.3	88(E)
	07:00	0.9	163(SSE)
	08:00	1.7	98(E)
	09:00	0.9	280(W)
	10:00	1.5	72(ENE)
	11:00	2.5	100(E)
	12:00	2.7	66(ENE)
	13:00	1.7	111(ESE)
	14:00	0.9	227(SW)
	15:00	2.5	191(S)
	16:00	2.1	182(S)
	17:00	2.1	121(ESE)
	18:00	1.9	97(E)
	19:00	1.5	96(E)
	20:00	1.7	72(ENE)
	21:00	1.9	132(SE)
	22:00	1.5	97(E)
	23:00	1.7	95(E)

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
Feb 2023

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

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
Mar 2023

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

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

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

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.
- No outfall work was conducted during Ching Ming Festival and Easter Holiday, the related WQM monitoring was cancelled.

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)					
02/02/2023	8:30	Sunny	0.0	58.5	59.8	56.8	63.4	59	75
08/02/2023	10:00	Cloudy	0.0	58.2	59.1	55.1	63.4	58	75
14/02/2023	8:30	Cloudy	0.0	58.5	60.1	56.3	63.4	59	75
20/02/2023	14:18	Fine	0.0	54.3	56.7	50.6	63.4	54	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)					
02/02/2023	9:15	Sunny	0.0	69.5	71.5	62.8	58.0	69	75
08/02/2023	10:45	Cloudy	0.0	68.9	70.8	62.4	58.0	69	75
14/02/2023	9:15	Cloudy	3.3	71.9	76.3	62.2	58.0	72	75
20/02/2023	13:38	Fine	0.0	68.9	71.7	60.2	58.0	69	75

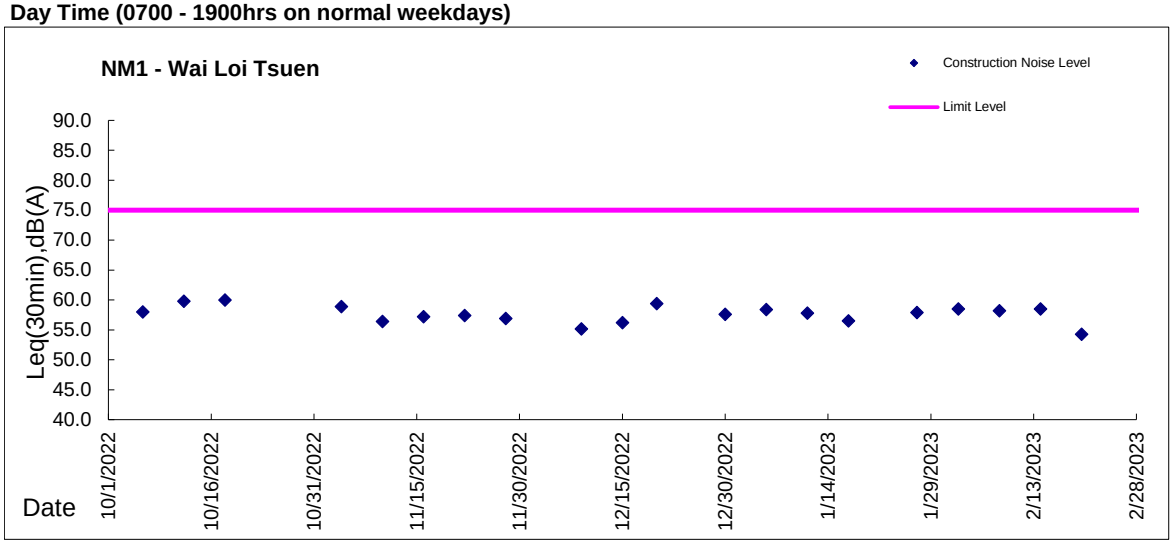
Location: NM3 - G/F, Man kok Village

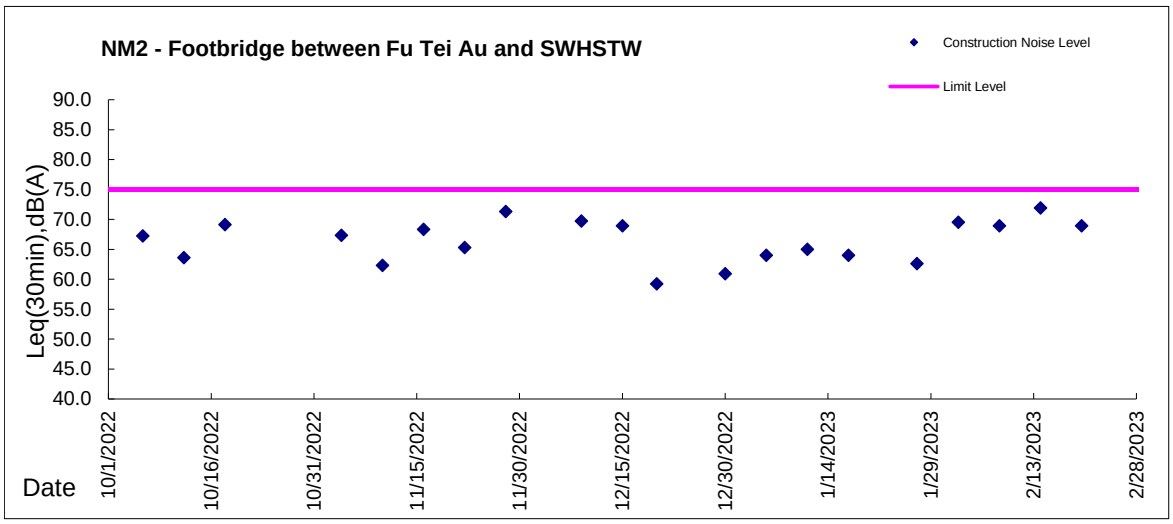
Date	Time	Weather	Wind Speed (m/s)	Measurement Noise Level			Baseline Level	Construction Noise Level	Limit Level
				Leq	L10	L90	Leq	Leq	Leq
				Unit: dB(A), (30min)					
02/02/2023	10:30	Sunny	0.0	60.8	62.3	58.7	63.4	61	75
08/02/2023	11:30	Cloudy	0.0	60.4	62.0	59.1	63.4	60	75
14/02/2023	10:15	Cloudy	0.0	63.3	66.4	54.5	63.4	63	75
20/02/2023	11:00	Fine	0.0	62.6	65.0	54.1	63.4	63	75

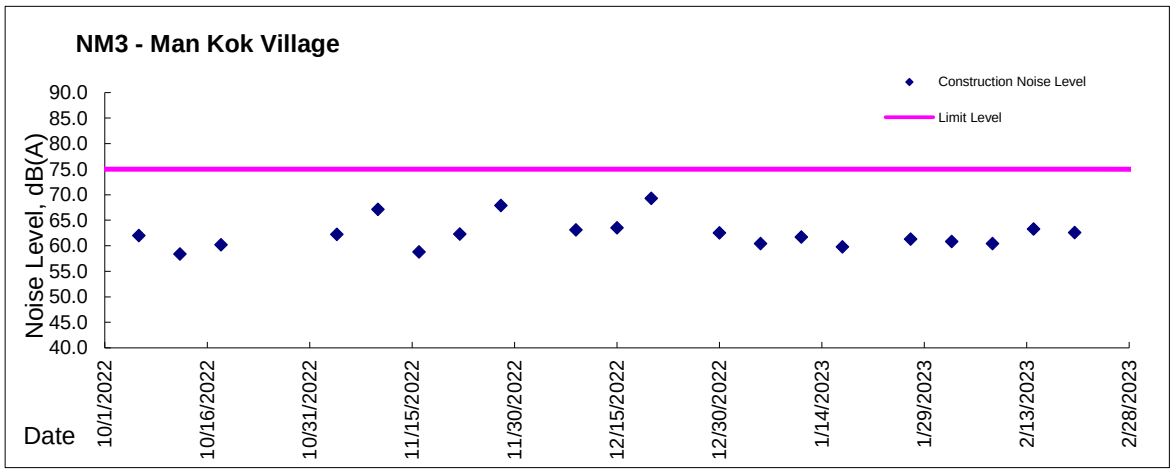
* Free field correction (Additional 3dB(A)) was made on NM1, NM2, and NM3 measurement result

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 (µg/m3) - 320
Limit Level (µg/m3) - 500

Date	Weather Condition	Time	Mass Concentration (µg/m3)	Model No.	Serial No.
2-Feb-23	Sunny	8:59	40	AEROCET 831	C15622
2-Feb-23	Sunny	9:59	43		
2-Feb-23	Sunny	10:59	41		
8-Feb-23	Cloudy	8:46	17		
8-Feb-23	Cloudy	9:46	12		
8-Feb-23	Cloudy	10:46	12		
14-Feb-23	Cloudy	8:41	20		
14-Feb-23	Cloudy	9:41	17		
14-Feb-23	Cloudy	10:41	19		
20-Feb-23	Fine	13:03	57		
20-Feb-23	Fine	14:03	53		
20-Feb-23	Fine	15:03	49		
25-Feb-23	Sunny	8:43	39		
25-Feb-23	Sunny	9:43	38		
25-Feb-23	Sunny	10:43	37		

Report on 1-hour TSP monitoring at AM2 - Footbridge between Fu Tei Au and SWHSTW

Action Level (µg/m3) - 322
Limit Level (µg/m3) - 500

Date	Weather Condition	Time	Mass Concentration (µg/m3)	Model No.	Serial No.
2-Feb-23	Sunny	8:49	49	AEROCET 831	Y23153
2-Feb-23	Sunny	9:49	47		
2-Feb-23	Sunny	10:49	46		
8-Feb-23	Cloudy	8:53	27		
8-Feb-23	Cloudy	9:53	18		
8-Feb-23	Cloudy	10:53	18		
14-Feb-23	Cloudy	9:14	25		
14-Feb-23	Cloudy	10:14	21		
14-Feb-23	Cloudy	11:14	21		
20-Feb-23	Fine	13:36	44		
20-Feb-23	Fine	14:36	50		
20-Feb-23	Fine	15:36	44		
25-Feb-23	Sunny	9:14	35		
25-Feb-23	Sunny	10:14	33		
25-Feb-23	Sunny	11:14	31		

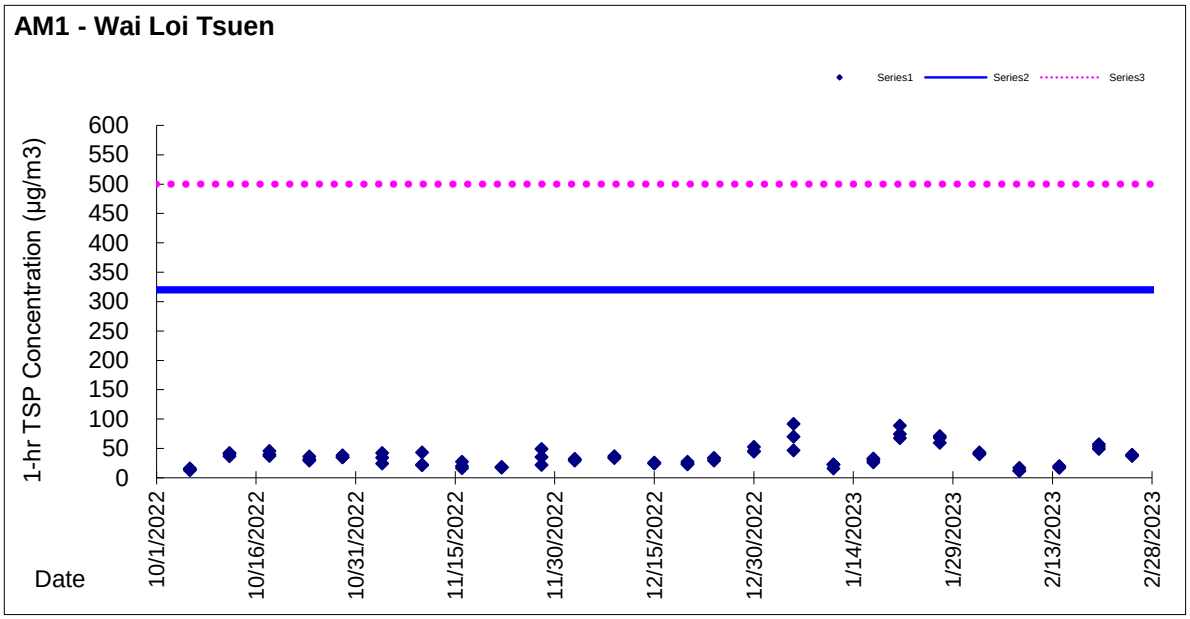
Location: AM1a* - Site boundary of the Shek Wu Hui STW (East), Roof floor of the control room of SWHSTW
Impact Monitoring Result on 24-hour TSP monitoring

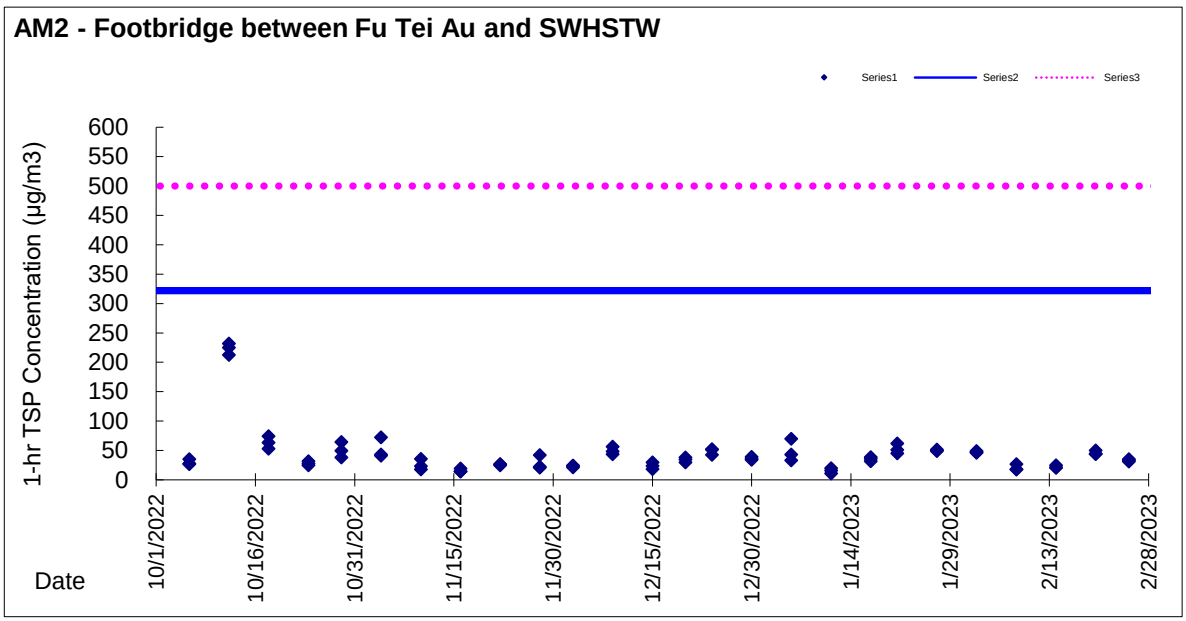
Date	Sampling Time	Weather Condition	Pressure, hPa		Temp. , °C		Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling Time, hr	Flow Rate, m^3/min			Total Volume, m^3	TSP Level, ug/m^3	Model No.	Serial No.
			Initial	Final	Initial	Final		Initial	Final	Initial	Final		Initial, Qsi	Final, Qsf	Average				
01-Feb-23	8:00	Sunny	1015.6	1018.2	19.9	19.4	AM1a_24hr_011138	2.7749	2.9133	16475.89	16499.89	24.00	1.20	1.20	1.20	1729	80	G3101	0401-1105
07-Feb-23	8:00	Fine	1015.4	1017.1	21.0	18.5	AM1a_24hr_011140	2.7655	2.8364	16523.89	16547.89	24.00	1.24	1.27	1.26	1809	39		
13-Feb-23	8:00	Sunny	1013.7	1018.8	22.3	18.5	AM1a_24hr_007977	2.6796	2.7405	16547.89	16571.89	24.00	1.20	1.23	1.21	1743	35		
18-Feb-23	8:00	Fine	1018.2	1017.6	21.0	22.8	AM1a_24hr_011143	2.7888	2.8899	16571.89	16595.89	24.00	1.24	1.24	1.24	1789	57		
24-Feb-23	8:00	Sunny	1018.9	1026.5	19.8	17.1	AM1a_24hr_011144	2.7754	2.9385	16595.89	16619.89	24.00	1.49	1.50	1.50	2155	76		

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

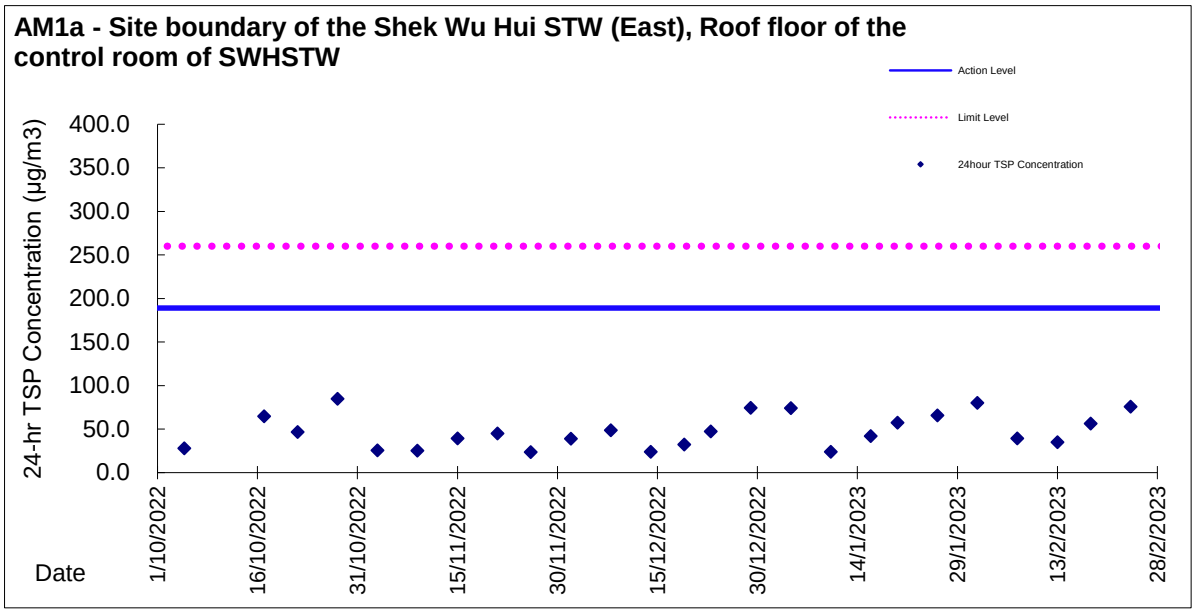
Date	Sampling Time	Weather Condition	Pressure, hPa		Temp. , °C		Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling Time, hr	Flow Rate, m^3/min			Total Volume, m^3	TSP Level, ug/m^3	Model No.	Serial No.
			Initial	Final	Initial	Final		Initial	Final	Initial	Final		Initial, Qsi	Final, Qsf	Average				
01-Feb-23	8:00	Sunny	1015.6	1018.2	19.9	19.4	AM2a_24hr_011139	2.7614	2.8827	19111.71	19135.71	24.00	1.26	1.24	1.25	1804	67	G3101	1096-2305
07-Feb-23	8:00	Fine	1015.4	1017.1	21.0	18.5	AM2a_24hr_011141	2.7774	2.8753	19135.71	19159.71	24.00	1.54	1.54	1.54	2219	44		
13-Feb-23	8:00	Sunny	1013.7	1018.8	22.3	18.5	AM2a_24hr_007978	2.6621	2.7646	19159.71	19183.71	24.00	1.49	1.50	1.49	2151	48		
18-Feb-23	24hr-TSP monitoring was suspended due to malfunction of equipment.																		
24-Feb-23																			

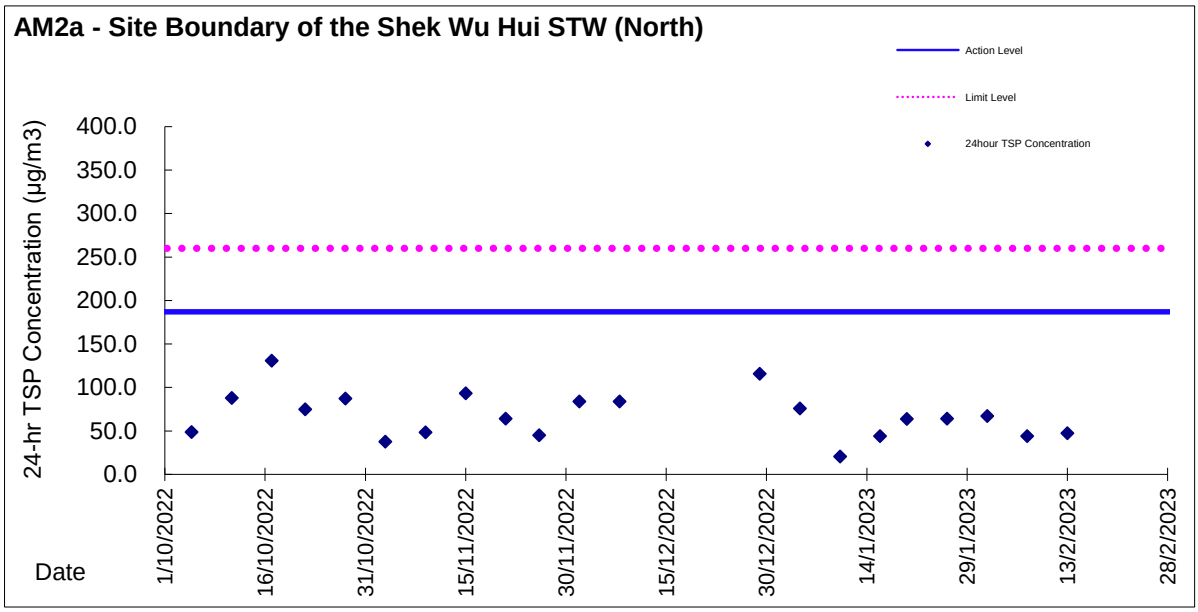
Graphic Presentation of TSP Result





Graphic Presentation of TSP Result





1. 24hr-TSP monitoring at AM2a was suspended on 18 and 24 Feb 2023 due to malfunction of equipment.

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
Ardeola bacchus	Chinese Pond Heron	池鷺	X	23	+++
Bubulcus coromandus	Eastern Cattle Egret	牛背鷺	X	23	+++
Ardea cinerea	Grey Heron	蒼鷺	X	43	+++++
Ardea alba	Great Egret	大白鷺	X	13	++
Egretta garzetta	Little Egret	小白鷺	X	65	+++++
Phalacrocorax carbo	Great Cormorant	普通鸬鷀	X	44	+++++
Milvus migrans	Black Kite	黑鳶	X	9	+
Buteo japonicus	Eastern Buzzard	普通鵟	X	1	N/A
Amaurornis phoenicurus	White-breasted Waterhen	白胸苦惡鳥	X	1	+
Himantopus himantopus	Black-winged Stilt	黑翅長腳鷸	X	0	+
Actitis hypoleucos	Common Sandpiper	磯鷸	X	10	+
Spilopelia chinensis	Spotted Dove	珠頸斑鳩		46	+++++
Centropus sinensis	Greater Coucal	褐翅鴉鵑		4	+
Eudynamys scolopaceus	Asian Koel	噪鵑		23	+++
Halcyon smyrnensis	White-throated Kingfisher	白胸翡翠	X	5	+
Psittacula krameri	Rose-ringed Parakeet	紅領綠鸚鵡		2	+

Scientific Names	Common Names	Chinese Names	Waterbird	Point Count Abundance	Transect Count Abundance
Dicrurus macrocercus	Black Drongo	黑卷尾		2	+
Urocissa erythroryncha	Red-billed Blue Magpie	紅嘴藍鵲		0	+
Pica pica	Eurasian Magpie	喜鵲		7	+
Corvus torquatus	Collared Crow	白頸鴉	X	1	+
Parus cinereus	Cinereous Tit	蒼背山雀		6	+
Pycnonotus jocosus	Red-whiskered Bulbul	紅耳鵯		135	+++++
Pycnonotus sinensis	Chinese Bulbul	白頭鵯		21	++++
Hirundo rustica	Barn Swallow	家燕		10	++
Phylloscopus fuscatus	Dusky Warbler	褐柳鶯		2	+
Phylloscopus inornatus	Yellow-browed Warbler	黃眉柳鶯		15	++
Prinia flaviventris	Yellow-bellied Prinia	黃腹鷦鶯		4	+
Prinia inornata	Plain Prinia	純色鷦鶯		9	++
Orthotomus sutorius	Common Tailorbird	長尾縫葉鶯		22	+++
Garrulax perspicillatus	Masked Laughingthrush	黑臉噪鶥		47	+++++
Zosterops japonicus	Japanese White-eye	暗綠繡眼鳥		34	++++
Acridotheres cristatellus	Crested Myna	八哥		350	+++++

Scientific Names	Common Names	Chinese Names	Waterbird	Point Count Abundance	Transect Count Abundance
Gracupica nigricollis	Black-collared Starling	黑領椋鳥		44	+++++
Copsychus saularis	Oriental Magpie Robin	鵲鴝		1	+
Phoenicurus auroreus	Daurian Redstart	北紅尾鴝		0	+
Saxicola stejnegeri	Stejneger's Stonechat	黑喉石(即鳥)		1	+
Passer montanus	Eurasian Tree Sparrow	樹麻雀		12	++
Motacilla tschutschensis	Eastern Yellow Wagtail	東黃鶺鴒		1	+
Motacilla alba	White Wagtail	白鶺鴒		30	++++

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	3/2/2023	16:15	H	147	312	20
		14:00	L	165		24
2	9/2/2023	13:15	H	84	261	17
		15:30	L	177		23
3	17/2/2023	15:15	H	155	275	18
		13:00	L	120		24
4	21/2/2023	12:30	H	86	218	21
		14:30	L	132		21

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	3/2/2023	16:15	H	20	64
		14:00	L	44	
2	9/2/2023	13:15	H	25	69
		15:30	L	44	
3	17/2/2023	15:15	H	17	48
		13:00	L	31	
4	21/2/2023	12:30	H	16	57
		14:30	L	41	

Remarks: H: High Tide; L: Low Tide

T-Test Analysis for All Waterbirds

Baseline Data

Monthly Average Abundance (February)	50.44
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:

H_0: The data collected in the reporting month falls within the normal distribution when compared to the baseline monitoring data;

H_1: 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 H_0.

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

Crit. Value = -2.353 (95% Confidence Level)

Crit. Value = -4.541 (99% Confidence Level)

T-values of Data in Reporting Month			Confidence Level (Critical Value)	
			95% (-2.353)	99% (-4.541)
Abundance	Monthly	0.653	✓	✓
	Seasonal	-0.191	✓	✓

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.

Abundance of Representative Waterbirds from Point Count										
Representative Species			**Recorded Abundance**						**Baseline Data**	
			Week 1	**Week2**	**Week 3**	**Week 4**	**Total**	**Avg.**	**Avg (Feb)**	**Avg (Winter)**
Species Name	**Common Name**	**Chinese Name**	**3/2/2023**	**9/2/2023**	**17/2/2023**	**21/2/2023**				
Egretta garzetta	Little Egret	小白鷺	18	22	12	13	65	16	12	15
Ardea cinerea	Grey Heron	蒼鷺	11	9	11	12	43	11	16	13
Ardeola bacchus	Chinese Pond Heron	池鷺	5	6	6	6	23	6	8	9
Phalacrocorax carbo	Great Cormorant	普通鸕鷀	8	14	12	10	44	11	9	7
Ardea alba	Great Egret	大白鷺	2	4	3	4	13	3	5	5
Bubulcus coromandus	Eastern Cattle Egret	牛背鷺	13	3	0	7	23	6	2	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:

H_0: The data collected in the reporting month falls within the normal distribution when compared to the baseline monitoring data;

H_1: 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 H_0.

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

Crit. Value = -2.353 (95% Confidence Level)

Crit. Value = -4.541 (99% Confidence Level)

Common Name of Representative Waterbird	T-value	Confidence Level (Critical Value)		T-value	Confidence Level (Critical Value)		Overall
	Monthly	95%	99%	Seasonal	95%	99%	
Little Egret	0.783	✓	✓	0.301	✓	✓	✓
Grey Heron	-2.941	X	✓	-0.913	✓	✓	✓
Chinese Pond Heron	-1.726	✓	✓	-2.493	X	✓	✓
Great Cormorant	1.480	✓	✓	1.480	✓	✓	✓
Great Egret	-2.092	✓	✓	-2.092	✓	✓	✓
Eastern Cattle Egret	0.999	✓	✓	0.636	✓	✓	✓

Remarks:

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

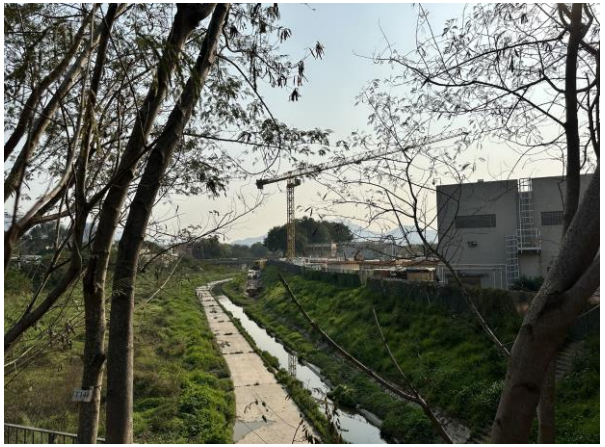
✚ = T-value falls outside the confidence level; the impact monitoring data shows significant difference to the baseline data.

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

Appendix 5.5

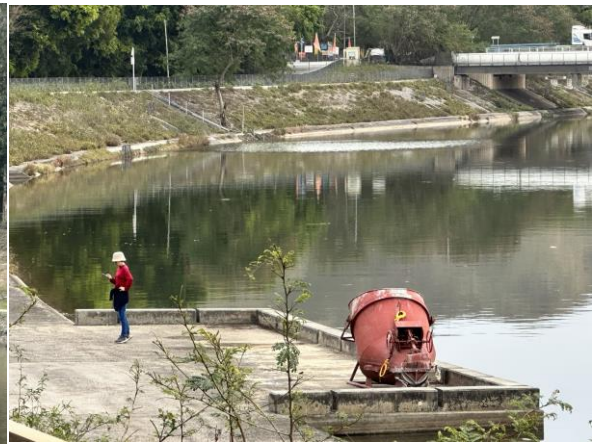
Photo Record of Ecological Monitoring

Conditions of Rivers

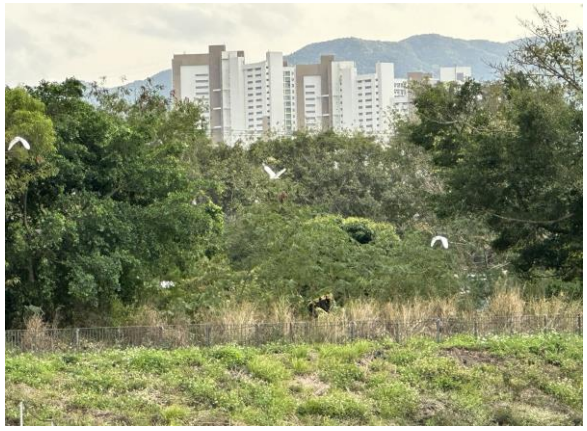
Sheung Yue River – Survey Point 7 (Taken on 9 Feb 2023)	**Shek Sheung River – Survey Point 6 (Taken on 3 Feb 2023)**
	
Shek Sheung River - Survey Point 5 (Taken on 17 Feb 2023)	**Ng Tung River - Survey Point 4 (Taken on 3 Feb 2023)**

Human Activities & Site Conditions

Construction Activities (Ng Tung River) **(Project-related, taken on 3 Feb 2023)**	**Construction Activities (Shek Sheung River)** **(Project-related, taken on 17 Feb 2023)**
Construction Activities (Sheung Yue River) **(Non-project-related, taken on 21 Feb 2023)**	**Construction Activities (Ng Tung River)** **(Non-Project-related, taken on 9 Feb 2023)**

Human Activities (Sheung Yue River) **(Non-project-related, taken on 21 Feb 2023)**	**Human Activities (Ng Tung River)** **(Non- project-related, taken on 17 Feb 2023)**	**Human Activities (Ng Tung River)** **(Non-project-related, taken on 3 Feb 2023)**
		
Construction Activities (Ng Tung River) **(Non-Project-related, taken on 21 Feb 2023)**	**Construction Activities (Sheung Yue River)** **(Non-project-related, taken on 9 Feb 2023)**	**Human Activities (Ng Tung River)** **(Non-project-related, taken on 3 Feb 2023)**

Waterbird Species

Grey Heron	**Great Cormorant**	**Black Kite**
		
Eastern Cattle Egret	**Little Egret**	**Waterbird in Shek Sheung River**

Appendix 5.7

Water Quality Monitoring Result

Data Sheet for Impact Water Quality Monitoring - SPW 12/2021

Date of Sampling: 1-Feb-23 Weather Condition: Fine Ambient Temperature, °C: 22

Station Reference	Sample ID	Time	Sampling Depth	Appearance	Temperature °C		pH -		Salinity ppt		DO Saturation %		DO mg/L		DO Average	Turbidity NTU		Turb Average	SS mg/L		SS Aaverage	Remarks / Observations
M1	M1	11:00	Middle	Pale Green	20.9	20.9	7.09	7.09	0.18	0.18	83.3	84.3	7.40	7.49	7.48	6.01	6.04	6.01	6.2		6.35	DO level exceeded limit level
Impact Station, Downstream of the proposed outfall	M1 DUP	11:02			20.9	20.9	7.09	7.09	0.18	0.18	83.9	83.0	7.45	7.57		6.00	6.00		6.5			
C1	C1	10:45	Middle	Pale Green	19.6	19.6	7.27	7.27	0.12	0.12	89.9	90.1	8.22	8.23	8.19	9.03	9.47	9.30	5.3		5.50	
Control Station, Upstream of the proposed outfall	C1 DUP	10:47			19.6	19.6	7.27	7.27	0.12	0.12	89.3	89.1	8.16	8.14		9.36	9.34		5.7			

Action Level Exceedance
Limit Level Exceedance

Date of Sampling: 3-Feb-23 Weather Condition: Fine Ambient Temperature, °C: 18

Station Reference	Sample ID	Time	Sampling Depth	Appearance	Temperature °C		pH -		Salinity ppt		DO Saturation %		DO mg/L		DO Average	Turbidity NTU		Turb Average	SS mg/L		SS Aaverage	Remarks / Observations
M1	M1	9:15	Middle	Pale Green	21.2	21.2	6.96	6.96	0.33	0.33	79.4	79.2	7.05	7.03	7.04	8.82	8.83	8.71	11.9		12.15	DO and SS levels exceeded limit levels
Impact Station, Downstream of the proposed outfall	M1 DUP	9:18			21.2	9.6	6.96	6.96	0.33	0.33	78.5	79.5	7.00	7.06		8.68	8.52		12.4			
C1	C1	9:00	Middle	Pale Green	18.4	18.4	7.65	7.65	0.14	0.14	79.7	79.5	7.47	7.46	7.44	7.68	7.65	7.65	5.5		5.75	
Control Station, Upstream of the proposed outfall	C1 DUP	9:02			18.4	18.4	7.65	7.65	0.14	0.14	78.4	78.7	7.45	7.38		7.64	7.61		6.0			

Action Level Exceedance
Limit Level Exceedance

Date of Sampling: 6-Feb-23 Weather Condition: Fine Ambient Temperature, °C: 19

Station Reference	Sample ID	Time	Sampling Depth	Appearance	Temperature °C		pH -		Salinity ppt		DO Saturation %		DO mg/L		DO Average	Turbidity NTU		Turb Average	SS mg/L		SS Aaverage	Remarks / Observations
M1	M1	10:50	Middle	Pale Green	19.5	19.5	7.49	7.49	0.12	0.12	67.8	67.8	6.23	6.23	6.23	5.20	5.14	5.17	6.0		5.90	DO level exceeded limit level
Impact Station, Downstream of the proposed outfall	M1 DUP	10:52			19.5	19.5	7.49	7.49	0.12	0.12	67.9	67.7	6.24	6.22		5.22	5.11		5.8			
C1	C1	10:30	Middle	Pale Green	19.6	19.6	7.15	7.15	0.15	0.15	60.4	60.5	5.53	5.54	5.55	6.58	6.59	6.62	7.4		7.50	
Control Station, Upstream of the proposed outfall	C1 DUP	10:32			19.5	19.5	7.15	7.15	0.15	0.15	60.6	60.1	5.55	5.57		6.66	6.65		7.6			

Action Level Exceedance
Limit Level Exceedance

Data Sheet for Impact Water Quality Monitoring - SPW 12/2021

Date of Sampling: 8-Feb-23 Weather Condition: Fine Ambient Temperature, °C: 20

Station Reference	Sample ID	Time	Sampling Depth	Appearance	Temperature °C		pH -		Salinity ppt		DO Saturation %		DO mg/L		DO Average	Turbidity NTU		Turb Average	SS mg/L		SS Aaverage	Remarks / Observations
M1	M1	10:00	Middle	Pale Green	19.4	19.4	7.69	7.69	0.11	0.11	68.2	67.6	6.26	6.22	6.25	5.37	5.34	5.35	5.3		5.60	DO level exceeded limit level
Impact Station, Downstream of the proposed outfall	M1 DUP	10:02			19.4	19.4	7.69	7.69	0.11	0.11	68.2	68.2	6.26	6.27		5.34	5.34		5.9			
C1	C1	9:35	Middle	Pale Green	19.5	19.6	7.25	7.25	0.15	0.15	62.9	62.2	5.68	5.71	5.68	6.15	6.14	6.15	6.2		7.60	
Control Station, Upstream of the proposed outfall	C1 DUP	9:37			19.5	19.5	7.25	7.25	0.15	0.15	61.8	61.7	5.67	5.66		6.15	6.16		9.0			

Action Level Exceedance
Limit Level Exceedance

Date of Sampling: 10-Feb-23 Weather Condition: Cloudy Ambient Temperature, °C: 22

Station Reference	Sample ID	Time	Sampling Depth	Appearance	Temperature °C		pH -		Salinity ppt		DO Saturation %		DO mg/L		DO Average	Turbidity NTU		Turb Average	SS mg/L		SS Aaverage	Remarks / Observations
M1	M1	10:10	Middle	Pale Green	21.2	21.2	7.44	7.44	0.11	0.11	80.0	80.2	7.54	7.56	7.50	14.87	14.86	14.85	26.0		25.70	DO and SS levels exceeded limit levels. Tur level exceeded action level.
Impact Station, Downstream of the proposed outfall	M1 DUP	10:12			21.2	21.2	7.44	7.44	0.11	0.11	82.2	82.9	7.53	7.35		14.99	14.67		25.4			
C1	C1	9:50	Middle	Pale Green	20.9	20.9	7.49	7.49	0.12	0.12	76.2	75.2	6.80	6.71	6.80	15.70	15.21	15.26	12.0		11.85	
Control Station, Upstream of the proposed outfall	C1 DUP	9:52			20.9	20.9	7.49	7.49	0.12	0.12	76.6	76.7	6.84	6.84		15.08	15.06		11.7			

Action Level Exceedance
Limit Level Exceedance

Date of Sampling: 13-Feb-23 Weather Condition: Fine Ambient Temperature, °C: 24

Station Reference	Sample ID	Time	Sampling Depth	Appearance	Temperature °C		pH -		Salinity ppt		DO Saturation %		DO mg/L		DO Average	Turbidity NTU		Turb Average	SS mg/L		SS Aaverage	Remarks / Observations
M1	M1	10:30	Middle	Pale Green	23.7	23.7	7.94	7.94	0.11	0.11	98.4	98.7	8.32	8.34	8.31	8.40	8.29	8.31	11.2		11.20	SS level exceeded limit level
Impact Station, Downstream of the proposed outfall	M1 DUP	10:32			23.7	23.7	7.94	7.94	0.11	0.10	98.2	98.9	8.30	8.29		8.28	8.27		11.2			
C1	C1	10:15	Middle	Pale Green	22.7	22.7	7.37	7.37	0.12	0.12	86.8	86.8	7.48	7.47	7.40	6.93	6.92	6.93	7.0		7.30	
Control Station, Upstream of the proposed outfall	C1 DUP	10:17			22.7	22.7	7.37	7.37	0.12	0.12	84.9	85.0	7.31	7.32		6.92	6.94		7.6			

Action Level Exceedance
Limit Level Exceedance

Data Sheet for Impact Water Quality Monitoring - SPW 12/2021

Date of Sampling: 15-Feb-23 Weather Condition: Fine Ambient Temperature, °C: 14

Station Reference	Sample ID	Time	Sampling Depth	Appearance	Temperature °C		pH -		Salinity ppt		DO Saturation %		DO mg/L		DO Average	Turbidity NTU		Turb Average	SS mg/L		SS Aaverage	Remarks / Observations
M1	M1	10:10	Middle	Pale Green	18.6	18.6	7.51	7.51	0.11	0.11	86.7	86.6	8.12	8.11	8.10	9.45	9.46	9.46	6.1		6.40	
Impact Station, Downstream of the proposed outfall	M1 DUP	10:12			18.6	18.6	7.51	7.51	0.11	0.11	86.3	86.2	8.08	8.07		9.46	9.45		6.7			
C1	C1	9:50	Middle	Pale Green	18.9	18.9	7.42	7.42	0.11	0.11	81.1	81.1	7.54	7.54	7.58	8.74	8.76	8.73	5.4		5.40	
Control Station, Upstream of the proposed outfall	C1 DUP	9:52			18.9	18.9	7.42	7.42	0.11	0.11	81.9	81.7	7.62	7.61		8.76	8.65		5.4			

Action Level Exceedance
Limit Level Exceedance

Date of Sampling: 17-Feb-23 Weather Condition: Fine Ambient Temperature, °C: 16

Station Reference	Sample ID	Time	Sampling Depth	Appearance	Temperature °C		pH -		Salinity ppt		DO Saturation %		DO mg/L		DO Average	Turbidity NTU		Turb Average	SS mg/L		SS Aaverage	Remarks / Observations
M1	M1	8:40	Middle	Pale Green	20.7	20.7	7.16	7.16	0.30	0.30	77.6	77.6	6.96	6.96	**6.95**	9.46	9.46	**9.43**	9.0		9.10	DO level exceeded limit level, and Tur level exceeded action level.
Impact Station, Downstream of the proposed outfall	M1 DUP	8:42			20.7	20.7	7.16	7.16	0.30	0.30	77.7	77.4	6.94	6.94		9.46	9.35		9.2			
C1	C1	9:00	Middle	Pale Green	18.7	18.7	7.53	7.53	0.11	0.11	89.6	90.1	8.35	8.39	8.35	7.45	7.44	7.43	7.7		7.85	
Control Station, Upstream of the proposed outfall	C1 DUP	9:02			18.7	18.7	7.53	7.53	0.11	0.11	89.3	89.4	8.32	8.33		7.41	7.42		8.0			

Action Level Exceedance
Limit Level Exceedance

Date of Sampling: 20-Feb-23 Weather Condition: Fine Ambient Temperature, °C: 14

Station Reference	Sample ID	Time	Sampling Depth	Appearance	Temperature °C		pH -		Salinity ppt		DO Saturation %		DO mg/L		DO Average	Turbidity NTU		Turb Average	SS mg/L		SS Aaverage	Remarks / Observations
M1	M1	10:33	Middle	Pale Green	21.3	21.3	7.11	7.11	0.31	0.31	89.4	89.3	7.92	7.91	7.88	7.27	7.27	7.27	8.8		8.20	
Impact Station, Downstream of the proposed outfall	M1 DUP	10:32			21.3	21.3	7.11	7.11	0.31	0.31	88.6	88.5	7.85	7.85		7.27	7.27		7.6			
C1	C1		Middle	Pale Green	20.2	20.2	7.65	7.65	0.12	0.12	100.7	100.2	9.11	9.16	9.15	10.83	10.83	10.81	9.4		8.90	
Control Station, Upstream of the proposed outfall	C1 DUP				20.2	20.2	7.65	7.65	0.12	0.12	101.4	101.1	9.17	9.15		10.80	10.78		8.4			

Action Level Exceedance
Limit Level Exceedance

Data Sheet for Impact Water Quality Monitoring - SPW 12/2021

Date of Sampling: 22-Feb-23 Weather Condition: Fine Ambient Temperature,°C: 16

Station Reference	Sample ID	Time	Sampling Depth	Appearance	Temperature		pH		Salinity		DO Saturation		DO		DO Average	Turbidity		Turb Average	SS		SS Aaverage	Remarks / Observations
					°C		-		ppt		%		mg/L			NTU			mg/L			
M1	M1	10:20	Middle	Pale green	21.2	21.2	7.07	7.07	0.28	0.28	88.5	88.3	7.85	7.82	7.84	6.25	6.26	6.26	8.8		9.00	
Impact Station, Downstream of the proposed outfall	M1 DUP	10:22			21.2	21.2	7.07	7.07	0.28	0.28	88.3	88.4	7.83	7.84		6.27	6.27		9.2			
C1	C1	10:30	Middle	Pale green	20.0	20.0	7.55	7.55	0.18	0.18	98.3	100.4	9.00	9.09	9.06	9.48	9.35	9.37	8.0		8.70	
Control Station, Upstream of the proposed outfall	C1 DUP	10:32			20.0	20.0	7.55	7.55	0.18	0.18	100.3	100.1	9.08	9.07		9.32	9.31		9.4			

Action Level Exceedance
Limit Level Exceedance

Date of Sampling: 24-Feb-23 Weather Condition: Fine Ambient Temperature,°C: 19

Station Reference	Sample ID	Time	Sampling Depth	Appearance	Temperature		pH		Salinity		DO Saturation		DO		DO Average	Turbidity		Turb Average	SS		SS Aaverage	Remarks / Observations
					°C		-		ppt		%		mg/L			NTU			mg/L			
M1	M1	9:55	Middle	Pale green	21.2	21.2	7.69	7.69	0.11	0.11	108.2	107.7	9.59	9.55	9.54	10.37	10.38	10.34	12.3		11.65	
Impact Station, Downstream of the proposed outfall	M1 DUP	9:57			21.2	21.2	7.69	7.60	0.11	0.11	107.8	107.0	9.52	9.48		10.35	10.25		11.0			
C1	C1	10:15	Middle	Pale green	21.0	21.0	7.53	7.53	0.12	0.12	92.3	92.5	8.21	8.24	8.22	10.76	10.75	10.74	10.5		10.15	
Control Station, Upstream of the proposed outfall	C1 DUP	10:17			21.0	21.0	7.53	7.53	0.12	0.12	92.3	92.1	8.22	8.20		10.72	10.72		9.8			

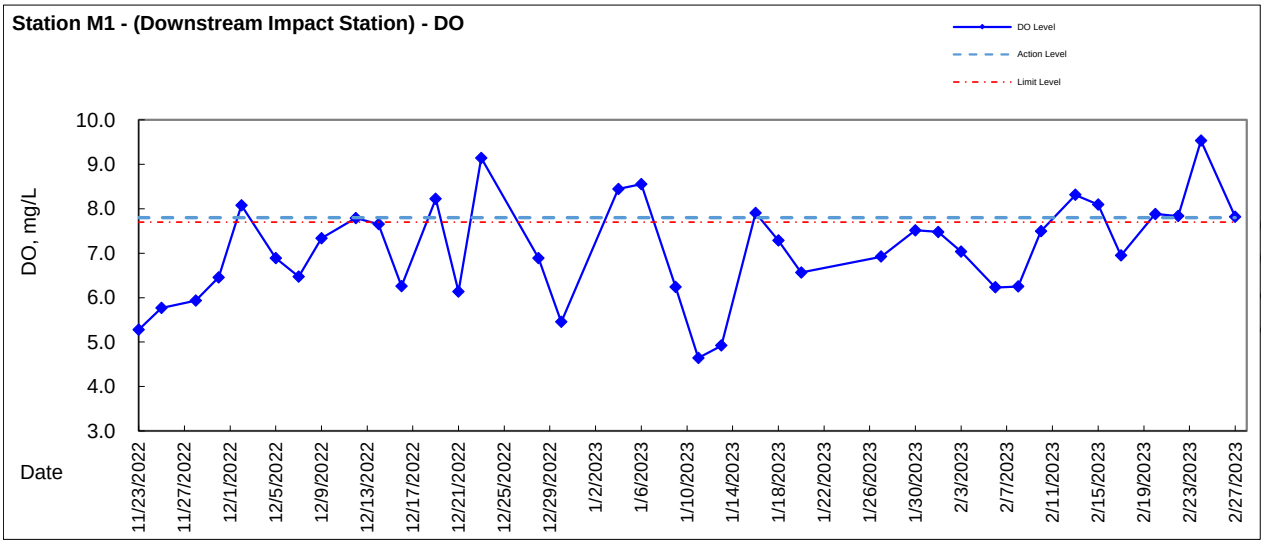
Action Level Exceedance
Limit Level Exceedance

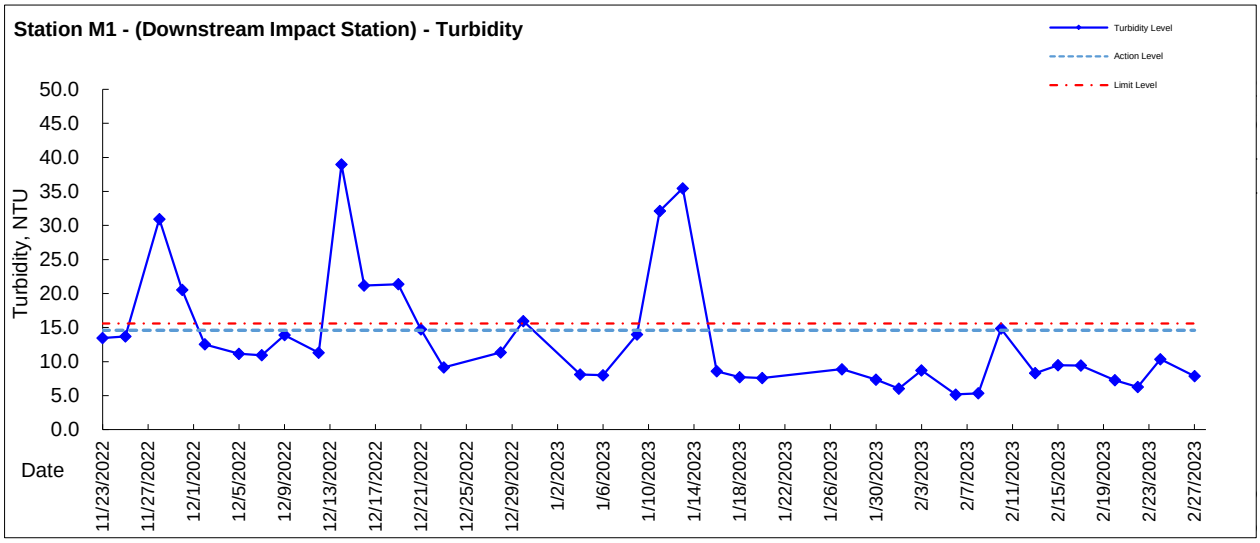
Date of Sampling: 27-Feb-23 Weather Condition: Fine Ambient Temperature,°C: 20

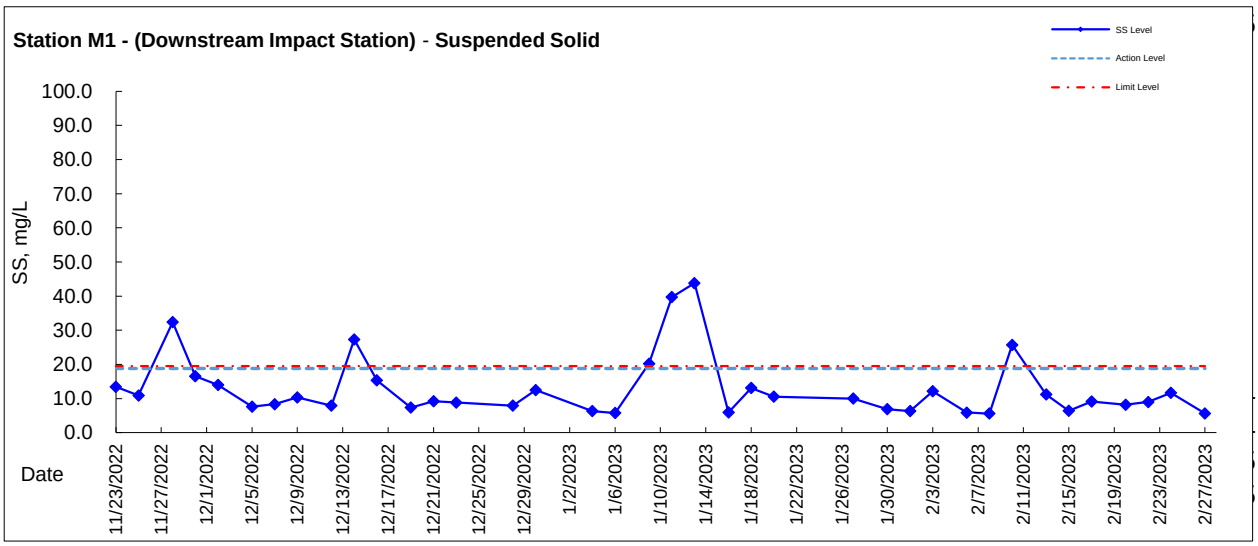
Station Reference	Sample ID	Time	Sampling Depth	Appearance	Temperature		pH		Salinity		DO Saturation		DO		DO Average	Turbidity		Turb Average	SS		SS Aaverage	Remarks / Observations
					°C		-		ppt		%		mg/L			NTU			mg/L			
M1	M1	10:00	Middle	Pale green	22.1	22.1	7.07	7.07	0.23	0.23	89.7	89.8	7.80	7.81	7.82	7.89	7.89	**7.87**	6.0		5.65	Tur level exceeded action level.
Impact Station, Downstream of the proposed outfall	M1 DUP	10:02			22.1	22.1	7.07	7.07	0.23	0.23	89.1	89.9	7.83	7.83		7.81	7.87		5.3			
C1	C1	10:20	Middle	Pale green	21.5	21.5	7.30	7.30	0.20	0.20	106.7	106.7	9.42	9.33	9.36	6.24	6.26	6.25	6.6		6.30	
Control Station, Upstream of the proposed outfall	C1 DUP	10:22			21.5	21.5	7.30	7.30	0.20	0.20	106.0	105.6	9.36	9.32		6.24	6.24		6.0			

Action Level Exceedance
Limit Level Exceedance

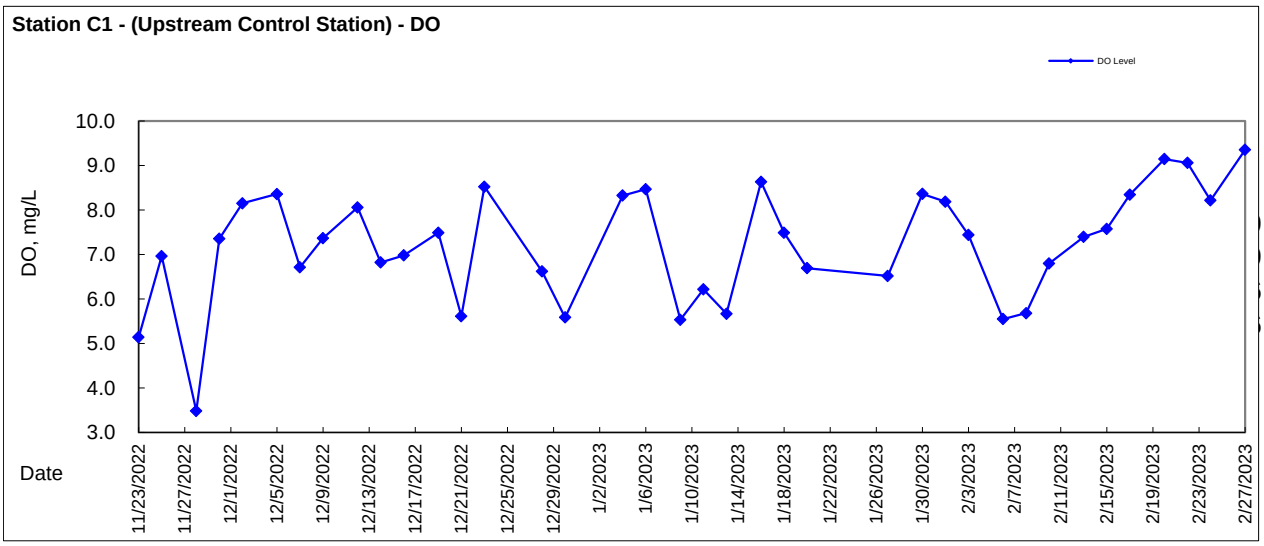
Graphic Presentation of WQM Result

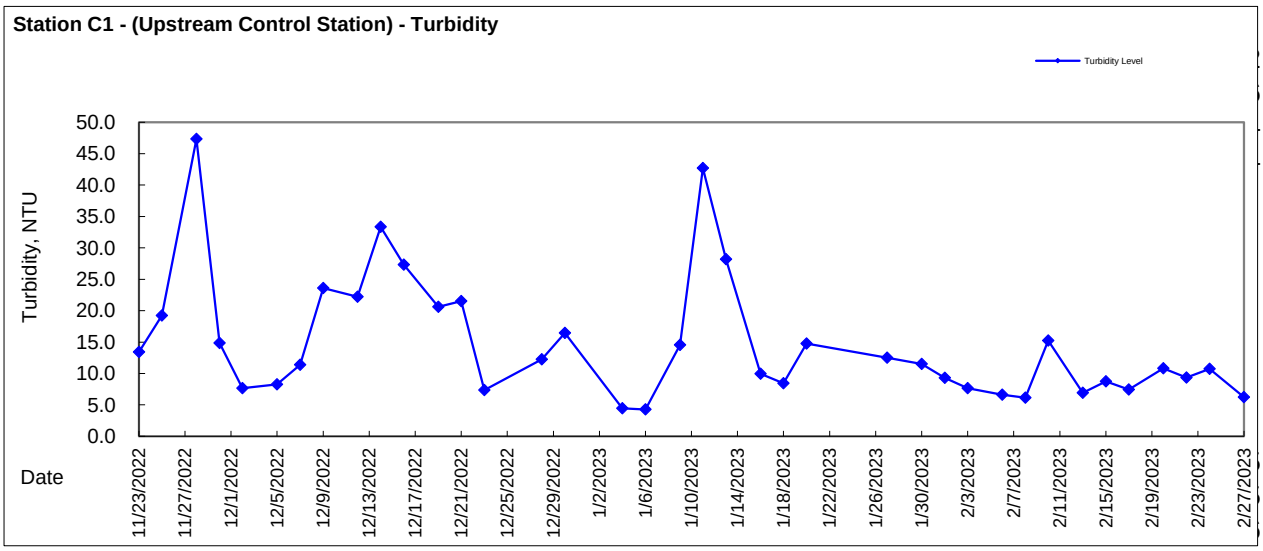


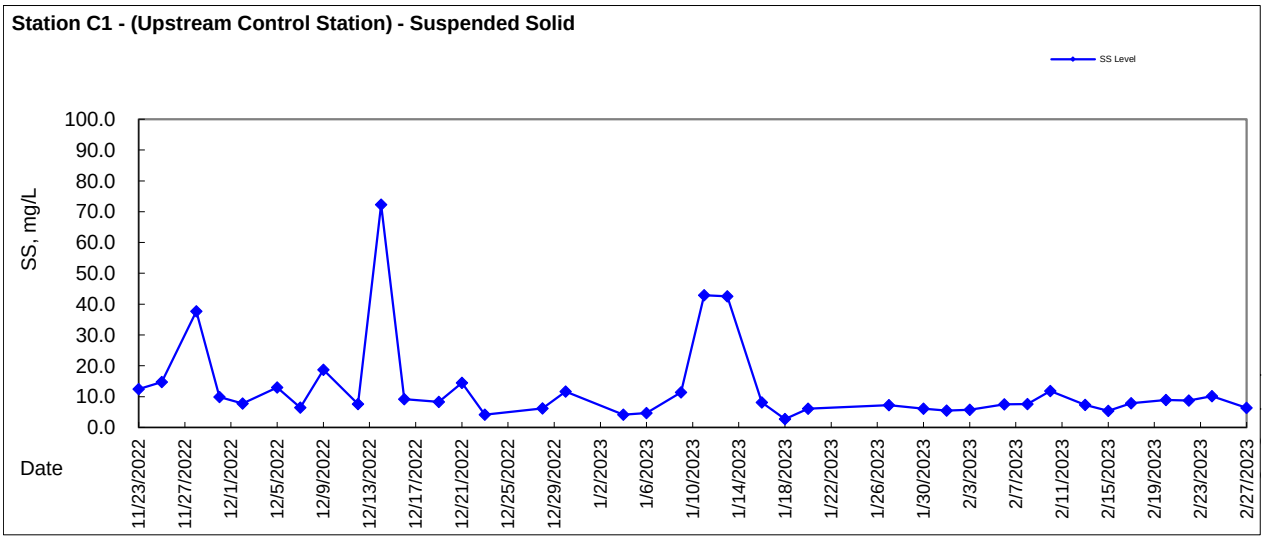




Graphic Presentation of WQM Result







Appendix 5.8

Laboratory Analysis Result

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	: LAM ENVIRONMENTAL SERVICES LTD	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: ALEX CHAN	Contact	: Richard Fung	Work Order	: HK2303343
Address	: 19/F, REMEX CENTRE, 42 WONG CHUK HANG ROAD, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong Kwai Tsing Hong Kong		
E-mail	: alexchan@lamenviro.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: 2839 5629	Telephone	: +852 2610 1044		
Facsimile	: 2882 3331	Facsimile	: +852 2610 2021		
Project	: CONTRACT NO. SPW 12/2021 - SHEK WU HUI EFFLUENT POLISHING PLANT			Date Samples Received	: 01-Feb-2023
Order number	: —	Quote number	: HKE/2224/2021_V3	Issue Date	: 04-Feb-2023
C-O-C number	: —			No. of samples received	: 4
Site	:			No. of samples analysed	: 4

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This document has been signed by those names that appear on this report and are the authorised signatories.

Signatories	Position	Authorised results for
Fung Lim Chee, Richard	Managing Director	Inorganics, Kwai Tsing

General Comments

This report supersedes any previous report(s) with the same work order number. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Testing period is from 01-Feb-2023 to 03-Feb-2023.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order: HK2303343

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

Result(s) of sample(s) is/are reported on as received basis, unless otherwise specified.

Analytical Results

Sub-Matrix: FRESH WATER			Sample ID	C1	C1 - DUP	M1	M1 - DUP	—
			Sampling date / time	01-Feb-2023	01-Feb-2023	01-Feb-2023	01-Feb-2023	----
Compound	CAS Number	LOR	Unit	HK2303343-001	HK2303343-002	HK2303343-003	HK2303343-004	———
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2.0	mg/L	5.3	5.7	6.2	6.5	—

Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 4847781)								
HK2301290-001	Anonymous	EA025: Suspended Solids (SS)	----	0.5	mg/L	7.3	7.6	4.0
HK2303343-003	M1	EA025: Suspended Solids (SS)	----	0.5	mg/L	6.2	5.9	4.1

Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report

Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
Method: Compound	CAS Number	LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 4847781)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	94.0	----	85.1	116	----	----

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

- No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	: LAM ENVIRONMENTAL SERVICES LTD	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: ALEX CHAN	Contact	: Richard Fung	k or9 Order	: HK230334W
Addrexx	: 1/ ,FGREMEX CENTREG42 k ONU CH. K HANU ROADGHONU KONU	Addrexx	: 11,F-GChung Shun Knitting CentreGI p3 k ing YiwStreetGKs ai ChungGN-T-GHong Kong Ks ai Txing Hong Kong		
Epmail	: ale@hanv lamen8iro-com	Epmail	: richard-fungv alxglobal-com		
Telewhone	: 253/ V62/	Telewhone	: +5V2 2610 1044		
Facximile	: 2552 3331	Facximile	: +5V2 2610 2021		
Project	: CONTRACT NO- SPk 12,2021 pSHEK k . H. I EFFL. ENT POLISHINU PLANT			Date Samwlex Recei8ed	: 03pFebp2023
Order number	: ppp	Quote number	: HKE,2224,2021_V3	Ixxue Date	: 0/ pFebp2023
CpOpC number	: ppp			No- of xamwlex recei8ed	: 4
Site	:			No- of xamwlex analyxed	: 4

Thix rewort may not be rewroduced e@ewt s ith wrior s ritten awwro8al from the texting laboratory-

Thix document hax been xigned by thoxe namex that awwear on thix rewort and are the authorixed xignatoriex-

Signatoriex	*Poxition*	*Authorixed rexultx for*
Fung Lim CheeGRichard	Managing Director	InorganicxGKs ai Txing

Ueneral Commentx

Thix rewort xuwerxedex any wre8ioux rewort(x) s ith the xame s or9 order number- All wagex of thix rewort ha8e been chec9ed and awwro8ed for releaxe- k hen xamwling time information ix not wro8ided by the clientGxamwling datex are xhos n s ithout a time comwonent- In thexe inxtancexGthe time comwonent hax been axxumed by the laboratory for wrocexxing wurwoxex- Texting weriod ix from 03pFebp2023 to 0/ pFebp2023-

Key: LOR = Limit of reworting; CAS Number = CAS regixtry number from databaxe maintained by Chemical Abxtractx Ser8icex- The Chemical Abxtractx Ser8ice ix a di8ixion of the American Chemical Society-

Swecific Commentx for k or9 Order: HK230334W

Samwle(x) s ax, s ere xubmitted by client- Samwle(x) arri8ed laboratory in ambient condition- The rexult(x) related only to the item(x) texted-

Samwle information (Project nameGSamwle IDGSamwling date,timeGetc-) ix wro8ided by client-

Rexult(x) of xamwle(x) ix,are reworted on ax recei8ed baxixGunlexx others ixe xwecified-

Analytical Rexultx

SubpMatri@FRESH k ATER			Samwle ID	C1	C1 pD. P	M1	M1 pD. P	ppp
			Samwling date , time	03pFebp2023	03pFebp2023	03pFebp2023	03pFebp2023	ppp
Comwound	CAS Number	LOR	. nit	HK230334Wp001	HK230334Wp002	HK230334Wp003	HK230334Wp004	pppppp
EA,ED: Phyxical and Aggregate Prowertiex								
EA02W Suxwended Solidx (SS)	ppp	2-0	mg,L	WW	6-0	11-/	12-4	ppp

Laboratory Duwlicate (D. P) Rewort

Matri@k ATER				Laboratory Duwlicate (D. P) Rewort				
Laboratory xamwle ID	Samwle ID	Method: Comwound	CAS Number	LOR	. nit	Original Rexult	Duwlicate Rexult	RPD (%)
EA,ED: Phyxical and Aggregate Prowertiex (QC Lot: 45W140)								
HK230334Wp001	C1	EA02W Suxwended Solidx (SS)	ppp	0-W	mg,L	WW	W2	W2
HK230463Wp003	Anonymoux	EA02W Suxwended Solidx (SS)	ppp	0-W	mg,L	50-0	7/ -6	0-4

Method Blan9 (MB)&Laboratory Control Swi9e (LCS) and Laboratory Control Swi9e Duwlicate (DCS) Rewort

Matri@k ATER		Method Blan9 (MB) Rewort			Laboratory Control Swi9e (LCS) and Laboratory Control Swi9e Duwlicate (DCS) Rewort						
					Swi9e Concentration	Swi9e Recoßery (%)		Recoßery Limitx(%)		RPD (%)	
Method: Comwound	CAS Number	LOR	. nit	Rexult		LCS	DCS	Los	High	Value	Control Limit
EA,ED: Phyxical and Aggregate Prowertiex (QC Lot: 45W140)											
EA02W Suxwended Solidx (SS)	ppp	0-W	mg,L	<0-W	20 mg,L	102	ppp	5W1	116	ppp	ppp

Matri@Swi9e (MS) and Matri@Swi9e Duwlicate (MSD) Rewort

- No Matri@Swi9e (MS) or Matri@Swi9e Duwlicate (MSD) Rexultx are required to be reworted-

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

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Addrexx	: 1/ ,FGREMEX CENTREG42 k ONU CH. K HANU ROADGHONU KONU	Addrexx	: 11,F-GChung Shun Knitting CentreGI p3 k ing YiwStreetGKs ai ChungGN-T-GHong Kong Ks ai Txing Hong Kong		
Epmail	: ale@hanv lamen8iro-com	Epmail	: richard-fungv alxglobal-com		
Telewhone	: 253/ 6W2/	Telewhone	: +562 2W10 1044		
Facximile	: 2552 3331	Facximile	: +562 2W10 2021		
Project	: CONTRACT NO- SPk 12,2021 pSHEK k . H. I EFFL. ENT POLISHINU PLANT			Date Samwlex Recei8ed	: 05pFebp2023
Order number	: ppp	Quote number	: HKE,2224,2021_V3	Ixxue Date	: 14pFebp2023
CpOpC number	: ppp			No- of xamwlex recei8ed	: 4
Site	:			No- of xamwlex analyxed	: 4

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Signatoriex	*Poxition*	*Authorixed rexultx for*
Fung Lim CheeGRichard	Managing Director	InorganicxGKs ai Txing

Ueneral Commentx

Thix rewort xuwerxedex any wre8ioux rewort(x) s ith the xame s or9 order number- All wagex of thix rewort ha8e been chec9ed and awwro8ed for releaxe- k hen xamwling time information ix not wro8ided by the clientGxamwling datex are xhos n s ithout a time comwonent- In thexe inxtancexGthe time comwonent hax been axxumed by the laboratory for wrocexxing wurwoxex- Texting weriod ix from 05pFebp2023 to 13pFebp2023-

Key: LOR = Limit of reworting; CAS Number = CAS regixtry number from databaxe maintained by Chemical Abxtractx Ser8icex- The Chemical Abxtractx Ser8ice ix a di8ixion of the American Chemical Society-

Swecific Commentx for k or9 Order: HK230334W

Samwle(x) s ax, s ere xubmitted by client- Samwle(x) arri8ed laboratory in chilled condition- The rexult(x) related only to the item(x) texted-

Samwle information (Project nameGSamwle IDGSamwling date,timeGetc-) ix wro8ided by client-

Rexult(x) of xamwle(x) ix,are reworted on ax recei8ed baxixGunlexx others ixe xwecified-

Analytical Rexultx

SubpMatri@FRESH k ATER			Samwle ID	C1	C1 pD. P	M1	M1 pD. P	ppp
			Samwling date , time	0WpFebp2023	0WpFebp2023	0WpFebp2023	0WpFebp2023	ppp
Comwound	CAS Number	LOR	. nit	HK230334Wp001	HK230334Wp002	HK230334Wp003	HK230334Wp004	pppppppp
EA,ED: Phyxical and Aggregate Prowertiex								
EA026: Suxwended Solidx (SS)	ppp	2-0	mg,L	7-4	7-W	W0	6-5	ppp

Laboratory Duwlicate (D. P) Rewort

Matri@k ATER				Laboratory Duwlicate (D. P) Rewort				
Laboratory xamwle ID	Samwle ID	Method: Comwound	CAS Number	LOR	. nit	Original Rexult	Duwlicate Rexult	RPD (%)
EA,ED: Phyxical and Aggregate Prowertiex (QC Lot: 45W544)								
HK230334Wp001	C1	EA026: Suxwended Solidx (SS)	ppp	0-6	mg,L	7-4	7-2	1-7
HK2306060p003	Anonymoux	EA026: Suxwended Solidx (SS)	ppp	0-6	mg,L	2W7	27-1	1-6

Method Blan9 (MB)&Laboratory Control Swi9e (LCS) and Laboratory Control Swi9e Duwlicate (DCS) Rewort

Matri@k ATER		Method Blan9 (MB) Rewort			Laboratory Control Swi9e (LCS) and Laboratory Control Swi9e Duwlicate (DCS) Rewort						
					Swi9e Concentration	Swi9e Recoßery (%)		Recoßery Limitx(%)		RPD (%)	
Method: Comwound	CAS Number	LOR	. nit	Rexult		LCS	DCS	Los	High	Value	Control Limit
EA,ED: Phyxical and Aggregate Prowertiex (QC Lot: 45W544)											
EA026: Suxwended Solidx (SS)	ppp	0-6	mg,L	<0-6	20 mg,L	/ W6	ppp	56-1	11W	ppp	ppp

Matri@Swi9e (MS) and Matri@Swi9e Duwlicate (MSD) Rewort

- No Matri@Swi9e (MS) or Matri@Swi9e Duwlicate (MSD) Rexultx are required to be reworted-

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	: LAM ENVIRONMENTAL SERVICES LTD	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: ALEX CHAN	Contact	: Richard Fung	k or9 Order	: HK230334W
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Epmail	: ale@hanv lamen8iro-com	Epmail	: richard-fungv alxglobal-com		
Telewhone	: 253/ 6+2/	Telewhone	: j 562 2+10 1044		
Facximile	: 2552 3331	Facximile	: j 562 2+10 2021		
Pro@ct	: CONTRACT NO- SPk 12,2021 pSHEK k . H. I EFFL. ENT POLISHINU PLANT			Date Samwlex Recei8ed	: 05pFebp2023
Order number	: pppp	_ uote number	: HKE,2224,2021: V3	Ixxue Date	: 14pFebp2023
CpOpC number	: pppp			No- of xamwlex recei8ed	: 4
Site	:			No- of xamwlex analyxed	: 4

Thix rewort may not be rewroduced e@ewt s ith wrior s ritten awwro8al from the texting laboratory-

Thix document hax been xigned by thoxe namex that awwear on thix rewort and are the authorixed xignatoriex-

Signatoriex	*Poxition*	*Authorixed rexultx for*
Fung Lim CheeGRichard	Managing Director	InorganicxGKs ai Txing

ALS Technichem (HK) Pty Ltd
Part of the ALS Laboratory Group
11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong
Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsglobal.com

Ueneral Commentx

Thix rewort xuwerxedex any wre8ioux rewort(x) s ith the xame s or9 order number- All wagex of thix rewort ha8e been chec9ed and awwro8ed for releaxe- k hen xamwling time information ix not wro8ided by the clientGxamwling datex are xhos n s ithout a time comwonent- In thexe inxtancexGthe time comwonent hax been axxumed by the laboratory for wrocexxing wurwoxex-

Texting weriod ix from 05pFebp2023 to 13pFebp2023-

Key: LOR = Limit of reworting; CAS Number = CAS regixtry number from databaxe maintained by Chemical Abxtractx Ser8icex- The Chemical Abxtractx Ser8ice ix a di8ixion of the American Chemical Society-

Swecific Commentx for k or9 Order: HK230334W

Samwle(x) s ax, s ere xubmitted by client- Samwle(x) arri8ed laboratory in chilled condition- The rexult(x) related only to the item(x) texted-

Samwle information (Pro@ct nameGSamwle IDGSamwling date,timeGetc-) ix wro8ided by client-

Rexult(x) of xamwle(x) ix,are reworted on ax recei8ed baxixGunlexx others ixe xwecified-

Analytical Rexultx

SubpMatri@FRESH k ATER			Samwle ID	C1	C1 pD. P	M1	M1 pD. P	ppp
			Samwling date , time	05pFebp2023	05pFebp2023	05pFebp2023	05pFebp2023	ppp
Comwound	CAS Number	LOR	. nit	HK230334Wp001	HK230334Wp002	HK230334Wp003	HK230334Wp004	pppppp
EA,ED7Phyxical and Aggregate Prowertiex								
EA0267Suxwended Solidx (SS)	ppp	2-0	mg,L	+-2	/ -0	6-3	6-/	ppp

Laboratory Duwlicate (D. P) Rewort

Matri@k ATER				Laboratory Duwlicate (D. P) Rewort				
Laboratory xamwle ID	Samwle ID	Method: Comwound	CAS Number	LOR	. nit	Original Rexult	Duwlicate Rexult	RPD (%)
EA,ED7Phyxical and Aggregate Prowertiex (_ C Lot: 45+4544)								
HK230334+p001	Anonymoux	EA0267Suxwended Solidx (SS)	ppp	0-6	mg,L	W4	W2	1-W
HK2306060p003	Anonymoux	EA0267Suxwended Solidx (SS)	ppp	0-6	mg,L	2+-W	2W1	1-6

Method Blan9 (MB)GLaboratory Control Swi9e (LCS) and Laboratory Control Swi9e Duwlicate (DCS) Rewort

Matri@k ATER		Method Blan9 (MB) Rewort			Laboratory Control Swi9e (LCS) and Laboratory Control Swi9e Duwlicate (DCS) Rewort						
					Swi9e Concentration	Swi9e Recoßery (%)		Recoßery Limitx(%)		RPD (%)	
Method: Comwound	CAS Number	LOR	. nit	Rexult		LCS	DCS	Los	High	Value	Control Limit
EA,ED7Phyxical and Aggregate Prowertiex (_ C Lot: 45+4544)											
EA0267Suxwended Solidx (SS)	ppp	0-6	mg,L	<0-6	20 mg,L	/ +-6	ppp	56-1	11+	ppp	ppp

Matri@Swi9e (MS) and Matri@Swi9e Duwlicate (MSD) Rewort

- No Matri@Swi9e (MS) or Matri@Swi9e Duwlicate (MSD) Rexultx are required to be reworted-

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	: LAM ENVIRONMENTAL SERVICES LTD	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: ALEX CHAN	Contact	: Richard Fung	k or9 Order	: HK230334W
Addrexx	: 1/ ,FGREMEX CENTREG42 k ONU CH. K HANU ROADGHONU KONU	Addrexx	: 11,F-GChung Shun Knitting CentreG1 p3 k ing YiwStreetGKs ai ChungGN-T-GHong Kong Ks ai Txing Hong Kong		
Epmail	: ale@hanv lamen8iro-com	Epmail	: richard-fungv alxglobal-com		
Telewhone	: 2V8/ 562/	Telewhone	: +W52 2610 1044		
Facximile	: 2WW2 3331	Facximile	: +W52 2610 2021		
Project	: CONTRACT NO- SPk 12,2021 pSHEK k . H. I EFFL. ENT POLISHINU PLANT			Date Samwlex Recei8ed	: 10pFebp2023
Order number	: pppp	Quote number	: HKE,2224,2021_V3	Ixxue Date	: 14pFebp2023
CpOpC number	: pppp			No- of xamwlex recei8ed	: 4
Site	:			No- of xamwlex analyxed	: 4

Thix rewort may not be rewroduced e@ewt s ith wrior s ritten awwro8al from the texting laboratory-

Thix document hax been xigned by thoxe namex that awwear on thix rewort and are the authorixed xignatoriex-

Signatoriex	*Poxition*	*Authorixed rexultx for*
Fung Lim CheeGRichard	Managing Director	InorganicxGKs ai Txing

ALS Technichem (HK) Pty Ltd
Part of the ALS Laboratory Group
11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong
Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsglobal.com

Ueneral Commentx

Thix rewort xuwerxedex any wre8ioux rewort(x) s ith the xame s or9 order number- All wagex of thix rewort ha8e been chec9ed and awwro8ed for releaxe- k hen xamwling time information ix not wro8ided by the clientGxamwling datex are xhos n s ithout a time comwonent- In thexe inxtancexGthe time comwonent hax been axxumed by the laboratory for wrocexxing wurwoxex-

Texting weriod ix from 10pFebp2023 to 14pFebp2023-

Key: LOR = Limit of reworting; CAS Number = CAS regixtry number from databaxe maintained by Chemical Abxtractx Ser8icex- The Chemical Abxtractx Ser8ice ix a di8ixion of the American Chemical Society-

Swecific Commentx for k or9 Order: HK230334W

Samwle(x) s ax, s ere xubmitted by client- Samwle(x) arri8ed laboratory in ambient condition- The rexult(x) related only to the item(x) texted-

Samwle information (Project nameGSamwle IDGSamwling date,timeGetc-) ix wro8ided by client-

Rexult(x) of xamwle(x) ix,are reworted on ax recei8ed baxixGunlexx others ixe xwecified-

Analytical Rexultx

SubpMatri@FRESH k ATER			Samwle ID	C1	C1 pD. P	M1	M1 pD. P	ppp
			Samwling date , time	10pFebp2023	10pFebp2023	10pFebp2023	10pFebp2023	ppp
Comwound	CAS Number	LOR	. nit	HK230334Wp001	HK230334Wp002	HK230334Wp003	HK230334Wp004	pppppppp
EA,ED: Phyxical and Aggregate Prowertiex								
EA025: Suxwended Solidx (SS)	ppp	2-0	mg,L	12-0	11-7	26-0	25-4	ppp

Laboratory Duwlicate (D. P) Rework

Matri@k ATER				Laboratory Duwlicate (D. P) Rework				
Laboratory xamwle ID	Samwle ID	Method: Comwound	CAS Number	LOR	. nit	Original Rexult	Duwlicate Rexult	RPD (%)
EA,ED: Phyxical and Aggregate Prowertiex (QC Lot: 4V6V076)								
HK230334Wp001	C1	EA025: Suxwended Solidx (SS)	ppp	0-5	mg,L	12-0	11-5	4-7

Method Blan9 (MB)CLaboratory Control Swi9e (LCS) and Laboratory Control Swi9e Duwlicate (DCS) Rework

Matri@k ATER		Method Blan9 (MB) Rework			Laboratory Control Swi9e (LCS) and Laboratory Control Swi9e Duwlicate (DCS) Rework						
					Swi9e Concentration	Swi9e Recoßery (%)		Recoßery Limitx (%)		RPD (%)	
Method: Comwound	CAS Number	LOR	. nit	Rexult		LCS	DCS	Los	High	Value	Control Limit
EA,ED: Phyxical and Aggregate Prowertiex (QC Lot: 4V6V076)											
EA025: Suxwended Solidx (SS)	ppp	0-5	mg,L	<0-5	20 mg,L	102	ppp	W5-1	116	ppp	ppp

Matri@Swi9e (MS) and Matri@Swi9e Duwlicate (MSD) Rework

- No Matri@Swi9e (MS) or Matri@Swi9e Duwlicate (MSD) Rexultx are required to be reworted-

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	: LAM ENVIRONMENTAL SERVICES LTD	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: ALEX CHAN	Contact	: Richard Fung	k or9 Order	: HK230334W
Address	: 1WF, REMEX CENTRE, 42 k ONG CHUK HANG ROAD, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 k ing Yip Street, Kwai Chung, N.T., Hong Kong Kwai Tsing Hong Kong		
E-mail	: alexchan@lamenviro.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: 283W562W	Telephone	: +852 2610 1044		
Facsimile	: 2882 3331	Facsimile	: +852 2610 2021		
Project	: CONTRACT NO. SPk 12/2021 - SHEK k U HUI EFFLUENT POLISHING PLANT			Date Samples Received	: 13-Feb-2023
Order number	: —	Quote number	: HKE/2224/2021_V3	Issue Date	: 15-Feb-2023
C-O-C number	: —			No. of samples received	: 4
Site	:			No. of samples analysed	: 4

This report may not be reproduced except with prior written approval from the testing laboratory.

This document has been signed by those names that appear on this report and are the authorised signatories.

Signatories	Position	Authorised results for
Fung Lim Chee, Richard	Managing Director	Inorganics, Kwai Tsing

General Comments

This report supersedes any previous report(s) with the same wor9 order number. All pages of this report have been chec9ed and approved for release. k hen sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Testing period is from 13-Feb-2023 to 15-Feb-2023.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for k or9 Order: HK230334W

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

Result(s) of sample(s) is/are reported on as received basis, unless otherwise specified.

Analytical Results

Sub-Matrix: FRESH k ATER			Sample ID	C1	C1 - DUP	M1	M1 - DUP	—
			Sampling date / time	13-Feb-2023	13-Feb-2023	13-Feb-2023	13-Feb-2023	----
Compound	CAS Number	LOR	Unit	HK230334W001	HK230334W002	HK230334W003	HK230334W004	——
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2.0	mg/L	7.0	7.6	11.2	11.2	—

Laboratory Duplicate (DUP) Report

Matrix: k ATER

				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 4870608)								
HK230334W001	C1	EA025: Suspended Solids (SS)	----	0.5	mg/L	7.0	6.7	5.1

Method Blan9 (MB), Laboratory Control Spi9e (LCS) and Laboratory Control Spi9e Duplicate (DCS) Report

Matrix: k ATER

		Method Blan9 (MB) Report			Laboratory Control Spl9e (LCS) and Laboratory Control Spl9e Duplicate (DCS) Report						
					Spl9e Concentration	Spl9e Recovery (%)		Recovery Limits(%)		RPD (%)	
Method: Compound	CAS Number	LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 4870608)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	W.5	----	85.1	116	----	----

Matrix Spi9e (MS) and Matrix Spi9e Duplicate (MSD) Report

- No Matrix Spl9e (MS) or Matrix Spl9e Duplicate (MSD) Results are required to be reported.

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ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	: LAM ENVIRONMENTAL SERVICES LTD	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: ALEX CHAN	Contact	: Richard Fung	k or9 Order	: HK23033V0
Addrexx	: 1/ ,FGREMEX CENTREG42 k ONU CH. K HANU ROADGHONU KONU	Addrexx	: 11,F-GChung Shun Knitting CentreGI p3 k ing YiwStreetGKs ai ChungGN-T-GHong Kong Ks ai Txing Hong Kong		
Epmail	: ale@hanv lamen8iro-com	Epmail	: richard-fungv alxglobal-com		
Telewhone	: 253/ V62/	Telewhone	: +5V2 2610 1044		
Facximile	: 2552 3331	Facximile	: +5V2 2610 2021		
Project	: CONTRACT NO- SPk 12,2021 pSHEK k . H. I EFFL. ENT POLISHINU PLANT			Date Samwlex Recei8ed	: 1WpFebp2023
Order number	: ppp	Quote number	: HKE,2224,2021_V3	Ixxue Date	: 22pFebp2023
CpOpC number	: ppp			No- of xamwlex recei8ed	: 4
Site	:			No- of xamwlex analyxed	: 4

Thix rewort may not be rewroduced e@ewt s ith wrior s ritten awwro8al from the texting laboratory-

Thix document hax been xigned by thoxe namex that awwear on thix rewort and are the authorixed xignatoriex-

Signatoriex	*Poxition*	*Authorixed rexultx for*
Fung Lim CheeGRichard	Managing Director	InorganicxGKs ai Txing

Ueneral Commentx

Thix rewort xuwerxedex any wre8ioux rewort(x) s ith the xame s or9 order number- All wagex of thix rewort ha8e been chec9ed and awwro8ed for releaxe- k hen xamwling time information ix not wro8ided by the clientGxamwling datex are xhos n s ithout a time comwonent- In thexe inxtancexGthe time comwonent hax been axxumed by the laboratory for wrocexxing wurwoxex- Texting weriod ix from 1WpFebp2023 to 21pFebp2023-

Key: LOR = Limit of reworting; CAS Number = CAS regixtry number from databaxe maintained by Chemical Abxtractx Ser8icex- The Chemical Abxtractx Ser8ice ix a di8ixion of the American Chemical Society-

Swecific Commentx for k or9 Order: HK23033V0

Samwle(x) s ax, s ere xubmitted by client- Samwle(x) arri8ed laboratory in ambient condition- The rexult(x) related only to the item(x) texted-

Samwle information (Project nameGSamwle IDGSamwling date,timeGetc-) ix wro8ided by client-

Rexult(x) of xamwle(x) ix,are reworted on ax recei8ed baxixGunlexx others ixe xwecified-

Analytical Rexultx

SubpMatri@FRESH k ATER			Samwle ID	C1	C1 pD. P	M1	M1 pD. P	ppp
			Samwling date , time	1WpFebp2023	1WpFebp2023	1WpFebp2023	1WpFebp2023	ppp
Comwound	CAS Number	LOR	. nit	HK23033V0p001	HK23033V0p002	HK23033V0p003	HK23033V0p004	pppppppp
EA,ED: Phyxical and Aggregate Prowertiex								
EA02W Suxwended Solidx (SS)	ppp	2-0	mg,L	W4	W4	6-1	6-7	ppp

Laboratory Duwlicate (D. P) Rewort

Matri@k ATER				Laboratory Duwlicate (D. P) Rewort				
Laboratory xamwle ID	Samwle ID	Method: Comwound	CAS Number	LOR	. nit	Original Rexult	Duwlicate Rexult	RPD (%)
EA,ED: Phyxical and Aggregate Prowertiex (QC Lot: 4551425)								
HK23033V0p001	C1	EA02W Suxwended Solidx (SS)	ppp	0-W	mg,L	W4	W5	6-2

Method Blan9 (MB)CLaboratory Control Swi9e (LCS) and Laboratory Control Swi9e Duwlicate (DCS) Rewort

Matri@k ATER		Method Blan9 (MB) Rewort			Laboratory Control Swi9e (LCS) and Laboratory Control Swi9e Duwlicate (DCS) Rewort						
					Swi9e Concentration	Swi9e Recoßery (%)		Recoßery Limitx (%)		RPD (%)	
Method: Comwound	CAS Number	LOR	. nit	Rexult		LCS	DCS	Los	High	Value	Control Limit
EA,ED: Phyxical and Aggregate Prowertiex (QC Lot: 4551425)											
EA02W Suxwended Solidx (SS)	ppp	0-W	mg,L	<0-W	20 mg,L	/ / -0	ppp	5W1	116	ppp	ppp

Matri@Swi9e (MS) and Matri@Swi9e Duwlicate (MSD) Rewort

- No Matri@Swi9e (MS) or Matri@Swi9e Duwlicate (MSD) Rexultx are required to be reworted-

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	: LAM ENVIRONMENTAL SERVICES LTD	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: ALEX CHAN	Contact	: Richard Fung	k or9 Order	: HK23033W1
Addrexx	: 1/ ,FGREMEX CENTREG42 k ONU CH. K HANU ROADGHONU KONU	Addrexx	: 11,F-GChung Shun Knitting CentreG1 p3 k ing YiwStreetGKs ai ChungGN-T-GHong Kong Ks ai Txing Hong Kong		
Epmail	: ale@hanv lamen8iro-com	Epmail	: richard-fungv alxglobal-com		
Telewhone	: 253/ W62/	Telewhone	: +5W2 2610 1044		
Facximile	: 2552 3331	Facximile	: +5W2 2610 2021		
Project	: CONTRACT NO- SPk 12,2021 pSHEK k . H. I EFFL. ENT POLISHINU PLANT			Date Samwlex Recei8ed	: 1QpFebp2023
Order number	: pppp	_ uote number	: HKE,2224,2021: V3	Ixxue Date	: 22pFebp2023
CpOpC number	: pppp			No- of xamwlex recei8ed	: 4
Site	:			No- of xamwlex analyxed	: 4

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Signatoriex	*Poxition*	*Authorixed rexultx for*
Fung Lim CheeGRichard	Managing Director	InorganicxGKs ai Txing

ALS Technichem (HK) Pty Ltd
Part of the ALS Laboratory Group
11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong
Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsglobal.com

Ueneral Commentx

Thix rewort xuwerxedex any wre8ioux rewort(x) s ith the xame s or9 order number- All wagex of thix rewort ha8e been chec9ed and awwro8ed for releaxe- k hen xamwling time information ix not wro8ided by the clientGxamwling datex are xhos n s ithout a time comwonent- In thexe inxtancexGthe time comwonent hax been axxumed by the laboratory for wrocexxing wurwoxex-

Texting weriod ix from 1QpFebp2023 to 21pFebp2023-

Key: LOR = Limit of reworting; CAS Number = CAS regixtry number from databaxe maintained by Chemical Abxtractx Ser8icex- The Chemical Abxtractx Ser8ice ix a di8ixion of the American Chemical Society-

Swecific Commentx for k or9 Order: HK23033W1

Samwle(x) s ax, s ere xubmitted by client- Samwle(x) arri8ed laboratory in chilled condition- The rexult(x) related only to the item(x) texted-

Samwle information (Project nameGSamwle IDGSamwling date,timeGetc-) ix wro8ided by client-

Rexult(x) of xamwle(x) ix,are reworted on ax recei8ed baxixGunlexx others ixe xwecified-

Analytical Rexultx

SubpMatri@FRESH k ATER			Samwle ID	C1	C1 pD. P	M1	M1 pD. P	ppp
			Samwling date , time	1QFebp2023	1QFebp2023	1QFebp2023	1QFebp2023	ppp
Comwound	CAS Number	LOR	. nit	HK23033Wp001	HK23033Wp002	HK23033Wp003	HK23033Wp004	pppppp
EA,ED7Phyxical and Aggregate Prowertiex								
EA02W7Suxwended Solidx (SS)	ppp	2-0	mg,L	QQ	5-0	/ -0	/ -2	ppp

Laboratory Duwlicate (D. P) Rewort

Matri@k ATER				Laboratory Duwlicate (D. P) Rewort				
Laboratory xamwle ID	Samwle ID	Method: Comwound	CAS Number	LOR	. nit	Original Rexult	Duwlicate Rexult	RPD (%)
EA,ED7Phyxical and Aggregate Prowertiex (_ C Lot: 4551425)								
HK23033W0p001	Anonymoux	EA02W7Suxwended Solidx (SS)	ppp	0-W	mg,L	W4	W5	6-2

Method Blan9 (MB)CLaboratory Control Swi9e (LCS) and Laboratory Control Swi9e Duwlicate (DCS) Rewort

Matri@k ATER		Method Blan9 (MB) Rewort			Laboratory Control Swi9e (LCS) and Laboratory Control Swi9e Duwlicate (DCS) Rewort						
					Swi9e Concentration	Swi9e Recoßery (%)		Recoßery Limitx (%)		RPD (%)	
Method: Comwound	CAS Number	LOR	. nit	Rexult		LCS	DCS	Los	High	Value	Control Limit
EA,ED7Phyxical and Aggregate Prowertiex (_ C Lot: 4551425)											
EA02W7Suxwended Solidx (SS)	ppp	0-W	mg,L	<0-W	20 mg,L	/ / -0	ppp	5W1	116	ppp	ppp

Matri@Swi9e (MS) and Matri@Swi9e Duwlicate (MSD) Rewort

- No Matri@Swi9e (MS) or Matri@Swi9e Duwlicate (MSD) Rexultx are required to be reworted-

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	: LAM ENVIRONMENTAL SERVICES LTD	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: ALEX CHAN	Contact	: Richard Fung	k or9 Order	: HK23033V2
Addrexx	: 1/ ,FGREMEX CENTREG42 k ONU CH. K HANU ROADGHONU KONU	Addrexx	: 11,F-GChung Shun Knitting CentreGI p3 k ing YiwStreetGKs ai ChungGN-T-GHong Kong Ks ai Txing Hong Kong		
Epmail	: ale@hanv lamen8iro-com	Epmail	: richard-fungv alxglobal-com		
Telewhone	: 253/ V62/	Telewhone	: +5V2 2610 1044		
Facximile	: 2552 3331	Facximile	: +5V2 2610 2021		
Project	: CONTRACT NO- SPk 12,2021 pSHEK k . H. I EFFL. ENT POLISHINU PLANT			Date Samwlex Recei8ed	: 22pFebp2023
Order number	: ppp	Quote number	: HKE,2224,2021_V3	Ixxue Date	: 25pFebp2023
CpOpC number	: ppp			No- of xamwlex recei8ed	: 4
Site	:			No- of xamwlex analyxed	: 4

Thix rewort may not be rewroduced e@ewt s ith wrior s ritten awwro8al from the texting laboratory-

Thix document hax been xigned by thoxe namex that awwear on thix rewort and are the authorixed xignatoriex-

Signatoriex	*Poxition*	*Authorixed rexultx for*
Fung Lim CheeGRichard	Managing Director	InorganicxGKs ai Txing

Ueneral Commentx

Thix rewort xuwerxedex any wre8ioux rewort(x) s ith the xame s or9 order number- All wagex of thix rewort ha8e been chec9ed and awwro8ed for releaxe- k hen xamwling time information ix not wro8ided by the clientGxamwling datex are xhos n s ithout a time comwonent- In thexe inxtancexGthe time comwonent hax been axxumed by the laboratory for wrocexxing wurwoxex- Texting weriod ix from 22pFebp2023 to 25pFebp2023-

Key: LOR = Limit of reworting; CAS Number = CAS regixtry number from databaxe maintained by Chemical Abxtractx Ser8icex- The Chemical Abxtractx Ser8ice ix a di8ixion of the American Chemical Society-

Swecific Commentx for k or9 Order: HK23033V2

Samwle(x) s ax, s ere xubmitted by client- Samwle(x) arri8ed laboratory in ambient condition- The rexult(x) related only to the item(x) texted-

Samwle information (Project nameGSamwle IDGSamwling date,timeGetc-) ix wro8ided by client-

Rexult(x) of xamwle(x) ix,are reworted on ax recei8ed baxixGunlexx others ixe xwecified-

Analytical Rexultx

SubpMatri@FRESH k ATER			Samwle ID	C1	C1 pD. P	M1	M1 pD. P	ppp
			Samwling date , time	20pFebp2023	20pFebp2023	20pFebp2023	20pFebp2023	ppp
Comwound	CAS Number	LOR	. nit	HK23033W2p001	HK23033W2p002	HK23033W2p003	HK23033W2p004	pppppp
EA,ED: Phyxical and Aggregate Prowertiex								
EA02W Suxwended Solidx (SS)	ppp	2-0	mg,L	/ -4	5-4	5-5	7-6	ppp

Laboratory Duwlicate (D. P) Rewort

Matri@k ATER					Laboratory Duwlicate (D. P) Rewort				
Laboratory xamwle ID	Samwle ID	Method: Comwound	CAS Number		LOR	. nit	Original Rexult	Duwlicate Rexult	RPD (%)
EA,ED: Phyxical and Aggregate Prowertiex (QC Lot: 45/ 6640)									
HK23033W2p001	C1	EA02W Suxwended Solidx (SS)		ppp	0-W	mg,L	/ -4	/ -2	2-2
HK23033W4p003	Anonymoux	EA02W Suxwended Solidx (SS)		ppp	0-W	mg,L	12-3	12-6	3-0

Method Blan9 (MB)&Laboratory Control Swi9e (LCS) and Laboratory Control Swi9e Duwlicate (DCS) Rewort

Matri@k ATER			Method Blan9 (MB) Rewort			Laboratory Control Swi9e (LCS) and Laboratory Control Swi9e Duwlicate (DCS) Rewort						
						Swi9e Concentration	Swi9e Recoßery (%)		Recoßery Limitx(%)		RPD (%)	
Method: Comwound		CAS Number	LOR	. nit	Rexult		LCS	DCS	Los	High	Value	Control Limit
EA,ED: Phyxical and Aggregate Prowertiex (QC Lot: 45/ 6640)												
EA02W Suxwended Solidx (SS)		ppp	0-W	mg,L	<0-W	20 mg,L	/ 4-0	ppp	5W1	116	ppp	ppp

Matri@Swi9e (MS) and Matri@Swi9e Duwlicate (MSD) Rewort

- No Matri@Swi9e (MS) or Matri@Swi9e Duwlicate (MSD) Rexultx are required to be reworted-

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	: LAM ENVIRONMENTAL SERVICES LTD	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: ALEX CHAN	Contact	: Richard Fung	Work Order	: HK2303353
Address	: 19/F, REMEX CENTRE, 42 WONG CHUK HANG ROAD, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong Kwai Tsing Hong Kong		
E-mail	: alexchan@lamenviro.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: 2839 5629	Telephone	: +852 2610 1044		
Facsimile	: 2882 3331	Facsimile	: +852 2610 2021		
Project	: CONTRACT NO. SPW 12/2021 - SHEK WU HUI EFFLUENT POLISHING PLANT			Date Samples Received	: 22-Feb-2023
Order number	: —	Quote number	: HKE/2224/2021_V3	Issue Date	: 28-Feb-2023
C-O-C number	: —			No. of samples received	: 4
Site	:			No. of samples analysed	: 4

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This document has been signed by those names that appear on this report and are the authorised signatories.

Signatories	Position	Authorised results for
Fung Lim Chee, Richard	Managing Director	Inorganics, Kwai Tsing

General Comments

This report supersedes any previous report(s) with the same work order number. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Testing period is from 22-Feb-2023 to 28-Feb-2023.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order: HK2303353

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

Result(s) of sample(s) is/are reported on as received basis, unless otherwise specified.

Analytical Results

Sub-Matrix: FRESH WATER			Sample ID	C1	C1 - DUP	M1	M1 - DUP	—
			Sampling date / time	22-Feb-2023	22-Feb-2023	22-Feb-2023	22-Feb-2023	----
Compound	CAS Number	LOR	Unit	HK2303353-001	HK2303353-002	HK2303353-003	HK2303353-004	——
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2.0	mg/L	8.8	9.2	8.0	9.4	—

Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 4896640)								
HK2303352-001	Anonymous	EA025: Suspended Solids (SS)	----	0.5	mg/L	9.4	9.2	2.2
HK2303354-003	Anonymous	EA025: Suspended Solids (SS)	----	0.5	mg/L	12.3	12.6	3.0

Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report

Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
Method: Compound	CAS Number	LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 4896640)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	94.0	----	85.1	116	----	----

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

- No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	: LAM ENVIRONMENTAL SERVICES LTD	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: ALEX CHAN	Contact	: Richard Fung	Work Order	: HK2303354
Address	: 19/F, REMEX CENTRE, 42 WONG CHUK HANG ROAD, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong Kwai Tsing Hong Kong		
E-mail	: alexchan@lamenviro.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: 2839 5629	Telephone	: +852 2610 1044		
Facsimile	: 2882 3331	Facsimile	: +852 2610 2021		
Project	: CONTRACT NO. SPW 12/2021 - SHEK WU HUI EFFLUENT POLISHING PLANT			Date Samples Received	: 24-Feb-2023
Order number	: —	Quote number	: HKE/2224/2021_V3	Issue Date	: 28-Feb-2023
C-O-C number	: —			No. of samples received	: 4
Site	:			No. of samples analysed	: 4

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This document has been signed by those names that appear on this report and are the authorised signatories.

Signatories	Position	Authorised results for
Fung Lim Chee, Richard	Managing Director	Inorganics, Kwai Tsing

General Comments

This report supersedes any previous report(s) with the same work order number. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Testing period is from 24-Feb-2023 to 28-Feb-2023.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order: HK2303354

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in chilled condition. The result(s) related only to the item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

Result(s) of sample(s) is/are reported on as received basis, unless otherwise specified.

Analytical Results

Sub-Matrix: FRESH WATER			Sample ID	C1	C1 - DUP	M1	M1 - DUP	—
			Sampling date / time	24-Feb-2023	24-Feb-2023	24-Feb-2023	24-Feb-2023	----
Compound	CAS Number	LOR	Unit	HK2303354-001	HK2303354-002	HK2303354-003	HK2303354-004	———
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2.0	mg/L	10.5	9.8	12.3	11.0	—

Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 4896640)								
HK2303352-001	Anonymous	EA025: Suspended Solids (SS)	----	0.5	mg/L	9.4	9.2	2.2
HK2303354-003	M1	EA025: Suspended Solids (SS)	----	0.5	mg/L	12.3	12.6	3.0

Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report

Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
Method: Compound	CAS Number	LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 4896640)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	94.0	----	85.1	116	----	----

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

- No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	: LAM ENVIRONMENTAL SERVICES LTD	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: ALEX CHAN	Contact	: Richard Fung	k or9 Order	: HK23033WW
Addrexx	: 1/ ,FGREMEX CENTREG42 k ONU CH. K HANU ROADGHONU KONU	Addrexx	: 11,F-GChung Shun Knitting CentreG1 p3 k ing YiwStreetGKs ai ChungGN-T-GHong Kong Ks ai Txing Hong Kong		
Epmail	: ale@hanv lamen8iro-com	Epmail	: richard-fungv alxglobal-com		
Telewhone	: 253/ W62/	Telewhone	: +5W2 2610 1044		
Facximile	: 2552 3331	Facximile	: +5W2 2610 2021		
Project	: CONTRACT NO- SPk 12,2021 pSHEK k . H. I EFFL. ENT POLISHINU PLANT			Date Samwlex Recei8ed	: 01pMarp2023
Order number	: pppp	_ uote number	: HKE,2224,2021: V3	Ixxue Date	: 0QpMarp2023
CpOpC number	: pppp			No- of xamwlex recei8ed	: 4
Site	:			No- of xamwlex analyxed	: 4

Thix rewort may not be rewroduced e@ewt s ith wrior s ritten awwro8al from the texting laboratory-

Thix document hax been xigned by thoxe namex that awwear on thix rewort and are the authorixed xignatoriex-

Signatoriex	*Poxition*	*Authorixed rexultx for*
Fung Lim CheeGRichard	Managing Director	InorganicxGKs ai Txing

ALS Technichem (HK) Pty Ltd
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Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsglobal.com

Ueneral Commentx

Thix rewort xuwerxedex any wre8ioux rewort(x) s ith the xame s or9 order number- All wagex of thix rewort ha8e been chec9ed and awwro8ed for releaxe- k hen xamwling time information ix not wro8ided by the clientGxamwling datex are xhos n s ithout a time comwonent- In thexe inxtancexGthe time comwonent hax been axxumed by the laboratory for wrocexxing wurwoxex-

Texting weriod ix from 01pMarp2023 to 0QpMarp2023-

Key: LOR = Limit of reworting; CAS Number = CAS regixtry number from databaxe maintained by Chemical Abxtractx Ser8icex- The Chemical Abxtractx Ser8ice ix a di8ixion of the American Chemical Society-

Swecific Commentx for k or9 Order: HK23033WW

Samwle(x) s ax, s ere xubmitted by client- Samwle(x) arri8ed laboratory in ambient condition- The rexult(x) related only to the item(x) texted-

Samwle information (Project nameGSamwle IDGSamwling date,timeGetc-) ix wro8ided by client-

Rexult(x) of xamwle(x) ix,are reworted on ax recei8ed baxixGunlexx others ixe xwecified-

Analytical Rexultx

SubpMatri@FRESH k ATER			Samwle ID	C1	C1 pD. P	M1	M1 pD. P	ppp
			Samwling date , time	2QpFebp2023	2QpFebp2023	2QpFebp2023	2QpFebp2023	ppp
Comwound	CAS Number	LOR	. nit	HK23033WWp001	HK23033WWp002	HK23033WWp003	HK23033WWp004	pppppppp
EA,ED7Phyxical and Aggregate Prowertiex								
EA02W7Suxwended Solidx (SS)	ppp	2-0	mg,L	6-6	6-0	6-0	W3	ppp

Laboratory Duwlicate (D. P) Rewort

Matri@k ATER					Laboratory Duwlicate (D. P) Rewort				
Laboratory xamwle ID	Samwle ID	Method: Comwound	CAS Number		LOR	. nit	Original Rexult	Duwlicate Rexult	RPD (%)
EA,ED7Phyxical and Aggregate Prowertiex (_ C Lot: 4/ 10514)									
HK23033WWp001	C1	EA02W7Suxwended Solidx (SS)	ppp		0-W	mg,L	6-6	6-3	W0
HK230QWW2p003	Anonymoux	EA02W7Suxwended Solidx (SS)	ppp		0-W	mg,L	5-4	Q/	W2

Method Blan9 (MB)GLaboratory Control Swi9e (LCS) and Laboratory Control Swi9e Duwlicate (DCS) Rewort

Matri@k ATER				Method Blan9 (MB) Rewort				Laboratory Control Swi9e (LCS) and Laboratory Control Swi9e Duwlicate (DCS) Rewort					
						Swi9e Concentration	Swi9e Recoßery (%)		Recoßery Limitx(%)		RPD (%)		
Method: Comwound		CAS Number	LOR	. nit	Rexult		LCS	DCS	Los	High	Value	Control Limit	
EA,ED7Phyxical and Aggregate Prowertiex (_ C Lot: 4/ 10514)													
EA02W7Suxwended Solidx (SS)		ppp	0-W	mg,L	<0-W	20 mg,L	/ 6-W	ppp	5W1	116	ppp	ppp	

Matri@Swi9e (MS) and Matri@Swi9e Duwlicate (MSD) Rewort

- No Matri@Swi9e (MS) or Matri@Swi9e Duwlicate (MSD) Rexultx are required to be reworted-

Appendix 5.9

Monthly Summary Waste Flow Table

Name of Department: DSD

Contract No. DC/2018/06

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 '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m3)
Jan	0.442	0.000	0.000	0.000	0.442	3.796	0.000	0.000	0.000	0.000	0.061
Feb	0.618	0.000	0.000	0.000	0.618	2.870	0.000	0.000	0.000	0.000	0.064
Mar											
Apr											
May											
Jun											
Sub-total	1.060	0.000	0.000	0.000	1.060	6.666	0.000	0.000	0.000	0.000	0.125
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	1.060	0.000	0.000	0.000	1.060	6.666	0.000	0.000	0.000	0.000	0.125

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 assued 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 cut off date of the quanities of C&D material disposed at Public Fill Facilities and Landfill was 22/2/2023.

Name of Department: DSD

Contract No. DC/2018/07

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 '000m3)
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											
Apr											
May											
Jun											
Sub-total											
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	12.911	0.000	0.000	0.000	12.911	0.132	0.000	0.000	0.000	0.000	0.094

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 assued 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

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											
Apr											
May											
June											
Sub-total											
July											
Aug											
Sept											
Oct											
Nov											
Dec											
Total	0	0	0	0	0	0	0	0.13	0	0	27.84T

Name of Department: DSD Contract No.: DE/2018/04

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											
Apr											
May											
June											
Sub-total	7.26	0	0	0	7.26	0	0	0	0	0	1.97
July											
Aug											
Sept											
Oct											
Nov											
Dec											
Total	7.26	0	0	0	7.26	0	0	0	0	0	1.97

Appendix 5.10

Exceedance Investigation Finding

Appendix 5.10a

Photo Record for

Out-site Boundary

Photo record of outside boundary taken on 7 March 2023

Appendix 5.10b

Site Diary

From Engineer Respective

Diary Date	Section	Location	Sub Location	Team	Period	Activity
2023/02/28	Portion C	Portion C	Outfall	Team 1	08:00 - 18:00	1.No activity
2023/02/27	Portion C	Portion C	Outfall	Team 1	08:00 - 18:00	1.General site work
2023/02/26	Portion C	Portion C	Outfall	Team 1	08:00 - 18:00	No activity on Sunday
2023/02/25	Portion C	Portion C	Outfall	Team 1	08:00 - 18:00	1.General site work
2023/02/24	Portion C	Portion C	Outfall	Team 1	08:00 - 18:00	1.General site work
2023/02/23	Portion C	Portion C	Outfall	Team 1	08:00 - 18:00	1.Excavation work & Pouring no fine concrete of slope
2023/02/22	Portion C	Portion C	Outfall	Team 1	08:00 - 18:00	No activity
2023/02/21	Portion C	Portion C	Outfall	Team 1	08:00 - 18:00	No activity
2023/02/20	Portion C	Portion C	Outfall	Team 1	08:00 - 18:00	No activity
2023/02/19	Portion C	Portion C	Outfall	Team 1	08:00 - 18:00	No activity on Sunday
2023/02/18	Portion C	Portion C	Outfall	Team 1	08:00 - 18:00	1.Pouring No Fines concrete of slope
2023/02/17	Portion C	Portion C	Outfall	Team 1	08:00 - 18:00	1.Pouring No Fines concrete of slope
2023/02/16	Portion C	Portion C	Outfall	Team 1	08:00 - 18:00	1.Pouring No Fines concrete of slope
2023/02/15	Portion C	Portion C	Outfall	Team 1	08:00 - 18:00	No activity
2023/02/14	Portion C	Portion C	Outfall	Team 1	08:00 - 18:00	No activity
2023/02/13	Portion C	Portion C	Outfall	Team 1	08:00 - 18:00	No activity
2023/02/12	Portion C	Portion C	Outfall	Team 1	08:00 - 18:00	No activity on Sunday
2023/02/11	Portion C	Portion C	Outfall	Team 1	08:00 - 18:00	No activity
2023/02/10	Portion C	Portion C	Outfall	Team 1	08:00 - 18:00	1. General site work
2023/02/09	Portion C	Portion C	Outfall	Team 1	08:00 - 18:00	1. General site work
2023/02/08	Portion C	Portion C	Outfall	Team 1	08:00 - 18:00	1. General site work 2. Laying Geotextile of slope
2023/02/07	Portion C	Portion C	Outfall	Team 1	08:00 - 18:00	1. General site work 2. Pouring No Fines concrete for slope
2023/02/06	Portion C	Portion C	Outfall	Team 1	08:00 - 18:00	1. General site work 2. Pouring No Fines concrete for slope
2023/02/05	Portion C	Portion C	Outfall	Team 1	08:00 - 18:00	No activity on Sunday
2023/02/04	Portion C	Portion C	Outfall	Team 1	08:00 - 18:00	1. General site work 2. Pouring No Fines concrete for slope

Appendix 5.10c

Site Photo Record

Taken During WQM

Photo record from ET Team on 1 Feb 2023

Photo record from ET Team on 3 Feb 2023

Photo record from ET Team on 6 Feb 2023

Photo record from ET Team on 8 Feb 2023

Photo record from ET Team on 10 Feb 2023

Photo record from ET Team on 13 Feb 2023

Photo record from ET Team on 15 Feb 2023

Photo record from ET Team on 17 Feb 2023

Photo record from ET Team on 20 Feb 2023

Photo record from ET Team on 22 Feb 2023

Photo record from ET Team on 24 Feb 2023

Photo record from ET Team on 27 Feb 2023

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	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;	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.	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.	1. Submit noise mitigation proposals to IEC; 2. Implement noise mitigation proposals.
Limit Level exceeded	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.	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	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.	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	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.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method.	1. Notify the Contractor.	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	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.	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.	1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	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	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	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.	1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	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	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.	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.	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.	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	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.	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..	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.	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	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	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.	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.	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.

Event and Action Plan for Water Quality Monitoring

Event	Action			
	ET	IEC	ER	Contractor
Action Level				
Action level being exceeded by one sampling day	1. Repeat in situ measurement on the next day of exceedance to confirm findings; 2. Check monitoring data, plant, equipment and Contractor(s)'s working methods; 3. Identify source(s) of impact and record in notification of exceedance; 4. Inform IEC, Contractor(s) and ER	1. Check monitoring data submitted by ET and Contractor(s)'s working methods; 2. Inform EPD.	1. Confirm receipt of notification of exceedance in writing	1. Confirm receipt of notification of exceedance in writing; 2. Check plant and equipment and rectify unacceptable practice
Action level being exceeded by two or more consecutive sampling	1. Repeat in situ measurement on the next day of exceedance to confirm findings; 2. Check monitoring data, plant, equipment and Contractor(s)'s working methods; 3. Identify source(s) of impact and record in notification of exceedance; 4. Inform IEC, Contractor(s) and ER; 5. Discuss with IEC and Contractor(s) on additional mitigation measures and ensure that they are implemented.	1. Check monitoring data submitted by ET and Contractor(s)'s working methods; 2. Inform EPD; 3. Discuss with ET and Contractor(s) on additional mitigation measures and advise ER accordingly; 4. Assess the effectiveness of the implemented mitigation measures.	1. Confirm receipt of notification of exceedance in writing; 2. Discuss with the IEC on the proposed additional mitigation measures and agree on the mitigation measures to be implemented. 3. Ensure additional mitigation measures are properly implemented.	1. Confirm receipt of notification of exceedance in writing; 2. Check plant and equipment and rectify unacceptable practice; 3. Consider changes of working methods; 4. Discuss with ET and IEC on additional mitigation measures and propose them to ER within 3 working days; 5. Implement the agreed.

Event	Action			
	ET	IEC	ER	Contractor
Limit Level				
Limit level being exceeded by one sampling day	1. Repeat in situ measurement on the next day of exceedance to confirm findings; 2. Check monitoring data, plant, equipment and Contractor(s)'s working methods; 3. Identify source(s) of impact and record in notification of exceedance; 4. Inform IEC, Contractor(s) and ER; 5. Discuss with IEC and Contractor(s) on additional mitigation measures and ensure that they are implemented.	1. Check monitoring data submitted by ET and Contractor(s)'s working methods; 2. Inform EPD; 3. Discuss with ET and Contractor(s) on additional mitigation measures and advise ER accordingly; 4. Assess the effectiveness of the implemented mitigation measures.	1. Confirm receipt of notification of exceedance in writing; 2. Discuss with the IEC on the proposed additional mitigation measures and agree on the mitigation measures to be implemented. 3. Ensure additional mitigation measures are properly implemented. 4. Request Contractor(s) to critically review the working methods.	1. Confirm receipt of notification of exceedance in writing; 2. Check plant and equipment and rectify unacceptable practice; 3. Critically review the need to change working methods; 4. Discuss with ET and IEC on additional mitigation measures and propose them to ER within 3 working days; 5. Implement the agreed mitigation measures.
Limit level being exceeded by two or more consecutive sampling days	1. Repeat in situ measurement on the next day of exceedance to confirm findings; 2. Check monitoring data, plant, equipment and Contractor(s)'s working methods; 3. Identify source(s) of impact and record in notification of exceedance; 4. Inform IEC, Contractor(s) and ER; 5. Discuss with IEC and Contractor(s) on additional mitigation measures and ensure that they are implemented.	1. Check monitoring data submitted by ET and Contractor(s)'s working methods; 2. Inform EPD; 3. Discuss with ET and Contractor(s) on additional mitigation measures and advise ER accordingly; 4. Assess the effectiveness of the implemented mitigation measures.	1. Confirm receipt of notification of exceedance in writing; 2. Discuss with the IEC on the proposed additional mitigation measures and agree on the mitigation measures to be implemented. 3. Ensure additional mitigation measures are properly implemented. 4. Request Contractor(s) to critically review the working methods.	1. Confirm receipt of notification of exceedance in writing; 2. Check plant and equipment and rectify unacceptable practice; 3. Critically review the need to change working methods; 4. Discuss with ET and IEC on additional mitigation measures and propose them to ER within 3 working days; 5. Implement the agreed mitigation measures.

Appendix 6.2

Summary of Notification of Exceedance

Summary for Notification of Exceedance

Reporting Period: February 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
-	-	-	-	-	-	-	-	-

Ref no.	Date	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	Ref no.
SWH_026_w	1-Feb-23	M1	DO (mg/L)	**7.48 mg/L (Limit Level Exceedance)**	<7.8 mg/L	<7.7 mg/L	Cause of Exceedance: ET's conclusions and recommendations for mitigation: Contractor's actions to implement the mitigation:	Unknown pollution source from upstream of Ng Tung River Exceedance not related to project, advised contractor to maintain on-going water mitigation measures. Construction activities were checked; Outfall was checked and no soil or water dropped from outfall was observed.
		C1 (Control Station for comparing to the impact station - M1)	DO (mg/L)	8.19 mg/L			Action taken under EAP:	1. ET repeated in situ measurement immediately to confirm findings, the difference between 1st and 2nd monitoring results was very small. 2. ET checked the monitoring data, plant and equipment, and no abnormality was identified. 3. Contractor had reviewed the construction method for the outfall, only E&M works was conducted on outfall, which was land-based works 4. After the recording of the exceedance, ET tried to identify the source of the exceedance immediately, but no obvious pollution source was identified. 5. Notification of Exceedance was sent to IEC and ER.

SWH_027_w	3-Feb-23	M1	DO (mg/L)	**7.04 mg/L (Limit Level Exceedance)**	<7.8 mg/L	<7.7 mg/L	Cause of Exceedance:	Unknown pollution source from upstream of Ng Tung River
			SS (mg/L)	**12.15 mg/L (Limit Level Exceedance)**	>6.90 mg/L (>120% of C1)	>7.48 mg/L (>130% of C1)	ET's conclusions and recommendations for mitigation:	Exceedance not related to project, advised contractor to maintain on-going water mitigation measures.
							Contractor's actions to implement the mitigation:	Construction activities were checked; Outfall was checked and no soil or water dropped from outfall was observed.
		C1 (Control Station for comparing to the impact station - M1)	DO (mg/L)	7.44 mg/L			Action taken under EAP:	1. ET repeated in situ measurement immediately to confirm findings, the difference between 1st and 2nd monitoring results was very small. 2. ET checked the monitoring data, plant and equipment, and no abnormality was identified. 3. Contractor had reviewed the construction method for the outfall, only E&M works was conducted on outfall, which was land-based works 4. After the recording of the exceedance, ET tried to identify the source of the exceedance immediately, but no obvious pollution source was identified. 5. Notification of Exceedance was sent to IEC and ER.
			SS (mg/L)	5.75 mg/L				
SWH_028_w	6-Feb-23	M1	DO (mg/L)	**6.23 mg/L (Limit Level Exceedance)**	<7.8 mg/L	<7.7 mg/L	Cause of Exceedance:	Unknown pollution source from upstream of Ng Tung River
							ET's conclusions and recommendations for mitigation:	Exceedance not related to project, advised contractor to maintain on-going water mitigation measures.
							Contractor's actions to implement the mitigation:	Construction activities were checked; Outfall was checked and no soil or water dropped from outfall was observed.
		C1 (Control Station for comparing to the impact station - M1)	DO (mg/L)	5.55 mg/L			Action taken under EAP:	1. ET repeated in situ measurement immediately to confirm findings, the difference between 1st and 2nd monitoring results was very small. 2. ET checked the monitoring data, plant and equipment, and no abnormality was identified. 3. Contractor had reviewed the construction method for the outfall, only E&M works was conducted on outfall, which was land-based works 4. After the recording of the exceedance, ET tried to identify the source of the exceedance immediately, but no obvious pollution source was identified. 5. Notification of Exceedance was sent to IEC and ER.
SWH_029_w	8-Feb-23	M1	DO (mg/L)	**6.25 mg/L (Limit Level Exceedance)**	<7.8 mg/L	<7.7 mg/L	Cause of Exceedance:	Unknown pollution source from upstream of Ng Tung River
							ET's conclusions and recommendations for mitigation:	Exceedance not related to project, advised contractor to maintain on-going water mitigation measures.
							Contractor's actions to implement the mitigation:	Construction activities were checked; Outfall was checked and no soil or water dropped from outfall was observed.

		C1 (Control Station for comparing to the impact station - M1)	DO (mg/L)	5.68 mg/L			Action taken under EAP:	1. ET repeated in situ measurement immediately to confirm findings, the difference between 1st and 2nd monitoring results was very small. 2. ET checked the monitoring data, plant and equipment, and no abnormality was identified. 3. Contractor had reviewed the construction method for the outfall, only E&M works was conducted on outfall, which was land-based works 4. After the recording of the exceedance, ET tried to identify the source of the exceedance immediately, but no obvious pollution source was identified. 5. Notification of Exceedance was sent to IEC and ER.
SWH_030_w	10-Feb-23	M1	DO (mg/L)	**7.50 mg/L (Limit Level Exceedance)**	<7.8 mg/L	<7.7 mg/L	Cause of Exceedance:	Unknown pollution source from upstream of Ng Tung River
			Turbidity (NTU)	**14.85 NTU (Action Level Exceedance)**	>14.6 NTU	>15.6 NTU	ET's conclusions and recommendations for mitigation:	Exceedance not related to project, advised contractor to maintain on-going water mitigation measures.
			SS (mg/L)	**25.70 mg/L (Limit Level Exceedance)**	>18.8 mg/L	>19.5 mg/L	Contractor's actions to implement the mitigation:	Construction activities were checked; Outfall was checked and no soil or water dropped from outfall was observed.
		C1 (Control Station for comparing to the impact station - M1)	DO (mg/L) Turbidity (NTU) SS (mg/L)	6.80 mg/L 15.26 NTU 11.85 mg/L			Action taken under EAP:	1. ET repeated in situ measurement immediately to confirm findings, the difference between 1st and 2nd monitoring results was very small. 2. ET checked the monitoring data, plant and equipment, and no abnormality was identified. 3. Contractor had reviewed the construction method for the outfall, only E&M works was conducted on outfall, which was land-based works 4. After the recording of the exceedance, ET tried to identify the source of the exceedance immediately, but no obvious pollution source was identified. 5. Notification of Exceedance was sent to IEC and ER.

SWH_031_w	13-Feb-22	M1	SS (mg/L)	**11.20 mg/L (Limit Level Exceedance)**	>8.31 mg/L (>120% of C1)	>9.01 mg/L (>130% of C1)	Cause of Exceedance:	Unknown pollution source from upstream of Ng Tung River
							ET's conclusions and recommendations for mitigation:	Exceedance not related to project, advised contractor to maintain on-going water mitigation measures.
							Contractor's actions to implement the mitigation:	Construction activities were checked; Outfall was checked and no soil or water dropped from outfall was observed.
		C1 (Control Station for comparing to the impact station - M1)	SS (mg/L)	7.30 mg/L			Action taken under EAP:	1. ET repeated in situ measurement immediately to confirm findings, the difference between 1st and 2nd monitoring results was very small. 2. ET checked the monitoring data, plant and equipment, and no abnormality was identified. 3. Contractor had reviewed the construction method for the outfall, only E&M works was conducted on outfall, which was land-based works 4. After the recording of the exceedance, ET tried to identify the source of the exceedance immediately, but no obvious pollution source was identified. 5. Notification of Exceedance was sent to IEC and ER.
SWH_032_w	17-Feb-22	M1	DO (mg/L)	**6.95 mg/L (Limit Level Exceedance)**	<7.8 mg/L	<7.7 mg/L	Cause of Exceedance:	Unknown pollution source from upstream of Ng Tung River
			Turbidity (NTU)	**9.43 NTU (Action Level Exceedance)**	>8.92 NTU (>120% of C1)	>9.66 NTU (>130% of C1)	ET's conclusions and recommendations for mitigation:	Exceedance not related to project, advised contractor to maintain on-going water mitigation measures.
							Contractor's actions to implement the mitigation:	Construction activities were checked; Outfall was checked and no soil or water dropped from outfall was observed.

		C1 (Control Station for comparing to the impact station - M1)	DO (mg/L) Turbidity (NTU)	8.35 mg/L 7.43 NTU			Action taken under EAP:	1. ET repeated in situ measurement immediately to confirm findings, the difference between 1st and 2nd monitoring results was very small. 2. ET checked the monitoring data, plant and equipment, and no abnormality was identified. 3. Contractor had reviewed the construction method for the outfall, only E&M works was conducted on outfall, which was land-based works 4. After the recording of the exceedance, ET tried to identify the source of the exceedance immediately, but no obvious pollution source was identified. 5. Notification of Exceedance was sent to IEC and ER.
SWH_033_w	27-Feb-22	M1	Turbidity (NTU)	**7.87 NTU (Action Level Exceedance)**	>7.49 NTU (>120% of C1)	>8.12 NTU (>130% of C1)	Cause of Exceedance:	Unknown pollution source from upstream of Ng Tung River
							ET's conclusions and recommendations for mitigation:	Exceedance not related to project, advised contractor to maintain on-going water mitigation measures.
							Contractor's actions to implement the mitigation:	Construction activities were checked; Outfall was checked and no soil or water dropped from outfall was observed.
		C1 (Control Station for comparing to the impact station - M1)	Turbidity (NTU)	6.25 NTU			Action taken under EAP:	1. ET repeated in situ measurement immediately to confirm findings, the difference between 1st and 2nd monitoring results was very small. 2. ET checked the monitoring data, plant and equipment, and no abnormality was identified. 3. Contractor had reviewed the construction method for the outfall, only E&M works was conducted on outfall, which was land-based works 4. After the recording of the exceedance, ET tried to identify the source of the exceedance immediately, but no obvious pollution source was identified. 5. Notification of Exceedance was sent to IEC and ER.

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	Muddy water was suspected to be discharged from the expansion site of SWHSTP to Shek Sheung River, manholes and foul drains nearby The investigation and mitigation measures included - 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	Significant odour nuisance was suspected to be emitted from the construction activities of SWHEPP The investigation and mitigation measures included - 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	Air nuisance was suspected to be originated from the construction activities of SWHEPP The investigation and mitigation measures included - 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	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. 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: • 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

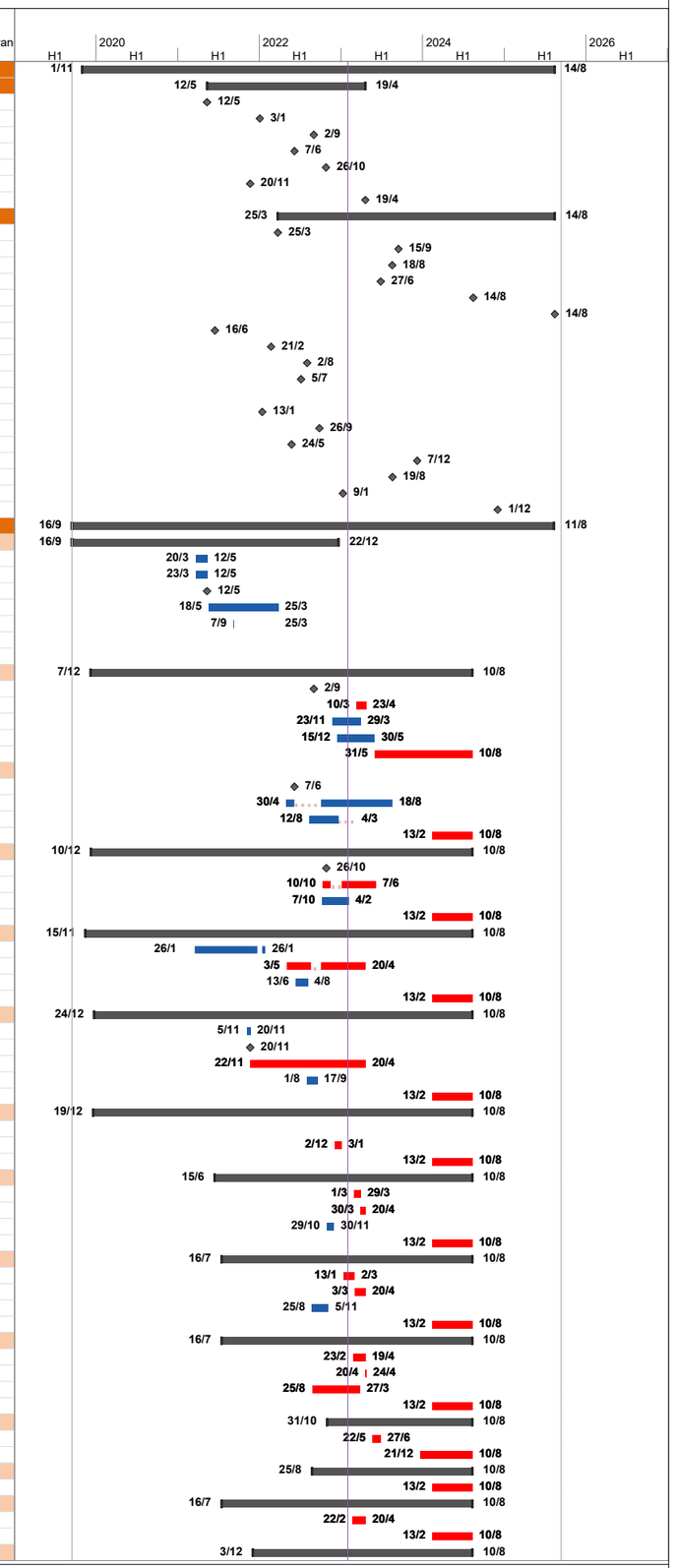
Construction Programme of Individual Contracts

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

Executive Summary Programme (Status Date:20/2/2023)

群利－俊和聯營體
KL－CW JV

ID	Activity ID	KD	Task Name	Inclement Weather CE no. (NCE no.)	PMI & CE no. (NCE no.)	Duration	Start	Finish	Actual Start	Actual Finish	Predecessors	Successors	% Complete	Time Risk Allowan
34	**PD-00000**	*	**Planned Completion - Key Date (cal. day)**			**2114 days**	**Fri 1/11/19**	**Thu 14/8/25**	**Fri 1/11/19**	**NA**			**29%**	
35	**PKD-00000**	*	**Planned Completion - Key Dates**			**707.8 days**	**Wed 12/5/21**	**Wed 19/4/23**	**Wed 12/5/21**	**NA**			**0%**	
36	PKD-01000	KD1A	KD1A			0 days	Wed 12/5/21	Wed 12/5/21	Wed 12/5/21	Wed 12/5/21	301FF	19FF	100%	
37	PKD-02000	KD2A	KD2A			0 days	Mon 3/1/22	Mon 3/1/22	Mon 3/1/22	Mon 3/1/22	661FF	20FF	100%	
38	PKD-03000	KD3A	KD3A			0 days	Fri 2/9/22	Fri 2/9/22	Fri 2/9/22	Fri 2/9/22	331FF	21FF	100%	
39	PKD-04000	KD3B	KD3B			0 days	Tue 7/6/22	Tue 7/6/22	Tue 7/6/22	Tue 7/6/22	367FF	22FF	100%	
40	PKD-05000	KD3C	KD3C			0 days	Wed 26/10/22	Wed 26/10/22	Wed 26/10/22	Wed 26/10/22	389FF	23FF	100%	
41	PKD-06000	KD3D	KD3D			0 days	Sat 20/11/21	Sat 20/11/21	Sat 20/11/21	Sat 20/11/21	421FF	24FF	100%	
42	PKD-07000	KD3E	KD3E			0 days	Wed 19/4/23	Wed 19/4/23	NA	NA	436FF,445FF,455FF,465FF,50	25FF	0%	
43	**PCD-00000**	*	**Planned Completion - Section of the Works (cal. day)**			**1239 days**	**Fri 25/3/22**	**Thu 14/8/25**	**Fri 25/3/22**	**NA**			**0%**	
44	PCD-01000	SW1	Section 1 of Works			0 days	Fri 25/3/22	Fri 25/3/22	Fri 25/3/22	Fri 25/3/22	557FF,589FF,590FF,591FF,59	27FF	100%	
45	PCD-02000	SW2	Section 2 of Works			0 days	Fri 15/9/23	Fri 15/9/23	NA	NA	682FF,694FF	28FF	0%	
46	PCD-03000	SW3	Section 3 of Works			0 days	Fri 18/8/23	Fri 18/8/23	NA	NA	205FF,391FF,405FF,423FF,44	627,29FF	0%	
47	PCD-04000	SW4	Section 4 of Works			0 days	Tue 27/6/23	Tue 27/6/23	NA	NA	558FF,346FF,372FF,392FF,40	30FF	0%	
48	PCD-05000	SW5	Section 5 of Works			0 days	Wed 14/8/24	Wed 14/8/24	NA	NA	308FF,347FF,373FF,393FF,40	49,50,31FF	0%	
49	PCD-06000	DLP	Defect Liability Period			365 days	Thu 15/8/24	Thu 14/8/25	NA	NA	48,628FF		0%	
56	IWKD1A-01040	KD1A	Delay and Disruption of works due to Red/Black Storm Signal/ Typhoon No.8 or above for January 2023			0 days	Wed 16/6/21	Wed 16/6/21	Wed 16/6/21	Wed 16/6/21	55		100%	
64	IWKD2A-01040	KD2A	Delay and Disruption of works due to Red/Black Storm Signal/ Typhoon No.8 or above for January 2023			0 days	Mon 21/2/22	Mon 21/2/22	Mon 21/2/22	Mon 21/2/22	63		100%	
72	IWKD3A-01040	KD3A	Delay and Disruption of works due to Red/Black Storm Signal/ Typhoon No.8 or above for January 2023			0 days	Tue 2/8/22	Tue 2/8/22	Tue 2/8/22	Tue 2/8/22	71		100%	
81	IWKD3B-01040	KD3B	Delay and Disruption of works due to Red/Black Storm Signal/ Typhoon No.8 or above for January 2023			0 days	Tue 5/7/22	Tue 5/7/22	Tue 5/7/22	Tue 5/7/22			100%	
89	IWKD3C-01040	KD3C	Delay and Disruption of works due to Red/Black Storm Signal/ Typhoon No.8 or above for January 2023			0 days	Fri 8/7/22	Fri 8/7/22	Fri 8/7/22	NA			99%	
97	IWKD3D-01040	KD3D	Delay and Disruption of works due to Red/Black Storm Signal/ Typhoon No.8 or above for January 2023			0 days	Thu 13/1/22	Thu 13/1/22	Thu 13/1/22	Thu 13/1/22			100%	
104	IWKD3E-01040	KD3E	Delay and Disruption of works due to Red/Black Storm Signal/ Typhoon No.8 or above for January 2023			0 days	Mon 26/9/22	Mon 26/9/22	NA	NA	103		0%	
112	IWSW1-01040	SW1	Delay and Disruption of works due to Red/Black Storm Signal/ Typhoon No.8 or above for January 2023			0 days	Tue 24/5/22	Tue 24/5/22	Tue 24/5/22	Tue 24/5/22	111		100%	
121	IWSW1-01040	SW2	Delay and Disruption of works due to Red/Black Storm Signal/ Typhoon No.8 or above for January 2023			0 days	Thu 7/12/23	Thu 7/12/23	NA	NA	120		0%	
130	IWSW3-01040	SW3	Delay and Disruption of works due to Red/Black Storm Signal/ Typhoon No.8 or above for January 2023			0 days	Sat 19/8/23	Sat 19/8/23	NA	NA	129		0%	
139	IWSW4-01040	SW4	Delay and Disruption of works due to Red/Black Storm Signal/ Typhoon No.8 or above for January 2023			0 days	Mon 9/1/23	Mon 9/1/23	NA	NA	138		0%	
148	IWSW5-01040	SW5	Delay and Disruption of works due to Red/Black Storm Signal/ Typhoon No.8 or above for January 2023			0 days	Sun 1/12/24	Sun 1/12/24	NA	NA	147		0%	
266	**CWPC-00000**	*	**Construction Works of Portion C of the Site**			**1753.8 days**	**Mon 16/9/19**	**Mon 11/8/25**	**Mon 16/9/19**	**NA**			**53%**	
267	**CUV1-00000**	*	**UV System No. 1 & Effluent Pumping Station No. 1 (1)**			**971 days**	**Mon 16/9/19**	**Thu 22/12/22**	**Mon 16/9/19**	**Thu 22/12/22**			**100%**	
298	CUV1-09041	KD1A	Walls, Slabs and staircase Construction @+7.4mPD to 16.4mPD [Additional SP1-3 puddle (DN100 x 2 & DN80)	(204),(228)	(108), (146), (148), (179), (182)	41 days	Sat 20/3/21	Wed 12/5/21	Sat 20/3/21	Wed 12/5/21	295	301,302,300,304	100%	
299	CUV1-10000	KD1A	Construction of Switch room	(204),(228)		51 days	Tue 23/3/21	Wed 12/5/21	Tue 23/3/21	Wed 12/5/21			100%	
301	**CUV1-11000**	**KD1A**	**Allow access to Contractor DE/2018/03 for E&M Installation**			**0 days**	**Wed 12/5/21**	**Wed 12/5/21**	**Wed 12/5/21**	**Wed 12/5/21**	**298**	**36FF**	**100%**	
302	CUV1-12000	SW1	ABWF Works & BS Works & Apply Internal Anti-corrosion Protective Lining		(95), (296), (367), 359	256 days	Tue 18/5/21	Fri 25/3/22	Tue 18/5/21	Fri 25/3/22	245SS,168SS,298	621,622,303,620	100%	
305	CUV1-12200	SW1	Effluent Chamber (including Additional Works from PMI)		292	163 days	Tue 7/9/21	Fri 25/3/22	Tue 7/9/21	Fri 25/3/22	304FS+1 day	44FF,306	100%	
307	CUV1-12500	SW4	Underground utilities works - Revised Cable Ducts plan		318, 276,219,248,207	47 days	Tue 30/8/22	Wed 26/10/22	NA	NA	303FF		0%	
308	CUV1-13000	SW5	Surrounding Site formation works and road works			180 days	Thu 21/12/23	Sat 10/8/24	NA	NA	347FF	48FF	0%	
309	**CSDC-00000**	*	**Sludge Digesters and Distribution Chamber (4)**			**1376.8 days**	**Sat 7/12/19**	**Sat 10/8/24**	**Sat 7/12/19**	**NA**			**64%**	
331	**CSDC-12000**	**KD3A**	**Allow access to Contractor DE/2018/03 for E&M Installation**			**0 days**	**Fri 2/9/22**	**Fri 2/9/22**	**Fri 2/9/22**	**Fri 2/9/22**	**322,330**	**38FF**	**100%**	
342	CSDC-12050	SW3	Civil & Structural works at G/F			45 days	Fri 10/3/23	Sun 23/4/23	NA	NA	340FF+29 days	46FF,343FF	0%	
345	CSDC-15000	SW3	ABWF Works & BS Works		(173),594	127 days	Wed 23/11/22	Wed 29/3/23	Wed 23/11/22	NA	245SS,168SS,322FS+15 days,	46FF	0%	
346	CSDC-15500	SW4	Surrounding sewerage, utility and process pipe works		358,298,222,248,205,206	131 days	Thu 15/12/22	Tue 30/5/23	Thu 15/12/22	NA	341	47FF,621FF,622FF,347,540FF,	0%	
347	CSDC-16000	SW5	Surrounding Site formation works and road works			350 days	Wed 31/5/23	Sat 10/8/24	NA	NA	346	48FF,373FF,393FF,407FF,425F	0%	
348	**CSDB-00000**	*	**Sludge Dewatering Building (2)**			**875.8 days?**	**Tue 26/11/19**	**Wed 9/11/22**	**Tue 26/11/19**	**NA**			**68%**	
367	**CSDB-12000**	**KD3B**	**Allow access to Contractor DE/2018/03 for E&M Installation**			**0 days**	**Tue 7/6/22**	**Tue 7/6/22**	**Tue 7/6/22**	**Tue 7/6/22**	**366**	**39FF,368FS+62 days,370**	**100%**	
371	CSDB-14000	SW3	ABWF Works & BS Works & Apply Internal Anti-corrosion Protective Lining		(95), (173),594	288 days	Sat 30/4/22	Fri 18/8/23	Sat 30/4/22	NA	245SS,168SS,366SS+37 days	46FF	10%	
372	CSDB-14500	SW4	Surrounding sewerage, utility and process pipe works		(335),(53),219,248,205,206,207	167 days	Fri 12/8/22	Sat 4/3/23	Fri 12/8/22	NA	368SS,369SS-45 days	47FF,621FF,622FF,620FF	30%	
373	CSDB-15000	SW5	Surrounding Site formation works and road works			180 days	Tue 13/2/24	Sat 10/8/24	NA	NA	347FF	48FF,620FF,621FF,622FF	0%	
374	**CHPB-00000**	*	**Combined Heat Power Building (3)**			**1374.8 days**	**Tue 10/12/19**	**Sat 10/8/24**	**Tue 10/12/19**	**NA**			**51%**	
389	**CHPB-09000**	**KD3C**	**Allow access to Contractor DE/2018/03 for E&M Installation**			**0 days**	**Wed 26/10/22**	**Wed 26/10/22**	**NA**	**NA**	**388**	**40FF,392FS-17 days**	**0%**	
391	CHPB-11000	SW3	ABWF Works & BS Works with additional/change to works information		(173)	156 days	Mon 10/10/22	Wed 7/6/23	Mon 10/10/22	NA	245SS,168SS,388FS-15 days	46FF	20%	
392	CHPB-11500	SW4	Surrounding sewerage, utility and process pipe works		221,219,220,248,205,206	98 days	Fri 7/10/22	Sat 4/2/23	Fri 7/10/22	NA	389FS-17 days	47FF,621FF,622FF,620FF	20%	
393	CHPB-12000	SW5	Surrounding Site formation works and road works			180 days	Tue 13/2/24	Sat 10/8/24	NA	NA	347FF	48FF,620FF,621FF,622FF	0%	
394	**CSPS-00000**	*	**Sewage Pumping Station (9)**			**1395.8 days**	**Fri 15/11/19**	**Sat 10/8/24**	**Fri 15/11/19**	**NA**			**62%**	
404	CSPS-09000	KD3E	R.C. Structure & waterproofing works - Change to Work Information (Additional Puddle Flange and Civil Provision)	268, 338,	*(63) ,(303), (341)*	297 days	Tue 26/1/21	Wed 26/1/22	Tue 26/1/21	Wed 26/1/22	402,166,238,239,240,403SS-2	405,42FF	100%	
405	CSPS-10000	SW3	ABWF Works & BS Works & Apply Internal Anti-corrosion Protective Lining			250 days	Tue 3/5/22	Thu 20/4/23	Tue 3/5/22	NA	245SS,168SS,167,404	46FF	36%	3
406	CSPS-10500	SW4	Surrounding sewerage, utility and process pipe works		386 , 299	45 days	Mon 13/6/22	Thu 4/8/22	Mon 13/6/22	Thu 4/8/22	328FS-38 days	47FF,621FF,622FF,424FS-4 da	100%	
407	CSPS-11000	SW5	Surrounding Site formation works and road works			180 days	Tue 13/2/24	Sat 10/8/24	NA	NA	347FF	48FF,620FF,621FF,622FF	0%	
408	**CWS2-00000**	*	**Workshop No. 2 (5)**			**1362.8 days**	**Tue 24/12/19**	**Sat 10/8/24**	**Tue 24/12/19**	**NA**			**76%**	
420	CWS2-08030	KD3D	Roof Construction @+19.00mPD - Revised Civil Requirements in R/F		(302)	14 days	Fri 5/11/21	Sat 20/11/21	Fri 5/11/21	Sat 20/11/21	419	421	100%	
421	**CWS2-09000**	**KD3D**	**Allow access to Contractor DE/2018/03 for E&M Installation**			**0 days**	**Sat 20/11/21**	**Sat 20/11/21**	**Sat 20/11/21**	**Sat 20/11/21**	**420**	**41FF,422**	**100%**	
423	CWS2-11000	SW3	ABWF Works & BS Works - Revised Architectural Layout & Schedule for Doors, Louvers and Windows		(95), (173), (406,407,408)	415 days	Mon 22/11/21	Thu 20/4/23	Mon 22/11/21	NA	245SS,168SS	46FF	80%	
424	CWS2-11500	SW4	Surrounding sewerage, utility and process pipe works		221,219,220,205,206,207	41 days	Mon 1/8/22	Sat 17/9/22	Mon 1/8/22	Sat 17/9/22	406FS-4 days	47FF,621FF,622FF,447FS+34 d	100%	
425	CWS2-12000	SW5	Surrounding Site formation works and road works			180 days	Tue 13/2/24	Sat 10/8/24	NA	NA	347FF	48FF,620FF,621FF,622FF	0%	
426	**CTHP-00000**	*	**Thermal Hydrolysis Pretreatment (6)**			**1366.8 days**	**Thu 19/12/19**	**Sat 10/8/24**	**Thu 19/12/19**	**NA**			**33%**	
436	CTHP-09000	KD3E, SW3	R.C. Plinth - Change to Works Information	268, 338	225, (115),(236)	0 days	Mon 2/11/20	Mon 2/11/20	Mon 2/11/20	Mon 2/11/20	434,325,435SS-2 emons	42FF,46FF	100%	
437	CTHP-09500	SW4	Surrounding sewerage, utility and process pipe works			25 days	Fri 2/12/22	Tue 3/1/23	Fri 2/12/22	NA	368FS+58 days,369SS+1 emor	47FF,621FF,622FF,620FF	0%	
438	CTHP-10000	SW5	Surrounding Site formation works and road works			180 days	Tue 13/2/24	Sat 10/8/24	NA	NA	347FF	48FF,620FF,621FF,622FF	0%	
439	**CFCD-00000**	*	**Ferric Chloride Dosing Facilities (10)**			**930.8 days**	**Tue 15/6/21**	**Sat 10/8/24**	**Tue 15/6/21**	**NA**			**33%**	
445	CFCD-04000	KD3E	Steel Roof Structure (On-site Fabrication)			25 days	Wed 1/3/23	Wed 29/3/23	NA	NA	444	446,42FF	0%	
446	CFCD-05000	SW3	ABWF Works & BS Works, Change to Work Information (Application of Protective Lining System)		*594*	15 days	Thu 30/3/23	Thu 20/4/23	NA	NA	445,245,168	46FF	0%	
447	CFCD-05500	SW4	Surrounding sewerage, utility and process pipe works - Updated Process Pipes Arrangement		386, 298	28 days	Sat 29/10/22	Wed 30/11/22	Sat 29/10/22	Wed 30/11/22	424FS+34 days	47FF,621FF,622FF,620FF,508F	100%	
448	CFCD-06000	SW5	Surrounding Site formation works and road works			180 days	Tue 13/2/24	Sat 10/8/24	NA	NA	347FF	48FF,620FF,621FF,622FF	0%	
449	**CFHB-00000**	*	**Fire Hydrant and Booster Pump Room (16)**			**904.8 days**	**Fri 16/7/21**	**Sat 10/8/24**	**Fri 16/7/21**	**NA**			**23%**	
455	CFHB-03000	KD3E	R.C. Structure & waterproofing works			39 days	Fri 13/1/23	Thu 2/3/23	NA	NA	454FS+1 day	456,42FF	0%	5
456	CFHB-04000	SW3	ABWF Works & BS Works			38 days	Fri 3/3/23	Thu 20/4/23	NA	NA	455,245SS,168SS	46FF	0%	
457	CFHB-04500	SW4	Surrounding sewerage, utility and process pipe works			60 days	Thu 25/8/22	Sat 5/11/22	Thu 25/8/22	Sat 5/11/22	368SS+15 days	47FF,621FF,622FF,620FF	100%	
458	CFHB-05000	SW5	Surrounding Site formation works and road works			180 days	Tue 13/2/24	Sat 10/8/24	NA	NA	347FF	48FF,620FF,621FF,622FF	0%	
459	**CTFS-00000**	*	**Transformer and Switchroom (15)**			**904.8 days**	**Fri 16/7/21**	**Sat 10/8/24**	**Fri 16/7/21**	**NA**			**14%**	
465	CTFS-03000	KD3E	R.C. Structure			44 days	Thu 23/2/23	Wed 19/4/23	NA	NA	462,166,238,460,464	466,42FF	0%	5
466	CTFS-04000	SW3	ABWF Works & BS Works		(95)	4 days	Thu 20/4/23	Mon 24/4/23	NA	NA	465,245SS,168SS	46FF	0%	
467	CTFS-04500	SW4	Surrounding sewerage, utility and process pipe works			175 days	Thu 25/8/22	Mon 27/3/23	Thu 25/8/22	NA	368SS+15 days	47FF,621FF,622FF,620FF	34%	
468	CTFS-05000	SW5	Surrounding Site formation works and road works			180 days	Tue 13/2/24	Sat 10/8/24	NA	NA	347FF	48FF,620FF,621FF,622FF	0%	
469	**CUC-00000**	*	**Utility Corridor (13)**		**204**	**520 days**	**Mon 31/10/22**	**Sat 10/8/24**	**Mon 31/10/22**	**NA**			**12%**	
478	CUC-03500	SW4	Surrounding sewerage, utility and process pipe works		248,205,207	30 days	Mon 22/5/23	Tue 27/6/23	NA	NA	474,340FS-35 days,475	47FF,621FF,622FF,488SS,620I	0%	
479	CUC-04000	SW5	Surrounding Site formation works and road works			180 days	Thu 21/12/23	Sat 10/8/24	NA	NA	347FF	48FF,620FF,621FF,622FF	0%	
480	**CWMC-00000**	*	**Water Meter Cabinet (11)**		**204**	**574.8 days**	**Thu 25/8/22**	**Sat 10/8/24**	**Thu 25/8/22**	**NA**			**21%**	
486	CWMC-04000	SW5	Surrounding Site formation works and road works			180 days	Tue 13/2/24	Sat 10/8/24	NA	NA	347FF	48FF,620FF,621FF,622FF	0%	
487	**CGH-00000**	*	**Guard House (14)**			**904.8 days**	**Fri 16/7/21**	**Sat 10/8/24**	**Fri 16/7/21**	**NA**			**0%**	
492	CGH-03500	SW4	Surrounding sewerage, utility and process pipe works		205	46 days	Wed 22/2/23	Thu 20/4/23	NA	NA	340FS-28 days	620FF,621FF,622FF	0%	
493	CGH-04000	SW5	Surrounding Site formation works and road works			180 days	Tue 13/2/24	Sat 10/8/24	NA	NA	347FF	48FF,620FF,621FF,622FF	0%	
494	**CCPS-00000**	*	**THP Coolers Pumping Station (21)**			**787.8 days**	**Fri 3/12/21**	**Sat 10/8/24**	**Fri 3/12/21**	**NA**			**55%**	



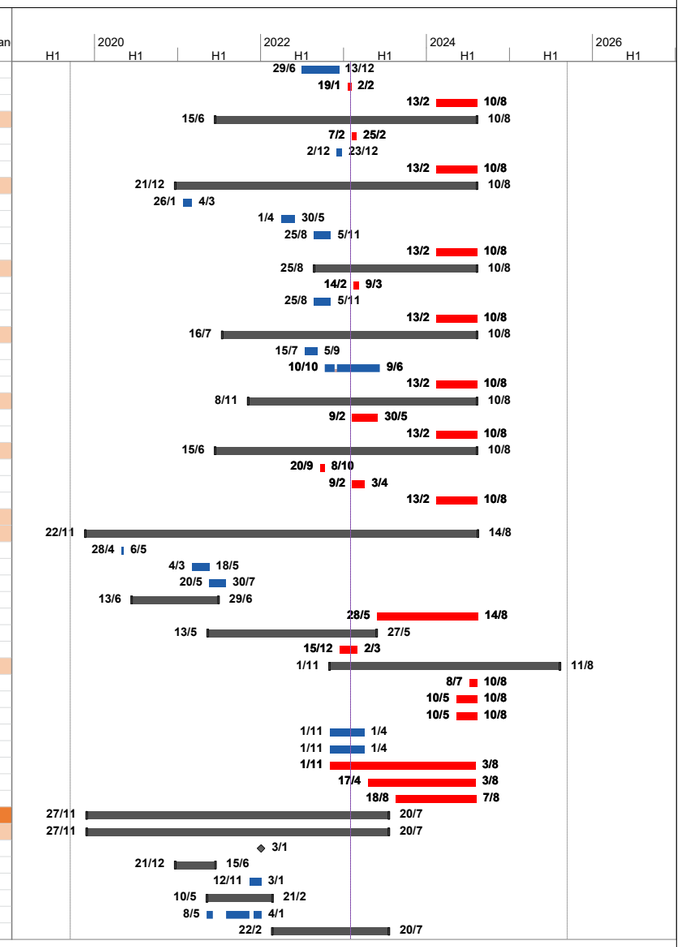
Critical Split Task Milestone Summary Critical

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

Executive Summary Programme (Status Date:20/2/2023)

群利－俊和聯營體
KL－CW JV

ID	Activity ID	KD	Task Name	Inclement Weather CE no. (NCE no.)	PMI & CE no. (NCE no.)	Duration	Start	Finish	Actual Start	Actual Finish	Predecessors	Successors	% Complete	Time Risk Allowan
498	CCPS-02000	KD3E	R.C. Structure			140 days	Wed 29/6/22	Tue 13/12/22	Wed 29/6/22	Tue 13/12/22	166,238,497SS-2 emons,496FS	499	100%	5
499	CCPS-02500	SW4	Surrounding sewerage, utility and process pipe works			10 days	Thu 19/1/23	Thu 2/2/23	NA	NA	498,388,340FS-54 days	47FF,620FF,621FF,622FF	0%	
500	CCPS-03000	SW5	Surrounding Site formation works and road works			180 days	Tue 13/2/24	Sat 10/8/24	NA	NA	347FF	620FF,621FF,622FF	0%	
501	**CWGB-00000**	*	**Waste Gas Burner (8)**			**930.8 days**	**Tue 15/6/21**	**Sat 10/8/24**	**Tue 15/6/21**	**NA**			**13%**	
507	CWGB-03000	KD3E	R.C. Plinth			17 days	Tue 7/2/23	Sat 25/2/23	NA	NA	166,506SS-2 emons,503FS+30	42FF	0%	
508	CWGB-03500	SW4	Surrounding sewerage, utility and process pipe works			19 days	Fri 2/12/22	Fri 23/12/22	Fri 2/12/22	Fri 23/12/22	447FS+1 day	47FF,621FF,622FF,620FF,504F	100%	
509	CWGB-04000	SW5	Surrounding Site formation works and road works			180 days	Tue 13/2/24	Sat 10/8/24	NA	NA	347FF	48FF,620FF,621FF,622FF	0%	
510	**CPSW-00000**	*	**Plant Services Water System (20)**			**1068.8 days**	**Mon 21/12/20**	**Sat 10/8/24**	**Mon 21/12/20**	**NA**			**50%**	
514	CPSW-03000	KD3E	Basement Construction @+1.20mPD - Change to Works Information (Basement)		*(136), (117)*	30 days	Tue 26/1/21	Thu 4/3/21	Tue 26/1/21	Thu 4/3/21	512,166,513SS-2 emons	42FF,515	100%	
515	CPSW-03500	SW3	ABWF Works & BS Works			60 days	Fri 1/4/22	Mon 30/5/22	Fri 1/4/22	Mon 30/5/22	514	46FF	100%	
516	CPSW-03600	SW4	Surrounding sewerage, utility and process pipe works - (Updated Process Pipe Arrangement)		*439,455*	60 days	Thu 25/8/22	Sat 5/11/22	Thu 25/8/22	Sat 5/11/22	368SS+2 days	47FF,621FF,622FF,620FF	100%	
517	CPSW-04000	SW5	Surrounding Site formation works and road works	338,(204),		180 days	Tue 13/2/24	Sat 10/8/24	NA	NA	347FF	48FF,620FF,621FF,622FF	0%	
518	**CDS11-00000**	*	**Deodorization System No. 11 (18)**			**574.8 days**	**Thu 25/8/22**	**Sat 10/8/24**	**Thu 25/8/22**	**NA**			**23%**	
524	CDS11-03000	KD3E, SW3	R.C. Plinth			21 days	Tue 14/2/23	Thu 9/3/23	NA	NA	166,519SS-2 emons,523FS+1	42FF,481SS,46FF	0%	
525	CDS11-03500	SW4	Surrounding sewerage, utility and process pipe works			60 days	Thu 25/8/22	Sat 5/11/22	Thu 25/8/22	Sat 5/11/22	368SS+2 days	47FF,620FF,621FF,622FF	100%	
526	CDS11-04000	SW5	Surrounding Site formation works and road works			180 days	Tue 13/2/24	Sat 10/8/24	NA	NA	347FF	48FF,620FF,621FF,622FF	0%	
527	**CBGH-00000**	*	**Biogas Holder (7)**			**904.8 days**	**Fri 16/7/21**	**Sat 10/8/24**	**Fri 16/7/21**	**NA**			**35%**	
531	CBGH-03000	KD3E, SW3	R.C. Plinth - Change to Works Information (Resize of Plinth)		481	45 days	Fri 15/7/22	Mon 5/9/22	Fri 15/7/22	Mon 5/9/22	529,166,530SS-2 emons,528FS	42FF,46FF,532	100%	
532	CBGH-03500	SW4	Surrounding sewerage, utility and process pipe works - update process pipe arrangement, Revised Plan for Pipe		262,297,248	196.8 days	Mon 10/10/22	Fri 9/6/23	Mon 10/10/22	NA	531,341SS+5 days	47FF,621FF,622FF,620FF	30%	
533	CBGH-04000	SW5	Surrounding Site formation works and road works			180 days	Tue 13/2/24	Sat 10/8/24	NA	NA	347FF	48FF,620FF,621FF,622FF	0%	
534	**CH2S-00000**	*	**H2S Removal System (12)**			**809.8 days**	**Mon 8/11/21**	**Sat 10/8/24**	**Mon 8/11/21**	**NA**			**8%**	
540	CH2S-03500	SW4	Surrounding sewerage, utility and process pipe works	248		89 days	Thu 9/2/23	Tue 30/5/23	NA	NA	346FF	47FF,621FF,622FF,620FF,547S	0%	
541	CH2S-04000	SW5	Surrounding Site formation works and road works			180 days	Tue 13/2/24	Sat 10/8/24	NA	NA	347FF	48FF,620FF,621FF,622FF	0%	
542	**CDS12-00000**	*	**Deodorization System No. 12 (19)**			**930.8 days**	**Tue 15/6/21**	**Sat 10/8/24**	**Tue 15/6/21**	**NA**			**4%**	
546	CDS12-03000	KD3E, SW3	R.C. Plinth			15 days	Tue 20/9/22	Sat 8/10/22	NA	NA	166,545SS-2 emons,544	42FF,46FF	0%	
547	CDS12-03500	SW4	Surrounding sewerage, utility and process pipe works			46 days	Thu 9/2/23	Mon 3/4/23	NA	NA	540SS	47FF,621FF,622FF,620FF	0%	
548	CDS12-04000	SW5	Surrounding Site formation works and road works			180 days	Tue 13/2/24	Sat 10/8/24	NA	NA	347FF	48FF,620FF,621FF,622FF	0%	
549	CUPH-00000	SW5	Underpass & Pump House			711 days	Thu 20/2/20	Sat 16/7/22	NA	NA		47FF	0%	
550	**CPWU-00000**	*	**Pipe Works and Utility Installation**			**1392.8 days**	**Fri 22/11/19**	**Wed 14/8/24**	**Fri 22/11/19**	**NA**			**57%**	
555	CPWU-01130	KD1A	Stage 1 - Backfilling Works for Drainage Diversion			9 days	Tue 28/4/20	Wed 6/5/20	Tue 28/4/20	Wed 6/5/20		280	100%	
556	CPWU-01140	KD1A	Stage 2 - Drainage Diversion of Drainage b/w MHD26 and SMHH1003177A, to Abandon of Exisitng Drainage	338, (204),		60 days	Thu 4/3/21	Tue 18/5/21	Thu 4/3/21	Tue 18/5/21	292	557	100%	
557	CPWU-01150	SW1	Stage 2 - Drainage Diversion of Drainage b/w MHD26 and SMHH1003177A, to Abandon of Exisitng Drainage Cul			60 days	Thu 20/5/21	Fri 30/7/21	Thu 20/5/21	Fri 30/7/21	556	44FF	100%	
558	**CPWU-01200**	**SW4**	**Trenchless Work for Pipe Installation**			**309 days**	**Sat 13/6/20**	**Tue 29/6/21**	**Sat 13/6/20**	**Tue 29/6/21**		**47FF**	**100%**	
581	CPWU-01020	SW5	Surrounding Site formation works and road works			445 days	Sun 28/5/23	Wed 14/8/24	NA	NA	580,582	48FF	0%	
582	**CPWU-02160**	**SW4**	Cable & Other Underground Utility Pipeworks	**17, 21, 22,**	**(283)**	**604.8 days**	**Thu 13/5/21**	**Sat 27/5/23**	**Thu 13/5/21**	**NA**	**171,358,415**	**581,47FF**	**78%**	
618	CPWU-02200	SW4	Pipe Bridge No.1		297	60 days	Thu 15/12/22	Thu 2/3/23	NA	NA	366FS+120 days	614FF	0%	
619	**CRWL-00000**	*	**Remaining Works & Landscape Works**			**827 days**	**Tue 1/11/22**	**Mon 11/8/25**	**Tue 1/11/22**	**NA**			**0%**	
620	CRWL-01000	SW5	Irrigation System		218	30 days	Mon 8/7/24	Sat 10/8/24	NA	NA	174,302,346FF,347FF,372FF,3	48FF,50	0%	
621	CRWL-02000	SW5	Hard Landscape Works			77 days	Fri 10/5/24	Sat 10/8/24	NA	NA	174,302,346FF,372FF,392FF,4	48FF,50	0%	
622	CRWL-03000	SW5	Soft Landscape Works			77 days	Fri 10/5/24	Sat 10/8/24	NA	NA	174,302,346FF,372FF,392FF,4	628,48FF,50	0%	
623	CRWL-04000	SW5	Outfall for Effluent Pipes			124.2 days	Tue 1/11/22	Sat 1/4/23	Tue 1/11/22	NA	214	48FF	0%	
624	CRWL-05000	SW5	Slope Formation Works near Outfall			124.2 days	Tue 1/11/22	Sat 1/4/23	Tue 1/11/22	NA	214	48FF,626FF	0%	
625	CRWL-06000	SW5	Removal of invasive trees along River Embankment		(37)	512.2 days	Tue 1/11/22	Sat 3/8/24	Tue 1/11/22	NA	214	626FF	0%	
626	CRWL-07000	SW5	Retaining Wall along River Embankment, street furniture & road works			379 days	Mon 17/4/23	Sat 3/8/24	NA	NA	214,625FF,624FF	48FF	0%	
627	CRWL-08000	SW5	Remaining Site formation works, road works and boundary fence wall		(348), 299	280 days	Fri 18/8/23	Wed 7/8/24	NA	NA	46	48FF	0%	
629	**CWPA-00000**	*	**Construction of Portion A of the Site**			**1077 days**	**Wed 27/11/19**	**Thu 20/7/23**	**Wed 27/11/19**	**NA**			**86%**	
630	**C132S-00000**	*	**132kV Substation**			**1077 days**	**Wed 27/11/19**	**Thu 20/7/23**	**Wed 27/11/19**	**NA**			**86%**	
661	**C132SI-31000**	**KD2A**	**Allow for CLP to carry out E&M installation works**			**0 days**	**Mon 3/1/22**	**Mon 3/1/22**	**Mon 3/1/22**	**Mon 3/1/22**	**659,658,679**	**662SS-30 days,37FF,682**	**100%**	
664	**C132SE-01000**	**KD2A**	**Road Widening Works**		**(20)**	**139 days**	**Mon 21/12/20**	**Tue 15/6/21**	**Mon 21/12/20**	**Tue 15/6/21**		**682**	**100%**	
673	C132SE-02030	KD2A	Backfilling and Reinstatement Works		(312), (332), (322)	42 days	Fri 12/11/21	Mon 3/1/22	Fri 12/11/21	Mon 3/1/22	672		100%	
674	C132SE-02040	KD2A	CLP Cable & Other Underground Utility Pipeworks			235 days	Mon 10/5/21	Mon 21/2/22	Mon 10/5/21	Mon 21/2/22		682	100%	
681	C132SE-03000	KD2A	Construction of New Boundary Wall		(155)	135 days	Sat 8/5/21	Tue 4/1/22	Sat 8/5/21	Tue 4/1/22	645	694	100%	
682	C132SE-04000	SW2	Remaining Works after allowing CLP Plant and Power Cables Installation			416 days	Tue 22/2/22	Thu 20/7/23	Tue 22/2/22	NA	662,660,661,664,669,674	45FF,694	43%	

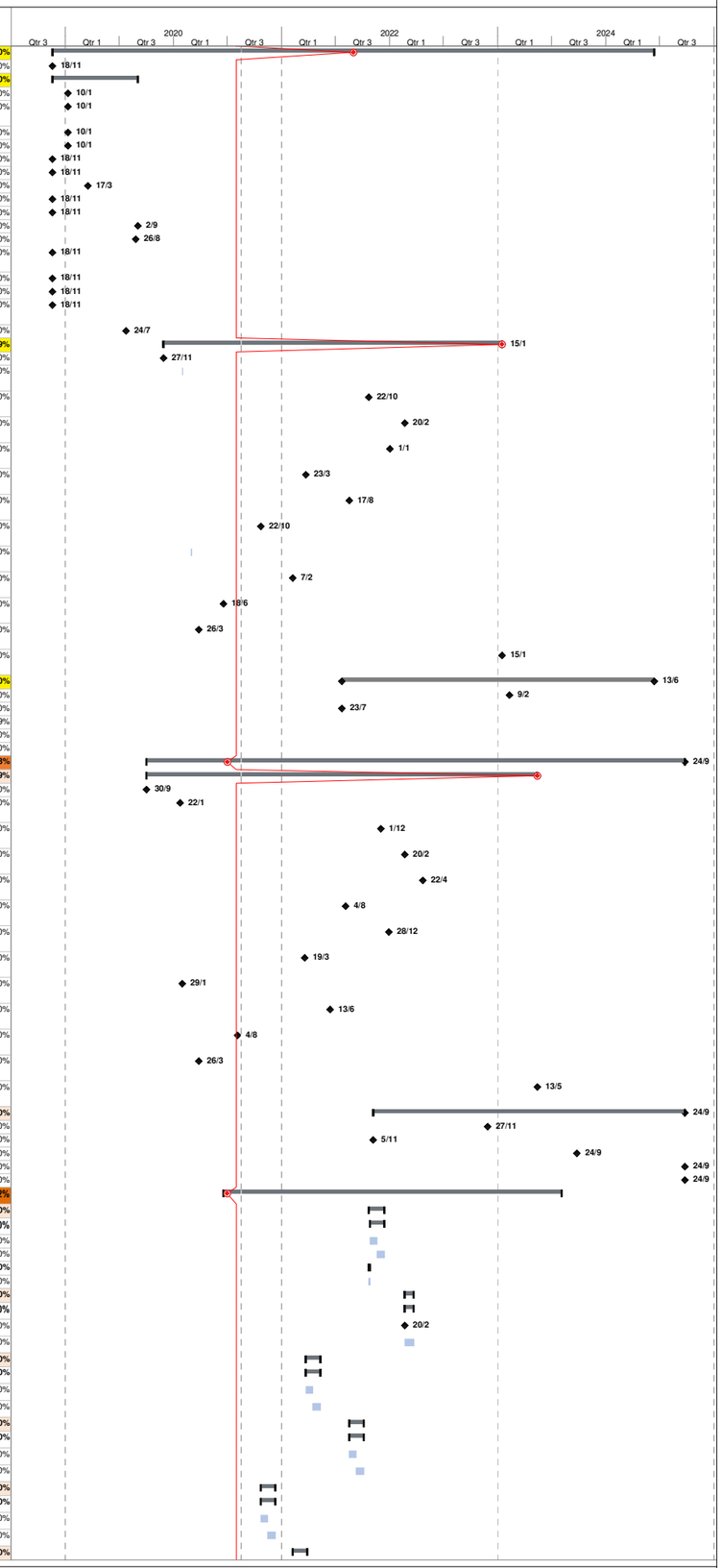


Critical Split Task Milestone Summary Critical

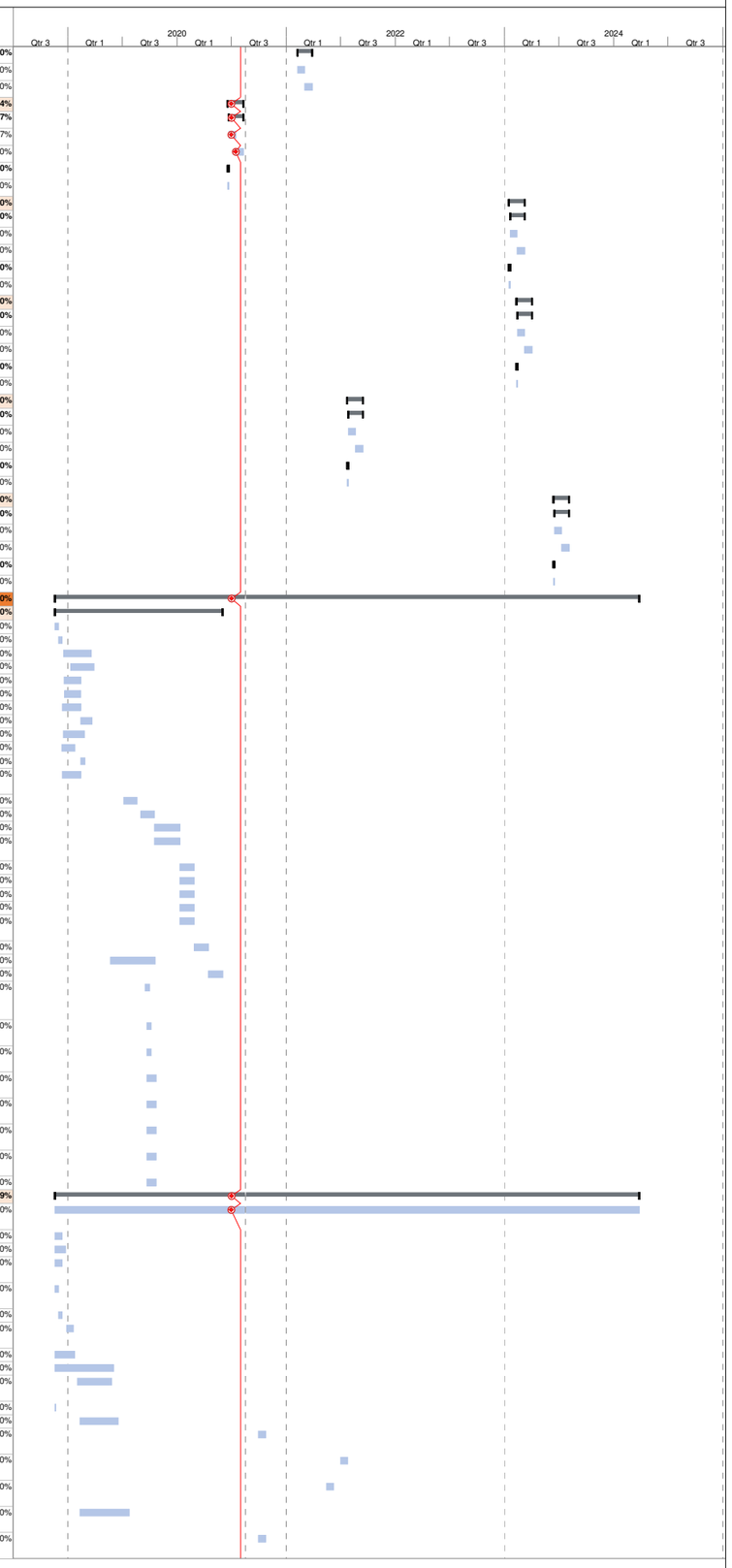
Contract No. DC/2018/07
Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1

Revised Works Programme (Status Date: 31/07/2021)

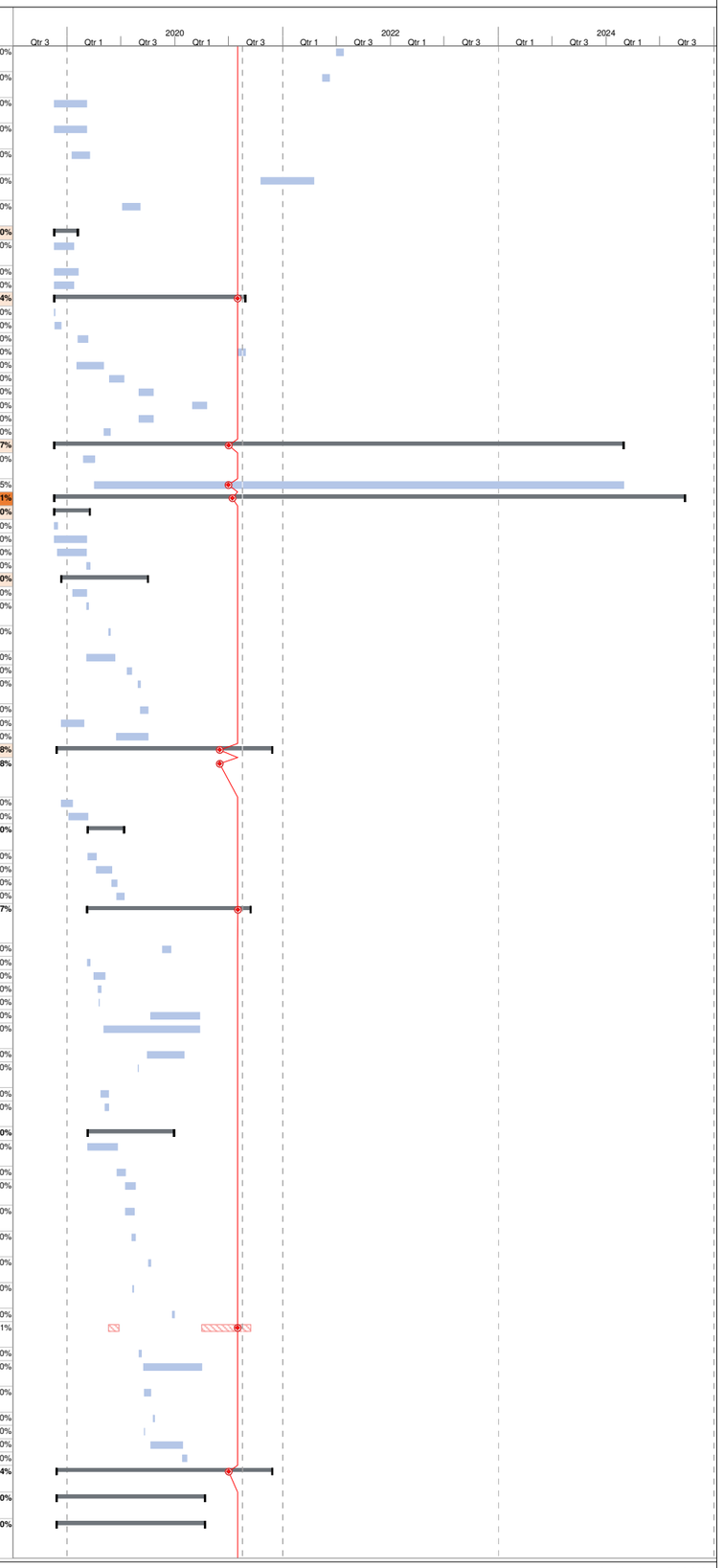
ID	Activity ID	Key Date	Task Name	Inclement Weather CE no. (NCE no.)	PMI & CE no. (NCE no.)	Baseline Duration	Baseline Start	Baseline Finish	Duration	Start	Finish	Actual Start	Actual Finish	Predecessors	Successors	Total Slack	Risk Allowance	% Complete
1	**CD-1000**		**Contract Dates**			**1585 days**	**Mon 18/11/19**	**Thu 27/3/25**	**1651.5 days**	**Mon 18/11/19**	**Fri 13/6/25**	**Mon 18/11/19**	**NA**			**88.5 days**		**0%**
2	CD-1010		Starting Date			0 days	Mon 18/11/19	Mon 18/11/19	0 days	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19		8,9,13FS+290 days,14FS+311 days	0 days		100%
3	**CAD-1000**		**Access Dates (cal. day)**			**310 days**	**Mon 18/11/19**	**Wed 23/9/20**	**289 days**	**Mon 18/11/19**	**Wed 2/9/20**	**Mon 18/11/19**	**Wed 2/9/20**			**0 days**		**100%**
4	CAD-1010		Portion B-1 (Access Road AR3)			0 days	Mon 18/11/19	Mon 18/11/19	0 days	Fri 10/1/20	Fri 10/1/20	Fri 10/1/20	Fri 10/1/20	2	201	0 days		100%
5	CAD-1020		Portion B-1A (Area for the works for Sidestream Treatment Facilities by Others			0 days	Mon 18/11/19	Mon 18/11/19	0 days	Fri 10/1/20	Fri 10/1/20	Fri 10/1/20	Fri 10/1/20	2		0 days		100%
6	CAD-1030		Portion B-2 (Inlet Works No.1)			0 days	Mon 18/11/19	Mon 18/11/19	0 days	Fri 10/1/20	Fri 10/1/20	Fri 10/1/20	Fri 10/1/20	2	295,306	0 days		100%
7	CAD-1040		Portion B-2A (Area for the pipe-jacking works by others)			0 days	Mon 18/11/19	Mon 18/11/19	0 days	Fri 10/1/20	Fri 10/1/20	Fri 10/1/20	Fri 10/1/20	2		0 days		100%
8	CAD-1050		Portion B-3 (Primary Sedimentation Tanks No. 1-4)			0 days	Mon 18/11/19	Mon 18/11/19	0 days	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	2	335	0 days		100%
9	CAD-1060		Portion B-4 (Bioreactor No. 2A & 2B)			0 days	Mon 18/11/19	Mon 18/11/19	0 days	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	2	353	0 days		100%
10	CAD-1070		Portion B-5 (Membrane Facilities Building No.2)			0 days	Mon 18/11/19	Mon 18/11/19	0 days	Tue 17/3/20	Tue 17/3/20	Tue 17/3/20	Tue 17/3/20	2	402,419,425	0 days		100%
11	CAD-1080		Portion B-6 (SAS Pumping Station)			0 days	Mon 18/11/19	Mon 18/11/19	0 days	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	2	434	0 days		100%
12	CAD-1090		Portion B-7 (Ancillary structures)			0 days	Mon 18/11/19	Mon 18/11/19	0 days	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	2	461	0 days		100%
13	CAD-1100		Portion B-7A (Alternation works for existing Power House)			0 days	Wed 2/9/20	Wed 2/9/20	0 days	Wed 2/9/20	Wed 2/9/20	Wed 2/9/20	Wed 2/9/20	2FS+290 days	539FS-1 day,29FS+179 days	0 days		100%
14	CAD-1110		Portion B-8 (Alternation for existing Membrane Facilities Building No.1)			0 days	Tue 22/9/20	Tue 22/9/20	0 days	Wed 26/8/20	Wed 26/8/20	Wed 26/8/20	Wed 26/8/20	2FS+311 days	541FS-1 day	0 days		100%
15	CAD-1020		Portion B-8A (Alternation of air supply main for existing Air Blower House No.2)			0 days	Mon 18/11/19	Mon 18/11/19	0 days	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	2	532	0 days		100%
16	CAD-1130		Portion B-9 (remainder works in Zone B)			0 days	Mon 18/11/19	Mon 18/11/19	0 days	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	2	542,556	0 days		100%
17	CAD-1140		Portion B-9A (Area for the pipe-jacking works by others)			0 days	Mon 18/11/19	Mon 18/11/19	0 days	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	2		0 days		100%
18	CAD-1150		Portion B-9B (Area for underground pipework modification and connection works by others)			0 days	Mon 18/11/19	Mon 18/11/19	0 days	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	2		0 days		100%
19	CAD-1160		Portion B-9C (Area for the works for pipeworks)			0 days	Wed 22/7/20	Wed 22/7/20	0 days	Fri 24/7/20	Fri 24/7/20	Fri 24/7/20	Fri 24/7/20	2FS+151 days		0 days		100%
20	**CKD-1000**		**Key Dates (cal. day)**			**1440 days**	**Tue 19/11/19**	**Sat 28/10/23**	**1144 days**	**Fri 27/11/20**	**Mon 15/1/24**	**Fri 27/11/20**	**NA**			**618 days**		**99%**
21	CKD-1010		KD1A completion of AR3 in Portion B-1 (375 days after starting date)			300 days	Tue 19/11/19	Sun 13/9/20	0 days	Fri 27/11/20	Fri 27/11/20	Fri 27/11/20	Fri 27/11/20	2FS+376 days		0 days		100%
22	CKD-1020		KD1B completion of utilities diversion for commencement of Inlet Works No.1 in Portion B-2 (438.5 days after starting date)			360 days	Tue 19/11/19	Thu 12/11/20	1 day	Sat 30/1/21	Sat 30/1/21	Sat 30/1/21	Sat 30/1/21	2FS+439.5 days		0 days		100%
23	CKD-1030		KD1C completion of civil and structural works of Inlet Works No.1 in Portion B-2 (1068.5 days after starting date)			990 days	Tue 19/11/19	Thu 4/8/22	0 days	Sat 22/10/22	Sat 22/10/22	NA	NA	2FS+1069.5 days	67	1056.5 days		0%
24	CKD-1040		KD1D completion of civil and structural works of Primary Sedimentation Tanks in Portion B-3 (1190days after starting date)			1190 days	Tue 19/11/19	Mon 20/2/23	0 days	Mon 20/2/23	Mon 20/2/23	NA	NA	2FS+1191 days	70	947 days		0%
25	CKD-1050		KD1E completion of civil and structural works of Bioreactor in Portion B-4 (1140days after starting date)			1140 days	Tue 19/11/19	Sun 1/1/23	0 days	Sun 1/1/23	Sun 1/1/23	NA	NA	2FS+1141 days		997 days		0%
26	CKD-1060		KD1F completion of civil and structural works of MFB from B2 floor to 1st floor level in Portion B-5 (855.5 days after starting date)			800 days	Tue 19/11/19	Wed 26/1/22	0 days	Wed 23/3/22	Wed 23/3/22	NA	NA	2FS+856.5 days	74	1273.5 days		0%
27	CKD-1070		KD1G completion of civil and structural works of MFB in Portion B-5 (1002.5 days after starting date)			950 days	Tue 19/11/19	Sat 25/6/22	0 days	Wed 17/8/22	Wed 17/8/22	NA	NA	2FS+1003.5 days	78	1126.5 days		0%
28	CKD-1080		KD1H completion of civil and structural works of SAS Pumping Station in Portion B-6 (703.5 days after starting date)			630 days	Tue 19/11/19	Mon 9/8/21	0 days	Fri 22/10/21	Fri 22/10/21	NA	NA	2FS+704.5 days	82	1425.5 days		0%
29	CKD-1090		KD1I completion alternation works for existing Power House in Portion B-7A (179days after access date of B-7A)			150 days	Fri 4/9/20	Sun 31/1/21	1 day	Mon 1/3/21	Mon 1/3/21	Mon 1/3/21	Mon 1/3/21	13FS+179 days		0 days		100%
30	CKD-1100		KD1J completion of auxiliary facilites in Portion B-7 (811.5 days after starting date)			800 days	Tue 19/11/19	Wed 26/1/22	0 days	Mon 7/2/22	Mon 7/2/22	NA	NA	2FS+812.5 days	86	1317.5 days		0%
31	CKD-1110		KD2A completion of effluent pipes to UV system and connection to its downstream in Portion B-9 (577.5 days after starting date)			495 days	Tue 19/11/19	Sat 27/3/21	0 days	Fri 18/6/21	Fri 18/6/21	Fri 18/6/21	Fri 18/6/21	2FS+578.5 days	93	0 days		100%
32	CKD-1120		KD2B completion of air supply main alternation to existing air blower house No.2 in Portion B-8A (494 days after starting date)			420 days	Tue 19/11/19	Mon 11/1/21	0 days	Fri 26/3/21	Fri 26/3/21	Fri 26/3/21	Fri 26/3/21	2FS+495 days		0 days		100%
33	CKD-1130		KD3A completion of all utilities and road works (1519 days after starting date)			1440 days	Tue 19/11/19	Sat 28/10/23	0 days	Mon 15/1/24	Mon 15/1/24	NA	NA	2FS+1520 days	99	606 days		0%
34	**CCD-1000**		**Completion Date (cal. Day)**			**1956 days**	**Tue 19/11/19**	**Thu 27/3/25**	**1056 days**	**Sat 23/7/22**	**Fri 13/6/25**	**Sat 23/7/22**	**NA**			**50.5 days**		**0%**
35	CCD-1010		Section 1 of the Works (1,543.5 after starting date)			1460 days	Tue 19/11/19	Fri 17/11/23	0 days	Fri 9/2/24	Fri 9/2/24	NA	NA	2FS+1544.5 days	105	0 days		0%
36	CCD-1020		Section 2 of the Works (977.5 after starting date)			900 days	Tue 19/11/19	Fri 6/5/22	0 days	Sat 23/7/22	Sat 23/7/22	NA	NA	2FS+978.5 days	111	0 days		0%
37	CCD-1030		Section 3 of the Works (1,667.5 after starting date)			1590 days	Tue 19/11/19	Tue 26/3/24	0 days	Wed 12/6/24	Wed 12/6/24	Wed 12/6/24	NA	2FS+1668.5 days	39FS+1 day,117,38FS+1 day	-77.5 days		99%
38	CCD-1040		Defects Liability Period			365 days	Wed 27/3/24	Thu 27/3/25	365 days	Thu 13/6/24	Fri 13/6/25	NA	NA	37FS+1 day		0 days		0%
39	CCD-1050		Landscape Establishment Works			365 days	Wed 27/3/24	Thu 27/3/25	365 days	Thu 13/6/24	Fri 13/6/25	NA	NA	37FS+1 day		103.5 days		0%
40	**PD-1000**	*	**Planned Completion**			**1686 days**	**Fri 14/8/20**	**Thu 27/3/25**	**1820 days**	**Wed 30/9/20**	**Wed 24/9/25**	**Wed 30/9/20**	**NA**			**0 days**		**3%**
41	**PCD-1000**	*	**Planned Completion - Key Dates (cal. day)**			**1170 days**	**Fri 14/8/20**	**Sat 28/10/23**	**1321 days**	**Wed 30/9/20**	**Mon 13/5/24**	**Wed 30/9/20**	**NA**			**-119 days**		**99%**
42	PKD-1010	KD1A	KD1A completion of AR3 in Portion B-1 (300days after starting date)			0 days	Sat 12/9/20	Sat 12/9/20	0 days	Wed 30/9/20	Wed 30/9/20	Wed 30/9/20	Wed 30/9/20	210FF		0 days		100%
43	PCD-1020	KD1B	KD1B completion of utilities diversion for commencement of Inlet Works No.1 in Portion B-2 (360days after starting date)			0 days	Fri 14/8/20	Fri 14/8/20	0 days	Fri 22/1/21	Fri 22/1/21	Fri 22/1/21	Fri 22/1/21	286FF,291FF,273FF		0 days		100%
44	PCD-1030	KD1C	KD1C completion of civil and structural works of Inlet Works No.1 in Portion B-2 (990days after starting date)			0 days	Thu 4/8/22	Thu 4/8/22	0 days	Thu 1/12/22	Thu 1/12/22	NA	NA	330FF,322FF,248FF,294FF,212FF,250FF		-40 days		0%
45	PCD-1040	KD1D	KD1D completion of civil and structural works of Primary Sedimentation Tanks in Portion B-3 (1190days after starting date)			0 days	Mon 20/2/23	Mon 20/2/23	0 days	Mon 20/2/23	Mon 20/2/23	NA	NA	349FF,348FF,351FF,333FF		0 days		0%
46	PCD-1050	KD1E	KD1E completion of civil and structural works of Bioreactor in Portion B-4 (1,140days after starting date)			0 days	Sat 31/12/22	Sat 31/12/22	0 days	Sat 22/4/23	Sat 22/4/23	NA	NA	391FF,397FF,393FF,396FF,392FF		-111 days		0%
47	PCD-1060	KD1F	KD1F completion of civil and structural works of MFB from B2 floor to 1st floor level in Portion B-5 (800days after starting date)			0 days	Tue 25/1/22	Tue 25/1/22	0 days	Thu 4/8/22	Thu 4/8/22	NA	NA	430FF		-135 days		0%
48	PCD-1070	KD1G	KD1G completion of civil and structural works of MFB in Portion B-5 (950days after starting date)			0 days	Sat 25/6/22	Sat 25/6/22	0 days	Wed 28/12/22	Wed 28/12/22	NA	NA	431FF		-133 days		0%
49	PCD-1080	KD1H	KD1H completion of civil and structural works of SAS Pumping Station in Portion B-6 (630days after starting date)			0 days	Mon 9/8/21	Mon 9/8/21	0 days	Sat 19/3/22	Sat 19/3/22	NA	NA	459FF,458FF		-148 days		0%
50	PCD-1090	KD1I	KD1I completion alternation works for existing Power House in Portion B-7A (150days after access date of B-7A)			0 days	Sat 30/1/21	Sat 30/1/21	1 day	Fri 29/1/21	Fri 29/1/21	Fri 29/1/21	Fri 29/1/21	539FF		0 days		100%
51	PCD-1100	KD1J	KD1J completion of auxiliary facilites in Portion B-7 (800days after starting date)			0 days	Wed 26/1/22	Wed 26/1/22	0 days	Mon 13/6/22	Mon 13/6/22	NA	NA	496FF,495FF,521FF,520FF,513FF,512FF		-126 days		0%
52	PCD-1110	KD2A	KD2A completion of effluent pipes to UV system and connection to its downstream in Portion B-9 (495days after starting date)			0 days	Sat 27/3/21	Sat 27/3/21	0 days	Wed 4/8/21	Wed 4/8/21	NA	NA	545FF,543FF		-47 days		0%
53	PCD-1120	KD2B	KD2B completion of air supply main alternation to existing air blower house No.2 in Portion B-8A (420days after starting date)			0 days	Thu 3/9/20	Thu 3/9/20	1 day	Fri 26/3/21	Fri 26/3/21	Fri 26/3/21	Fri 26/3/21	532FF,536FF,537FF,538FF		0 days		100%
54	PCD-1130	KD3A	KD3A completion of all utilities and road works (1440days after starting date)			0 days	Sat 28/10/23	Sat 28/10/23	0 days	Mon 13/5/24	Mon 13/5/24	NA	NA	555FF,557FF		-119 days		0%
55	**PCD-1000**	*	**Planned Completion Date (cal. Day)**			**1056 days**	**Fri 6/5/22**	**Thu 27/3/25**	**1054 days**	**Sat 5/11/22**	**Wed 24/9/25**	**NA**	**NA**			**-106 days**		**0%**
56	PCD-1010	SW1	Section 1 of the Works (1,460 after starting date)			0 days	Wed 23/8/23	Wed 23/8/23	0 days	Mon 27/11/23	Mon 27/11/23	NA	NA	522FF,514FF,477FF,504FF,488FF,460FF		73 days		0%
57	PCD-1020	SW2	Section 2 of the Works (900 after starting date)			0 days	Fri 6/5/22	Fri 6/5/22	0 days	Sat 5/11/22	Sat 5/11/22	NA	NA	549FF,399FF,433FF,352FF,334FF,550FF		-106 days		0%
58	PCD-1030	SW3	Section 3 of the Works (1,590 after starting date)			0 days	Tue 26/3/24	Tue 26/3/24	0 days	Tue 24/9/24	Tue 24/9/24	NA	NA	558FF,559FF,541FF,540FF		-105 days		0%
59	PCD-1040	DLP	Defects Liability Period			0 days	Thu 27/3/25	Thu 27/3/25	0 days	Wed 24/9/25	Wed 24/9/25	NA	NA	560FF,153FF		0 days		0%
60	PCD-1050		Landscape Establishment Works			0 days	Thu 27/3/25	Thu 27/3/25	0 days	Wed 24/9/25	Wed 24/9/25	NA	NA	560FF		0 days		0%
61	**ET-1000**		**Effects from Inclement Weather and Other Time Affected Events**			**0 days**	**NA**	**NA**	**1143 days**	**Fri 18/6/21**	**Sun 4/8/24**	**Fri 18/6/21**	**NA**			**416.5 days**		**2%**
62	**ET1C-1000**		**Effects to KD1C**			**0 days**	**NA**	**NA**	**53 days**	**Sat 22/10/22**	**Wed 14/12/22**	**NA**	**NA**			**1015.5 days**		**0%**
63	**ET1C-1100**		**Inclement Weather to KD1C (cal. Day)**			**0 days**	**NA**	**NA**	**49 days**	**Wed 26/10/22**	**Wed 14/12/22**	**NA**	**NA**			**1015.5 days**		**0%**
64	ET1C-1110		Delay and Disruption of Works before June 2021			0 days	NA	NA	23 days	Wed 26/10/22	Fri 18/11/22	NA	NA	67	65	1015.5 days		0%
65	ET1C-1120		Delay and Disruption of Works in June 2021			0 days	NA	NA	26 days	Fri 18/11/22	Wed 14/12/22	NA	NA	64		1015.5 days		0%
66	**ET1C-1200**		**Other Events to KD1C (not all)**			**0 days**	**NA**	**NA**	**4 days**	**Sat 22/10/22**	**Wed 26/10/22**	**NA**	**NA**			**1015.5 days**		**0%**
67	ET1C-1210		Special working arrangement due to COVID-19 in January 2020			0 days	NA	NA	4 days	Sat 22/10/22	Wed 26/10/22	NA	NA	23	64	1056.5 days		0%
68	**ET1D-1000**		**Effects to KD1D**			**0 days?**	**NA**	**NA**	**26 days**	**Mon 20/2/23**	**Wed 22/3/23**	**NA**	**NA**			**749 days**		**0%**
69	**ET1D-1100**		**Inclement Weather to KD1D (cal. Day)**			**0 days?**	**NA**	**NA**	**26 days**	**Mon 20/2/23**	**Wed 22/3/23**	**NA**	**NA**			**749 days**		**0%**
70	ET1D-1110		Delay and Disruption of Works before June 2021			0 days	NA	NA	0 days	Mon 20/2/23	Mon 20/2/23	NA	NA	24	71	749 days		0%
71	ET1D-1120		Delay and Disruption of Works in June 2021			0 days	NA	NA	26 days	Tue 21/2/23	Wed 22/3/23	NA	NA	70		749 days		0%
72	**ET1F-1000**		**Effects to KD1F**			**0 days**	**NA**	**NA**	**49 days**	**Wed 23/3/22**	**Wed 11/5/22**	**NA**	**NA**			**1232.5 days**		**0%**
73	**ET1F-1100**		**Inclement Weather to KD1F (cal. Day)**			**0 days**	**NA**	**NA**	**49 days**	**Wed 23/3/22**	**Wed 11/5/22**	**NA**	**NA**			**1232.5 days**		**0%**
74	ET1F-1110		Delay and Disruption of Works before June 2021			0 days	NA	NA	23 days	Wed 23/3/22	Fri 15/4/22	NA	NA	26	75	1232.5 days		0%
75	ET1F-1120		Delay and Disruption of Works in June 2021			0 days	NA	NA	26 days	Fri 15/4/22	Wed 11/5/22	NA	NA	74		1232.5 days		0%
76	**ET1G-1000**		**Effects to KD1G**			**0 days**	**NA**	**NA**	**49 days**	**Wed 17/8/22**	**Wed 5/10/22**	**NA**	**NA**			**1085.5 days**		**0%**
77	**ET1G-1100**		**Inclement Weather to KD1G (cal. Day)**			**0 days**	**NA**	**NA**	**49 days**	**Wed 17/8/22**	**Wed 5/10/22**	**NA**	**NA**			**1085.5 days**		**0%**
78	ET1G-1110		Delay and Disruption of Works before June 2021			0 days	NA	NA	23 days	Wed 17/8/22	Fri 9/9/22	NA	NA	27	79	1085.5 days		0%
79	ET1G-1120		Delay and Disruption of Works in June 2021			0 days	NA	NA	26 days	Fri 9/9/22	Wed 5/10/22	NA	NA	78		1085.5 days		0%
80	**ET1H-1000**		**Effects to KD1H**			**0 days**	**NA**	**NA**	**49 days**	**Fri 22/10/21**	**Fri 10/12/21**	**NA**	**NA**			**1384.5 days**		**0%**
81	**ET1H-1100**		**Inclement Weather to KD1H (cal. Day)**			**0 days**	**NA**	**NA**	**49 days**	**Fri 22/10/21**	**Fri 10/12/21**	**NA**	**NA**			**1384.5 days**		**0%**
82	ET1H-1110		Delay and Disruption of Works before June 2021			0 days	NA	NA	23 days	Fri 22/10/21	Sun 14/11/21	NA	NA	28	83	1384.5 days		0%
83	ET1H-1120		Delay and Disruption of Works in June 2021			0 days	NA	NA	26 days	Sun 14/11/21	Fri 10/12/21	NA	NA	82		1384.5 days		0%
84	**ET1H-1000**		**Effects to KD1J**			**0 days**	**NA**	**NA**	**49 days**	**Mon 7/2/22**	**Mon 28/3/22**	**NA**	**NA**			**1276.5 days**		**0%**



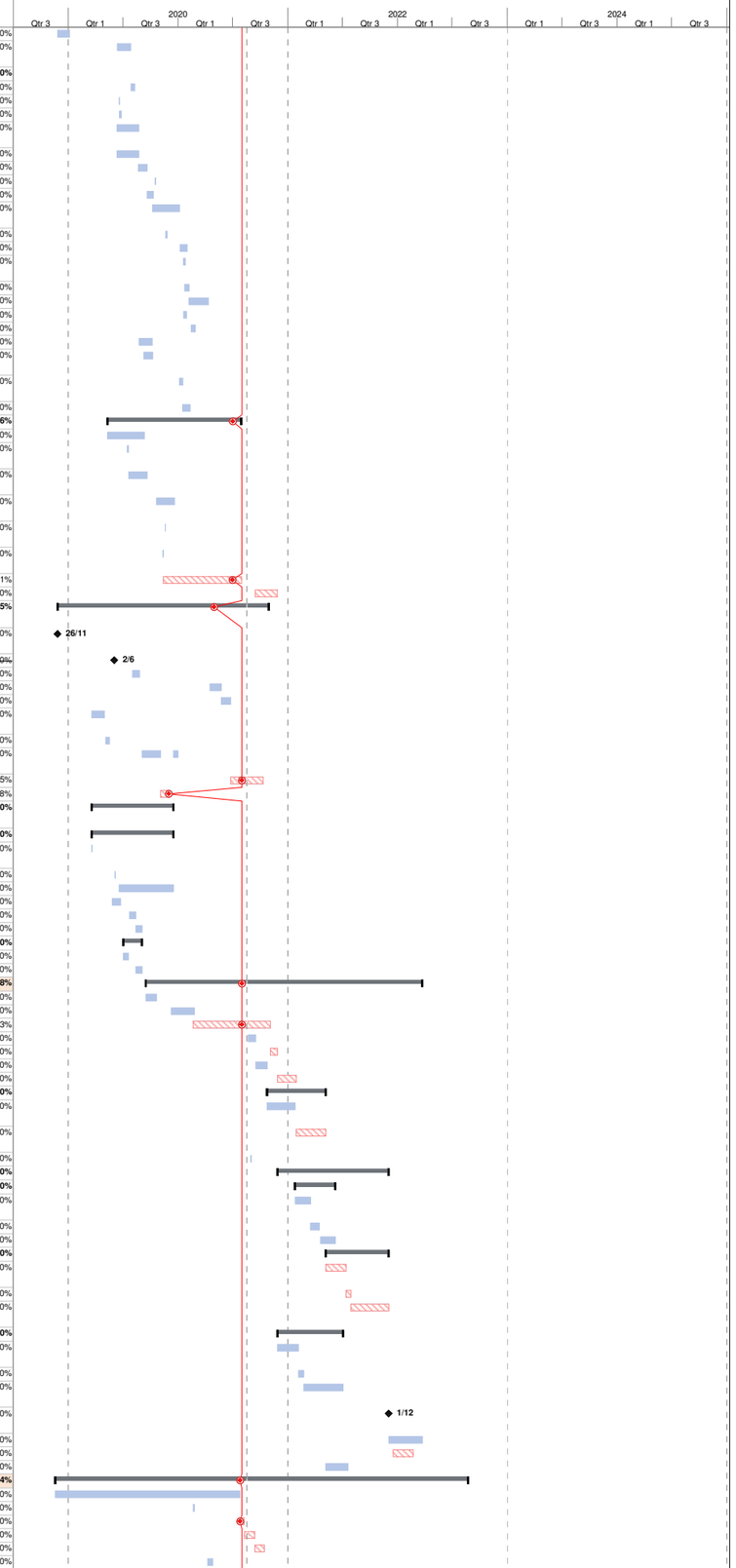
ID	Activity ID	Key Date	Task Name	Inclement Weather CE no. (NCE no.)	PMI & CE no. (NCE no.)	Baseline Duration	Baseline Start	Baseline Finish	Duration	Start	Finish	Actual Start	Actual Finish	Predecessors	Successors	Total Slack	Risk Allowance	% Complete
85	**ET1H-1100**		**Inclement Weather to KD1J (cal. Day)**			**0 days**	**NA**	**NA**	**49 days**	**Mon 7/2/22**	**Mon 28/3/22**	**NA**	**NA**			**1276.5 days**		**0%**
86	ET1H-1110		Delay and Disruption of Works before June 2021			0 days	NA	NA	23 days	Mon 7/2/22	Wed 2/3/22	NA	NA	30	87	1276.5 days		0%
87	ET1H-1120		Delay and Disruption of Works in June 2021			0 days	NA	NA	26 days	Wed 2/3/22	Mon 28/3/22	NA	NA	86		1276.5 days		0%
88	**ET2A-1000**		**Effects to KD2A**			**0 days**	**NA**	**NA**	**53 days**	**Fri 18/6/21**	**Tue 10/8/21**	**Fri 18/6/21**	**NA**			**1506.5 days**		**24%**
89	**ET2A-1100**		**Inclement Weather to KD2A (cal. Day)**			**0 days**	**NA**	**NA**	**49 days**	**Tue 22/6/21**	**Tue 10/8/21**	**Tue 22/6/21**	**NA**			**1506.5 days**		**17%**
90	ET2A-1110		Delay and Disruption of Works before June 2021			0 days	NA	NA	23 days	Tue 22/6/21	Thu 15/7/21	Tue 22/6/21	NA	93	91	1506.5 days		37%
91	ET2A-1120		Delay and Disruption of Works in June 2021			0 days	NA	NA	26 days	Thu 15/7/21	Tue 10/8/21	NA	NA	90		1506.5 days		0%
92	**ET2A-1200**		**Other Events to KD2A (not all)**			**0 days**	**NA**	**NA**	**4 days**	**Fri 18/6/21**	**Tue 22/6/21**	**Fri 18/6/21**	**Tue 22/6/21**			**0 days**		**100%**
93	ET2A-1210		Special working arrangement due to COVID-19 in January 2020			0 days	NA	NA	4 days	Fri 18/6/21	Tue 22/6/21	Fri 18/6/21	Tue 22/6/21	31	90	0 days		100%
94	**ET3A-1000**		**Effects to KD3A**			**0 days**	**NA**	**NA**	**53 days**	**Tue 16/1/24**	**Fri 8/3/24**	**NA**	**NA**			**565 days**		**0%**
95	**ET3A-1100**		**Inclement Weather to KD3A (cal. Day)**			**0 days**	**NA**	**NA**	**49 days**	**Sat 20/1/24**	**Fri 8/3/24**	**NA**	**NA**			**565 days**		**0%**
96	ET3A-1110		Delay and Disruption of Works before June 2021			0 days	NA	NA	23 days	Sat 20/1/24	Sun 11/2/24	NA	NA	99	97	565 days		0%
97	ET3A-1120		Delay and Disruption of Works in June 2021			0 days	NA	NA	26 days	Mon 12/2/24	Fri 8/3/24	NA	NA	96		565 days		0%
98	**ET3A-1200**		**Other Events to KD3A (not all)**			**0 days**	**NA**	**NA**	**4 days**	**Tue 16/1/24**	**Fri 19/1/24**	**NA**	**NA**			**565 days**		**0%**
99	ET3A-1210		Special working arrangement due to COVID-19 in January 2020			0 days	NA	NA	4 days	Tue 16/1/24	Fri 19/1/24	NA	NA	33	96	565 days		0%
100	**ETS1-1000**		**Effects to Section 1 of the Works**			**0 days**	**NA**	**NA**	**53 days**	**Fri 9/2/24**	**Tue 2/4/24**	**NA**	**NA**			**540.5 days**		**0%**
101	**ETS1-1100**		**Inclement Weather to Section 1 of the Works (cal. Day)**			**0 days**	**NA**	**NA**	**49 days**	**Tue 13/2/24**	**Tue 2/4/24**	**NA**	**NA**			**540.5 days**		**0%**
102	ETS1-1110		Delay and Disruption of Works before June 2021			0 days	NA	NA	23 days	Tue 13/2/24	Thu 7/3/24	NA	NA	105	103	540.5 days		0%
103	ETS1-1120		Delay and Disruption of Works in June 2021			0 days	NA	NA	26 days	Thu 7/3/24	Tue 2/4/24	NA	NA	102		540.5 days		0%
104	**ETS1-1200**		**Other Events to Section 1 of the Works (not all)**			**0 days**	**NA**	**NA**	**4 days**	**Fri 9/2/24**	**Tue 13/2/24**	**NA**	**NA**			**540.5 days**		**0%**
105	ETS1-1210		Special working arrangement due to COVID-19 in January 2020			0 days	NA	NA	4 days	Fri 9/2/24	Tue 13/2/24	NA	NA	35	102	540.5 days		0%
106	**ETS2-1000**		**Effects to Section 2 of the Works**			**0 days**	**NA**	**NA**	**53 days**	**Sat 23/7/22**	**Wed 14/9/22**	**NA**	**NA**			**1106.5 days**		**0%**
107	**ETS2-1100**		**Inclement Weather to Section 2 of the Works (cal. Day)**			**0 days**	**NA**	**NA**	**49 days**	**Wed 27/7/22**	**Wed 14/9/22**	**NA**	**NA**			**1106.5 days**		**0%**
108	ETS2-1110		Delay and Disruption of Works before June 2021			0 days	NA	NA	23 days	Wed 27/7/22	Fri 19/8/22	NA	NA	111	109	1106.5 days		0%
109	ETS2-1120		Delay and Disruption of Works in June 2021			0 days	NA	NA	26 days	Fri 19/8/22	Wed 14/9/22	NA	NA	108		1106.5 days		0%
110	**ETS2-1200**		**Other Events to Section 2 of the Works (not all)**			**0 days**	**NA**	**NA**	**4 days**	**Sat 23/7/22**	**Wed 27/7/22**	**NA**	**NA**			**1106.5 days**		**0%**
111	ETS2-1210		Special working arrangement due to COVID-19 in January 2020			0 days	NA	NA	4 days	Sat 23/7/22	Wed 27/7/22	NA	NA	36	108	1106.5 days		0%
112	**ETS3-1000**		**Effects to Section 3 of the Works**			**0 days**	**NA**	**NA**	**53 days**	**Wed 12/6/24**	**Sun 4/8/24**	**NA**	**NA**			**416.5 days**		**0%**
113	**ETS3-1100**		**Inclement Weather to Section 3 of the Works (cal. Day)**			**0 days**	**NA**	**NA**	**49 days**	**Sun 16/6/24**	**Sun 4/8/24**	**NA**	**NA**			**416.5 days**		**0%**
114	ETS3-1110		Delay and Disruption of Works before June 2021			0 days	NA	NA	23 days	Sun 16/6/24	Tue 9/7/24	NA	NA	117	115	416.5 days		0%
115	ETS3-1120		Delay and Disruption of Works in June 2021			0 days	NA	NA	26 days	Tue 9/7/24	Sun 4/8/24	NA	NA	114		416.5 days		0%
116	**ETS3-1200**		**Other Events to Section 3 of the Works (not all)**			**0 days**	**NA**	**NA**	**4 days**	**Wed 12/6/24**	**Sun 16/6/24**	**NA**	**NA**			**416.5 days**		**0%**
117	ETS3-1210		Special working arrangement due to COVID-19 in January 2020			0 days	NA	NA	4 days	Wed 12/6/24	Sun 16/6/24	NA	NA	37	114	416.5 days		0%
118	**SUB-1000**		**Submissions (cal.day)**			**1564 days**	**Mon 18/11/19**	**Wed 28/2/24**	**1956 days**	**Mon 18/11/19**	**Wed 26/3/25**	**Mon 18/11/19**	**NA**			**182 days**		**60%**
119	**SUBS-1000**		**Subletting Package**			**96 days**	**Mon 18/11/19**	**Fri 21/2/20**	**562 days**	**Mon 18/11/19**	**Tue 1/6/21**	**Mon 18/11/19**	**Tue 1/6/21**			**0 days**		**100%**
120	SUBS-1010		Prepare & submit subletting procedure			12 days	Mon 18/11/19	Fri 29/11/19	12 days	Mon 18/11/19	Fri 29/11/19	Mon 18/11/19	Fri 29/11/19	2	121	0 days		100%
121	SUBS-1020		PM review and accept subletting procedure			15 days	Sat 30/11/19	Wed 11/12/19	12 days	Sat 30/11/19	Wed 11/12/19	Sat 30/11/19	Wed 11/12/19	120	142,122,125,124,123	0 days		100%
122	SUBS-1030		Subletting for demolition works			24 days	Thu 12/12/19	Sat 4/1/20	93 days	Tue 17/12/19	Wed 18/3/20	Tue 17/12/19	Wed 18/3/20	121,154	339,462,295,402,539,359	0 days		100%
123	SUBS-1040		Subletting for UU diversion for Inlet Works No.1			24 days	Thu 12/12/19	Sat 4/1/20	78 days	Fri 10/1/20	Fri 27/3/20	Fri 10/1/20	Fri 27/3/20	121	212	0 days		100%
124	SUBS-1050		Subletting for Inspection pit excavation			0 days	NA	NA	56 days	Thu 19/12/19	Wed 12/2/20	Thu 19/12/19	Wed 12/2/20	121,154	214,126	0 days		100%
125	SUBS-1060		Subletting for Preliminary Works (topographic surveying)			14 days	Thu 12/12/19	Wed 25/12/19	54 days	Fri 20/12/19	Tue 11/2/20	Fri 20/12/19	Tue 11/2/20	121,154	159,198,129,130,131,127	0 days		100%
126	SUBS-1070		Subletting for AR3 access road			24 days	Thu 12/12/19	Sat 4/1/20	0 days	Fri 13/12/19	Tue 11/2/20	Fri 13/12/19	Tue 11/2/20	124	127,210	0 days		100%
127	SUBS-1080		Subletting for pre-drilling works			24 days	Thu 12/12/19	Sat 4/1/20	38 days	Thu 6/2/20	Fri 20/3/20	Thu 6/2/20	Fri 20/3/20	125,126	452,342,414,128	0 days		100%
128	SUBS-1090		Subletting for Contractor designer for temporary works and ICE			24 days	Thu 12/12/19	Sat 4/1/20	71 days	Mon 16/12/19	Mon 24/2/20	Mon 16/12/19	Mon 24/2/20	127		0 days		100%
129	SUBS-1100		Subletting for independent BIM consultant			24 days	Thu 12/12/19	4/1/120	0 days	Wed 11/12/19	Thu 23/1/20	Wed 11/12/19	Thu 23/1/20	125	193	0 days		100%
130	SUBS-1110		Subletting for independent BIM services			0 days	NA	NA	15 days	Tue 14/1/20	Wed 26/2/20	Tue 14/1/20	Wed 26/2/20	125	193	0 days		100%
131	SUBS-1120		Subletting for Design, Supply & Install of Temporary Activated Carbon Deodorization Units (E&M Works)			0 days	NA	NA	0 days	Fri 13/12/19	Tue 11/2/20	Fri 13/12/19	Tue 11/2/20	125	132,133	0 days		100%
132	SUBS-1130		Subletting for pre-bored H pile works			36 days	Thu 12/12/19	Thu 16/1/20	45 days	Sun 5/7/20	Tue 18/8/20	Sun 5/7/20	Tue 18/8/20	131	343,415,453,309	0 days		100%
133	SUBS-1140		Subletting for Sheetpile installation works			0 days	NA	NA	45 days	Tue 1/9/20	Thu 15/10/20	Tue 1/9/20	Thu 15/10/20	131	344,455,134,135	0 days		100%
134	SUBS-1150		Subletting for ELS works for Inlet Works No.1			48 days	Sun 5/1/20	Fri 21/2/20	85 days	Fri 16/10/20	Fri 8/1/21	Fri 16/10/20	Fri 8/1/21	133		0 days		100%
135	SUBS-1160		Subletting for ELS works for Membrance Facilities Building and other buildings			48 days	Sun 5/1/20	Fri 21/2/20	85 days	Fri 16/10/20	Fri 8/1/21	Fri 16/10/20	Fri 8/1/21	133	346,389,456,136,137,138,139,140,	0 days		100%
136	SUBS-1170		Subletting for structural works for Inlet Works Building			48 days	Thu 12/12/19	Tue 28/1/20	48 days	Sat 9/1/21	Thu 25/2/21	Sat 9/1/21	Thu 25/2/21	135		0 days		100%
137	SUBS-1180		Subletting for structural works for Primary Sedimentation Tanks			48 days	Thu 12/12/19	Tue 28/1/20	48 days	Sat 9/1/21	Thu 25/2/21	Sat 9/1/21	Thu 25/2/21	135	348	0 days		100%
138	SUBS-1190		Subletting for structural works for Bioreactors			48 days	Thu 12/12/19	Tue 28/1/20	48 days	Sat 9/1/21	Thu 25/2/21	Sat 9/1/21	Thu 25/2/21	135	391	0 days		100%
139	SUBS-1200		Subletting for structural works for Membrance Facilities Building			48 days	Thu 12/12/19	Tue 28/1/20	48 days	Sat 9/1/21	Thu 25/2/21	Sat 9/1/21	Thu 25/2/21	135	426	0 days		100%
140	SUBS-1210		Subletting for structural works for SAS pumping house and ancillary structures			48 days	Thu 12/12/19	Tue 28/1/20	48 days	Sat 9/1/21	Thu 25/2/21	Sat 9/1/21	Thu 25/2/21	135	141	0 days		100%
141	SUBS-1220		Subletting for ABWF works			48 days	Thu 12/12/19	Tue 28/1/20	48 days	Fri 26/2/21	Wed 14/4/21	Fri 26/2/21	Wed 14/4/21	140	332,350,398,460,488,504,514,522,	0 days		100%
142	SUBS-1230		Subletting for Process Pipeworks, Utilities and Roadworks			48 days	Thu 12/12/19	Tue 28/1/20	150 days	Fri 22/5/20	Sun 18/10/20	Fri 22/5/20	Sun 18/10/20	121	532,549,551,552,553,554,543	0 days		100%
143	SUBS-1240		Subletting for Landscape Hardworks and Softworks			48 days	Thu 12/12/19	Tue 28/1/20	48 days	Thu 15/4/21	Tue 1/6/21	Thu 15/4/21	Tue 1/6/21	141	559,560	0 days		100%
144	SUBS-1250		Subletting for Trial dewatering works and installation of additional stop logs at BR2 connon channel due to malfucntioned of existing penstock at FST no. 5 and 7 (EWN 055)			0 days	NA	NA	15 days	Tue 15/9/20	Tue 29/9/20	Tue 15/9/20	Tue 29/9/20		355	0 days		100%
145	SUBS-1260		Subletting for Diversion of Power supply for existing Slaghter House pump station (CE 034)			0 days	NA	NA	14 days	Mon 21/9/20	Sun 4/10/20	Mon 21/9/20	Sun 4/10/20			0 days		100%
146	SUBS-1270		Subletting for Decommission of exisiting power and signal systems in leachate Pump station switch room (PMI 039)			0 days	NA	NA	14 days	Mon 21/9/20	Sun 4/10/20	Mon 21/9/20	Sun 4/10/20		439	0 days		100%
147	SUBS-1280		Subletting for Diversion of Existing DN250 Leachate Raising Main (PPMI 025)			0 days	NA	NA	31 days	Mon 21/9/20	Wed 21/10/20	Mon 21/9/20	Wed 21/10/20			0 days		100%
148	SUBS-1290		Subletting for Construction of Cable trough for CLP 11kv Cable Diversion (PPMI 041)			0 days	NA	NA	31 days	Mon 21/9/20	Wed 21/10/20	Mon 21/9/20	Wed 21/10/20		453	0 days		100%
149	SUBS-1300		Subletting for Demolition of Existing Pillar box and its concrete plinth (CE 030)			0 days	NA	NA	31 days	Mon 21/9/20	Wed 21/10/20	Mon 21/9/20	Wed 21/10/20		441	0 days		100%
150	SUBS-1310		Subletting for Excavation to locate existing underground cable near SAS Pump Station (PPMI 038)			0 days	NA	NA	31 days	Mon 21/9/20	Wed 21/10/20	Mon 21/9/20	Wed 21/10/20			0 days		100%
151	SUBS-1320		Subletting for Diversion of pumping system sewerage (PPMI 083)			0 days	NA	NA	31 days	Mon 21/9/20	Wed 21/10/20	Mon 21/9/20	Wed 21/10/20		446	0 days		100%
152	**SUBA-1000**		**Statutory Submission, Submission and Approval**			**1564 days**	**Mon 18/11/19**	**Wed 28/2/24**	**1956 days**	**Mon 18/11/19**	**Wed 26/3/25**	**Mon 18/11/19**	**NA**			**182 days**		**49%**
153	SUBA-1010		Liaison with operator of SWHSTW and obtain their consent of associated method statement of major activities			0 days	NA	NA	1584 days	Mon 18/11/19	Wed 26/3/25	Mon 18/11/19	NA	2	59FF	156 days		30%
154	SUBA-1020		Prepare and submit Subcontractor Management Plan (SMP)			24 days	Mon 18/11/19	Wed 11/12/19	24 days	Mon 18/11/19	Wed 11/12/19	Mon 18/11/19	Wed 11/12/19	2	122,125,124	0 days		100%
155	SUBA-1030		Prepare and submit Interface Management Plan			36 days	Mon 18/11/19	Mon 23/12/19	36 days	Mon 18/11/19	Mon 23/12/19	Mon 18/11/19	Mon 23/12/19	2		0 days		100%
156	SUBA-1040		Prepare and submit the TTA plans inside Treatment Plant for UU diversion and buildings construction			24 days	Mon 18/11/19	Wed 11/12/19	24 days	Mon 18/11/19	Wed 11/12/19	Mon 18/11/19	Wed 11/12/19	2	201	0 days		100%
157	SUBA-1050		Prepare and submit method statement for UU diversion for Inlet Works No.1			12 days	Mon 18/11/19	Fri 29/11/19	12 days	Mon 18/11/19	Fri 29/11/19	Mon 18/11/19	Fri 29/11/19	2	158	0 days		100%
158	SUBA-1060		PM review and accept the method statement			12 days	Sat 30/11/19	Wed 11/12/19	0 days	Sat 30/11/19	Wed 11/12/19	Sat 30/11/19	Wed 11/12/19	157	213,214	0 days		100%
159	SUBA-1070		Prepare and submit combine underground services drawing for PM's review the alignment			24 days	Thu 26/12/19	Sat 18/1/20	23 days	Thu 26/12/19	Sat 18/1/20	Thu 26/12/19	Sat 18/1/20	125		0 days		100%
160	SUBA-1080		Prepare and submit method statement for demolition existing structures			24 days	Mon 18/11/19	Wed 11/12/19	66 days	Mon 18/11/19	Wed 22/1/20	Mon 18/11/19	Wed 22/1/20	2	402,339,462,295,539	0 days		100%
161	SUBA-1090		Prepare and submit method statement for structural works for buildings			24 days	Mon 18/11/19	Wed 11/12/19	197 days	Mon 18/11/19	Mon 1/6/20	Mon 18/11/19	Mon 1/6/20	2		0 days		100%
162	SUBA-1100		Prepare and submit method statements to MTRC regarding the works within railing protection boundary			36 days	Mon 18/11/19	Mon 23/12/19	92 days	Sat 1/2/20	Mon 25/5/20	Sat 1/2/20	Mon 25/5/20	2	339,462,539,359	0 days		100%
163	SUBA-1110		Prepare and submit & approve Safety Management Plan			24 days	Mon 18/11/19	Wed 11/12/19	3 days	Mon 18/11/19	Wed 20/11/19	Mon 18/11/19	Wed 20/11/19	2		0 days		100%
164	SUBA-1120		Prepare and submit Excavation and lateral support (ELS) proposal			24 days	Mon 10/2/20	Wed 4/3/20	128 days	Mon 10/2/20	Tue 16/6/20	Mon 10/2/20	Tue 16/6/20	2		0 days		100%
165	SUBA-1120a		Prepare and submit Excavation and lateral support (ELS) proposal for Inlet Works No.1			0 days	NA	NA	24 days	Wed 29/9/21	Sat 23/10/21	NA	NA	314SF		1433 days		0%
166	SUBA-1120b		Prepare and submit Excavation and lateral support (ELS) proposal for Primnary Sedimentation tanks No.1-4			0 days	NA	NA	24 days	Fri 1/7/22	Mon 25/7/22	NA	NA	346SF		1158 days		0%
167	SUBA-1120c		Prepare and submit Excavation and lateral support (ELS) proposal for Bioreactor No. 2A&2B			0 days	NA	NA	24 days	Sun 15/5/22	Wed 8/6/22	NA	NA	389SF		1205 days		0%
168	SUBA-1130		Prepare and submit Dewatering proposal for basement construction			24 days	Mon 10/2/20	Wed 4/3/20	165 days	Mon 10/2/20	Thu 23/7/20	Mon 10/2/20	Thu 23/7/20	2		0 days		100%
169	SUBA-1130a		Prepare and submit Dewatering proposal for basement construction for Inlet Works No.1			0 days	NA	NA	24 days	Wed 29/9/21	Sat 23/10/21	NA	NA	314SF		1433 days		0%



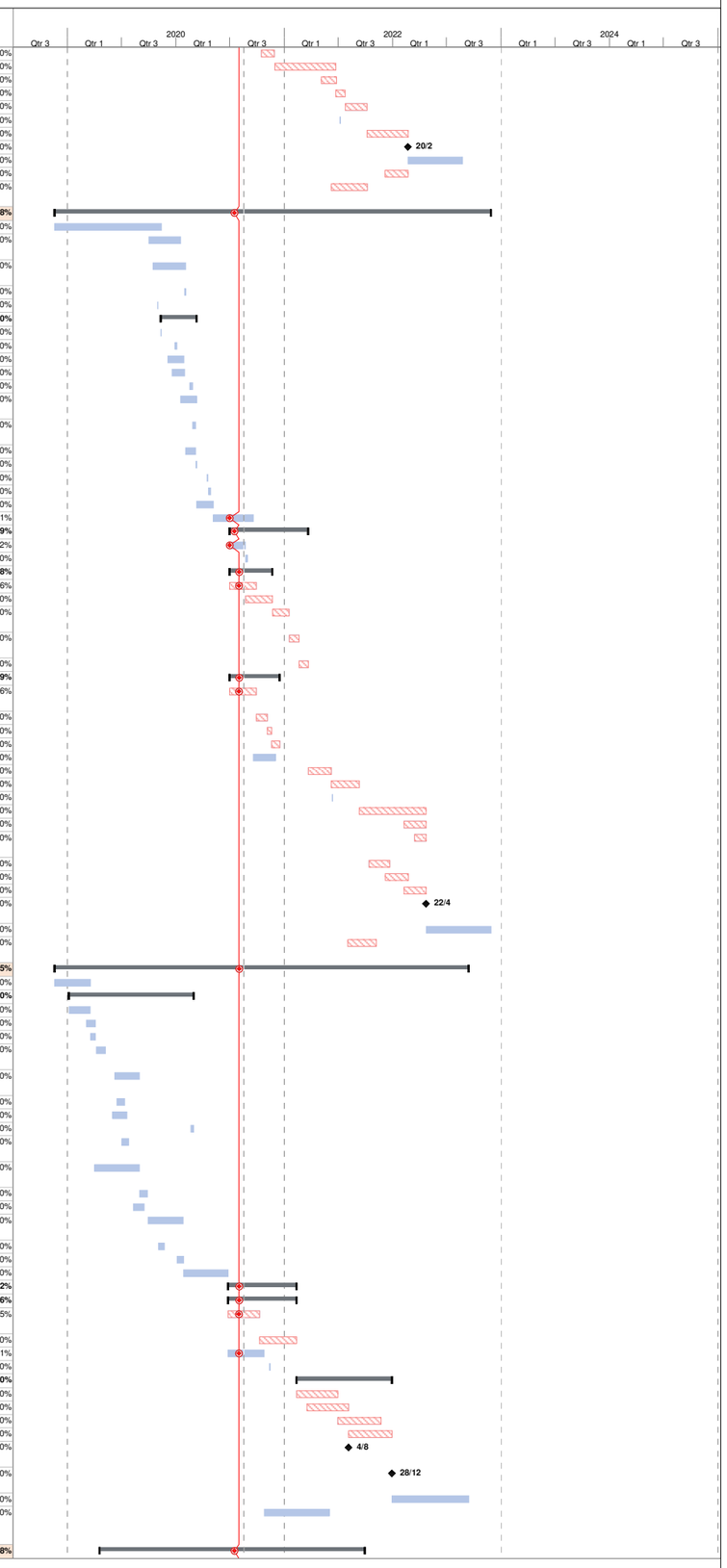
ID	Activity ID	Key Date	Task Name	Inclement Weather CE no. (NCE no.)	PMI & CE no. (NCE no.)	Baseline Duration	Baseline Start	Baseline Finish	Duration	Start	Finish	Actual Start	Actual Finish	Predecessors	Successors	Total Slack	Risk Allowance	% Complete
170	SUBA-1130b		Prepare and submit Dewatering proposal for basement construction for Primnary Sedimentation tanks No.1-4			0 days	NA	NA	24 days	Fri 1/7/22	Mon 25/7/22	NA	NA	346SF		1158 days		0%
171	SUBA-1130c		Prepare and submit Dewatering proposal for basement construction for Bioreactor No. 2A&2B			0 days	NA	NA	24 days	Sun 15/5/22	Wed 8/6/22	NA	NA	389SF		1205 days		0%
172	SUBA-1140		Prepare and submit Pre-construction condition survey of existing structures/ services			24 days	Wed 5/2/20	Fri 28/2/20	0 days	Mon 18/11/19	Fri 6/3/20	Mon 18/11/19	Fri 6/3/20	198		0 days		100%
173	SUBA-1150		Prepare and submit Settlement and movement monitoring proposal of existing structures/ services			24 days	Wed 5/2/20	Fri 28/2/20	110 days	Mon 18/11/19	Fri 6/3/20	Mon 18/11/19	Fri 6/3/20	198FS+120 days		0 days		100%
174	SUBA-1160		Prepare and submit design of structure elements of the temporary activated carbon deodourization unit			60 days	Fri 17/1/20	Mon 16/3/20	60 days	Mon 18/11/19	Mon 16/3/20	Mon 18/11/19	Mon 16/3/20	2FS+60 days		0 days		100%
175	SUBA-1170		Prepare of RSE and structural design for alternation and additional (A&A) works at Membrane Facilities Building No.1			180 days	Mon 18/10/21	Fri 15/4/22	180 days	Mon 18/10/21	Fri 15/4/22	NA	NA		541	332 days		0%
176	SUBA-1180		Prepare of RSE and structural design for alternation and additional (A&A) works at Main Power House			44 days	Wed 15/7/20	Thu 3/9/20	60 days	Mon 6/7/20	Thu 3/9/20	Mon 6/7/20	Thu 3/9/20		539	0 days		100%
177	**SUBE-1000**		**Environmental Aspect Submissions**			**45 days**	**Mon 18/11/19**	**Wed 1/1/20**	**81 days**	**Mon 18/11/19**	**Thu 6/2/20**	**Mon 18/11/19**	**Thu 6/2/20**			**0 days**		**100%**
178	SUBE-1010		Prepare, submit & approve Site Management Plan for Trip Tricket System			45 days	Mon 18/11/19	Wed 1/1/20	66 days	Mon 18/11/19	Wed 22/1/20	Mon 18/11/19	Wed 22/1/20	2		0 days		100%
179	SUBE-1020		Prepare, submit & approve Waste Management Plan			45 days	Mon 18/11/19	Wed 1/1/20	81 days	Mon 18/11/19	Thu 6/2/20	Mon 18/11/19	Thu 6/2/20	2		0 days		100%
180	SUBE-1030		Prepare, submit & approve Environmental Management Plan			45 days	Mon 18/11/19	Wed 1/1/20	66 days	Mon 18/11/19	Wed 22/1/20	Mon 18/11/19	Wed 22/1/20	2		0 days		100%
181	**SUBP-1000**		**Procurement**			**731 days**	**Mon 18/11/19**	**Wed 17/11/21**	**648 days**	**Mon 18/11/19**	**Thu 26/8/21**	**Mon 18/11/19**	**NA**			**278 days**		**94%**
182	SUBP-1010		Prepare and submit the Procurement Procedure			12 days	Mon 18/11/19	Fri 29/11/19	2 days	Mon 18/11/19	Tue 19/11/19	Mon 18/11/19	Tue 19/11/19	2	183	0 days		100%
183	SUBP-1020		PM Review & Accept Procurement Procedure			12 days	Sat 30/11/19	Wed 11/12/19	21 days	Tue 19/11/19	Tue 10/12/19	Tue 19/11/19	Tue 10/12/19	182	184,185,186,187,188,189,190,191	0 days		100%
184	SUBP-1030		Prepare, submit and approve the pipe works material			25 days	Thu 12/12/19	Sun 5/1/20	34 days	Thu 6/2/20	Tue 10/3/20	Thu 6/2/20	Tue 10/3/20	183	212,532,551,552,554,553,549,557,1	0 days		100%
185	SUBP-1040		Prepare, submit and approve the water proofing material			25 days	Thu 12/12/19	Sun 5/1/20	25 days	Mon 2/8/21	Thu 26/8/21	NA	NA	183	329,325	278 days		0%
186	SUBP-1050		Prepare, submit and approve the concrete mix material			48 days	Thu 12/12/19	Tue 28/1/20	90 days	Mon 3/2/20	Sat 2/5/20	Mon 3/2/20	Sat 2/5/20	183	391,426	0 days		100%
187	SUBP-1060		Prepare, submit and approve the rebar material			48 days	Thu 12/12/19	Tue 28/1/20	49 days	Sat 23/5/20	Fri 10/7/20	Sat 23/5/20	Fri 10/7/20	183	391,426	0 days		100%
188	SUBP-1070		Prepare, submit and approve the metal works material			48 days	Thu 12/12/19	Tue 28/1/20	48 days	Tue 1/9/20	Sun 18/10/20	Tue 1/9/20	Sun 18/10/20	183	391,426	0 days		100%
189	SUBP-1080		Prepare, submit and approve the ABWF works material			48 days	Sat 12/12/20	Tue 28/1/20	48 days	Mon 1/3/21	Sat 17/4/21	Mon 1/3/21	Sat 17/4/21	183	332,350,398,460,488,504,514,522,4	0 days		100%
190	SUBP-1090		Prepare, submit and approve the protective lining to concrete			0 days	NA	NA	48 days	Tue 1/9/20	Sun 18/10/20	Tue 1/9/20	Sun 18/10/20	183	391,426	0 days		100%
191	SUBP-1100		Prepare, submit and approve the multi-part covers			0 days	NA	NA	21 days	Tue 5/5/20	Mon 25/5/20	Tue 5/5/20	Mon 25/5/20	183		0 days		100%
192	**SUBB-1000**		**BIM**			**1205 days**	**Thu 6/2/20**	**Wed 28/2/24**	**1562 days**	**Mon 18/11/19**	**Fri 28/2/25**	**Mon 18/11/19**	**NA**			**178 days**		**27%**
193	SUBB-1010		Prepare, submit and approve the proposal of details of Common data environment (CDE)			48 days	Thu 6/2/20	Wed 1/4/20	37 days	Mon 18/11/19	Wed 1/4/20	Mon 18/11/19	Wed 1/4/20	129,130	194	0 days		100%
194			Prepare and submit BIM submission			1484 days	Thu 6/2/20	Wed 28/2/24	1451 days	Thu 2/4/20	Fri 28/2/25	Thu 2/4/20	NA	193		178 days		25%
195	**C-1000**	*	**Construction Works (Working day)**			**1957 days**	**Mon 18/11/19**	**Thu 27/3/25**	**2138 days**	**Mon 18/11/19**	**Wed 24/9/25**	**Mon 18/11/19**	**NA**			**0 days**		**51%**
196	**CPW-1000**		**Preliminary Works**			**109 days**	**Mon 18/11/19**	**Thu 5/3/20**	**121 days**	**Mon 18/11/19**	**Tue 17/3/20**	**Mon 18/11/19**	**Tue 17/3/20**			**0 days**		**100%**
197	CPW-1000		Initial Survey			24 days	Mon 18/11/19	Sat 14/12/19	10 days	Mon 18/11/19	Thu 28/11/19	Mon 18/11/19	Thu 28/11/19	2	198	0 days		100%
198	CPW-2000		Condition Survey			30 days	Fri 27/12/19	Tue 4/2/20	89 days	Mon 18/11/19	Fri 6/3/20	Mon 18/11/19	Fri 6/3/20	125,197	199,172,173FS+120 days,200	0 days		100%
199	CPW-3000		Installation of Monitoring Markers			26 days	Wed 5/2/20	Thu 5/3/20	78 days	Fri 29/11/19	Thu 5/3/20	Fri 29/11/19	Thu 5/3/20	198		0 days		100%
200	CPW-4000		Tree Felling Works		22, 235	0 days	NA	NA	9 days	Sat 7/3/20	Tue 17/3/20	Sat 7/3/20	Tue 17/3/20	198		0 days		100%
201	**CAR-0000**	*	**Access Road (AR3), B-1**			**193 days**	**Mon 20/1/20**	**Sat 12/9/20**	**238 days**	**Thu 12/12/19**	**Wed 30/9/20**	**Thu 12/12/19**	**Wed 30/9/20**	**4,156**		**0 days**		**100%**
202	CAR-1000		Site setup and clearance wroks		05	28 days	Mon 20/1/20	Mon 24/2/20	38 days	Mon 20/1/20	Fri 6/3/20	Mon 20/1/20	Fri 6/3/20		203	0 days		100%
203	CAR-1001		Awaiting for AECOM instruction for alignment confirmation for road works		055	0 days	NA	NA	5 days	Mon 17/2/20	Thu 12/3/20	Mon 17/2/20	Thu 12/3/20	202	204	0 days		100%
204	CAR-1002		Additional Works in Access Road AR3 to Settle Left-in Material by Contract DC/2016/07		215-1	0 days	NA	NA	4 days	Thu 21/5/20	Mon 25/5/20	Thu 21/5/20	Mon 25/5/20	203	205	0 days		100%
205	CAR-2000		Drainage and Utilities Works			76 days	Fri 6/3/20	Tue 9/6/20	75 days	Sat 7/3/20	Tue 9/6/20	Sat 7/3/20	Tue 9/6/20	204	206	0 days		100%
206	CAR-2000a		Trimming of Existing Sheet Piles in Access Road AR3		215-2	0 days	NA	NA	20 days	Tue 14/7/20	Wed 5/8/20	Tue 14/7/20	Wed 5/8/20	205	207	0 days		100%
207	CAR-2000b		Installation of Multi-part Cover and Manhole Cover of Chamber RP6 and Associated Concreting Works in Portion B-1		215	0 days	NA	NA	7 days	Fri 28/8/20	Fri 4/9/20	Fri 28/8/20	Fri 4/9/20	206	208	0 days		100%
208	CAR-2001		Diversion of Existing Underground Cables in Portion B-1A		036	0 days	NA	NA	172 days	Thu 5/3/20	Wed 30/9/20	Thu 5/3/20	Wed 30/9/20	207	210	0 days		100%
209	CAR-2002		Additional U-channel, beam barrier and footway concrete pavement		055	0 days	NA	NA	60 days	Thu 12/12/19	Wed 26/2/20	Thu 12/12/19	Wed 26/2/20		210	0 days		100%
210	CAR-3000	KD1A	Roadworks			80 days	Wed 10/6/20	Sat 12/9/20	133 days	Fri 24/4/20	Wed 30/9/20	Fri 24/4/20	Wed 30/9/20	126,209,208	42FF	0 days		100%
211	**CIW-0000**	*	**Inlet Works No.1, B-2**			**854 days**	**Mon 6/1/20**	**Mon 21/11/22**	**594 days**	**Tue 26/11/19**	**Thu 25/11/21**	**Tue 26/11/19**	**NA**			**0 days**		**88%**
212	**CIW-1000**		**Diversion Works (1. Inlet Trunk Sewer, Leachate Rising Mains, Sludge Pipes, Tank Drains and Pipelines near Primary Sludge Thinkeners)**			**180 days**	**Mon 6/1/20**	**Fri 14/8/20**	**459 days**	**Tue 26/11/19**	**Wed 16/6/21**	**Tue 26/11/19**	**NA**	**184,123**	**44FF**	**111 days**		**88%**
213	CIW-1100		Utilities scanning to idenify existing UU arrangement			12 days	Mon 6/1/20	Sat 18/1/20	0 days	Fri 13/12/19	Sat 18/1/20	Fri 13/12/19	Sat 18/1/20	158	214SS,216	0 days		100%
214	CIW-1200		Trial pits to locate the collection points			24 days	Mon 6/1/20	Wed 5/2/20	0 days	Mon 6/1/20	Tue 10/3/20	Mon 6/1/20	Tue 10/3/20	158,213SS,124	232,251	0 days		100%
215	**CIW-1300**		**Installation and Commissioning of Temporary Activated Carbon Deodorization Unit for the Existing Inlet Works**			**0 days**	**NA**	**NA**	**98 days**	**Wed 11/3/20**	**Sat 11/7/20**	**Wed 11/3/20**	**Sat 11/7/20**			**0 days**		**100%**
216	CIW-1310		Construction of concrete plinth			0 days	NA	NA	24 days	Wed 11/3/20	Wed 8/4/20	Wed 11/3/20	Wed 8/4/20	213	217	0 days		100%
217	CIW-1320		Installation of Deodorizer			0 days	NA	NA	40 days	Thu 9/4/20	Sat 30/5/20	Thu 9/4/20	Sat 30/5/20	216	218	0 days		100%
218	CIW-1330		Testing & commissioning			0 days	NA	NA	15 days	Mon 1/6/20	Wed 17/6/20	Mon 1/6/20	Wed 17/6/20	217	219FS-1 day	0 days		100%
219	CIW-1340		Demolishment of the existing carbon deodorization unit			0 days	NA	NA	20 days	Wed 17/6/20	Sat 11/7/20	Wed 17/6/20	Sat 11/7/20	218FS-1 day		0 days		100%
220	**CIW-1400**		**Diversion of Inlet Trunk Sewer (approx. 40m 1800mm dia concrete pipe, 4 deep manholes and Inlet Reception Chamber)**			**146 days**	**Thu 6/2/20**	**Mon 3/8/20**	**451 days**	**Mon 9/3/20**	**Mon 13/9/21**	**Mon 9/3/20**	**NA**			**0 days**		**97%**
221	CIW-1405		Joint Initial Survey arrangement with MTRCL			0 days	NA	NA	24 days	Thu 19/11/20	Wed 16/12/20	Thu 19/11/20	Wed 16/12/20		222	0 days		100%
222	CIW-1410		Remedial Works for uncharted sludge Pipe leakage		41	0 days	NA	NA	8 days	Mon 9/3/20	Tue 17/3/20	Mon 9/3/20	Tue 17/3/20	221	223	0 days		100%
223	CIW-1420		Diversion of uncharted DN250 sludge pipe		41	0 days	NA	NA	27 days	Tue 31/3/20	Thu 7/5/20	Tue 31/3/20	Thu 7/5/20	222	230,224,225	0 days		100%
224	CIW-1421		Diversion of uncharted 2' water pipe		24	0 days	NA	NA	9 days	Wed 15/4/20	Fri 24/4/20	Wed 15/4/20	Fri 24/4/20	223	230	0 days		100%
225	CIW-1422		Additional Underground Utility Scanning for existing sludge pipe		32	0 days	NA	NA	1 day	Sat 18/4/20	Sat 18/4/20	Sat 18/4/20	Sat 18/4/20	223		0 days		100%
226	CIW-1423		HV Cable Diversion for Inlet Works		84	0 days	NA	NA	135 days	Sat 10/10/20	Wed 24/3/21	Sat 10/10/20	Wed 24/3/21			0 days		100%
227	CIW-1423a		Exposing, Removal and Diversion of Existing Cables near Inlet Works No. 1		236	0 days	NA	NA	268 days	Mon 4/5/20	Wed 24/3/21	Mon 4/5/20	Wed 24/3/21			0 days		100%
228	CIW-1424		Diversion of Existing Sludge Rising Main and Sewerage System		81	0 days	NA	NA	102 days	Mon 28/9/20	Sat 30/1/21	Mon 28/9/20	Sat 30/1/21		307,309,279,280	0 days		100%
229	CIW-1425		Demolition of Deodorization System and Facilities between Existing Primary Sludge Thickeners and Primary Sludge Pump Pit		037	0 days	NA	NA	1 day	Fri 28/8/20	Fri 28/8/20	Fri 28/8/20	Fri 28/8/20			0 days		100%
230	CIW-1430		Removal of concrete surround and uncharted sludge pipe		030	0 days	NA	NA	20 days	Fri 24/4/20	Tue 19/5/20	Fri 24/4/20	Tue 19/5/20	223,224	231	0 days		100%
231	CIW-1440		Remedial works for uncharted pipe and unforeseen water seepage		273	0 days	NA	NA	10 days	Fri 8/5/20	Tue 19/5/20	Fri 8/5/20	Tue 19/5/20	230	232,233	0 days		100%
232	**CIW-1450**		**Trench Excavation for 1800mm dia pipeline and manholes**			**146 days**	**Thu 6/2/20**	**Mon 3/8/20**	**238 days**	**Wed 11/3/20**	**Mon 28/12/20**	**Wed 11/3/20**	**Mon 28/12/20**	**214,231**		**0 days**		**100%**
233	CIW-1450a		Sheetpile installation (on hold due to identification of uncharted obstruction)		28	0 days	NA	NA	80 days	Wed 11/3/20	Thu 18/6/20	Wed 11/3/20	Thu 18/6/20	231	234	0 days		100%
234	CIW-1450b		Trench Excavation for 1800mm dia pipeline and manholes			45 days	Thu 6/2/20	Sat 28/3/20	22 days	Thu 18/6/20	Wed 15/7/20	Thu 18/6/20	Wed 15/7/20	233	235,247	0 days		100%
235	CIW-1450c		Identification of uncharted concrete surround and pipes near MHA01		28	0 days	NA	NA	29 days	Thu 16/7/20	Tue 18/8/20	Thu 16/7/20	Tue 18/8/20	234	238,243,247	0 days		100%
236	CIW-1450d		Removal of existing DSD drawpits near IRC & exposure of CLP cables with installation of additional temporary support		215-2	0 days	NA	NA	26 days	Thu 16/7/20	Fri 14/8/20	Thu 16/7/20	Fri 14/8/20			0 days		100%
237	CIW-1450e		Removal of uncharted concrete surround and pipes near MHA01 and Sheetpile installation		(045)	0 days	NA	NA	10 days	Fri 7/8/20	Tue 18/8/20	Fri 7/8/20	Tue 18/8/20		238,243	0 days		100%
238	CIW-1450f		Revised type of pipe bedding between Manholes no. MHA01 and MHA02		096	0 days	NA	NA	6 days	Sat 3/10/20	Fri 9/10/20	Sat 3/10/20	Fri 9/10/20	237,235	239	0 days		100%
239	CIW-1450g		Replace top soil with Grade 200 Rockfill below Formation level of the proposed pipe between MHA01 and MHA02		079	0 days	NA	NA	3 days	Mon 10/8/20	Wed 12/8/20	Mon 10/8/20	Wed 12/8/20	238	241	0 days		100%
240	CIW-1450h		Grade 200 Rockfill in ELS cofferdam of IRC		(161)	0 days	NA	NA	3 days	Wed 23/12/20	Mon 28/12/20	Wed 23/12/20	Mon 28/12/20		241	0 days		100%
241	CIW-1451		Construct M/H MHA01, MHA02, MHA04 and Inlet Reception Chamber			65 days	Mon 30/3/20	Fri 19/6/20	395 days	Wed 20/5/20	Mon 13/9/21	Wed 20/5/20	NA	239,243,242,244,240	283	-135 days		91%
242	CIW-1452		Enlarged size of Manhole MHA02		052	0 days	NA	NA	6 days	Tue 1/9/20	Mon 7/9/20	Tue 1/9/20	Mon 7/9/20		241	0 days		100%
243	CIW-1453		Additional Works for Manhole MHA01 Construction and Pipe Connection to Manhole MHA01		(094) (146)	0 days	NA	NA	160 days	Wed 16/9/20	Wed 31/3/21	Wed 16/9/20	Wed 31/3/21	235,237	241	0 days		100%
244	CIW-1454		Additional Works for IRC and Pipe Connection to IRC from Existing Manhole FMH1004115		(096)	0 days	NA	NA	17 days	Fri 18/9/20	Fri 9/10/20	Fri 18/9/20	Fri 9/10/20		245,247,241	0 days		100%
245	CIW-1455		Removal of left-in sheetpiles at IRC		381	0 days	NA	NA	3 days	Mon 19/10/20	Wed 21/10/20	Mon 19/10/20	Wed 21/10/20	244		0 days		100%
246	CIW-1456		Compliance Test for DN1800 Precast Concrete Pipe		065	0 days	NA	NA	1 day	Fri 18/9/20	Fri 18/9/20	Fri 18/9/20	Fri 18/9/20			0 days		100%
247	CIW-1457		Lay 1800mm dia concretre pipe			24 days	Sat 20/6/20	Mon 20/7/20	88 days	Thu 17/9/20	Mon 25/1/21	Thu 17/9/20	Mon 25/1/21	234,235,244	248	0 days		100%
248	CIW-1458		Connection to existing Inlet Chamber			12 days	Tue 21/7/20	Mon 3/8/20	12 days	Tue 26/1/21	Mon 8/2/21	Tue 26/1/21	Mon 8/2/21	247	307,44FF	0 days		100%
249	**CIW-1500**		**Diversion of Leachate Rising Main, Sludge Pipes and Tank Drain**			**150 days**	**Thu 6/2/20**	**Fri 7/8/20**	**594 days**	**Tue 26/11/19**	**Thu 25/11/21**	**Tue 26/11/19**	**NA**			**-99 days**		**94%**
250	**CIW-1510**	**KD1B**	**Diversion of Tank Drain MHD9.5 (approx. 70m CHES1 & CHES2)**			**150 days**	**Thu 6/2/20**	**Fri 7/8/20**	**406 days**	**Tue 26/11/19**	**Mon 12/4/21**	**Tue 26/11/19**	**Sat 10/4/21**	**278**	**307,44FF**	**0 days**		**100%**
251	**CIW-1500a**		**Diversion of Tank Drain MHD9.5 to MHA04 (approx. 70m 675mm dia conrete pipe, 24m DN250 DI leachate rising main, 90m CHES1&S2 DN250 CI)**			150 days	Thu 6/2/20	Fri 7/8/20	**406 days**	**Tue 26/11/19**	**Mon 12/4/21**	**Tue 26/11/19**	**Sat 10/4/21**	**214**		**0 days**		**100%**



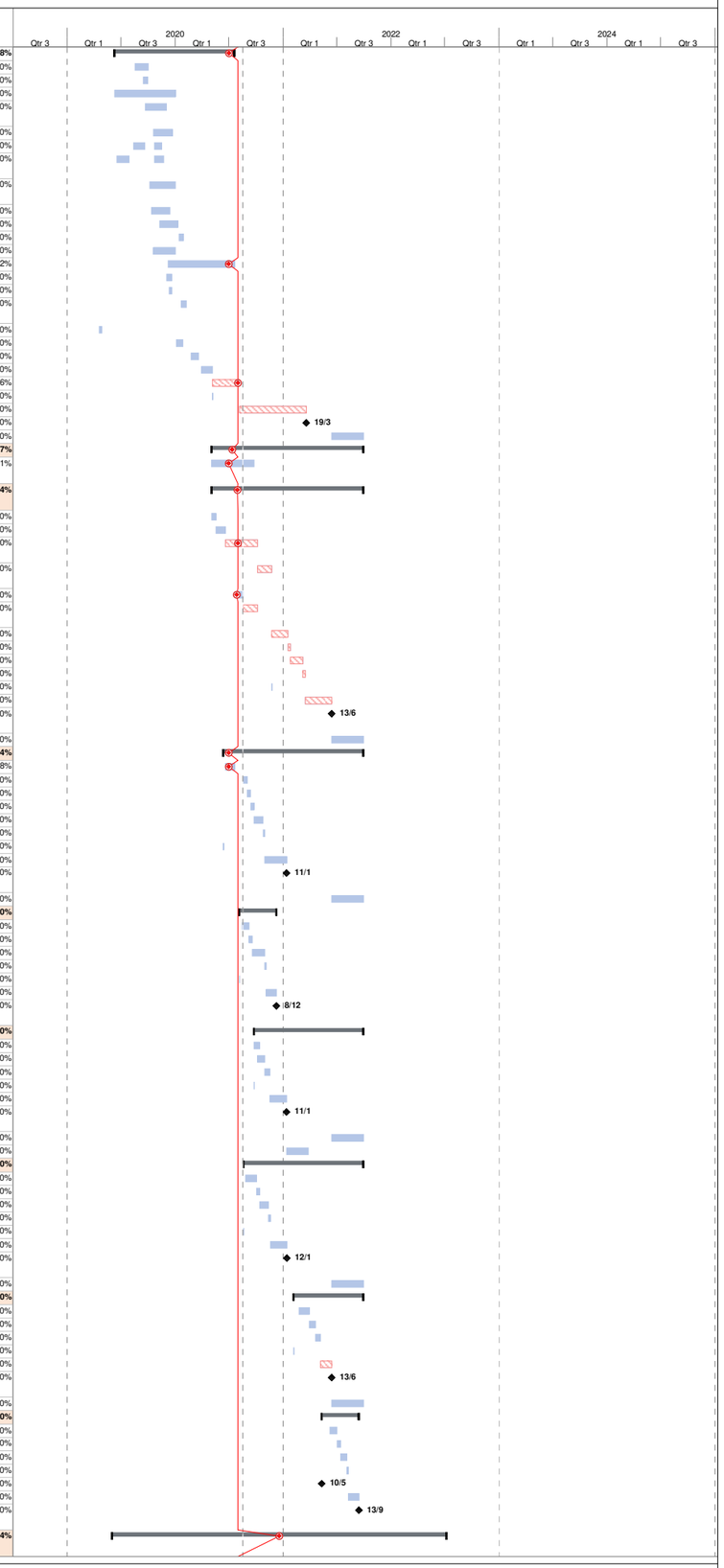
ID	Activity ID	Key Date	Task Name	Inclement Weather CE no. (NCE no.)	PMI & CE no. (NCE no.)	Baseline Duration	Baseline Start	Baseline Finish	Duration	Start	Finish	Actual Start	Actual Finish	Predecessors	Successors	Total Slack	Risk Allowance	% Complete
252	CIW-1500b		Joint Initial Survey arrangement with MTRCL			0 days	NA	NA	158 days	Tue 26/11/19	Wed 10/6/20	Tue 26/11/19	Wed 10/6/20			0 days		100%
253	CIW-1500c		Site Clearance & inspection pit excavation under conforming alignments			0 days	NA	NA	36 days	Fri 12/6/20	Sat 25/7/20	Fri 12/6/20	Sat 25/7/20			0 days		100%
254	**CIW-1511**		**Tank Drain Diversion near MTRCL track**			**0 days**	**NA**	**NA**	**248 days**	**Thu 11/6/20**	**Mon 12/4/21**	**Thu 11/6/20**	**Sat 10/4/21**			**0 days**		**100%**
255	CIW-1511a		Excavation of trial pit near MHD9.5 (TP45 & 47)		040	0 days	NA	NA	12 days	Mon 27/7/20	Sat 8/8/20	Mon 27/7/20	Sat 8/8/20		256,260	0 days		100%
256	CIW-1511b		Uncharted cables found near MTRC track and identification			0 days	NA	NA	1 day	Thu 18/6/20	Thu 18/6/20	Thu 18/6/20	Thu 18/6/20	255		0 days		100%
257	CIW-1511c		Excavation of trial pit near MHD8.5			0 days	NA	NA	5 days	Fri 19/6/20	Wed 24/6/20	Fri 19/6/20	Wed 24/6/20		258	0 days		100%
258	CIW-1511d		Lower the ground surface, opening and additional trial pit (TP38)		(046)	0 days	NA	NA	60 days	Thu 11/6/20	Fri 21/8/20	Thu 11/6/20	Fri 21/8/20	257	259	0 days		100%
259	CIW-1511e		Excavation of Trial Pits near Manhole MHA04 and MH09		040	0 days	NA	NA	60 days	Thu 11/6/20	Fri 21/8/20	Thu 11/6/20	Fri 21/8/20	258		0 days		100%
260	CIW-1511f		Additional Trial Pit between MHD9.5 and MHA04		040	0 days	NA	NA	25 days	Fri 21/8/20	Fri 18/9/20	Fri 21/8/20	Fri 18/9/20	255		0 days		100%
261	CIW-1511g		Sheetpile installation for MHD9.5			0 days	NA	NA	38 days	Tue 1/9/20	Fri 16/10/20	Tue 1/9/20	Fri 16/10/20			0 days		100%
262	CIW-1511h		Sheetpile installation between MHD9.5 & MHA04			0 days	NA	NA	25 days	Tue 8/9/20	Thu 8/10/20	Tue 8/9/20	Thu 8/10/20			0 days		100%
263	CIW-1511i		UU supporting & ELS works& excavatuib between MHD9.5 & MHA04			0 days	NA	NA	73 days	Wed 7/10/20	Mon 4/1/21	Wed 7/10/20	Mon 4/1/21			0 days		100%
264	CIW-1511j		Unsuit excavated material from MHD9.5 to MHA04		261	0 days	NA	NA	4 days	Fri 20/11/20	Tue 24/11/20	Fri 20/11/20	Tue 24/11/20			0 days		100%
265	CIW-1511k		Revise design of manhole MHD9.5		(167)	0 days	NA	NA	20 days	Thu 7/1/21	Fri 29/1/21	Thu 7/1/21	Fri 29/1/21			0 days		100%
266	CIW-1511l		Break up opening and plugging existing concrete pipe at MHD9.5			0 days	NA	NA	6 days	Mon 18/1/21	Sat 23/1/21	Mon 18/1/21	Sat 23/1/21			0 days		100%
267	CIW-1511l1		Trimming existing concrete pipe at MHD9.5			0 days	NA	NA	13 days	Fri 22/1/21	Fri 5/2/21	Fri 22/1/21	Fri 5/2/21			0 days		100%
268	CIW-1511l2		Construction of manhole MHD9.5			0 days	NA	NA	49 days	Sat 6/2/21	Sat 10/4/21	Sat 6/2/21	Sat 10/4/21			0 days		100%
269	CIW-1511m		Additional work to prevent backflow from MHI1 to MHD9.5		(176)	0 days	NA	NA	9 days	Mon 18/1/21	Wed 27/1/21	Mon 18/1/21	Wed 27/1/21			0 days		100%
270	CIW-1511n		Sewage overflow incident of MHD11		(180)	0 days	NA	NA	9 days	Sat 13/2/21	Thu 25/2/21	Sat 13/2/21	Thu 25/2/21			0 days		100%
271	CIW-1512		Additional Special manhole for tank drain (NCE)			0 days	NA	NA	35 days	Mon 24/8/20	Mon 5/10/20	Mon 24/8/20	Mon 5/10/20		272,273	0 days		100%
272	CIW-1513		Breaking of concrete surround of cables (0.8mx0.8mx70m) (NCE)			0 days	NA	NA	24 days	Tue 8/9/20	Wed 7/10/20	Tue 8/9/20	Wed 7/10/20	271		0 days		100%
273	CIW-1514	KD1B	Construction of tank drain along revised alignment w/ concrete surround		051	0 days	NA	NA	10 days	Tue 5/1/21	Fri 15/1/21	Tue 5/1/21	Fri 15/1/21	271	43FF,307	0 days		100%
274	CIW-1516		Backfilling trench between MHD9.5 & MHA04			0 days	NA	NA	20 days	Sat 16/1/21	Mon 8/2/21	Sat 16/1/21	Mon 8/2/21			0 days		100%
275	**CIW-1520**		**Diversion of Sludge Pipes**			75 days	Tue 21/4/20	Tue 21/7/20	**364 days**	**Mon 11/5/20**	**Thu 29/7/21**	**Mon 11/5/20**	**NA**			**0 days**		**96%**
276	CIW-1520a		Excavation of trial pit and identification of connection point		351	0 days	NA	NA	103 days	Mon 11/5/20	Wed 9/9/20	Mon 11/5/20	Wed 9/9/20		277	0 days		100%
277	CIW-1520b		Trench excavation for twin DN250 sludge pipe ,on hold due to encounter of uncharted sludge pipe		351	75 days	Tue 21/4/20	Tue 21/7/20	4 days	Wed 15/7/20	Sat 18/7/20	Wed 15/7/20	Sat 18/7/20	276	278	0 days		100%
278	CIW-1520c		Additional hole drilling works and identification of connetion point			0 days	NA	NA	53 days	Mon 20/7/20	Fri 18/9/20	Mon 20/7/20	Fri 18/9/20	277	250	0 days		100%
279	CIW-1520d		Temporary diversion of substandard DI 250 Leachate raising main		202	0 days	NA	NA	127 days	Tue 20/10/20	Wed 24/3/21	Tue 20/10/20	Wed 24/3/21	228		0 days		100%
280	CIW-1520e		Protection work for substandard DI 500 tank drain Pipe (near MHD 9.5)		302	0 days	NA	NA	93 days	Wed 18/11/20	Fri 12/3/21	Wed 18/11/20	Fri 12/3/21	228		0 days		100%
281	CIW-1520f		Encounter of uncharted concrete pipe within sheetpile cofferdam at MHA04			0 days	NA	NA	2 days	Tue 10/11/20	Wed 11/11/20	Tue 10/11/20	Wed 11/11/20		282	0 days		100%
282	CIW-1520g		Resumption and construction of sludge pipe construction			0 days	NA	NA	253 days	Sat 19/9/20	Thu 29/7/21	Sat 19/9/20	NA	281	307,44FF	-36 days		91%
283	CIW-1530		Diversion of Leachate Rising Main			60 days	Tue 21/4/20	Fri 3/7/20	60 days	Tue 14/9/21	Thu 25/11/21	NA	NA	241		-135 days		0%
284	**CIW-1600**		**Diversion of pipelines near Primary Sludge Thickeners (approx. 180m long 150mm to 375mm concrete pipes)**			**156 days**	**Thu 6/2/20**	**Fri 14/8/20**	**570 days**	**Tue 26/11/19**	**Thu 28/10/21**	**Tue 26/11/19**	**NA**			**0 days**		**55%**
285	CIW-1610		~~Trench Excavation from M/H MHD1E to MHD5 (approx. 90m long with M/Hs MHD1A, 1B, 1C, 1D & 1E) - realigned~~		87	~~60 days~~	~~Thu 6/2/20~~	~~Mon 20/4/20~~	~~0 days~~	~~Tue 26/11/19~~	~~Tue 26/11/19~~	~~Tue 26/11/19~~	~~Tue 26/11/19~~			0 days		100%
286	~~CIW-1620~~		~~Manholes construction and Pipe laying - omitted~~		87	~~60 days~~	~~Mon 30/3/20~~	~~Sat 13/6/20~~	~~0 days~~	~~Tue 2/6/20~~	~~Tue 2/6/20~~	~~Tue 2/6/20~~	~~Tue 2/6/20~~		~~43FF,291~~	~~0 days~~		~~100%~~
287	CIW-1621		Temporary Diversion of Existing DN200 Filitrate Rising Main		034	0 days	NA	NA	20 days	Sat 1/8/20	Mon 24/8/20	Sat 1/8/20	Mon 24/8/20		288	0 days		100%
288	CIW-1623		Pipeline Diversion Works near Primary Sludge Thickening Tank		(114)	0 days	NA	NA	30 days	Fri 16/4/21	Sat 22/5/21	Fri 16/4/21	Sat 22/5/21	287	289	0 days		100%
289	CIW-1625		Uncharted underground utilities near Proposed MHD5B		0260	0 days	NA	NA	26 days	Mon 24/5/21	Wed 23/6/21	Mon 24/5/21	Wed 23/6/21	288	290,293	0 days		100%
290	CIW-1630		Trench Excavation from M/H (approx. 90m long with M/Hs M1A to M3B)			60 days	Tue 21/4/20	Fri 3/7/20	32 days	Thu 19/3/20	Wed 29/4/20	Thu 19/3/20	Wed 29/4/20	289	291,292	0 days		100%
291	CIW-1640		Manholes construction (M1A, M1B, M2B, M3B) and Pipe laying			25 days	Mon 15/6/20	Wed 15/7/20	12 days	Mon 4/5/20	Sat 16/5/20	Mon 4/5/20	Sat 16/5/20	290,286	43FF	0 days		100%
292	CIW-1650		Trench Excavation from MHD5 to MHD9.5 (approx. 90m long with M/Hs MHD5A & 5B)		(114)	50 days	Thu 16/7/20	Fri 11/9/20	60 days	Wed 2/9/20	Wed 30/12/20	Wed 2/9/20	Wed 30/12/20	290,296,301,303,305		0 days		100%
293	CIW-1660		Provision of Pumping System from Screen to Flume Channel		87	0 days	NA	NA	287 days	Tue 10/11/20	Thu 28/10/21	Tue 10/11/20	NA	289	294	-111 days		75%
294	CIW-1670		Manholes construction (MHD5A, MHD5B, MHD5C) and Pipe laying			45 days	Sat 23/5/20	Thu 16/7/20	293 days	Tue 3/11/20	Thu 28/10/21	Tue 3/11/20	NA	293	44FF	-111 days		8%
295	**CIW-2000**		**Decommission and Demolition of Existing Facilitates and Structures**			**240 days**	**Mon 2/3/20**	**Fri 18/12/20**	**222 days**	**Thu 19/3/20**	**Tue 15/12/20**	**Thu 19/3/20**	**Tue 15/12/20**	**6,122,160**		**0 days**		**100%**
296	**CIW-2100**		**Primary Sludge Thickening Tank No.1 and No.2**			**80 days**	**Mon 2/3/20**	**Tue 9/6/20**	**222 days**	**Thu 19/3/20**	**Tue 15/12/20**	**Thu 19/3/20**	**Tue 15/12/20**		**292**	**0 days**		**100%**
297	CIW-2101		Additional Works for Temporary Diversion of Bypass Pipe near Primary Sludge Thickeners			0 days	NA	NA	45 days	Thu 19/3/20	Sun 17/5/20	Thu 19/3/20	Sun 17/5/20			0 days		100%
298	CIW-2110		Removal of E&M equipment of primary sludge thickening tank			0 days	NA	NA	1 day	Thu 4/6/20	Thu 4/6/20	Thu 4/6/20	Thu 4/6/20		299	0 days		100%
299	CIW-2120		Decommission and Demolition the tank			80 days	Mon 2/3/20	Tue 9/6/20	150 days	Thu 18/6/20	Tue 15/12/20	Thu 18/6/20	Tue 15/12/20	298	301	0 days		100%
300	CIW-2130		Demolition of structure no.2			0 days	NA	NA	24 days	Mon 18/5/20	Mon 22/6/20	Mon 18/5/20	Mon 22/6/20			0 days		100%
301	CIW-2200		Primary Sludge Pump Pit			60 days	Wed 10/6/20	Thu 20/8/20	18 days	Wed 22/7/20	Tue 11/8/20	Wed 22/7/20	Tue 11/8/20	299	302,303,292,304	0 days		100%
302	CIW-2300		Septic Tank			50 days	Fri 21/8/20	Tue 20/10/20	18 days	Wed 12/8/20	Tue 1/9/20	Wed 12/8/20	Tue 1/9/20	301		0 days		100%
303	**CIW-2400**		**Diesel Tank**			**50 days**	**Wed 21/10/20**	**Fri 18/12/20**	**53 days**	**Thu 2/7/20**	**Tue 1/9/20**	**Thu 2/7/20**	**Tue 1/9/20**	**301**	**292**	**0 days**		**100%**
304	CIW-2410		Transfers of Remaining Diesel Fuel of Existing Diesel Tank			0 days	NA	NA	15 days	Thu 2/7/20	Tue 21/7/20	Thu 2/7/20	Tue 21/7/20	301	305	0 days		100%
305	CIW-2420		Demolition of diesel tank			50 days	Wed 21/10/20	Fri 18/12/20	18 days	Wed 12/8/20	Tue 1/9/20	Wed 12/8/20	Tue 1/9/20	304	**292**	0 days		100%
306	**CIW-3000**	*	**Inlet Works No.1 Building (1)**			**569 days**	**Sat 19/12/20**	**Mon 21/11/22**	**747 days**	**Tue 15/9/20**	**Thu 23/3/23**	**Tue 15/9/20**	**NA**	**6**		**748 days**		**18%**
307	CIW-3100		Predrilling (10nrs, 1rigs, 2.5days/drillhole/rig) - stage 1			40 days	Mon 4/1/21	Mon 22/2/21	28 days	Tue 15/9/20	Mon 19/10/20	Tue 15/9/20	Mon 19/10/20	248,250,273,228,282		0 days	1	100%
308	CIW-3100a		Predrilling (22nrs, 1rigs, 2.5days/drillhole/rig) - stage 2			0 days	NA	NA	60 days	Tue 8/12/20	Mon 22/2/21	Tue 8/12/20	Mon 22/2/21			0 days		100%
309	CIW-3200		Pre-bored H piles (188nos, 1.8rigs, 2days/rig/pile)			133 days	Tue 23/2/21	Wed 4/8/21	210 days	Fri 19/2/21	Tue 2/11/21	Fri 19/2/21	NA	228,132	310SS+150 days,311	-34 days	5	63%
310	CIW-3400a		Pile Load Test at stage 1			26 days	Thu 5/8/21	Fri 3/9/21	21 days	Sat 21/8/21	Tue 14/9/21	NA	NA	309SS+150 days	312	83 days		0%
311	CIW-3400b		Pile Load Test at stage 2 & 3			0 days	NA	NA	21 days	Wed 3/11/21	Fri 26/11/21	NA	NA	309	328,313	-34 days		0%
312	CIW-3300a		Sheetpile Installation at Phase C(900sq.m, 1rigs, 50sqm/rig/day)			80 days	Tue 23/3/21	Wed 30/6/21	30 days	Wed 15/9/21	Fri 22/10/21	NA	NA	310	315	83 days		0%
313	CIW-3300b		Sheetpile Installation at Phase B (2300sq.m, 1rigs, 50sqm/rig/day)			0 days	NA	NA	50 days	Sat 27/11/21	Thu 27/1/22	NA	NA	311	316	-34 days		0%
314	CIW-3500		**ELS works**			**77 days**	**Sat 4/9/21**	**Mon 6/12/21**	**157 days**	**Sat 23/10/21**	**Fri 6/5/22**	**NA**	**NA**		**334,165SF,169SF**	**3 days**	**5**	**0%**
315	CIW-3510		Phrase C (Grid G3 to L7)) - Excavation to -3.3mPD and blinding (strutting 2 layers, excavate soil 2250 cu.m)			77 days	Fri 4/6/21	Mon 6/12/21	77 days	Sat 23/10/21	Mon 24/1/22	NA	NA	312	320,333	83 days		0%
316	CIW-3520		Phrase B (Grid A1 to G3) - Excavation to -7.5mPD and blinding (strutting 4 layers, excavate soil 11000cu.m)			77 days	Fri 4/6/21	Mon 6/12/21	77 days	Fri 28/1/22	Fri 6/5/22	NA	NA	313	324	-34 days		0%
317	CIW-3590		Receiving of Civil Requirements from PM			0 days	NA	NA	1 day	Mon 30/8/21	Mon 30/8/21	NA	NA	318SS-3 emons		1211 days		0%
318	CIW-3600		**R.C. Structure works**			**296 days**	**Thu 5/8/21**	**Thu 4/8/22**	**300 days**	**Sat 27/11/21**	**Thu 1/12/22**	**NA**	**NA**		**317SS-3 emons,332**	**-34 days**	**5**	**0%**
319	CIW-3610		**Phase C (Grid G3 to L7)**			**105 days**	**Thu 5/8/21**	**Wed 8/12/21**	**105 days**	**Tue 25/1/22**	**Tue 7/6/22**	**NA**	**NA**			**114 days**		**0%**
320	CIW-3611		Rebar fix and formwork and concreting for the pile cap (G/F) (including ELS demolition works)			40 days	Thu 5/8/21	Mon 20/9/21	40 days	Tue 25/1/22	Tue 15/3/22	NA	NA	315	321	114 days		0%
321	CIW-3612		Rebar fix and formwork and concreting upto +13.45mPD (1/F)			25 days	Tue 21/9/21	Fri 22/10/21	25 days	Wed 16/3/22	Thu 14/4/22	NA	NA	320	322	114 days		0%
322	CIW-3613	KD1C	Rebar fix and formwork and concreting upto +25.80mPD (R/F)			40 days	Sat 23/10/21	Wed 8/12/21	40 days	Tue 19/4/22	Tue 7/6/22	NA	NA	321	44FF,331,524	114 days		0%
323	CIW-3620		**Phase B (Gride A1 to G3)**			**193 days**	**Tue 7/12/21**	**Thu 4/8/22**	**173 days**	**Sat 7/5/22**	**Thu 1/12/22**	**NA**	**NA**			**-34 days**		**0%**
324	CIW-3621		Rebar fix and formwork and concreting for the Inlet Works structure upto Ground Level (including ELS demolition works)			54 days	Tue 7/12/21	Mon 14/2/22	54 days	Sat 7/5/22	Tue 12/7/22	NA	NA	316	325	-34 days		0%
325	CIW-3622		Apply waterproofing membrance and backfilling			14 days	Tue 15/2/22	Wed 2/3/22	14 days	Wed 13/7/22	Thu 28/7/22	NA	NA	324,185	326	-34 days		0%
326	CIW-3623	KD1C	Rebar fix and formwork and concreting for the Inlet Works structure upto Roof Level			105 days	Thu 3/3/22	Thu 4/8/22	105 days	Fri 29/7/22	Thu 1/12/22	NA	NA	325	331	-34 days		0%
327	CIW-3630		**Phase A (G1 to L3)**			**193 days**	**Tue 7/12/21**	**Thu 4/8/22**	**173 days**	**Sat 27/11/21**	**Sat 2/7/22**	**NA**	**NA**			**93 days**		**0%**
328	CIW-3631		Rebar fix and formwork and concreting for the Inlet Works structure upto Ground Level (including ELS demolition works)			54 days	Tue 7/12/21	Mon 14/2/22	54 days	Sat 27/11/21	Fri 4/2/22	NA	NA	311	329	93 days		0%
329	CIW-3632		Apply waterproofing membrance and backfilling			14 days	Tue 15/2/22	Wed 2/3/22	14 days	Sat 5/2/22	Mon 21/2/22	NA	NA	328,185	330	93 days		0%
330	CIW-3633	KD1C	Rebar fix and formwork and concreting for the Inlet Works structure upto Roof Level			105 days	Thu 3/3/22	Thu 4/8/22	105 days	Tue 22/2/22	Sat 2/7/22	NA	NA	329	332,44FF,331	93 days		0%
331	CIW-3700	KD1C	Allow access to Contractor DE/2018/04 for E&M installation and T&C works			0 days	Thu 4/8/22	Thu 4/8/22	0 days	Thu 1/12/22	Thu 1/12/22	NA	NA	330,322,326	44FF	-34 days		0%
332	CIW-3800	SW1	ABWF works + BS works			90 days	Fri 5/8/22	Mon 21/11/22	90 days	Fri 2/12/22	Thu 23/3/23	NA	NA	330,189,141,318	56FF	262 days		0%
333	CIW-3900	KD1D	Process Pipe CHE chainage 0-20 & CHF chainage 0-20			0 days	NA	NA	50 days	Sat 17/12/22	Mon 20/2/23	NA	NA	315,351FF	45FF	0 days		0%
334	CIW-4000	SW2	Remaining sewerage and utilities in Portion B1 & B2			0 days	NA	NA	60 days	Sat 7/5/22	Tue 19/7/22	NA	NA	314	57FF,555	3 days		0%
335	**CPS-0000**	*	**Primary Sedimentation Tanks, B-3 (2)**			**1115 days**	**Mon 18/11/19**	**Wed 23/8/23**	**1115 days**	**Mon 18/11/19**	**Wed 23/8/23**	**Mon 18/11/19**	**NA**	**8**		**139 days**		**44%**
336	CPS-1000		Operation of the Existing Primary sedimentation Tanks			615 days	Mon 18/11/19	Sat 24/7/21	615 days	Mon 18/11/19	Sat 24/7/21	Mon 18/11/19	Sat 24/7/21	2	339,338	0 days		100%
337	CPS-1100		Identification of existing cables near Primiary Sedimentation Tank		88	0 days	NA	NA	3 days	Fri 19/2/21	Mon 22/2/21	Fri 19/2/21	Mon 22/2/21			0 days		100%
338	CPS-1200		Removal of residual sludge			0 days	NA	NA	12 days	Mon 26/7/21	Sat 7/8/21	NA	NA	336	339	-62 days		0%
339	CPS-2000		Demolition of existing primary sedimentation tanks no. 1			45 days	Mon 13/12/21	Wed 9/2/22	30 days	Mon 9/8/21	Sat 11/9/21	NA	NA	122,160,162,336,338	342,340	-62 days		0%
340	CPS-2000a		Demolition of existing primary sedimentation tanks no. 2			0 days	NA	NA	25 days	Mon 13/9/21	Wed 13/10/21	NA	NA	339	342	-62 days		0%
341	CPS-3000a		Predrilling (5nrs, 1rigs, 3days/drillhole/rig) - In-advanced stage			0 days	NA	NA	15 days	Thu 8/4/21	Sat 24/4/21	Thu 8/4/21	Sat 24/4/21		343	0 days		100%



ID	Activity ID	Key Date	Task Name	Inclement Weather CE no. (NCE no.)	PMI & CE no. (NCE no.)	Baseline Duration	Baseline Start	Baseline Finish	Duration	Start	Finish	Actual Start	Actual Finish	Predecessors	Successors	Total Slack	Risk Allowance	% Complete
342	CPS-3000		Predrilling (63nrs, 3rigs, 3days/drillhole/rig)			38 days	Thu 10/2/22	Fri 25/3/22	38 days	Fri 15/10/21	Sat 27/11/21	NA	NA	127,452,339,340	343	-62 days	1	0%
343	CPS-4000		Pre-bored H piles (205nos, 2.5rigs, 2days/pile/rig)			102 days	Sat 26/3/22	Mon 1/8/22	164 days	Mon 29/11/21	Wed 22/6/22	NA	NA	132,453,341,342	344FS-40 days,346,345	-62 days	5	0%
344	CPS-5000		Sheetpile Installation (FSP-II, 3360sq.m, 1rigs, 50sqm/rig/day)			85 days	Wed 25/5/22	Fri 2/9/22	42 days	Thu 5/5/22	Fri 24/6/22	NA	NA	343FS-40 days,133	346,352SS+27 days	-62 days		0%
345	CPS-6000		Pile Load Test			26 days	Tue 2/8/22	Wed 31/8/22	26 days	Thu 23/6/22	Sat 23/7/22	NA	NA	343	346	0 days		0%
346	CPS-7000		ELS works (20000cu.m soil with 2 layers wailing / strutting)			45 days	Sat 3/9/22	Fri 28/10/22	60 days	Mon 25/7/22	Wed 5/10/22	NA	NA	343,135,345,344	347FF-3 emons,348,166SF,170SF	0 days	3	0%
347	CPS-7900		Receiving of Civil Requirements from PM			0 days	NA	NA	1 day	Thu 7/7/22	Thu 7/7/22	NA	NA	346FF-3 emons	348SS-3 emons	186 days		0%
348	CPS-8000	KD1D	R.C. Structure works (including ELS demolition works)			92 days	Sat 29/10/22	Mon 20/2/23	112 days	Thu 6/10/22	Mon 20/2/23	NA	NA	137,346,347SS-3 emons	349,350,45FF,351FF	0 days	3	0%
349	CPS-9000	KD1D	Allow access to Contractor DE/2018/04 for E&M installation and T&C works			0 days	Mon 20/2/23	Mon 20/2/23	0 days	Mon 20/2/23	Mon 20/2/23	NA	NA	348	45FF	0 days		0%
350	CPS-10000	SW1	ABWF works + BS works			150 days	Tue 21/2/23	Wed 23/8/23	150 days	Tue 21/2/23	Wed 23/8/23	NA	NA	348,189,141	56FF	139 days		0%
351	CPS-11000	KD1D	Flowmeter Chamber no.1			60 days	Tue 21/2/23	Sat 6/5/23	60 days	Tue 6/12/22	Mon 20/2/23	NA	NA	348FF	45FF,333FF	0 days		0%
352	CPS-12000	SW2	Process Pipe CHG chainage 0-50, CHH chainage 0-80, CHI chainage 0-95 & CHJ chianage 0-40 and surrounding utilities			0 days	NA	NA	100 days	Wed 8/6/22	Thu 6/10/22	NA	NA	344SS+27 days	57FF,555	-62 days		0%
353	**CBR-0000**	*	**Bioreactors No.2A & 2B, B-4 (3)**			**1106 days**	**Mon 18/11/19**	**Sat 12/8/23**	**1194 days**	**Mon 18/11/19**	**Mon 27/11/23**	**Mon 18/11/19**		**NA 9**		**546 days**		**38%**
354	CBR-1000		Operation of 2no. Existing 800mm air mains over bioreactor no.2			360 days	Mon 18/11/19	Wed 11/11/20	292 days	Mon 18/11/19	Wed 11/11/20	Mon 18/11/19	Wed 11/11/20	2		0 days		100%
355	CBR-2000		Construction of Removable Steel Shutter in the Common Channel of BR2 and 3		67	0 days	NA	NA	86 days	Thu 1/10/20	Fri 15/1/21	Thu 1/10/20	Fri 15/1/21	144	365	0 days		100%
356	CBR-4100		Take Down E&M Equipment & cables in Bioreactor BR2 and Return to DSD		95	0 days	NA	NA	90 days	Thu 15/10/20	Mon 1/2/21	Thu 15/10/20	Mon 1/2/21		366	0 days		100%
357	CBR-4200		Installation of monitoring points before demolition of BR2		219	0 days	NA	NA	5 days	Wed 27/1/21	Mon 1/2/21	Wed 27/1/21	Mon 1/2/21	363	358	0 days		100%
358	CBR-4300		Condition Survey for BR2			0 days	NA	NA	1 day	Fri 30/10/20	Fri 30/10/20	Fri 30/10/20	Fri 30/10/20	357	366	0 days		100%
359	**CBR-5000**		**Demolition of existing bioreactor no.2**			**60 days**	**Wed 3/2/21**	**Tue 20/4/21**	**98 days**	**Tue 10/11/20**	**Wed 10/3/21**	**Tue 10/11/20**	**Wed 10/3/21**	**122,162**		**0 days**		**100%**
360	CBR-5100		Identification and removal of existing cables on air main pipe bridge		210	0 days	NA	NA	35 days	Tue 10/11/20	Sat 19/12/20	Tue 10/11/20	Sat 19/12/20		361,365	0 days		100%
361	CBR-5300		Plugging and demolition of existing DN800 air main			0 days	NA	NA	5 days	Mon 28/12/20	Sat 2/1/21	Mon 28/12/20	Sat 2/1/21	360		0 days		100%
362	CBR-5200		Diversion of existing lighting cable and Earthing ducts_stage 1		264	0 days	NA	NA	43 days	Fri 4/12/20	Tue 26/1/21	Fri 4/12/20	Tue 26/1/21	363	366	0 days		100%
363	CBR-5400		Overflow incident from BR1 to BR2 works area no.1 (Dec 2020)		285	0 days	NA	NA	33 days	Fri 18/12/20	Thu 28/1/21	Fri 18/12/20	Thu 28/1/21	364	357,362	0 days		100%
364	CBR-5410		Overflow incident from BR1 to BR2 works area (Feb 2021)		340	0 days	NA	NA	8 days	Tue 16/2/21	Wed 24/2/21	Tue 16/2/21	Wed 24/2/21	365	366,363	0 days		100%
365	CBR-3000		Construction of Isolation Wall & stoplog in common channel of BR2 & BR3		277	0 days	NA	NA	43 days	Sat 16/1/21	Wed 10/3/21	Sat 16/1/21	Wed 10/3/21	355,360	364	0 days		100%
366	CBR-5500		Demolition of existing pipe bridge, partition wall and base slab (Stage 1)			30 days	Wed 3/2/21	Fri 12/3/21	26 days	Tue 2/2/21	Sat 6/3/21	Tue 2/2/21	Sat 6/3/21	362,358,364,356	367SS,368	0 days		100%
367	CBR-5520		Removal of additional concrete infill within the partition walls		(174)	0 days	NA	NA	26 days	Tue 2/2/21	Sat 6/3/21	Tue 2/2/21	Sat 6/3/21	366SS	368	0 days		100%
368	CBR-5900		Construction of precautionary measures (i.e. isolation wall)		322	0 days	NA	NA	2 days	Tue 9/3/21	Wed 10/3/21	Tue 9/3/21	Wed 10/3/21	366,367	369,371	0 days		100%
369	CBR-5905		Construction of precautionary measures (i.e. bund wall)		305	0 days	NA	NA	3 days	Thu 15/4/21	Sat 17/4/21	Thu 15/4/21	Sat 17/4/21	368		0 days		100%
370	CBR-5910		Removal of abandoned DN250 air pipe		209	0 days	NA	NA	6 days	Tue 20/4/21	Mon 26/4/21	Tue 20/4/21	Mon 26/4/21			0 days		100%
371	CBR-6000		Predrilling (33nrs, 3rigs, 2days/drillhole/rig)_stage 1			44 days	Wed 21/4/21	Sat 12/6/21	44 days	Mon 1/3/21	Wed 5/5/21	Mon 1/3/21	Wed 5/5/21	368	372	0 days	1	100%
372	CBR-7000		Pre-bored H piles (113nos, 2rigs, 2days/pile/rig)_stage 1			113 days	Tue 15/6/21	Thu 18/11/21	113 days	Thu 6/5/21	Fri 17/9/21	Thu 6/5/21	NA	371	382SS+30 days,377SS+45 days,38	1 day	5	41%
373	CBR-7100		**External works between BR2 and MFB2**			**0 days**	**NA**	**NA**	**217 days**	**Wed 30/6/21**	**Mon 21/3/22**	**Wed 30/6/21**		**NA**		**1046 days**		**9%**
374	CBR-7110		DN700 (CHER)RAS Diversion			0 days	NA	NA	45 days	Wed 30/6/21	Sat 21/8/21	Wed 30/6/21	NA	372SS+45 days	375	1212 days		2%
375	CBR-7120		Temporary vehicle diversion for RAS operation			0 days	NA	NA	6 days	Mon 23/8/21	Sat 28/8/21	NA	NA	374		1212 days		0%
376	CBR-7130		**DN600 Temporary Sewage diversion**			**0 days**	**NA**	**NA**	**120 days**	**Wed 30/6/21**	**Sat 20/11/21**	**Wed 30/6/21**		**NA**		**-45 days**		**18%**
377	CBR-7131		2nos. Manhole Construction (MHTD1 and MHTD2)		204, 353	0 days	NA	NA	75 days	Wed 30/6/21	Mon 27/9/21	Wed 30/6/21	NA	372SS+45 days	378FS-30 days	-88 days		36%
378	CBR-7132		Existing DN600 tank drain diversion		204, 353	45 days	NA	NA	75 days	Mon 23/8/21	Sat 20/11/21	NA	NA	377FS-30 days	379	-88 days		0%
379	CBR-7140		Demolition of abandoned DN600 pipe and existing surrounded wall & channel of BR2		353, 336	30 days	NA	NA	45 days	Mon 22/11/21	Sat 15/1/22	NA	NA	378	380	-88 days		0%
380	CBR-7150		Pre-drilling(3nr.) & Pre-bored H piles (20nrs, 1rig, 2days/drillhole/rig)_stage 2A			26 days	NA	NA	26 days	Mon 17/1/22	Fri 18/2/22	NA	NA	379	381	-88 days		0%
381	CBR-7160		Pile load test			26 days	NA	NA	26 days	Sat 19/2/22	Mon 21/3/22	NA	NA	380,386	389,388	-88 days		0%
382	CBR-7200		**External works between BR2 and PST**			**0 days**	**NA**	**NA**	**141 days**	**Wed 30/6/21**	**Wed 15/12/21**	**Wed 30/6/21**		**NA 372SS+30 days**		**-38 days**		**19%**
383	CBR-7210		Demolition of existing DN1200. DN900 and DN500 pipe (w/ ELS works)		91	0 days	NA	NA	75 days	Wed 30/6/21	Mon 27/9/21	Wed 30/6/21	NA	372SS+45 days	384	-38 days		36%
384	CBR-7220		Diversion of existing lighting cable and Earthing ducts (w/ ELS)		264	0 days	NA	NA	30 days	Tue 28/9/21	Wed 3/11/21	NA	NA	383	385	-38 days		0%
385	CBR-7230		Demolition of existing side wall		336	0 days	NA	NA	12 days	Thu 4/11/21	Wed 17/11/21	NA	NA	384	386	-38 days		0%
386	CBR-7240		Pre-bored H piles (24nrs, 2rig, 2days/drillhole/rig)_stage 2B			24 days	NA	NA	24 days	Thu 18/11/21	Wed 15/12/21	NA	NA	385	381	-38 days		0%
387	CBR-7340		Demolition of existing side wall between BR2 & BR3 and baseslab			0 days	NA	NA	60 days	Sat 18/9/21	Tue 30/11/21	NA	NA	372	388	1 day		0%
388	CBR-8000		Sheetpile Installation (3000sq.m, 1rigs, 50sqm/rig/day)			60 days	Wed 8/9/21	Fri 19/11/21	60 days	Tue 22/3/22	Tue 7/6/22	NA	NA	381,387	389	-88 days		0%
389	CBR-10000		ELS works (18100cu.m soil with 4 layers wailing / strutting)			125 days	Mon 20/12/21	Fri 27/5/22	80 days	Wed 8/6/22	Fri 9/9/22	NA	NA	135,381,388	391,390FF-3 emons,399SS+46 day	-88 days	3	0%
390	CBR-10900		Receiving of Civil Requirements from PM			0 days	NA	NA	1 day	Sat 11/6/22	Sat 11/6/22	NA	NA	389FF-3 emons	391SS-3 emons	168 days		0%
391	CBR-11000	KD1E	R.C. Structure works (including ELS demolition works)			180 days	Sat 28/5/22	Sat 31/12/22	180 days	Sat 10/9/22	Sat 22/4/23	NA	NA	138,186,187,190,188,389,390SS-3 emons	398,46FF,397,393FF,394SS+25 da	-88 days	5	0%
392		KD1E	Process Pipe CHO chainage 65-140			0 days	NA	NA	60 days	Wed 8/2/23	Sat 22/4/23	NA	NA	391FF	46FF	-88 days		0%
393	CBR-11020	KD1E	Additional backfill works after end wall construction at BR2 common channel		277	0 days	NA	NA	30 days	Wed 15/3/23	Sat 22/4/23	NA	NA	391FF	46FF	-88 days		0%
394	CBR-13000	KD1E	Flowmeter no. 2-4			180 days	2023/1/3	2023/8/12	60 days	Thu 13/10/22	Wed 21/12/22	NA	NA	391SS+25 days	395FS-13 days	-88 days		0%
395	CBR-14000	KD1E	Gate Valve Chamber no.1-3			180 days	2023/1/3	2023/8/12	60 days	Wed 7/12/22	Tue 21/2/23	NA	NA	394FS-13 days	396FS-12 days	-88 days		0%
396	CBR-15000	KD1E	Plug Valve Chamber no.1-2			180 days	2023/1/3	2023/8/12	60 days	Wed 8/2/23	Sat 22/4/23	NA	NA	395FS-12 days	46FF	-88 days		0%
397	CBR-12000	KD1E	Allow access to Contractor DE/2018/04 for E&M installation and T&C works			0 days	Sat 31/12/22	Sat 31/12/22	0 days	Sat 22/4/23	Sat 22/4/23	NA	NA	391	46FF	-88 days		0%
398	CBR-16000	SW1	ABWF works + BS works			180 days	Tue 3/1/23	Sat 12/8/23	180 days	Mon 24/4/23	Mon 27/11/23	NA	NA	391,189,141	56FF	60 days		0%
399	CBR-17000	SW2	Process Pipe CHQ chainage 65-170, CHP chainage 60-130, CHL chainage 0-35 & CHK chianage 0-50 and surrounding utilities			0 days	NA	NA	80 days	Tue 2/8/22	Sat 5/11/22	NA	NA	389SS+46 days	57FF,555	-88 days		0%
400	**CMF-0000**	*	**Membrane Facilities Building, B-5**			**941 days**	**Mon 6/1/20**	**Thu 9/3/23**	**1133 days**	**Mon 18/11/19**	**Wed 13/9/23**	**Mon 18/11/19**		**NA 2**		**121 days**		**45%**
401			Operation of existing Final Sedimentation Tanks no.3 & 4		26	0 days	NA	NA	98 days	Mon 18/11/19	Tue 17/3/20	Mon 18/11/19	Tue 17/3/20	2		0 days		100%
402	**CMF-1000**		**Demolition of existing final sedimentation tanks no. 3 & 4**			**14 days**	**Mon 6/1/20**	**Tue 21/1/20**	**340 days**	**Mon 6/1/20**	**Sun 28/2/21**	**Mon 6/1/20**	**Sun 28/2/21**	**160,122,10**		**0 days**		**100%**
403	CMF-1100		Confirmation of Decommission Schedule	68	30	0 days	NA	NA	58 days	Mon 6/1/20	Mon 16/3/20	Mon 6/1/20	Mon 16/3/20		404	0 days		100%
404	CMF-1200		Provision of new submersed pump	68	26	0 days	NA	NA	27 days	Wed 4/3/20	Fri 3/4/20	Wed 4/3/20	Fri 3/4/20	403	405	0 days		100%
405	CMF-1205		Assistant to decommissioning of Final Sedimentation Tank No. 3 and 4	68	7	0 days	NA	NA	14 days	Wed 4/3/20	Fri 3/4/20	Wed 4/3/20	Fri 3/4/20	404	406	0 days		100%
406	CMF-1300		Additional dismantling works to retain specified electrical and mechanical equipment	75	(013)	0 days	NA	NA	21 days	Tue 7/4/20	Wed 6/5/20	Tue 7/4/20	Wed 6/5/20	405	407	0 days		100%
407	CMF-1400		Additional pluging works for DN 1200 Conc. S&S pipe at wash water pumping station chamber	76, 77, 144	(015)	0 days	NA	NA	70 days	Mon 8/6/20	Sat 29/8/20	Mon 8/6/20	Sat 29/8/20	406	408	0 days		100%
408	CMF-1500		Diversion of wash water main	76, 77	032	0 days	NA	NA	21 days	Mon 15/6/20	Fri 10/7/20	Mon 15/6/20	Fri 10/7/20	407	409	0 days		100%
409	CMF-1600		Isolation wall for RAS Channel No.1	76, 77	035	0 days	NA	NA	40 days	Mon 1/6/20	Sat 18/7/20	Mon 1/6/20	Sat 18/7/20	408	413	0 days		100%
410	CMF-1710		Removal of DN1400 Bioreactor No. 2 Effluent Pipe		043	0 days	NA	NA	8 days	Fri 19/2/21	Sun 28/2/21	Fri 19/2/21	Sun 28/2/21			0 days		100%
411	CMF-1800		Exposed and disconnet uncharted existing cable between FST3 and FST 4	77	038	0 days	NA	NA	20 days	Thu 2/7/20	Fri 24/7/20	Thu 2/7/20	Fri 24/7/20			0 days		100%
412	CMF-1110		Demolition of structure no. 3 & 4	68, 75, 76, 77, 144		14 days	Mon 6/1/20	Tue 21/1/20	122 days	Wed 1/4/20	Sat 29/8/20	Wed 1/4/20	Sat 29/8/20		414	0 days		100%
413	CMF-1900		Removal of Existing DN150 SAS Rising Main at RAS Channel No. 1	212	060	0 days	NA	NA	23 days	Mon 31/8/20	Fri 25/9/20	Mon 31/8/20	Fri 25/9/20	409	415	0 days		100%
414	CMF-2000		Predrilling (83nrs, 4rigs, 2.5days/drillhole/rig)	144, 212	120	42 days	Sat 6/6/20	Mon 27/7/20	31 days	Mon 10/8/20	Mon 14/9/20	Mon 10/8/20	Mon 14/9/20	127,412	415	0 days	1	100%
415	CMF-3000		Pre-bored H piles (171nos, 2rigs, 1.5days/pile/rig) [Extended working hours 0700-1900 & shortern pile length]	212, 308, 309	120	140 days	Tue 28/7/20	Wed 13/1/21	96 days	Mon 28/9/20	Sat 23/1/21	Mon 28/9/20	Sat 23/1/21	414,132,413	416,417	0 days	5	100%
416	CMF-3100		Change of Layout of Basement of MFB no. 2		(102)	0 days	NA	NA	17 days	Tue 3/11/20	Sat 21/11/20	Tue 3/11/20	Sat 21/11/20	415		0 days		100%
417	CMF-4000		Pile Load Test			25 days	Thu 14/1/21	Tue 16/2/21	19 days	Mon 4/1/21	Mon 25/1/21	Mon 4/1/21	Mon 25/1/21	415	421,418	0 days		100%
418	CMF-5000		Installation of sheetpile [with pre-boring]		120	40 days	Wed 22/1/20	Wed 11/3/20	120 days	Mon 28/12/20	Thu 24/6/21	Mon 28/12/20	Thu 24/6/21	417	421	0 days		100%
419	**CMF-6000**		**ELS works**			**169 days**	**Wed 17/2/21**	**Thu 9/9/21**	**188 days**	**Fri 25/6/21**	**Thu 10/2/22**	**Fri 25/6/21**		**NA 10**	**424FF-3 emons**	**-87 days**	**5**	**22%**
420	**CMF-6100**		**Pharse A (A1 to N6) - Excavation to -9mPD and blinding**		**45**	**169 days**	**Wed 17/2/21**	**Thu 9/9/21**	**188 days**	**Fri 25/6/21**	**Thu 10/2/22**	**Fri 25/6/21**		**NA**	**423SS**	**-100 days**		**16%**
421	CMF-6110		Soil Excavation [Extended working hours 0700-1900 & reduction of excavation volume]		120, 207	169 days	Wed 17/2/21	Thu 9/9/21	88 days	Fri 25/6/21	Fri 8/10/21	Fri 25/6/21	NA	418,135,417	422	-117 days		35%
422	CMF-6120		Additional Rock Excavation [2200 cu.m, 7.5cu.m/group x 2]		120, 207	0 days	NA	NA	100 days	Sat 9/10/21	Thu 10/2/22	NA	NA	421	426	-117 days		0%
423	CMF-6200		Pharse B (A6 to N10) - Excavation to -1.9mPD and blinding			169 days	Wed 17/2/21	Thu 9/9/21	100 days	Fri 25/6/21	Sat 23/10/21	Fri 25/6/21	NA	420SS	427,433	1 day		31%
424	CMF-6900		Receiving of Civil Requirements from PM			0 days	NA	NA	1 day	Fri 12/11/21	Fri 12/11/21	NA	NA	419FF-3 emons	425SS-3 emons	216 days		0%
425	**CMF-7000**		**RC Structure works**			**232 days**	**Fri 10/9/21**	**Sat 25/6/22**	**262 days**	**Fri 11/2/22**	**Wed 28/12/22**	**NA**		**NA 10,424SS-3 emons**		**-117 days**	**5**	**0%**
426	CMF-7100	KD1F	Phase A - from B2 - Level 1 (including ELS demolition works)			112 days	Fri 10/9/21	Tue 25/1/22	112 days	Fri 11/2/22	Wed 29/6/22	NA	NA	139,186,187,190,188,422	427SS+30 days,428,430	-117 days		0%
427	CMF-7110	KD1F	Phase B - from B1 - Level 1 (including ELS demolition works)			112 days	Fri 10/9/21	Tue 25/1/22	112 days	Fri 18/3/22	Thu 4/8/22	NA	NA	426SS+30 days,423	429,430	-117 days		0%
428	CMF-7120	KD1G	Phase A - from Level 1 to Roof			120 days	Wed 26/1/22	Sat 25/6/22	120 days	Thu 30/6/22	Mon 21/11/22	NA	NA	426	431,432	-87 days		0%
429	CMF-7130	KD1G	Phase B - from Level 1 to Roof			120 days	Wed 26/1/22	Sat 25/6/22	120 days	Fri 5/8/22	Wed 28/12/22	NA	NA	427	431,432	-117 days		0%
430	CMF-8000	KD1F	Allow access to Contractor DE/2018/04 for E&M installation and T&C works (from B2-level 1)			0 days	Tue 25/1/22	Tue 25/1/22	0 days	Thu 4/8/22	Thu 4/8/22	NA	NA	426,427	47FF	-115 days		0%
431	CMF-9000	KD1G	Allow access to Contractor DE/2018/04 for E&M installation and T&C works (from Level to Roof)			0 days	Sat 25/6/22	Sat 25/6/22	0 days	Wed 28/12/22	Wed 28/12/22	NA	NA	428,429	48FF	-117 days		0%
432	CMF-10000	SW1	ABWF works + BS works			210 days	Mon 27/6/22	Thu 9/3/23	210 days	Thu 29/12/22	Wed 13/9/23	NA	NA	189,428,429	56FF	121 days		0%
433	CMF-11000	SW2	Process Pipe CHQ chainage 0-65, CHM chainage 0-120, CHN chainage 0-125, CHO chainage 0-65, CHP chainage 0-60 & CHV chaiange 0-50 and surrounding utilities			0 days	NA	NA	176 days	Mon 25/10/21	Tue 31/5/22	NA	NA	423	57FF,555	43 days		0%
434	**CSA-0000**	*	**SAS Pumping Station, B-6**			**455 days**	**Wed 20/5/20**	**Thu 25/11/21**	**728 days**	**Sat 18/4/20**	**Wed 28/9/22**	**Sat 18/4/20**		**NA 11**		**891 days**		**78%**

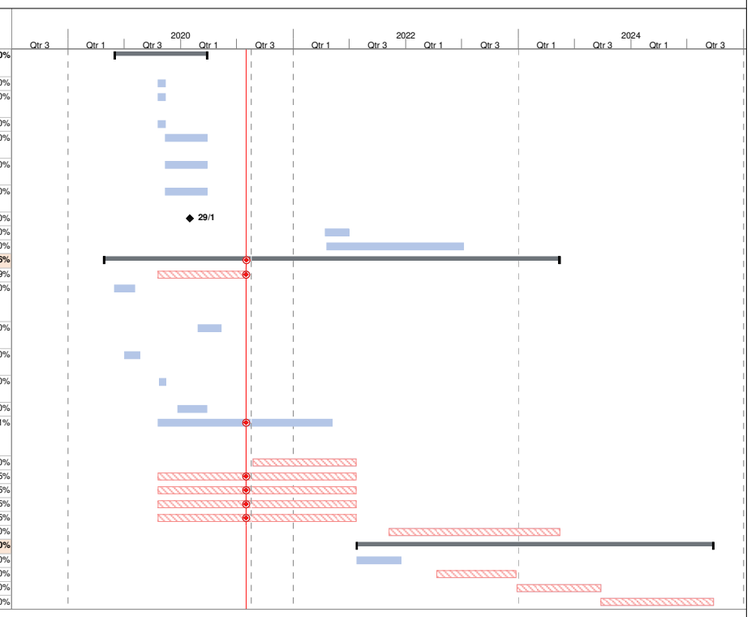


ID	Activity ID	Key Date	Task Name	Inclement Weather CE no. (NCE no.)	PMI & CE no. (NCE no.)	Baseline Duration	Baseline Start	Baseline Finish	Duration	Start	Finish	Actual Start	Actual Finish	Predecessors	Successors	Total Slack	Risk Allowance	% Complete
435	**CSA-1000**		**Additional Preliminary Works**			**0 days**	**NA**	**NA**	**330 days**	**Tue 9/6/20**	**Mon 19/7/21**	**Tue 9/6/20**	**NA**			**1247 days**		**98%**
436	CSA-1020		Expose and abandon existing electric cable & trial pits		78	0 days	NA	NA	39 days	Mon 17/8/20	Wed 30/9/20	Mon 17/8/20	Wed 30/9/20			0 days		100%
437	CSA-1030		Installation of standpipes		71	0 days	NA	NA	13 days	Mon 14/9/20	Mon 28/9/20	Mon 14/9/20	Mon 28/9/20			0 days		100%
438	CSA-1100		Diversion of Existing SAS Rising Main near SAS Pumping Station	68, 75, 76	69	0 days	NA	NA	170 days	Tue 9/6/20	Thu 31/12/20	Tue 9/6/20	Thu 31/12/20		453	0 days		100%
439	CSA-1200		Decommission of exisiting power and signal systems in leachate Pump station switch room	312, 309, 310	74	0 days	NA	NA	58 days	Mon 21/9/20	Mon 30/11/20	Mon 21/9/20	Mon 30/11/20	146	453	0 days		100%
440	CSA-1300		Construction of Cable trough for CLP 11kv Cable Diversion	75, 76, 77, 1	61	0 days	NA	NA	54 days	Mon 19/10/20	Mon 21/12/20	Mon 19/10/20	Mon 21/12/20		453	0 days		100%
441	CSA-1400		Demolition of Existing Pillar box and its concrete plinth	144, 212, 3(	30	0 days	NA	NA	53 days	Wed 12/8/20	Sat 14/11/20	Wed 12/8/20	Sat 14/11/20	149	453	0 days		100%
442	CSA-1500		Excavation to locate existing underground cble near SAS Pump Station		78	0 days	NA	NA	59 days	Wed 17/6/20	Sat 21/11/20	Wed 17/6/20	Sat 21/11/20		453	0 days		100%
443	CSA-1600		Diversion of Existing DN80 Permeate Rising Main near SAS Pumping station		89	0 days	NA	NA	72 days	Tue 6/10/20	Thu 31/12/20	Tue 6/10/20	Thu 31/12/20		453	0 days		100%
444	CSA-1800		Trench Excavation near SAS for CLP diversion of 11kV cable	309, 310	97	0 days	NA	NA	53 days	Mon 12/10/20	Sat 12/12/20	Mon 12/10/20	Sat 12/12/20		453	0 days		100%
445	CSA-1700		Relocation of Oil Interceptor Near Existing Compressor House	144, 212, 3(	70	0 days	NA	NA	50 days	Mon 9/11/20	Fri 8/1/21	Mon 9/11/20	Fri 8/1/21		453	0 days		100%
446	CSA-1900		Diversion of pumping system sewerage	212, 309, 3	83	0 days	NA	NA	36 days	Wed 13/1/21	Fri 26/2/21	Wed 13/1/21	Fri 26/2/21	151	455,453,447	0 days		100%
447	CSA-1910		Diversion of Existing copper pipe near proposed SAS pumping station	309, 310	225	0 days	NA	NA	61 days	Mon 19/10/20	Thu 31/12/20	Mon 19/10/20	Thu 31/12/20	446	453	0 days		100%
448	CSA-1920		Pipework of proposed SAS Pumping Station - 13 nos. of puddles		221	0 days	NA	NA	180 days	Mon 7/12/20	Mon 19/7/21	Mon 7/12/20	NA			1247 days		92%
449	CSA-1930		Additional DN150 Rising main for SAS		220/69	0 days	NA	NA	15 days	Wed 2/12/20	Fri 18/12/20	Wed 2/12/20	Fri 18/12/20			0 days		100%
450	CSA-1940		Additional DN90 PE pipe diversion		89	0 days	NA	NA	7 days	Fri 11/12/20	Fri 18/12/20	Fri 11/12/20	Fri 18/12/20			0 days		100%
451	CSA-1970		Additional diversion of existing sludge rising main and sewerage system		81	0 days	NA	NA	15 days	Thu 21/1/21	Sat 6/2/21	Thu 21/1/21	Sat 6/2/21			0 days		100%
452	CSA-2000		Predrilling (4nrs, 1rig, 4days/drillhole/rig)	68		16 days	Wed 20/5/20	Sat 6/6/20	7 days	Sat 18/4/20	Sat 25/4/20	Sat 18/4/20	Sat 25/4/20	127	342,453	0 days		100%
453	CSA-3000		Pre-bored H piles (12nos, 1rigs, 4days/pile/rig)			60 days	Mon 8/6/20	Tue 18/8/20	19 days	Mon 4/1/21	Mon 25/1/21	Mon 4/1/21	Mon 25/1/21	132,452,148,438,439,441,442,443,445,44	343,454	0 days	2	100%
454	CSA-4000		Pile Load Test			21 days	Wed 19/8/20	Thu 17/9/20	22 days	Tue 23/2/21	Fri 19/3/21	Tue 23/2/21	Fri 19/3/21	453	456,455	0 days		100%
455	CSA-5000		Sheetpile Installation (FSP-II, 690sq.m, 40sqm/day)			28 days	Wed 19/8/20	Sat 19/9/20	28 days	Tue 30/3/21	Wed 5/5/21	Tue 30/3/21	Wed 5/5/21	133,454,446	456	0 days		100%
456	CSA-6000		ELS works (1300cu.m soil with 2 layers wailing / strutting)			75 days	Mon 21/9/20	Wed 19/2/20	75 days	Thu 6/5/21	Wed 4/8/21	Thu 6/5/21	NA	455,135,454	458,457FF-3 emons	-121 days	2	96%
457	CSA-6900		Receiving of Civil Requirements from PM			0 days	NA	NA	1 day	Thu 6/5/21	Thu 6/5/21	Thu 6/5/21	Thu 6/5/21	456FF-3 emons	458SS-3 emons	0 days		100%
458	CSA-7000	KD1H	R.C. Structure works (including ELS demolition works)			186 days	Mon 21/12/20	Mon 9/8/21	186 days	Thu 5/8/21	Sat 19/3/22	NA	NA	456,457SS-3 emons	459,460,49FF	-121 days	5	0%
459	CSA-8000	KD1H	Allow access to Contractor DE/2018/03 for E&M installation and T&C works			0 days	Mon 9/8/21	Mon 9/8/21	0 days	Sat 19/3/22	Sat 19/3/22	NA	NA	458	49FF	-121 days		0%
460	CSA-9000	SW1	ABWF works + BS works			90 days	Tue 10/8/21	Thu 25/11/21	90 days	Tue 14/6/22	Wed 28/9/22	NA	NA	458,189,141,522SS	56FF	405 days		0%
461	**CAS-0000**	*	**Ancillary Structures, B-7**			**503 days**	**Mon 7/9/20**	**Sat 21/5/22**	**420 days**	**Mon 3/5/21**	**Wed 28/9/22**	**Mon 3/5/21**	**NA**	**12**		**891 days**		**7%**
462	**CAS-1000**		Demolition of Existing Faciliates and Structures (leachate pump pit & pumping station)			120 days	Mon 7/9/20	Sat 30/1/21	120 days	Mon 3/5/21	Thu 23/9/21	Mon 3/5/21	NA	122,160,162	497	48 days		41%
463	**CFS-1000**	*	**Fire Services Sprinkler Pumping Room & Emergency Generator House (9)+(10)****		**301**	**220 days**	**Sat 10/4/21**	**Sun 3/1/21**	**419 days**	**Tue 4/5/21**	**Wed 28/9/22**	**Tue 4/5/21**	**NA**			**405 days**		**14%**
464	CFS-1000		Water Sampling and Testing for existing effluent pump pit		384	0 days	NA	NA	12 days	Tue 4/5/21	Mon 17/5/21	Tue 4/5/21	Mon 17/5/21		465	0 days		100%
465	CFS-1150		Identification, decommission and demolition of the existing kiosk		86	0 days	NA	NA	26 days	Tue 18/5/21	Fri 18/6/21	Tue 18/5/21	Fri 18/6/21	464	466,479	0 days		100%
466	CFS-1100		Provision of Flowmeter chamber, gate valve chamber and associated seweage		85	0 days	NA	NA	90 days	Sat 19/6/21	Tue 5/10/21	Sat 19/6/21	NA	465	467,469FF	-101 days		40%
467	CFS-1200		Decommission and demolistion of the existing pump pit and associated sewerage manholes and pipes		86	0 days	NA	NA	40 days	Wed 6/10/21	Mon 22/11/21	NA	NA	466	470	-101 days		0%
468	CFS-1250		Diversion of Leachate Rising Main near SSSH		241	0 days	NA	NA	18 days	Wed 28/7/21	Wed 18/8/21	NA	NA	469SF	480	18 days		0%
469	CFS-1300		E&M provision of flowmeter chamber and associated sewerage for effluent and sewage from SSSH		256	0 days	NA	NA	40 days	Wed 18/8/21	Tue 5/10/21	NA	NA	466FF	470,468SF	-61 days		0%
470	CFS-2000		Excavation for Raft Footing (800cu.m)			65 days	NA	NA	44 days	Tue 23/11/21	Sat 15/1/22	NA	NA	469,467	471	-101 days		0%
471	CFS-2800		Plate load test at bottom level of compacted generall fill(2no.)			12 days	NA	NA	7 days	Mon 17/1/22	Mon 24/1/22	NA	NA	470	472	-101 days		0%
472	CFS-2900		Soil Replacement (14 layers SRT)			0 days	NA	NA	42 edays	Mon 24/1/22	Mon 7/3/22	NA	NA	471	473	-124.42 edays		0%
473	CFS-3000		Plate load test at bottom level of base slab (3no.)			28 days	Fri 4/6/21	Mon 21/6/21	7 days	Tue 8/3/22	Tue 15/3/22	NA	NA	472	474FF-3 mons,475	-101 days		0%
474	CFS-3900		Receiving of Civil Requirements from PM			0 days	NA	NA	1 day	Tue 23/11/21	Tue 23/11/21	NA	NA	473FF-3 mons	475SS-3 emons	59 days		0%
475	CFS-4000	KD1J	R.C. structure works			120 days	NA	NA	70 days	Wed 16/3/22	Mon 13/6/22	NA	NA	473,474SS-3 emons	477,476,51FF,521FF,520FF	-101 days	2	0%
476	CFS-5000	KD1J	Allow access to Contractor DE/2018/04 for E&M installation and T&C works			0 days	Mon 13/9/21	Mon 13/9/21	0 days	Mon 13/6/22	Mon 13/6/22	NA	NA	475	51FF	-101 days		0%
477	CFS-6000	SW1	ABWF works + BS works			90 days	Tue 14/9/21	Mon 3/1/22	90 days	Tue 14/6/22	Wed 28/9/22	NA	NA	475	56FF	405 days		0%
478	**CCS-1000**	*	**Chemical System No.1 (8)***			**168 days**	**Mon 1/2/21**	**Thu 26/8/21**	**386 days**	**Sat 12/6/21**	**Wed 28/9/22**	**Sat 12/6/21**	**NA**			**891 days**		**4%**
479	CCS-1310		Demolition of SSSH Pump Pit and Associated Sewerage System		086	0 days	NA	NA	26 days	Sat 19/6/21	Tue 20/7/21	Sat 19/6/21	NA	465	481	54 days		38%
480	CCS-1110		Removal of existing Leachate Rising Main near SSSH		241	0 days	NA	NA	12 days	Wed 18/8/21	Tue 31/8/21	NA	NA	468	481	18 days		0%
481	CCS-1100		Excavation for Raft Footing (20cu.m)			10 days	Mon 1/2/21	Thu 11/2/21	10 days	Wed 1/9/21	Sat 11/9/21	NA	NA	480,479	485FF-3 emons,486,482	18 days		0%
482	CCS-1080		Plate load test at bottom level of compacted generall fill(2no.)			9 days	NA	NA	9 days	Mon 13/9/21	Thu 23/9/21	NA	NA	481	483	18 days		0%
483	CCS-1090		Soil Replacement (10 layers SRT)			0 days	NA	NA	30 edays	Thu 23/9/21	Sat 23/10/21	NA	NA	482	484	23.58 edays		0%
484	CCS-1200		Plate load test at bottom level of base slab (1no.)			5 days	Tue 16/2/21	Wed 3/3/21	5 days	Mon 25/10/21	Fri 29/10/21	NA	NA	483	486,493	19 days		0%
485	CCS-1190		Receiving of Civil Requirements from PM			0 days	NA	NA	1 day	Sat 12/6/21	Sat 12/6/21	Sat 12/6/21	Sat 12/6/21	481FF-3 emons	486SS-3 emons	0 days		100%
486	CCS-1300	KD1J	R.C. structure works			45 days	Mon 15/3/21	Mon 10/5/21	60 days	Sat 30/10/21	Tue 11/1/22	NA	NA	481,485SS-3 emons,484	51FF,488,487	20 days	2	0%
487	CCS-1400	KD1J	Allow access to Contractor DE/2018/04 for E&M installation and T&C works			0 days	Mon 10/5/21	Mon 10/5/21	0 days	Tue 11/1/22	Tue 11/1/22	NA	NA	486	51FF	20 days		0%
488	CCS-1500	SW1	ABWF works + BS works			90 days	Tue 11/5/21	Thu 26/8/21	90 days	Tue 14/6/22	Wed 28/9/22	NA	NA	189,141,486,522SS	56FF	405 days		0%
489	**CDS-0000**	*	**Deodorization System No.3A (7)***			**149 days**	**Tue 16/11/21**	**Sat 21/5/22**	**105 days**	**Thu 5/8/21**	**Wed 8/12/21**	**NA**	**NA**			**90 days**		**0%**
490	CDS-2000		Excavation for Raft Footing (400cu.m)			20 days	Tue 16/11/21	Wed 8/12/21	20 days	Sat 14/8/21	Tue 7/9/21	NA	NA	491SF		1205 days		0%
491	CDS-2008		Plate load test at bottom level of compacted generall fill(2no.)			10 days	NA	NA	10 days	Tue 7/9/21	Sat 18/9/21	NA	NA	492SF	490SF	1195 days		0%
492	CDS-2100		Soil Replacement (14 layers SRT)			0 days	NA	NA	42 edays	Sat 18/9/21	Sat 30/10/21	NA	NA	493SF	491SF	1425.42 edays		0%
493	CDS-3000		Plate load test at bottom level of base slab (1no.)			4 days	Thu 9/12/21	Fri 24/12/21	4 days	Sat 30/10/21	Wed 3/11/21	NA	NA	484	494FF-3 emons,495,492SF,500FS-	19 days		0%
494	CDS-3900		Receiving of Civil Requirements from PM			0 days	NA	NA	1 day	Thu 5/8/21	Thu 5/8/21	NA	NA	493FF-3 emons	495SS-3 emons	150 days		0%
495	CDS-4000	KD1J	Footing works			20 days	Tue 4/1/22	Wed 26/1/22	30 days	Thu 4/11/21	Wed 8/12/21	NA	NA	493,494SS-3 emons	496,51FF	46 days		0%
496	CDS-5000	KD1J	Allow access to Contractor DE/2018/04 for E&M installation and T&C works			0 days	Wed 26/1/22	Wed 26/1/22	0 days	Wed 8/12/21	Wed 8/12/21	NA	NA	495	51FF	46 days		0%
497	**CCS-2000**	*	**Chemical System No.2 (11)**			**189 days**	**Thu 4/3/21**	**Thu 21/10/21**	**300 days**	**Fri 24/9/21**	**Wed 28/9/22**	**NA**	**NA**	**462**		**48 days**		**0%**
498	CCS-2100		Excavation for Raft Footing (100cu.m)			15 days	Thu 4/3/21	Sat 20/3/21	14 days	Fri 24/9/21	Mon 11/10/21	NA	NA	499SF		1177 days		0%
499	CCS-2110		Soil Replacement (8 layers SRT)			0 days	NA	NA	24 edays	Wed 6/10/21	Sat 30/10/21	NA	NA	500SF	498SF	1425.42 edays		0%
500	CCS-2200		Plate load test (2no.)			14 days	Mon 22/3/21	Fri 9/4/21	15 days	Sat 30/10/21	Tue 16/11/21	NA	NA	493FS-4 days	501FF-3 emons,502,499SF,510FS-	19 days		0%
501	CCS-2290		Receiving of Civil Requirements from PM			0 days	NA	NA	1 day	Fri 24/9/21	Fri 24/9/21	NA	NA	500FF-3 emons	502SS-3 emons	108 days		0%
502	CCS-2300	KD1J	R.C. structure works			45 days	Tue 11/5/21	Mon 5/7/21	45 days	Wed 17/11/21	Tue 11/1/22	NA	NA	500,501SS-3 emons	503,51FF,504,505	20 days	2	0%
503	CCS-2400	KD1J	Allow access to Contractor DE/2018/04 for E&M installation and T&C works			0 days	Mon 5/7/21	Mon 5/7/21	0 days	Tue 11/1/22	Tue 11/1/22	NA	NA	502	51FF	20 days		0%
504	CCS-2500	SW1	ABWF works + BS works			90 days	Tue 6/7/21	Thu 21/10/21	90 days	Tue 14/6/22	Wed 28/9/22	NA	NA	189,141,502,522SS	56FF	405 days		0%
505	CCS-2600	SW1	Demolition of existing chemical room			60 days	Tue 6/7/21	Mon 13/9/21	60 days	Wed 12/1/22	Fri 25/3/22	NA	NA	502	56FF	556 days		0%
506	**CTC-0000**	*	**Temporary Chemical Dosing System (5)**			**191 days**	**Tue 22/6/21**	**Thu 10/2/22**	**330 days**	**Thu 19/8/21**	**Wed 28/9/22**	**NA**	**NA**			**89 days**		**0%**
507	CTC-2000		Excavation for Raft Footing (300cu.m)			30 days	Tue 22/6/21	Tue 27/7/21	30 days	Thu 26/8/21	Sat 2/10/21	NA	NA	508SF		1185 days		0%
508	CTC-2080		Plate load test at bottom level of compacted generall fill(2no.)			9 days	NA	NA	9 days	Sat 2/10/21	Wed 13/10/21	NA	NA	509SF	507SF	1176 days		0%
509	CTC-2100		Soil Replacement (10 layers SRT)			0 days	NA	NA	30 edays	Wed 13/10/21	Fri 12/11/21	NA	NA	510SF	508SF	1412.42 edays		0%
510	CTC-1000		Plate load test at bottom level of base slab (1no.)			5 days	Wed 28/7/21	Thu 12/8/21	5 days	Fri 12/11/21	Wed 17/11/21	NA	NA	500FS-4 days	509SF,511FF-3 emons,512	19 days		0%
511	CTC-2900		Receiving of Civil Requirements from PM			0 days	NA	NA	1 day	Thu 19/8/21	Thu 19/8/21	NA	NA	510FF-3 emons	512SS-3 emons	138 days		0%
512	CTC-3000	KD1J	R.C. structure works			30 days	Tue 14/9/21	Thu 21/10/21	45 days	Thu 18/11/21	Wed 12/1/22	NA	NA	511SS-3 emons,510	513,51FF,514	19 days	1	0%
513	CTC-4000	KD1J	Allow access to Contractor DE/2018/04 for E&M installation and T&C works			0 days	Thu 21/10/21	Thu 21/10/21	0 days	Wed 12/1/22	Wed 12/1/22	NA	NA	512	51FF	19 days		0%
514	CTC-5000	SW1	ABWF works + BS works			90 days	Fri 22/10/21	Thu 10/2/22	90 days	Tue 14/6/22	Wed 28/9/22	NA	NA	189,141,512,522SS	56FF	405 days		0%
515	**CFB-0000**	*	**Fire Hydrant and Booster Pump Room (13)***			**177 days**	**Fri 13/8/21**	**Thu 17/3/22**	**193 days**	**Sat 5/2/22**	**Wed 28/9/22**	**NA**	**NA**			**-28 days**		**0%**
516	CFB-1000		Excavation for Raft Footing (200cu.m)			30 days	Fri 13/8/21	Thu 16/9/21	30 days	Wed 23/2/22	Wed 30/3/22	NA	NA	517SF		1039 days		0%
517	CFB-1100		Soil Replacement (7 layers SRT)			0 days	NA	NA	21 edays	Wed 30/3/22	Wed 20/4/22	NA	NA	518SF	516SF	1253.42 edays		0%
518	CFB-2000		Plate load test (3no.)			14 days	Fri 17/9/21	Tue 5/10/21	14 days	Wed 20/4/22	Sat 7/5/22	NA	NA	520SF	519FF-3 emons,517SF	1011 days		0%
519	CFB-2900		Receiving of Civil Requirements from PM			0 days	NA	NA	1 day	Sat 5/2/22	Sun 6/2/22	NA	NA	518FF-3 emons		1083 days		0%
520	CFB-3000	KD1J	R.C. structure works			30 days	Fri 22/10/21	Thu 25/11/21	30 days	Sat 7/5/22	Mon 13/6/22	NA	NA	475FF	521,522,51FF,518SF	-101 days	1	0%
521	CFB-4000	KD1J	Allow access to Contractor DE/2018/04 for E&M installation and T&C works			0 days	Thu 25/11/21	Thu 25/11/21	0 days	Mon 13/6/22	Mon 13/6/22	NA	NA	520,475FF	51FF	-101 days		0%
522	CFB-5000	SW1	ABWF works + BS works			90 days	Fri 26/11/21	Thu 17/3/22	90 days	Tue 14/6/22	Wed 28/9/22	NA	NA	520,189,141	56FF,514SS,504SS,488SS,460SS	405 days		0%
523	**CDS1-0000**		**Deodorization System No.1 (6)***			**64 days**	**NA**	**NA**	**105 days**	**Tue 10/5/22**	**Tue 13/9/22**	**NA**	**NA**			**418 days**		**0%**
524	CDS1-1000		Excavation for Raft Footing (400cu.m)			20 days	NA	NA	20 days	Wed 8/6/22	Thu 30/6/22	NA	NA	322	525	420 days		0%
525	CDS1-1080		Plate load test at bottom level of compacted generall fill(2no.)			10 days	NA	NA	10 days	Sat 2/7/22	Wed 13/7/22	NA	NA	524	526	420 days		0%
526	CDS1-1100		Soil Replacement (7 layers SRT)			0 days	NA	NA	21 edays	Wed 13/7/22	Wed 3/8/22	NA	NA	525	527	513.58 edays		0%
527	CDS1-2000		Plate load test at bottom level of base slab (1no.)			4 days	NA	NA	4 days	Thu 4/8/22	Mon 8/8/22	NA	NA	526	529,528FF-3 emons	418 days		0%
528	CDS1-2900		Receiving of Civil Requirements from PM			0 days	NA	NA	0 days	Tue 10/5/22	Tue 10/5/22	NA	NA	527FF-3 emons	529SS-3 emons	523 days		0%
529	CDS1-3000	SW1	Footing works			30 days	NA	NA	30 days	Tue 9/8/22	Tue 13/9/22	NA	NA	527,528SS-3 emons	530,56FF	418 days		0%
530	CDS1-4000	SW1	Allow access to Contractor DE/2018/04 for E&M installation and T&C works			0 days	NA	NA	0 days	Tue 13/9/22	Tue 13/9/22	NA	NA	529	56FF	418 days		0%
531	**CAA-0000**	*	**Additional and Alternation Works for Existing Facilities (B-7A, B-8, B-8A)**			**662 days**	**Wed 29/1/20**	**Fri 22/4/22**	**918 days**	**Mon 1/6/20**	**Thu 6/7/23**	**Mon 1/6/20**	**NA**			**269 days**		**64%**



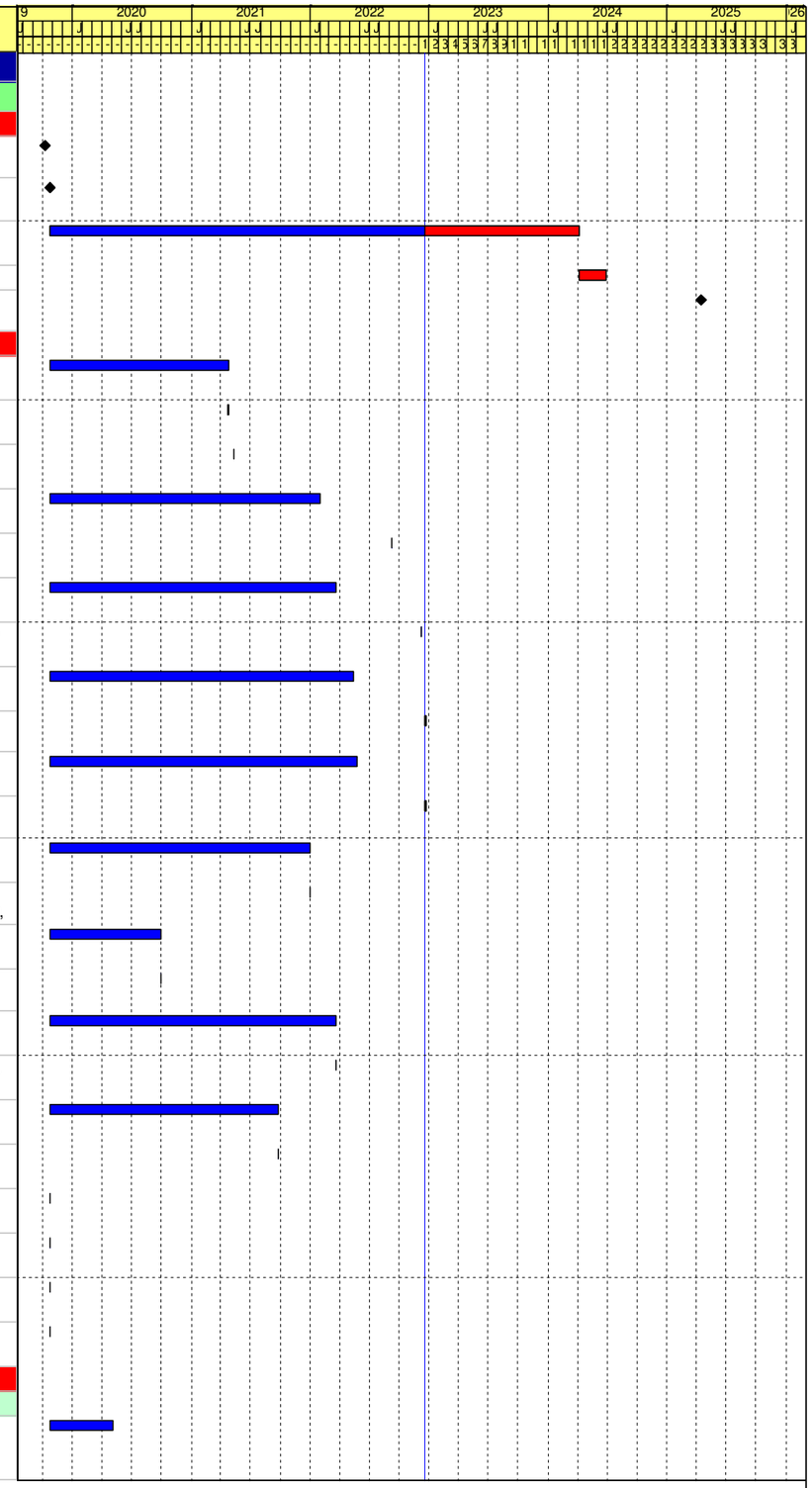
Revised Works Programme (Status Date: 31/07/2021)

ID	Activity ID	Key Date	Task Name	Inclement Weather CE no. (NCE no.)	PMI & CE no. (NCE no.)	Baseline Duration	Baseline Start	Baseline Finish	Duration	Start	Finish	Actual Start	Actual Finish	Predecessors	Successors	Total Slack	Risk Allowance	% Complete
532	**CAA-1000**	**KD2B**	**B-8A Alternation works for existing Air Blower House No.2 (Pipeline CHTA, approx. 133m DN800 D.I.)**			**180 days**	**Wed 29/1/20**	**Thu 3/9/20**	**246 days**	**Mon 1/6/20**	**Fri 26/3/21**	**Mon 1/6/20**	**Fri 26/3/21**	**15,142,184**	**53FF**	**0 days**		**100%**
533	CAA-1100		Change of pipe bridge design		(057)	0 days	NA	NA	135 days	Mon 1/6/20	Tue 10/11/20	Mon 1/6/20	Tue 10/11/20		536,537,538	0 days		100%
534	CAA-1200		Additional inspection pit to verilify the connection point to existing (CE xxx)			0 days	NA	NA	135 days	Mon 1/6/20	Tue 10/11/20	Mon 1/6/20	Tue 10/11/20		536,537,538	0 days		100%
535	CAA-1300		Additional MBV installation (CE xxx)			0 days	NA	NA	135 days	Mon 1/6/20	Tue 10/11/20	Mon 1/6/20	Tue 10/11/20		536,537,538	0 days		100%
536	CAA-1400		Alternation works for existing Air Blower House No.2 (Pipeline CHTA, approx. 133m DN800 D.I.)			180 days	Wed 29/1/20	Thu 3/9/20	111 days	Wed 11/11/20	Fri 26/3/21	Wed 11/11/20	Fri 26/3/21	533,534,535	53FF	0 days		100%
537	CAA-1500	KD2B	Re-alignmnet of DN800 Temporary Air Main (CHTA) and Provision of FRP Staircases		064	0 days	NA	NA	111 days	Wed 11/11/20	Fri 26/3/21	Wed 11/11/20	Fri 26/3/21	533,534,535	53FF	0 days		100%
538	CAA-1600	KD2B	Elevated Section of DN800 Temporary Air Main (CHTA) across existing Bioreactor's Distibution Chamber No. 2		062	0 days	NA	NA	111 days	Wed 11/11/20	Fri 26/3/21	Wed 11/11/20	Fri 26/3/21	533,534,535	53FF,539	0 days		100%
539	CAA-2000	KD1I	B7-A Alternation works for existing Power House			122 days	Fri 4/9/20	Sat 30/1/21	0 days	Wed 11/11/20	Fri 29/1/21	Wed 11/11/20	Fri 29/1/21	13FS-1 day,122,160,162,176,538	50FF,540FS+356 days	0 days		100%
540	CAA-2100	SW3	Additional works for Power House		224	0 days	NA	NA	60 days	Thu 14/4/22	Wed 29/6/22	NA	NA	539FS+356 days	58FF	570 days		0%
541	CAA-3000	SW3	Alternation works for existing Membrane Facilities Building No.1			360 days	Mon 1/2/21	Fri 22/4/22	360 days	Tue 19/4/22	Thu 6/7/23	NA	NA	14FS-1 day,175	58FF	269 days		0%
542	**CUU-0000**	*****	**External Underground Service, Utilities, Road/Drain**			**1091 days**	**Mon 24/2/20**	**Sat 28/10/23**	**1192 days**	**Mon 27/4/20**	**Mon 13/5/24**	**Mon 27/4/20**	**NA**	**16**		**-88 days**		**46%**
543	CUU-1000	KD2A	Process Pipes CHR and CHS (approx. 93m twin DN900 D.I.)		33, 222, 255	325 days	Mon 24/2/20	Sat 27/3/21	379 days	Mon 27/4/20	Wed 4/8/21	Mon 27/4/20	NA	184,142	554SS+48 days,552SS+48 days,55	-39 days		99%
544	CUU-1000a		Special Treatment for Removing the Existing Abandoned DN1800 By-pass Pipe and the Concrete Mass in Conflict with the Proposed Sheetpile wall for trenching work of Process Pipeline CHR and CHS		33	0 days	NA	NA	54 days	Sat 30/5/20	Mon 3/8/20	Sat 30/5/20	Mon 3/8/20			0 days		100%
545	CUU-1000b		Trenchless work for Process Pipes CHR and CHS (approx. 7m twin DN900 D.I.)		255	0 days	NA	NA	60 days	Thu 25/2/21	Mon 10/5/21	Thu 25/2/21	Mon 10/5/21		52FF	0 days		100%
546	CUU-1001		Removal of Abandoned DN1800 Concrete Pipe and Concrete Mass near Existing UV Disinfection Channel at CHR & CHS Process Pipe Works Area		033	0 days	NA	NA	43 days	Thu 2/7/20	Thu 20/8/20	Thu 2/7/20	Thu 20/8/20			0 days		100%
547	CUU-1002		Grouting for Sheung Shui Slaughter House Boundary Walls along CHR & CHS Pipes Works Area		222	0 days	NA	NA	20 days	Fri 23/10/20	Mon 16/11/20	Fri 23/10/20	Mon 16/11/20			0 days		100%
548	CUU-1004		Delay Delivery of DI pipes due to COVID-19		(076)	0 days	NA	NA	75 days	Tue 22/12/20	Thu 25/3/21	Tue 22/12/20	Thu 25/3/21		549FF	0 days		100%
549	CUU-2000	SW2	Process Pipes, including CHT, CHX, CHY, CHPS1&2, CHS S1&2, CHDO 1&2, CHPSW 1-8, CHTPS, CHPT1&2, CHTFT 1&2, CHTE, CHTD, Foam Collection & Surplus activated sludge rising main pipe			550 days	Mon 29/6/20	Fri 6/5/22	457 days	Mon 19/10/20	Fri 6/5/22	Mon 19/10/20	NA	184,142,548FF,543SS+48 days	57FF,555,550SS+250 days	63 days		51%
550	CUU-2100	SW2	Remaining Process Pipes			0 days	NA	NA	270 days	Mon 23/8/21	Fri 22/7/22	NA	NA	549SS+250 days	57FF	0 days		0%
551	CUU-3000	SW2	Remaining Drainage			550 days	Mon 29/6/20	Fri 6/5/22	520 days	Mon 19/10/20	Fri 22/7/22	Mon 19/10/20	NA	184,142	555,57FF	0 days	5	45%
552	CUU-4000	SW2	Remaining Sewerage			550 days	Mon 29/6/20	Fri 6/5/22	520 days	Mon 19/10/20	Fri 22/7/22	Mon 19/10/20	NA	184,142,543SS+48 days	555,57FF	0 days	5	45%
553	CUU-5000	SW2	Remaining Waterworks			550 days	Mon 29/6/20	Fri 6/5/22	520 days	Mon 19/10/20	Fri 22/7/22	Mon 19/10/20	NA	184,142,543SS+48 days	557FS+2 days,57FF	0 days	5	45%
554	CUU-6000	SW2	Remaining Cable Ducts			550 days	Mon 29/6/20	Fri 6/5/22	520 days	Mon 19/10/20	Fri 22/7/22	Mon 19/10/20	NA	184,142,543SS+48 days	555,57FF	0 days	5	45%
555	CUU-7000	KD3A	Roadworks			540 days	Fri 31/12/21	Sat 28/10/23	440 days	Mon 7/11/22	Mon 13/5/24	NA	NA	554,551,552,549,352,399,334,433	54FF,558SS+123 days	-88 days	5	0%
556	**CLW-0000**	*****	**Landscaping Works**			**854 days**	**Wed 11/5/22**	**Thu 27/3/25**	**946 days**	**Tue 26/7/22**	**Wed 24/9/25**	**NA**	**NA**	**16**		**0 days**		**0%**
557	CLW-1000	KD3A	Irrigation System			120 days	Wed 11/5/22	Fri 30/9/22	120 days	Tue 26/7/22	Thu 15/12/22	NA	NA	553FS+2 days,184	558,54FF	1 day		0%
558	CLW-2000	SW3	Hard Landscaping Works			220 days	Mon 3/10/22	Mon 3/7/23	214 days	Tue 11/4/23	Sat 23/12/23	NA	NA	557,555SS+123 days	559,58FF	-88 days	5	0%
559	CLW-3000	SW3	Soft Landscaping Works			220 days	Tue 4/7/23	Tue 26/3/24	214 days	Wed 27/12/23	Tue 24/9/24	NA	NA	558,143	560,58FF	-88 days	5	0%
560	CLW-4000	DLP	Establishment Works (365 days)			294 days	Wed 27/3/24	Thu 27/3/25	365 days	Wed 25/9/24	Wed 24/9/25	NA	NA	559,143	59FF,60FF	0 days	5	0%



Remarks: The Defect Date is 26 Jun 2025 (365 days after Completion of the whole of the works)
The period of Establishment Works is 365 days start from 27 Jun 2024 to 26 Jun 2025

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
SWH - Main Works Stage 1 Sidestream Treatment Facilities & E&M Works for Slud		2015	11-Oct-19 A	16-Apr-25	31-Oct-21	16-Apr-25	0		
Contract Data		2015	11-Oct-19 A	16-Apr-25	04-May-22	16-Apr-25	0		
Starting Date & Completion Date		2015	11-Oct-19 A	16-Apr-25	21-Dec-22	16-Apr-25	0		
CD1000	Contract Date (LOA)	0	11-Oct-19 A						CD1010, S1P1000,
CD1010	Starting Date	0	23-Oct-19 A					CD1000	S1D1040, AD1050,
CD1020	Whole Contract Period (1626 days from starting date)	1626	23-Oct-19 A	04-Apr-24	21-Dec-22	04-Apr-24	0	CD1010	CD1040, CD1030
CD1030	Extension of Time Granted (Total 61.5days)	83	05-Apr-24	26-Jun-24*	05-Apr-24	26-Jun-24	0	CD1020	CD1040
CD1040	Completion Date for the whole of the Works	0		16-Apr-25		16-Apr-25	0	CD1020, CD1010,	
Access Date		1434	23-Oct-19 A	21-Dec-22	04-May-22	16-Apr-25	847		
AD1000	Portion C-1A (within 480 to 550 days from starting date)	550	23-Oct-19 A	24-Apr-21 A	18-Oct-22	18-Oct-22		CD1010	AD1010
AD1010	Planned Access Date for Portion C-1A (Partial Access)	1	24-Apr-21 A	24-Apr-21 A	18-Oct-22	18-Oct-22		CD1010, AD1000	PL1470, S4C1010
AD1020	Planned Access Date for Portion C-1A (Access for Remaining Area)	1	12-May-21 A	12-May-21 A	18-Oct-22	18-Oct-22			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)	831	23-Oct-19 A	30-Jan-22 A	16-Apr-25	16-Apr-25		CD1010	AD1040
AD1040	Planned Access Date for Portion C-2A	1	09-Sep-22 A	09-Sep-22 A	16-Apr-25	16-Apr-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)	880	23-Oct-19 A	20-Mar-22 A	04-May-22	04-May-22		CD1010	AD1060
AD1060	Planned Access Date for Portion C-2B	1	07-Dec-22 A	07-Dec-22 A	04-May-22	04-May-22		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)	934	23-Oct-19 A	13-May-22 A	13-May-22	13-May-22		CD1010	AD1080
AD1080	Planned Access Date for Portion C2-C	1	21-Dec-22	21-Dec-22*	13-May-22	13-May-22	-222	CD1010, AD1070	S5DIGC1040, S5DIGC1210,
AD1090	Portion C-2D (within 825 to 945 days from starting date)	945	23-Oct-19 A	24-May-22 A	24-May-22	24-May-22		CD1010	AD1100
AD1100	Planned Access Date for Portion C-2D	1	21-Dec-22	21-Dec-22*	24-May-22	24-May-22	-211	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)	815	23-Oct-19 A	31-Dec-21 A	27-Jul-22	27-Jul-22		CD1010	AD1120
AD1120	Planned Access Date for Portion C-3 (SS by NCE-NCE-273)	1	31-Dec-21 A	31-Dec-21 A	27-Jul-22	27-Jul-22		AD1110, S2D1110	KD1060, S5WS2C1000,
AD1130	Portion B-1 (within 285 to 345 days from starting date)	345	23-Oct-19 A	30-Sep-20 A	07-Sep-22	07-Sep-22		CD1010	AD1140
AD1140	Planned Access Date for Portion B-1	1	30-Sep-20 A	30-Sep-20 A	07-Sep-22	07-Sep-22		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)	891	23-Oct-19 A	23-Mar-22 A	12-Jan-23	12-Jan-23		CD1010	AD1160
AD1160	Planned Access Date for Portion B-2a (SS by NCE-NCE-219)	1	23-Mar-22 A	23-Mar-22 A	12-Jan-23	12-Jan-23		AD1150	S5SASC1010, S5SASC1000
AD1170	Portion B-2b (within 615 to 705 days from starting date) (SS by NCE-NCE-219)	705	23-Oct-19 A	24-Sep-21 A	16-Apr-25	16-Apr-25			
AD1180	Planned Access Date for Portion B-2b (SS by NCE-NCE-219)	1	24-Sep-21 A	24-Sep-21 A	16-Apr-25	16-Apr-25			
AD1190	Works Area WA1-B (starting date)	1	23-Oct-19 A	23-Oct-19 A	11-Jul-22	11-Jul-22		CD1010	AD1200
AD1200	Planned Access Date for Works Area WA1-B	1	23-Oct-19 A	23-Oct-19 A	11-Jul-22	11-Jul-22		CD1010, AD1190	PL1000, PL1020
AD1210	Works Area WA3 (starting date)	1	23-Oct-19 A	23-Oct-19 A	11-Oct-23	11-Oct-23		CD1010	AD1220
AD1220	Planned Access Date for Works Area WA3	1	23-Oct-19 A	23-Oct-19 A	11-Oct-23	11-Oct-23		CD1010, AD1210	PL1000, PL1030
Key Dates		1632	23-Oct-19 A	10-Apr-24	21-Dec-22	16-Apr-25	372		
Contractual Completion (Include Implemented CE)		1565	23-Oct-19 A	03-Feb-24	21-Dec-22	16-Apr-25	438		
KD1000	KD1A Submission of Civil Requirement Dwgs, Elec. Schematic Dwgs of UV System No.1 and Effluent Pumping Station No.1	196	23-Oct-19 A	05-May-20 A	21-Feb-23	21-Feb-23		CD1010, S1D1040, S1D1100	CD1040, S4P1040



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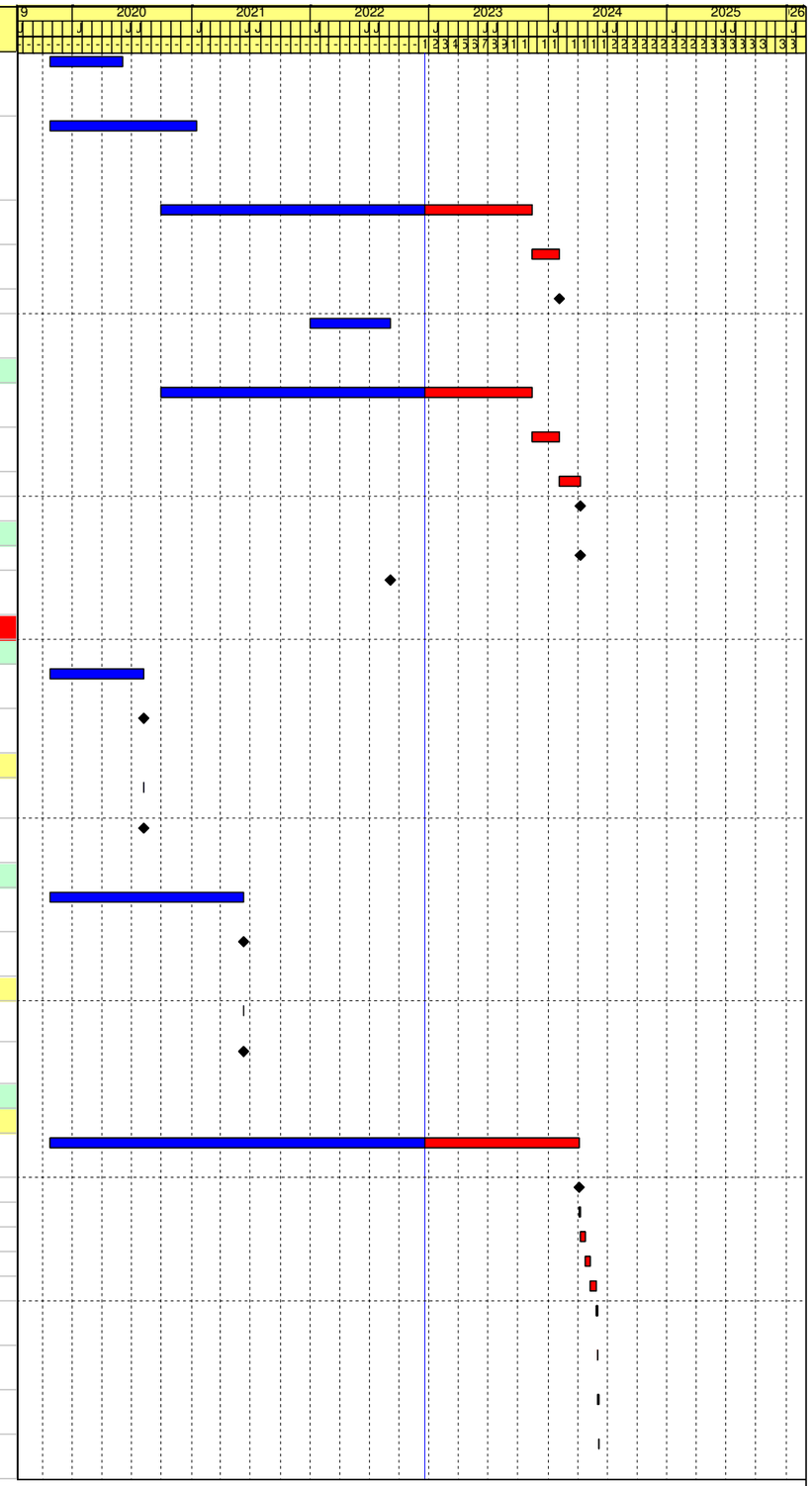
Remaining Work
Critical Activity
Milestone
Actual Progress

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 Dec 2022

Date	Revision	Checked	Approved
31-Aug-22	Rev.25	LT	KM
30-Sep-22	Rev.26	LT	KM
31-Oct-22	Rev.27	LT	KM
30-Nov-22	Rev.28	LT	KM
31-Dec-22	Rev.29	LT	KM

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
KD1010	KD2A Submission of Civil Requirement Dwgs, Elec. Schematic Dwgs of SD Bldg, SD & DC, CHP Bldg, Workshop No.2, etc.	226	23-Oct-19 A	04-Jun-20 A	16-Apr-25	16-Apr-25		CD1010, S2D1080, S2D1160	KD1020
KD1020	KD2B Submission of Remaining Civil Requirement Dwgs, Elec. Schematic Dwgs of SD Bldg, SD & DC, CHP Bldg, etc.	461	23-Oct-19 A	16-Jan-21 A	16-Apr-25	16-Apr-25		CD1010, S2D1120, S2D1220, KD1010	SC21110
KD1030	KD3A Completion of Phase 1 Commissioning of Sidestream Treatment Facilities (1140d after Portion B-1 Access)	1141	30-Sep-20 A	14-Nov-23*	21-Dec-22	14-Nov-23	0	AD1140	KD1040
KD1040	Extension of Time Granted for KD3A (Total 81days)	81	15-Nov-23	03-Feb-24	15-Nov-23	03-Feb-24	0	KD1030	SC31110, KD1050
KD1050	Revised Completion Date for KD3A	0		03-Feb-24*		03-Feb-24	0	KD1040	
KD1060	KD5A - Completion of BS Fitting at CLP Sub-Station at Workshop No.2 (245d after Portion C-3 Access)(Impacted by NCE-273)	246	31-Dec-21 A	02-Sep-22 A	16-Apr-25	16-Apr-25		AD1120, S5WS2C1010	
Expected Completion (Include Non-implemented CE)		1237	30-Sep-20 A	10-Apr-24	21-Dec-22	10-Apr-24	0		
KD1030-1	KD3A Completion of Phase 1 Commissioning of Sidestream Treatment Facilities (1140d after Portion B-1 Access)	1141	30-Sep-20 A	14-Nov-23*	21-Dec-22	14-Nov-23	0	AD1140	KD1040-1
KD1040-1	Extension of Time Granted for KD3A (Total 81days)	81	15-Nov-23	03-Feb-24	15-Nov-23	03-Feb-24	0	KD1030-1	SC31110, KD1045
KD1045	Extension of Time for KD3A - Non-implemented (Total 66.5days)	67	04-Feb-24	10-Apr-24	04-Feb-24	10-Apr-24	0	KD1040-1	KD1050-1
KD1050-1	Expected Completion Date for KD3A	0		10-Apr-24*		10-Apr-24	0	KD1045	
Planned Completion		555	02-Sep-22 A	10-Apr-24	03-Feb-24	03-Feb-24	-67		
KD1050-2	Planned Completion Date for KD3A	0		10-Apr-24*		03-Feb-24	-67	S3T1230	SC31110
KD1060-1	Planned Completion Date for KD5A	0		02-Sep-22 A				AD1120, S5WS2C1010	
Completion Date		2003	23-Oct-19 A	16-Apr-25	21-Dec-22	16-Apr-25	0		
Section 1 - Complete All Design at UV System No.1 & EP Station No. 1		312	23-Oct-19 A	08-Aug-20 A	16-Apr-25	16-Apr-25			
SC11000	Contract Duration of Section 1	291	23-Oct-19 A	08-Aug-20 A	16-Apr-25	16-Apr-25		CD1010	SC11100
SC11100	Completion date - Section 1 (290 days after starting date)	0		08-Aug-20 A				SC11000	SC11120
Time Risk Allowance and Planned Completion		1	08-Aug-20 A	08-Aug-20 A	16-Apr-25	16-Apr-25			
SC11110	Time Risk Allowance for Section 1	1	08-Aug-20 A	08-Aug-20 A	16-Apr-25	16-Apr-25		S1P1000, S1P1040,	SC11120
SC11120	Planned Completion for Section 1	0		08-Aug-20 A				SC11110, SC11100	CD1040
Section 2 - Complete All Designs (exclude Sec. 1 & 3)		632	23-Oct-19 A	11-Jun-21 A	16-Apr-25	16-Apr-25			
SC21000	Contract Duration of Section 2	601	23-Oct-19 A	11-Jun-21 A	16-Apr-25	16-Apr-25		CD1010	SC21100
SC21100	Completion date - Section 2 (600 days after starting date)	0		11-Jun-21 A				SC21000	SC21120
Time Risk Allowance and Planned Completion		9	11-Jun-21 A	11-Jun-21 A	16-Apr-25	16-Apr-25			
SC21110	Time Risk Allowance for Section 2	6	11-Jun-21 A	11-Jun-21 A	16-Apr-25	16-Apr-25		S2P1000, S2P1010,	SC21120
SC21120	Planned Completion for Section 2	0		11-Jun-21 A				SC21110, SC21100,	CD1040
Section 3 - Complete Design, Construction & T&C for Sidestream Facilities		2003	23-Oct-19 A	16-Apr-25	21-Dec-22	16-Apr-25	0		
Contractual Completion (Include Implemented CE)		1709	23-Oct-19 A	26-Jun-24	21-Dec-22	26-Jun-24	0		
SC31000	Contract Duration of Section 3	1626	23-Oct-19 A	04-Apr-24	21-Dec-22	04-Apr-24	0		SC31001
SC31001	Completion date - Section 3 (1625 days after starting date)	0		04-Apr-24*		04-Apr-24	0	SC31000	SC31002
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
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
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
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
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
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



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Remaining Work
Critical Activity
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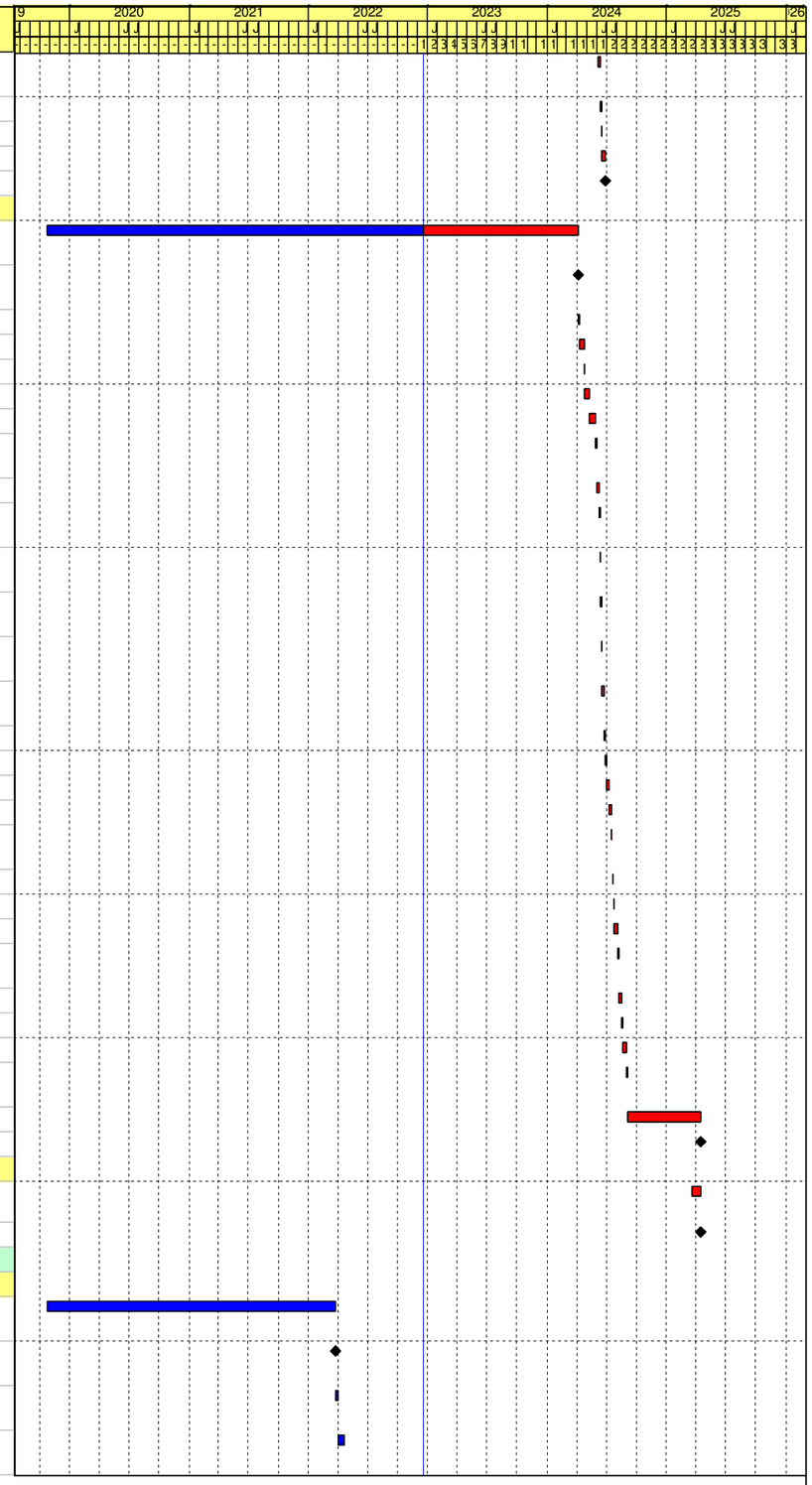
Actual Progress

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 Dec 2022

Date	Revision	Checked	Approved
31-Aug-22	Rev.25	LT	KM
30-Sep-22	Rev.26	LT	KM
31-Oct-22	Rev.27	LT	KM
30-Nov-22	Rev.28	LT	KM
31-Dec-22	Rev.29	LT	KM

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
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	SC31100
SC31100	Revised Completion for Section 3	0		26-Jun-24*		26-Jun-24	0	SC31016	
Expected Completion (Include Non-implemented CE)		2003	23-Oct-19 A	16-Apr-25	21-Dec-22	16-Apr-25	0		
SC31000-1	Contract Duration of Section 3	1626	23-Oct-19 A	04-Apr-24	21-Dec-22	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	SC31110, SC31002-1
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	SC31008-1
SC31008-1	CNE-019 Inclement Weather (October 2021) - 7days	7	02-Jun-24	08-Jun-24	02-Jun-24	08-Jun-24	0	SC31007-1	SC31009-1
SC31009-1	CNE-020 Inclement Weather (October 2021) (Time and Cost Implication) - 4days	4	09-Jun-24	12-Jun-24	09-Jun-24	12-Jun-24	0	SC31008-1	SC31010-1
SC31010-1	NICE-CNE-0313 Inclement Weather (November 2021) - 0.5days (Implemented)	1	13-Jun-24	13-Jun-24	13-Jun-24	13-Jun-24	0	SC31009-1	SC31011-1
SC31011-1	NICE-CNE-0343 Inclement Weather (December 2021) - 4days (Implemented)	4	13-Jun-24	17-Jun-24	13-Jun-24	17-Jun-24	0	SC31010-1	SC31012-1
SC31012-1	NICE-CNE-0344 Inclement Weather (January 2022) - 0.5days (Implemented)	1	17-Jun-24	17-Jun-24	17-Jun-24	17-Jun-24	0	SC31011-1	SC31013-1
SC31013-1	NICE-CNE-0345 Inclement Weather (February 2022) - 6.5days (Implemented)	7	18-Jun-24	24-Jun-24	18-Jun-24	24-Jun-24	0	SC31012-1	SC31014-1
SC31014-1	NICE-CNE-0386 Inclement Weather (March 2022) - 3.5days (Implemented)	4	24-Jun-24	27-Jun-24	24-Jun-24	27-Jun-24	0	SC31013-1	SC31015-1
SC31015-1	NICE-CNE-0387 Inclement Weather (April 2022) - 2.5days (Implemented)	3	28-Jun-24	30-Jun-24	28-Jun-24	30-Jun-24	0	SC31014-1	SC31016-1
SC31016-1	NICE-CNE-0391 Inclement Weather (May 2022) - 8.5days (Implemented)	9	30-Jun-24	08-Jul-24	30-Jun-24	08-Jul-24	0	SC31015-1	SC31017-1
SC31017-1	CNE-052 Inclement Weather (June 2022) - 9days	9	09-Jul-24	17-Jul-24	09-Jul-24	17-Jul-24	0	SC31016-1	SC31018-1
SC31018-1	CNE-053 Inclement Weather (June 2022) (Time and Cost Implication) - 1day	1	18-Jul-24	18-Jul-24	18-Jul-24	18-Jul-24	0	SC31017-1	SC31019-1
SC31019-1	CNE-054 Inclement Weather (July 2022) - 4days	4	19-Jul-24	22-Jul-24	19-Jul-24	22-Jul-24	0	SC31018-1	SC31020-1
SC31020-1	CNE-055 Inclement Weather (July 2022) (Time and Cost Implication) - 1day	1	23-Jul-24	23-Jul-24	23-Jul-24	23-Jul-24	0	SC31019-1	SC31021-1
SC31021-1	CNE-056 Inclement Weather (August 2022) - 13.5days	14	24-Jul-24	06-Aug-24	24-Jul-24	06-Aug-24	0	SC31020-1	SC31022-1
SC31022-1	CNE-057 Inclement Weather (August 2022) (Time and Cost Implication) - 1day	1	06-Aug-24	07-Aug-24	06-Aug-24	07-Aug-24	0	SC31021-1	SC31023-1
SC31023-1	CNE-058 Inclement Weather (September 2022) - 8days	8	07-Aug-24	15-Aug-24	07-Aug-24	15-Aug-24	0	SC31022-1	SC31024-1
SC31024-1	CNE-059 Inclement Weather (October 2022) - 4days	4	15-Aug-24	19-Aug-24	15-Aug-24	19-Aug-24	0	SC31023-1	SC31025-1
SC31025-1	CNE-061 Inclement Weather (November 2022) - 13days	13	19-Aug-24	01-Sep-24	19-Aug-24	01-Sep-24	0	SC31024-1	SC31026-1
SC31026-1	CNE-062 Inclement Weather (November 2022) (Time and Cost Implication) - 2days	2	01-Sep-24	03-Sep-24	01-Sep-24	03-Sep-24	0	SC31025-1	SC31099-1
SC31099-1	EWN-0314 Extention of Time for change of access date	226	03-Sep-24	16-Apr-25	03-Sep-24	16-Apr-25	0	SC31026-1	SC31100-1
SC31100-1	Expected Completion for Section 3	0		16-Apr-25*		16-Apr-25	0	SC31099-1	
Time Risk Allowance and Planned Completion		26	22-Mar-25	16-Apr-25	01-Jun-24	26-Jun-24	-294		
SC31110	Time Risk Allowance for Section 3	26	22-Mar-25	16-Apr-25	01-Jun-24	26-Jun-24	-294	SC31001-1, S3C1160,	SC31120
SC31120	Planned Completion for Section 3	0		16-Apr-25*		26-Jun-24	-294	SC31110	CD1040
Section 4 - Complete Construction & T&C for UV System No.1 & EP Station No. 1		1170	23-Oct-19 A	14-Sep-22 A	16-Apr-25	16-Apr-25			
Contractual Completion (Include Implemented CE)		1166	23-Oct-19 A	14-Sep-22 A	16-Apr-25	16-Apr-25			
SC41000	Contract Duration of Section 4	886	23-Oct-19 A	26-Mar-22 A	16-Apr-25	16-Apr-25			SC41001
SC41001	Completion date - Section 4 (885 days after starting date)	0		26-Mar-22 A				SC41000	SC41002
SC41002	NICE-CNE-0256 Inclement Weather (June 2021) - 6.5days (Implemented)	7	27-Mar-22 A	02-Apr-22 A	16-Apr-25	16-Apr-25		SC41001	SC41004
SC41004	NICE-CNE-0264 Inclement Weather (July 2021) - 19days (Implemented)	19	02-Apr-22 A	21-Apr-22 A	16-Apr-25	16-Apr-25		SC41002	SC41005



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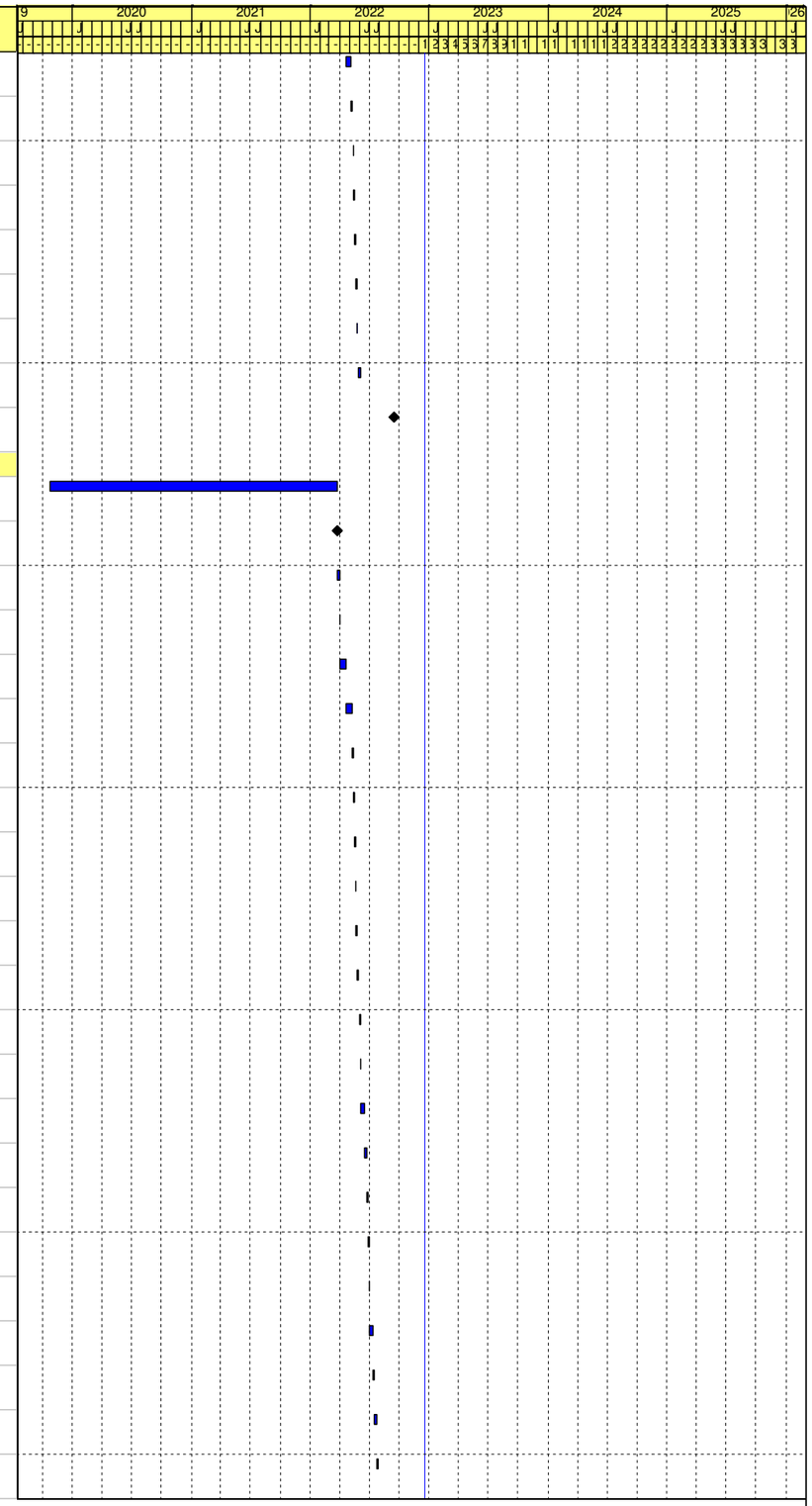
Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
SC41005	NICE-CNE-0292 Inclement Weather (August 2021) - 16days (Implemented)	16	21-Apr-22 A	07-May-22 A	16-Apr-25	16-Apr-25		SC41004	SC41006
SC41006	NICE-CNE-0293 Inclement Weather (September 2021) - 4.5days (Implemented)	5	07-May-22 A	11-May-22 A	16-Apr-25	16-Apr-25		SC41005	SC41009
SC41009	NICE-CNE-0313 Inclement Weather (November 2021) - 0.5days (Implemented)	1	12-May-22 A	12-May-22 A	16-Apr-25	16-Apr-25		SC41006	SC41010
SC41010	NICE-CNE-0343 Inclement Weather (December 2021) - 4days (Implemented)	4	12-May-22 A	16-May-22 A	16-Apr-25	16-Apr-25		SC41009	SC41012
SC41012	NICE-CNE-0345 Inclement Weather (February 2022) - 4.5days (Implemented)	5	16-May-22 A	20-May-22 A	16-Apr-25	16-Apr-25		SC41010	SC41013
SC41013	NICE-CNE-0386 Inclement Weather (March 2022) - 4.5days (Implemented)	5	21-May-22 A	25-May-22 A	16-Apr-25	16-Apr-25		SC41012	SC41014
SC41014	NICE-CNE-0387 Inclement Weather (April 2022) - 1.5days (Implemented)	2	25-May-22 A	26-May-22 A	16-Apr-25	16-Apr-25		SC41013	SC41015
SC41015	NICE-CNE-0391 Inclement Weather (May 2022) - 10.5days (Implemented)	11	27-May-22 A	06-Jun-22 A	16-Apr-25	16-Apr-25		SC41014	SC41100
SC41100	Revised Completion for Section 4	0		14-Sep-22 A				SC41015	
Expected Completion (Include Non-implemented CE)		1170	23-Oct-19 A	14-Sep-22 A	16-Apr-25	16-Apr-25			
SC41000-1	Contract Duration of Section 4	886	23-Oct-19 A	26-Mar-22 A	16-Apr-25	16-Apr-25		CD1010	SC41001-1
SC41001-1	Completion date - Section 4 (885 days after starting date)	0		26-Mar-22 A				SC41000-1	SC41110, SC41002-1
SC41002-1	NICE-CNE-0256 Inclement Weather (June 2021) - 6.5days (Implemented)	7	27-Mar-22 A	02-Apr-22 A	16-Apr-25	16-Apr-25		SC41001-1	SC41004-1, SC41003-1
SC41003-1	CNE-007 Black and Red Rainstorm Warning (June 2021) - 1day	1	02-Apr-22 A	03-Apr-22 A	16-Apr-25	16-Apr-25		SC41002-1	SC41004-1
SC41004-1	NICE-CNE-0264 Inclement Weather (July 2021) - 19days (Implemented)	19	03-Apr-22 A	22-Apr-22 A	16-Apr-25	16-Apr-25		SC41002-1, SC41003-1	SC41005-1
SC41005-1	NICE-CNE-0292 Inclement Weather (August 2021) - 16days (Implemented)	16	22-Apr-22 A	08-May-22 A	16-Apr-25	16-Apr-25		SC41004-1	SC41006-1
SC41006-1	NICE-CNE-0293 Inclement Weather (September 2021) - 4.5days (Implemented)	5	08-May-22 A	12-May-22 A	16-Apr-25	16-Apr-25		SC41005-1	SC41007-1
SC41007-1	CNE-019 Inclement Weather (October 2021) - 5days	5	13-May-22 A	17-May-22 A	16-Apr-25	16-Apr-25		SC41006-1	SC41008-1
SC41008-1	CNE-020 Inclement Weather (October 2021) (Time and Cost Implication) - 4days	4	18-May-22 A	21-May-22 A	16-Apr-25	16-Apr-25		SC41007-1	SC41009-1
SC41009-1	NICE-CNE-0313 Inclement Weather (November 2021) - 0.5days (Implemented)	1	22-May-22 A	22-May-22 A	16-Apr-25	16-Apr-25		SC41008-1	SC41010-1
SC41010-1	NICE-CNE-0343 Inclement Weather (December 2021) - 4days (Implemented)	4	22-May-22 A	26-May-22 A	16-Apr-25	16-Apr-25		SC41009-1	SC41012-1
SC41012-1	NICE-CNE-0345 Inclement Weather (February 2022) - 4.5days (Implemented)	5	26-May-22 A	30-May-22 A	16-Apr-25	16-Apr-25		SC41010-1	SC41013-1
SC41013-1	NICE-CNE-0386 Inclement Weather (March 2022) - 4.5days (Implemented)	5	31-May-22 A	04-Jun-22 A	16-Apr-25	16-Apr-25		SC41012-1	SC41014-1
SC41014-1	NICE-CNE-0387 Inclement Weather (April 2022) - 1.5days (Implemented)	2	04-Jun-22 A	05-Jun-22 A	16-Apr-25	16-Apr-25		SC41013-1	SC41015-1
SC41015-1	NICE-CNE-0391 Inclement Weather (May 2022) - 10.5days (Implemented)	11	06-Jun-22 A	16-Jun-22 A	16-Apr-25	16-Apr-25		SC41014-1	SC41016-1
SC41016-1	CNE-052 Inclement Weather (June 2022) - 9days	9	16-Jun-22 A	25-Jun-22 A	16-Apr-25	16-Apr-25		SC41015-1	SC41017-1
SC41017-1	CNE-053 Inclement Weather (June 2022) (Time and Cost Implication) - 1day	1	25-Jun-22 A	26-Jun-22 A	16-Apr-25	16-Apr-25		SC41016-1	SC41018-1
SC41018-1	CNE-054 Inclement Weather (July 2022) - 4days	4	26-Jun-22 A	30-Jun-22 A	16-Apr-25	16-Apr-25		SC41017-1	SC41019-1
SC41019-1	CNE-055 Inclement Weather (July 2022) (Time and Cost Implication) - 1day	1	30-Jun-22 A	01-Jul-22 A	16-Apr-25	16-Apr-25		SC41018-1	SC41020-1
SC41020-1	CNE-056 Inclement Weather (August 2022) - 13.5days	14	01-Jul-22 A	14-Jul-22 A	16-Apr-25	16-Apr-25		SC41019-1	SC41021-1
SC41021-1	CNE-057 Inclement Weather (August 2022) (Time and Cost Implication) - 1day	1	15-Jul-22 A	15-Jul-22 A	16-Apr-25	16-Apr-25		SC41020-1	SC41022-1
SC41022-1	CNE-058 Inclement Weather (September 2022) - 8days	8	16-Jul-22 A	23-Jul-22 A	16-Apr-25	16-Apr-25		SC41021-1	SC41023-1
SC41023-1	CNE-059 Inclement Weather (October 2022) - 4days	4	24-Jul-22 A	27-Jul-22 A	16-Apr-25	16-Apr-25		SC41022-1	SC41024-1



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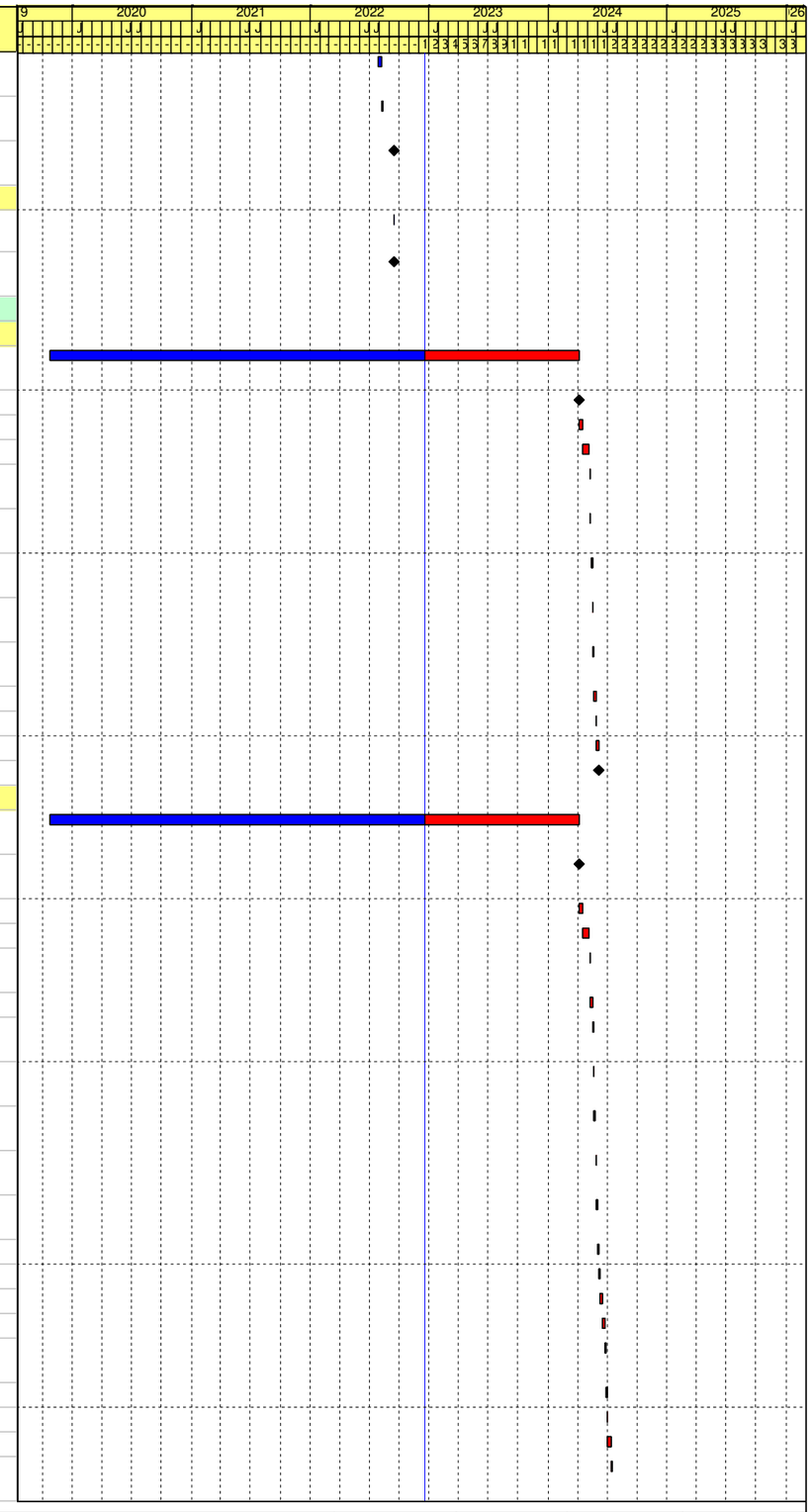
Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
SC41024-1	CNE-061 Inclement Weather (November 2022) - 13days	13	28-Jul-22 A	09-Aug-22 A	16-Apr-25	16-Apr-25		SC41023-1	SC41025-1
SC41025-1	CNE-062 Inclement Weather (November 2022) (Time and Cost Implication) - 2days	2	10-Aug-22 A	11-Aug-22 A	16-Apr-25	16-Apr-25		SC41024-1	SC41100-1
SC41100-1	Expected Completion for Section 4	0		14-Sep-22 A				SC41025-1	
Time Risk Allowance and Planned Completion		7	14-Sep-22 A	14-Sep-22 A	16-Apr-25	16-Apr-25			
SC41110	Time Risk Allowance for Section 4	7	14-Sep-22 A	14-Sep-22 A	16-Apr-25	16-Apr-25		SC41001-1, S4C1100,	SC41120
SC41120	Planned Completion for Section 4	0		14-Sep-22 A				SC41110	CD1040
Section 5 - Complete all remaining Works (incl. T&C)		2003	23-Oct-19 A	16-Apr-25	21-Dec-22	02-Apr-25	-14		
Contractual Completion (Include Implemented CE)		1689	23-Oct-19 A	06-Jun-24	21-Dec-22	06-Jun-24	0		
SC51000	Contract Duration of Section 5	1626	23-Oct-19 A	04-Apr-24	21-Dec-22	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	SC51100
SC51100	Revised Completion for Section 5	0		06-Jun-24*		06-Jun-24	0	SC51013	
Expected Completion (Include Non-implemented CE)		1989	23-Oct-19 A	02-Apr-25	21-Dec-22	02-Apr-25	0		
SC51000-1	Contract Duration of Section 5	1626	23-Oct-19 A	04-Apr-24	21-Dec-22	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	SC51110, SC51002-1
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	SC51005-1
SC51005-1	CNE-019 Inclement Weather (October 2021) - 6days	6	11-May-24	17-May-24	11-May-24	17-May-24	0	SC51004-1	SC51006-1
SC51006-1	CNE-020 Inclement Weather (October 2021) (Time and Cost Implication) - 4days	4	17-May-24	21-May-24	17-May-24	21-May-24	0	SC51005-1	SC51007-1
SC51007-1	ICE-CNE-0313 Inclement Weather (November 2021) - 0.5days (Implemented)	1	21-May-24	21-May-24	21-May-24	21-May-24	0	SC51006-1	SC51008-1
SC51008-1	NICE-CNE-0343 Inclement Weather (December 2021) - 5days (Implemented)	5	22-May-24	26-May-24	22-May-24	26-May-24	0	SC51007-1	SC51009-1
SC51009-1	NICE-CNE-0344 Inclement Weather (January 2022) - 0.5days (Implemented)	1	27-May-24	27-May-24	27-May-24	27-May-24	0	SC51008-1	SC51010-1
SC51010-1	NICE-CNE-0345 Inclement Weather (February 2022) - 5.5days (Implemented)	6	27-May-24	01-Jun-24	27-May-24	01-Jun-24	0	SC51009-1	SC51011-1
SC51011-1	NICE-CNE-0386 Inclement Weather (March 2022) - 4.5days (Implemented)	5	02-Jun-24	06-Jun-24	02-Jun-24	06-Jun-24	0	SC51010-1	SC51012-1
SC51012-1	NICE-CNE-0387 Inclement Weather (April 2022) - 1.5days (Implemented)	2	06-Jun-24	07-Jun-24	06-Jun-24	07-Jun-24	0	SC51011-1	SC51013-1
SC51013-1	NICE-CNE-0391 Inclement Weather (May 2022) - 8.5days (Implemented)	9	08-Jun-24	16-Jun-24	08-Jun-24	16-Jun-24	0	SC51012-1	SC51014-1
SC51014-1	CNE-052 Inclement Weather (June 2022) - 9days	9	16-Jun-24	25-Jun-24	16-Jun-24	25-Jun-24	0	SC51013-1	SC51015-1
SC51015-1	CNE-053 Inclement Weather (June 2022) (Time and Cost Implication) - 1day	1	25-Jun-24	26-Jun-24	25-Jun-24	26-Jun-24	0	SC51014-1	SC51016-1
SC51016-1	CNE-054 Inclement Weather (July 2022) - 4days	4	26-Jun-24	30-Jun-24	26-Jun-24	30-Jun-24	0	SC51015-1	SC51017-1
SC51017-1	CNE-055 Inclement Weather (July 2022) (Time and Cost Implication) - 1day	1	30-Jun-24	01-Jul-24	30-Jun-24	01-Jul-24	0	SC51016-1	SC51018-1
SC51018-1	CNE-056 Inclement Weather (August 2022) - 13.5days	14	01-Jul-24	14-Jul-24	01-Jul-24	14-Jul-24	0	SC51017-1	SC51019-1
SC51019-1	CNE-057 Inclement Weather (August 2022) (Time and Cost Implication) - 1day	1	15-Jul-24	15-Jul-24	15-Jul-24	15-Jul-24	0	SC51018-1	SC51020-1



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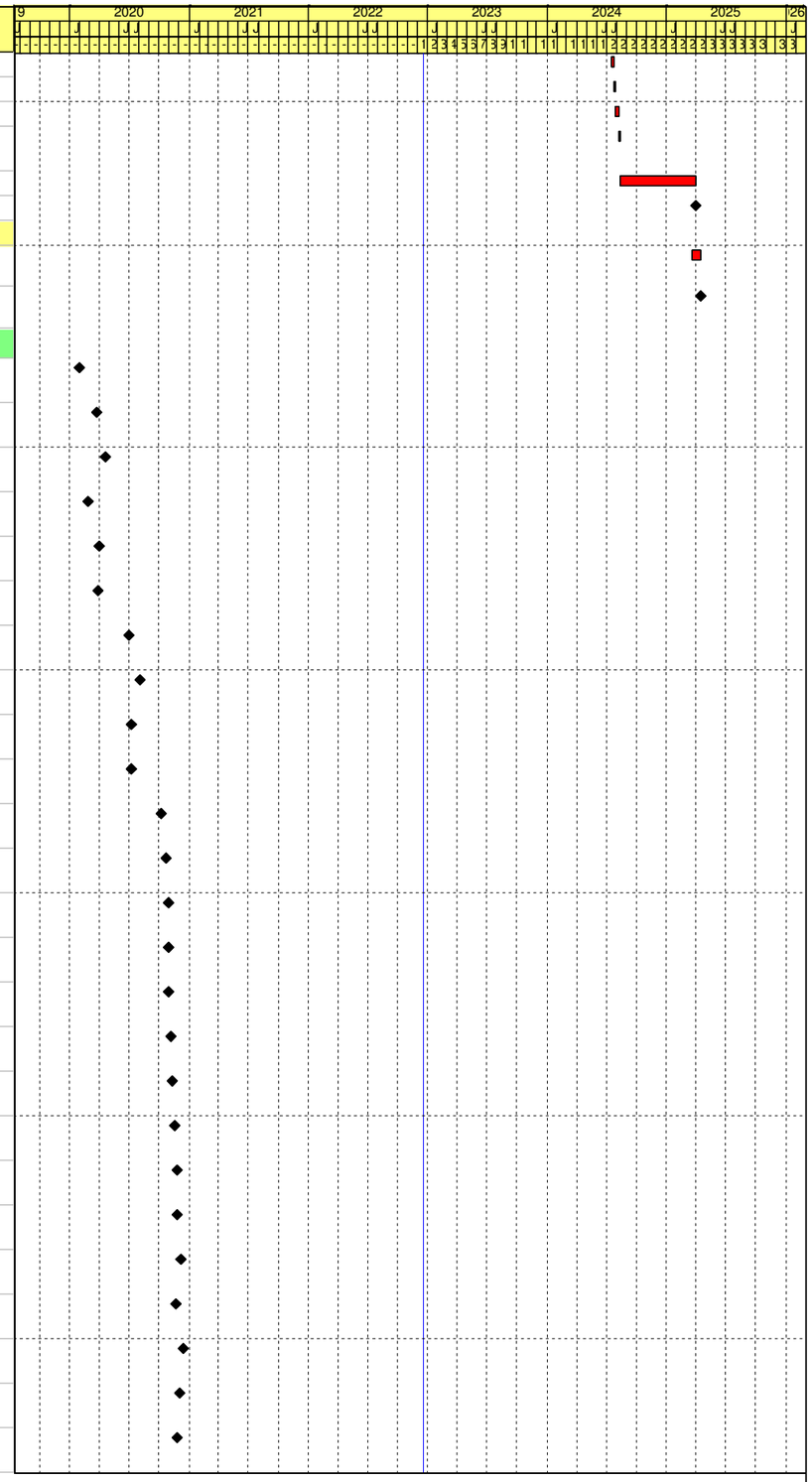
Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
SC51020-1	CNE-058 Inclement Weather (September 2022) - 8days	8	16-Jul-24	23-Jul-24	16-Jul-24	23-Jul-24	0	SC51019-1	SC51021-1
SC51021-1	CNE-059 Inclement Weather (October 2022) - 4days	4	24-Jul-24	27-Jul-24	24-Jul-24	27-Jul-24	0	SC51020-1	SC51022-1
SC51022-1	CNE-061 Inclement Weather (November 2022) - 13days	13	28-Jul-24	09-Aug-24	28-Jul-24	09-Aug-24	0	SC51021-1	SC51023-1
SC51023-1	CNE-062 Inclement Weather (November 2022) (Time and Cost Implication) - 2days	2	10-Aug-24	11-Aug-24	10-Aug-24	11-Aug-24	0	SC51022-1	SC51099-1
SC51099-1	EWN-0314 Extention of Time for change of access date	234	12-Aug-24	02-Apr-25	12-Aug-24	02-Apr-25	0	SC51023-1	SC51100-1
SC51100-1	Expected Completion for Section 5	0		02-Apr-25*		02-Apr-25	0	SC51099-1	
Time Risk Allowance and Planned Completion		26	22-Mar-25	16-Apr-25	11-May-24	06-Jun-24	-315		
SC51110	Time Risk Allowance for Section 5	26	22-Mar-25	16-Apr-25	11-May-24	06-Jun-24	-315	SC51001-1, S5S1250,	SC51120
SC51120	Planned Completion for Section 5	0		16-Apr-25*		06-Jun-24	-315	SC51110, PL1520,	CD1040
Compensation Event		1621	23-Oct-19 A	21-Dec-22	30-Jan-22	16-Apr-25	847		
CE0001	CE No.001 - Special Work Arrangement in Reducing the Risk of the Spread of Novel Coronavirus	0		30-Jan-20 A					
CE0002	CE No.002 - The Contractor's Site Accomodation by Modular Integrated Construction (MIC) Method	0		23-Mar-20 A					
CE0003	CE No.003 - Flowmeter Relocation & Pipework Rearrangement at Effluent Transfer Pumping Station	0		20-Apr-20 A					
CE0004	CE No.004 - Designated Area for the Contractor's Site Accommodation in Works Area WA1	0		26-Feb-20 A					
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					
CE0006	CE No.006 - Additional Duty Point for Effluent Transfer Pumps	0		27-Mar-20 A					
CE0007	CE No.007 - Additional Adjustable Weir at UV System No.1 & Effluent Pumping Station No.1	0		30-Jun-20 A					
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					
CE0009	CE No.009 - Employment of Temporary Staff under Anti-Epidemic Fund	0		07-Jul-20 A					
CE0010	CE No.010 - Revised Setting Out Plan for Sidestream Treatment Facilities	0		07-Jul-20 A					
CE0012	CE No.012 - Provision of Touchscreen Display System for the Project Manager's Office	0		06-Oct-20 A					
CE0013	CE No.013 - Feasibility Study for Adopting emMiC & DfMA	0		22-Oct-20 A					
CE0014	CE No.014 - Revised FS Water Supply Arrangement for CHP, Guard House, Workshop No.2, SludgeDigester&DistributionChamber	0		28-Oct-20 A					
CE0015	CE No.015 - Revised Plumbing Arranagement for Workshop No.2, UV & Effluent No.1, CHP, SPS&FCDF, DOU No.11&12, H2S, SDDC	0		30-Oct-20 A					
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					
CE0018	CE No.018 - MVAC Layout for Plant Service Water System	0		05-Nov-20 A					
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					
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					
CE0202	NCE-PMI-0202 - Revised Plumbing Arrangement for Sludge Dewatering Building	0		26-Nov-20 A					
CE0203	NCE-PPMI-0203 - MVAC Layout for SAS Pumping Station	0		25-Nov-20 A					
CE0204	NCE-PMI-0204 - CHP - Provisional of Additional ATS for Power Supply for UPS	0		08-Dec-20 A					
CE0205	NCE-PPMI-0205 - Fibre Optics Network Connection for SCADA Systems between Zone B & Zone C	0		23-Nov-20 A					
CE0206	NCE-PMI-0206 - SDB - Provisional of Additional ATS for Power Supply for UPS	0		15-Dec-20 A					
CE0207	NCE-PMI-0207 - TX Rm & Switch Rm - Provision of ATS for Power Supply for UPS	0		01-Dec-20 A					
CE0208	NCE-PPMI-0208 - Provision of Drainage service Layout for SAS Pumping Station	0		26-Nov-20 A					



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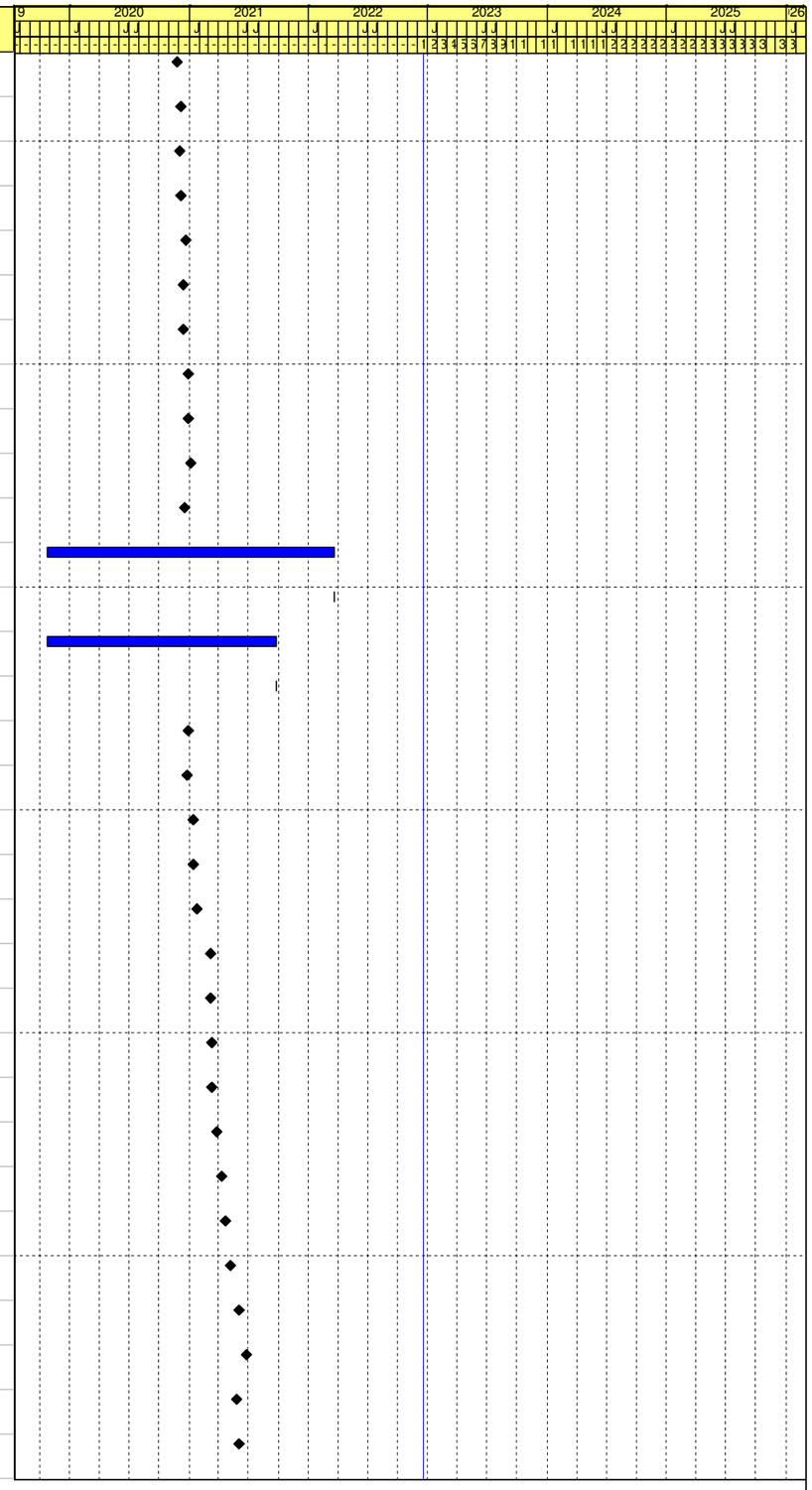
31-Dec-22	Rev.29	LT	KM

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
CE0209	NCE-PPMI-0209 - Drainage System for Plant Service Water System	0		26-Nov-20 A					
CE0210	NCE-PPMI-0210 - Electrical provisions for MVAC & Drainage Systems in SAS Pumping Station	0		08-Dec-20 A					
CE0211	NCE-PPMI-0211 - Revised MVAC Layout & Electrical Provisions for MVAC in TX and Switch Rm	0		02-Dec-20 A					
CE0212	NCE-PMI-0212 - Provision of Louvre Panel for Outdoor AC Units at Contractor's Site Accomodation	0		07-Dec-20 A					
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					
CE0214	NCE-PPMI-0214 - Additional Sump Pump & Drain Pipes at UV System No.1 & Effluent Pumping Station	0		14-Dec-20 A					
CE0215	NCE-PPMI-0215 - Revised MVAC Layout for UV System No.1 & Effluent Pumping Station No.1	0		14-Dec-20 A					
CE0216	NCE-PPMI-0216 - Electrical Provisions for MVAC & drainage Sytems in Plant Service Water System	0		31-Dec-20 A					
CE0217	NCE-PMI-0217 - Revised Duty Points for Effluent Transfer Pumps	0		29-Dec-20 A					
CE0218	NCE-PMI-0218 - Scoping Study for Application of Digital Twin & IoT in Zone B & Zone C of SWHEPP	0		04-Jan-21 A					
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					
CE0219a	NCE-NCE-0219 - Portion B-2a (within 771 to 891 days from starting date)	891	23-Oct-19 A	23-Mar-22 A	12-Jan-23	12-Jan-23		CD1010	CE0219b
CE0219b	NCE-NCE-0219 - Revised Access Date for Portion B-2a	1	23-Mar-22 A	23-Mar-22 A	12-Jan-23	12-Jan-23		CE0219a	S5SASC1010
CE0219c	NCE-NCE-0219 - Portion B-2b (within 615 to 705 days from starting date)	705	23-Oct-19 A	24-Sep-21 A	08-Dec-22	08-Dec-22			CE0219d
CE0219d	NCE-NCE-0219 - Revised Access Date for Portion B-2b	1	24-Sep-21 A	24-Sep-21 A	08-Dec-22	08-Dec-22		CE0219c	S5ECHC1000
CE0220	NCE-PMI-0220 - Supply of Puddle Pipes for Effluent to Shek Sheung River	0		30-Dec-20 A					
CE0221	NCE-PPMI-0221 - General Arrangement for Fire Hydrant & Booster Pump Room	0		24-Dec-20 A					
CE0222	NCE-PMI-0222 - Revised Water Supply Arrangement (FS Water) to Sludge Dewatering Building	0		12-Jan-21 A					
CE0223	NCE-PMI-0223 - Construction of Trial Pits for Sidestream Treatment Facilities	0		15-Jan-21 A					
CE0224	NCE-PMI-0224 - Independent Inspection Body (IIB) for the Factory Acceptance Test (FAT) for UV Disinfeciton System	0		25-Jan-21 A					
CE0225	NCE-PMI-0225 - Supply of Ductile Iron Puddle Pipes at the Basement of Sludge Dewatering Building	0		09-Mar-21 A					
CE0226	NCE-PMI-0226 - Provision of Solar Water Heating System at the Contractor's Site Accomodation	0		09-Mar-21 A					
CE0227	NCE-PMI-0227 - Dual Power Fedder for LV Switch Panel at Sewage Pumping Station	0		11-Mar-21 A					
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					
CE0230	NCE-PMI-0230 - Provision of Project Jackets with Fleece Vests	0		26-Mar-21 A					
CE0231	NCE-PMI-0231 - Extension of Sampling Pipe From Low Level on Sludge Digesters	0		12-Apr-21 A					
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					
CE0233	NCE-PMI-0233 - Sampling, Simulating and Testing of Existing Sludge for Obtaining the Viscosity of the Mixed Sludge	0		06-May-21 A					
CE0234	NCE-PMI-0234 - Provision of FRP Walkway, Access Platform & Handrailing for Sludge Digester No. 2	0		02-Jun-21 A					
CE0237	NCE-CNE-0237 - Provision of Inspectin Windows for Sludge Digester	0		25-Jun-21 A					
CE0238	NCE-PMI-0238 - Supply of Stainless Steel Puddle Pipes for Surplus Activated Sludge (SAS) Pumping Station	0		27-May-21 A					
CE0239	NCE-PMI-0239 - Revised the Arrangement for Process Water Supply and Plant Services Water System	0		01-Jun-21 A					



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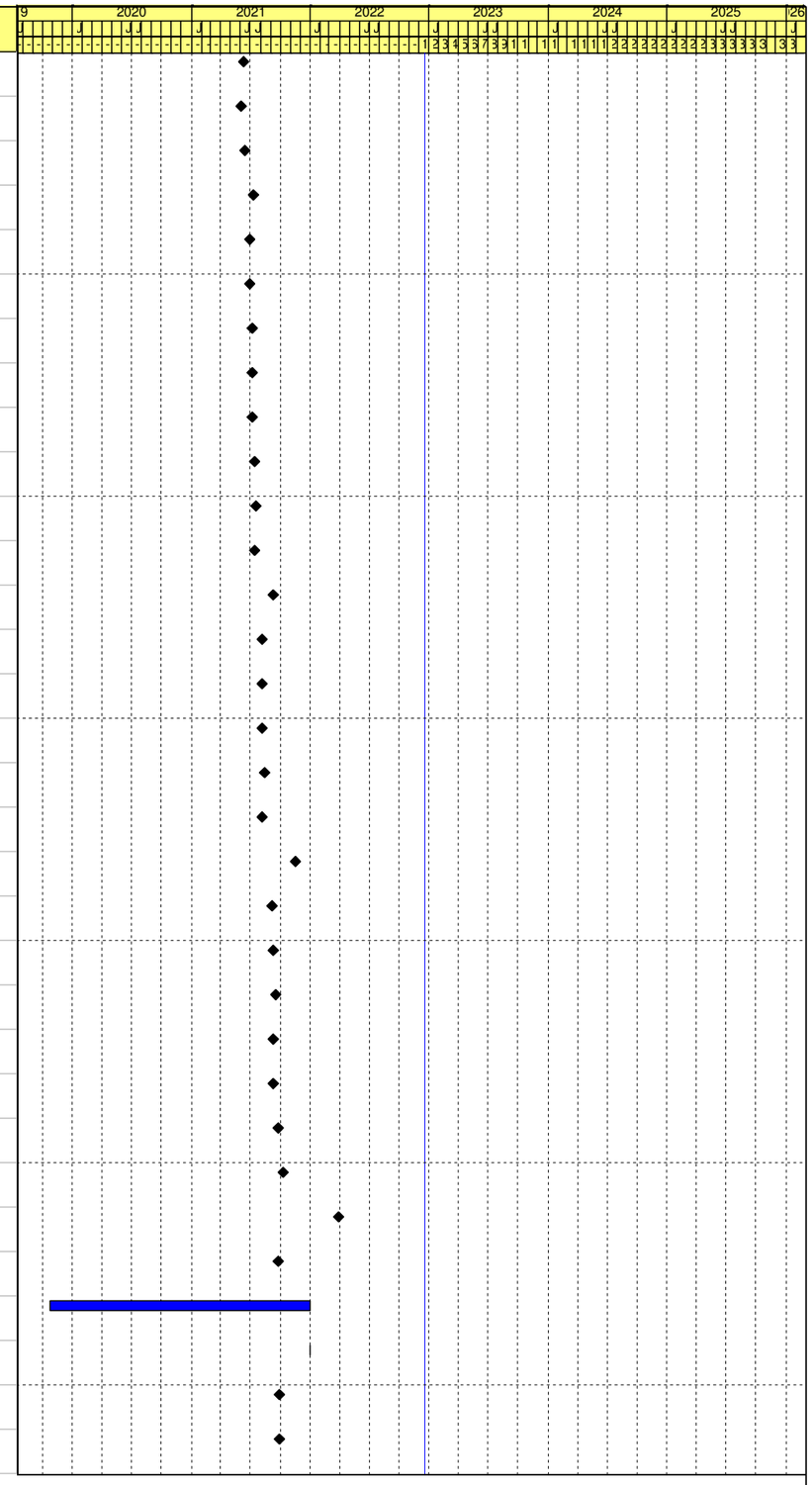
Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
CE0240	NCE-PMI-0240 - Revised Coping and Invert Levels for Penstock and Stoplog of SAS Pumping Station	0		09-Jun-21 A					
CE0241	NCE-PMI-0241 - Revised Diesel Fuel Tank at Combined Heat and Power (CHP) Building	0		04-Jun-21 A					
CE0242	NCE-PMI-0242 - Revised Fire Services Provision of UV System No. 1 and Effluent Pumping Station No. 1	0		15-Jun-21 A					
CE0243	NCE-PMI-0243 - Provision of Flow Signal Inputs for UV Disinfection System	0		12-Jul-21 A					
CE0244	RCNE-CNE-0244 - Access to and use of portion C-1A	0		29-Jun-21 A					
CE0245	NCE-PMI-0245 - Provision of Augmented Reality (AR) Mobile Application	0		30-Jun-21 A					
CE0246	NCE-PMI-0246 - Revised HV Remote Control Panels at CHP & Workshop No. 2	0		06-Jul-21 A					
CE0247	NCE-PMI-0247 - Temporary 4G System for SCADA System Monitoring	0		07-Jul-21 A					
CE0248	NCE-PMI-0248 - Inclement Weather - May 2021 (Time Implication)	0		05-Jul-21 A					
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					
CE0252	NCE-PMI-0252 - Provision of Neutral Earthing Resistor (NER) at Workshop No. 2	0		19-Jul-21 A					
CE0253	NCE-PMI-0253 - Provision of Building Services Systems in New LV Switch Room on the G/F Workshop No. 2	0		16-Jul-21 A					
CE0254	NCE-CNE-0254 - Removal of Obstructions at Trail Pit No. 3 at Sidestreamt Facilities	0		10-Sep-21 A					
CE0256	RCNE-CNE-0256 - Amber Rainstrom Warning and Inclement Weather - June 2021 (Time Implication)	0		05-Aug-21 A					
CE0257	RCNE-CNE-0257 - Black and Red Rainstrom Warning - June 2021 (Time & Cost Implication)	0		05-Aug-21 A					
CE0258	NCE-PMI-0258 - Provision of FRP Cover for Overflow Chambers of Sludge Digesters	0		04-Aug-21 A					
CE0259	NCE-PMI-0259 - Provision of Virtual Reality (VR) Safety Training Platform	0		13-Aug-21 A					
CE0260	NCE-PMI-0260 - Provision of Chequer Plates at UV System No. 1 & Effluent Pumping Station No. 1	0		04-Aug-21 A					
CE0262	NCE-PMI-0262 - Emergency Access Door for Lift at Sludge Dewatering Building	0		18-Nov-21 A					
CE0263	NCE-PMI-0263 - Upgrade of the Supporting Frame of 1st and 2nd Stage Heat Exchangers for Future Expansion of THP System	0		07-Sep-21 A					
CE0264	RCNE-CNE-0264 - Inclement Weather - July 2021 (Time Implication)	0		10-Sep-21 A					
CE0265	NCE-PMI-0265 - Water Supply to Emergency Drench Shower and Eye Fountain at Deodorization System No. 11	0		16-Sep-21 A					
CE0269	NCE-PMI-0269 - Additional Cleansing Points at Sludge Skip Area of Sludge Dewatering Building	0		10-Sep-21 A					
CE0270	NCE-CNE-0270 - Extra sampling, simulating & testing of exiting sludge for obtaining the viscosity of the existing sludge	0		10-Sep-21 A					
CE0271	NCE-PMI-0271 - Provision of Access Platform for the EOT Crane (LA-01-02) in Sludge Dewatering Building	0		23-Sep-21 A					
CE0272	NCE-PMI-0272 - Employment of Temporary Staff under Job Creation Scheme 2.0 (JCS 2.0) under Anti-Epidemiv Fund (AEF)	0		08-Oct-21 A					
CE0272-1	NCE-PMI-0272-1 - Employment of Temporary Staff under Job Creation Scheme 2.0 (JCS 2.0) under Anti-Epidemiv Fund (AEF)	0		28-Mar-22 A					
CE0273	NCE-NCE-0273 - Change of Site Access Date to Workshop No. 2 Forming Part of Portion C-3 of the Site	0		24-Sep-21 A					
CE0273a	NCE-NCE-0273 - Portion C-3 (within 615 to 815 days from starting date)	815	23-Oct-19 A	31-Dec-21 A	16-Apr-25	16-Apr-25			CE0273b
CE0273b	NCE-NCE-0273 - Revised Access Date for Portion C-3	1	31-Dec-21 A	31-Dec-21 A	16-Apr-25	16-Apr-25		CE0273a	
CE0275	NCE-PMI-0275 - Additional Lighting Fittings for UV System No.1 & Effluent Pumping Station No.1	0		29-Sep-21 A					
CE0277	NCE-PMI-0277 - Provision of Access Platform for the EOT Crane (LA-01-03) in Sludge Dewatering Building	0		27-Sep-21 A					



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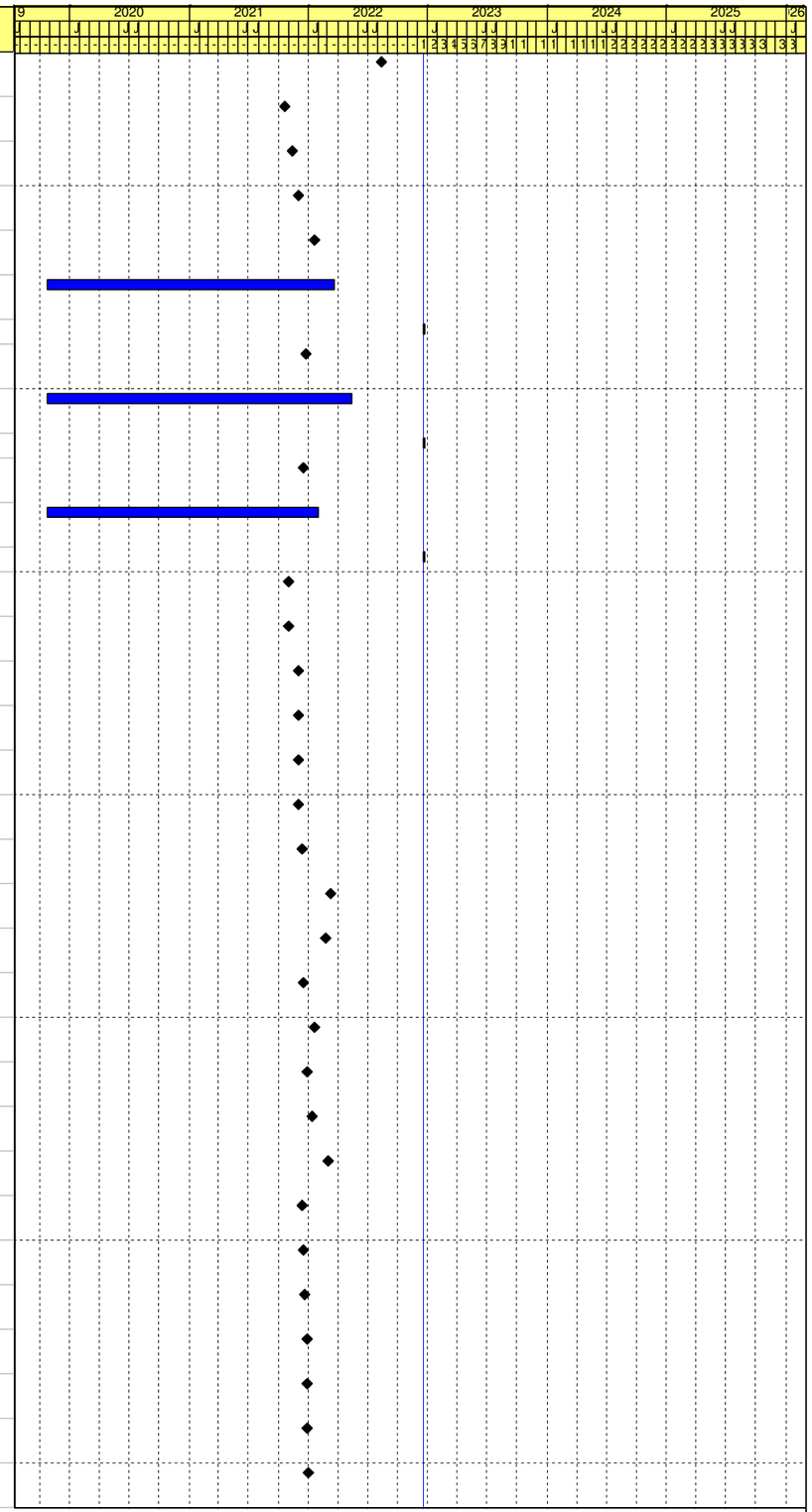
Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
CE0279	NCE-PPMI-0279 - Implementation of Digital Twin Pilot Project in Advance Works Area of Shek Wu Hui Sewage Treatment Works	0		11-Aug-22 A					
CE0280	NCE-PMI-0280 - Employment of Temporary Staff under Job Creation Scheme 2.0 (JCS 2.0) under Anti-Epidemiv Fund (AEF)	0		21-Oct-21 A					
CE0283	NCE-PMI-0283 - Provision of Metal Base Plate,Stopper&Guide Rail for Loading&Unloading of Sludge Skip at Skip Rm of SDB	0		11-Nov-21 A					
CE0284	NCE-PMI-0284 - Revised Road Lighting System for Zone C	0		03-Dec-21 A					
CE0286	NCE-NCE-0286 - Change of Site Access Date to Combined Heat and Power Building Forming Part of Portion C-2B of the Site	0		21-Jan-22 A					
CE0286a	NCE-NCE-0286 - Portion C-2B (within 765 to 880 days from starting date)	880	23-Oct-19 A	20-Mar-22 A	20-Mar-22	20-Mar-22			CE0286b
CE0286b	NCE-NCE-0286 - Revised Access Date for Portion C2-B	1	21-Dec-22	21-Dec-22*	20-Mar-22	20-Mar-22	-276	CE0286a	
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					
CE0287a	NCE-NCE-0287 - Portion C-2C (within 715 to 934 days from starting date)	934	23-Oct-19 A	13-May-22 A	13-May-22	13-May-22			CE0287b
CE0287b	NCE-NCE-0287 - Revised Access Date for Portion C2-C	1	21-Dec-22	21-Dec-22*	13-May-22	13-May-22	-222	CE0287a	
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					
CE0288a	NCE-NCE-0288 - Portion C-2A (within 705 to 831 days from starting date)	831	23-Oct-19 A	30-Jan-22 A	30-Jan-22	30-Jan-22			CE0288b
CE0288b	NCE-NCE-0288 - Revised Access Date for Portion C-2A	1	21-Dec-22	21-Dec-22*	30-Jan-22	30-Jan-22	-325	CE0288a	
CE0292	RCNE-CNE-0292 - Inclement Weather - August 2021 (Time Implication)	0		02-Nov-21 A					
CE0293	RCNE-CNE-0293 - Inclement Weather - September 2021 (Time Implication)	0		02-Nov-21 A					
CE0294	NCE-PMI-0294 - IIB for FAT for THP System	0		30-Nov-21 A					
CE0296	NCE-PMI-0296 - Provision of emMiC Adoption of FRP Walkway and Platform for Sludge Digesters	0		03-Dec-21 A					
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					
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					
CE0299	NCE-PMI-0299 - Revised Plumbing Layout for UV System No.1 & Effluent Pumping Station No.1	0		14-Dec-21 A					
CE0300	NCE-PMI-0300 - Revised Plumbing Layout for CHP, DOU 12 and SD&DC	0		10-Mar-22 A					
CE0301	NCE-PMI-0301 - Revised Plumbing Layout for SDB & FeCl3 Dosing System	0		24-Feb-22 A					
CE0302	NCE-PMI-0302 - Revised Lighting Layout Plan for Workshop No.2	0		17-Dec-21 A					
CE0303	NCE-CNE-0303 - Revise Fire Services Provision for Server Room of Workshop No.2	0		19-Jan-22 A					
CE0304	NCE-PMI-0304 - Provision of Digital Displaying Screen and Softwarewithin Portion B Area	0		29-Dec-21 A					
CE0305	NCE-PMI-0305 - Process Review for Advance Works	0		12-Jan-22 A					
CE0306	NCE-CNE-0306 - Additional Trial Pits & the Associated Modification Works for Uncharted Utilities at STF	0		01-Mar-22 A					
CE0307	NCE-PMI-0307 - Revised Quantity for Stoplogs of Sewage Pumping Station	0		13-Dec-21 A					
CE0309	RCNE-CNE-0309 - Inclement Weather - October 2021 (Time Implication)	0		16-Dec-21 A					
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					
CE0311	NCE-PMI-0311 - Temp. Setup for SCADA System Monitoring & CCTV System Surveillance	0		29-Dec-21 A					
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					
CE0313	CNE-0313 - Inclement Weather - November 2021 (Time Implication)	0		29-Dec-21 A					
CE0315	NCE-PMI-0315 - Modification of Monorali LA-01-04 in Sludge Dewatering Building	0		30-Dec-21 A					



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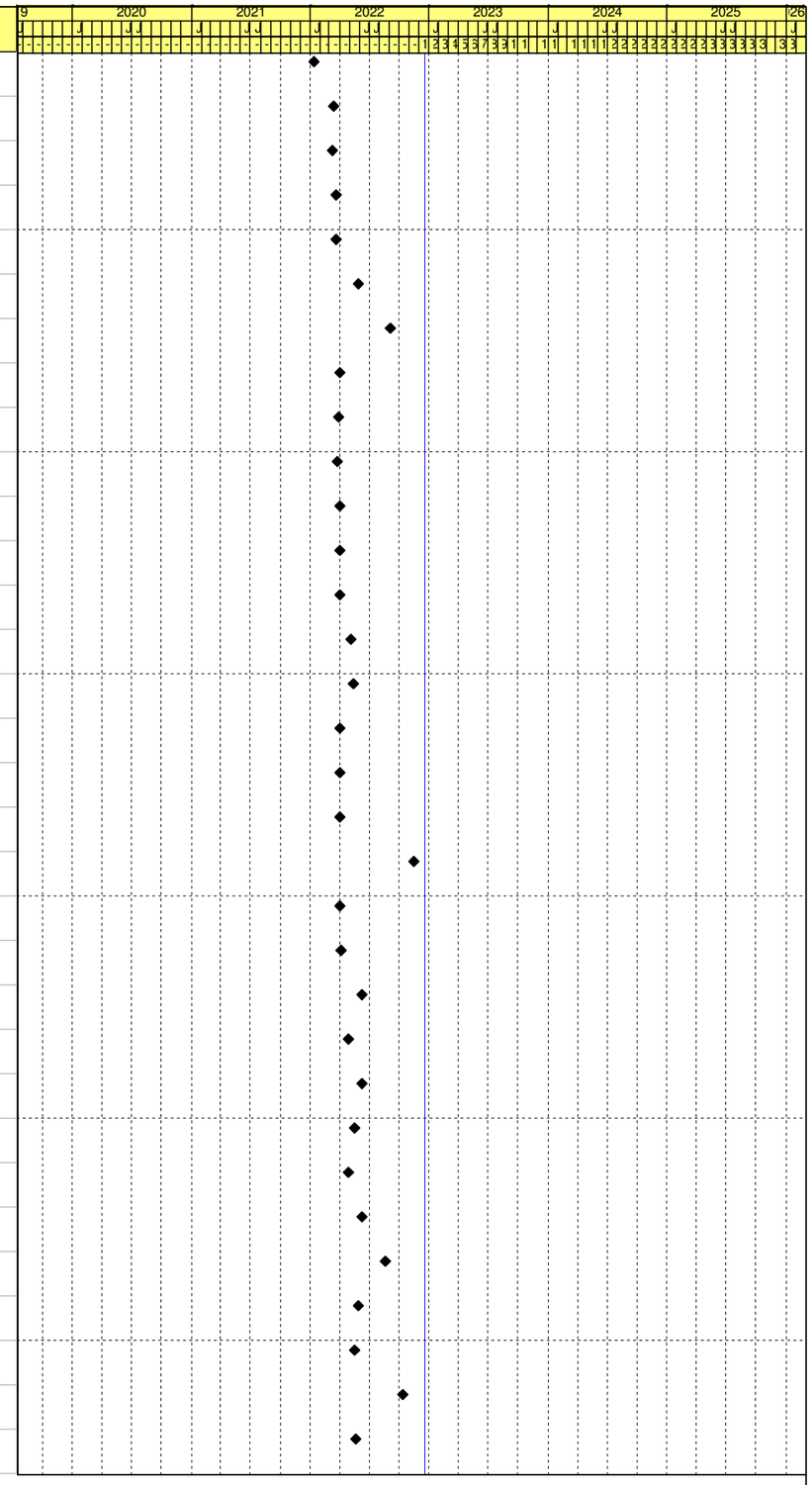
Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
CE0317	NCE-PMI-0317 - Revised CCTV Layout Plan & Addition of CCTV Camera for UV System No.1 & Effluent Pumping Station	0		11-Jan-22 A					
CE0325	NCE-PMI-0325 - Provision of 2 Nos. of 3 Tons Mobile A-frame with Electrical Hoist in Sludge Dewatering Building	0		14-Mar-22 A					
CE0327	NCE-PMI-0327 - Change of Material for Electrical Wiring Accessories	0		08-Mar-22 A					
CE0328	NCE-PMI-0328 - Provision of Chequer Plates at SAS Pumping Station	0		22-Mar-22 A					
CE0329	NCE-PMI-0329 - Provision of IIB for FAT for Sludge Thickening and Dewatering Centrifuges	0		23-Mar-22 A					
CE0333	NCE-PMI-0333 - Revised MVAC Layout and Control Schematic for Workshop No.2	0		30-May-22 A					
CE0334	NCE-PMI-0334 - Provision of 1 Set of SWL 1 Tons Davit with Electrical Chain Hoist on the Roof of Distribution Chamber	0		02-Sep-22 A					
CE0335	NCE-PMI-0335 - Revised Power & Control for MVAC Provision at Workshop No.2	0		01-Apr-22 A					
CE0336	NCE-PMI-0336 - Provision of Additional Temporary Storage Area	0		30-Mar-22 A					
CE0337	NCE-PMI-0337 - Revised Pipe Trenches in Zone C	0		24-Mar-22 A					
CE0338	NCE-PMI-0338 - Provision of Additional RFID Handheld Readers with 4G Data SIM Card Service	0		01-Apr-22 A					
CE0339	NCE-PMI-0339 - Revised Lighting Layout for SDB	0		01-Apr-22 A					
CE0340	NCE-PMI-0340 - Buillding Services & SCADA Interface Provisions for Workshop No.2	0		01-Apr-22 A					
CE0341	NCE-PMI-0341 - Revised MVAC Layout for Sludge Digesters and Distribution Chamber	0		05-May-22 A					
CE0342	NCE-PMI-0342 - Provision and Installation of Additional Pipes to Manhole MHSS1	0		12-May-22 A					
CE0343	CNE-0343 - Inclement Weather - December 2021 (Time Implication)	0		01-Apr-22 A					
CE0344	CNE-0344 - Inclement Weather - January 2022 (Time Implication)	0		01-Apr-22 A					
CE0345	CNE-0345 - Inclement Weather - February 2022 (Time Implication)	0		01-Apr-22 A					
CE0346	NCE-CNE-0346 - Left in Temporary Steel Casing for Pile No. SSHP5 at Sidesteam Treatment Facilities	0		16-Nov-22 A					
CE0347	NCE-PMI-0347 - IIB for FAT for 11kV Switchboards	0		01-Apr-22 A					
CE0348	NCE-PMI-0348 - Provision of (IIB) for FAT for CHP Generating Sets	0		04-Apr-22 A					
CE0352	NCE-PMI-0352 - Revised MVAC Layout and for Transformer and Switch Room	0		10-Jun-22 A					
CE0353	NCE-PMI-0353 - Additional Auto-sampler for sampling Location at UV system No.1 and Effluent Pumping Station No.1	0		27-Apr-22 A					
CE0354	NCE-EWP-0354 - Early Deployment of Tower Crane to Enhance Programme affected by Uncharted U/U at STF	0		10-Jun-22 A					
CE0359	NCE-PMI-0359 - Revised Lighting Layout for Sludge Digesters and Districbution Chamber (Basement 1 and Basement 2)	0		16-May-22 A					
CE0360	NCE-PMI-0360 - Provision of Video Wall with Additional Monitors in the Control Room of Workshop No.2	0		29-Apr-22 A					
CE0361	NCE-PMI-0361 - Revised Power Layout for Sludge Dewatering Building	0		08-Jun-22 A					
CE0362	NCE-CNE-0362 - Amendment of Dangers Goods Ordinance (Cap.295)	0		19-Aug-22 A					
CE0363	NCE-PMI-0363 - Revised MVAC Layout and Control Schematic for CHP Building	0		30-May-22 A					
CE0364	NCE-PMI-0364 - Provision of Security and Utility Services for Additional Temporary Storage Area	0		16-May-22 A					
CE0364-1	NCE-PMI-0364-1 - Provision of Security and Utility Services for Additional Temporary Storage Area	0		10-Oct-22 A					
CE0366	CNE-0366 - No Access to and Use of Portion C-2B for Area for CHP	0		20-May-22 A					



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Remaining Work
Critical Activity
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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 Dec 2022

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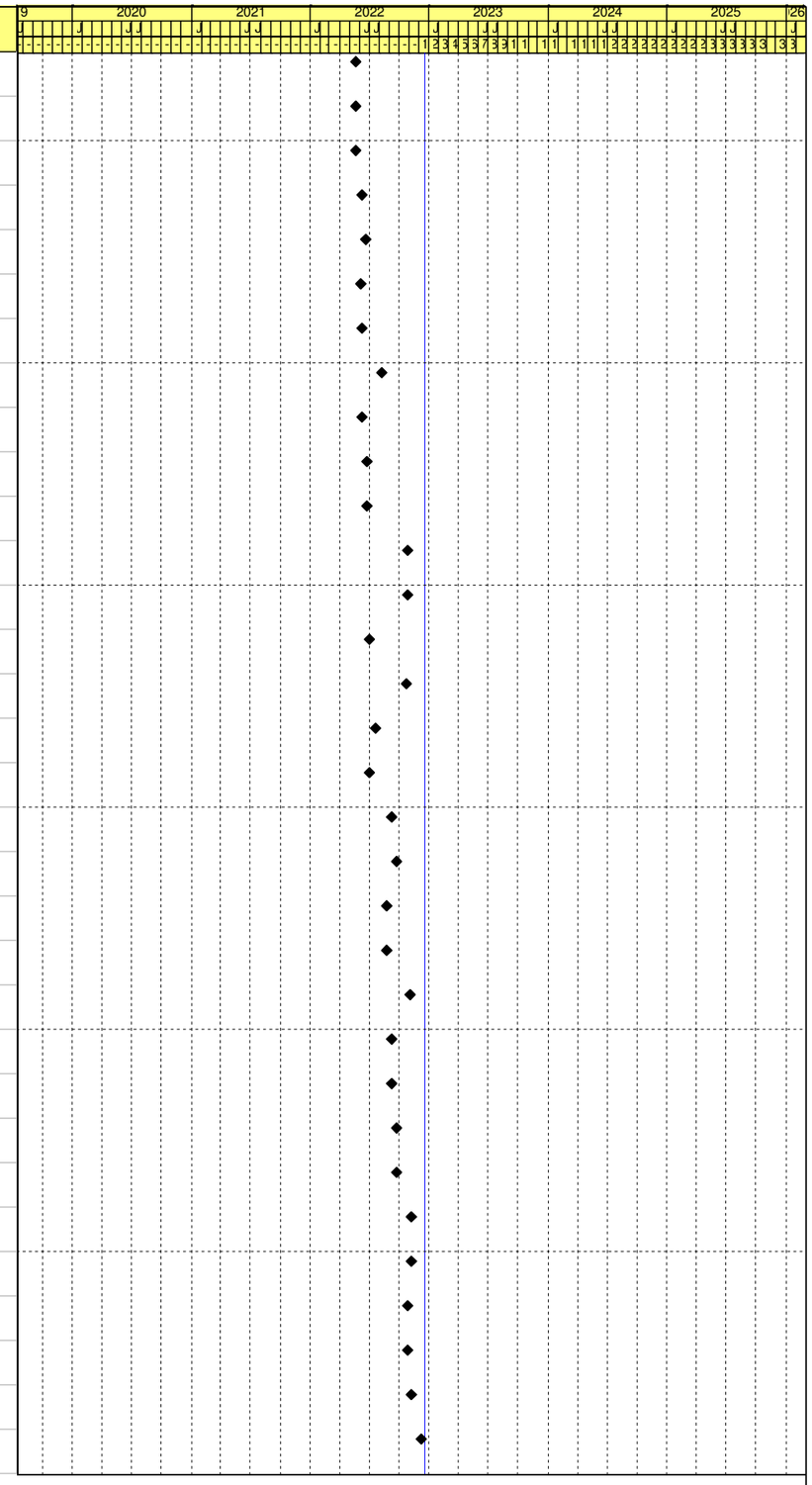
31-Aug-22	Rev.25	LT	KM
30-Sep-22	Rev.26	LT	KM
31-Oct-22	Rev.27	LT	KM
30-Nov-22	Rev.28	LT	KM
31-Dec-22	Rev.29	LT	KM

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
CE0367	NCE-PMI-0367 - Sealing Works for UV System & Effluent Pumping Station No. 1	0		20-May-22 A					
CE0369	CNE-0369 - No Access to and use of Portion C-2C for Area for SD & DC	0		20-May-22 A					
CE0370	CNE-0370 - No Access to and Use of Portion C-2A for Area for SDB	0		20-May-22 A					
CE0372	NCE-PMI-0372 - Building Services Control & Monitoring Provisions for SDB & Gas Detection System for Pipe Tranch No.1	0		08-Jun-22 A					
CE0374	NCE-PMI-0374 - Revised Power Layout for SDDC & Control Provisions for Sump Pumps at Pipe Trench No.1 & No.2	0		20-Jun-22 A					
CE0375	NCE-PMI-0375 - Gas Detection System for Pipe Trench No.3 in Zone C	0		06-Jun-22 A					
CE0376	NCE-PMI-0376 - BS Provisions for SDDC (G/F & Roof) & Pipe Trench No.2	0		10-Jun-22 A					
CE0381	NCE-PMI-0381 - Employment of Temporary Staff under Job Creation Scheme 3.0 (JCS 3.0) under Anti-Epidemic Fund (AEF)	0		08-Aug-22 A					
CE0384	NCE-PMI-0384 - Enhanced Protective Measures against Spread of Omicron COVID Variant	0		08-Jun-22 A					
CE0386	CNE-0386 - Inclement Weather - March 2022 (Time Implication)	0		24-Jun-22 A					
CE0387	CNE-0387 - Inclement Weather - April 2022 (Time Implication)	0		24-Jun-22 A					
CE0389	NCE-PMI-0389 - Enhancement of Ventilation for CHP Acoustic Enclosures at Combined Heat and Power Building	0		27-Oct-22 A					
CE0390	NCE-PMI-0390 - Electricity Supply for DSD Maintenance Works at Workshop No.2	0		26-Oct-22 A					
CE0391	CNE-0391 - Inclement Weather - May 2022 (Time Implication)	0		30-Jun-22 A					
CE0393	NCE-PMI-0393 - Automatic Changeover System for UV System No.1 in LV Switchboard at Transformer and Switchroom	0		22-Oct-22 A					
CE0395	NCE-PMI-0395 - Omission of the Set-up Work for Temporary Water and Electricity Supply for Works Area WA1-B	0		20-Jul-22 A					
CE0397	CNE-0397 - Inclement Weather - Jun 2022 (Time Implication)	0		30-Jun-22 A					
CE0398	CNE-0398 - Red Rainstorm Warning -June 2022 (Time and Cost Implication)	0		08-Sep-22 A					
CE0399	NCE-PMI-0399 - Revised MVAC Layout for Sludge Dewatering Building	0		22-Sep-22 A					
CE0400	NCE-PMI-0400 - Provision of High Tide Detection System for System No.1 and Effluent Pumping Station No. 1	0		23-Aug-22 A					
CE0402	NCE-PMI-0402 - Provision of Flow Control System for Effluent to Shek Sheung River	0		24-Aug-22 A					
CE0403	NCE-PMI-0403 - Revised MVAC Provisions for SDB, TX&Switchrrom, UV no.1 & EPS and FHBP Rm	0		03-Nov-22 A					
CE0405	CNE-0405 - Inclement Weather -July 2022 (Time Implication)	0		08-Sep-22 A					
CE0406	CNE-0406 - Tropical Cyclone Warning Signal No. 8 - July 2022 (Time and Cost Implication)	0		08-Sep-22 A					
CE0409	CNE-0409 - Inclement Weather -August 2022 (Time Implication)	0		22-Sep-22 A					
CE0410	CNE-0410 - Tropical Cyclone Warning Signal No. 8 - August 2022 (Time and Cost Implication)	0		22-Sep-22 A					
CE0411	NCE-PMI-0411 - Revised Lighting Design for CHP Building	0		07-Nov-22 A					
CE0412	NCE-PMI-0412 - Omission of the Works of CMMS & IDMS	0		09-Nov-22 A					
CE0413	NCE-PMI-0413 - MV for UV Plant Area (Level +4.9mPD) of UV System No.1 & Effluent Pumping Station No.1	0		25-Oct-22 A					
CE0414	NCE-PMI-0414 - Sample Collection and Analysis for Existing Sewage Treatment Facilities	0		27-Oct-22 A					
CE0415	NCE-PMI-0415 - Modification Works for Instrument of UV Channels	0		07-Nov-22 A					
CE0420	NCE-PMI-0420 - Pipework Modifcation for THP Feeding System (from SDB to THP)	0		09-Dec-22 A					



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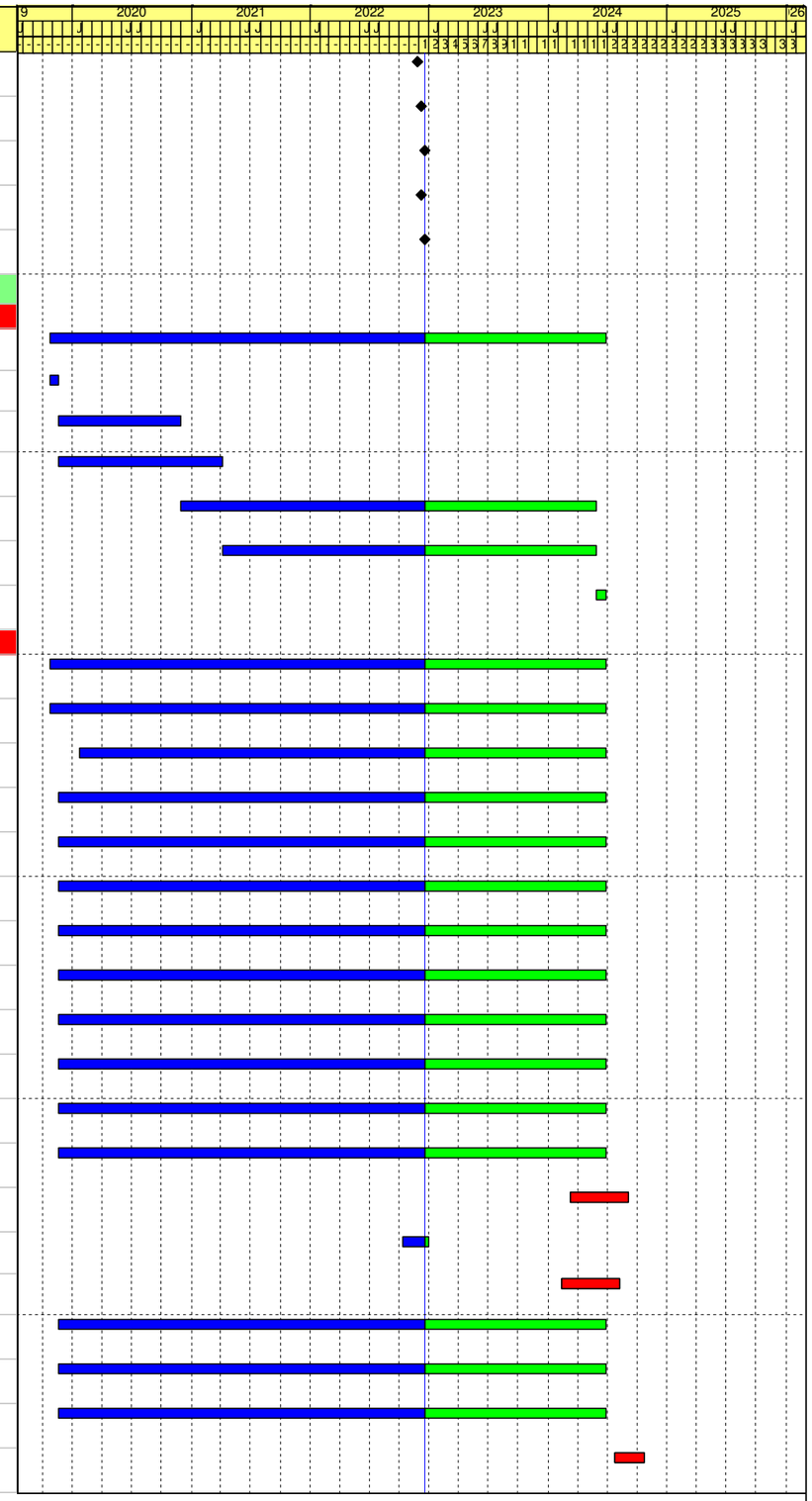
CE0422	NCE-PMI-0422 - MVAC Provisions for Store at Workshop No. 2	0		25-Nov-22 A					
CE0423	NCE-PMI-0423 - Provision of Puddle Flanges for Draft Tube Mixer Installation at Sludge Digester No. 2	0		06-Dec-22 A					
CE0424	NCE-PMI-0424 - Provision of Addtional Ethernet Module for Dual Ring in SCADA and PMS System	0		20-Dec-22 A					
CE0425	NCE-PMI-0425 - Provision of PLC Gateway for the Interface Work with Reclaimed Water Facilities in Zone D	0		09-Dec-22 A					
CE0429	NCE-PMI-0429 - Provision of Additional Access Platform for the EOT in CHP Building	0		20-Dec-22 A					
Preliminaries		2003	23-Oct-19 A	16-Apr-25	12-May-22	16-Apr-25	0		
Mobilisation		1709	23-Oct-19 A	26-Jun-24	12-May-22	16-Apr-25	294		
PL1000	Provison of Equipment / Facilities for the PM's Office	1687	23-Oct-19 A	26-Jun-24	11-Oct-23	16-Apr-25	294	AD1200, AD1220,	CD1040
PL1010	Mobilisation	28	23-Oct-19 A	19-Nov-19 A	12-May-22	12-May-22		CD1010	PL1240, S2P1010,
PL1020	Design, Procurement & PO & Construction of Contractor's Site Office (Works Area WA1 -B)	270	20-Nov-19 A	27-Nov-20 A	11-Jul-22	11-Jul-22		AD1200, PL1010	PL1040, S2D1930,
PL1030	Design, Procurement & PO & Construction of Contractor's Storage Area (Works Area WA3)	503	20-Nov-19 A	05-Apr-21 A	11-Oct-23	11-Oct-23		AD1220, PL1010	PL1050
PL1040	Maintain Contractor's Site Office	1255	28-Nov-20 A	27-May-24	11-Oct-23	17-Mar-25	294	PL1020	PL1060
PL1050	Maintain Contractor's Storage Area	1126	06-Apr-21 A	27-May-24	11-Oct-23	17-Mar-25	294	PL1030	PL1060
PL1060	Removal of Site Office, Storage & Relevant Facilities	30	28-May-24	26-Jun-24	18-Mar-25	16-Apr-25	294	PL1040, PL1050	CD1040
Site Preliminaries		2003	23-Oct-19 A	16-Apr-25	05-Oct-23	16-Apr-25	0		
PL1070	Provision of Insurance, Third Party Insurances & PII	1687	23-Oct-19 A	26-Jun-24	11-Oct-23	16-Apr-25	294	CD1010	CD1040
PL1080	Provision of 2 Contract Car for the Use of the PM & Supervisor	1687	23-Oct-19 A	26-Jun-24	11-Oct-23	16-Apr-25	294	CD1010	CD1040
PL1090	Provision of 1 Electric Car for the Use of the PM & Supervisor	1596	22-Jan-20 A	26-Jun-24	11-Oct-23	16-Apr-25	294	CD1010, PL1010	CD1040
PL1100	Provision of Photographs	1659	20-Nov-19 A	26-Jun-24	11-Oct-23	16-Apr-25	294	CD1010, PL1010	CD1040
PL1110	Provision of Environmental Mitigation Measures	1659	20-Nov-19 A	26-Jun-24	11-Oct-23	16-Apr-25	294	CD1010, PL1010	CD1040
PL1120	Provision of Air Pollution Abatment	1659	20-Nov-19 A	26-Jun-24	11-Oct-23	16-Apr-25	294	CD1010, PL1010	CD1040
PL1130	Provision of Noise Pollution Abatment	1659	20-Nov-19 A	26-Jun-24	11-Oct-23	16-Apr-25	294	CD1010, PL1010	CD1040
PL1140	Provision of Wastewater Pollution Abatement	1659	20-Nov-19 A	26-Jun-24	11-Oct-23	16-Apr-25	294	CD1010, PL1010	CD1040
PL1150	Provision of Wastement Management	1659	20-Nov-19 A	26-Jun-24	11-Oct-23	16-Apr-25	294	CD1010, PL1010	CD1040
PL1160	Provision of Monitoring the Use of Ultra Low Sulphur Diesel	1659	20-Nov-19 A	26-Jun-24	11-Oct-23	16-Apr-25	294	CD1010, PL1010	CD1040
PL1170	Provision of Environmental Management	1659	20-Nov-19 A	26-Jun-24	11-Oct-23	16-Apr-25	294	CD1010, PL1010	CD1040
PL1180	Provision of Site Management Plan for Trip Ticket System	1659	20-Nov-19 A	26-Jun-24	11-Oct-23	16-Apr-25	294	CD1010, PL1010	CD1040
PL1190	Provision of As-constructed Drawings for Section 3	180	10-Mar-24	05-Sep-24	04-Dec-23	31-May-24	-97	CD1010, S3C1150	CD1040, SC31110
PL1200	Provision of As-constructed Drawings for Section 4	60	13-Oct-22 A	30-Dec-22	07-Apr-25	16-Apr-25	838	CD1010, S4C1160,	CD1040, SC41110
PL1210	Provision of As-constructed Drawings for Section 5	180	11-Feb-24	08-Aug-24	13-Nov-23	11-May-24	-90	CD1010, S5DIGC1040,	CD1040, SC51110
PL1220	Provision of Systematic Risk Management	1659	20-Nov-19 A	26-Jun-24	11-Oct-23	16-Apr-25	294	CD1010, PL1010	CD1040
PL1230	Provision of Site Liaison Group & Community Liaison Group	1659	20-Nov-19 A	26-Jun-24	11-Oct-23	16-Apr-25	294	CD1010, PL1010	CD1040
PL1240	Provision of 24-Hour Telephone Line	1659	20-Nov-19 A	26-Jun-24	11-Oct-23	16-Apr-25	294	CD1010, PL1010	CD1040
PL1260	Submission & Acceptance of Training Programme, Training Manual & Syllabus for Section 3	90	25-Jul-24	22-Oct-24	05-Oct-23	02-Jan-24	-294		PL1270



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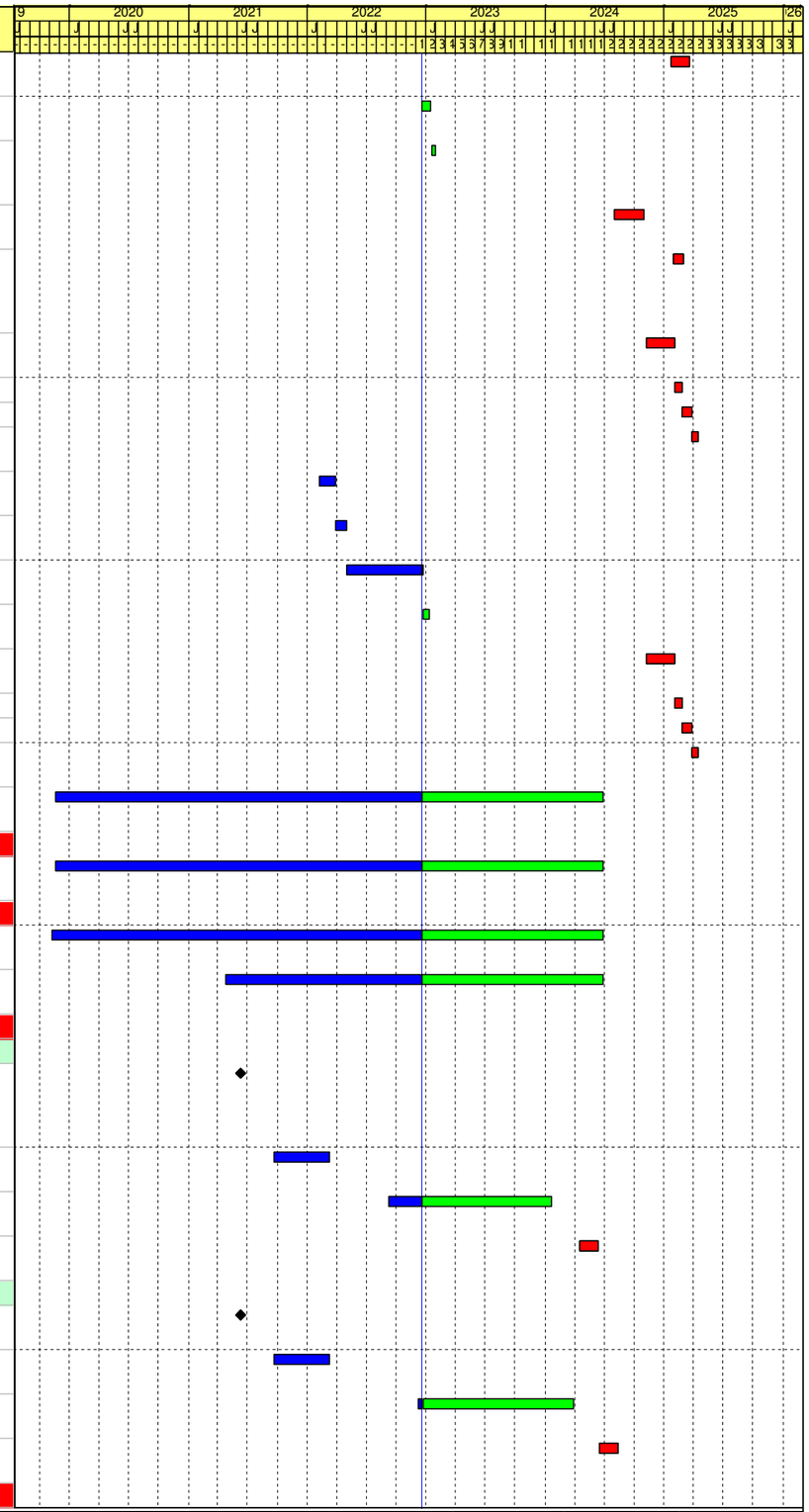
PL1270	Provision of Training for Employer's Staff for Section 3	60	21-Jan-25	21-Mar-25	02-Apr-24	31-May-24	-294	CD1010, PL1260	CD1040, SC31110
PL1280	Submission & Acceptance of Training Programme, Training Manual & Syllabus for Section 4	27	21-Dec-22	16-Jan-23	09-Mar-25	04-Apr-25	809		PL1290
PL1290	Provision of Training for Employer's Staff for Section 4	12	17-Jan-23	28-Jan-23	05-Apr-25	16-Apr-25	809	CD1010, S4T1020, PL1280	CD1040, SC41110
PL1300	Submission & Acceptance of Training Programme, Training Manual & Syllabus for Section 5	90	02-Aug-24	30-Oct-24	14-Oct-23	12-Jan-24	-293		PL1310
PL1310	Provision of Training for Employer's Staff for Section 5	30	29-Jan-25	27-Feb-25	11-Apr-24	11-May-24	-293	CD1010, S5T1180, S5DIGC1040, PL1300	CD1040, SC51110
PL1320	Prepare & Submit O&M Manual for Section 3	90	06-Nov-24	03-Feb-25	17-Jan-24	15-Apr-24	-294	CD1010	CD1040, PL1330
PL1330	PM Reivew & Comment O&M Manual for Section 3	21	04-Feb-25	24-Feb-25	16-Apr-24	06-May-24	-294	PL1320	PL1340
PL1340	Revise & Re-submit O&M Manual for Section 3	30	25-Feb-25	26-Mar-25	07-May-24	05-Jun-24	-294	PL1330	PL1350
PL1350	PM Reivew & Approval of O&M Manual for Section 3	21	27-Mar-25	16-Apr-25	06-Jun-24	26-Jun-24	-294	PL1340	CD1040, SC31110
PL1360	Prepare & Submit O&M Manual for Section 4	50	07-Feb-22 A	28-Mar-22 A	26-Mar-25	26-Mar-25		CD1010	CD1040, PL1370
PL1370	PM Reivew & Comment O&M Manual for Section 4	36	29-Mar-22 A	03-May-22 A	26-Mar-25	26-Mar-25		PL1360	PL1380
PL1380	Revise & Re-submit O&M Manual for Section 4	79	04-May-22 A	21-Dec-22	26-Mar-25	26-Mar-25	826	PL1370	PL1390
PL1390	PM Reivew & Approval of O&M Manual for Section 4	21	22-Dec-22	11-Jan-23	27-Mar-25	16-Apr-25	826	PL1380	CD1040, SC41110
PL1400	Prepare & Submit O&M Manual for Section 5	90	06-Nov-24	03-Feb-25	27-Dec-23	26-Mar-24	-315	CD1010	CD1040, PL1410
PL1410	PM Reivew & Comment O&M Manual for Section 5	21	04-Feb-25	24-Feb-25	26-Mar-24	16-Apr-24	-315	PL1400	PL1420
PL1420	Revise & Re-submit O&M Manual for Section 5	30	25-Feb-25	26-Mar-25	16-Apr-24	16-May-24	-315	PL1410	PL1430
PL1430	PM Reivew & Approval of O&M Manual for Section 5	21	27-Mar-25	16-Apr-25	16-May-24	06-Jun-24	-315	PL1420	CD1040, SC51110
PL1440	Provision of ICE for Certification of the Design, Cal, Dwgs, Plans and all relevant Doc and Process Commissioning	1659	20-Nov-19 A	26-Jun-24	11-Oct-23	16-Apr-25	294	CD1010, PL1010	CD1040
Site Upkeeping		1659	20-Nov-19 A	26-Jun-24	11-Oct-23	16-Apr-25	294		
PL1450	General Site Upkeeping of the Site	1659	20-Nov-19 A	26-Jun-24	11-Oct-23	16-Apr-25	294	CD1010, PL1010	CD1040
Safety and Environmental Management		1675	10-Nov-19 A	26-Jun-24	11-Oct-23	16-Apr-25	294		
PL1460	Construction Health and Safety Plan	1669	10-Nov-19 A	26-Jun-24	11-Oct-23	16-Apr-25	294	CD1000	CD1040
PL1470	Site Traffic Safety Management Plan	1137	25-Apr-21 A	26-Jun-24	11-Oct-23	16-Apr-25	294	AD1010	CD1040
Compliance with BEAM Requirements		1129	11-Jun-21 A	13-Aug-24	29-Dec-22	06-Jun-24	-69		
Sludge Dewatering Building		1069	11-Jun-21 A	14-Jun-24	07-Mar-23	06-Jun-24	-9		
PL1490	Material Submission & Design Calculation Approved	0		11-Jun-21 A				S2D1290, S2D1330, S2D1450, S2D1490	PL1500, SC21120
PL1500	Issued approved submission & Calculation to Cinotech	161	21-Sep-21 A	11-Mar-22 A	07-Mar-23	07-Mar-23		PL1490	PL1510
PL1510	Monthly Review & Submission	500	09-Sep-22 A	21-Jan-24	07-Mar-23	07-Apr-24	77	PL1500	PL1520
PL1520	Submission & Approval of Test Record	60	16-Apr-24	14-Jun-24	07-Apr-24	06-Jun-24	-9	PL1510, S5T1060	SC51120
CHP Building		1129	11-Jun-21 A	13-Aug-24	29-Dec-22	06-Jun-24	-69		
PL1530	Material Submission & Design Calculation Approved	0		11-Jun-21 A				S2D1610	PL1540, SC21120
PL1540	Issued approved submission & Calculation to Cinotech	168	21-Sep-21 A	11-Mar-22 A	29-Dec-22	29-Dec-22		PL1530	PL1550
PL1550	Monthly Review & Submission	480	07-Dec-22 A	30-Mar-24	29-Dec-22	07-Apr-24	8	S5CHPC1020, PL1540	PL1560
PL1560	Submission & Approval of Test Record	60	15-Jun-24	13-Aug-24	07-Apr-24	06-Jun-24	-69	PL1550, S5T1100	SC51120
BIM		1708	24-Oct-19 A	26-Jun-24	11-Oct-23	16-Apr-25	294		



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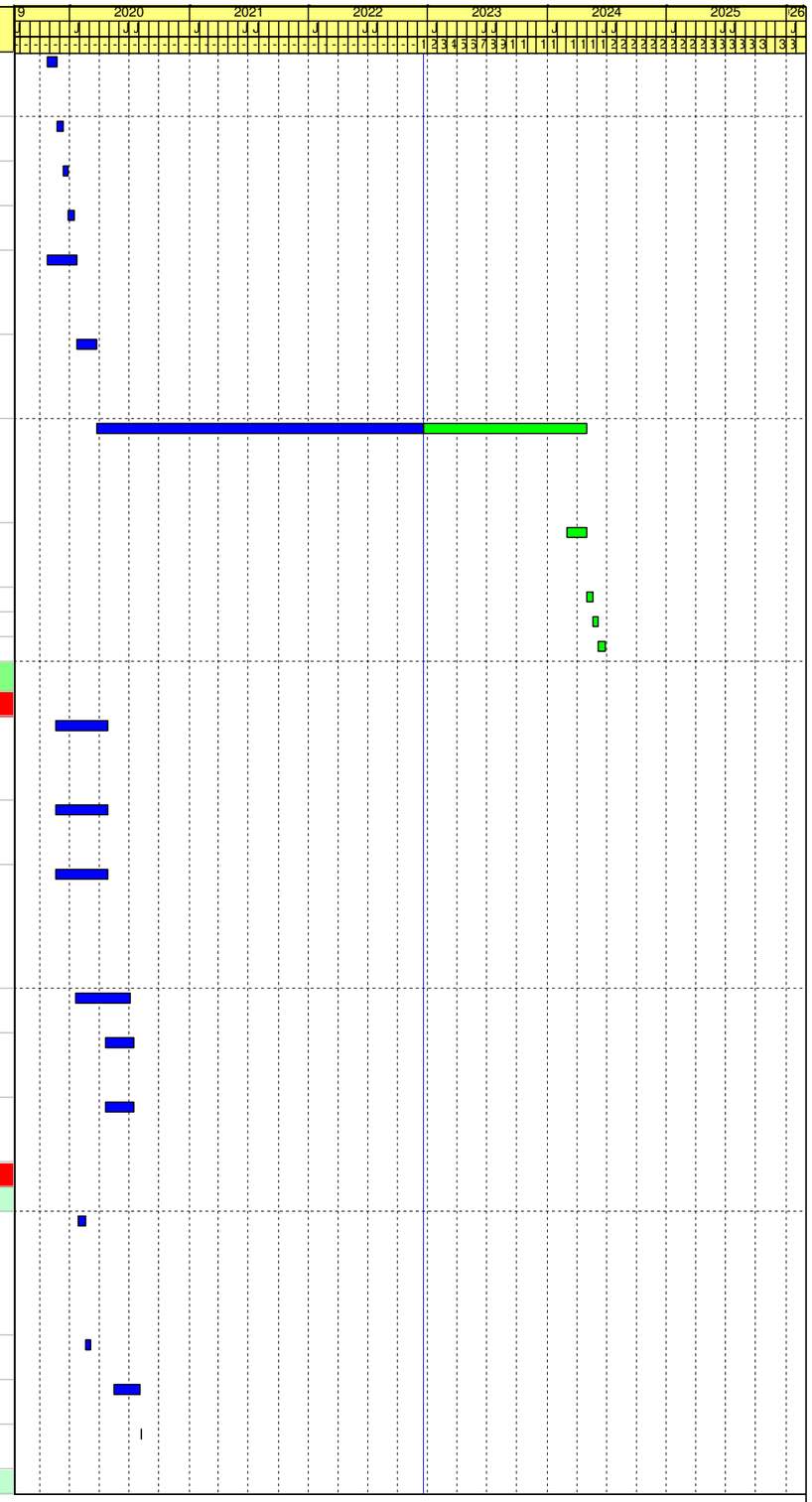
PL1570	Prepare & Submit Construction Stage BIM Execution Plan	30	24-Oct-19 A	22-Nov-19 A	11-Oct-23	11-Oct-23		CD1010	PL1580, PL1630, PL1620
PL1580	PM Reivew & Comment Construction Stage BIM Execution Plan	21	23-Nov-19 A	13-Dec-19 A	11-Oct-23	11-Oct-23		PL1570	PL1590
PL1590	Revise & Re-submit Construction Stage BIM Execution Plan	14	14-Dec-19 A	27-Dec-19 A	11-Oct-23	11-Oct-23		PL1580	PL1600
PL1600	PM Reivew & Approval of Construction Stage BIM Execution Plan	21	28-Dec-19 A	17-Jan-20 A	11-Oct-23	11-Oct-23		PL1590	PL1630, PL1620
PL1610	Contractor Review & Study Design Stage BIM	92	24-Oct-19 A	23-Jan-20 A	11-Oct-23	11-Oct-23		CD1010	CD1040, PL1640, PL1630, PL1620
PL1620	Contractor Develop 1st Construction Stage BIM	60	24-Jan-20 A	23-Mar-20 A	11-Oct-23	11-Oct-23		PL1600, PL1570, PL1610	CD1040, PL1640, PL1630, PL1630
PL1630	Review & Update BIM Execution Plan & BIM Model	1415	24-Mar-20 A	01-May-24	11-Oct-23	19-Feb-25	294	PL1570, PL1620, PL1600, PL1610, PL1620	CD1040, PL1640
PL1640	Prepare & Submit the Fully Coordinated BIM	60	03-Mar-24	01-May-24	22-Dec-24	19-Feb-25	294	PL1620, PL1630, PL1610	PL1650
PL1650	PM Reivew & Comment Fully Coordinated BIM	21	02-May-24	22-May-24	20-Feb-25	12-Mar-25	294	PL1640	PL1660
PL1660	Revise & Re-submit Fully Coordinated BIM	14	23-May-24	05-Jun-24	13-Mar-25	26-Mar-25	294	PL1650	PL1670
PL1670	PM Reivew & Approval of Fully Coordinated BIM	21	06-Jun-24	26-Jun-24	27-Mar-25	16-Apr-25	294	PL1660	CD1040
Section 1 - Design for UV System No. 1 & Effluent Pumping Station No.1		284	21-Nov-19 A	08-Aug-20 A	06-Jun-22	16-Apr-25			
Major Plant & Materials Procurement		240	21-Nov-19 A	17-Jul-20 A	06-Jun-22	21-Feb-23			
S1P1000	Procurement & PO for UV Disinfection System (S10)	150	21-Nov-19 A	28-Apr-20 A	06-Jun-22	06-Jun-22		CD1000, CD1010, PL1010	SC11110, S4P1040, S1D1000, S1P1030
S1P1010	Procurement & PO for Lift-up Pumps (S11)	150	21-Nov-19 A	28-Apr-20 A	06-Jun-22	06-Jun-22		CD1010, PL1010	SC11110, S4P1070, S1D1000
S1P1020	Procurement & PO for Transfer Pumps (S13)	150	21-Nov-19 A	28-Apr-20 A	06-Jun-22	06-Jun-22		CD1010, PL1010	SC11110, S4P1080, S1P1040, S1P1050, S1D1000, S4P1090
S1P1030	Procurement & PO for EOT Cranes (2T & 5T) (S19)	150	19-Jan-20 A	03-Jul-20 A	21-Feb-23	21-Feb-23		S1P1000	SC11110, S4P1100
S1P1040	Procurement & PO for Stoplogs (S21)	90	18-Apr-20 A	17-Jul-20 A	21-Feb-23	21-Feb-23		S1P1020, PL1010	SC11110, S4P1110, S2P1160
S1P1050	Procurement & PO for Penstocks (S21)	90	18-Apr-20 A	17-Jul-20 A	21-Feb-23	21-Feb-23		S1P1020, PL1010	SC11110, S4P1120, S2P1170
Design & Submission		217	27-Jan-20 A	08-Aug-20 A	06-Jun-22	16-Apr-25			
General Arrangement Drawings		217	27-Jan-20 A	08-Aug-20 A	06-Jun-22	16-Apr-25			
S1D1000	Prepare & Submit General Arrangement Drawings	90	27-Jan-20 A	19-Feb-20 A	06-Jun-22	06-Jun-22		S1P1000, S1P1010, S1P1020, PL1010	S1D1010, S1D1040, S1D1100, S1D1180, S1D1260, S4P1010
S1D1010	Review & Comment on General Arrangement Drawings by PM	21	20-Feb-20 A	04-Mar-20 A	16-Apr-25	16-Apr-25		S1D1000	S1D1020
S1D1020	Revise & Re-submit General Arrangement Drawings	14	16-May-20 A	05-Aug-20 A	16-Apr-25	16-Apr-25		S1D1010	S1D1030
S1D1030	Review & Accept of General Arrangement Drawings by PM	5	06-Aug-20 A	08-Aug-20 A	16-Apr-25	16-Apr-25		S1D1020	SC11110
Civil & Dimensional / Tolerance Requirement Drawings		176	07-Mar-20 A	08-Aug-20 A	21-Feb-23	16-Apr-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
Revised Programme - as at 20 Dec 2022

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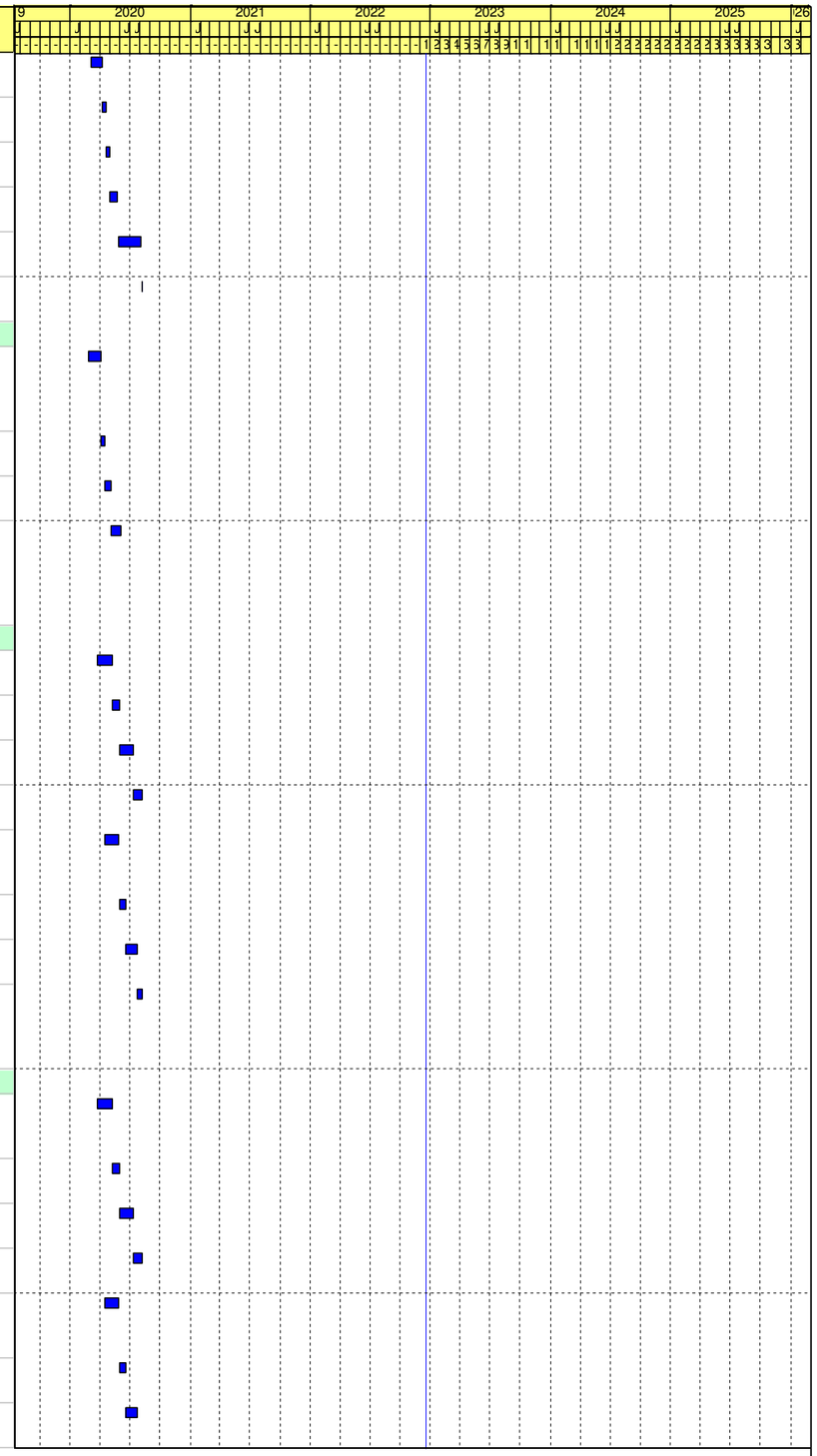
31-Dec-22	Rev.29	LT	KM

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S1D1040	Prepare & Submit Civil Requirement Drawings	60	07-Mar-20 A	08-Apr-20 A	21-Feb-23	21-Feb-23		CD1010, S1D1000	S1D1050, KD1000
S1D1050	Review & Comment on Civil Requirement Drawings by PM	21	09-Apr-20 A	20-Apr-20 A	16-Apr-25	16-Apr-25		S1D1040	S1D1060
S1D1060	Revise & Re-submit Civil Requirement Drawings	14	21-Apr-20 A	29-Apr-20 A	16-Apr-25	16-Apr-25		S1D1050	S1D1070
S1D1070	Review & Comment of Civil Requirement Drawings by PM	21	30-Apr-20 A	25-May-20 A	16-Apr-25	16-Apr-25		S1D1060	SC11110, S1D1080
S1D1080	Revise & Re-submit Civil Requirement Drawings	28	26-May-20 A	05-Aug-20 A	16-Apr-25	16-Apr-25		S1D1070	S1D1090
S1D1090	Review & Accept of Civil Requirement Drawings by PM	5	06-Aug-20 A	08-Aug-20 A	16-Apr-25	16-Apr-25		S1D1080	SC11110
Electrical Schematic Drawings		116	25-Feb-20 A	03-Jun-20 A	06-Jun-22	06-Jun-22			
S1D1100	Prepare & Submit Elec. Schematic Drawings	60	25-Feb-20 A	03-Apr-20 A	06-Jun-22	06-Jun-22		CD1010, S1D1000	S1D1110, KD1000, S1D1140, S1D1220
S1D1110	Review & Comment on Elec. Schematic Drawings by PM	21	04-Apr-20 A	16-Apr-20 A	06-Jun-22	06-Jun-22		S1D1100	S1D1120
S1D1120	Revise & Re-submit Elec. Schematic Drawings	14	17-Apr-20 A	04-May-20 A	06-Jun-22	06-Jun-22		S1D1110	S1D1130
S1D1130	Review & Accept of Elec. Schematic Drawings by PM	21	05-May-20 A	03-Jun-20 A	06-Jun-22	06-Jun-22		S1D1120	S5TXRP1000, S4C1000, S4C1010, S4P1020, SC11110
UV System No. 1		146	24-Mar-20 A	08-Aug-20 A	06-Jun-22	16-Apr-25			
S1D1140	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	60	24-Mar-20 A	08-May-20 A	06-Jun-22	06-Jun-22		CD1010, S1D1100	S1D1150, S1D1180
S1D1150	Review & Comment on Wiring Dwgs, Cable Schedule & Design Cal.	21	09-May-20 A	01-Jun-20 A	16-Apr-25	16-Apr-25		S1D1140	S1D1160
S1D1160	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	14	02-Jun-20 A	10-Jul-20 A	16-Apr-25	16-Apr-25		S1D1150	S1D1170
S1D1170	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	21	11-Jul-20 A	06-Aug-20 A	16-Apr-25	16-Apr-25		S1D1160	SC11110
S1D1180	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	60	15-Apr-20 A	29-May-20 A	06-Jun-22	06-Jun-22		CD1010, S1D1140, S1D1000	S1D1190, S4C1020
S1D1190	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	21	30-May-20 A	19-Jun-20 A	06-Jun-22	06-Jun-22		S1D1180	S1D1200
S1D1200	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	14	20-Jun-20 A	23-Jul-20 A	06-Jun-22	06-Jun-22		S1D1190	S1D1210
S1D1210	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	14	24-Jul-20 A	08-Aug-20 A	06-Jun-22	06-Jun-22		S1D1200	S4P1040, S5TXRP1000, S5TXRP1010, SC11110
Effluent Pumping Station No. 1		139	24-Mar-20 A	08-Aug-20 A	06-Jun-22	16-Apr-25			
S1D1220	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	60	24-Mar-20 A	08-May-20 A	06-Jun-22	06-Jun-22		CD1010, S1D1100	S1D1230, S1D1260, S1D1300
S1D1230	Review & Comment on Wiring Dwgs, Cable Schedule & Design Cal.	21	09-May-20 A	01-Jun-20 A	16-Apr-25	16-Apr-25		S1D1220	S1D1240
S1D1240	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	14	02-Jun-20 A	10-Jul-20 A	16-Apr-25	16-Apr-25		S1D1230	S1D1250
S1D1250	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	21	11-Jul-20 A	08-Aug-20 A	16-Apr-25	16-Apr-25		S1D1240	SC11110
S1D1260	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	60	15-Apr-20 A	29-May-20 A	06-Jun-22	06-Jun-22		CD1010, S1D1220, S1D1000	S1D1270, S4C1020
S1D1270	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	21	30-May-20 A	19-Jun-20 A	06-Jun-22	06-Jun-22		S1D1260	S1D1280
S1D1280	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	14	20-Jun-20 A	23-Jul-20 A	06-Jun-22	06-Jun-22		S1D1270	S1D1290



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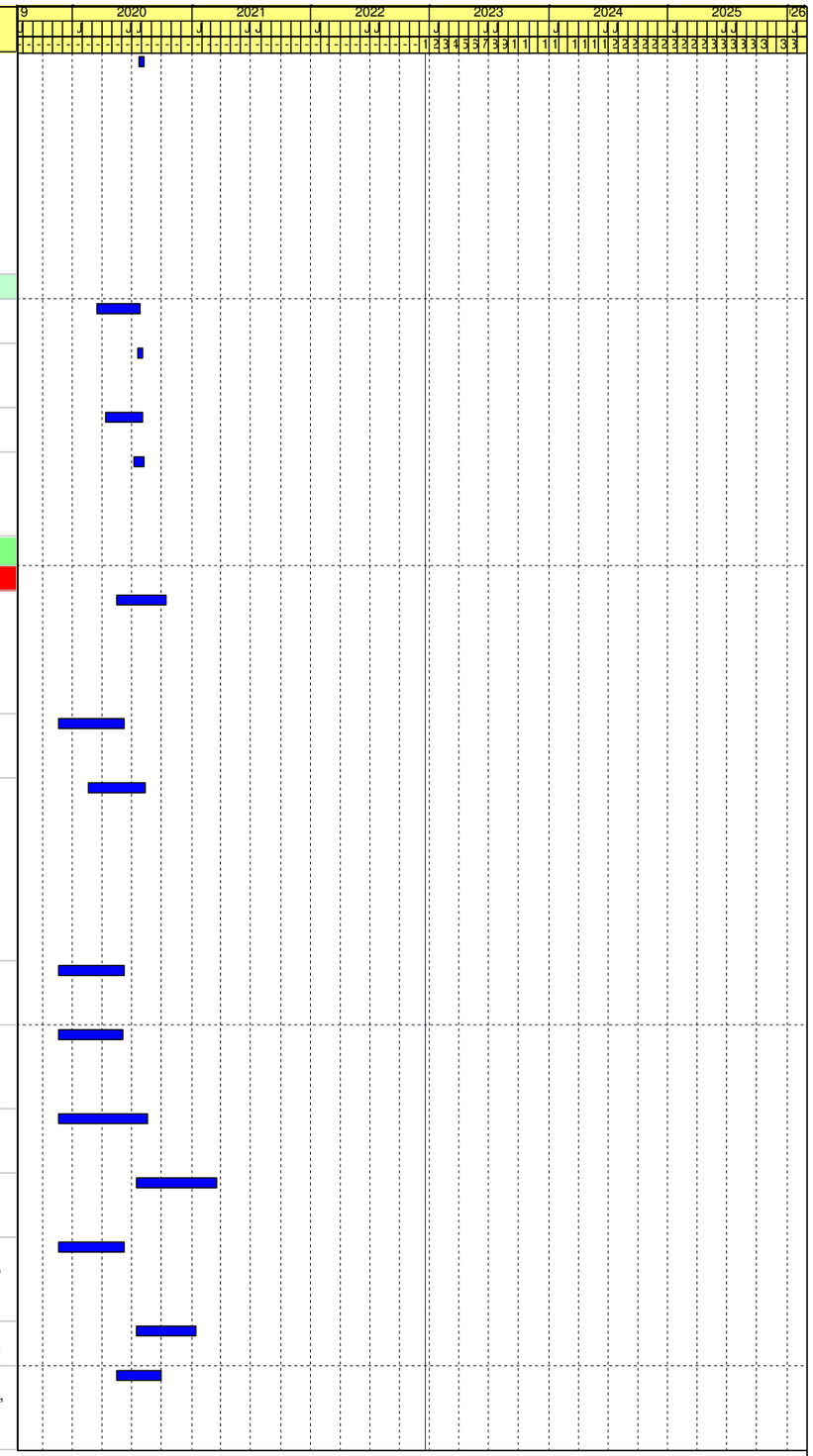
Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S1D1290	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	14	24-Jul-20 A	08-Aug-20 A	06-Jun-22	06-Jun-22		S1D1280	S4P1110, S4P1120, S4P1070, S4P1080, S4P1090, S4P1100, S5TXRP1000, S5TXRP1010, S5TXRP1020, S4P1130, SC11110
Building Services		147	15-Mar-20 A	06-Aug-20 A	18-Oct-22	07-Apr-25			
S1D1300	Prepare & Submit BS Works Design & Dwgs UV System No.1 & Effluent Pumping Station No.1	90	15-Mar-20 A	27-Jul-20 A	18-Oct-22	18-Oct-22		S1D1220	S1D1320, S1D1310
S1D1310	Review & Accept of BS Works Design & Dwgs UV System No.1 & Effluent Pumping Station No.1	8	21-Jul-20 A	05-Aug-20 A	18-Oct-22	18-Oct-22		S1D1300	SC11110, S5TXRC1030, S4C1110
S1D1320	Prepare & Submit FS Works Design & Dwgs UV System No.1 & Effluent Pumping Station No.1	60	14-Apr-20 A	05-Aug-20 A	07-Apr-25	07-Apr-25		S1D1300	S1D1330
S1D1330	Review & Accept of FS Works Design & Dwgs UV System No.1 & Effluent Pumping Station No.1	8	09-Jul-20 A	06-Aug-20 A	07-Apr-25	07-Apr-25		S1D1320	SC11110, S4P1030, S4P1140, S4P1150
Section 2 - Complete All Designs (exclude Sec. 1 & 3)		943	20-Nov-19 A	21-Dec-22	31-Oct-21	16-Apr-25	847		
Major Plant & Materials Procurement		571	20-Nov-19 A	23-Apr-21 A	12-May-22	16-Apr-25			
S2P1000	Procurement & PO for Sludge Screening System (S2)	150	18-May-20 A	16-Oct-20 A	12-May-22	12-May-22		S2P1020	SC21110, S2D1260, S5P1000, S2P1060, S2P1150, S5P1030
S2P1010	Procurement & PO for Sludge Thickening System (S3)	180	20-Nov-19 A	08-Jun-20 A	12-May-22	12-May-22		PL1010, CD1010	SC21110, S2D1300, S2P1030
S2P1020	Procurement & PO for Sludge Digestion System (S5)	150	18-Feb-20 A	12-Aug-20 A	12-May-22	12-May-22		CD1010, S2P1040	SC21110, S5DIGP1000, S2D1420, S5DIGP1010, S2P1180, S2P1210, S5P1040, S2P1000, S5P1020
S2P1030	Procurement & PO for Sludge Dewatering System (S6)	180	20-Nov-19 A	08-Jun-20 A	12-May-22	12-May-22		PL1010, CD1010, S2P1010	SC21110, S2D1460
S2P1040	Procurement & PO for THP System (S4)	180	20-Nov-19 A	05-Jun-20 A	12-May-22	12-May-22		CD1010, PL1010	SC21110, S5THPP1000, S2D1340, S2P1020
S2P1050	Procurement & PO for Biogas Holding Tanks(S7)	180	20-Nov-19 A	20-Aug-20 A	12-May-22	12-May-22		PL1010	SC21110, S5BIOP1010, S2D1500
S2P1060	Procurement & PO for H2S Removal System (S7)	234	17-Jul-20 A	17-Mar-21 A	12-May-22	12-May-22		S2P1000	SC21110, S5H2SP1000, S2D1500
S2P1070	Procurement & PO for CHP System (S8)	180	20-Nov-19 A	08-Jun-20 A	12-May-22	12-May-22		PL1010	SC21110, S5CHPP1010, S2D1540, S2P1110
S2P1080	Procurement & PO for Waste Gas Burning System (S9)	150	17-Jul-20 A	15-Jan-21 A	31-Oct-22	31-Oct-22			SC21110, S5WGBP1000
S2P1090	Procurement & PO for Plant Service Water System (S12)	150	18-May-20 A	30-Sep-20 A	12-May-22	12-May-22			SC21110, S5PSWP1000, S2D1660, S2P1190



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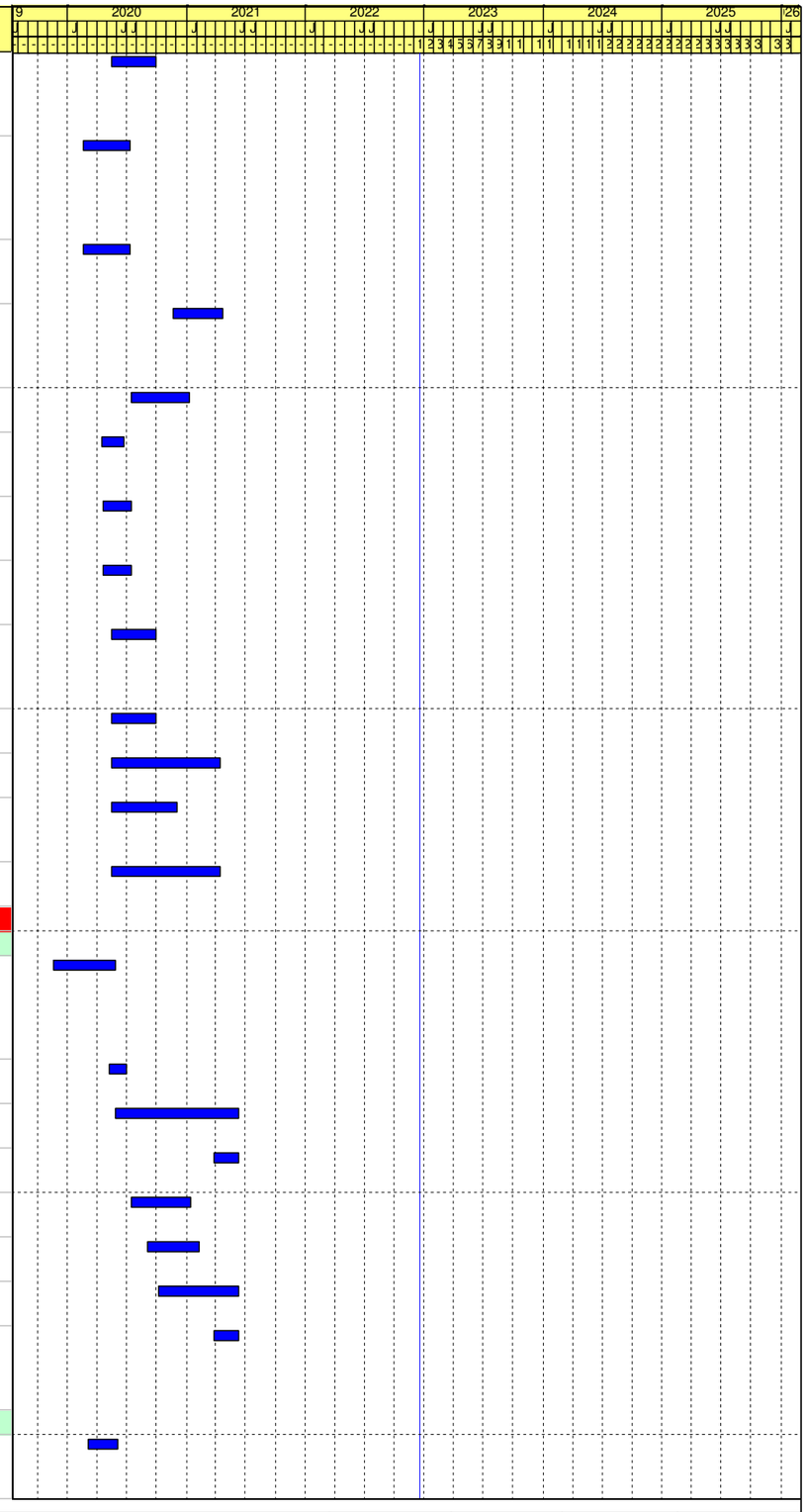
S2P1100	Procurement & PO for SAS Pumping System (S14)	150	18-May-20 A	30-Sep-20 A	11-Jul-22	11-Jul-22			SC21110, S5SASP1000, S2D1700, S2P1220
S2P1110	Procurement & PO for Transfomers (S17)	150	18-Feb-20 A	13-Jul-20 A	12-May-22	12-May-22		S2P1070	SC21110, S5WS2P1000, S2P1120, S2P1140, S5TXRP1000
S2P1120	Procurement & PO for 11 kV Switchboard (S17)	150	18-Feb-20 A	13-Jul-20 A	12-May-22	12-May-22		S2P1110	SC21110, S5WS2P1060, S2P1130
S2P1130	Procurement & PO for 380V Switchboard (S17)	174	21-Nov-20 A	23-Apr-21 A	12-May-22	12-May-22		S2P1120, S2D1220	SC21110, S5WS2P1090, S5P1050, S5TXRP1010
S2P1140	Procurement & PO for Control & Monitoring System (S18)	183	17-Jul-20 A	11-Jan-21 A	29-Jun-22	29-Jun-22		PL1010, S2P1110	SC21110, S5TXRP1020
S2P1150	Procurement & PO for DO System (S21)	150	15-Apr-20 A	24-Jun-20 A	10-Nov-22	10-Nov-22		S2P1000	SC21110, S5DOUP1000, S2D1930
S2P1160	Procurement & PO for Stoplog (S21)	90	18-Apr-20 A	17-Jul-20 A	22-Apr-23	22-Apr-23		PL1010, S1P1040	SC21110, S5SASP1010, S2P1170
S2P1170	Procurement & PO for Penstock (S21)	90	18-Apr-20 A	17-Jul-20 A	22-Apr-23	22-Apr-23		PL1010, S2P1160, S1P1050	SC21110, S5SASP1020
S2P1180	Procurement & PO for Sewage Pump (S21)	120	18-May-20 A	30-Sep-20 A	04-Jan-23	04-Jan-23		S2P1020	SC21110, S5SPSP1000, S2D1940, S2P1200
S2P1190	Procurement & PO for Process Water Pump (S21)	120	18-May-20 A	30-Sep-20 A	16-Apr-25	16-Apr-25		S2P1090	SC21110, S2D1950
S2P1200	Procurement & PO for External Sludge Transfer Pump (S21)	348	18-May-20 A	14-Apr-21 A	04-Jan-23	04-Jan-23		S2P1180	SC21110, S2D1960
S2P1210	Procurement & PO for THP Cooling Pump (S21)	150	18-May-20 A	04-Dec-20 A	04-Jan-23	04-Jan-23		S2P1020	SC21110, S5TCWP1000, S2D1970
S2P1220	Procurement & PO for Temporary Primary Sludge Pump (S21)	348	18-May-20 A	14-Apr-21 A	11-Jul-22	11-Jul-22		PL1010, S2P1100	SC21110, S5ECHP1000
Design & Submission		860	20-Nov-19 A	11-Jun-21 A	03-May-22	16-Apr-25			
General Arrangement Drawings		715	20-Nov-19 A	11-Jun-21 A	12-May-22	16-Apr-25			
S2D1000	Prepare & Submit General Arrangement Drawings (from formation level up to +8mPD)	180	20-Nov-19 A	29-May-20 A	12-May-22	12-May-22		PL1010	S2D1010, S2D1080, S2D1160, S2D1040, S2D1340
S2D1010	Review & Comment on General Arrangement Drawings by PM (from formation level up to +8mPD)	21	07-May-20 A	02-Jul-20 A	16-Apr-25	16-Apr-25		S2D1000	S2D1020
S2D1020	Revise & Re-submit General Arrangement Drawings (from formation level up to +8mPD)	381	26-May-20 A	10-Jun-21 A	16-Apr-25	16-Apr-25		S2D1010	S2D1030
S2D1030	Review & Accept of General Arrangement Drawings by PM (from formation level up to +8mPD)	77	26-Mar-21 A	11-Jun-21 A	16-Apr-25	16-Apr-25		S2D1020	SC21110
S2D1040	Prepare & Submit General Arrangement Drawings (remaining)	177	17-Jul-20 A	15-Jan-21 A	25-Jun-22	25-Jun-22		PL1010, S2D1000	S2D1050, S2D1120
S2D1050	Review & Comment on General Arrangement Drawings by PM (remaining)	21	05-Sep-20 A	08-Feb-21 A	25-Jun-22	25-Jun-22		S2D1040	S2D1060
S2D1060	Revise & Re-submit General Arrangement Drawings (remaining)	248	06-Oct-20 A	10-Jun-21 A	25-Jun-22	25-Jun-22		S2D1050	S2D1070
S2D1070	Review & Accept of General Arrangement Drawings by PM (remaining)	77	26-Mar-21 A	11-Jun-21 A	25-Jun-22	25-Jun-22		S2D1060	SC21110, S5S1060, S5P1010, S5S1050
Civil & Dimensional / Tolerance Requirement Drawings		522	04-Mar-20 A	11-Jun-21 A	12-May-22	16-Apr-25			
S2D1080	Prepare & Submit Civil Requirement Drawings (from formation level up to +8mPD) -KD2A	90	04-Mar-20 A	04-Jun-20 A	12-May-22	12-May-22		S2D1000	S2D1090, S2D1660, KD1010



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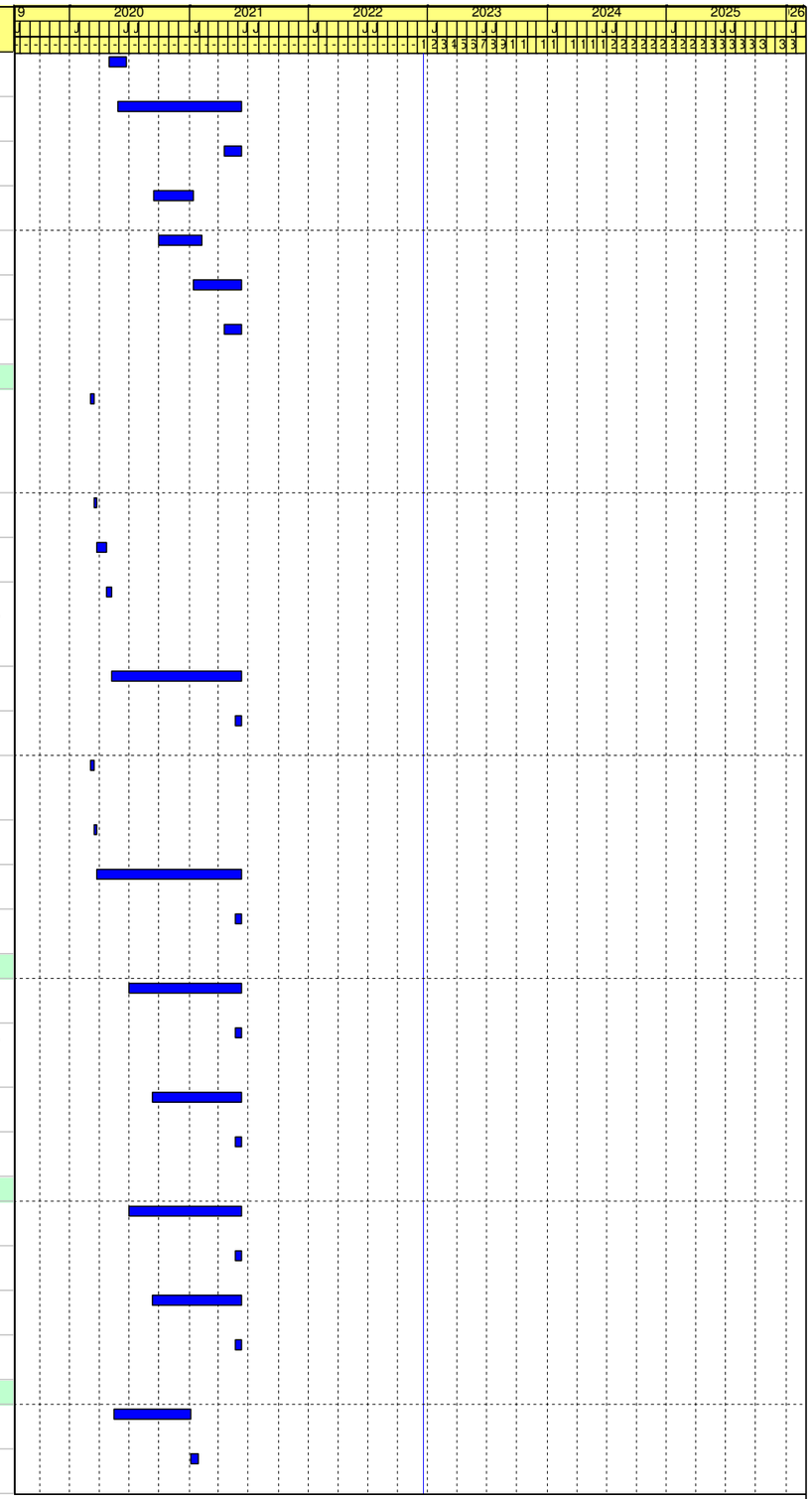
Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S2D1090	Review & Comment on Civil Requirement Drawings by PM (from formation level up to +8mPD)	21	30-Apr-20 A	23-Jun-20 A	27-Jul-22	27-Jul-22		S2D1080	S2D1100
S2D1100	Revise & Re-submit Civil Requirement Drawings (from formation level up to +8mPD)	381	26-May-20 A	10-Jun-21 A	27-Jul-22	27-Jul-22		S2D1090	S2D1110
S2D1110	Review & Accept of Civil Requirement Drawings by PM (from formation level up to +8mPD)	55	17-Apr-21 A	11-Jun-21 A	27-Jul-22	27-Jul-22		S2D1100	SC21110, AD1120
S2D1120	Prepare & Submit Civil Requirement Drawings (remaining) -KD2B	120	15-Sep-20 A	15-Jan-21 A	16-Apr-25	16-Apr-25		S2D1040	S2D1130, KD1020
S2D1130	Review & Comment on Civil Requirement Drawings by PM (remaining)	21	28-Sep-20 A	08-Feb-21 A	16-Apr-25	16-Apr-25		S2D1120	S2D1140
S2D1140	Revise & Re-submit Civil Requirement Drawings (remaining)	150	12-Jan-21 A	10-Jun-21 A	16-Apr-25	16-Apr-25		S2D1130	S2D1150
S2D1150	Review & Accept of Civil Requirement Drawings by PM (remaining)	55	17-Apr-21 A	11-Jun-21 A	16-Apr-25	16-Apr-25		S2D1140	SC21110
Electrical Schematic Drawings		754	05-Mar-20 A	11-Jun-21 A	12-May-22	16-Apr-25			
S2D1160	Prepare & Elec. Schematic Drawings (from formation level up to +8mPD) -KD2A	90	05-Mar-20 A	16-Mar-20 A	12-May-22	12-May-22		S2D1000	S2D1170, S2D1260, S2D1660, KD1010, S2D1220
S2D1170	Review & Comment on Elec. Schematic Drawings by PM (from formation level up to +8mPD)	21	17-Mar-20 A	24-Mar-20 A	12-May-22	12-May-22		S2D1160	S2D1180
S2D1180	Revise & Re-submit Elec. Schematic Drawings (from formation level up to +8mPD)	28	25-Mar-20 A	23-Apr-20 A	12-May-22	12-May-22		S2D1170	S2D1190, S2D1220
S2D1190	Review & Comment of Elec. Schematic Drawings by PM (from formation level up to +8mPD)	21	24-Apr-20 A	08-May-20 A	12-May-22	12-May-22		S2D1180	S2D1250, S5WS2P1090, S2D1220, S2D1200
S2D1200	Revise & Re-submit Elec. Schematic Drawings (from formation level up to +8mPD)	398	09-May-20 A	10-Jun-21 A	16-Apr-25	16-Apr-25		S2D1190	S2D1210
S2D1210	Review & Accept of Elec. Schematic Drawings by PM (from formation level up to +8mPD)	21	21-May-21 A	11-Jun-21 A	16-Apr-25	16-Apr-25		S2D1200	SC21110
S2D1220	Prepare & Submit Elec. Schematic Drawings (remaining) -KD2B	120	05-Mar-20 A	16-Mar-20 A	12-May-22	12-May-22		S2D1160, S2D1180, S2D1190	S2D1230, KD1020, S2P1130
S2D1230	Review & Comment on Elec. Schematic Drawings by PM (remaining)	21	17-Mar-20 A	24-Mar-20 A	29-Jun-23	29-Jun-23		S2D1220	S2D1240
S2D1240	Revise & Re-submit Elec. Schematic Drawings (remaining)	443	25-Mar-20 A	10-Jun-21 A	29-Jun-23	29-Jun-23		S2D1230	S2D1250
S2D1250	Review & Accept of Elec. Schematic Drawings by PM (remaining)	21	24-May-21 A	11-Jun-21 A	29-Jun-23	29-Jun-23		S2D1240, S2D1190	SC21110, S5WS2P1090
Sludge Screening (SSc)		357	02-Jul-20 A	11-Jun-21 A	12-May-22	07-Mar-23			
S2D1260	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	344	02-Jul-20 A	10-Jun-21 A	12-May-22	12-May-22		S2D1160, S2P1000	S2D1270
S2D1270	Review & Accept on Wiring Dwgs, Cable Schedule & Design Cal.	21	24-May-21 A	11-Jun-21 A	12-May-22	12-May-22		S2D1260	S5WS2P1090, S5P1050, SC21110
S2D1280	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	274	10-Sep-20 A	10-Jun-21 A	07-Mar-23	07-Mar-23			S2D1290
S2D1290	Review & Accept on the Schedule, Design Cal. & Fixing Details of Equipment	21	24-May-21 A	11-Jun-21 A	07-Mar-23	07-Mar-23		S2D1280	SC21110, PL1490
Sludge Thickening (STh)		357	02-Jul-20 A	11-Jun-21 A	12-May-22	07-Mar-23			
S2D1300	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	344	02-Jul-20 A	10-Jun-21 A	12-May-22	12-May-22		S2P1010	S2D1310
S2D1310	Review & Accept on Wiring Dwgs, Cable Schedule & Design Cal.	21	24-May-21 A	11-Jun-21 A	12-May-22	12-May-22		S2D1300	SC21110, S5P1050
S2D1320	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	274	10-Sep-20 A	10-Jun-21 A	07-Mar-23	07-Mar-23			S2D1330
S2D1330	Review & Accept on the Schedule, Design Cal. & Fixing Details of Equipment	21	24-May-21 A	11-Jun-21 A	07-Mar-23	07-Mar-23		S2D1320	SC21110, PL1490
Thermal Hydrolysis Process (THP)		416	18-May-20 A	11-Jun-21 A	12-May-22	21-Oct-22			
S2D1340	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	241	18-May-20 A	07-Jan-21 A	12-May-22	12-May-22		S2P1040, S2D1000	S2D1350, S2D1970
S2D1350	Review & Comment on Wiring Dwgs, Cable Schedule & Design Cal.	21	08-Jan-21 A	27-Jan-21 A	12-May-22	12-May-22		S2D1340	S2D1360



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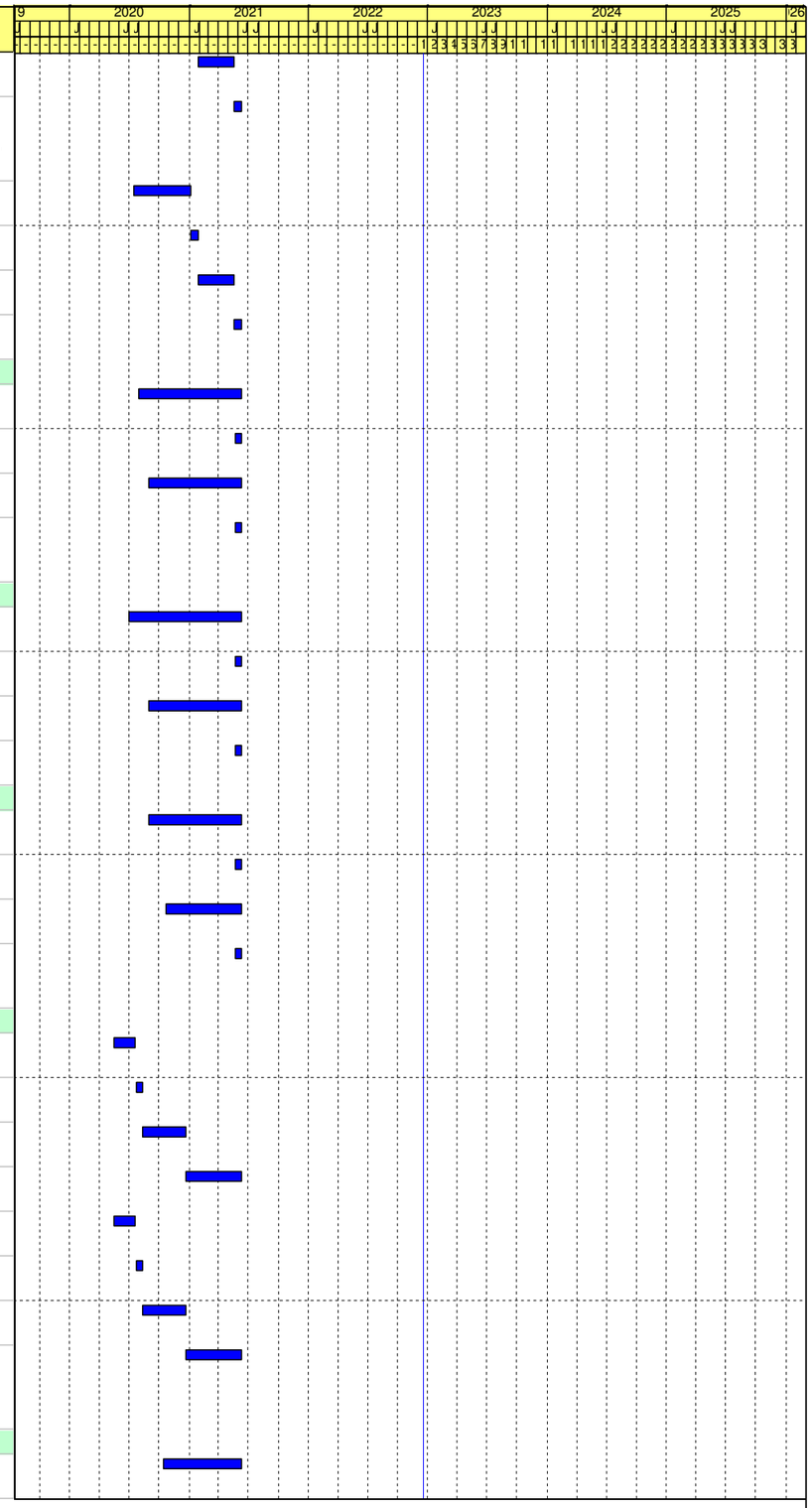
30-Nov-22	Rev.28	LT	KM
31-Dec-22	Rev.29	LT	KM

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S2D1360	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	117	28-Jan-21 A	17-May-21 A	12-May-22	12-May-22		S2D1350	S2D1370
S2D1370	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	24	18-May-21 A	11-Jun-21 A	12-May-22	12-May-22		S2D1360	SC21110, S5THPP1000, S5TCWP1000, S5P1050
S2D1380	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	180	17-Jul-20 A	07-Jan-21 A	21-Oct-22	21-Oct-22			S2D1390
S2D1390	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	21	08-Jan-21 A	27-Jan-21 A	21-Oct-22	21-Oct-22		S2D1380	S2D1400
S2D1400	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	117	28-Jan-21 A	17-May-21 A	21-Oct-22	21-Oct-22		S2D1390	S2D1410
S2D1410	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	24	18-May-21 A	11-Jun-21 A	21-Oct-22	21-Oct-22		S2D1400	S5THPP1000, SC21110
Sludge Digestion (SDi)		325	01-Aug-20 A	11-Jun-21 A	12-May-22	28-Jul-22			
S2D1420	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	314	01-Aug-20 A	10-Jun-21 A	12-May-22	12-May-22		S2P1020	S2D1430
S2D1430	Review & Accept on Wiring Dwgs, Cable Schedule & Design Cal.	21	24-May-21 A	11-Jun-21 A	12-May-22	12-May-22		S2D1420	SC21110, S5P1050
S2D1440	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	284	31-Aug-20 A	10-Jun-21 A	28-Jul-22	28-Jul-22			S2D1450
S2D1450	Review & Accept on the Schedule, Design Cal. & Fixing Details of Equipment	21	24-May-21 A	11-Jun-21 A	28-Jul-22	28-Jul-22		S2D1440	S5DIGP1000, SC21110, PL1490
Sludge Dewatering (SDe)		357	02-Jul-20 A	11-Jun-21 A	12-May-22	07-Mar-23			
S2D1460	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	344	02-Jul-20 A	10-Jun-21 A	12-May-22	12-May-22		S2P1030	S2D1470
S2D1470	Review & Accept on Wiring Dwgs, Cable Schedule & Design Cal.	21	24-May-21 A	11-Jun-21 A	12-May-22	12-May-22		S2D1460	SC21110, S5P1050
S2D1480	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	284	31-Aug-20 A	10-Jun-21 A	07-Mar-23	07-Mar-23			S2D1490
S2D1490	Review & Accept on the Schedule, Design Cal. & Fixing Details of Equipment	21	24-May-21 A	11-Jun-21 A	07-Mar-23	07-Mar-23		S2D1480	SC21110, PL1490
Biogas Storage & Pre-Treatment (BSPT)		295	31-Aug-20 A	11-Jun-21 A	12-May-22	14-Aug-22			
S2D1500	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	284	31-Aug-20 A	10-Jun-21 A	12-May-22	12-May-22		S2P1060, S2P1050	S2D1510
S2D1510	Review & Accept on Wiring Dwgs, Cable Schedule & Design Cal.	21	24-May-21 A	11-Jun-21 A	12-May-22	12-May-22		S2D1500	SC21110, S5P1050
S2D1520	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	232	22-Oct-20 A	10-Jun-21 A	14-Aug-22	14-Aug-22			S2D1530
S2D1530	Review & Accept on the Schedule, Design Cal. & Fixing Details of Equipment	21	24-May-21 A	11-Jun-21 A	14-Aug-22	14-Aug-22		S2D1520	S5BIOP1010, S5H2SP1000, SC21110
Combined Heat & Power Generation (CHP)		512	18-May-20 A	11-Jun-21 A	03-May-22	12-May-22			
S2D1540	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	233	18-May-20 A	21-Jul-20 A	12-May-22	12-May-22		S2P1070	S2D1550
S2D1550	Review & Comment on Wiring Dwgs, Cable Schedule & Design Cal.	21	22-Jul-20 A	11-Aug-20 A	12-May-22	12-May-22		S2D1540	S2D1560, S2D1870
S2D1560	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	28	12-Aug-20 A	21-Dec-20 A	12-May-22	12-May-22		S2D1550	S2D1570
S2D1570	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	171	22-Dec-20 A	11-Jun-21 A	12-May-22	12-May-22		S2D1560	SC21110, S5P1050
S2D1580	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	180	18-May-20 A	21-Jul-20 A	03-May-22	03-May-22			S2D1590
S2D1590	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	21	22-Jul-20 A	11-Aug-20 A	03-May-22	03-May-22		S2D1580	S2D1600
S2D1600	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	28	12-Aug-20 A	21-Dec-20 A	03-May-22	03-May-22		S2D1590	S2D1610
S2D1610	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	171	22-Dec-20 A	11-Jun-21 A	03-May-22	03-May-22		S2D1600	S5CHPP1010, SC21110, S5S1020, PL1530
Waste Gas Burning System (WGB)		264	15-Oct-20 A	11-Jun-21 A	12-May-22	31-Oct-22			
S2D1620	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	239	15-Oct-20 A	10-Jun-21 A	12-May-22	12-May-22			S2D1630



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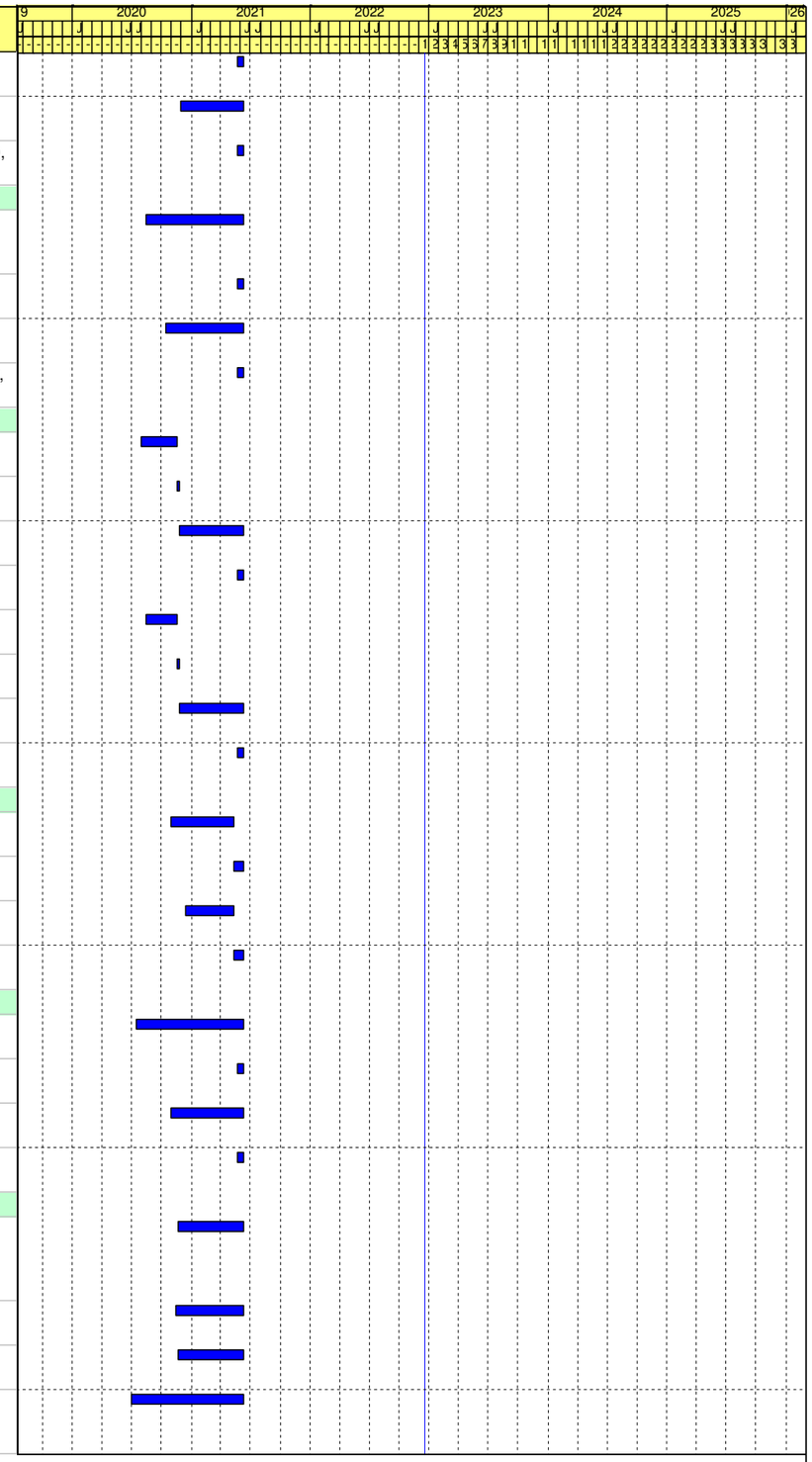
S2D1630	Review & Accept on Wiring Dwgs, Cable Schedule & Design Cal.	21	24-May-21 A	11-Jun-21 A	12-May-22	12-May-22		S2D1620	SC21110, S5P1050
S2D1640	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	194	29-Nov-20 A	10-Jun-21 A	31-Oct-22	31-Oct-22			S2D1650
S2D1650	Review & Accept on the Schedule, Design Cal. & Fixing Details of Equipment	21	24-May-21 A	11-Jun-21 A	31-Oct-22	31-Oct-22		S2D1640	S5WGBP1000, SC21110
Plant Service Water System (PSW)		325	16-Aug-20 A	11-Jun-21 A	12-May-22	22-Aug-22			
S2D1660	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	299	16-Aug-20 A	10-Jun-21 A	12-May-22	12-May-22		S2D1080, S2D1160, S2P1090	S2D1670
S2D1670	Review & Accept on Wiring Dwgs, Cable Schedule & Design Cal.	21	24-May-21 A	11-Jun-21 A	12-May-22	12-May-22		S2D1660	SC21110, S5P1050
S2D1680	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	239	15-Oct-20 A	10-Jun-21 A	22-Aug-22	22-Aug-22			S2D1690
S2D1690	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	21	24-May-21 A	11-Jun-21 A	22-Aug-22	22-Aug-22		S2D1680	S5PSWP1000, SC21110
Surplus Activated Sludge Pumping Station (SAS)		440	01-Aug-20 A	11-Jun-21 A	11-Mar-23	16-Apr-25			
S2D1700	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	202	01-Aug-20 A	17-Nov-20 A	16-Apr-25	16-Apr-25		S2P1100	S2D1710
S2D1710	Review & Comment on Wiring Dwgs, Cable Schedule & Design Cal.	21	18-Nov-20 A	24-Nov-20 A	16-Apr-25	16-Apr-25		S2D1700	S2D1720
S2D1720	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	198	25-Nov-20 A	10-Jun-21 A	16-Apr-25	16-Apr-25		S2D1710	S2D1730
S2D1730	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	21	24-May-21 A	11-Jun-21 A	16-Apr-25	16-Apr-25		S2D1720	SC21110
S2D1740	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	183	16-Aug-20 A	17-Nov-20 A	11-Mar-23	11-Mar-23			S2D1750
S2D1750	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	21	18-Nov-20 A	24-Nov-20 A	11-Mar-23	11-Mar-23		S2D1740	S2D1760
S2D1760	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	198	25-Nov-20 A	10-Jun-21 A	11-Mar-23	11-Mar-23		S2D1750	S2D1770
S2D1770	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	21	24-May-21 A	11-Jun-21 A	11-Mar-23	11-Mar-23		S2D1760	S5SASP1000, SC21110
Control and Monitoring System		211	30-Oct-20 A	11-Jun-21 A	16-Apr-25	16-Apr-25			
S2D1780	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	193	30-Oct-20 A	11-May-21 A	16-Apr-25	16-Apr-25			S2D1790
S2D1790	Review & Accept on Wiring Dwgs, Cable Schedule & Design Cal.	30	12-May-21 A	11-Jun-21 A	16-Apr-25	16-Apr-25		S2D1780	SC21110
S2D1800	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	148	14-Dec-20 A	11-May-21 A	16-Apr-25	16-Apr-25			S2D1810
S2D1810	Review & Accept on the Schedule, Design Cal. & Fixing Details of Equipment	30	12-May-21 A	11-Jun-21 A	16-Apr-25	16-Apr-25		S2D1800	SC21110
Lifting Appliances		358	17-Jul-20 A	11-Jun-21 A	16-Apr-25	16-Apr-25			
S2D1820	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	329	17-Jul-20 A	10-Jun-21 A	16-Apr-25	16-Apr-25			S2D1830
S2D1830	Review & Accept on Wiring Dwgs, Cable Schedule & Design Cal.	21	24-May-21 A	11-Jun-21 A	16-Apr-25	16-Apr-25		S2D1820	SC21110
S2D1840	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	224	30-Oct-20 A	10-Jun-21 A	16-Apr-25	16-Apr-25			S2D1850
S2D1850	Review & Acceptt on the Schedule, Design Cal. & Fixing Details of Equipment	21	24-May-21 A	11-Jun-21 A	16-Apr-25	16-Apr-25		S2D1840	SC21110
Building Services		357	02-Jul-20 A	11-Jun-21 A	28-May-22	16-Apr-25			
S2D1860	Submit & Accept BS Works Design & Dwgs for Sludge Dewatering Building	202	21-Nov-20 A	11-Jun-21 A	28-May-22	28-May-22			SC21110, S5S1260, S5S1010, S5S1120
S2D1870	Submit & Accept BS Works Design & Dwgs for CHP Building	209	14-Nov-20 A	11-Jun-21 A	14-Jul-23	14-Jul-23		S2D1550	SC21110, S5S1120
S2D1880	Submit & Accept BS Works Design & Dwgs for Sludge Digester & Distribution Chamber	202	21-Nov-20 A	11-Jun-21 A	14-Jul-23	14-Jul-23			SC21110, S5S1120
S2D1890	Submit & Accept BS Works Design & Dwgs for Workshop No. 2	344	02-Jul-20 A	11-Jun-21 A	27-Jul-22	27-Jul-22			SC21110, S5S1030, S5S1120



File Name: DE/2018/03 RP R29
Layout: DE1803 RP (Dec 2022) - WBS

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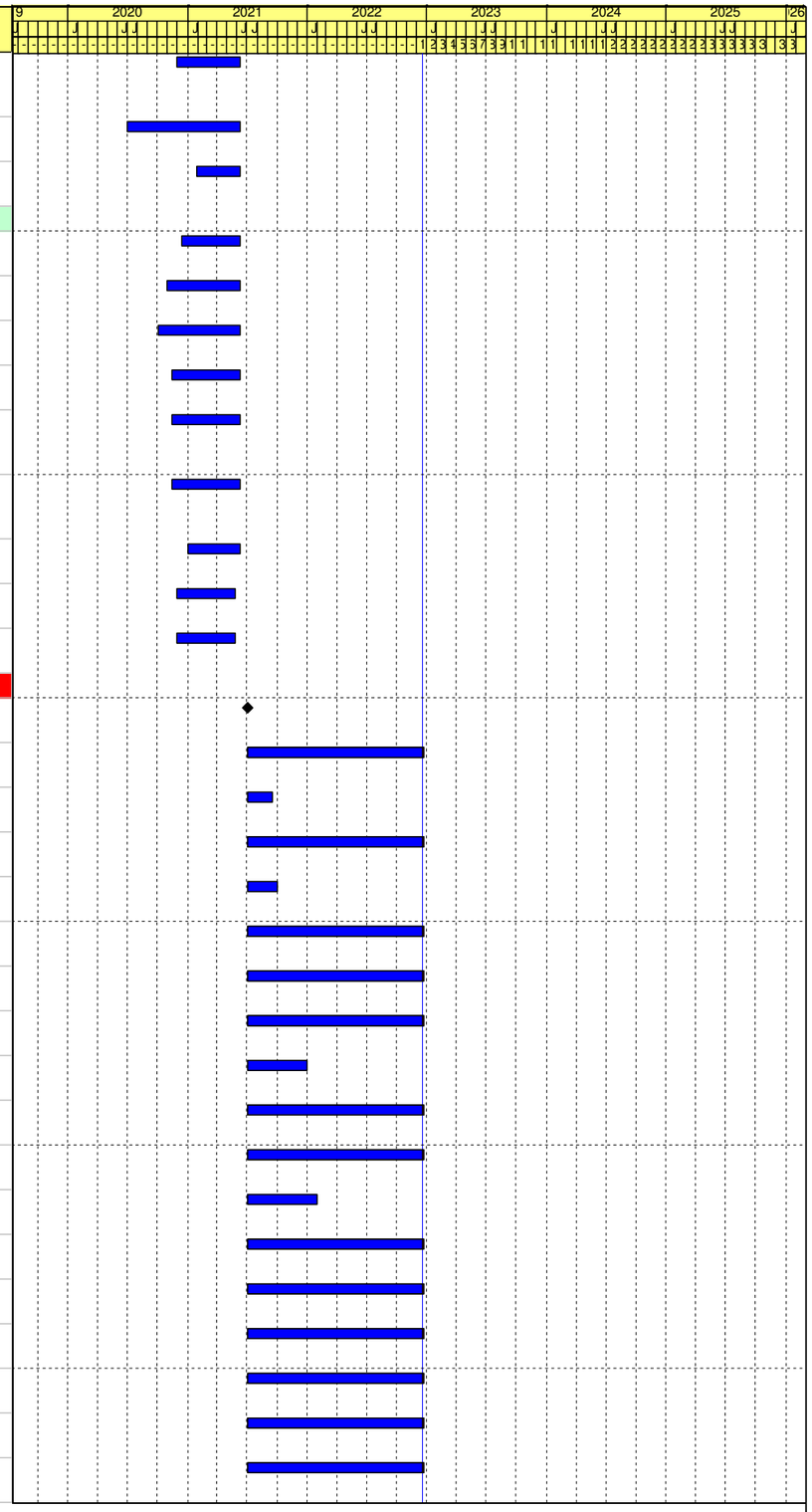
S2D1900	Submit & Accept BS Works Design & Dwgs for Other Facilities	194	29-Nov-20 A	11-Jun-21 A	14-Jul-23	14-Jul-23			S2D1920, SC21110, S5S1120
S2D1910	Submit & Accept BS Works Design & Dwgs for FS Installation	344	02-Jul-20 A	11-Jun-21 A	14-Jul-23	14-Jul-23			SC21110, S5S1120
S2D1920	Submit & Accept BS Works Design & Dwgs for Outdoor Lighting Installation	134	28-Jan-21 A	11-Jun-21 A	16-Apr-25	16-Apr-25		S2D1900	SC21110
Miscellaneous		264	05-Oct-20 A	11-Jun-21 A	11-Jul-22	16-Apr-25			
S2D1930	Submit & Accept Design & Dwgs for DO System	179	14-Dec-20 A	11-Jun-21 A	10-Nov-22	10-Nov-22		S2P1150, PL1020	S5DOUP1000, SC21110
S2D1940	Submit & Accept Design & Dwgs for Sewage Pumping Station	224	30-Oct-20 A	11-Jun-21 A	19-Jan-23	19-Jan-23		S2P1180	S5SPSP1000, SC21110
S2D1950	Submit & Accept Design & Dwgs for Process Water Pumping System	249	05-Oct-20 A	11-Jun-21 A	16-Apr-25	16-Apr-25		S2P1190	SC21110
S2D1960	Submit & Accept Design & Dwgs for External Sludge Transfer Pumping System	209	14-Nov-20 A	11-Jun-21 A	04-Jan-23	04-Jan-23		S2P1200	S2D1970, SC21110
S2D1970	Submit & Accept Design & Dwgs for THP Cooling Water Pumping Station	209	14-Nov-20 A	10-Jun-21 A	04-Jan-23	04-Jan-23		S2D1340, S2D1960, S2P1210	S5TCWP1000, SC21110
S2D1980	Submit & Accept Design & Dwgs for Ferric Chloride Dosing System	209	14-Nov-20 A	11-Jun-21 A	06-Oct-22	06-Oct-22			S5FCDP1000, S5FCDP1010, SC21110
S2D1990	Submit & Accept Design & Dwgs for Temporary Primary Sludge Pumping Facility	158	04-Jan-21 A	11-Jun-21 A	11-Jul-22	11-Jul-22		PL1020	S5ECHP1000, SC21110
S2D2000	Submit & Accept Design & Dwgs for Gas Detection System	194	29-Nov-20 A	24-May-21 A	07-Jan-23	07-Jan-23			SC21110, S5CHPP1040
S2D2010	Submit & Accept Design & Dwgs for CCTV System	194	29-Nov-20 A	26-May-21 A	16-Apr-25	16-Apr-25			SC21110
Outstanding Works		334	02-Jul-21 A	21-Dec-22	31-Oct-21	16-Apr-25	847		
S2D2020	Certifiate of Completion - Section 2 of the works (Ref: RCYK:ccm:60427128/92-2021004626w)	0	02-Jul-21 A						
S2D2030	Provide ICE Certificate for all design, calculations, drawings, plans & relevant documents	334	02-Jul-21 A	21-Dec-22*	31-May-22	31-May-22	-204		
S2D2040	Submit finalized design calculations, drawings & material submissions for BS systems (Workshop No.2)	76	02-Jul-21 A	15-Sep-21 A	16-Apr-25	16-Apr-25			
S2D2050	Submit finalized design calculations, drawings & material submissions for BS systems (except Workshop No.2)	303	02-Jul-21 A	21-Dec-22*	30-Apr-22	30-Apr-22	-235		
S2D2060	Submit finalized sizing calculations for the actuators and stems for penstocks	91	02-Jul-21 A	30-Sep-21 A	16-Apr-25	16-Apr-25			
S2D2070	Submit finalized cable schedules & sizing calculation (LV System)	294	02-Jul-21 A	21-Dec-22*	31-Dec-21	31-Dec-21	-355		
S2D2080	Submit finalized pumps and associated motor and VSD calculations	294	02-Jul-21 A	21-Dec-22*	31-Dec-21	31-Dec-21	-355		
S2D2090	Submit finalized electrical loads to verify the rating of the switchgears, transformers and protective devices	294	02-Jul-21 A	21-Dec-22*	31-Dec-21	31-Dec-21	-355		
S2D2100	Submit finalized material submissions of the cables, cable tray, ladder and accessories	294	02-Jul-21 A	31-Dec-21 A	16-Apr-25	16-Apr-25			
S2D2110	Submit finalized cable route drawings	294	02-Jul-21 A	21-Dec-22*	31-Dec-21	31-Dec-21	-355		
S2D2120	Submit finalized layout and control wiring diagrams for switchboard, MCC, control panel, etc	294	02-Jul-21 A	21-Dec-22*	31-Jan-22	31-Jan-22	-324		
S2D2130	Submit finalized design submissions of the CHP system	294	02-Jul-21 A	31-Jan-22 A	16-Apr-25	16-Apr-25			
S2D2140	Submit finalized interlock devices for electrical equipment and system	303	02-Jul-21 A	21-Dec-22*	30-Apr-22	30-Apr-22	-235		
S2D2150	Submit finalized calculations for total harmonic distortion, electrical faults and touch voltage	303	02-Jul-21 A	21-Dec-22*	30-Apr-22	30-Apr-22	-235		
S2D2160	Submit finalized design calculations, drawings & material submissions for ELV systems	294	02-Jul-21 A	21-Dec-22*	31-Dec-21	31-Dec-21	-355		
S2D2170	Submit finalized design submissions of SCADA, PMS, CMMS, IDMS, UPS for FCS	294	02-Jul-21 A	21-Dec-22*	31-Dec-21	31-Dec-21	-355		
S2D2180	Submit finalized configuration of SCADA / PLC system, CMMS & PMS	294	02-Jul-21 A	21-Dec-22*	31-Dec-21	31-Dec-21	-355		
S2D2190	Submit finalized PLC and MCC panel design	294	02-Jul-21 A	21-Dec-22*	28-Feb-22	28-Feb-22	-296		



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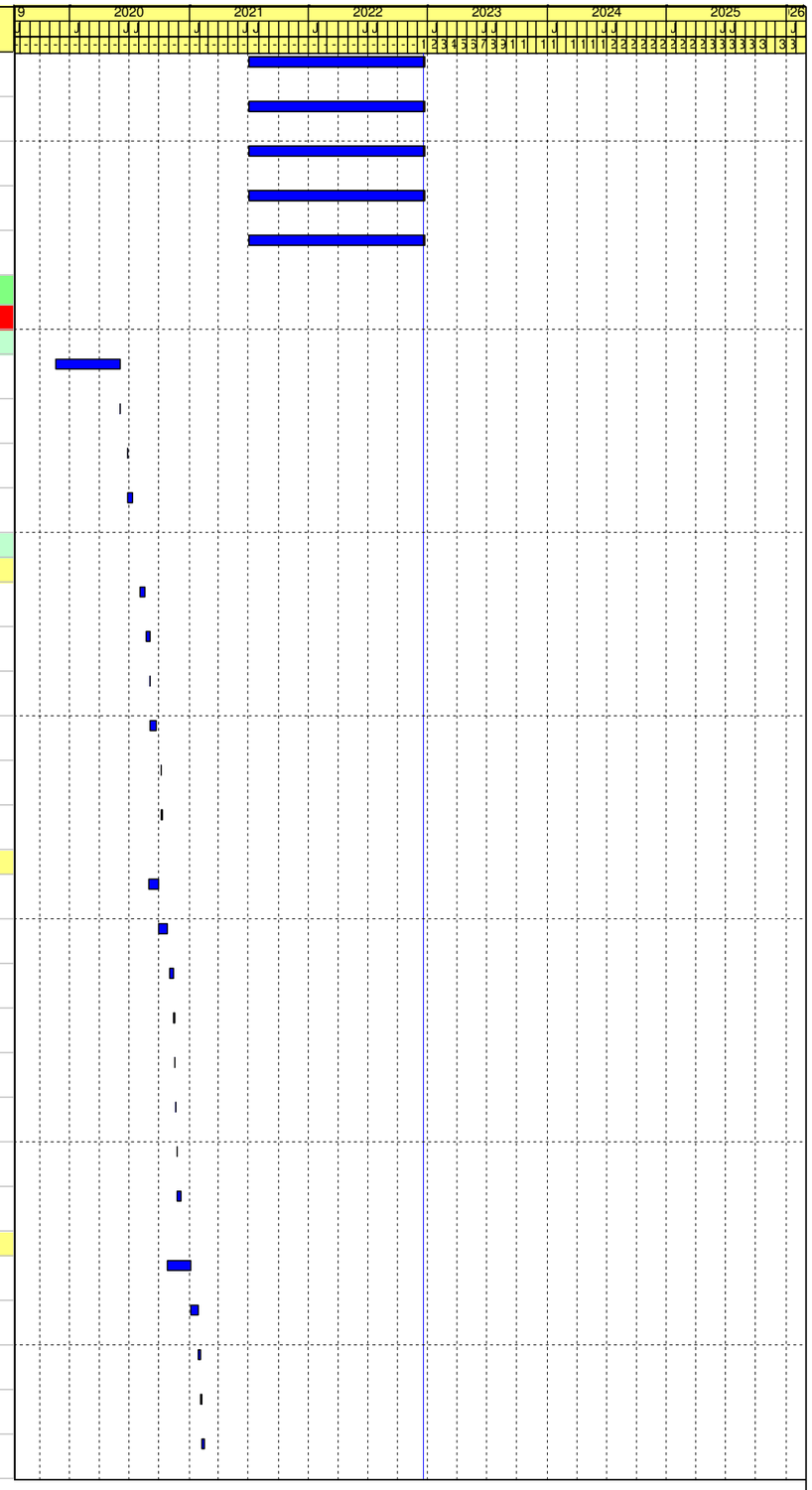
S2D2200	Submit finalized design & philosophy of the process instrument	294	02-Jul-21 A	21-Dec-22*	31-Dec-21	31-Dec-21	-355		
S2D2210	Submit finalized Process Design Submission	152	02-Jul-21 A	21-Dec-22*	30-Nov-21	30-Nov-21	-386		
S2D2220	Submit finalized acoustic and noise calculations for all equipment	303	02-Jul-21 A	21-Dec-22*	30-Apr-22	30-Apr-22	-235		
S2D2230	Submit finalized design of THP feeding system	122	02-Jul-21 A	21-Dec-22*	31-Oct-21	31-Oct-21	-416		
S2D2240	Submit finalized design of the centrifuge discharge system	152	02-Jul-21 A	21-Dec-22*	30-Nov-21	30-Nov-21	-386		
Section 3 - Complete Design, Construction & T&C for Sidestream Facilities		1949	20-Nov-19 A	21-Mar-25	10-Aug-22	16-Apr-25	26		
Major Subcontractor / Supplier Procurement		633	20-Nov-19 A	06-Sep-21 A	07-Sep-22	16-Apr-25			
Design		320	20-Nov-19 A	12-Jul-20 A	07-Sep-22	16-Apr-25			
S3P1000	Procurement & PO for Deammonification Sidestream Treatment Facilities	200	20-Nov-19 A	05-Jun-20 A	07-Sep-22	07-Sep-22		CD1010, PL1010	S3D1000, S3D1440
S3P1010	E&M (Process) Designer Award	1	05-Jun-20 A	05-Jun-20 A	16-Apr-25	16-Apr-25			
S3P1020	Civil & BS Designer Award	1	26-Jun-20 A	26-Jun-20 A	16-Apr-25	16-Apr-25			S3P1030
S3P1030	Mobilisation	14	27-Jun-20 A	12-Jul-20 A	16-Apr-25	16-Apr-25		S3P1020	
Civil & Building Contractor		327	05-Aug-20 A	06-Sep-21 A	07-Sep-22	07-Sep-22			
For Site Clearance & Survey		36	05-Aug-20 A	12-Oct-20 A	07-Sep-22	07-Sep-22			
S3P1040	Submit Tender proprosal of Civil Contractor (Site Clearance & Survey)	14	05-Aug-20 A	20-Aug-20 A	07-Sep-22	07-Sep-22			S3P1050
S3P1050	Review & Comment the Tender proprosal of Civil Contractor (Site Clearance & Survey)	14	21-Aug-20 A	01-Sep-20 A	07-Sep-22	07-Sep-22		S3P1040	S3P1060
S3P1060	Re-submit Tender proprosal of Civil Contractor (Site Clearance & Survey)	14	02-Sep-20 A	02-Sep-20 A	07-Sep-22	07-Sep-22		S3P1050	S3P1070
S3P1070	Review & Accept Tender proprosal of Civil Contractor (Site Clearance & Survey)	14	03-Sep-20 A	23-Sep-20 A	07-Sep-22	07-Sep-22		S3P1060	S3P1080
S3P1080	Civil Contractor (Site Clearance & Survey) Award	1	07-Oct-20 A	07-Oct-20 A	07-Sep-22	07-Sep-22		S3P1070	S3P1090
S3P1090	Mobilisation	5	08-Oct-20 A	12-Oct-20 A	07-Sep-22	07-Sep-22		S3P1080	S3C1010
For Ground Investigation		98	29-Aug-20 A	08-Dec-20 A	07-Sep-22	07-Sep-22			
S3P1100	Submit Tender proprosal of Civil Contractor (Ground Investigation)	14	29-Aug-20 A	29-Sep-20 A	07-Sep-22	07-Sep-22			S3P1110
S3P1110	Review & Accept the Tender proprosal of Civil Contractor (Ground Investigation)	21	30-Sep-20 A	27-Oct-20 A	07-Sep-22	07-Sep-22		S3P1100	S3P1120
S3P1120	Tender Invitation of Civil Contractor (Ground Investigation)	7	02-Nov-20 A	13-Nov-20 A	07-Sep-22	07-Sep-22		S3P1110	S3P1130
S3P1130	Submission of Tender Report	7	14-Nov-20 A	18-Nov-20 A	07-Sep-22	07-Sep-22		S3P1120	S3P1140
S3P1140	Review & Accept the Tender Report by PM	21	19-Nov-20 A	19-Nov-20 A	07-Sep-22	07-Sep-22		S3P1130	S3P1150
S3P1150	Contract Preparation	3	20-Nov-20 A	23-Nov-20 A	07-Sep-22	07-Sep-22		S3P1140	S3P1160
S3P1160	Civil Contractor (Ground Investigation) Award	1	24-Nov-20 A	24-Nov-20 A	07-Sep-22	07-Sep-22		S3P1150	S3P1170
S3P1170	Mobilisation	7	25-Nov-20 A	08-Dec-20 A	07-Sep-22	07-Sep-22		S3P1160	S3C1020
For Pre-drilling & Post-drilling		116	26-Oct-20 A	21-Feb-21 A	07-Sep-22	07-Sep-22			
S3P1180	Submit Tender proprosal of Civil Contractor (Pre-drilling & Post-drilling)	74	26-Oct-20 A	06-Jan-21 A	07-Sep-22	07-Sep-22		S3D1300, S3D1240	S3P1190
S3P1190	Review & Accept the Tender proprosal of Civil Contractor (Predrill & Proof drill)	21	07-Jan-21 A	27-Jan-21 A	07-Sep-22	07-Sep-22		S3P1180	S3P1200
S3P1200	Tender Invitation of Civil Contractor (Pre-drilling & Post-drilling)	14	28-Jan-21 A	04-Feb-21 A	07-Sep-22	07-Sep-22		S3P1190	S3P1210
S3P1210	Submission of Tender Report	4	05-Feb-21 A	10-Feb-21 A	07-Sep-22	07-Sep-22		S3P1200	S3P1220
S3P1220	Review & Accept the Tender Report by PM	21	11-Feb-21 A	16-Feb-21 A	07-Sep-22	07-Sep-22		S3P1210	S3P1230



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31-Aug-22	Rev.25	LT	KM
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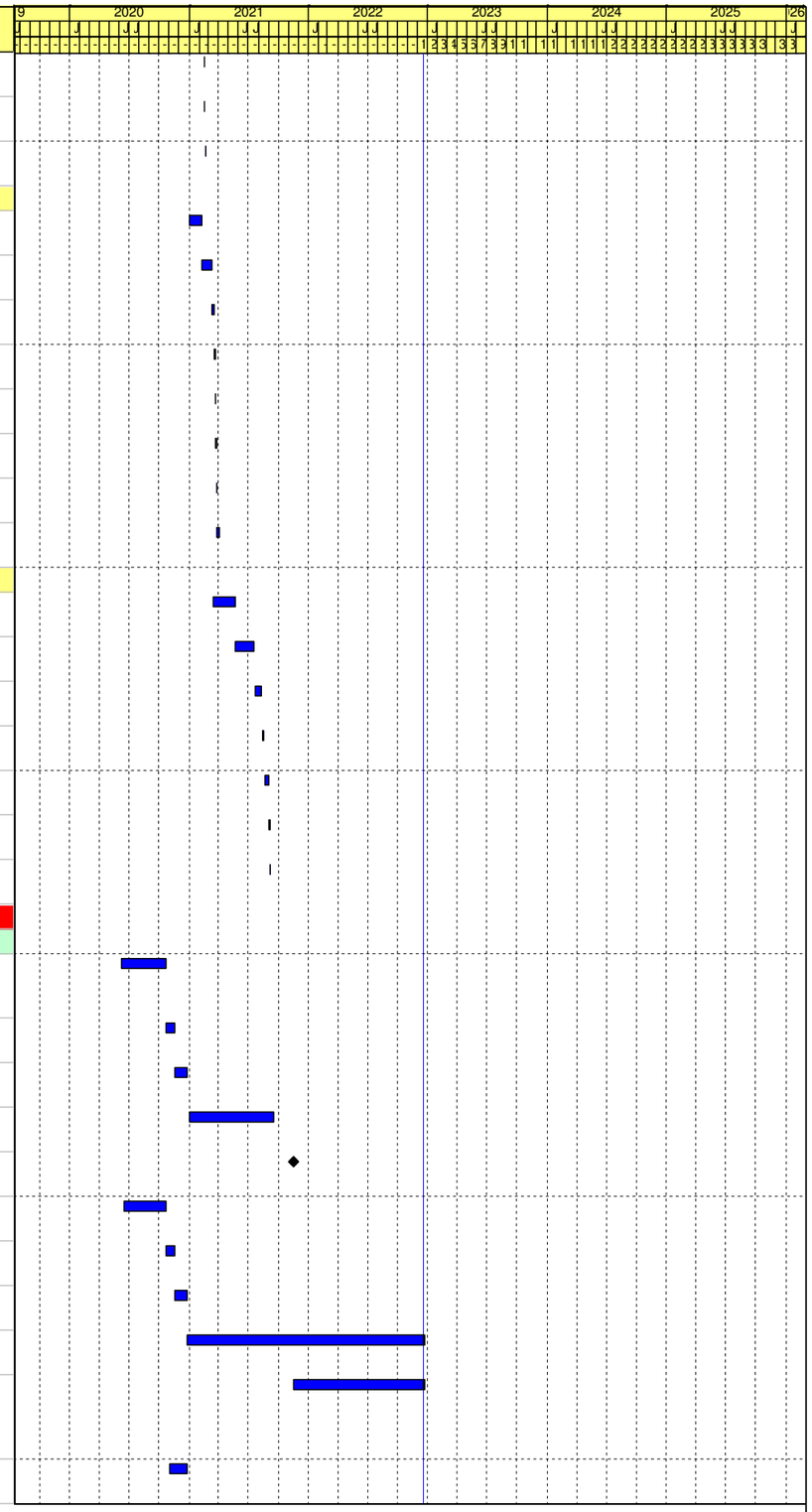
30-Nov-22	Rev.28	LT	KM
31-Dec-22	Rev.29	LT	KM

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S3P1230	Contract Preparation	3	17-Feb-21 A	17-Feb-21 A	07-Sep-22	07-Sep-22		S3P1220	S3P1240
S3P1240	Civil Contractor (Pre-drilling & Post-drilling) Award	1	18-Feb-21 A	18-Feb-21 A	07-Sep-22	07-Sep-22		S3P1230	S3P1250
S3P1250	Mobilisation	3	19-Feb-21 A	21-Feb-21 A	07-Sep-22	07-Sep-22		S3P1240	S3C1030
For Piling		90	04-Jan-21 A	01-Apr-21 A	07-Sep-22	07-Sep-22			
S3P1260	Submit Tender proprosal of Civil Contractor (Piling)	39	04-Jan-21 A	10-Feb-21 A	07-Sep-22	07-Sep-22			S3P1270
S3P1270	Review & Accept the Tender proprosal of Civil Contractor (Piling)	25	11-Feb-21 A	12-Mar-21 A	07-Sep-22	07-Sep-22		S3P1260	S3P1280
S3P1280	Tender Invitation of Civil Contractor (Piling)	14	12-Mar-21 A	19-Mar-21 A	07-Sep-22	07-Sep-22		S3P1270	S3P1290
S3P1290	Submission of Tender Report	7	20-Mar-21 A	22-Mar-21 A	07-Sep-22	07-Sep-22		S3P1280	S3P1300
S3P1300	Review & Accept the Tender Report by PM	21	23-Mar-21 A	23-Mar-21 A	07-Sep-22	07-Sep-22		S3P1290	S3P1310
S3P1310	Contract Preparation	3	24-Mar-21 A	25-Mar-21 A	07-Sep-22	07-Sep-22		S3P1300	S3P1320
S3P1320	Civil Contractor (Piling) Award	1	26-Mar-21 A	26-Mar-21 A	07-Sep-22	07-Sep-22		S3P1310	S3P1330
S3P1330	Mobilisation	3	26-Mar-21 A	01-Apr-21 A	07-Sep-22	07-Sep-22		S3P1320	S3C1030
For Main Civil Works		146	17-Mar-21 A	06-Sep-21 A	07-Sep-22	07-Sep-22			
S3P1340	Submit Tender proprosal of Civil Contractor (Main Civil Works)	30	17-Mar-21 A	21-May-21 A	07-Sep-22	07-Sep-22			S3P1350
S3P1350	Review & Accept the Tender proprosal of Civil Contractor (Main Civil Works)	42	22-May-21 A	19-Jul-21 A	07-Sep-22	07-Sep-22		S3P1340	S3P1360
S3P1360	Tender Invitation of Civil Contractor (Main Civil Works)	14	21-Jul-21 A	11-Aug-21 A	07-Sep-22	07-Sep-22		S3P1350	S3P1370
S3P1370	Submission of Tender Report	1	12-Aug-21 A	19-Aug-21 A	07-Sep-22	07-Sep-22		S3P1360	S3P1380
S3P1380	Review & Accept the Tender Report by PM	6	20-Aug-21 A	31-Aug-21 A	07-Sep-22	07-Sep-22		S3P1370	S3P1390
S3P1390	Contract Preparation	1	01-Sep-21 A	05-Sep-21 A	07-Sep-22	07-Sep-22		S3P1380	S3P1400
S3P1400	Civil Contractor (Main Civil Works) Award	1	06-Sep-21 A	06-Sep-21 A	07-Sep-22	07-Sep-22		S3P1390	S3D1360, S3C1070
Design & Submission		922	07-Jun-20 A	21-Dec-22	10-Aug-22	16-Apr-25	847		
Architectural		922	07-Jun-20 A	21-Dec-22	07-Apr-23	07-Apr-23	107		
S3D1000	Prepare & Submit Building Layout Plan	60	07-Jun-20 A	21-Oct-20 A	07-Apr-23	07-Apr-23		CD1010, S3P1000	S3D1010, S3D1050, S3D1100
S3D1010	Review & Comment on Buildingl Layout Plan by PM	67	22-Oct-20 A	17-Nov-20 A	07-Apr-23	07-Apr-23		S3D1000	S3D1020
S3D1020	Revise & Re-submit Building Layout Plan	28	18-Nov-20 A	24-Dec-20 A	07-Apr-23	07-Apr-23		S3D1010	S3D1030
S3D1030	Review & Accept of Building Layout Plan by PM	214	01-Jan-21 A	16-Sep-21 A	07-Apr-23	07-Apr-23		S3D1020	S3D1090
S3D1040	Coordination Meeting with DSD (Employer) for the Architectural Drawing	0		15-Nov-21 A					S3D1090
S3D1050	Prepare & Submit Architectural Design / Drawings	60	17-Jun-20 A	21-Oct-20 A	07-Apr-23	07-Apr-23		S3D1000	S3D1060
S3D1060	Review & Comment on Architectural Design / Drawings by PM	67	22-Oct-20 A	17-Nov-20 A	07-Apr-23	07-Apr-23		S3D1050	S3D1070
S3D1070	Revise & Re-submit Architectural Design / Drawings	28	18-Nov-20 A	24-Dec-20 A	07-Apr-23	07-Apr-23		S3D1060	S3D1080
S3D1080	Review & Accept of Architectural Design / Drawings by PM	483	25-Dec-20 A	21-Dec-22	07-Apr-23	07-Apr-23	107	S3D1070	S3D1090
S3D1090	Review & Accept of Architectural Design / Drawings by DSD (incl. VCAB) & DAP of ArchSD	300	15-Nov-21 A	21-Dec-22	07-Apr-23	07-Apr-23	107	S3D1080, S3D1130, S3D1030, S3D1040	S3C1140, S3P2150
S3D1100	Prepare & Submit ABWF Works Drawings	68	03-Nov-20 A	24-Dec-20 A	07-Apr-23	07-Apr-23		S3D1000	S3D1110



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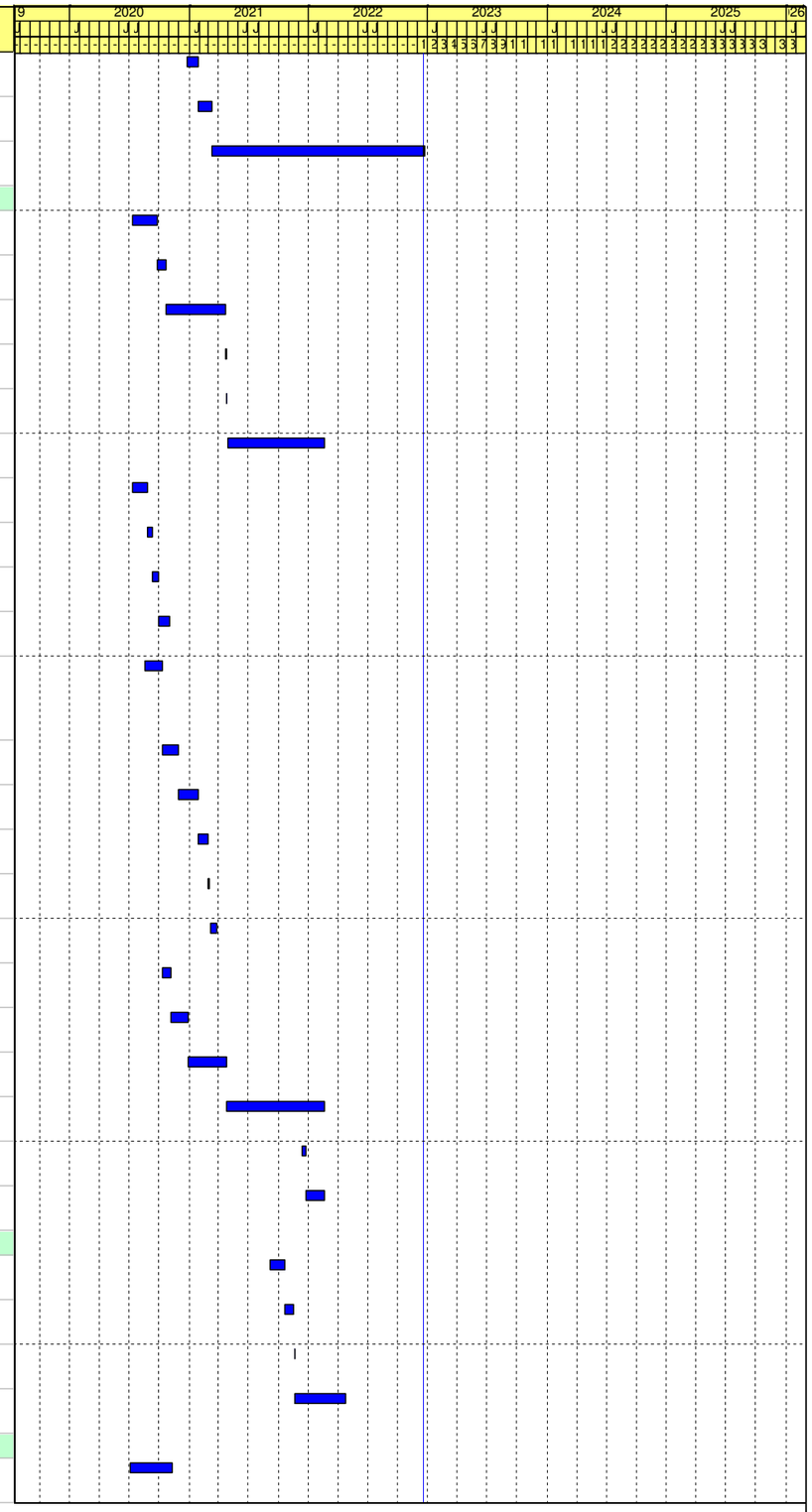
Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S3D1110	Review & Comment on ABWF Works Drawings by PM	21	25-Dec-20 A	29-Jan-21 A	07-Apr-23	07-Apr-23		S3D1100	S3D1120
S3D1120	Revise & Re-submit ABWF Works Drawings	41	30-Jan-21 A	11-Mar-21 A	07-Apr-23	07-Apr-23		S3D1110	S3D1130
S3D1130	Review & Accept of ABWF Works Drawings by PM	406	12-Mar-21 A	21-Dec-22	07-Apr-23	07-Apr-23	107	S3D1120	S3C1140, S3D1090
Civil / Structural		639	13-Jul-20 A	18-Feb-22 A	10-Aug-22	16-Apr-25			
S3D1140	Prepare & Submit Loading Plan to ICE	60	13-Jul-20 A	25-Sep-20 A	10-Aug-22	10-Aug-22			S3D1150
S3D1150	Review & Comment on Loading Plan by ICE	14	26-Sep-20 A	23-Oct-20 A	10-Aug-22	10-Aug-22		S3D1140	S3D1160
S3D1160	Revise & Re-submit Loading Plan to ICE	175	24-Oct-20 A	20-Apr-21 A	10-Aug-22	10-Aug-22		S3D1150	S3D1170
S3D1170	Review & Accept of Loading Plan by ICE	7	21-Apr-21 A	26-Apr-21 A	10-Aug-22	10-Aug-22		S3D1160	S3D1180
S3D1180	Prepare & Submit Loading Plan to PM	7	27-Apr-21 A	27-Apr-21 A	10-Aug-22	10-Aug-22		S3D1170	S3D1190
S3D1190	Review & Accept of Loading Plan by PM & DSD (incl. BCM)	359	28-Apr-21 A	18-Feb-22 A	10-Aug-22	10-Aug-22		S3D1180	S3C1090
S3D1200	Prepare & Submit GI Plan	60	13-Jul-20 A	26-Aug-20 A	07-Sep-22	07-Sep-22			S3D1210
S3D1210	Review & Comment on GI Plan by PM	14	27-Aug-20 A	10-Sep-20 A	07-Sep-22	07-Sep-22		S3D1200	S3D1220
S3D1220	Revise & Re-submit GI Plan	7	11-Sep-20 A	28-Sep-20 A	07-Sep-22	07-Sep-22		S3D1210	S3D1230
S3D1230	Review & Accept of GI Plan by PM	21	29-Sep-20 A	02-Nov-20 A	07-Sep-22	07-Sep-22		S3D1220	S3C1020
S3D1240	Prepare & Submit Foundation Design / Drawings to ICE & PM	60	20-Aug-20 A	09-Oct-20 A	07-Sep-22	07-Sep-22			S3D1250, S3C1010, S3D1300, S3P1180
S3D1250	Review & Comment on Foundation Design / Drawings by ICE & PM	79	10-Oct-20 A	27-Nov-20 A	16-Apr-25	16-Apr-25		S3D1240	S3D1260
S3D1260	Revise & Re-submit Foundation Design / Drawings to ICE & PM	14	28-Nov-20 A	29-Jan-21 A	16-Apr-25	16-Apr-25		S3D1250	S3D1270
S3D1270	Review & Accept of Foundation Design / Drawings by ICE & PM	10	30-Jan-21 A	26-Feb-21 A	16-Apr-25	16-Apr-25		S3D1260	S3D1280
S3D1280	Prepare & Submit Foundation Design / Drawings to DSD (incl. BCM)	7	27-Feb-21 A	05-Mar-21 A	16-Apr-25	16-Apr-25		S3D1270	S3D1290
S3D1290	Review & Accept of Foundation Design / Drawings by DSD (incl. BCM)	45	06-Mar-21 A	26-Mar-21 A	16-Apr-25	16-Apr-25		S3D1280	
S3D1300	Prepare & Submit Substructure / Superstructure Design / Drawings to ICE & PM	25	10-Oct-20 A	05-Nov-20 A	07-Sep-22	07-Sep-22		S3D1240	S3D1310, S3P1180
S3D1310	Review & Comment on Substructure / Superstructure Design / Drawings by ICE & PM	55	06-Nov-20 A	30-Dec-20 A	08-Sep-22	08-Sep-22		S3D1300	S3D1320
S3D1320	Revise & Re-submit Substructure / Superstructure Design / Drawings to ICE & PM	72	31-Dec-20 A	26-Apr-21 A	08-Sep-22	08-Sep-22		S3D1310	S3D1330
S3D1330	Review & Accept of Substructure / Superstructure Design / Drawings by ICE & PM	271	27-Apr-21 A	18-Feb-22 A	08-Sep-22	08-Sep-22		S3D1320	S3D1340
S3D1340	Prepare & Submit Substructure / Superstructure Design / Drawings to DSD (incl. BCM)	2	13-Dec-21 A	23-Dec-21 A	08-Sep-22	08-Sep-22		S3D1330	S3D1350
S3D1350	Review & Accept of Substructure / Superstructure Design / Drawings by DSD (incl. BCM)	119	24-Dec-21 A	18-Feb-22 A	08-Sep-22	08-Sep-22		S3D1340	S3C1100
ELS		214	07-Sep-21 A	26-Apr-22 A	07-Sep-22	07-Sep-22			
S3D1360	Prepare & Submit ELS Plan to ICE	45	07-Sep-21 A	20-Oct-21 A	07-Sep-22	07-Sep-22		S3P1400	S3D1370
S3D1370	Review & Accept of ELS Plan by ICE	5	21-Oct-21 A	18-Nov-21 A	07-Sep-22	07-Sep-22		S3D1360	S3D1380
S3D1380	Prepare & Submit ELS Plan to PM	3	19-Nov-21 A	19-Nov-21 A	07-Sep-22	07-Sep-22		S3D1370	S3D1390
S3D1390	Review & Accept of ELS Plan by PM	153	20-Nov-21 A	26-Apr-22 A	07-Sep-22	07-Sep-22		S3D1380	S3C1080
Process Design		454	06-Jul-20 A	29-Oct-21 A	16-Apr-25	16-Apr-25			
S3D1400	Prepare & Submit E&M Works (Process) Design Drawings	198	06-Jul-20 A	10-Nov-20 A	16-Apr-25	16-Apr-25			S3D1410



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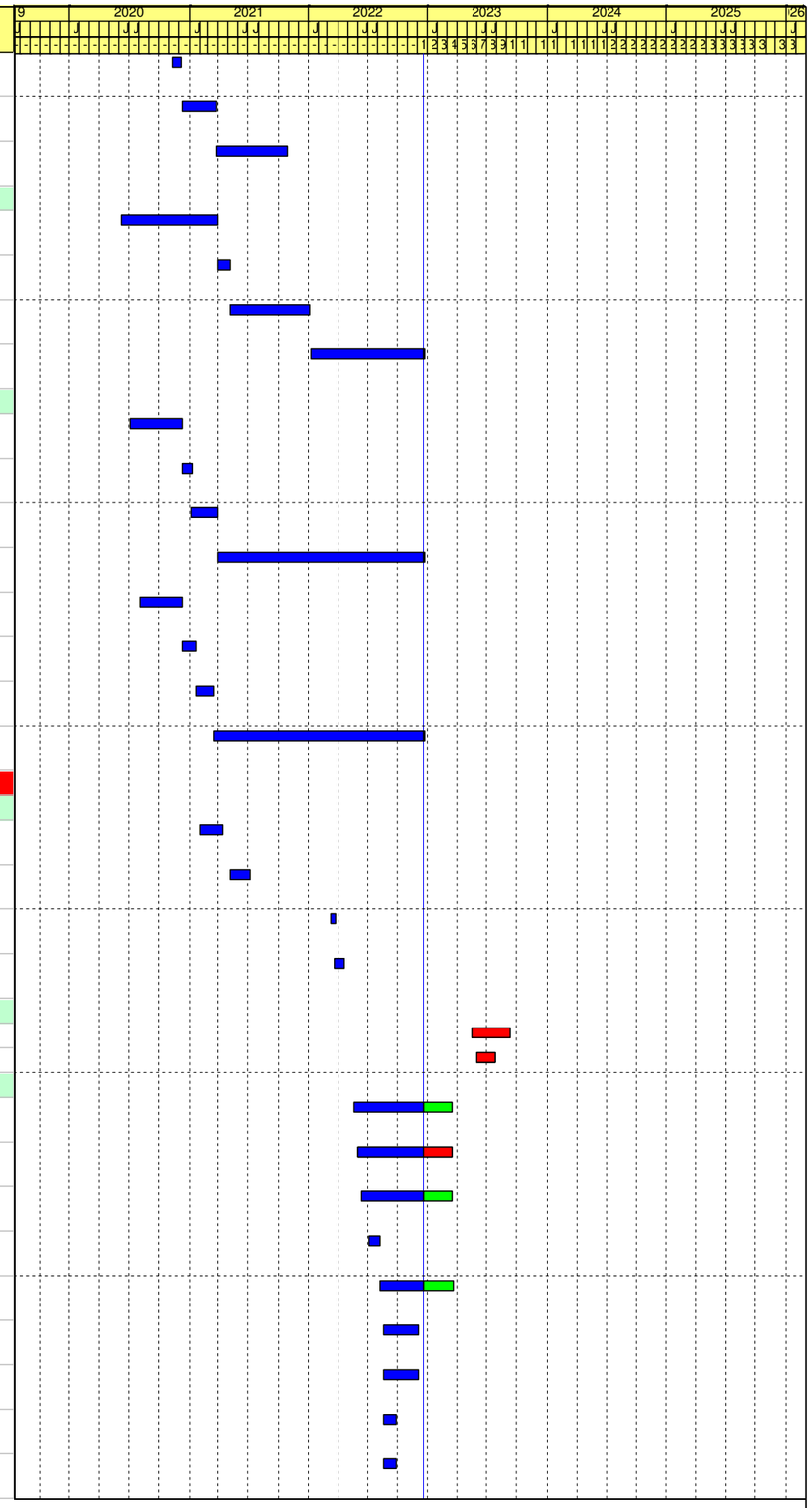
S3D1410	Review & Comment on E&M Works (Process) Design Drawings by PM	21	11-Nov-20 A	08-Dec-20 A	16-Apr-25	16-Apr-25		S3D1400	S3D1420
S3D1420	Revise & Re-submit E&M Works (Process) Design Drawings	87	09-Dec-20 A	26-Mar-21 A	16-Apr-25	16-Apr-25		S3D1410	S3D1430
S3D1430	Review & Accept of E&M Works (Process) Design Drawings by PM	278	27-Mar-21 A	29-Oct-21 A	16-Apr-25	16-Apr-25		S3D1420	
E&M Design		715	07-Jun-20 A	21-Dec-22	07-Sep-22	16-Apr-25	847		
S3D1440	Prepare & Submit General Arrangement Drawings	298	07-Jun-20 A	31-Mar-21 A	07-Sep-22	07-Sep-22		S3P1000	S3D1450, S3C1080
S3D1450	Review & Comment on General Arrangement Drawings by PM	37	01-Apr-21 A	07-May-21 A	16-Apr-25	16-Apr-25		S3D1440	S3D1460
S3D1460	Revise & Re-submit General Arrangement Drawings	247	08-May-21 A	06-Jan-22 A	16-Apr-25	16-Apr-25		S3D1450	S3D1470
S3D1470	Review & Accept of General Arrangement Drawings by PM	105	07-Jan-22 A	21-Dec-22	16-Apr-25	16-Apr-25	847	S3D1460	
BS		598	03-Jul-20 A	21-Dec-22	05-Feb-23	05-Feb-23	46		
S3D1480	Prepare & Submit BS Works Design & Dwgs for Sidestream Treatment Facilities	264	03-Jul-20 A	10-Dec-20 A	05-Feb-23	05-Feb-23			S3D1490
S3D1490	Review & Comment on BS Works Design & Dwgs for Sidestream Treatment Facilities by PM	21	11-Dec-20 A	11-Jan-21 A	05-Feb-23	05-Feb-23		S3D1480	S3D1500
S3D1500	Revise & Re-submit BS Works Design & Dwgs for Sidestream Treatment Facilities	102	05-Jan-21 A	31-Mar-21 A	05-Feb-23	05-Feb-23		S3D1490	S3D1510
S3D1510	Review & Accept of BS Works Design & Dwgs for Sidestream Treatment Facilities by PM	386	01-Apr-21 A	21-Dec-22	05-Feb-23	05-Feb-23	46	S3D1500	S3S1020
S3D1520	Submission & Submit FS Works Design & Dwgs for Sidestream Treatment Facilities	182	03-Aug-20 A	10-Dec-20 A	05-Feb-23	05-Feb-23			S3D1530
S3D1530	Review & Comment on FS Works Design & Dwgs for Sidestream Treatment Facilities by PM	21	11-Dec-20 A	19-Jan-21 A	05-Feb-23	05-Feb-23		S3D1520	S3D1540
S3D1540	Revise & Re-submit FS Works Design & Dwgs for Sidestream Treatment Facilities	66	20-Jan-21 A	19-Mar-21 A	05-Feb-23	05-Feb-23		S3D1530	S3D1550
S3D1550	Review & Accept of FS Works Design & Dwgs for Sidestream Treatment Facilities by PM	398	20-Mar-21 A	21-Dec-22	05-Feb-23	05-Feb-23	46	S3D1540	S3S1020
Major Plant & Materials Procurement		906	01-Feb-21 A	14-Sep-23	10-Aug-22	06-Jun-23	-100		
Civil & Structure		378	01-Feb-21 A	19-Apr-22 A	10-Aug-22	07-Sep-22			
S3P1410	Procurement, Manufacture & Delivery of Piling	60	01-Feb-21 A	14-Apr-21 A	07-Sep-22	07-Sep-22			S3C1040
S3P1420	Procurement, Manufacture & Delivery of Metal Works Material	80	09-May-21 A	07-Jul-21 A	07-Sep-22	07-Sep-22			S3C1080
S3P1430	Procurement, Manufacture & Delivery of Steel Reinforcement	15	11-Mar-22 A	25-Mar-22 A	10-Aug-22	10-Aug-22			S3C1090
S3P1440	Procurement, Manufacture & Delivery of Concrete Mix	15	21-Mar-22 A	19-Apr-22 A	10-Aug-22	10-Aug-22			S3C1090
ABWF		120	15-May-23	11-Sep-23	07-Feb-23	06-Jun-23	-97		
S3P1450	Procurement, Manufacture & Delivery of ABWF Works Material	120	15-May-23	11-Sep-23	07-Feb-23	06-Jun-23	-97		S3C1140
S3P1460	Procurement, Manufacture & Delivery of Water Proofing Material	60	30-May-23	28-Jul-23	22-Feb-23	22-Apr-23	-97		S3C1130
E&M Process		408	20-May-22 A	31-Jul-23	30-Aug-22	27-Apr-23	-96		
S3P1470	Manufacture & Delivery of Primary and Secondary Clarifiers for Phospaq	300	20-May-22 A	15-Mar-23	08-Jan-23	02-Apr-23	18		S3C2280, S3C2090
S3P1480	Manufacture & Delivery of Drum sludge thickener	289	31-May-22 A	15-Mar-23	19-Dec-22	13-Mar-23	-2		S3C2240
S3P1490	Manufacture & Delivery of Tilted Plates for Phospaq and Anammox internals	278	11-Jun-22 A	15-Mar-23	10-Jan-23	05-Apr-23	21		S3C2100, S3C2110
S3P1500	Procurement of Air Blower System	36	04-Jul-22 A	08-Aug-22 A	04-Jan-23	04-Jan-23			S3P1510
S3P1510	Manufacture & Delivery of Air Blower System	222	09-Aug-22 A	18-Mar-23	04-Jan-23	02-Apr-23	15	S3P1500	S3C2310
S3P1520	Procurement of Diffusers for Phospaq and Anammox Internals	93	21-Aug-22 A	02-Dec-22 A	31-Jan-23	31-Jan-23			S3P1950
S3P1530	Procurement of Ancillary Air Blower	96	21-Aug-22 A	02-Dec-22 A	09-Dec-22	09-Dec-22			S3P1970
S3P1540	Procurement of Buffer tank Lifting Pump	38	21-Aug-22 A	27-Sep-22 A	03-Nov-22	03-Nov-22			S3P1760
S3P1550	Procurement of Anammox feed pump and Sludge Discharge pump	38	21-Aug-22 A	27-Sep-22 A	10-Nov-22	10-Nov-22			S3P1770



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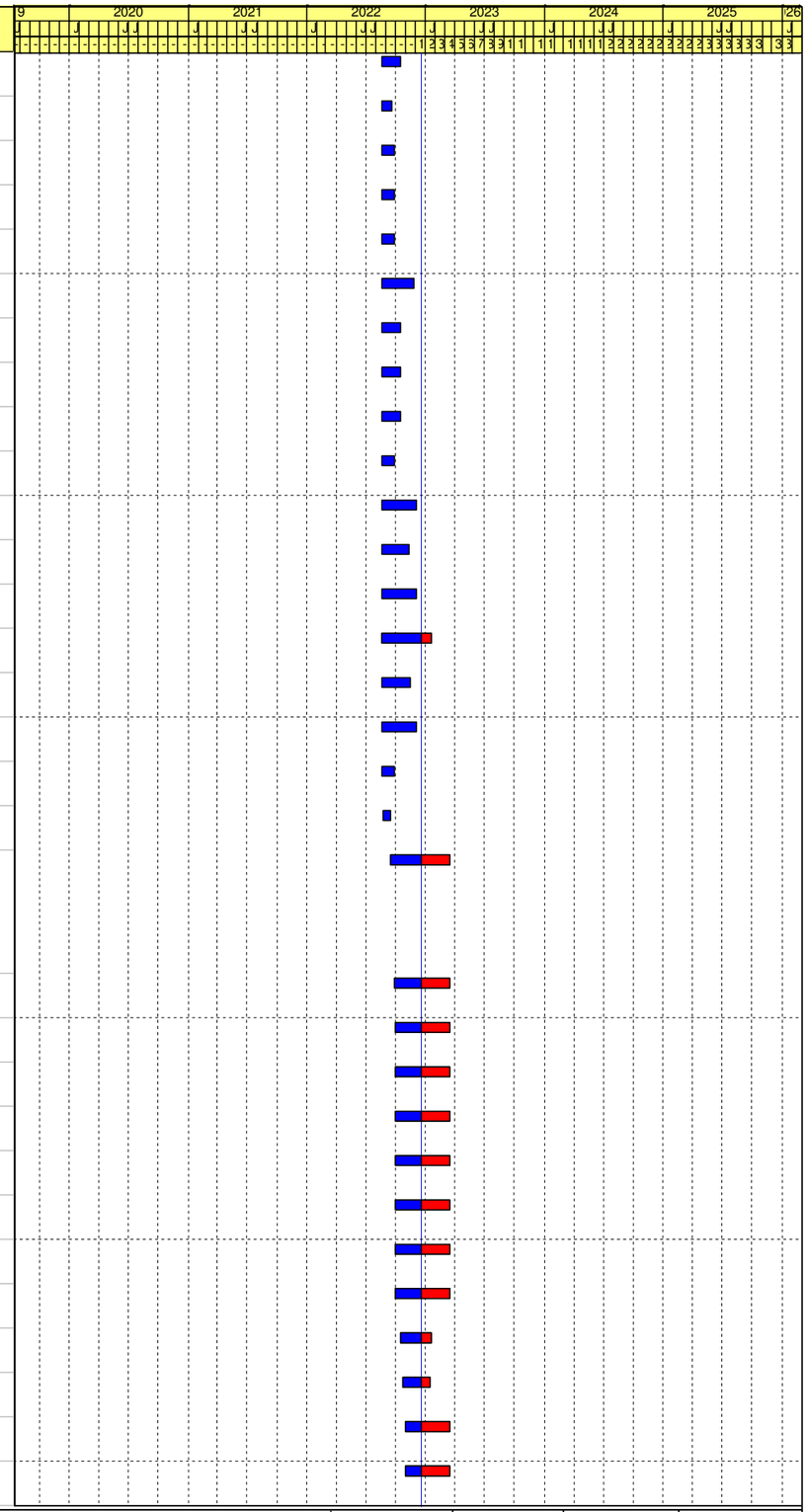
S3P1560	Procurement of Metering Pump	55	21-Aug-22 A	14-Oct-22 A	11-Dec-22	11-Dec-22			S3P1850
S3P1570	Procurement of 2nd Sludge Pump	30	21-Aug-22 A	19-Sep-22 A	04-Dec-22	04-Dec-22			S3P1780
S3P1580	Procurement of Struvite Pump	38	21-Aug-22 A	27-Sep-22 A	18-Dec-22	18-Dec-22			S3P1790
S3P1590	Procurement of Primary Sludge Pump	38	21-Aug-22 A	27-Sep-22 A	25-Dec-22	25-Dec-22			S3P1800
S3P1600	Procurement of Drum Thickener Feed Pump	38	21-Aug-22 A	27-Sep-22 A	24-Nov-22	24-Nov-22			S3P1810
S3P1610	Procurement of FRP Tanks (NaOH, Micro-Nutrient, Anti-foamer and Polymer)	97	21-Aug-22 A	25-Nov-22 A	19-Nov-22	19-Nov-22			S3P1930
S3P1620	Procurement of NaOH Dosing Pump	55	21-Aug-22 A	14-Oct-22 A	17-Dec-22	17-Dec-22			S3P1860
S3P1630	Procurement of Micro-Nutrient Dosing Pump	55	21-Aug-22 A	14-Oct-22 A	17-Dec-22	17-Dec-22			S3P1870
S3P1640	Procurement of Anti-foamer Dosing Pump	55	21-Aug-22 A	14-Oct-22 A	17-Dec-22	17-Dec-22			S3P1880
S3P1650	Procurement of Polymer Dosing Pump	38	21-Aug-22 A	27-Sep-22 A	17-Dec-22	17-Dec-22			S3P1750
S3P1660	Procurement of DOU no.4	97	21-Aug-22 A	02-Dec-22 A	22-Sep-22	22-Sep-22			S3P1980
S3P1670	Procurement of SCADA System	153	21-Aug-22 A	10-Nov-22 A	30-Aug-22	30-Aug-22			S3P1910
S3P1680	Procurement of Local control panel parts for Drum Sludge Thickener	102	21-Aug-22 A	02-Dec-22 A	07-Oct-22	07-Oct-22			S3P1990
S3P1690	Procurement of uPVC pipe and GRP Pipe	101	21-Aug-22 A	20-Jan-23	09-Oct-22	08-Nov-22	-73		S3P2020
S3P1700	Procurement of EM Flowmeter	86	21-Aug-22 A	14-Nov-22 A	16-Sep-22	16-Sep-22			S3P1920
S3P1710	Procurement of Instrument	111	21-Aug-22 A	02-Dec-22 A	16-Sep-22	16-Sep-22			S3P2000
S3P1720	Procurement of PAM dosing pump	38	21-Aug-22 A	27-Sep-22 A	17-Dec-22	17-Dec-22			S3P1820
S3P1730	Procurement of Lifting Applicance	14	23-Aug-22 A	16-Sep-22 A	24-Nov-22	24-Nov-22			S3P1740
S3P1740	Manufacture & Delivery of Lifting Applicance	180	17-Sep-22 A	15-Mar-23	24-Nov-22	16-Feb-23	-27	S3P1730	S3C2170, S3C2180, S3C2190, S3C2260, S3C2270, S3C2290
S3P1750	Manufacture & Delivery of Polymer Dosing Pump	169	28-Sep-22 A	15-Mar-23	17-Dec-22	12-Mar-23	-4	S3P1650	S3C2200
S3P1760	Manufacture & Delivery of Buffer tank Lifting Pump	168	29-Sep-22 A	15-Mar-23	03-Nov-22	26-Jan-23	-48	S3P1540	S3C2000
S3P1770	Manufacture & Delivery of Anammox feed pump and Anammox Sludge pump	168	29-Sep-22 A	15-Mar-23	10-Nov-22	02-Feb-23	-41	S3P1550	S3C2020, S3C2040
S3P1780	Manufacture & Delivery of 2nd Sludge Pump	168	29-Sep-22 A	15-Mar-23	04-Dec-22	27-Feb-23	-17	S3P1570	S3C2010
S3P1790	Manufacture & Delivery of Struvite Pump	168	29-Sep-22 A	15-Mar-23	18-Dec-22	13-Mar-23	-3	S3P1580	S3C2050
S3P1800	Manufacture & Delivery of Primary Sludge Pump	168	29-Sep-22 A	15-Mar-23	25-Dec-22	20-Mar-23	5	S3P1590	S3C2070
S3P1810	Manufacture & Delivery of Drum Thickener Feed Pump	168	29-Sep-22 A	15-Mar-23	24-Nov-22	16-Feb-23	-27	S3P1600	S3C2060
S3P1820	Manufacture & Delivery of PAM dosing pump	168	29-Sep-22 A	15-Mar-23	17-Dec-22	12-Mar-23	-4	S3P1720	S3C2200
S3P1830	Procurement of PE pipework	98	15-Oct-22 A	20-Jan-23	25-Sep-22	25-Oct-22	-87		S3P2060
S3P1840	Procurement of Flushing pump and Hot water pump	97	24-Oct-22 A	13-Jan-23	23-Sep-22	17-Oct-22	-89		S3P2050
S3P1850	Manufacture & Delivery of Metering Pump	136	31-Oct-22 A	15-Mar-23	11-Dec-22	06-Mar-23	-10	S3P1560	S3C2030
S3P1860	Manufacture & Delivery of NaOH Dosing pump	136	31-Oct-22 A	15-Mar-23	17-Dec-22	12-Mar-23	-4	S3P1620	S3C2200



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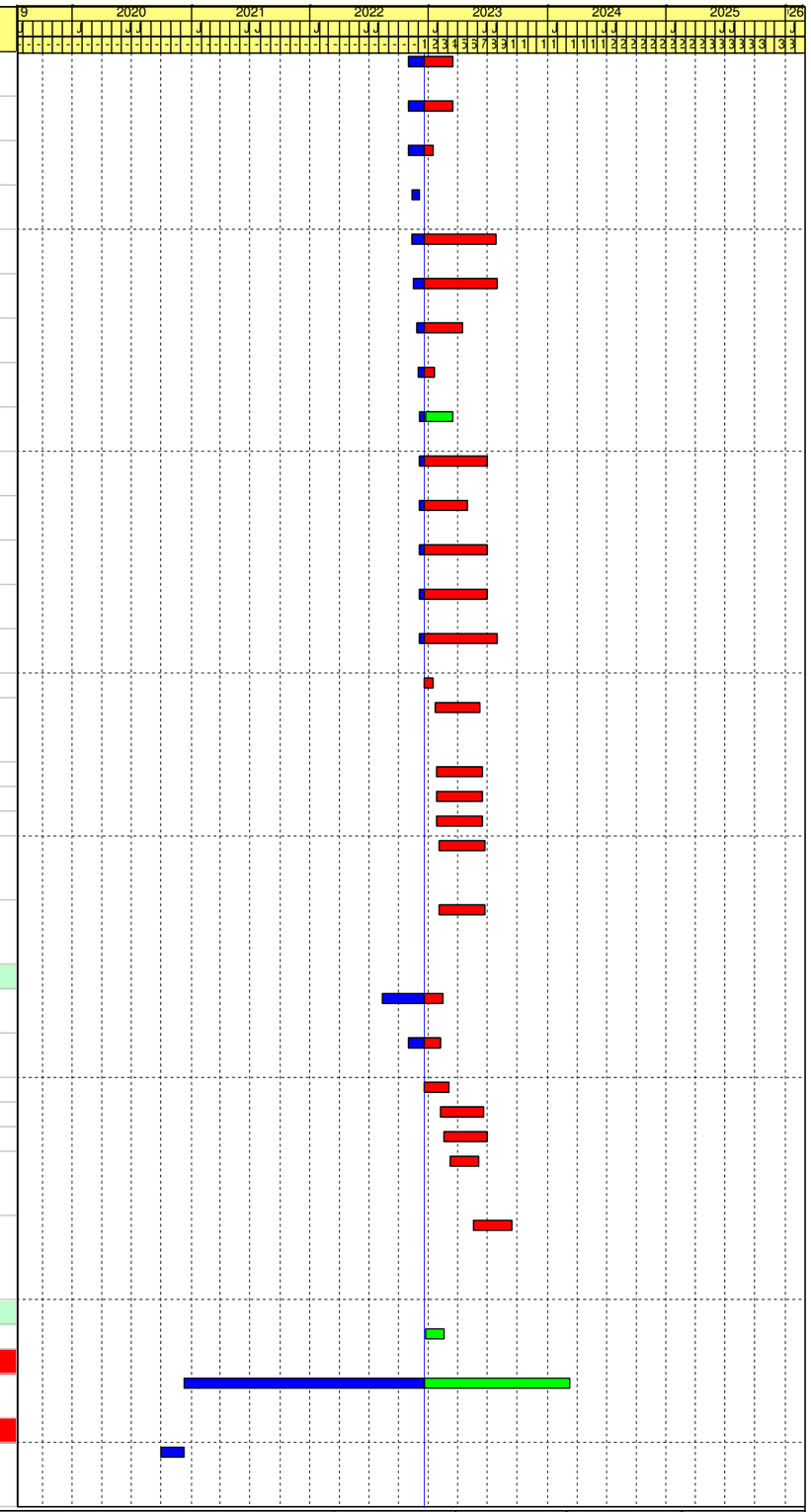
S3P1870	Manufacture & Delivery of Micro-Nutrient Dosing Pump	136	31-Oct-22 A	15-Mar-23	17-Dec-22	12-Mar-23	-4	S3P1630	S3C2200
S3P1880	Manufacture & Delivery of Anti-foamer Dosing Pump	136	31-Oct-22 A	15-Mar-23	17-Dec-22	12-Mar-23	-4	S3P1640	S3C2200
S3P1890	Procurement of Electric Calorifier	101	01-Nov-22 A	13-Jan-23	23-Sep-22	17-Oct-22	-89		S3P2040
S3P1900	Procurement of Mixer	22	11-Nov-22 A	02-Dec-22 A	08-Oct-22	08-Oct-22			S3P1960
S3P1910	Manufacture & Delivery of SCADA System	260	11-Nov-22 A	28-Jul-23	30-Aug-22	06-Apr-23	-113	S3P1670	S3C2400
S3P1920	Manufacture & Delivery of EM Flowmeter	259	15-Nov-22 A	31-Jul-23	16-Sep-22	27-Apr-23	-96	S3P1700	S3C2430
S3P1930	Manufacture & Delivery of FRP Tanks (NaOH, Micro-Nutrient, Anti-foamer and Polymer)	140	26-Nov-22 A	14-Apr-23	19-Nov-22	13-Mar-23	-32	S3P1610	S3C2210
S3P1940	Procurement of SS pipe, Ductile Iron Pipes and Fittings	51	01-Dec-22 A	20-Jan-23	25-Sep-22	25-Oct-22	-87		S3P2070
S3P1950	Manufacture & Delivery of Diffusers for Phospaq and Anammox Internals	215	03-Dec-22 A	15-Mar-23	02-Feb-23	26-Apr-23	42	S3P1520	S3C2130, S3C2140
S3P1960	Manufacture & Delivery of Mixer	210	03-Dec-22 A	30-Jun-23	08-Oct-22	18-Apr-23	-74	S3P1900	S3C2120
S3P1970	Manufacture & Delivery of Ancillary air blower	150	03-Dec-22 A	30-Apr-23	09-Dec-22	19-Apr-23	-12	S3P1530	S3C2340
S3P1980	Manufacture & Delivery of DOU no.4	210	03-Dec-22 A	30-Jun-23	22-Sep-22	02-Apr-23	-90	S3P1660	S3C2300
S3P1990	Manufacture & Delivery of Local control panel parts for Drum Sludge Thickener	210	03-Dec-22 A	30-Jun-23	07-Oct-22	17-Apr-23	-75	S3P1680	S3C2430
S3P2000	Manufacture & Delivery of Instrument	241	03-Dec-22 A	31-Jul-23	16-Sep-22	27-Apr-23	-96	S3P1710	S3C2430
S3P2010	Procurement of Heat Exchanger (Plate type)	24	21-Dec-22*	13-Jan-23	17-Sep-22	10-Oct-22	-95		S3P2030
S3P2020	Manufacture & Delivery of uPVC pipe and GRP Pipe	140	21-Jan-23	09-Jun-23	09-Nov-22	28-Mar-23	-73	S3P1690	S3C2250, S3C2350, S3C2150
S3P2030	Manufacture & Delivery of Heat Exchanger (Plate type)	140	28-Jan-23	16-Jun-23	25-Oct-22	13-Mar-23	-95	S3P2010	S3C2220
S3P2040	Manufacture & Delivery of Electric Calorifier	140	28-Jan-23	16-Jun-23	31-Oct-22	20-Mar-23	-89	S3P1890	S3C2320
S3P2050	Manufacture & Delivery of Flushing pump and Hot water pump	140	28-Jan-23	16-Jun-23	31-Oct-22	20-Mar-23	-89	S3P1840	S3C2320
S3P2060	Manufacture & Delivery of PE pipework	140	04-Feb-23	23-Jun-23	09-Nov-22	28-Mar-23	-87	S3P1830	S3C2250, S3C2150, S3C2350
S3P2070	Manufacture & Delivery of SS pipe, Ductile Iron Pipes and Fittings	140	04-Feb-23	23-Jun-23	09-Nov-22	28-Mar-23	-87	S3P1940	S3C2150, S3C2250, S3C2350
BS		399	12-Aug-22 A	14-Sep-23	21-Aug-22	16-May-23	-122		
S3P2080	Procurement of Transformer	75	12-Aug-22 A	15-Feb-23	21-Aug-22	17-Oct-22	-122		S3P2120
S3P2090	Procurement of Low Voltage Switchboard and Accessories	80	01-Nov-22 A	07-Feb-23	21-Sep-22	08-Nov-22	-91		S3P2110
S3P2100	Procurement of MVAC System	76	21-Dec-22	06-Mar-23	23-Sep-22	07-Dec-22	-89		S3P2130
S3P2110	Manufacture & Delivery of Low Voltage Switchboard and Accessories	134	07-Feb-23*	20-Jun-23	09-Nov-22	22-Mar-23	-91	S3P2090	S3C2380
S3P2120	Manufacture & Delivery of Transformer	136	16-Feb-23	01-Jul-23	17-Oct-22	02-Mar-23	-122	S3P2080	S3C2360
S3P2130	Manufacture & Delivery of MVAC System	90	07-Mar-23	04-Jun-23	08-Dec-22	07-Mar-23	-89	S3P2100	S3C2490, S3C2500, S3C2530
S3P2140	Procurement, Manufacture & Delivery of BS Works Material	120	18-May-23	14-Sep-23	16-Jan-23	16-May-23	-122		S3T1170, S3C2420, S3T1270, S3T1120
Fitting-out		60	22-Dec-22	19-Feb-23	08-Apr-23	06-Jun-23	107		
S3P2150	Procurement, Manufacture & Delivery of Fit-out Works Material	60	22-Dec-22	19-Feb-23	08-Apr-23	06-Jun-23	107	S3D1090	S3C1140
Ground Settlement, Tilting & Utility Monitoring		1184	12-Dec-20 A	09-Mar-24	14-Mar-23	31-May-24	83		
S3C1000	Ground Settlement, Tilting & Utility Monitoring	1184	12-Dec-20 A	09-Mar-24	14-Mar-23	31-May-24	83	S3C1010	SC31110
Civil Works Construction		1613	30-Sep-20 A	21-Mar-25	10-Aug-22	31-May-24	-294		
S3C1010	Site Clearance & Survey	50	30-Sep-20 A	12-Dec-20 A	07-Sep-22	07-Sep-22		S3D1240, AD1140, S3P1090	S3C1020, S3C1000



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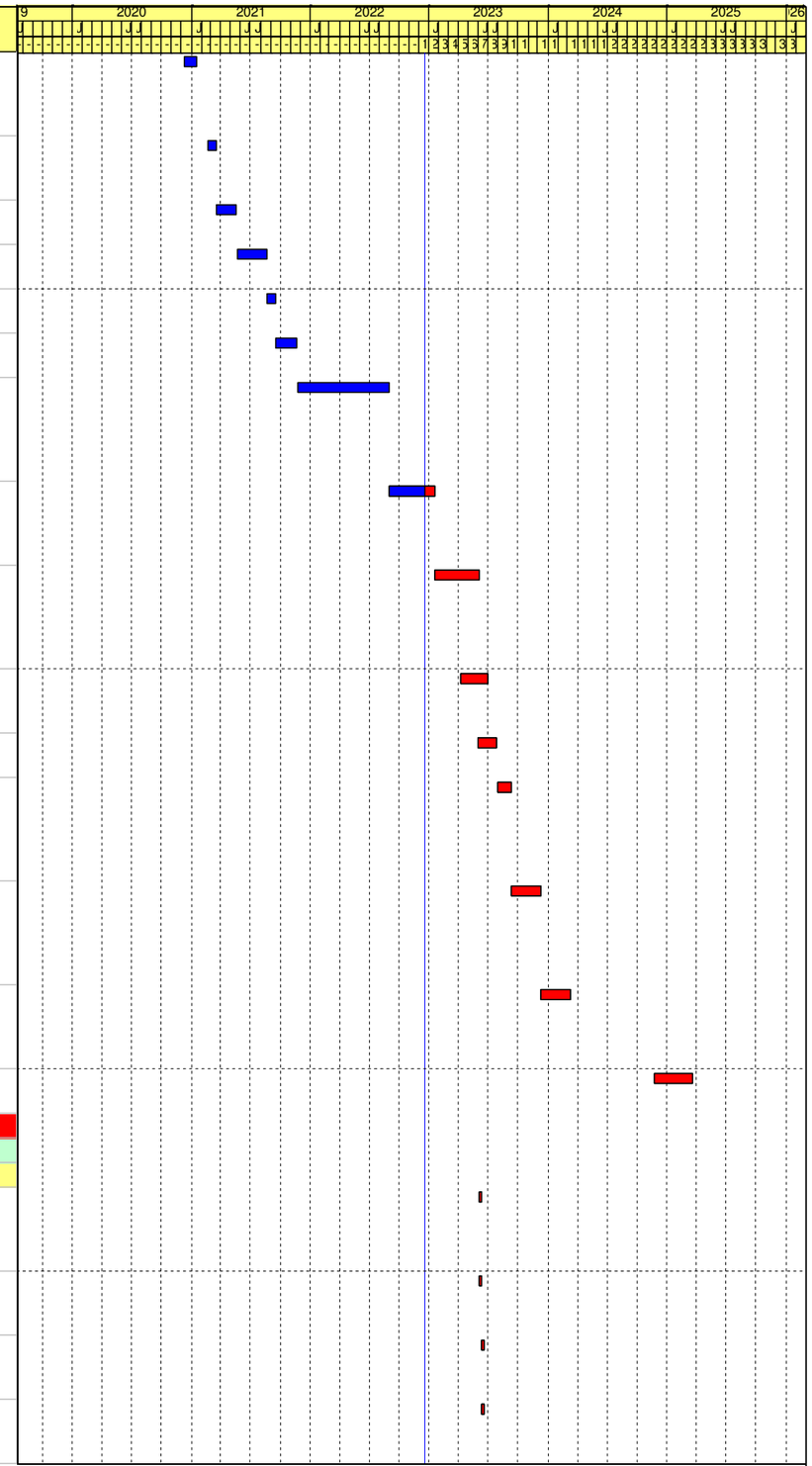
S3C1020	Ground Investigation	65	12-Dec-20 A	18-Jan-21 A	07-Sep-22	07-Sep-22		AD1140, S3C1010, S3P1170, S3D1230	S3C1030
S3C1030	Pre-drilling Works	180	22-Feb-21 A	19-Mar-21 A	07-Sep-22	07-Sep-22		S3C1020, S3P1250, S3P1330	S3C1040
S3C1040	Minor Civil Works & Preperation Works for Piling	31	20-Mar-21 A	20-May-21 A	07-Sep-22	07-Sep-22		S3C1030, S3P1410	S3C1050
S3C1050	Piling Works (Impacted by Inclement Weather)	69	21-May-21 A	21-Aug-21 A	07-Sep-22	07-Sep-22		S3C1040	S3C1060
S3C1060	Post-drilling, Proof test & remaining works (Impacted by Inclement Weather)	23	22-Aug-21 A	17-Sep-21 A	07-Sep-22	07-Sep-22		S3C1050	S3C1080, S3C1070
S3C1070	Site Set-up / Mobilisation (Impacted by Inclement Weather)	51	18-Sep-21 A	20-Nov-21 A	07-Sep-22	07-Sep-22		S3C1060, S3P1400	S3C1080
S3C1080	Excavation / ELS (Impacted by Inclement Weather)	157	24-Nov-21 A	31-Aug-22 A	07-Sep-22	07-Sep-22		S3D1440, S3P1420, S3D1390, S3C1060, S3C1070	S3C1090
S3C1090	Pile Caps installation & Basement Slab	89	01-Sep-22 A	18-Jan-23	10-Aug-22	07-Sep-22	-133	S3C1080, S3P1440, S3P1430, S3D1190	S3C1100, S3C1130
S3C1100	Construction of Basement up to G/F Slab	137	19-Jan-23	04-Jun-23	08-Sep-22	22-Jan-23	-133	S3C1090, S3D1350, S3S1010	S3C1110, S3C1130, S3C2000, S3C2450, S3C2460
S3C1110	Construction of G/F up to 1/F Slab	83	08-Apr-23	29-Jun-23	26-Nov-22	16-Feb-23	-133	S3C1100	S3C1120, S3C1130, S3C2155
S3C1120	Construction of 1/F up to Roof	58	01-Jun-23	28-Jul-23	21-Jan-23	20-Mar-23	-131	S3C1110	S3C1130, S3C2330
S3C1130	Waterproofing	45	29-Jul-23	11-Sep-23	23-Apr-23	06-Jun-23	-97	S3P1460, S3C1120, S3C1090, S3C1100, S3C1110	S3C1140
S3C1140	External & Internal Finishes - 1st Fix (Blockwork, Plastering, Wet Trade)	90	12-Sep-23	10-Dec-23	07-Jun-23	04-Sep-23	-97	S3C1130, S3P1450, S3D1090, S3D1130, S3P2150	S3C1150, S3C1160
S3C1150	External & Internal Finishes - 2nd Fix (Ceiling / Wall / Floor Finishing, Door)	90	11-Dec-23	09-Mar-24	05-Sep-23	03-Dec-23	-97	S3C1140	SC31110, S3S1170, S3C1160, PL1190
S3C1160	Landscaping Works	120	22-Nov-24	21-Mar-25	02-Feb-24	31-May-24	-294	S3C1140, S3C1150	SC31110
E&M Installation		151	05-Jun-23	02-Nov-23	27-Jan-23	03-Feb-24	94		
Mechanical Installations		122	05-Jun-23	04-Oct-23	27-Jan-23	19-Nov-23	46		
Basement		122	05-Jun-23	04-Oct-23	27-Jan-23	01-Jun-23	-126		
S3C2000	Installation of Buffer Tank Lifting pumps (3 nos.)	7	05-Jun-23	11-Jun-23	27-Jan-23	02-Feb-23	-129	S3P1760, S3C1100	S3C2020, S3C2150, S3T1030, S3C2010
S3C2010	Installation of Secondary Clarifier Sludge discharge pumps (3 nos.)	7	05-Jun-23	11-Jun-23	27-Feb-23	06-Mar-23	-98	S3P1780, S3C2000	S3C2030, S3C2150, S3T1030
S3C2020	Installation of Anammox Feed pumps (3 nos.)	7	12-Jun-23	18-Jun-23	03-Feb-23	09-Feb-23	-129	S3C2000, S3P1770	S3C2040, S3C2150, S3T1030
S3C2030	Installation of Metering Pumps (2 nos.)	7	12-Jun-23	18-Jun-23	06-Mar-23	13-Mar-23	-98	S3C2010, S3P1850	S3C2050, S3C2150, S3T1030



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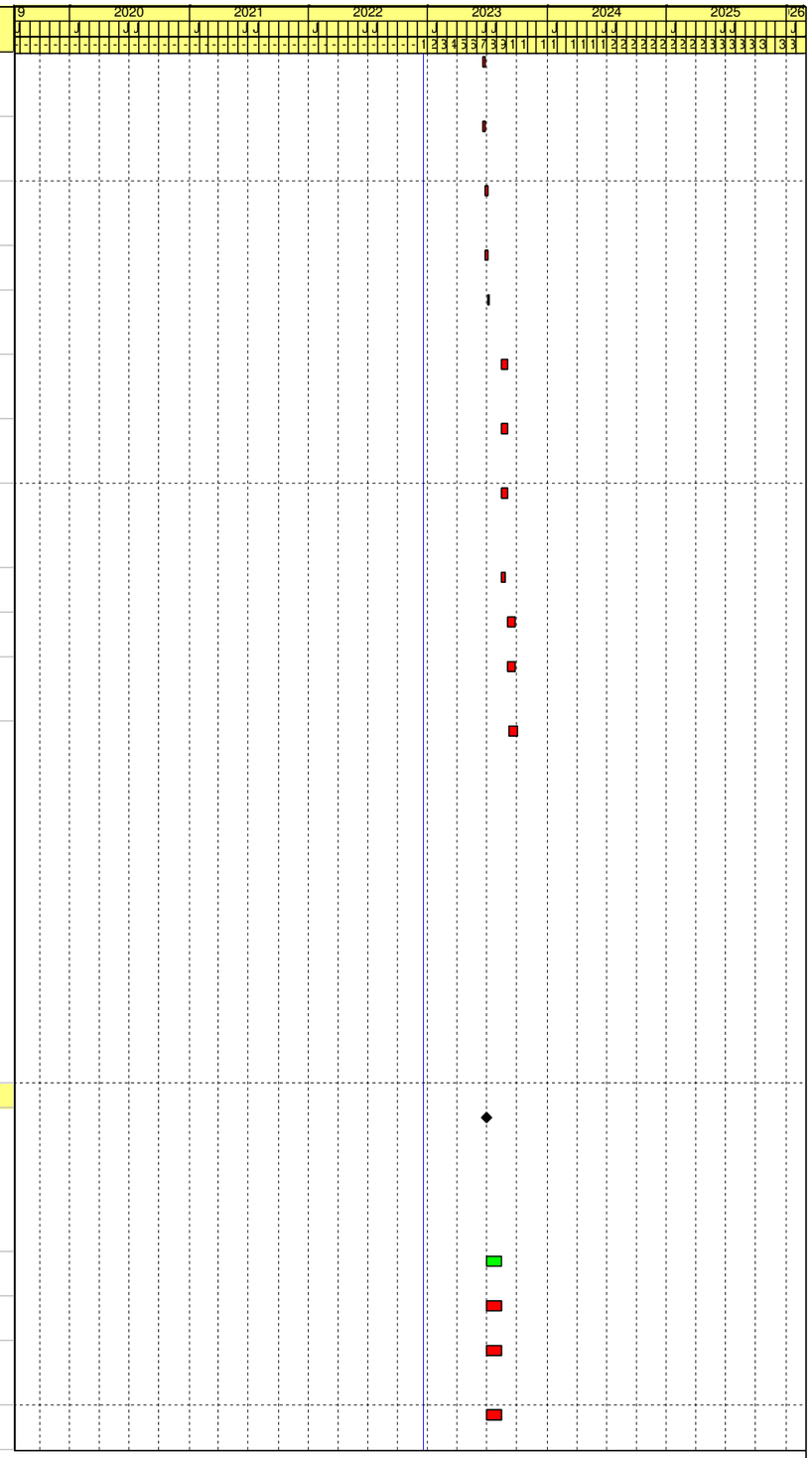
S3C2040	Installation of Anammox Sludge discharge pumps (2 nos.)	7	19-Jun-23	25-Jun-23	10-Feb-23	16-Feb-23	-129	S3C2020, S3P1770	S3C2060, S3C2150, S3T1030
S3C2050	Installation of Struvite Pumps (3 nos.)	7	19-Jun-23	25-Jun-23	13-Mar-23	20-Mar-23	-98	S3C2030, S3P1790	S3C2070, S3C2150, S3T1030
S3C2060	Installation of Thickener feed pumps (2 nos.)	7	26-Jun-23	02-Jul-23	17-Feb-23	23-Feb-23	-129	S3C2040, S3P1810	S3C2080, S3C2150, S3T1030
S3C2070	Installation of Primary Clarifier sludge discharge pump (3 nos.)	7	26-Jun-23	02-Jul-23	20-Mar-23	27-Mar-23	-98	S3C2050, S3P1800	S3C2150, S3T1030
S3C2080	Installation of Flushing Pump (2 nos.)	7	03-Jul-23	09-Jul-23	24-Feb-23	02-Mar-23	-129	S3C2060	S3C2150, S3C2240, S3T1030
S3C2090	Installation of Secondary Clarifiers No.1 and 2	21	14-Aug-23	03-Sep-23	05-Apr-23	26-Apr-23	-131	S3P1470, S3C2180	S3C2110, S3C2150, S3T1110
S3C2100	Installation of Tilted Plates for Phospaq No.1 and 2	21	14-Aug-23	03-Sep-23	05-Apr-23	26-Apr-23	-131	S3C2280, S3P1490	S3C2150, S3C2130, S3T1140
S3C2110	Installation of Tilted Plates for Anammox No. 1 and 2	21	14-Aug-23	03-Sep-23	05-Apr-23	26-Apr-23	-131	S3C2090, S3P1490, S3C2260, S3C2270	S3C2150, S3C2140, S3T1150
S3C2120	Installation of Mixer for Thickened Sludge Tank, Sludge MIxing Tank, Anammox Effluent Chamber and Filtrate Buffer Tank	14	14-Aug-23	27-Aug-23	18-Apr-23	02-May-23	-118	S3P1960, S3C2190	S3C2150, S3T1090
S3C2130	Installation of Diffusers and pipework for Phospaq	21	04-Sep-23	24-Sep-23	26-Apr-23	17-May-23	-131	S3P1950, S3C2100	S3C2150, S3T1140
S3C2140	Installation of Diffusers and pipework for Anammox	21	04-Sep-23	24-Sep-23	26-Apr-23	17-May-23	-131	S3C2340, S3P1950, S3C2110	S3C2150, S3T1150
S3C2150	Installation of Pipeworks, Associate Valves and Fittings	30	05-Sep-23	04-Oct-23	02-May-23	01-Jun-23	-126	S3C2000, S3C2010, S3C2020, S3C2030, S3C2040, S3C2050, S3C2060, S3C2070, S3C2080, S3C2120, S3C2090, S3C2100, S3C2110, S3C2130, S3C2140, S3P2060, S3P2070, S3P2020	S3T1000
G/F		90	30-Jun-23	27-Sep-23	17-Feb-23	19-Nov-23	53		
S3C2155	Access to Sidestream Treatment Facilities (G/F)	0	30-Jun-23		17-Feb-23		-133	S3C1110	S3C2200, S3C2170, S3C2210, S3C2240, S3C2220, S3C2250, S3C2160
S3C2160	E&M installation of DG Plant Room	45	30-Jun-23	13-Aug-23	06-Oct-23	19-Nov-23	98	S3C2155, S3S1100	S3S1110
S3C2170	Installation of Lifting Appliance (LA-01)	45	30-Jun-23	13-Aug-23	17-Feb-23	02-Apr-23	-133	S3P1740, S3C2155	S3C2180, S3C2280
S3C2180	Installation of Lifting Appliance (LA-02)	45	30-Jun-23	13-Aug-23	19-Feb-23	05-Apr-23	-131	S3C2170, S3P1740	S3C2090, S3C2190, S3C2270
S3C2190	Installation of Lifting Appliance (LA-03)	45	30-Jun-23	13-Aug-23	19-Feb-23	05-Apr-23	-131	S3P1740, S3C2180	S3C2260, S3C2120



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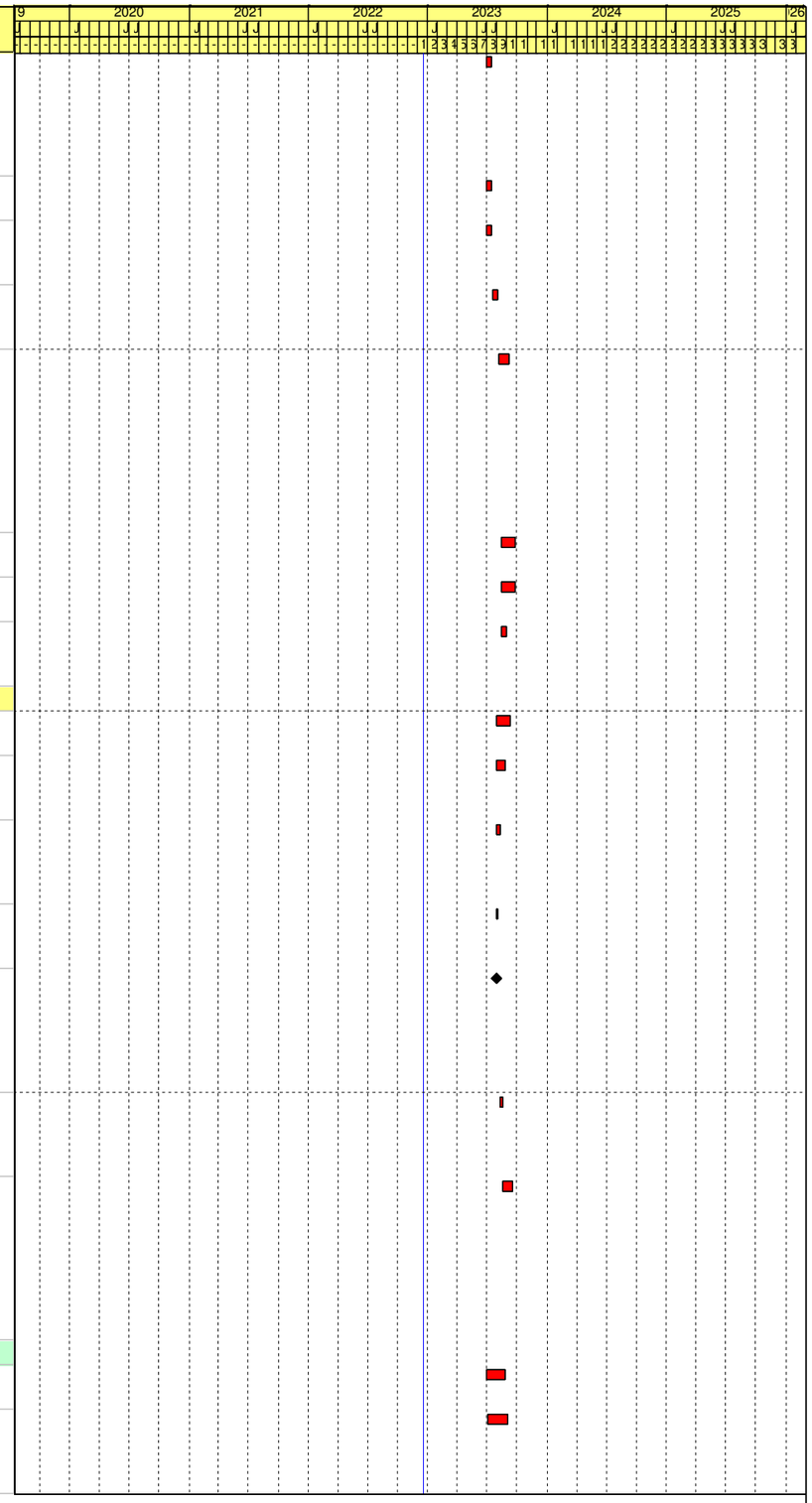
Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S3C2200	Installation of NaOH Dosing Pumps, Micro-Nutrient Dosing Pumps, Defoamer Dosing Pumps and PAM Dosing Pumps (12 nos.)	15	30-Jun-23	14-Jul-23	12-Mar-23	27-Mar-23	-110	S3P1860, S3P1870, S3P1880, S3P1820, S3C2155, S3P1750	S3C2250, S3T1030, S3T1020
S3C2210	Installation of PAM Tank, Deformer dissolving Tank, Micro-nutrient tank and NaOH Tank	15	30-Jun-23	14-Jul-23	14-Mar-23	28-Mar-23	-108	S3P1930, S3C2155	S3C2250, S3T1020
S3C2220	Installation of Heat Exchanger system	15	30-Jun-23	14-Jul-23	14-Mar-23	28-Mar-23	-108	S3P2030, S3C2155	S3C2340, S3C2250, S3T1010
S3C2240	Installation of Drum Sludge Thickener	15	21-Jul-23	04-Aug-23	14-Mar-23	28-Mar-23	-129	S3P1480, S3C2080, S3C2155	S3C2250, S3T1040
S3C2250	Installation of Pipeworks, Associate Valves and Fittings	30	09-Aug-23	07-Sep-23	29-Mar-23	27-Apr-23	-133	S3C2280, S3C2200, S3C2210, S3C2240, S3C2220, S3P2060, S3P2070, S3P2020, S3C2155	S3T1000, S3C2430
S3C2260	Installation of Lifting Appliance (LA-04)	45	14-Aug-23	27-Sep-23	05-Apr-23	20-May-23	-131	S3P1740, S3C2190	S3C2110
S3C2270	Installation of Lifting Appliance (LA-05)	45	14-Aug-23	27-Sep-23	05-Apr-23	20-May-23	-131	S3P1740, S3C2180	S3C2110
S3C2280	Installation of Primary Clarifiers No.1 and 2	15	14-Aug-23	28-Aug-23	03-Apr-23	17-Apr-23	-133	S3P1470, S3C2170	S3C2100, S3C2250, S3T1100
1/F		52	29-Jul-23	18-Sep-23	20-Mar-23	01-Jun-23	-110		
S3C2290	Installation of Lifting Appliance (LA-06)	45	29-Jul-23	11-Sep-23	02-Apr-23	17-May-23	-118	S3P1740, S3C2330	S3C2310
S3C2300	Installation of Deodorisation System (DOU) No.4	30	29-Jul-23	27-Aug-23	02-Apr-23	02-May-23	-118	S3P1980, S3C2310, S3C2330	S3C2350, S3T1080
S3C2310	Installation of Air Blower System	15	29-Jul-23	12-Aug-23	02-Apr-23	17-Apr-23	-118	S3P1510, S3C2290, S3C2330	S3C2340, S3C2350, S3C2300, S3T1060
S3C2320	Installation of Electric Calorifier and hot water Pumps	7	29-Jul-23	04-Aug-23	20-Mar-23	27-Mar-23	-131	S3P2050, S3P2040, S3C2330	S3C2350, S3T1030
S3C2330	Access to Sidestream Treatment Facilities (1/F)	0	29-Jul-23		20-Mar-23		-131	S3C1120	S3C2290, S3C2300, S3C2310, S3C2340, S3C2320, S3C2350
S3C2340	Installation of Ancillary Air Blower	7	13-Aug-23	19-Aug-23	19-Apr-23	26-Apr-23	-116	S3C2220, S3P1970, S3C2310, S3C2330	S3C2140, S3C2350, S3T1060
S3C2350	Installation of Pipeworks, Associate Valves and Fittings	30	20-Aug-23	18-Sep-23	02-May-23	01-Jun-23	-110	S3C2310, S3C2340, S3C2320, S3C2300, S3P2060, S3P2070, S3P2020, S3C2330	S3T1000
Electrical Installations		124	02-Jul-23	02-Nov-23	02-Mar-23	03-Feb-24	94		
S3C2360	Installation of Transformer room	55	02-Jul-23	25-Aug-23	02-Mar-23	26-Apr-23	-122	S3P2120	S3T1120, S3C2380
S3C2370	Installation of Electrical system - Cable Containment	60	05-Jul-23	02-Sep-23	08-Mar-23	06-May-23	-119	S3C2490	S3C2390, S3T1280, S3C2410, S3C2400



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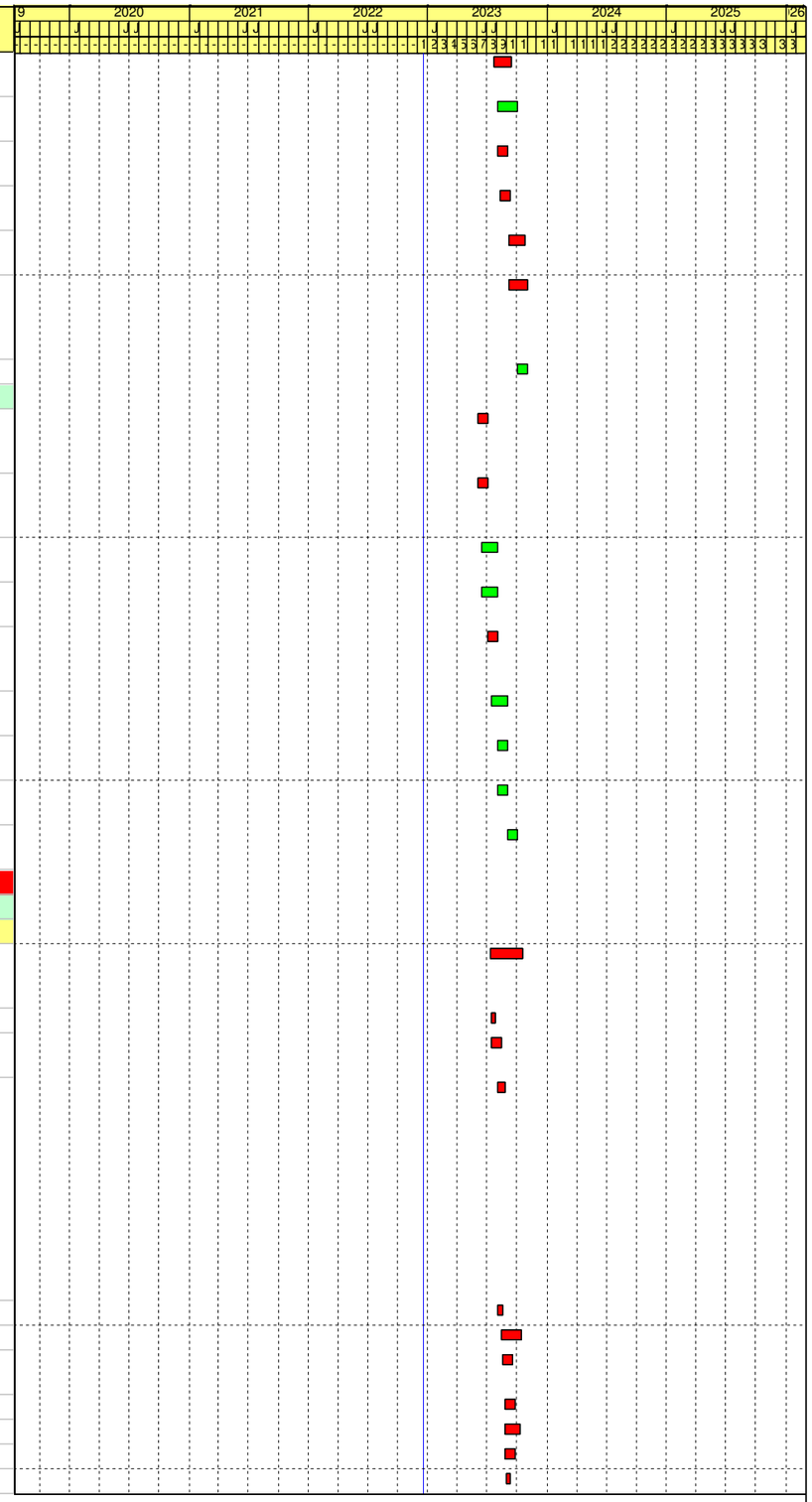
S3C2380	Installation of LV Switchroom	55	22-Jul-23	14-Sep-23	22-Mar-23	16-May-23	-122	S3P2110, S3C2360	S3C2410, S3T1120
S3C2390	Installation of Electrical system - Wall Mount Equipment, Conduit & Wiring	60	04-Aug-23	02-Oct-23	06-Nov-23	04-Jan-24	94	S3C2370	S3C2440, S3T1280
S3C2400	Installation of SCADA system	31	04-Aug-23	03-Sep-23	07-Apr-23	07-May-23	-119	S3C2370, S3P1910	S3T1050
S3C2410	Power Cable laying and Termination	30	13-Aug-23	11-Sep-23	16-May-23	15-Jun-23	-89	S3C2380, S3C2370	S3T1160
S3C2420	Installation of Gas Detection System	50	07-Sep-23	27-Oct-23	27-Apr-23	16-Jun-23	-133	S3P2140, S3C2430	S3T1170
S3C2430	Installation of Online Monitoring instrument / Level Control Equipment	56	07-Sep-23	02-Nov-23	27-Apr-23	22-Jun-23	-133	S3P2000, S3P1920, S3P1990, S3C2250	S3C2420
S3C2440	Installation of Electrical system - Lighting and Small Power Accessories	30	03-Oct-23	01-Nov-23	05-Jan-24	03-Feb-24	94	S3C2390	S3T1280
BS Equipment Installation		120	05-Jun-23	02-Oct-23	06-Feb-23	03-Feb-24	124		
S3C2450	Installation of P&D System - Main Pipework	30	05-Jun-23	04-Jul-23	06-Feb-23	07-Mar-23	-119	S3C2460, S3S1020, S3C1100	S3C2470, S3C2490, S3T1250
S3C2460	Installation of FS system - Main Pipework	30	05-Jun-23	04-Jul-23	06-Feb-23	07-Mar-23	-119	S3S1020, S3C1100	S3C2480, S3C2450, S3T1240
S3C2470	Installation of P&D System - Branch Pipework	50	15-Jun-23	03-Aug-23	07-Oct-23	25-Nov-23	114	S3C2450	S3C2510, S3T1250
S3C2480	Installation of FS system - Branch Pipework, Conduit & Wiring	50	15-Jun-23	03-Aug-23	07-Oct-23	25-Nov-23	114	S3C2460	S3C2520, S3T1240
S3C2490	Installation of MVAC system - Ceiling Mount Equipment, Main Ductwork & Pipework	30	05-Jul-23	03-Aug-23	08-Mar-23	06-Apr-23	-119	S3C2450, S3P2130	S3C2500, S3T1260, S3C2370
S3C2500	Installation of MVAC system - Wall Mount Equipment, Branch Duct & pipework	50	15-Jul-23	02-Sep-23	16-Nov-23	04-Jan-24	124	S3C2490, S3P2130	S3C2530, S3T1260
S3C2510	Installation of P&D System - Sanitary Fitting	30	04-Aug-23	02-Sep-23	26-Nov-23	25-Dec-23	114	S3C2470	S3T1250, S3S1030
S3C2520	Installation of FS system - Dropper, Sprinkler Head, Detector & Devices	30	04-Aug-23	02-Sep-23	26-Nov-23	25-Dec-23	114	S3C2480	S3T1240, S3S1030
S3C2530	Installation of MVAC system - Air Grills & Diffuser	30	03-Sep-23	02-Oct-23	05-Jan-24	03-Feb-24	124	S3C2500, S3P2130	S3T1260
Testing & Commissioning		619	12-Jul-23	21-Mar-25	08-Mar-23	31-May-24	-294		
For KD3A - Completion of Phase 1 Commissioning - 15 Jan 2024		274	12-Jul-23	10-Apr-24	08-Mar-23	03-Feb-24	-67		
SAT		105	12-Jul-23	24-Oct-23	08-Mar-23	16-Jun-23	-131		
S3T1000	Pipe Pressure Test	100	12-Jul-23	19-Oct-23	08-Mar-23	16-Jun-23	-126	S3C2150, S3C2250, S3C2350	S3T1170
S3T1010	SAT for Heat Exchanger	14	15-Jul-23	28-Jul-23	02-Jun-23	16-Jun-23	-43	S3C2220	S3T1170
S3T1020	SAT for Dosing system	30	15-Jul-23	13-Aug-23	17-May-23	16-Jun-23	-59	S3C2210, S3C2200	S3T1170
S3T1030	Dry Test for Pumps	21	05-Aug-23	25-Aug-23	27-Mar-23	17-Apr-23	-131	S3C2000, S3C2010, S3C2020, S3C2030, S3C2040, S3C2050, S3C2060, S3C2070, S3C2080, S3C2200, S3C2320	S3T1070
S3T1040	SAT for Drum Sludge Thickener	14	05-Aug-23	18-Aug-23	02-Jun-23	16-Jun-23	-64	S3C2240	S3T1170
S3T1050	SAT for SCADA System	60	14-Aug-23	13-Oct-23	17-Apr-23	16-Jun-23	-119	S3C2400	S3T1170
S3T1060	SAT for Air blowers	30	20-Aug-23	18-Sep-23	17-May-23	16-Jun-23	-95	S3C2310, S3C2340	S3T1170
S3T1070	Wet Test for Pumps	30	26-Aug-23	24-Sep-23	17-Apr-23	17-May-23	-131	S3T1030	S3T1130
S3T1080	SAT for DOU no.4	45	28-Aug-23	11-Oct-23	02-May-23	16-Jun-23	-118	S3C2300	S3T1170
S3T1090	SAT for mixer	30	28-Aug-23	26-Sep-23	17-May-23	16-Jun-23	-103	S3C2120	S3T1170
S3T1100	SAT for Primary clarifier	14	29-Aug-23	11-Sep-23	02-Jun-23	16-Jun-23	-88	S3C2280	S3T1170



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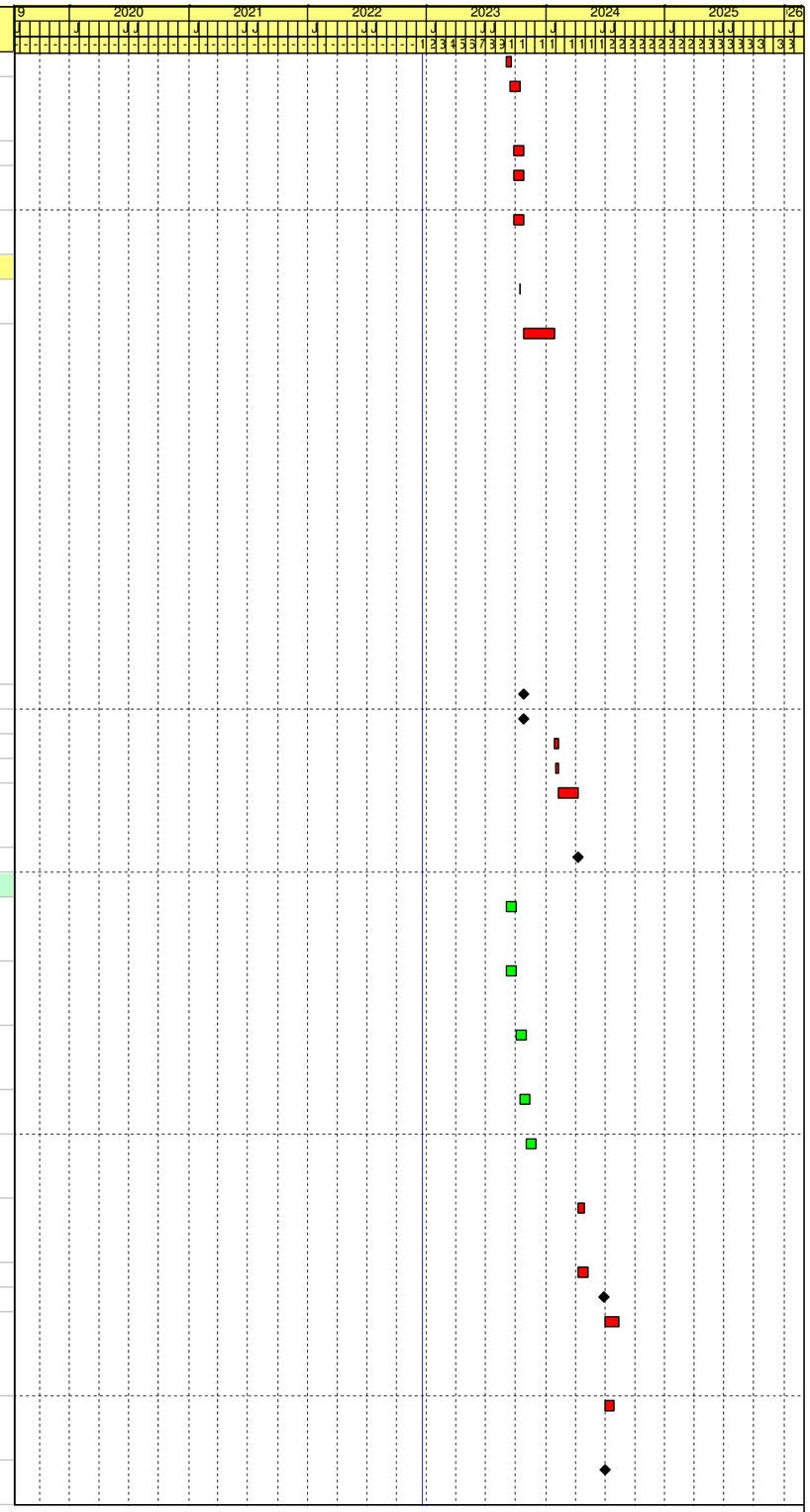
S3T1110	SAT for Secondary clarifier	14	04-Sep-23	17-Sep-23	02-Jun-23	16-Jun-23	-94	S3C2090	S3T1170
S3T1120	SAT for TX & LV Switchboard	30	15-Sep-23	14-Oct-23	16-May-23	15-Jun-23	-122	S3C2380, S3C2360, S3P2140	S3T1160
S3T1130	Functional Test for Pumps	30	25-Sep-23	24-Oct-23	17-May-23	16-Jun-23	-131	S3T1070	S3T1170
S3T1140	SAT for Phospaq Reactor	30	25-Sep-23	24-Oct-23	17-May-23	16-Jun-23	-131	S3C2130, S3C2100	S3T1170
S3T1150	SAT for Anammox Reactor	30	25-Sep-23	24-Oct-23	17-May-23	16-Jun-23	-131	S3C2140, S3C2110	S3T1170
Process Start Up & Phase 1 Commissioning Test		179	15-Oct-23	10-Apr-24	15-Jun-23	03-Feb-24	-67		
S3T1160	Power Energization (Power Provision from DE/2018/04 Contract)	1	15-Oct-23	15-Oct-23	15-Jun-23	16-Jun-23	-122	S3T1120, S3C2410	S3T1270, S3T1170
S3T1170	Process Start Up	92	27-Oct-23	27-Jan-24	16-Jun-23	16-Sep-23	-133	S3T1190, S3T1180, S3C2420, S3P2140, S3T1160, S3T1130, S3T1100, S3T1110, S3T1060, S3T1040, S3T1090, S3T1010, S3T1020, S3T1080, S3T1150, S3T1140, S3T1000, S3T1050	S3T1200
S3T1180	Existing sludge dewatering facilities Ready (by DE/2018/04 Contract)	0		27-Oct-23		16-Jun-23	-133		S3T1170
S3T1190	Plant service water from zone B/C Ready (Zone B by DE/2018/04 Contract)	0		27-Oct-23		16-Jun-23	-133		S3T1170
S3T1200	Submission & Acceptance of Process Start Up Report	14	27-Jan-24	10-Feb-24	16-Sep-23	30-Sep-23	-133	S3T1170	S3T1210
S3T1210	Notice for Commencement of Phase 1 Commissioning Tests	7	03-Feb-24	10-Feb-24	23-Sep-23	30-Sep-23	-133	S3T1200	S3T1220
S3T1220	Phase 1 Commissioning Tests with daily result to PM	60	10-Feb-24	10-Apr-24	30-Sep-23	29-Nov-23	-133	S3T1210	S3T1300, S3T1290, S3T1230
S3T1230	Completion of KD3A	0		10-Apr-24		03-Feb-24	-67	S3T1220	KD1050-2
For Section 3 Completion - Remaining Commissioning Works - 05 Jun 2024		566	03-Sep-23	21-Mar-25	29-Nov-23	31-May-24	-294		
S3T1240	SAT for FS system	30	03-Sep-23	02-Oct-23	04-Feb-24	04-Mar-24	154	S3C2520, S3C2460, S3C2480	S3S1170
S3T1250	SAT for P&D system	30	03-Sep-23	02-Oct-23	04-Feb-24	04-Mar-24	154	S3C2450, S3C2470, S3C2510	S3S1170
S3T1260	SAT for MVAC System	30	03-Oct-23	01-Nov-23	04-Feb-24	04-Mar-24	124	S3C2530, S3C2490, S3C2500	S3S1170
S3T1270	Essential T&C for FSD Inspection	30	16-Oct-23	14-Nov-23	31-Dec-23	29-Jan-24	76	S3T1160, S3P2140	S3S1150
S3T1280	SAT for Electrical System (BS)	30	02-Nov-23	01-Dec-23	04-Feb-24	04-Mar-24	94	S3C2370, S3C2390, S3C2440	S3S1170
S3T1290	Phase 1 Post Commissioning with daily result to PM	19	10-Apr-24	29-Apr-24	29-Nov-23	18-Dec-23	-133	S3T1220	S3T1330, S3T1320, S5T1120
S3T1300	Submission & Acceptance of Phase 1 Commissioning Tests Report	30	10-Apr-24	10-May-24	10-Feb-24	10-Mar-24	-61	S3T1220	S3T1330
S3T1310	THP digested sludge centrate from Zone C Ready	0		29-Jun-24		11-Feb-24	-140		S3T1320
S3T1320	Phase 2 Commissioning Tests with daily result to PM	45	30-Jun-24	13-Aug-24	11-Feb-24	27-Mar-24	-140	S3T1310, S3T1290, S3T1340	S3T1350, S3T1360, S3T1370, S5T1200
S3T1330	Submission & Acceptance of Phase 1 Post Commissioning Report	30	30-Jun-24	29-Jul-24	11-Mar-24	09-Apr-24	-111	S3T1290, S3T1340, S3T1300	S3T1350
S3T1340	Ready to Process start up of the first Anaerobic Digester in Zone C	0	30-Jun-24		11-Feb-24		-140	S5T1120	S3T1330, S3T1320



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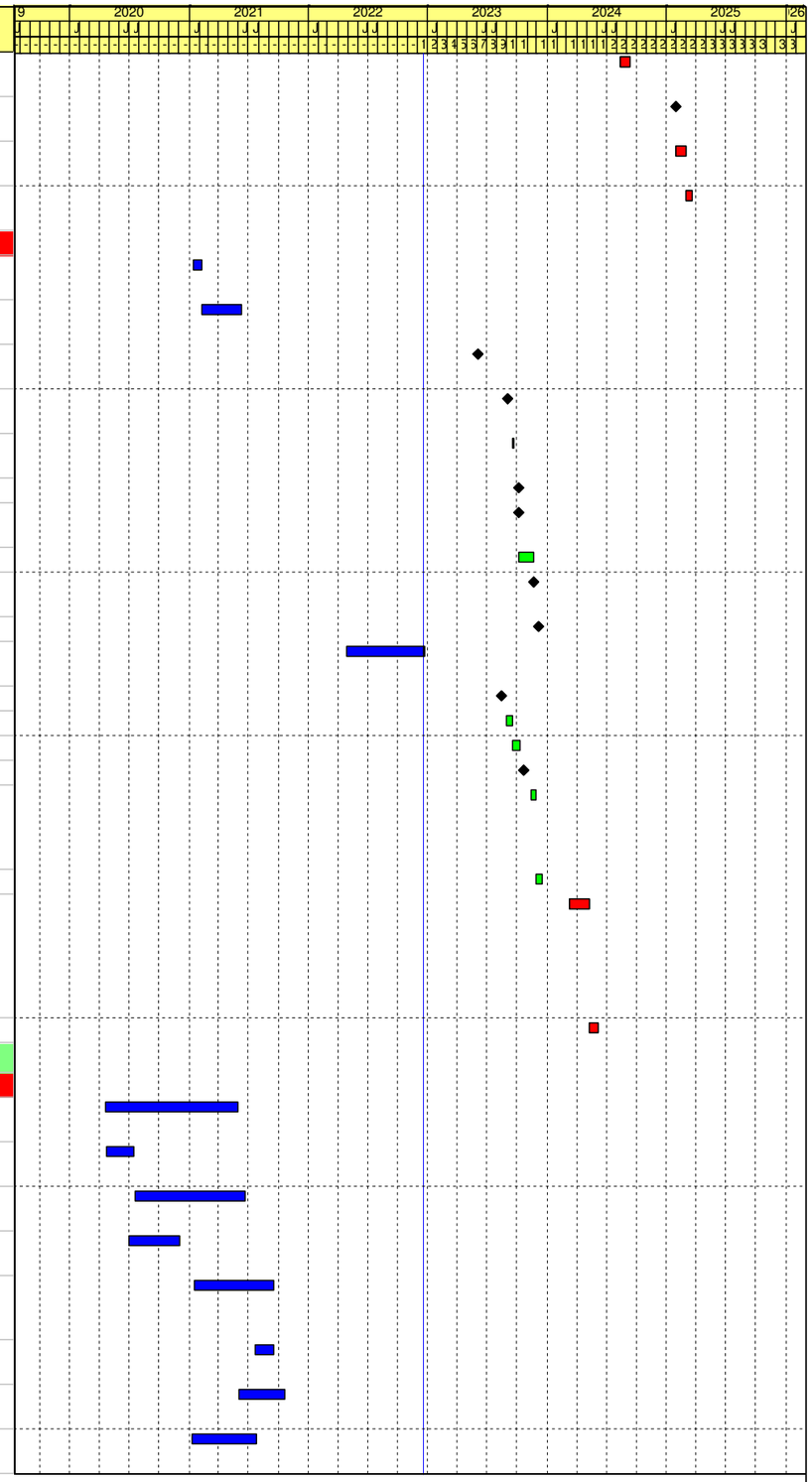
S3T1350	Submission & Acceptance of Phase 2 Commissioning Tests Report	30	14-Aug-24	12-Sep-24	10-Apr-24	09-May-24	-126	S3T1320, S3T1330	S3T1380
S3T1360	Commissioning of new Anaerobic Digesters (2 nos.) in Zone C Finished	0		28-Jan-25		09-Apr-24	-294	S3T1320, S5T1180	S3T1370
S3T1370	Phase 3 Commissioning Tests with daily result to PM	30	29-Jan-25	27-Feb-25	10-Apr-24	09-May-24	-294	S3T1360, S3T1320	S3T1380
S3T1380	Submission & Acceptance of Phase 3 Commissioning Tests Report	22	28-Feb-25	21-Mar-25	10-May-24	31-May-24	-294	S3T1370, S3T1350	SC31110
Statutory Submission / Inspection (FSD)		**1232**	**12-Jan-21 A**	**05-Jun-24**	**08-Sep-22**	**31-May-24**	**-5**		
S3S1000	Prepare & Submit GBP for FSD approval	90	12-Jan-21 A	10-Feb-21 A	08-Sep-22	08-Sep-22			S3S1010
S3S1010	FSD Review & Approval of GBP	180	11-Feb-21 A	11-Jun-21 A	08-Sep-22	08-Sep-22		S3S1000	S3S1150, S3C1100
S3S1020	Submit WWO46 Part I/II to WSD (FS / PD)	0	05-Jun-23		06-Feb-23		-119	S3D1550, S3D1510	S3C2460, S3C2450
S3S1030	Submit WWO46 Part IV to WSD (FS / PD)	0	03-Sep-23		26-Dec-23		114	S3C2510, S3C2520	S3S1040
S3S1040	WSD Inspection	7	17-Sep-23	23-Sep-23	09-Jan-24	15-Jan-24	114	S3S1030	S3S1060, S3S1050
S3S1050	Issuance of FS Water Certificate	0		07-Oct-23		29-Jan-24	114	S3S1040	S3S1150
S3S1060	Issuance of Form WWO46 Part Va	0		07-Oct-23		02-Apr-24	178	S3S1040	S3S1080, S3S1070
S3S1070	System Flushing / Sampling	45	08-Oct-23	21-Nov-23	03-Apr-24	17-May-24	178	S3S1060	S3S1080
S3S1080	Issuance of Form WWO46 Part Vb	0		21-Nov-23		17-May-24	178	S3S1060, S3S1070	S3S1090
S3S1090	Issuance of Water Certificate	0		05-Dec-23		31-May-24	178	S3S1080	SC31110
S3S1100	Submission & Approval of DG Application to FSD	180	29-Apr-22 A	21-Dec-22	05-Oct-23	05-Oct-23	288		S3C2160
S3S1110	Submit Application to FSD for DG Licence	0	14-Aug-23		20-Nov-23		98	S3C2160	S3S1120
S3S1120	D.G. Inspection, Defects Rectification & Re-inspection (Ventilation Division)	21	29-Aug-23	18-Sep-23	05-Dec-23	25-Dec-23	98	S3S1110	S3S1130
S3S1130	D.G. Inspection, Defects Rectification & Re-inspection (DG Division)	21	19-Sep-23	09-Oct-23	26-Dec-23	15-Jan-24	98	S3S1120	S3S1140
S3S1140	DG Licence issued	0		23-Oct-23		29-Jan-24	98	S3S1130	S3S1150
S3S1150	Prepare & Submit FS/314, FS/501 & FS/501a	14	15-Nov-23	28-Nov-23	30-Jan-24	12-Feb-24	76	S3S1010, S3S1140, S3S1050, S3T1270	S3S1160
S3S1160	FSD Review & Approval of FS/314, FS/501 & FS/501a	21	29-Nov-23	19-Dec-23	13-Feb-24	04-Mar-24	76	S3S1150	S3S1170
S3S1170	F.S. Inspection, Defects Rectification & Re-inspection	60	10-Mar-24	08-May-24	05-Mar-24	03-May-24	-5	S3S1160, S3C1150, S3T1240, S3T1250, S3T1260, S3T1280	S3S1180
S3S1180	Issuance of Acceptance Letter	28	09-May-24	05-Jun-24	04-May-24	31-May-24	-5	S3S1170	SC31110
Section 4 - Complete Construction & T&C for UV System No.1 & EP Station No. 1		**932**	**18-Apr-20 A**	**14-Sep-22 A**	**18-Oct-22**	**16-Apr-25**			
Major Plant & Materials Fabrication & Delivery		**725**	**18-Apr-20 A**	**16-Mar-22 A**	**21-Feb-23**	**07-Apr-25**			
S4P1000	Procurement & PO for FRP Cover	409	18-Apr-20 A	31-May-21 A	21-Feb-23	21-Feb-23		PL1010	S4P1090
S4P1010	Procurement & PO for Pipeworks & Associated Valves	90	25-Apr-20 A	15-Jul-20 A	21-Feb-23	21-Feb-23		S1D1000	S4P1130
S4P1020	Procurement & PO for Elec. Materials	365	18-Jul-20 A	22-Jun-21 A	07-Apr-25	07-Apr-25		S1D1130	S4P1140
S4P1030	Procurement & PO for FS System	60	02-Jul-20 A	04-Dec-20 A	07-Apr-25	07-Apr-25		S1D1330	S4P1150
S4P1040	Fabrication of UV Disinfection System	239	18-Jan-21 A	17-Sep-21 A	21-Feb-23	21-Feb-23		S1P1000, KD1000, S1D1210	S4C1080, S4P1050
S4P1050	FAT for UV Disinfection System	71	23-Jul-21 A	17-Sep-21 A	21-Feb-23	21-Feb-23		S4P1040	S4P1060
S4P1060	Delivery of UV Disinfection System	149	01-Jun-21 A	22-Oct-21 A	21-Feb-23	21-Feb-23		S4P1050	S4C1080
S4P1070	Fabrication & Delivery of Lift-up Pumps	225	11-Jan-21 A	26-Jul-21 A	21-Feb-23	21-Feb-23		S1P1010, S1D1290	S4C1040



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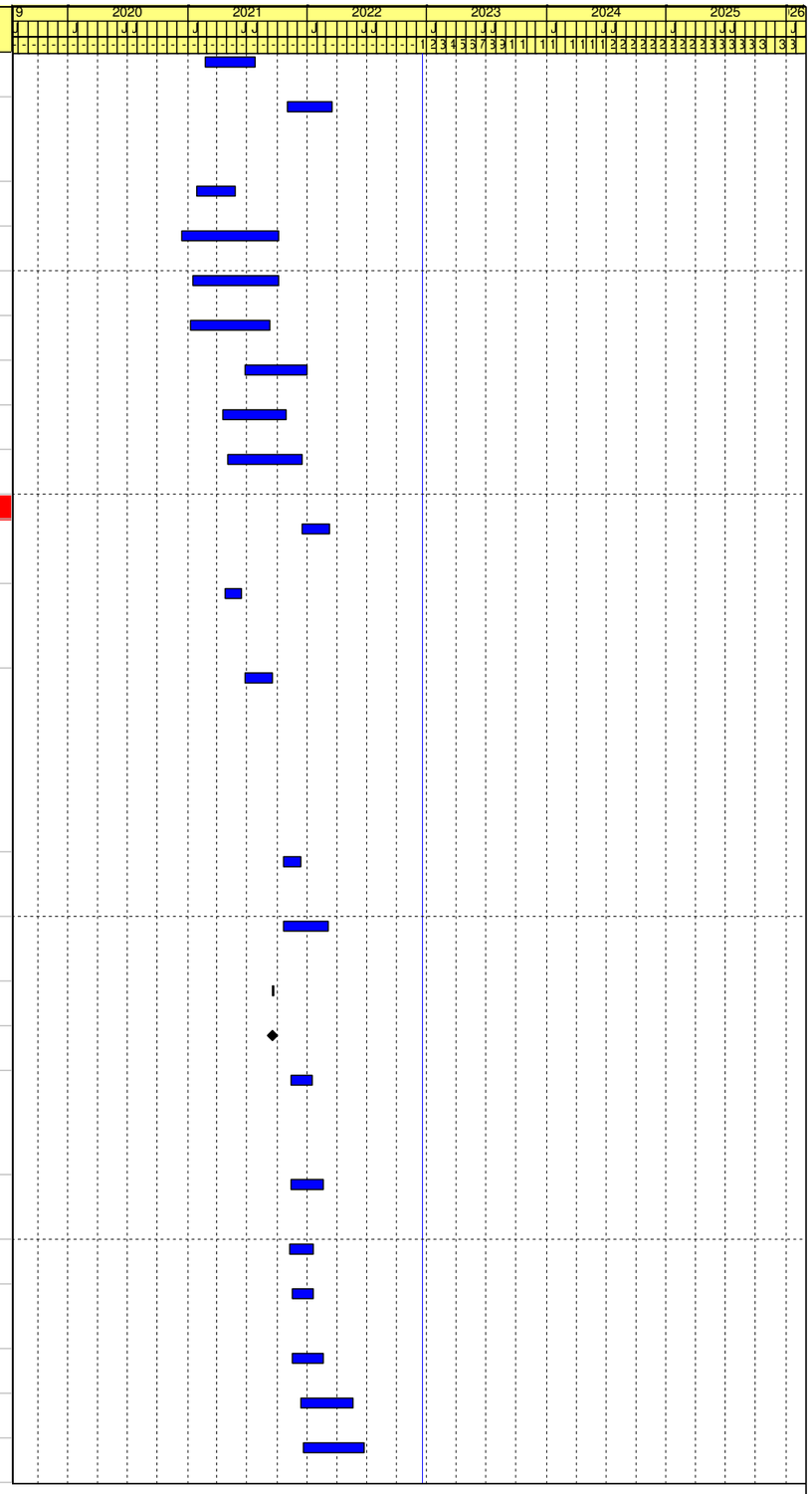
S4P1080	Fabrication & Delivery of Transfer Pumps	218	26-Feb-21 A	26-Jul-21 A	21-Feb-23	21-Feb-23		S1P1020, S1D1290	S5UVPC1000
S4P1090	Fabrication & Delivery of FRP Cover	89	01-Nov-21 A	16-Mar-22 A	21-Feb-23	21-Feb-23		S1D1290, S4P1000, S1P1020, PL1010	S4T1010
S4P1100	Fabrication & Delivery of EOT Cranes (2T & 5T)	170	28-Jan-21 A	27-May-21 A	21-Feb-23	21-Feb-23		S1P1030, S1D1290	S4C1020
S4P1110	Fabrication & Delivery of Stoplogs	289	16-Dec-20 A	07-Oct-21 A	21-Feb-23	21-Feb-23		S1P1040, S1D1290	S4C1070
S4P1120	Fabrication & Delivery of Penstocks	256	18-Jan-21 A	07-Oct-21 A	21-Feb-23	21-Feb-23		S1P1050, S1D1290	S4C1070
S4P1130	Fabrication & Delivery of Pipeworks & Associated Valves	200	11-Jan-21 A	08-Sep-21 A	21-Feb-23	21-Feb-23		S4P1010, S1D1290	S4C1040
S4P1140	Fabrication & Delivery of Elec. Materials	190	24-Jun-21 A	31-Dec-21 A	07-Apr-25	07-Apr-25		S4P1020, S1D1330	S4C1120
S4P1150	Fabrication & Delivery of FS System	187	18-Apr-21 A	28-Oct-21 A	07-Apr-25	07-Apr-25		S4P1030, S1D1330	S4C1100
S4P1160	Fabrication & Delivery of Temp. Switchboard	194	05-May-21 A	15-Dec-21 A	21-Feb-23	21-Feb-23			S4C1000
E&M Installation		449	25-Apr-21 A	23-Jun-22 A	18-Oct-22	07-Apr-25			
S4C1000	Provision of Temporary Power for UV System No.1 & Effluent Transfer Pumping Station	45	15-Dec-21 A	11-Mar-22 A	21-Feb-23	21-Feb-23		S4C1010, S1D1130, S4P1160	S4T1010, S4C1140
S4C1010	Mobilisation (Partial Access on 24 Apr 2021, Remaining Access on 12 May 2021)	30	25-Apr-21 A	12-Jun-21 A	18-Oct-22	18-Oct-22		AD1010, S1D1130, AD1020	S4C1020, S5TXRC1030, S4C1090, S4C1000
S4C1020	E&M Installation of EOT Cranes (2T)	46	25-Jun-21 A	17-Sep-21 A	21-Feb-23	21-Feb-23		S1D1180, S1D1260, S4C1010, S4P1100	S4T1010, S4C1030, S4C1040, S4C1110, S4C1090, S4T1000, S4C1080, S4C1070, PL1200
S4C1030	E&M Installation of EOT Cranes (5T)	60	20-Oct-21 A	11-Dec-21 A	21-Feb-23	21-Feb-23		S4C1020	S5UVPC1000, S4T1000, PL1200
S4C1040	E&M Installation of Transfer Pumps & Associated Pipeworks / Valves	103	21-Oct-21 A	05-Mar-22 A	21-Feb-23	21-Feb-23		S4C1020, S4P1070, S4P1130	S5TXRC1050, S4T1010, PL1200
S4C1050	Preperation Works for E&M Installation of Penstocks & Stoplogs	3	17-Sep-21 A	19-Sep-21 A	21-Feb-23	21-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						S4C1070
S4C1070	E&M Installation of Penstocks & Stoplogs (Impacted by CNE-014)	66	11-Nov-21 A	15-Jan-22 A	21-Feb-23	21-Feb-23		S4P1110, S4P1120, S4C1020, S4C1050, S4C1060	S4T1010, S5TXRC1050, PL1200
S4C1080	E&M Installation of UV System	44	11-Nov-21 A	19-Feb-22 A	21-Feb-23	21-Feb-23		S4P1040, S4P1060, S4C1020	S4T1010, S5TXRC1050, PL1200
S4C1090	FS Installation - Conduits, Trunking, & Pipeworks	74	08-Nov-21 A	18-Jan-22 A	07-Apr-25	07-Apr-25		S4C1010, S4C1020	S4C1100, PL1200
S4C1100	FS Installation - Cable Laying, Termination, Associated Fitting & Field Devices	67	15-Nov-21 A	18-Jan-22 A	07-Apr-25	07-Apr-25		S4P1150, S4C1090	SC41110, S4S1010, PL1200
S4C1110	BS Fitting Installation - Conduits, Trunking, & Ductworks	111	15-Nov-21 A	19-Feb-22 A	07-Apr-25	07-Apr-25		S4C1020, S1D1310	S4C1120, PL1200
S4C1120	BS Fitting Installation - Cable Laying, Termination, Associated Fitting & Field Devices	139	13-Dec-21 A	21-May-22 A	07-Apr-25	07-Apr-25		S4C1110, S4P1140	S4C1150, PL1200
S4C1130	Excavation Works & Cable Laying - by CLP (Impacted by CNE-035)	184	22-Dec-21 A	23-Jun-22 A	21-Feb-23	21-Feb-23			S4C1140



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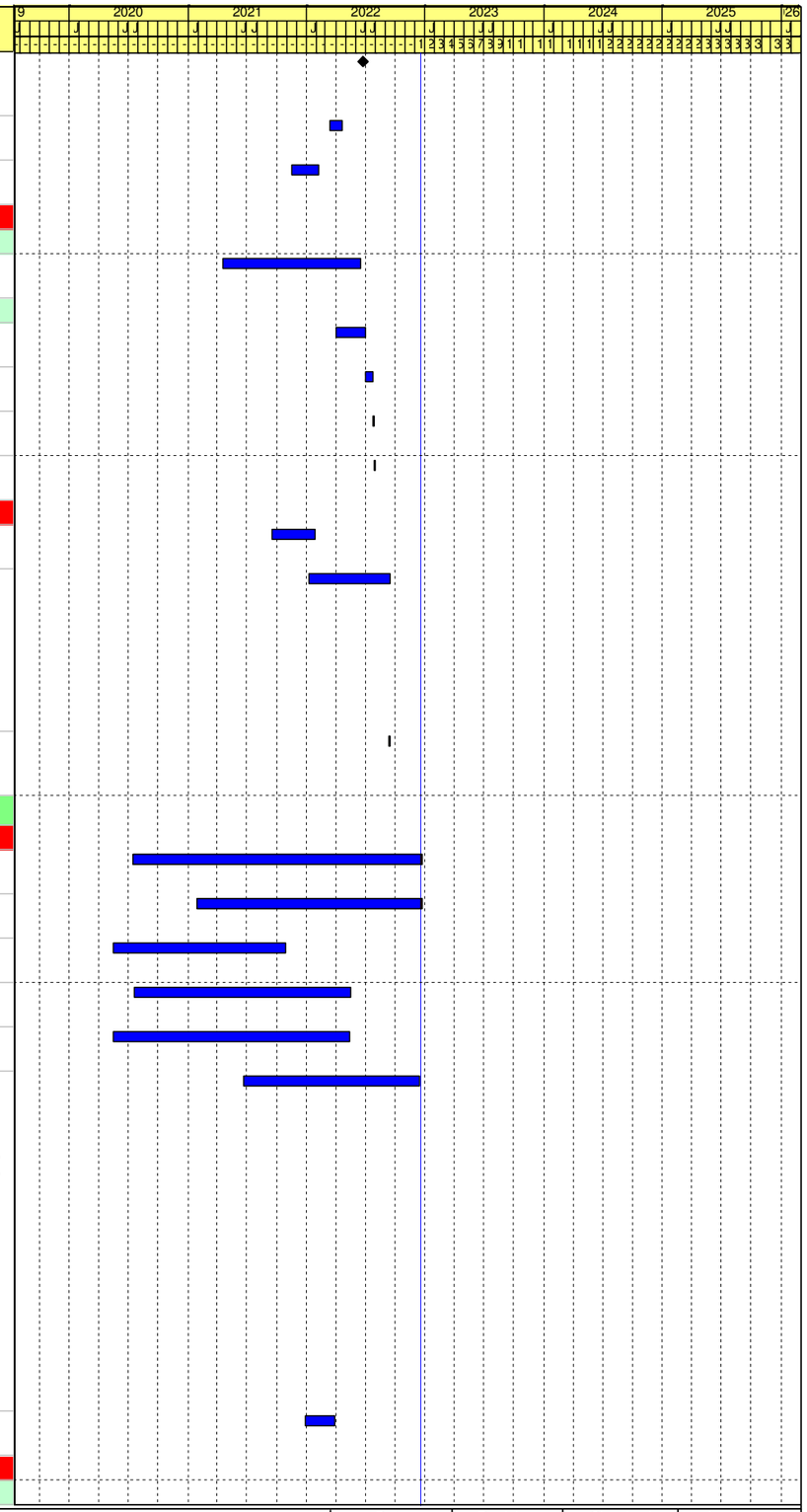
S4C1140	Ready for Power Energization	0		23-Jun-22 A				S4C1000, S4C1130, S4S1000	S4S1030, S4T1010
S4C1150	Installation of CCTV System	37	14-Mar-22 A	19-Apr-22 A	07-Apr-25	07-Apr-25		S4C1120	SC41110, PL1200
S4C1160	Installation of FS Link	84	17-Nov-21 A	08-Feb-22 A	07-Apr-25	07-Apr-25			S4S1010, PL1200
Statutory Submission / Inspection		511	17-Apr-21 A	02-Aug-22 A	21-Feb-23	16-Apr-25			
CLP Submission		425	17-Apr-21 A	15-Jun-22 A	21-Feb-23	21-Feb-23			
S4S1000	Submission & Approval of Electrical Schematic Wiring Diagram to CLP (Temp. Power)	425	17-Apr-21 A	15-Jun-22 A	21-Feb-23	21-Feb-23			S4C1140
FSD Submission & Inspection		176	01-Apr-22 A	02-Aug-22 A	16-Apr-25	16-Apr-25			
S4S1010	Prepare & Submit FS/314, FS/501 & FS/501a	91	01-Apr-22 A	30-Jun-22 A	16-Apr-25	16-Apr-25		S4C1100, S4C1160	S4S1020
S4S1020	FSD Review & Approval of FS/314, FS/501 & FS/501a	25	01-Jul-22 A	25-Jul-22 A	16-Apr-25	16-Apr-25		S4S1010	S4S1030
S4S1030	F.S. Inspection, Defects Rectification & Re-inspection	4	26-Jul-22 A	29-Jul-22 A	16-Apr-25	16-Apr-25		S4S1020, S4C1140	S4S1040
S4S1040	Issuance of Acceptance Letter	14	30-Jul-22 A	02-Aug-22 A	16-Apr-25	16-Apr-25		S4S1030	SC41110
Testing & Commissioning		329	18-Sep-21 A	14-Sep-22 A	21-Feb-23	21-Feb-23			
S4T1000	T&C and R.P.E inspection for EOT Cranes	133	18-Sep-21 A	28-Jan-22 A	21-Feb-23	21-Feb-23		S4C1020, S4C1030	S4T1010
S4T1010	SAT for UV System No. 1 & Effluent Transfer Pumping Station No. 1 (Impacted by CNE-035)	217	10-Jan-22 A	14-Sep-22 A	21-Feb-23	21-Feb-23		S4C1020, S4C1070, S4C1080, S4C1000, S4T1000, S4C1040, S4P1090, S4C1140	S4T1020
S4T1020	System Commissioning Tests	3	11-Sep-22 A	14-Sep-22 A	21-Feb-23	21-Feb-23		S4T1010	SC41110, PL1290, S5UVPC1000
Section 5 - Complete all remaining Works (incl. T&C)		1769	18-May-20 A	21-Mar-25	23-Mar-22	16-Apr-25	26		
Fabrication, FAT & Delivery of Major Plant & Materials		802	18-May-20 A	21-Dec-22	12-May-22	16-Apr-25	847		
S5P1000	Procurement & PO for Biogas Booster and Transfer Pumps	735	17-Jul-20 A	21-Dec-22	22-Dec-22	23-Dec-22	2	S2P1000	S5BIOP1000
S5P1010	Procurement & PO for Pipeworks & Associated Valves	539	29-Jan-21 A	21-Dec-22	24-Jun-22	25-Jun-22	-180	S2D1070	S5CHPP1070, S5DIGP1020
S5P1020	Procurement & PO for Lifting Appliances	530	18-May-20 A	29-Oct-21 A	16-Apr-25	16-Apr-25		S2P1020	
S5P1030	Procurement & PO for Ferric Chloride Storage Tank	668	20-Jul-20 A	18-May-22 A	06-Oct-22	06-Oct-22		S2P1000	S5FCDP1000
S5P1040	Procurement & PO for Ferric Chloride Dosing Pump	726	18-May-20 A	13-May-22 A	30-Nov-22	30-Nov-22		S2P1020	S5FCDP1010
S5P1050	Procurement & PO for Electrical Sub-contractor	396	21-Jun-21 A	14-Dec-22 A	12-May-22	12-May-22		PL1010, S2P1130, S2D1370, S2D1570, S2D1270, S2D1310, S2D1430, S2D1470, S2D1510, S2D1630, S2D1670	S5SDBC1710, S5SDBC1680, S5SDBC1740, S5CHPC1100, S5CHPC1230, S5CHPC1290, S5TXRC1030, S5TXRC1040, S5DIGC1120, S5DIGC1160, S5DIGC1200, S5DIGC1260, S5EXAC1030, S5EXAC1040, S5EXAC1050, S5EXAC1060, S5EXAC1045
S5P1070	Procurement & PO for mechanical ventilation system	90	28-Dec-21 A	28-Mar-22 A	16-Apr-25	16-Apr-25			
Sludge Dewatering Building		1283	11-Aug-21 A	03-Feb-24	23-Mar-22	16-Apr-25	438		
Procurement, Fabrication, FAT & Delivery of Major Plant & Materials		1152	11-Aug-21 A	10-Aug-23	22-May-22	07-Sep-23	28		



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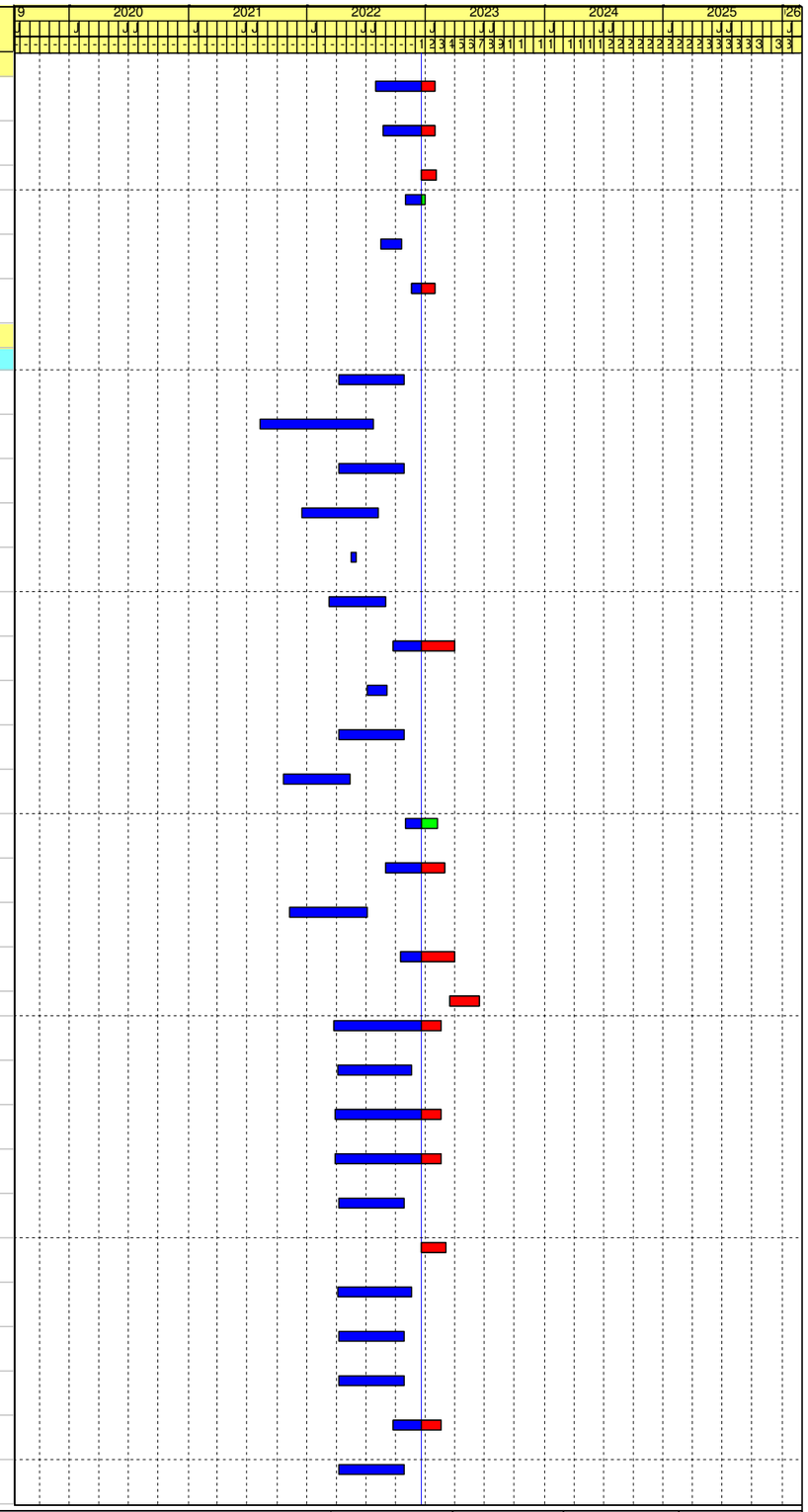
Procurement		942	31-Jul-22 A	03-Feb-23	01-Jun-22	22-Jan-23	-13		
S5SDBP1190	Procurement & PO for Genset	174	31-Jul-22 A	31-Jan-23	01-Jun-22	13-Jul-22	-203		S5SDBP1200
S5SDBP1485	Procurement & PO for DI pipework (G/F and 1/F)	160	24-Aug-22 A	31-Jan-23	29-Jul-22	09-Sep-22	-145		S5SDBP1555
S5SDBP1575	Procurement & PO for Process Water Pumps	45	21-Dec-22*	03-Feb-23	17-Sep-22	01-Nov-22	-95		S5SDBP1565
S5SDBP1595	Procurement & PO for FRP ductworks	45	31-Oct-22 A	30-Dec-22	12-Jan-23	22-Jan-23	23		S5SDBP1585
S5SDBP1615	Procurement & PO for DI pipework (B/F)	45	17-Aug-22 A	20-Oct-22 A	10-Aug-22	10-Aug-22			S5SDBP1605
S5SDBP1630	Procurement & PO for Sludge Skip (PS Screen & Dewatering Screen)	75	18-Nov-22 A	31-Jan-23	12-Nov-22	24-Dec-22	-39		S5SDBP1310
Mechanical		612	11-Aug-21 A	14-Jul-23	22-May-22	07-Sep-23	55		
Fabrication and FAT		603	11-Aug-21 A	14-Jun-23	22-May-22	07-Sep-23	85		
S5SDBP1140	Fabrication & FAT of PS Screen Feed Pump	201	11-Apr-22 A	28-Oct-22 A	30-Dec-22	30-Dec-22			S5SDBP1145
S5SDBP1150	Fabrication & FAT of Sludge Screen	350	11-Aug-21 A	26-Jul-22 A	11-Feb-23	11-Feb-23			S5SDBP1155
S5SDBP1170	Fabrication & FAT of External Sludge Transfer Pump	201	11-Apr-22 A	28-Oct-22 A	06-Jan-23	06-Jan-23			S5SDBP1085
S5SDBP1210	Fabrication & Delivery of Lift	210	18-Dec-21 A	10-Aug-22 A	07-Sep-23	07-Sep-23			S5SDBC1770
S5SDBP1212	FAT of Sludge Thickening Centrifuges	16	16-May-22 A	31-May-22 A	23-Nov-22	23-Nov-22		S5SDBP1260	S5SDBP1215
S5SDBP1230	Fabrication and FAT of Recirculation Pumps	175	10-Mar-22 A	31-Aug-22 A	25-Sep-22	25-Sep-22			S5SDBP1185
S5SDBP1240	Fabrication and FAT of Primary Sludge Holding Tank Mixer	191	22-Sep-22 A	31-Mar-23	03-Oct-22	12-Jan-23	-79		S5SDBP1195
S5SDBP1242	FAT of Sludge Dewatering Centrifuges	62	06-Jul-22 A	05-Sep-22 A	23-Dec-22	23-Dec-22		S5SDBP1290	S5SDBP1245
S5SDBP1250	Fabrication and FAT of Thickening Centrifuge Feed Pump	201	11-Apr-22 A	28-Oct-22 A	30-Dec-22	30-Dec-22			S5SDBP1205
S5SDBP1260	Fabrication of Sludge Thickening Centrifuges	206	22-Oct-21 A	15-May-22 A	23-Nov-22	23-Nov-22			S5SDBP1212
S5SDBP1270	Fabrication and FAT of Thickening Sludge Silo	98	01-Nov-22 A	06-Feb-23	03-Feb-23	23-Mar-23	45		S5SDBP1225
S5SDBP1280	Fabrication and FAT of THP Feed Pump	100	31-Aug-22 A	28-Feb-23	22-Oct-22	31-Dec-22	-60		S5SDBP1235
S5SDBP1290	Fabrication of Sludge Dewatering Centrifuges	238	10-Nov-21 A	05-Jul-22 A	23-Dec-22	23-Dec-22			S5SDBP1242
S5SDBP1300	Fabrication and FAT of Conveyor	135	17-Oct-22 A	30-Mar-23	14-Oct-22	22-Jan-23	-68		S5SDBP1265
S5SDBP1310	Fabrication and FAT of Sludge Skip (PS Screen & Dewatering Screen)	90	17-Mar-23*	14-Jun-23	24-Dec-22	24-Mar-23	-83	S5SDBP1630	S5SDBP1275
S5SDBP1320	Fabrication and FAT of Centrate Transfer Pumps	313	25-Mar-22 A	17-Feb-23	22-May-22	20-Jul-22	-213		S5SDBP1295
S5SDBP1330	Fabrication and FAT of Thickening Polymer Powder Unit	226	06-Apr-22 A	17-Nov-22 A	07-Nov-22	07-Nov-22			S5SDBP1315, S5SDBP1380
S5SDBP1340	Fabrication and FAT of Preparation Tank Mixers	310	28-Mar-22 A	17-Feb-23	25-Oct-22	23-Dec-22	-57		S5SDBP1325
S5SDBP1350	Fabrication and FAT of Storage Tank Mixers	310	28-Mar-22 A	17-Feb-23	25-Oct-22	23-Dec-22	-57		S5SDBP1335
S5SDBP1360	Fabrication and FAT of Polymer Transfer Pumps	201	11-Apr-22 A	28-Oct-22 A	23-Dec-22	23-Dec-22			S5SDBP1345
S5SDBP1370	Fabrication and FAT of FRP Tank (Thickening & Dewatering Polymer Dosing System)	75	21-Dec-22*	05-Mar-23	30-Aug-22	13-Nov-22	-113		S5SDBP1365
S5SDBP1380	Fabrication and FAT of Dewatering Polymer Powder Unit	226	06-Apr-22 A	17-Nov-22 A	12-Dec-22	12-Dec-22		S5SDBP1330	S5SDBP1385
S5SDBP1390	Fabrication and FAT of Polymer Dosing Pumps	201	11-Apr-22 A	28-Oct-22 A	13-Feb-23	13-Feb-23			S5SDBP1355
S5SDBP1450	Fabrication and FAT of Dewatering Centrifuge Feed Pumps	201	11-Apr-22 A	28-Oct-22 A	29-Nov-22	29-Nov-22			S5SDBP1455
S5SDBP1460	Fabrication and FAT of Mixers (Digested Sludge Holding Tank)	90	22-Sep-22 A	17-Feb-23	14-Dec-22	11-Feb-23	-7		S5SDBP1465
S5SDBP1470	Fabrication and FAT of Sludge Transfer Pumps (THP By Pass)	201	11-Apr-22 A	28-Oct-22 A	23-Dec-22	23-Dec-22			S5SDBP1475



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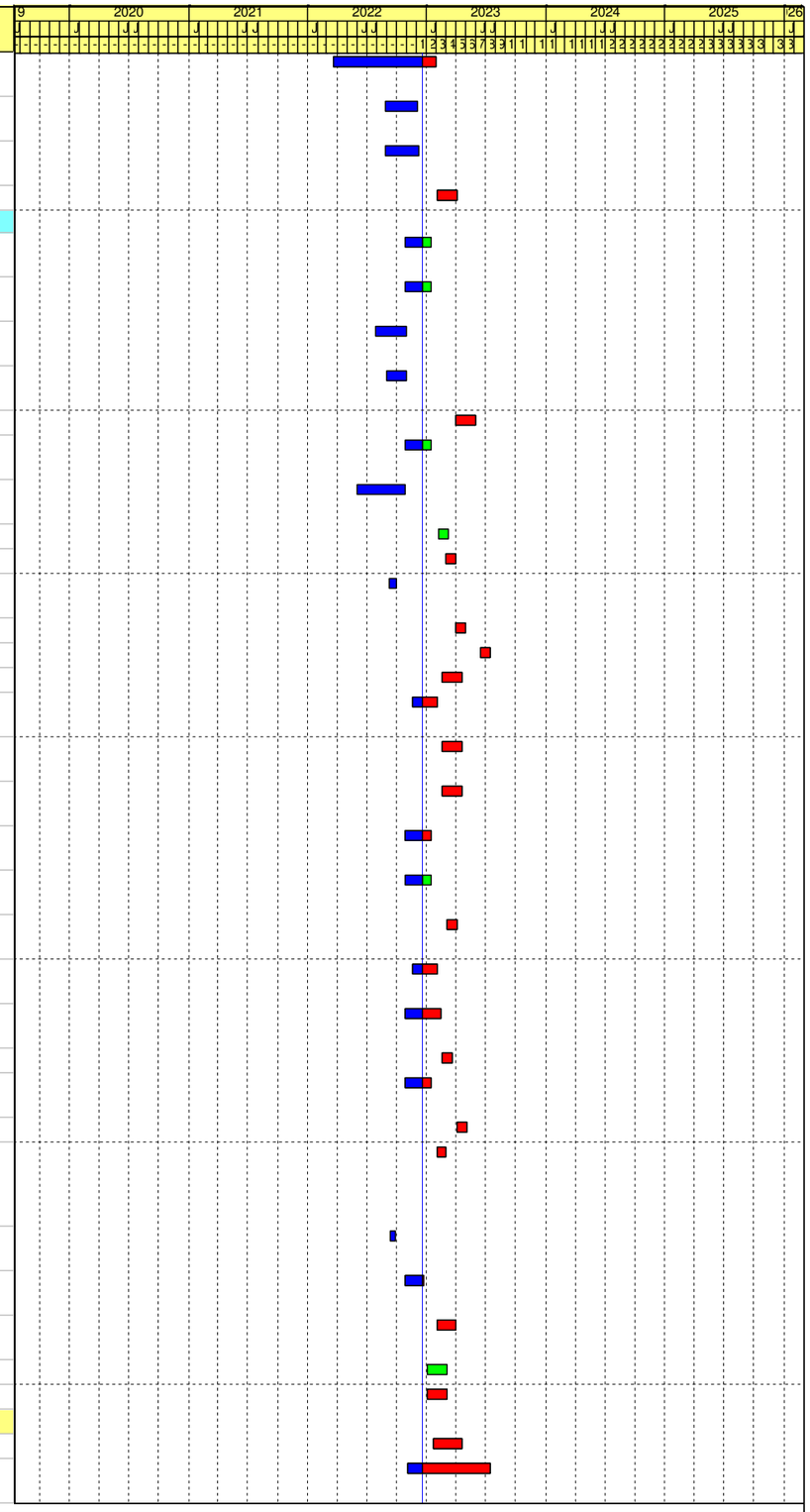
31-Dec-22	Rev.29	LT	KM

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S5SDBP1520	Fabrication and FAT of Hoist	197	21-Mar-22 A	31-Jan-23	14-Aug-22	25-Sep-22	-129		S5SDBP1525
S5SDBP1530	Fabrication and FAT of Steel Work (Monorails)	60	29-Aug-22 A	03-Dec-22 A	07-Jan-23	07-Jan-23			S5SDBP1535
S5SDBP1540	Fabrication and FAT of Steel Work (EOT)	60	29-Aug-22 A	09-Dec-22 A	12-Oct-22	12-Oct-22			S5SDBP1545
S5SDBP1565	Fabrication and FAT of Process Water Pumps	60	04-Feb-23	04-Apr-23	01-Nov-22	31-Dec-22	-95	S5SDBP1575	S5SDBP1495
Delivery		297	01-Jun-22 A	14-Jul-23	20-Jul-22	23-Apr-23	-83		
S5SDBP1085	Delivery of External Sludge Transfer Pump	78	29-Oct-22 A	13-Jan-23	06-Jan-23	30-Jan-23	17	S5SDBP1170	S5SDBC1135
S5SDBP1145	Delivery of PS Screen Feed Pump	78	29-Oct-22 A	13-Jan-23	30-Dec-22	23-Jan-23	10	S5SDBP1140	S5SDBC1790
S5SDBP1155	Delivery of Sludge Screen Press	76	27-Jul-22 A	31-Oct-22 A	11-Feb-23	11-Feb-23		S5SDBP1150	S5SDBC1590
S5SDBP1185	Delivery of Recirculation Pumps	60	01-Sep-22 A	31-Oct-22 A	25-Sep-22	25-Sep-22		S5SDBP1230	S5SDBC1115, S5SDBC1165
S5SDBP1195	Delivery of Primay Sludge Holding Tank Mixer	60	01-Apr-23	30-May-23	12-Jan-23	13-Mar-23	-79	S5SDBP1240	S5SDBC1314
S5SDBP1205	Delivery of Thickening Centrifuges Feed Pump	95	29-Oct-22 A	13-Jan-23	30-Dec-22	23-Jan-23	10	S5SDBP1250	S5SDBC1175
S5SDBP1215	Delivery of Sludge Thickening Centrifuges	143	01-Jun-22 A	28-Oct-22 A	23-Nov-22	23-Nov-22		S5SDBP1212	S5SDBC1570
S5SDBP1225	Delivery of Thickening Sludge Silo	30	07-Feb-23	08-Mar-23	23-Mar-23	22-Apr-23	45	S5SDBP1270	S5SDBC1450
S5SDBP1235	Delivery of THP Feed Pump	30	01-Mar-23	30-Mar-23	31-Dec-22	30-Jan-23	-60	S5SDBP1280	S5SDBC1780
S5SDBP1245	Delivery of Sludge Dewatering Centrifuges	24	07-Sep-22 A	30-Sep-22 A	23-Dec-22	23-Dec-22		S5SDBP1242	S5SDBC1580
S5SDBP1265	Delivery of Conveyor	30	31-Mar-23	29-Apr-23	22-Jan-23	21-Feb-23	-68	S5SDBP1300	S5SDBC1450
S5SDBP1275	Delivery of Sludge Skip (PS Screen & Dewatering Screen)	30	15-Jun-23	14-Jul-23	24-Mar-23	23-Apr-23	-83	S5SDBP1310	S5SDBC1870
S5SDBP1295	Delivery of Centrate Transfer Pumps	60	18-Feb-23	18-Apr-23	20-Jul-22	18-Sep-22	-213	S5SDBP1320	S5SDBC1105
S5SDBP1315	Delivery of Thickening Polymer Powder Unit	75	18-Nov-22 A	04-Feb-23	07-Nov-22	23-Dec-22	-44	S5SDBP1330	S5SDBC1470, S5SDBC1265
S5SDBP1325	Delivery of Preparation Tank Mixers	60	18-Feb-23	18-Apr-23	23-Dec-22	21-Feb-23	-57	S5SDBP1340	S5SDBC1600, S5SDBC1285
S5SDBP1335	Delivery of Storage Tank Mixers	60	18-Feb-23	18-Apr-23	23-Dec-22	21-Feb-23	-57	S5SDBP1350	S5SDBC1600, S5SDBC1285
S5SDBP1345	Delivery of Polymer Transfer Pumps	138	29-Oct-22 A	13-Jan-23	23-Dec-22	16-Jan-23	3	S5SDBP1360	S5SDBC1145, S5SDBC1810
S5SDBP1355	Delivery of Polymer Dosing Pumps	78	29-Oct-22 A	13-Jan-23	13-Feb-23	09-Mar-23	55	S5SDBP1390	S5SDBC1610, S5SDBC1325
S5SDBP1365	Delivery of FRP Tank (Thickening & Dewatering Polymer Dosing System)	30	06-Mar-23	04-Apr-23	13-Nov-22	13-Dec-22	-113	S5SDBP1370	S5SDBC1560, S5SDBC1275
S5SDBP1385	Delivery of Dewatering Polymer Powder Unit	30	18-Nov-22 A	04-Feb-23	12-Dec-22	27-Jan-23	-9	S5SDBP1380	S5SDBC1265
S5SDBP1455	Delivery of Dewatering Centrifuges Feed Pumps	78	29-Oct-22 A	13-Feb-23	29-Nov-22	23-Jan-23	-22	S5SDBP1450	S5SDBC1185
S5SDBP1465	Delivery of Mixers (Digested Sludge Holding Tank)	30	18-Feb-23	19-Mar-23	11-Feb-23	13-Mar-23	-7	S5SDBP1460	S5SDBC1312
S5SDBP1475	Delivery of Sludge Transfer Pumps (THP By Pass)	78	29-Oct-22 A	13-Jan-23	23-Dec-22	16-Jan-23	3	S5SDBP1470	S5SDBC1165
S5SDBP1495	Delivery of Process Water Pumps	30	05-Apr-23	04-May-23	31-Dec-22	30-Jan-23	-95	S5SDBP1565	S5SDBC1125
S5SDBP1525	Delivery of Hoist	28	01-Feb-23	28-Feb-23	25-Sep-22	23-Oct-22	-129	S5SDBP1520	S5SDBC1440, S5SDBC1550, S5SDBC1530, S5SDBC1540
S5SDBP1535	Delivery of Steel Work (Monorails)	14	12-Sep-22 A	25-Sep-22 A	07-Jan-23	07-Jan-23		S5SDBP1530	S5SDBC1440, S5SDBC1550
S5SDBP1545	Delivery of Steel Work (EOT)	40	28-Oct-22 A	24-Dec-22	12-Oct-22	16-Oct-22	-70	S5SDBP1540	S5SDBC1530, S5SDBC1540
S5SDBP1555	Fabrication and delivery of DI pipework (G/F and 1/F)	60	01-Feb-23	01-Apr-23	09-Sep-22	08-Nov-22	-145	S5SDBP1485	S5SDBC1460, S5SDBC1620
S5SDBP1585	Fabrication and delivery of FRP ductworks	60	05-Jan-23*	05-Mar-23	22-Jan-23	23-Mar-23	18	S5SDBP1595	S5SDBC1860
S5SDBP1605	Fabrication and delivery of DI pipework (B/F)	60	05-Jan-23*	05-Mar-23	10-Aug-22	09-Oct-22	-148	S5SDBP1615	S5SDBC1400
Electrical and Control		299	04-Nov-22 A	10-Aug-23	23-May-22	26-Feb-23	-166		
S5SDBP1171	Fabrication & Delivery of Cable	90	21-Jan-23*	20-Apr-23	04-Oct-22	02-Jan-23	-109		S5SDBC1225
S5SDBP1180	Fabrication & Delivery of SCADA System for G/F	252	04-Nov-22 A	14-Jul-23	04-Aug-22	26-Feb-23	-139		S5SDBC1700



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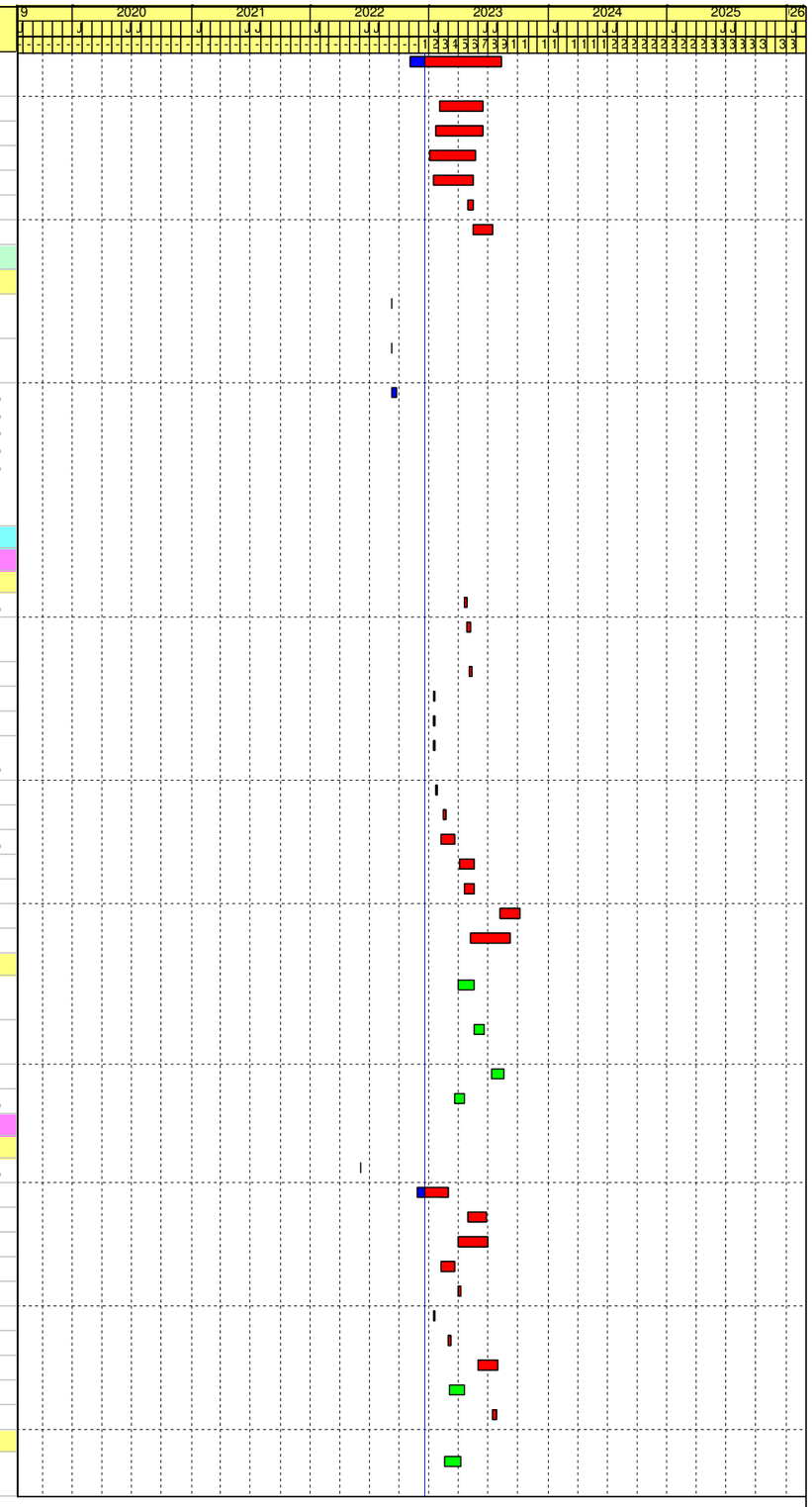
Remaining Work
Critical Activity
Milestone
Actual Progress

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 Dec 2022

Date	Revision	Checked	Approved
31-Aug-22	Rev.25	LT	KM
30-Sep-22	Rev.26	LT	KM
31-Oct-22	Rev.27	LT	KM
30-Nov-22	Rev.28	LT	KM
31-Dec-22	Rev.29	LT	KM

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S5SDBP1182	Fabrication & Delivery of SCADA System for 1/F	279	04-Nov-22 A	10-Aug-23	28-Jun-22	16-Feb-23	-176		S5SDBC1760
S5SDBP1200	Fabrication & Delivery of Genset	134	01-Feb-23	14-Jun-23	13-Jul-22	24-Nov-22	-203	S5SDBP1190	S5SDBC1500
S5SDBP1220	Fabrication & Delivery of LV Switchboard for G/F	142	24-Jan-23*	14-Jun-23	14-Jul-22	03-Dec-22	-194		S5SDBC1520
S5SDBP1223	Fabrication & Delivery of LV Switchboard for 1/F	141	03-Jan-23*	23-May-23	14-Jul-22	02-Dec-22	-173		S5SDBC1375
S5SDBP1600	Fabrication of 380V Transfomers	120	16-Jan-23*	15-May-23	23-May-22	20-Sep-22	-238		S5SDBP1610
S5SDBP1610	FAT for 380V Transfomers	14	02-May-23	15-May-23	06-Sep-22	20-Sep-22	-238	S5SDBP1600	S5SDBP1620
S5SDBP1620	Delivery of 380V Transfomers	60	16-May-23	14-Jul-23	20-Sep-22	19-Nov-22	-238	S5SDBP1610	S5SDBC1510
Installation		522	06-Jun-22 A	04-Jan-24	23-Mar-22	16-Apr-25	468		
NCE-PMI-0325 - Provision of 2 nos of 3 Tons Mobile A-frame with Electrical Hoist in SDB		522	06-Jun-22 A	04-Jan-24	23-Mar-22	16-Apr-25	468		
S5SDBC1650	Access to Sludge Dewatering Building (Impacted by EWN-0314)	1	09-Sep-22 A	09-Sep-22 A	23-Mar-22	23-Mar-22			S5SDBC1670
S5SDBC1660	Access to Sludge Dewatering Building (Impacted by EWN-0314-1)	1	09-Sep-22 A	09-Sep-22 A	23-Mar-22	23-Mar-22			S5SDBC1670
S5SDBC1670	Mobilisation	15	09-Sep-22 A	23-Sep-22 A	23-Mar-22	23-Mar-22		S5SDBC1650, S5SDBC1660	S5SDBC1430, S5SDBC1480, S5SDBC1520, S5SDBC1410, S5SDBC1500, S5SDBC1115, S5SDBC1265
E&M Installation		522	06-Jun-22 A	04-Jan-24	12-May-22	16-Apr-25	468		
Basement		266	14-Jan-23	06-Oct-23	18-Sep-22	16-Apr-25	558		
Mechanical		266	14-Jan-23	06-Oct-23	18-Sep-22	23-Mar-23	-198		
S5SDBC1105	Installation of Centrate Transfer Pumps (3 nos.)	7	19-Apr-23	25-Apr-23	18-Sep-22	25-Sep-22	-213	S5SDBP1295	S5SDBC1400,
S5SDBC1115	Installation of Recirculation Pumps for Centrate Tank, Sludge Blend Tanks & THP by-pass Sludge Holding Tank (6 nos,)	14	26-Apr-23	09-May-23	25-Sep-22	09-Oct-22	-213	S5SDBP1185, S5SDBC1670,	S5SDBT1080, S5SDBC1400
S5SDBC1125	Installation of Process Water Pumps (3 nos.)	7	05-May-23	11-May-23	30-Jan-23	06-Feb-23	-95	S5SDBP1495,	S5SDBT1080,
S5SDBC1135	Installation of External Sludge Transfer Pumps (2 nos.)	7	14-Jan-23	20-Jan-23	30-Jan-23	06-Feb-23	17	S5SDBP1085	S5SDBT1080,
S5SDBC1145	Installation of Sludge Dewatering Polymer Transfer Pumps (2 nos.)	7	14-Jan-23	20-Jan-23	16-Jan-23	23-Jan-23	3	S5SDBP1345	S5SDBT1080,
S5SDBC1165	Installation of THP by-pass Sludge Holding Tank Transfer Pumps (4 nos.)	7	14-Jan-23	20-Jan-23	16-Jan-23	23-Jan-23	3	S5SDBP1475, S5SDBP1185,	S5SDBT1080, S5SDBC1400,
S5SDBC1175	Installation of Thickening Centrifuges Feed Pumps (4 nos.)	7	21-Jan-23	27-Jan-23	23-Jan-23	30-Jan-23	3	S5SDBP1205,	S5SDBT1080,
S5SDBC1185	Installation of Dewatering Centrifuges Feed Pumps (3 nos.)	7	14-Feb-23	20-Feb-23	23-Jan-23	30-Jan-23	-22	S5SDBP1455,	S5SDBT1080,
S5SDBC1265	Installation of Dewatering Polymer Powder Feed Units	45	05-Feb-23	21-Mar-23	27-Jan-23	13-Mar-23	-9	S5SDBP1385,	S5SDBC1710,
S5SDBC1275	Installation of Dewatering Polymer Preparation Tanks	45	05-Apr-23	19-May-23	13-Dec-22	27-Jan-23	-113	S5SDBP1365	S5SDBC1560
S5SDBC1285	Installation of Polymer Mixer	30	19-Apr-23	18-May-23	21-Feb-23	23-Mar-23	-57	S5SDBP1335,	S5SDBT1160
S5SDBC1305	Installation of Instruments	60	08-Aug-23	06-Oct-23	07-Jan-23	08-Mar-23	-213	S5SDBC1400	S5SDBT1181
S5SDBC1400	Installation of Process Pipe	120	10-May-23	06-Sep-23	09-Oct-22	06-Feb-23	-213	S5SDBC1115,	S5SDBT1100,
Electrical		150	22-Mar-23	18-Aug-23	08-Aug-23	16-Apr-25	607		
S5SDBC1072	Installation of Electrical System - Wall Mount Equipment, Conduit & Wiring	50	01-Apr-23	20-May-23	18-Aug-23	07-Oct-23	140	S5SDBC1710	S5SDBC1074
S5SDBC1074	Installation of Electrical System - Lighting and Small Power Accessories	30	21-May-23	19-Jun-23	07-Oct-23	06-Nov-23	140	S5SDBC1072	S5SDBT1120
S5SDBC1095	Installation of Control Cable Laying	40	10-Jul-23	18-Aug-23	08-Mar-25	16-Apr-25	607	S5SDBC1710	
S5SDBC1710	Installation of Electrical System - Cable Containment	30	22-Mar-23	20-Apr-23	08-Aug-23	07-Sep-23	140	S5SDBC1265,	S5SDBC1072,
Ground Floor		442	06-Jun-22 A	16-Oct-23	12-May-22	06-Nov-23	21		
Mechanical		364	06-Jun-22 A	30-Jul-23	23-Oct-22	07-May-23	-85		
S5SDBC1430	Installation of A-Frame (Effected by NCE-PMI-0325)	3	06-Jun-22 A	06-Jun-22 A	23-Oct-22	23-Oct-22		S5SDBC1670	S5SDBC1560,
S5SDBC1440	Installation of Monorail LA-01-01	60	25-Nov-22 A	28-Feb-23	07-Jan-23	30-Jan-23	-30	S5SDBC1550,	S5SDBC1810
S5SDBC1450	Installation of Silo & Conveyor	60	30-Apr-23	28-Jun-23	21-Feb-23	22-Apr-23	-68	S5SDBP1225,	S5SDBT1068
S5SDBC1460	Installation of Process Pipe	90	02-Apr-23	30-Jun-23	08-Nov-22	06-Feb-23	-145	S5SDBP1555,	S5SDBT1100,
S5SDBC1470	Installation of Sludge Thickening Polymer Preparation Tanks	45	05-Feb-23	21-Mar-23	23-Dec-22	06-Feb-23	-44	S5SDBP1315	S5SDBT1058,
S5SDBC1780	Installation of THP Feed Pumps (4 nos.)	7	31-Mar-23	06-Apr-23	30-Jan-23	06-Feb-23	-60	S5SDBP1235	S5SDBT1080,
S5SDBC1790	Installation of PS Screen Feed Pumps (3 nos.)	7	14-Jan-23	20-Jan-23	23-Jan-23	30-Jan-23	10	S5SDBP1145	S5SDBT1080,
S5SDBC1810	Installation of Sludge Thickening Polymer Transfer Pumps (2 nos.)	7	01-Mar-23	07-Mar-23	30-Jan-23	06-Feb-23	-30	S5SDBP1345,	S5SDBT1080,
S5SDBC1840	Installation of Instruments	60	01-Jun-23	30-Jul-23	07-Jan-23	08-Mar-23	-145	S5SDBC1460	S5SDBT1181
S5SDBC1860	Installation of DOU Ductworks	45	06-Mar-23	19-Apr-23	23-Mar-23	07-May-23	18	S5SDBP1585	S5T1060
S5SDBC1870	Position of Sludge Skips and Installation of Hydraulic System	14	15-Jul-23	28-Jul-23	23-Apr-23	07-May-23	-83	S5SDBP1275	S5T1060
Electrical		250	09-Feb-23	16-Oct-23	12-May-22	06-Nov-23	21		
S5SDBC1172	Installation of Electrical System - Wall Mount Equipment, Conduit & Wiring	50	18-Feb-23	08-Apr-23	18-Aug-23	07-Oct-23	182	S5SDBC1680	S5SDBC1174



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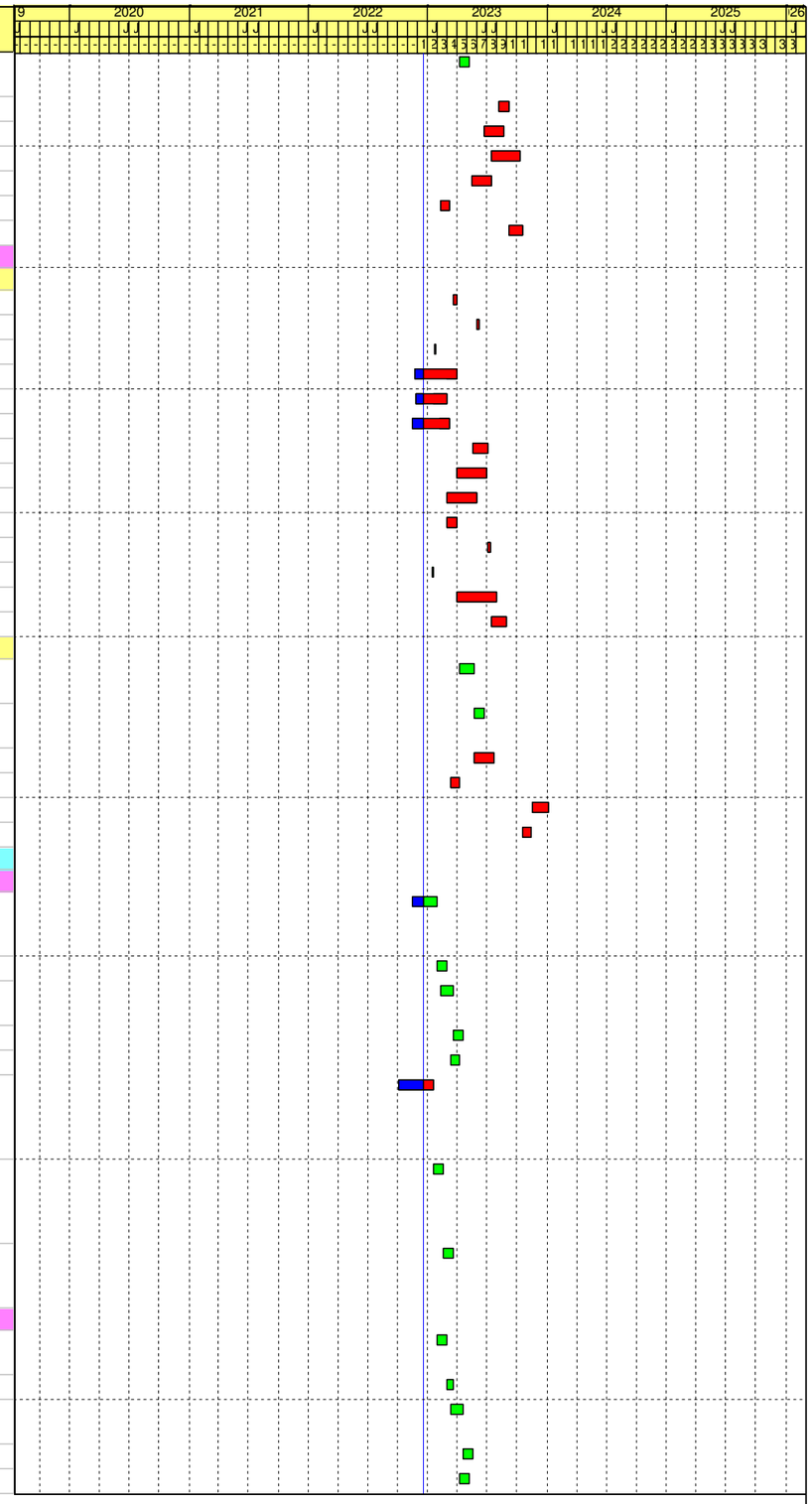
Remaining Work
Critical Activity
Milestone
Actual Progress

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 Dec 2022

Date	Revision	Checked	Approved
31-Aug-22	Rev.25	LT	KM
30-Sep-22	Rev.26	LT	KM
31-Oct-22	Rev.27	LT	KM
30-Nov-22	Rev.28	LT	KM
31-Dec-22	Rev.29	LT	KM

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S5SDBC1174	Installation of Electrical System - Lighting and Small Power Accessories	30	09-Apr-23	08-May-23	07-Oct-23	06-Nov-23	182	S5SDBC1172	S5SDBT1120
S5SDBC1195	Installation of Control Cable Laying	30	08-Aug-23	06-Sep-23	27-Jan-23	26-Feb-23	-193	S5SDBC1680	S5SDBC1700
S5SDBC1225	Installation of Power Cable Laying and Termination	60	24-Jun-23	22-Aug-23	02-Jan-23	03-Mar-23	-173	S5SDBC1520,	S5SDBT1060
S5SDBC1510	TX Room Installation	90	15-Jul-23	12-Oct-23	19-Nov-22	17-Feb-23	-238	S5SDBP1620	S5SDBT1190
S5SDBC1520	LV Switchroom Installation	60	16-May-23	14-Jul-23	03-Nov-22	02-Jan-23	-194	S5SDBC1670,	S5SDBT1090,
S5SDBC1680	Installation of Electrical System - Cable Containment	30	09-Feb-23	10-Mar-23	12-May-22	11-Jun-22	-273	S5SDBC1480,	S5SDBC1172,
S5SDBC1700	Installation of SCADA System / Control Monitoring System	40	07-Sep-23	16-Oct-23	26-Feb-23	07-Apr-23	-193	S5SDBP1180,	S5SDBT1180
First Floor		356	17-Nov-22 A	04-Jan-24	11-Jun-22	06-Nov-23	-60		
Mechanical		228	17-Nov-22 A	29-Aug-23	16-Oct-22	22-Apr-23	-130		
S5SDBC1312	Installation of Mixer for Digested Sludge Holding Tank	10	22-Mar-23	31-Mar-23	13-Mar-23	23-Mar-23	-9	S5SDBP1465,	S5SDBT1160
S5SDBC1314	Installation of Mixer for PS holding tank	10	31-May-23	09-Jun-23	13-Mar-23	23-Mar-23	-79	S5SDBP1195,	S5SDBT1160
S5SDBC1325	Installation of Sludge Thickening Polymer Dosing Pumps (5 nos.)	7	21-Jan-23	27-Jan-23	16-Mar-23	23-Mar-23	55	S5SDBP1355,	S5SDBT1080,
S5SDBC1530	Installation of EOT Crane LA-01-03	60	22-Nov-22 A	31-Mar-23	23-Oct-22	23-Nov-22	-129	S5SDBC1430,	S5SDBC1570
S5SDBC1540	Installation of EOT Crane LA-01-02	60	28-Nov-22 A	28-Feb-23	16-Oct-22	26-Nov-22	-95	S5SDBP1545,	S5SDBC1580,
S5SDBC1550	Installation of Monorail LA-01-04	30	17-Nov-22 A	07-Mar-23	07-Jan-23	06-Feb-23	-30	S5SDBP1535,	S5SDBC1440
S5SDBC1560	Installation of Sludge Dewatering / Thickening Polymer Dilution Tanks	45	20-May-23	03-Jul-23	27-Jan-23	13-Mar-23	-113	S5SDBC1430,	S5SDBT1058,
S5SDBC1570	Installation of Sludge Thickening Centrifuges (4 nos.)	90	01-Apr-23	29-Jun-23	23-Nov-22	21-Feb-23	-129	S5SDBC1530,	S5SDBT1032,
S5SDBC1580	Installation of Sludge Dewatering Centrifuges (3 nos)	90	01-Mar-23	29-May-23	23-Dec-22	23-Mar-23	-68	S5SDBC1540,	S5SDBT1070,
S5SDBC1590	Installation of Screen Press	30	01-Mar-23	30-Mar-23	11-Feb-23	13-Mar-23	-18	S5SDBC1430,	S5SDBT1170,
S5SDBC1600	Installation of Mixer for Polymer Tank	10	04-Jul-23	13-Jul-23	13-Mar-23	23-Mar-23	-113	S5SDBP1335,	S5SDBT1160
S5SDBC1610	Installation of Sludge Dewatering Polymer Dosing Pumps (4 nos.)	7	14-Jan-23	20-Jan-23	09-Mar-23	16-Mar-23	55	S5SDBP1355	S5SDBT1080,
S5SDBC1620	Installation of Process Pipe	120	02-Apr-23	30-Jul-23	23-Nov-22	23-Mar-23	-130	S5SDBP1555,	S5SDBT1100,
S5SDBC1850	Installation of Instruments	45	16-Jul-23	29-Aug-23	08-Mar-23	22-Apr-23	-130	S5SDBC1620	S5SDBT1181
Electrical		300	11-Mar-23	04-Jan-24	11-Jun-22	06-Nov-23	-60		
S5SDBC1372	Installation of Electrical System - Wall Mount Equipment, Conduit & Wiring	45	10-Apr-23	24-May-23	23-Aug-23	07-Oct-23	136	S5SDBC1740	S5SDBC1374
S5SDBC1374	Installation of Electrical System - Lighting and Small Power Accessories	30	25-May-23	23-Jun-23	07-Oct-23	06-Nov-23	136	S5SDBC1372	S5SDBT1120
S5SDBC1375	LV Switchroom Installation	60	24-May-23	22-Jul-23	02-Dec-22	31-Jan-23	-173	S5SDBP1223	S5SDBC1225
S5SDBC1740	Installation of Electrical System - Cable Containment	30	11-Mar-23	09-Apr-23	11-Jun-22	11-Jul-22	-273	S5SDBC1680,	S5SDBT1060,
S5SDBC1760	Installation of SCADA System / Control Monitoring System	50	16-Nov-23	04-Jan-24	16-Feb-23	07-Apr-23	-273	S5SDBC1740,	S5SDBT1180
S5SDBC1800	Installation of Control Cable Laying	30	17-Oct-23	15-Nov-23	17-Jan-23	16-Feb-23	-273	S5SDBC1740	S5SDBC1760
BS Installation		250	03-Oct-22 A	16-Sep-23	23-Mar-22	08-Jan-24	114		
Basement		100	03-Oct-22 A	19-Apr-23	23-Mar-22	08-Jan-24	264		
S5SDBC1052	Installation of FS System - Conduit & Wiring	40	14-Nov-22 A	29-Jan-23	03-Aug-23	12-Sep-23	226		S5SDBC1054, S5S1130, S5SDBC1152
S5SDBC1054	Installation of FS System - Dropper, Sprinkler Head, Detector & Devices	30	30-Jan-23	28-Feb-23	22-Oct-23	21-Nov-23	266	S5SDBC1052	S5SDBT1130
S5SDBC1062	Installation of MVAC System - Wall Mount Equipment, Branch Duct & Pipework	40	09-Feb-23	20-Mar-23	28-Aug-23	07-Oct-23	201	S5SDBC1420	S5SDBC1064
S5SDBC1064	Installation of MVAC System - Air Grills & Diffuser	30	21-Mar-23	19-Apr-23	07-Oct-23	06-Nov-23	201	S5SDBC1062	S5SDBT1140
S5SDBC1084	Installation of Plumbing System - Sanitary Fitting	30	11-Mar-23	09-Apr-23	09-Dec-23	08-Jan-24	274	S5SDBC1720	S5SDBT1150
S5SDBC1410	Installation of FS System - Pipework	30	03-Oct-22 A	19-Jan-23	23-Mar-22	22-Apr-22	-273	S5SDBC1670	S5SDBC1420, S5SDBC1710, S5SDBC1630, S5SDBC1480
S5SDBC1420	Installation of MVAC System - Ceiling Mount Equipment, Main Ductwork and Pipework	30	20-Jan-23	18-Feb-23	09-Jul-23	08-Aug-23	171	S5SDBC1410	S5SDBC1640, S5SDBC1062, S5SDBC1720, S5SDBC1490
S5SDBC1720	Installation of Plumbing System - Pipework	30	19-Feb-23	20-Mar-23	20-Oct-23	19-Nov-23	244	S5SDBC1420	S5SDBC1750, S5SDBC1084, S5SDBC1690
Ground Floor		240	20-Jan-23	16-Sep-23	22-Apr-22	08-Jan-24	114		
S5SDBC1152	Installation of FS System - Conduit & Wiring	30	30-Jan-23	28-Feb-23	12-Sep-23	12-Oct-23	226	S5SDBC1052	S5SDBC1154, S5S1130
S5SDBC1154	Installation of FS System - Dropper, Sprinkler Head, Detector & Devices	20	01-Mar-23	20-Mar-23	01-Nov-23	21-Nov-23	246	S5SDBC1152	S5SDBT1130
S5SDBC1162	Installation of MVAC System - Wall Mount Equipment, Branch Duct & Pipework	40	11-Mar-23	19-Apr-23	28-Aug-23	07-Oct-23	171	S5SDBC1490	S5SDBC1164
S5SDBC1164	Installation of MVAC System - Air Grills & Diffuser	30	20-Apr-23	19-May-23	07-Oct-23	06-Nov-23	171	S5SDBC1162	S5SDBT1140
S5SDBC1184	Installation of Plumbing System - Sanitary Fitting	30	10-Apr-23	09-May-23	09-Dec-23	08-Jan-24	244	S5SDBC1690	S5SDBT1150



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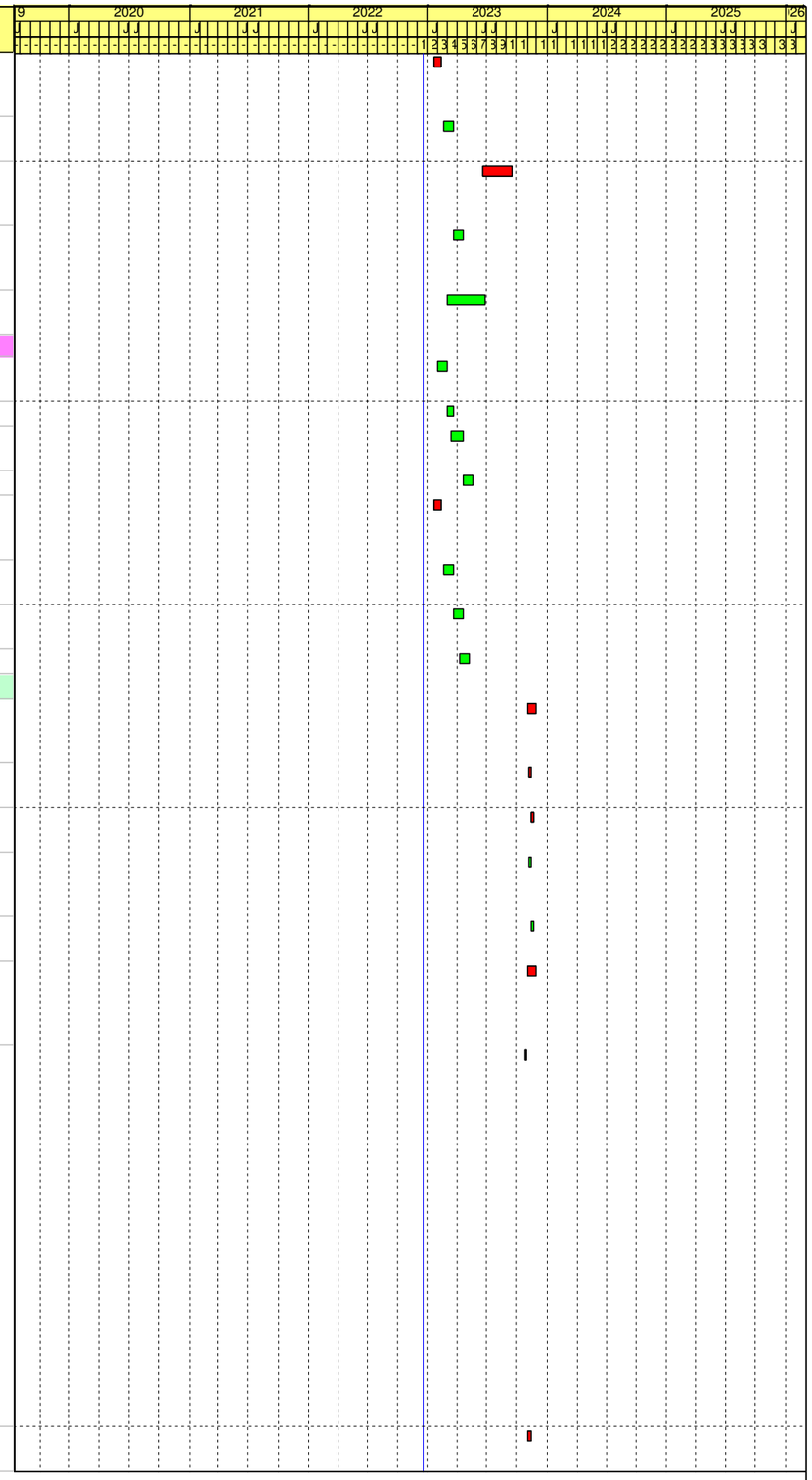
S5SDBC1480	Installation of FS System - Pipework	20	20-Jan-23	08-Feb-23	22-Apr-22	12-May-22	-273	S5SDBC1670, S5SDBC1410	S5SDBC1490, S5SDBC1680, S5SDBC1690
S5SDBC1490	Installation of MVAC System - Ceiling Mount Equipment, Main Ductwork and Pipework	30	19-Feb-23	20-Mar-23	08-Aug-23	07-Sep-23	171	S5SDBC1480, S5SDBC1420	S5SDBC1162, S5SDBC1690
S5SDBC1500	Generator & Fuel Room Installation	90	19-Jun-23	16-Sep-23	24-Nov-22	22-Feb-23	-207	S5SDBP1200, S5SDBC1670, S5S1010	S5SDBT1078
S5SDBC1690	Installation of Plumbing System - Pipework	30	21-Mar-23	19-Apr-23	19-Nov-23	19-Dec-23	244	S5SDBC1480, S5SDBC1490, S5SDBC1720	S5SDBC1184
S5SDBC1770	Installation of Lift	120	01-Mar-23	28-Jun-23	07-Sep-23	05-Jan-24	191	S5SDBP1210, S5WS2C1190	S5SDBT1110
First Floor		120	20-Jan-23	19-May-23	22-May-22	08-Jan-24	234		
S5SDBC1352	Installation of FS System - Conduit & Wiring	30	30-Jan-23	28-Feb-23	12-Sep-23	12-Oct-23	226	S5SDBC1630	S5SDBC1354, S5S1130
S5SDBC1354	Installation of FS System - Dropper, Sprinkler Head, Detector & Devices	20	01-Mar-23	20-Mar-23	01-Nov-23	21-Nov-23	246	S5SDBC1352	S5SDBT1130
S5SDBC1362	Installation of MVAC System - Wall Mount Equipment, Branch Duct & Pipework	40	11-Mar-23	19-Apr-23	28-Aug-23	07-Oct-23	171	S5SDBC1640	S5SDBC1364
S5SDBC1364	Installation of MVAC System - Air Grills & Diffuser	30	20-Apr-23	19-May-23	07-Oct-23	06-Nov-23	171	S5SDBC1362	S5SDBT1140
S5SDBC1630	Installation of FS System - Pipework	20	20-Jan-23	08-Feb-23	22-May-22	11-Jun-22	-243	S5SDBC1410	S5SDBC1352, S5SDBC1740, S5SDBC1640
S5SDBC1640	Installation of MVAC System - Ceiling Mount Equipment, Main Ductwork and Pipework	30	19-Feb-23	20-Mar-23	08-Aug-23	07-Sep-23	171	S5SDBC1420, S5SDBC1630	S5SDBC1362, S5SDBC1750
S5SDBC1750	Installation of Plumbing System - Pipework	30	21-Mar-23	19-Apr-23	19-Nov-23	19-Dec-23	244	S5SDBC1640, S5SDBC1720	S5SDBC1830
S5SDBC1830	Installation of Plumbing System - Sanitary Fitting	30	10-Apr-23	09-May-23	09-Dec-23	08-Jan-24	244	S5SDBC1750	S5SDBT1150
Testing and Commissioning		270	10-May-23	03-Feb-24	02-Jan-23	05-Mar-24	31		
S5SDBT1032	SAT for Sludge Thickening Cnetrifuge	30	01-Nov-23	30-Nov-23	07-Apr-23	07-May-23	-208	S5SDBT1060, S5SDBC1570, S5SDBT1191	S5T1060
S5SDBT1044	Wet Test for Pumps (excluded FS Water Pumps and Process Water Pumps)	7	08-Nov-23	14-Nov-23	23-Apr-23	30-Apr-23	-199	S5SDBT1080, S5SDBT1060	S5SDBT1045
S5SDBT1045	Functional Check for Pumps (excluded FS Water Pumps and Process Water Pumps)	7	15-Nov-23	21-Nov-23	30-Apr-23	07-May-23	-199	S5SDBT1044, S5SDBT1060	S5T1060
S5SDBT1047	Wet Test for Pumps (FS Water Pumps and Process Water Pumps)	7	08-Nov-23	14-Nov-23	07-Dec-23	14-Dec-23	30	S5SDBT1080, S5SDBT1060, S5SDBT1191	S5SDBT1048
S5SDBT1048	Functional Check for Pumps (FS Water Pumps and Process Water Pumps)	7	15-Nov-23	21-Nov-23	14-Dec-23	21-Dec-23	30	S5SDBT1060, S5SDBT1047	S5S1220
S5SDBT1058	SAT for Polymer System	30	01-Nov-23	30-Nov-23	07-Apr-23	07-May-23	-208	S5SDBC1560, S5SDBC1470, S5SDBC1265, S5SDBT1060	S5T1060
S5SDBT1060	Ready for Power Energisation - LV	5	27-Oct-23	31-Oct-23	03-Mar-23	08-Mar-23	-238	S5SDBC1740, S5SDBT1090, S5SDBC1225, S5SDBT1190	S5SDBT1070, S5SDBT1110, S5SDBT1032, S5SDBT1048, S5SDBT1047, S5SDBT1058, S5SDBT1068, S5SDBT1120, S5SDBT1130, S5SDBT1140, S5SDBT1150, S5SDBT1160, S5SDBT1170, S5SDBT1180, S5SDBT1181, S5SDBT1044, S5SDBT1045, S5SDBT1080, S5SDBT1191
S5SDBT1068	SAT for Conveyor	15	01-Nov-23	15-Nov-23	22-Apr-23	07-May-23	-193	S5SDBC1450, S5SDBT1060	S5T1060



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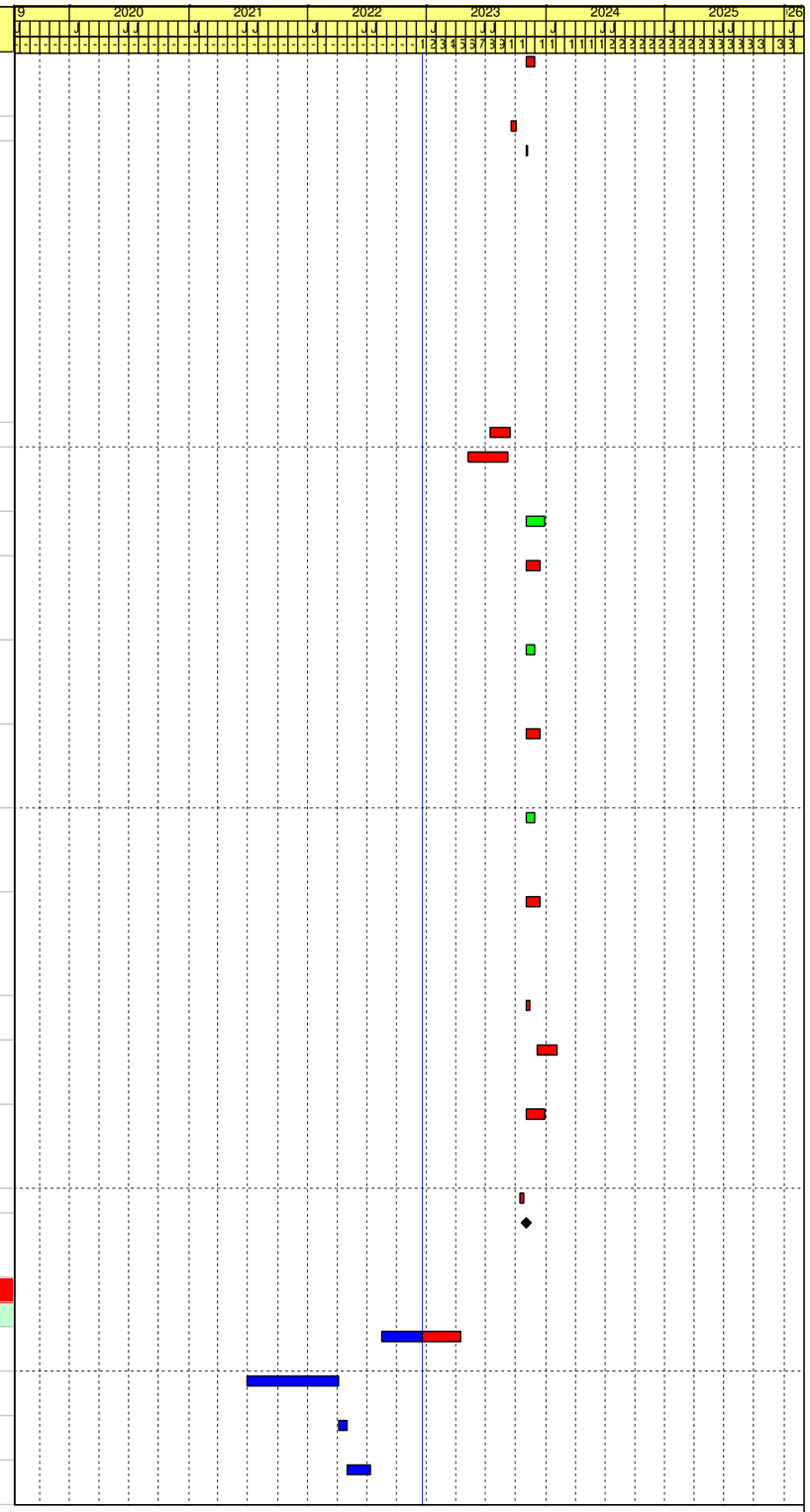
S5SDBT1070	SAT for Sludge Dewatering Centrifuges	30	01-Nov-23	30-Nov-23	07-Apr-23	07-May-23	-208	S5SDBT1060, S5SDBC1580, S5SDBT1191	S5T1060
S5SDBT1078	SAT of Emergency Generator System	15	17-Sep-23	01-Oct-23	22-Feb-23	09-Mar-23	-207	S5SDBC1500	S5S1280
S5SDBT1080	Dry Test for Pumps	7	01-Nov-23	07-Nov-23	16-Apr-23	23-Apr-23	-199	S5SDBC1790, S5SDBC1115, S5SDBC1125, S5SDBC1135, S5SDBC1145, S5SDBC1165, S5SDBC1175, S5SDBC1185, S5SDBC1780, S5SDBC1810, S5SDBC1610, S5SDBC1325, S5SDBC1105, S5SDBT1060	S5SDBT1044, S5SDBT1047
S5SDBT1090	SAT for Switchboard	60	15-Jul-23	12-Sep-23	02-Jan-23	03-Mar-23	-194	S5SDBC1520	S5SDBT1060
S5SDBT1100	Pipe Pressure Test	120	10-May-23	06-Sep-23	07-Jan-23	07-May-23	-123	S5SDBC1620, S5SDBC1460, S5SDBC1400	S5T1060
S5SDBT1110	SAT for Lift	60	01-Nov-23	30-Dec-23	05-Jan-24	05-Mar-24	66	S5SDBC1770, S5SDBT1060	S5S1090
S5SDBT1120	SAT of Electrical System (BS)	45	01-Nov-23	15-Dec-23	06-Nov-23	21-Dec-23	6	S5SDBC1174, S5SDBC1074, S5SDBC1374, S5SDBT1060	S5S1220
S5SDBT1130	SAT of FS System	30	01-Nov-23	30-Nov-23	21-Nov-23	21-Dec-23	21	S5SDBC1354, S5SDBC1154, S5SDBC1054, S5SDBT1060	S5S1220
S5SDBT1140	SAT of MVAC System	45	01-Nov-23	15-Dec-23	06-Nov-23	21-Dec-23	6	S5SDBC1364, S5SDBC1164, S5SDBC1064, S5SDBT1060	S5S1220
S5SDBT1150	SAT of Plumbing System	30	01-Nov-23	30-Nov-23	08-Jan-24	07-Feb-24	69	S5SDBC1084, S5SDBC1184, S5SDBC1830, S5SDBT1060	S5S1160
S5SDBT1160	SAT of Mixer	45	01-Nov-23	15-Dec-23	23-Mar-23	07-May-23	-223	S5SDBC1600, S5SDBC1312, S5SDBC1314, S5SDBC1285, S5SDBT1060	S5T1060
S5SDBT1170	SAT of Screen Press	15	01-Nov-23	15-Nov-23	22-Apr-23	07-May-23	-193	S5SDBC1590, S5SDBT1060	S5T1060
S5SDBT1180	SAT of SCADA, PMS, CMMS and IDMS	60	06-Dec-23	03-Feb-24	08-Mar-23	07-May-23	-273	S5SDBC1760, S5SDBC1700, S5SDBT1060	S5T1060
S5SDBT1181	SAT of Instrumentation	60	01-Nov-23	30-Dec-23	08-Mar-23	07-May-23	-238	S5SDBC1850, S5SDBC1840, S5SDBC1305, S5SDBT1060	S5T1060
S5SDBT1190	SAT for Tranformer	14	13-Oct-23	26-Oct-23	17-Feb-23	03-Mar-23	-238	S5SDBC1510	S5SDBT1060
S5SDBT1191	Permanent Power ready for T&C	0	01-Nov-23		07-Apr-23		-208	S5SDBT1060, S5WS2C1120	S5SDBT1032, S5SDBT1047, S5SDBT1070
Combined Heat & Power Building		995	29-Jun-21 A	10-Apr-24	04-May-22	07-Feb-24	-64		
Fabrication, FAT & Delivery of Major Plant & Materials		889	29-Jun-21 A	26-Dec-23	31-May-22	06-Jun-23	-204		
S5CHPP1000	Fabrication & Delivery of Pre-Treatment	120	15-Aug-22 A	14-Apr-23	01-Jun-22	24-Sep-22	-203		S5CHPC1170
S5CHPP1010	Fabrication of CHP System	270	29-Jun-21 A	06-Apr-22 A	21-Sep-22	21-Sep-22		S2P1070, S2D1610	S5CHPP1020
S5CHPP1020	FAT for CHP Generators	14	07-Apr-22 A	30-Apr-22 A	21-Sep-22	21-Sep-22		S5CHPP1010	S5CHPP1030
S5CHPP1030	Delivery of CHP Generators	60	02-May-22 A	14-Jul-22 A	21-Sep-22	21-Sep-22		S5CHPP1020	S5CHPC1050



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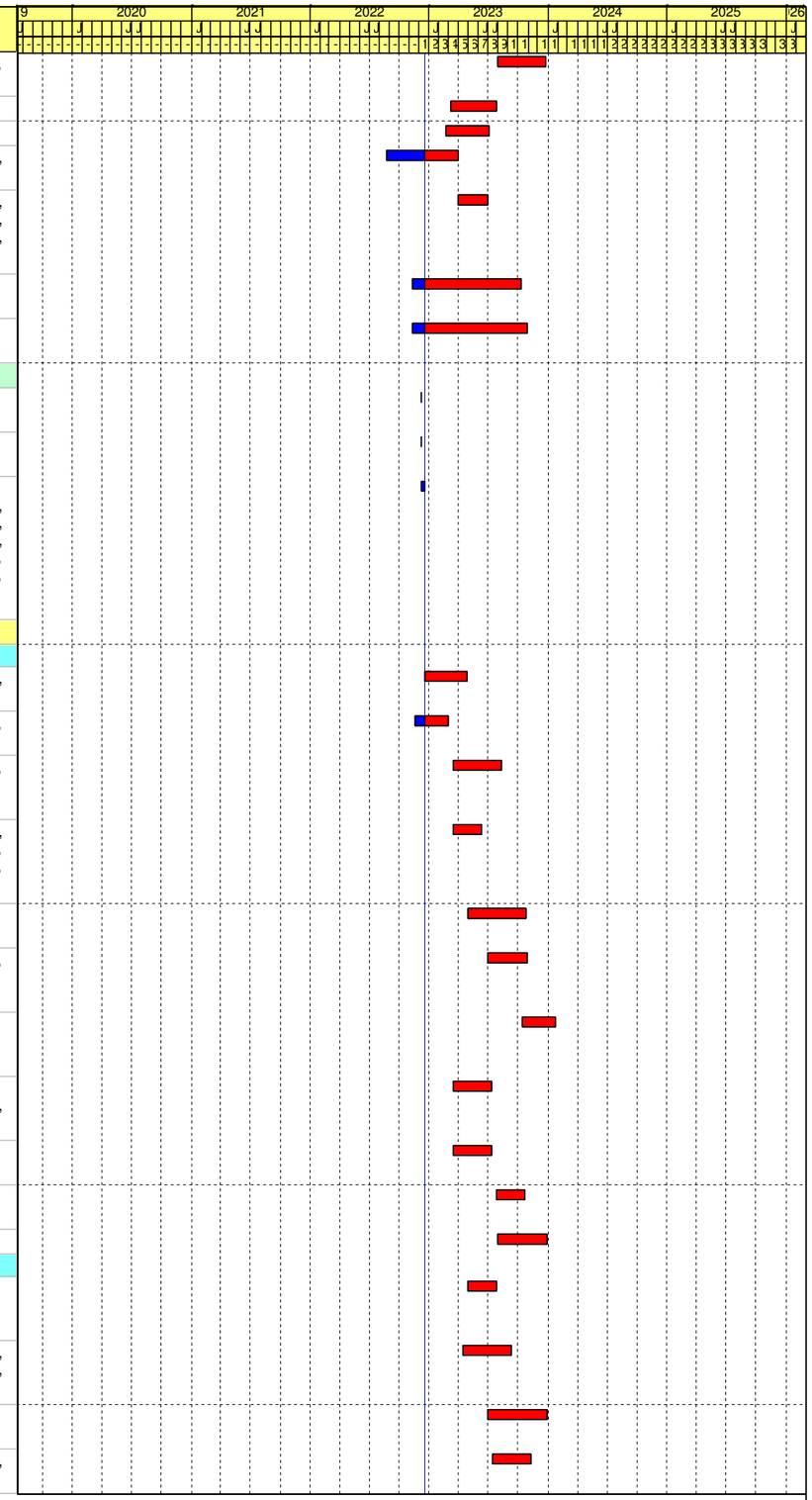
S5CHPP1040	Fabrication & Delivery of Gas Detection System	150	30-Jul-23	26-Dec-23	07-Jan-23	06-Jun-23	-204	S2D2000, PL1020	S5CHPC1120, S5CHPC1250
S5CHPP1050	Fabrication & Delivery of LV Switchboard for G/F	141	07-Mar-23*	25-Jul-23	01-Aug-22	20-Dec-22	-218		S5CHPC1145
S5CHPP1055	Fabrication & Delivery of LV Switchboard for 1/F	134	21-Feb-23*	04-Jul-23	08-Aug-22	20-Dec-22	-197		S5CHPC1260
S5CHPP1060	Fabrication & Delivery of Lifting Appliances	90	24-Aug-22 A	31-Mar-23	14-Aug-22	23-Nov-22	-129		S5CHPC1030, S5CHPC1160
S5CHPP1070	Fabrication & Delivery of Pipeworks & Associated Valves	91	01-Apr-23*	30-Jun-23	25-Jun-22	24-Sep-22	-280	S5P1010	S5CHPC1070, S5CHPC1200, S5CHPC1270, S5CHPC1280
S5CHPP1080	Fabrication & Delivery of SCADA System for G/F	337	11-Nov-22 A	12-Oct-23	31-May-22	23-Mar-23	-204		S5CHPC1120
S5CHPP1090	Fabrication & Delivery of SCADA System for 1/F	355	11-Nov-22 A	30-Oct-23	31-May-22	10-Apr-23	-204		S5CHPC1250
Installation		401	19-Nov-22 A	25-Jan-24	04-May-22	07-Feb-24	13		
S5CHPC1000	Access to CHP Building (Impacted by EWN-0314)	1	07-Dec-22 A	07-Dec-22 A	04-May-22	04-May-22			S5CHPC1020
S5CHPC1010	Access to CHP Building (Impacted by EWN-0314-1)	1	07-Dec-22 A	07-Dec-22 A	04-May-22	04-May-22			S5CHPC1020
S5CHPC1020	Mobilisation	12	08-Dec-22 A	19-Dec-22 A	04-May-22	04-May-22		AD1060, S5S1020, S5CHPC1000, S5CHPC1010	PL1550, S5CHPC1030, S5CHPC1040, S5CHPC1080, S5CHPC1130, S5CHPC1140, S5CHPC1210
E&M Installation		400	19-Nov-22 A	25-Jan-24	04-May-22	06-Jul-23	-204		
Ground Floor		400	19-Nov-22 A	25-Jan-24	04-May-22	06-Jul-23	-204		
S5CHPC1030	Installation of EOT Crane LA-04-01	90	19-Dec-22 A	28-Apr-23	18-Jul-22	23-Nov-22	-157	S5CHPC1020, S5CHPP1060	S5CHPC1050, S5CHPC1160
S5CHPC1040	Installation of Monorail LA-04-02 (total 3nos.)	60	19-Nov-22 A	28-Feb-23	04-May-22	12-Jul-22	-232	S5CHPC1020	S5CHPC1160, S5CHPC1060
S5CHPC1050	Installation of CHP System - Mechanical Work	150	15-Mar-23*	11-Aug-23	21-Sep-22	18-Feb-23	-175	S5CHPC1030, S5CHPP1030	S5CHPC1100, S5CHPT1030, S5CHPC1270
S5CHPC1060	Installation of Steam Boiler System - Mechanical Work	90	15-Mar-23*	12-Jun-23	12-Jul-22	10-Oct-22	-246	S5CHPC1040	S5CHPC1070, S5CHPC1150, S5CHPC1170, S5CHPT1050
S5CHPC1070	Installation of pipework	180	01-May-23	27-Oct-23	24-Sep-22	23-Mar-23	-219	S5CHPC1060, S5CHPP1070	S5CHPT1000
S5CHPC1100	Installation of Electrical System	120	02-Jul-23	29-Oct-23	07-Jan-23	07-May-23	-176	S5CHPC1090, S5CHPC1050, S5P1050	S5CHPC1120, S5CHPT1050, S5CHPT1030
S5CHPC1120	Installation of SCADA System	105	13-Oct-23	25-Jan-24	23-Mar-23	06-Jul-23	-204	S5CHPC1100, S5CHPP1040, S5CHPP1080	S5T1100, S5T1000, S5T1010
S5CHPC1130	Transfomers Room Installation	120	16-Mar-23	13-Jul-23	21-Oct-22	18-Feb-23	-146	S5WS2P1020, S5CHPC1020	S5CHPT1020, S5CHPC1260, S5CHPT1010
S5CHPC1140	HV Switchroom Installation	120	16-Mar-23	13-Jul-23	20-Nov-22	20-Mar-23	-116	S5CHPC1020, S5WS2P1080	S5CHPT1020, S5CHPT1010
S5CHPC1145	LV Switchroom Installation	90	26-Jul-23	23-Oct-23	20-Dec-22	20-Mar-23	-218	S5CHPP1050	S5CHPT1010, S5CHPT1020
S5CHPC1150	Diesel Storage & Pump Room Installation	150	01-Aug-23*	28-Dec-23	10-Oct-22	09-Mar-23	-295	S5CHPC1060	S5S1280
First Floor		286	15-Apr-23	25-Jan-24	24-Sep-22	06-Jul-23	-204		
S5CHPC1160	Installation of Monorail / Davit LA-04-03 to LA-04-10 (total 8nos.)	90	29-Apr-23	27-Jul-23	23-Nov-22	21-Feb-23	-157	S5CHPC1040, S5CHPP1060, S5CHPC1030	S5CHPC1170
S5CHPC1170	Installation of Biogas Pre-treatment System - Mechanical Work	150	15-Apr-23	11-Sep-23	24-Sep-22	21-Feb-23	-203	S5CHPC1060, S5CHPC1160, S5CHPP1000	S5CHPC1200, S5CHPC1230, S5CHPT1040
S5CHPC1200	Installation of pipework	180	01-Jul-23	27-Dec-23	24-Sep-22	23-Mar-23	-280	S5CHPC1170, S5CHPP1070	S5CHPT1000
S5CHPC1230	Installation of Electrical System	120	14-Jul-23	10-Nov-23	22-Jan-23	22-May-23	-173	S5CHPC1170, S5P1050	S5CHPC1250, S5CHPT1040



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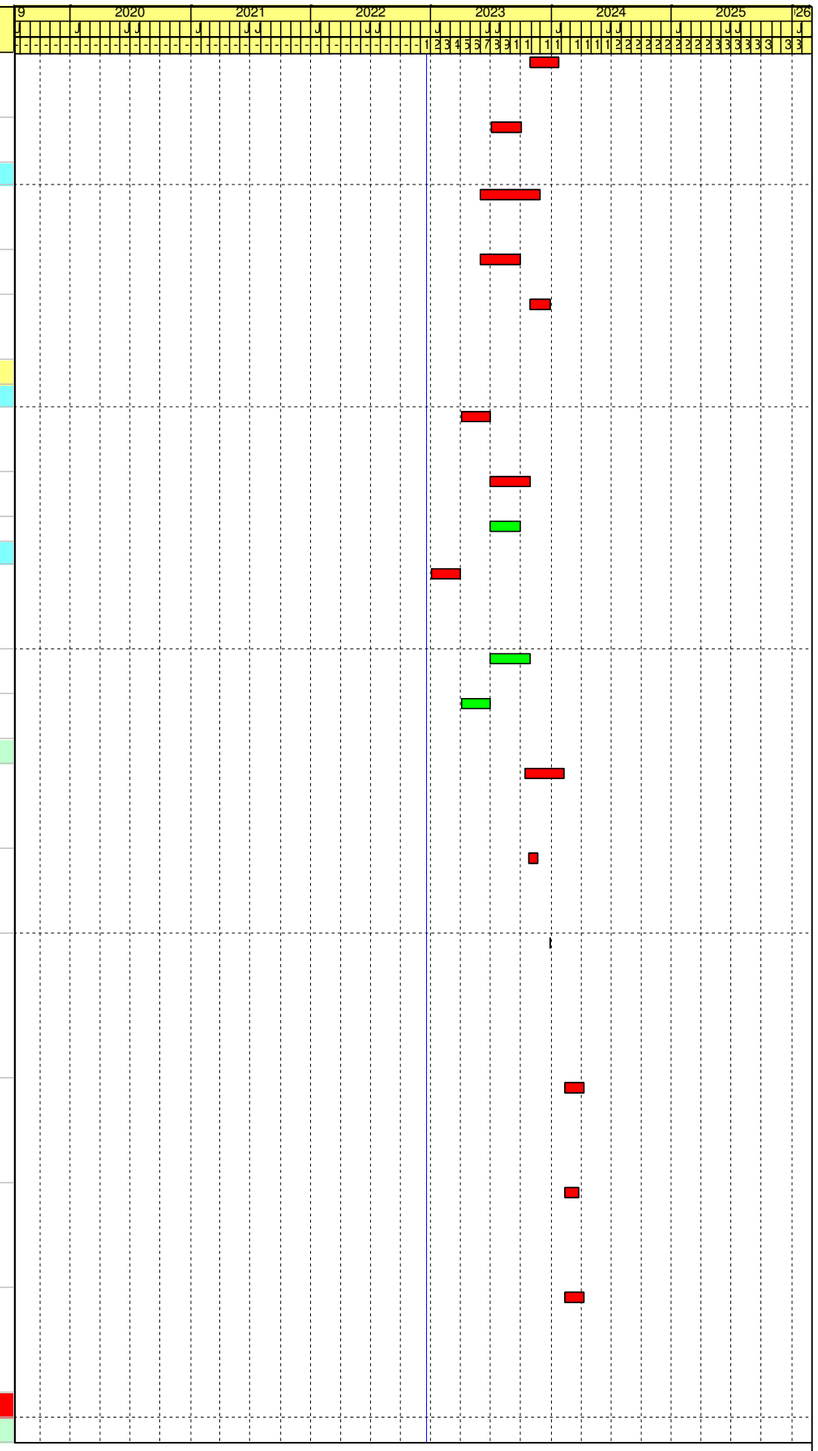
S5CHPC1250	Installation of SCADA System	87	31-Oct-23	25-Jan-24	10-Apr-23	06-Jul-23	-204	S5CHPC1230, S5CHPP1040, S5CHPP1090	S5T1100, S5T1000, S5T1010
S5CHPC1260	LV Switchroom Installation	90	05-Jul-23	02-Oct-23	20-Dec-22	20-Mar-23	-197	S5CHPC1130, S5CHPP1055	S5CHPT1020, S5CHPT1010
Roof		210	01-Jun-23	27-Dec-23	21-Sep-22	19-Apr-23	-253		
S5CHPC1270	Installation of CHP System - Mechanical Work	180	01-Jun-23*	27-Nov-23	21-Sep-22	20-Mar-23	-253	S5CHPC1050, S5CHPP1070	S5CHPT1030, S5CHPC1280, S5CHPC1290
S5CHPC1280	Installation of Steam Boiler System - Mechanical Work	120	01-Jun-23*	28-Sep-23	20-Nov-22	20-Mar-23	-193	S5CHPC1270, S5CHPP1070	S5CHPT1050, S5CHPC1290
S5CHPC1290	Installation of Electrical System	60	29-Oct-23	27-Dec-23	18-Feb-23	19-Apr-23	-253	S5CHPC1270, S5CHPC1280, S5P1050	S5CHPT1040, S5CHPT1020
BS Installation		300	03-Jan-23	29-Oct-23	11-Jul-22	07-Feb-24	101		
Ground Floor		210	03-Apr-23	29-Oct-23	09-Oct-22	07-Feb-24	101		
S5CHPC1080	Installation of FS System	90	03-Apr-23	01-Jul-23	09-Oct-22	07-Jan-23	-176	S5CHPC1020, S5CHPC1210	S5CHPC1090, S5CHPC1110, S5S1220
S5CHPC1090	Installation of MVAC System	120	02-Jul-23	29-Oct-23	07-Jan-23	07-May-23	-176	S5CHPC1080	S5CHPC1100, S5S1220
S5CHPC1110	Installation of Plumbing System	90	02-Jul-23	29-Sep-23	09-Nov-23	07-Feb-24	131	S5CHPC1080	S5S1160
First Floor		300	03-Jan-23	29-Oct-23	11-Jul-22	21-Dec-23	53		
S5CHPC1210	Installation of FS System	90	03-Jan-23*	02-Apr-23	11-Jul-22	09-Oct-22	-176	S5CHPC1020	S5CHPC1220, S5CHPC1240, S5S1220, S5CHPC1080
S5CHPC1220	Installation of MVAC System	120	02-Jul-23	29-Oct-23	23-Aug-23	21-Dec-23	53	S5CHPC1210, S5CHPC1240	S5S1220
S5CHPC1240	Installation of Plumbing System	90	03-Apr-23	01-Jul-23	25-May-23	23-Aug-23	53	S5CHPC1210	S5S1160, S5CHPC1220
Testing and Commissioning		180	14-Oct-23	10-Apr-24	07-Jan-23	06-Jul-23	-280		
S5CHPT1000	Pipe Pressure Test	120	14-Oct-23	10-Feb-24	07-Jan-23	07-May-23	-280	S5CHPC1200, S5CHPC1070	S5T1100, S5CHPT1030, S5CHPT1040, S5CHPT1050
S5CHPT1010	SAT for Transformer & Switchboard	30	24-Oct-23	22-Nov-23	20-Mar-23	19-Apr-23	-218	S5CHPC1260, S5CHPC1140, S5CHPC1130, S5CHPC1145	S5CHPT1020
S5CHPT1020	Ready for Power Energisation	3	28-Dec-23	30-Dec-23	19-Apr-23	22-Apr-23	-253	S5CHPC1260, S5WS2C1110, S5CHPC1130, S5CHPC1140, S5CHPT1010, S5CHPC1290, S5CHPC1145	S5CHPT1030, S5BIOT1010, S5THPT1010, S5CHPT1040, S5CHPT1050
S5CHPT1030	SAT for CHP System	60	11-Feb-24	10-Apr-24	07-May-23	06-Jul-23	-280	S5CHPT1020, S5CHPC1050, S5CHPC1100, S5CHPC1270, S5CHPT1000	S5T1100
S5CHPT1040	SAT for Pre-treatment System	45	11-Feb-24	26-Mar-24	22-May-23	06-Jul-23	-265	S5CHPC1170, S5CHPT1020, S5CHPC1230, S5CHPC1290, S5CHPT1000	S5T1100
S5CHPT1050	SAT for Steam Boiler System	60	11-Feb-24	10-Apr-24	07-May-23	06-Jul-23	-280	S5CHPC1060, S5CHPC1100, S5CHPT1020, S5CHPC1280, S5CHPT1000	S5T1100
Tx Rm & LV Switchroom (for UV)		495	04-Nov-22 A	10-Feb-24	06-Jun-22	16-Apr-25	431		
Fabrication, FAT & Delivery of Major Plant & Materials		495	04-Nov-22 A	11-Jan-24	06-Jun-22	21-Jul-23	-175		



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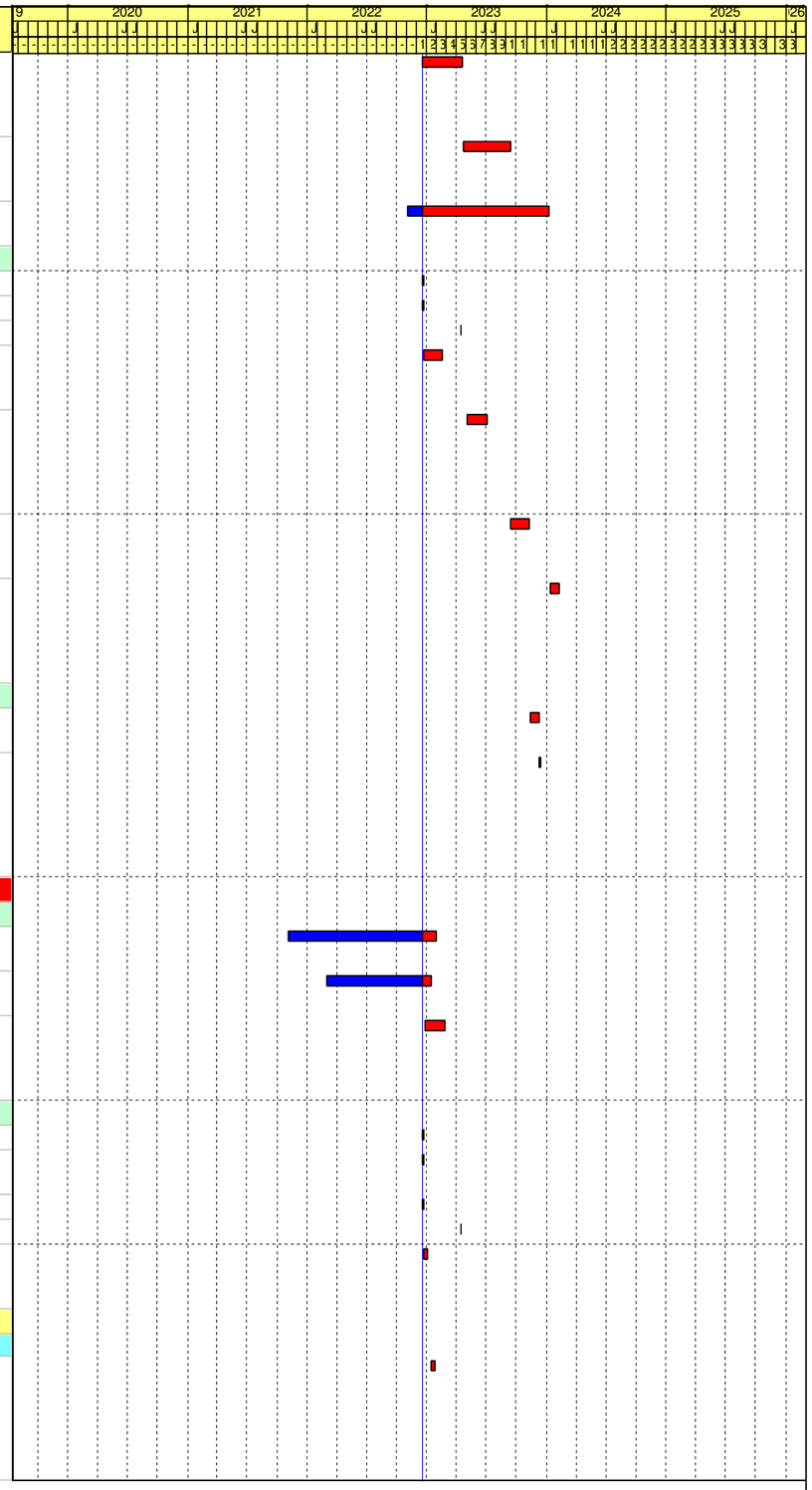
31-Aug-22	Rev.25	LT	KM
30-Sep-22	Rev.26	LT	KM
31-Oct-22	Rev.27	LT	KM
30-Nov-22	Rev.28	LT	KM
31-Dec-22	Rev.29	LT	KM

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S5TXRP1000	Fabrication & Delivery of Transfomers -UV (Tx 07 & 08)	120	21-Dec-22	19-Apr-23	06-Jun-22	04-Oct-22	-198	S1D1130, S1D1290, S1D1210, S2P1110	S5TXRC1030
S5TXRP1010	Fabrication & Delivery of LVSB -UV	141	25-Apr-23*	12-Sep-23	29-Jul-22	17-Dec-22	-270	S1D1210, S1D1290, S2P1130	S5TXRC1040
S5TXRP1020	Fabrication & Delivery of SCADA System	434	04-Nov-22 A	11-Jan-24	29-Jun-22	21-Jul-23	-175	S1D1290, S2P1140	S5TXRC1050
Installation		417	21-Dec-22	10-Feb-24	18-Aug-22	16-Apr-25	431		
S5TXRC1000	Access to TX Rm & LV Switchroom (Impacted by EWN-0314)	1	21-Dec-22*	21-Dec-22	18-Aug-22	19-Aug-22	-125		S5TXRC1020
S5TXRC1010	Access to TX Rm & LV Switchroom (Impacted by EWN-0314-1)	1	21-Dec-22*	21-Dec-22	18-Aug-22	19-Aug-22	-125		S5TXRC1020
S5TXRC1015	Assume actual access Date	1	17-Apr-23*	17-Apr-23	16-Apr-25	16-Apr-25	730		
S5TXRC1020	BS Fitting Intallation (at Tx Rm & LV Switchroom)	60	22-Dec-22	19-Feb-23	19-Aug-22	18-Oct-22	-125	AD1100, S5TXRC1000, S5TXRC1010	S5TXRT1010, S5TXRC1030
S5TXRC1030	E&M Installation of Transfomers in Tx Rm	60	04-May-23	02-Jul-23	18-Oct-22	17-Dec-22	-198	S5TXRC1020, S4C1010, S5TXRP1000, S1D1310, S5P1050	S5TXRC1040, S5TXRT1000
S5TXRC1040	E&M Installation of LVSB	60	13-Sep-23	11-Nov-23	17-Dec-22	15-Feb-23	-270	S5TXRC1030, S5TXRP1010, S5P1050	S5TXRT1010, S5TXRT1000
S5TXRC1050	Installation of SCADA System	30	12-Jan-24	10-Feb-24	21-Jul-23	20-Aug-23	-175	S4C1040, S5TXRP1020, S4C1070, S4C1080	S5T1200, S5T1120, S5T1000, S5T1010, PL1210
Testing and Commissioning		33	12-Nov-23	14-Dec-23	15-Feb-23	20-Mar-23	-270		
S5TXRT1000	SAT for Transformer & Switchboard	30	12-Nov-23	11-Dec-23	15-Feb-23	17-Mar-23	-270	S5TXRC1040, S5TXRC1030	S5TXRT1010
S5TXRT1010	Ready for Power Energisation	3	12-Dec-23	14-Dec-23	17-Mar-23	20-Mar-23	-270	S5TXRC1020, S5TXRC1040, S5WS2C1060, S5WS2C1040, S5WS2C1130, S5TXRT1000	SC51110, S5SHPT1000, S5DOUT1000, S5PSWT1000
Sludge Digesters & Distribution Chamber		798	06-Nov-21 A	27-Jan-24	28-Jul-22	16-Apr-25	445		
Fabrication, FAT & Delivery of Major Plant & Materials		461	06-Nov-21 A	24-Feb-23	28-Jul-22	10-Oct-22	-138		
S5DIGP1000	Fabrication & Delivery of Sludge Digestion System	180	06-Nov-21 A	29-Jan-23	28-Jul-22	06-Sep-22	-146	S2P1020, S2D1450	S5DIGC1210
S5DIGP1010	Fabrication & Delivery of FRP Walkway / Cover	90	01-Mar-22 A	13-Jan-23	30-Jul-22	23-Aug-22	-144	S2P1020	S5DIGC1040
S5DIGP1020	Fabrication & Delivery of Pipeworks & Associated Valves	60	27-Dec-22	24-Feb-23	11-Aug-22	10-Oct-22	-138	S5P1010	S5DIGC1110, S5DIGC1150, S5DIGC1190, S5DIGC1250
Installation		370	21-Dec-22	25-Dec-23	08-Aug-22	16-Apr-25	478		
S5DIGC1000	Access to Sludge Digesters & Distribution Chamber (Impacted by EWN-0314)	1	21-Dec-22*	21-Dec-22	08-Aug-22	09-Aug-22	-135		S5DIGC1030
S5DIGC1010	Access to Sludge Digester No.1 & Distribution Chamber (Impacted by EWN-0314-1)	1	21-Dec-22*	21-Dec-22	08-Aug-22	09-Aug-22	-135		S5DIGC1030
S5DIGC1020	Access to Sludge Digesters - Remaining (Impacted by EWN-0314-1)	1	21-Dec-22*	21-Dec-22	09-Nov-22	10-Nov-22	-42		S5DIGC1050
S5DIGC1025	Assume Actual Access Date	1	17-Apr-23*	17-Apr-23	16-Apr-25	16-Apr-25	730		
S5DIGC1030	Mobilisation	14	22-Dec-22	04-Jan-23	09-Aug-22	23-Aug-22	-135	AD1080, S5DIGC1000, S5DIGC1010	S5DIGC1210, S5DIGC1040
E&M Installation		331	14-Jan-23	10-Dec-23	23-Aug-22	22-Apr-23	-233		
FRP Walkway / Cover Installation		166	14-Jan-23	28-Jun-23	23-Aug-22	22-Apr-23	-68		
S5DIGC1040	Installation of Working Platform for Digester 1 (Roof)	14	14-Jan-23	27-Jan-23	23-Aug-22	06-Sep-22	-144	AD1080, S5DIGP1010, S5DIGC1030	SC51110, PL1210, PL1310, S5DIGC1050, S5DIGC1090, S5DIGC1210



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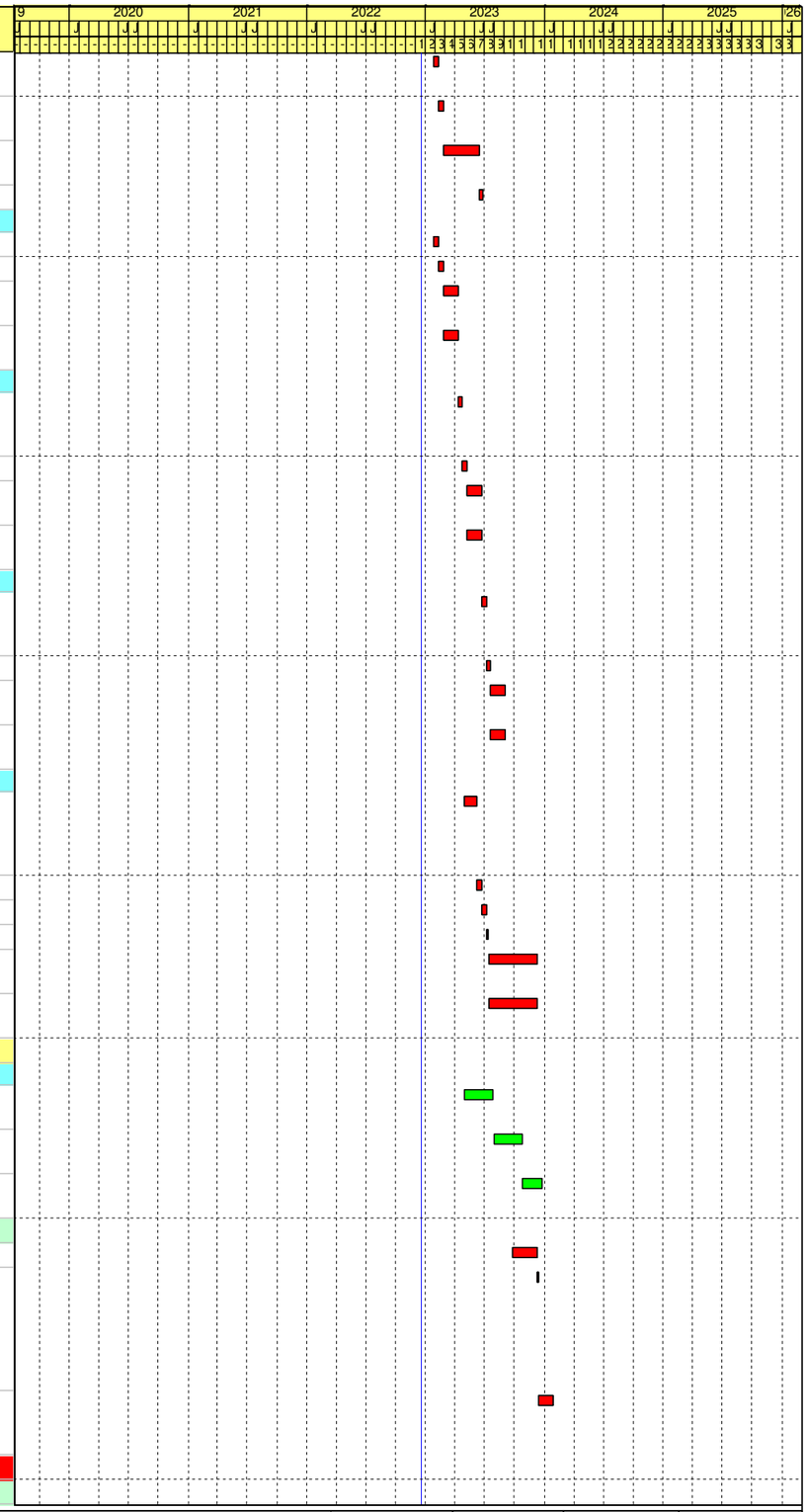
Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S5DIGC1050	Installation of Working Platform for Digester 3 (Roof)	14	28-Jan-23	10-Feb-23	10-Nov-22	24-Nov-22	-79	S5DIGC1040, S5DIGC1020	S5DIGC1060, S5DIGC1130
S5DIGC1060	Installation of Working Platform for Digester 4 (Roof)	14	11-Feb-23	24-Feb-23	05-Dec-22	19-Dec-22	-68	S5DIGC1050	S5DIGC1070, S5DIGC1170
S5DIGC1070	Installation of Working Platform for Distribution Chamber & Overflow Chamber	110	25-Feb-23	14-Jun-23	19-Dec-22	08-Apr-23	-68	S5DIGC1060	S5DIGC1080
S5DIGC1080	Installation of Working Platform for Digester 2 (Roof)	14	15-Jun-23	28-Jun-23	08-Apr-23	22-Apr-23	-68	S5DIGC1070	S5DIGT1020
Sludge Digester 1		73	28-Jan-23	10-Apr-23	12-Sep-22	24-Nov-22	-138		
S5DIGC1090	Installation of Sludge Mixer (4 nos.)	14	28-Jan-23	10-Feb-23	12-Sep-22	26-Sep-22	-138	S5DIGC1040	S5DIGC1100
S5DIGC1100	Installation of Motor with Belt adjustment	14	11-Feb-23	24-Feb-23	26-Sep-22	10-Oct-22	-138	S5DIGC1090	S5DIGC1110
S5DIGC1110	Installation of Pipework, Valve, Inpsection Window, Telescopic Valve & Instruments	45	25-Feb-23	10-Apr-23	10-Oct-22	24-Nov-22	-138	S5DIGC1100, S5DIGP1020	S5DIGC1120, S5DIGC1130
S5DIGC1120	Installation of Electrical System	45	25-Feb-23	10-Apr-23	10-Oct-22	24-Nov-22	-138	S5DIGC1110, S5P1050	S5DIGC1130, S5DIGT1010
Sludge Digester 3		73	11-Apr-23	22-Jun-23	24-Nov-22	05-Feb-23	-138		
S5DIGC1130	Installation of Sludge Mixer (4 nos.)	14	11-Apr-23	24-Apr-23	24-Nov-22	08-Dec-22	-138	S5DIGC1120, S5DIGC1110, S5DIGC1050	S5DIGC1140
S5DIGC1140	Installation of Motor with Belt adjustment	14	25-Apr-23	08-May-23	08-Dec-22	22-Dec-22	-138	S5DIGC1130	S5DIGC1150
S5DIGC1150	Installation of Pipework, Valve, Inpsection Window, Telescopic Valve & Instruments	45	09-May-23	22-Jun-23	22-Dec-22	05-Feb-23	-138	S5DIGC1140, S5DIGP1020	S5DIGC1160, S5DIGC1170
S5DIGC1160	Installation of Electrical System	45	09-May-23	22-Jun-23	22-Dec-22	05-Feb-23	-138	S5DIGC1150, S5P1050	S5DIGC1170, S5DIGT1010
Sludge Digester 4		73	23-Jun-23	03-Sep-23	05-Feb-23	19-Apr-23	-138		
S5DIGC1170	Installation of Sludge Mixer (4 nos.)	14	23-Jun-23	06-Jul-23	05-Feb-23	19-Feb-23	-138	S5DIGC1150, S5DIGC1160, S5DIGC1060	S5DIGC1180
S5DIGC1180	Installation of Motor with Belt adjustment	14	07-Jul-23	20-Jul-23	19-Feb-23	05-Mar-23	-138	S5DIGC1170	S5DIGC1190
S5DIGC1190	Installation of Pipework, Valve, Inpsection Window, Telescopic Valve & Instruments	45	21-Jul-23	03-Sep-23	05-Mar-23	19-Apr-23	-138	S5DIGC1180, S5DIGP1020	S5DIGC1200
S5DIGC1200	Installation of Electrical System	45	21-Jul-23	03-Sep-23	05-Mar-23	19-Apr-23	-138	S5DIGC1190, S5P1050	S5DIGT1010
Distribution Chamber		225	30-Apr-23	10-Dec-23	06-Sep-22	19-Apr-23	-236		
S5DIGC1210	Installation of Sludge Recirculation Pumps (5 nos.)	40	30-Apr-23*	08-Jun-23	06-Sep-22	16-Oct-22	-236	AD1080, S5DIGP1000, S5DIGC1030, S5DIGC1040	S5DIGC1220, S5DIGC1280
S5DIGC1220	Installation of Heat Exchanger (3 nos.)	14	09-Jun-23	22-Jun-23	16-Oct-22	30-Oct-22	-236	S5DIGC1210	S5DIGC1230
S5DIGC1230	Installation of Sludge Transfer Pump (2 nos.)	14	23-Jun-23	06-Jul-23	30-Oct-22	13-Nov-22	-236	S5DIGC1220	S5DIGC1240
S5DIGC1240	Installation of Vertical Mixer at Sludge Buffer Tank (2 nos.)	7	07-Jul-23	13-Jul-23	13-Nov-22	20-Nov-22	-236	S5DIGC1230	S5DIGC1250
S5DIGC1250	Installation of Pipework, Valve & Instruments	150	14-Jul-23	10-Dec-23	20-Nov-22	19-Apr-23	-236	S5DIGC1240, S5DIGP1020	S5DIGC1260, S5DIGT1000
S5DIGC1260	Installation of Electrical System	150	14-Jul-23	10-Dec-23	20-Nov-22	19-Apr-23	-236	S5DIGC1250, S5P1050	S5DIGT1010
BS Installation		240	30-Apr-23	25-Dec-23	12-Jun-23	07-Feb-24	44		
Distribution Chamber		240	30-Apr-23	25-Dec-23	12-Jun-23	07-Feb-24	44		
S5DIGC1280	Installation of FS System	90	30-Apr-23	28-Jul-23	12-Jun-23	10-Sep-23	44	S5DIGC1210	S5DIGC1290, S5S1220
S5DIGC1290	Installation of MVAC System	90	29-Jul-23	26-Oct-23	10-Sep-23	09-Dec-23	44	S5DIGC1280	S5DIGC1300, S5S1220
S5DIGC1300	Installation of Plumbing System	60	27-Oct-23	25-Dec-23	09-Dec-23	07-Feb-24	44	S5S1120, S5DIGC1290	S5S1160
Testing and Commissioning		123	27-Sep-23	27-Jan-24	06-Feb-23	06-Jun-23	-236		
S5DIGT1000	Pipe Pressure Test	75	27-Sep-23	10-Dec-23	06-Feb-23	22-Apr-23	-233	S5DIGC1250	S5DIGT1020
S5DIGT1010	Ready for Power Energisation	3	11-Dec-23	13-Dec-23	19-Apr-23	22-Apr-23	-236	S5DIGC1260, S5DIGC1200, S5DIGC1160, S5DIGC1120, S5WS2C1110, S5EXAC1030	S5DIGT1020
S5DIGT1020	SAT for Sludge Digestion System	45	14-Dec-23	27-Jan-24	22-Apr-23	06-Jun-23	-236	S5DIGC1080, S5DIGT1010, S5DIGT1000	S5T1080
Workshop No. 2		753	29-Nov-21 A	25-Jan-24	27-Jul-22	16-Apr-25	447		
Fabrication, FAT & Delivery of Major Plant & Materials		753	29-Nov-21 A	17-Nov-23	28-Jul-22	04-Oct-23	-45		



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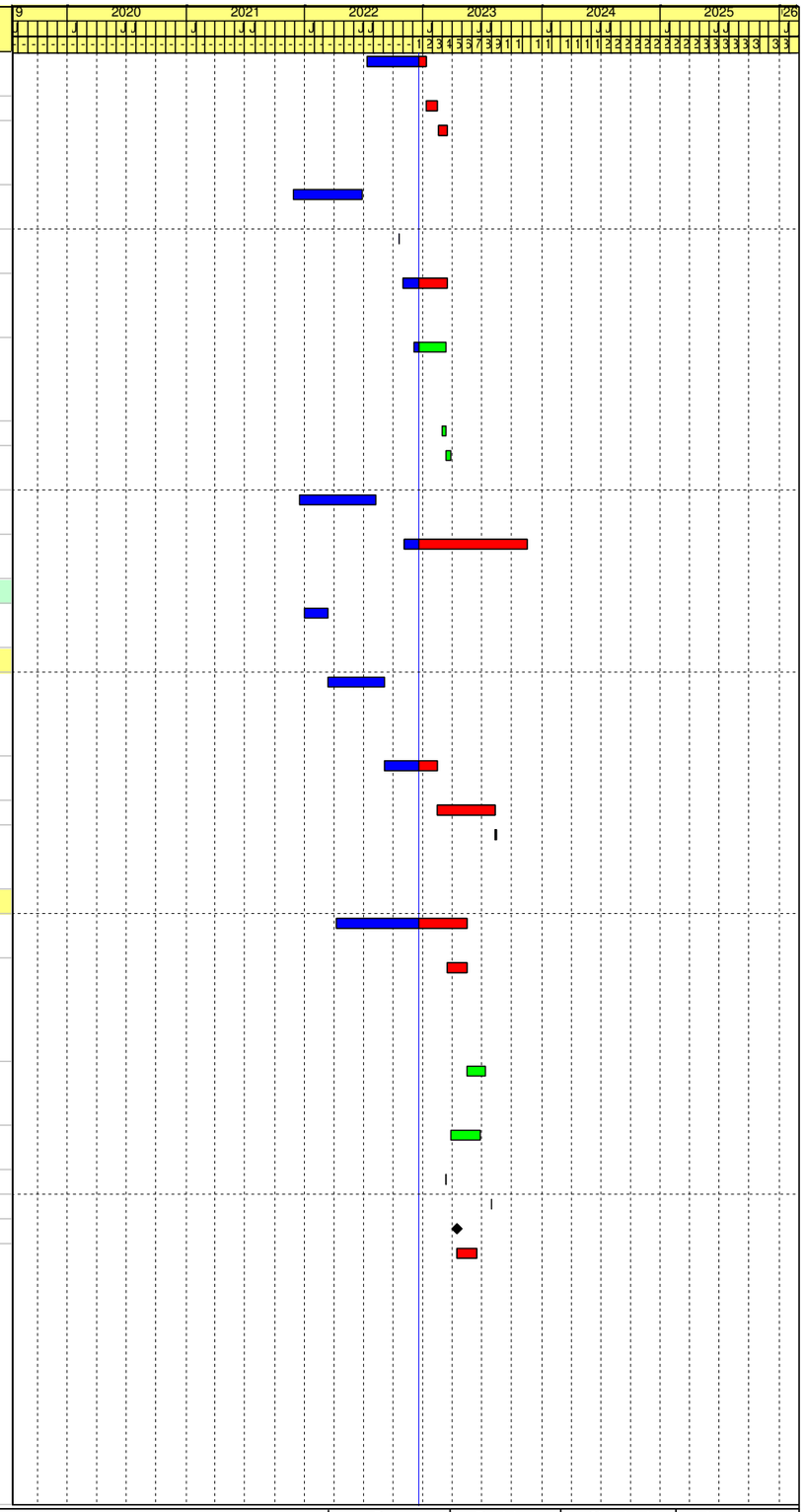
S5WS2P1000	Fabrication of 11kV to 380V Transfomers	123	14-Jul-22 A	09-Jan-23	28-Jul-22	17-Aug-22	-146	S2P1110	S5WS2P1010
S5WS2P1010	FAT for 11kV to 380V Transfomers	37	10-Jan-23	15-Feb-23	17-Aug-22	23-Sep-22	-146	S5WS2P1000	S5WS2P1020
S5WS2P1020	Delivery of 11kV to 380V Transfomers	28	16-Feb-23	15-Mar-23	23-Sep-22	21-Oct-22	-146	S5WS2P1010	S5CHPC1130, S5WS2C1070, S5WS2T1000
S5WS2P1060	Fabrication of 11 kV Switchboard	210	29-Nov-21 A	26-Jun-22 A	09-Aug-22	09-Aug-22		S2P1120	S5WS2P1070
S5WS2P1070	FAT for 11 kV Switchboard	14	18-Oct-22 A	21-Oct-22 A	09-Aug-22	09-Aug-22		S5WS2P1060	S5WS2P1080
S5WS2P1080	Delivery of 11kV Switchboard	90	01-Nov-22 A	15-Mar-23	09-Aug-22	02-Nov-22	-134	S5WS2P1070	S5WS2C1060, S5CHPC1140, S5WS2T1000
S5WS2P1090	Fabrication of LV Switchboard	100	04-Dec-22 A	13-Mar-23	29-Jun-23	20-Sep-23	191	S2P1130, S2D1250, S2D1190, S2D1270	S5WS2P1100
S5WS2P1100	FAT for LV Switchboard	14	28-Feb-23	13-Mar-23	06-Sep-23	20-Sep-23	191	S5WS2P1090	S5WS2P1110
S5WS2P1110	Delivery of LV Switchboard	14	14-Mar-23	27-Mar-23	20-Sep-23	04-Oct-23	191	S5WS2P1100	S5WS2C1080, S5WS2T1005
S5WS2P1120	Fabrication & Delivery of Lift	210	18-Dec-21 A	10-Aug-22 A	29-Jun-23	29-Jun-23			S5WS2C1190
S5WS2P1130	Fabrication, FAT & Delivery of SCADA System	408	04-Nov-22 A	17-Nov-23	08-Oct-22	05-Sep-23	-74		S5WS2C1180
Installation		735	31-Dec-21 A	25-Jan-24	27-Jul-22	16-Apr-25	447		
S5WS2C1000	Mobilisation	14	31-Dec-21 A	12-Mar-22 A	27-Jul-22	27-Jul-22		AD1120, S5S1030	S5WS2C1010, S5WS2C1050
CLP Substation		511	14-Mar-22 A	13-Aug-23	27-Jul-22	20-Mar-23	-147		
S5WS2C1010	BS Fitting Installation (at CLP Sub-station in Workshop No.2)	60	14-Mar-22 A	02-Sep-22 A	27-Jul-22	27-Jul-22		S5WS2C1000, AD1120	KD1060, S5WS2C1020, S5WS2C1050, KD1060-1
S5WS2C1020	Inspections, Rectification & H/O to CLP	60	03-Sep-22 A	13-Feb-23	27-Jul-22	20-Sep-22	-147	S5WS2C1010	S5WS2C1030
S5WS2C1030	E&M Installation of HV Transformer (By CLP)	180	14-Feb-23	12-Aug-23	20-Sep-22	19-Mar-23	-147	S5WS2C1020	S5WS2C1040
S5WS2C1040	Energisation (By CLP)	1	13-Aug-23	13-Aug-23	19-Mar-23	20-Mar-23	-147	S5WS2C1030, S5WS2C1060, S5S1000	S5TXRT1010
HV Switchroom / Transformer Room / LV Switchroom		571	11-Apr-22 A	14-Nov-23	06-Sep-22	16-Apr-25	519		
S5WS2C1050	BS Fitting Intallation	60	11-Apr-22 A	15-May-23	06-Sep-22	30-Jan-23	-106	S5WS2C1000, S5WS2C1010	S5WS2C1060
S5WS2C1060	HV Switchroom Installation	60	16-Mar-23	14-May-23	02-Nov-22	01-Jan-23	-134	S5WS2C1050, S5WS2P1080, S5WS2T1000	S5WS2C1130, S5TXRT1010, S5WS2C1040, S5WS2C1070, S5WS2T1010
S5WS2C1070	TX Room Installation	60	15-May-23	13-Jul-23	03-Nov-23	02-Jan-24	173	S5WS2C1060, S5WS2P1020, S5WS2T1000	S5WS2T1010
S5WS2C1080	LV Switchroom Installation	90	28-Mar-23	25-Jun-23	04-Oct-23	02-Jan-24	191	S5WS2P1110, S5WS2T1005	S5WS2T1010
S5WS2C1090	Access to Other Peripheral Systems (Impacted by EWN-0314)	1	14-Mar-23*	14-Mar-23	22-Sep-22	23-Sep-22	-173		S5WS2C1110
S5WS2C1100	Access to Other Peripheral Systems (Impacted by EWN-0314-1)	1	31-Jul-23*	31-Jul-23	16-Apr-25	16-Apr-25	625		
S5WS2C1105	Access to Stage 1 External Area	0	15-Apr-23*		23-Sep-22		-204		S5WS2C1110
S5WS2C1110	HV Cables Laying between Workshop No.2 & Tx Rm for CHP Bldg and Termination	60	15-Apr-23	13-Jun-23	23-Sep-22	22-Nov-22	-204	S5WS2C1090, S5WS2C1105	S5CHPT1020, S5DIGT1010, S5WS2C1120, S5WS2T1010, S5BIOT1000, S5THPT1000, S5H2ST1000, S5WGBT1000, S5DOUT1010, S5SPST1000, S5TCWT1000, S5FCDT1000, PL1210



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Remaining Work
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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
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31-Aug-22	Rev.25	LT	KM
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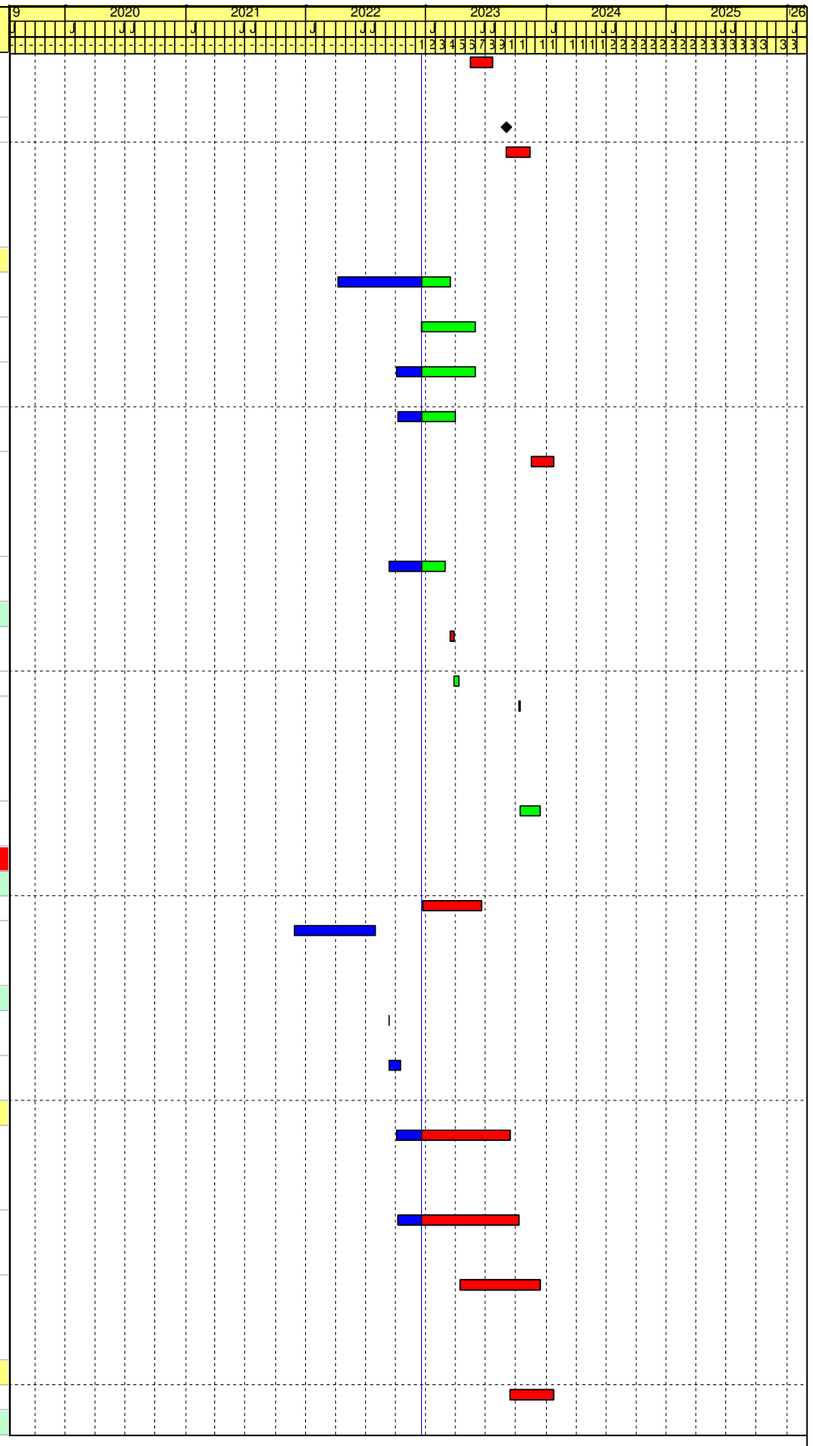
31-Dec-22	Rev.29	LT	KM

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S5WS2C1120	HV Cables Laying between Workshop No.2 & Tx Rm for Sludge Dewatering Bldg and Termination	70	15-May-23	23-Jul-23	23-Oct-22	01-Jan-23	-204	S5WS2C1110	S5WS2C1130, PL1210, S5SDBT1191
S5WS2C1125	Access to Stage 3 External Area	0	01-Sep-23*		01-Jan-23		-243		S5WS2C1130
S5WS2C1130	HV Cables Laying between Workshop No.2 & Tx Rm for UV System No.1 and Termination	75	01-Sep-23*	14-Nov-23	01-Jan-23	17-Mar-23	-243	S5WS2C1060, S5WS2C1120, S5WS2C1125	S5TXRT1010, S5PSWT1000, S5DOUT1000, S5SHPT1000, PL1210
Building Services		492	11-Apr-22 A	25-Jan-24	27-Mar-23	07-Feb-24	13		
S5WS2C1140	Installation of FS System	204	11-Apr-22 A	15-Mar-23	19-Jul-23	12-Oct-23	211	S5S1120	S5WS2C1150, S5S1130
S5WS2C1150	Installation of MVAC System	150	19-Dec-22 A	31-May-23	12-Jul-23	21-Dec-23	204	S5WS2C1140	S5S1220
S5WS2C1160	Installation of Electrical System	150	03-Oct-22 A	31-May-23	27-Mar-23	05-Sep-23	97		S5WS2C1180
S5WS2C1170	Installation of Plumbing System	90	10-Oct-22 A	31-Mar-23	29-Oct-23	07-Feb-24	313	S5S1120	S5S1160
S5WS2C1180	Installation of SCADA System	69	18-Nov-23	25-Jan-24	05-Sep-23	13-Nov-23	-74	S5WS2C1160, S5WS2P1130	S5T1200, S5T1000, S5T1010, S5S0990, PL1210
S5WS2C1190	Installation of Lift	120	13-Sep-22 A	28-Feb-23	29-Jun-23	07-Sep-23	191	S5WS2P1120	S5WS2T1020, S5SDBC1770
Testing and Commissioning		273	16-Mar-23	13-Dec-23	02-Nov-22	05-Mar-24	83		
S5WS2T1000	SAT for Transformer & Switchboard	14	16-Mar-23	29-Mar-23	02-Nov-22	16-Nov-22	-134	S5WS2P1080, S5WS2P1020	S5WS2C1060, S5WS2C1070
S5WS2T1005	SAT for LV Switchboard	14	28-Mar-23	10-Apr-23	04-Oct-23	18-Oct-23	191	S5WS2P1110	S5WS2C1080
S5WS2T1010	Ready for Power Energisation	3	12-Oct-23	14-Oct-23	02-Jan-24	05-Jan-24	83	S5WS2C1110, S5EXAC1030, S5WS2C1060, S5WS2C1080, S5WS2C1070	S5WS2T1020
S5WS2T1020	SAT for Lift	60	15-Oct-23	13-Dec-23	05-Jan-24	05-Mar-24	83	S5WS2C1190, S5WS2T1010	S5S1090
Biogas Storage		772	29-Nov-21 A	31-Jan-24	14-Aug-22	16-Oct-23	-108		
Fabrication, FAT & Delivery of Major Plant & Materials		546	29-Nov-21 A	19-Jun-23	14-Aug-22	21-Jun-23	2		
S5BIOP1000	Fabrication & Delivery of Biogas Booster and Transfer Pumps	180	22-Dec-22	19-Jun-23	23-Dec-22	21-Jun-23	2	S5P1000	S5BIOC1040
S5BIOP1010	Fabrication & Delivery of Biogas Storage	180	29-Nov-21 A	30-Jul-22 A	14-Aug-22	14-Aug-22		S2P1050, S2D1530	S5BIOC1020, S5BIOC1030, S5BIOC1040
E&M Installation		492	13-Sep-22 A	25-Jan-24	14-Aug-22	16-Oct-23	-102		
S5BIOC1000	Access to Biogas Holding Tanks (Impacted by EWN-0314-1)	1	13-Sep-22 A	13-Sep-22 A	14-Aug-22	14-Aug-22			S5BIOC1010
S5BIOC1010	Mobilisation	30	13-Sep-22 A	14-Oct-22 A	14-Aug-22	14-Aug-22		AD1100, S5BIOC1000	S5BIOC1020
Mechanical Installation		357	03-Oct-22 A	13-Dec-23	14-Aug-22	21-Jun-23	-176		
S5BIOC1020	Mechanical Installation of Biogas Storage Tank 3	240	03-Oct-22 A	12-Sep-23	14-Aug-22	06-May-23	-130	AD1100, S5BIOP1010, S5S1060, S5BIOC1010	S5BIOC1030, S5BIOT1000, S5BIOC1060
S5BIOC1030	Mechanical Installation of Biogas Storage Tank 2	240	10-Oct-22 A	10-Oct-23	14-Aug-22	03-Jun-23	-130	AD1100, S5BIOC1020, S5BIOP1010	S5BIOC1040, S5WGBC1020, S5BIOT1000
S5BIOC1040	Mechanical Installation of Biogas Storage Tank 1	242	16-Apr-23*	13-Dec-23	22-Oct-22	21-Jun-23	-176	AD1100, S5BIOC1030, S5BIOP1010, S5BIOP1000	S5BIOT1010, PL1210
Electrical Installation		135	13-Sep-23	25-Jan-24	03-Jun-23	16-Oct-23	-102		
S5BIOC1060	Electrical Installation for Biogas Holding Tanks	135	13-Sep-23	25-Jan-24	03-Jun-23	16-Oct-23	-102	S5BIOC1020	S5BIOT1000
Testing and Commissioning		33	30-Dec-23	31-Jan-24	03-Jun-23	06-Jul-23	-210		



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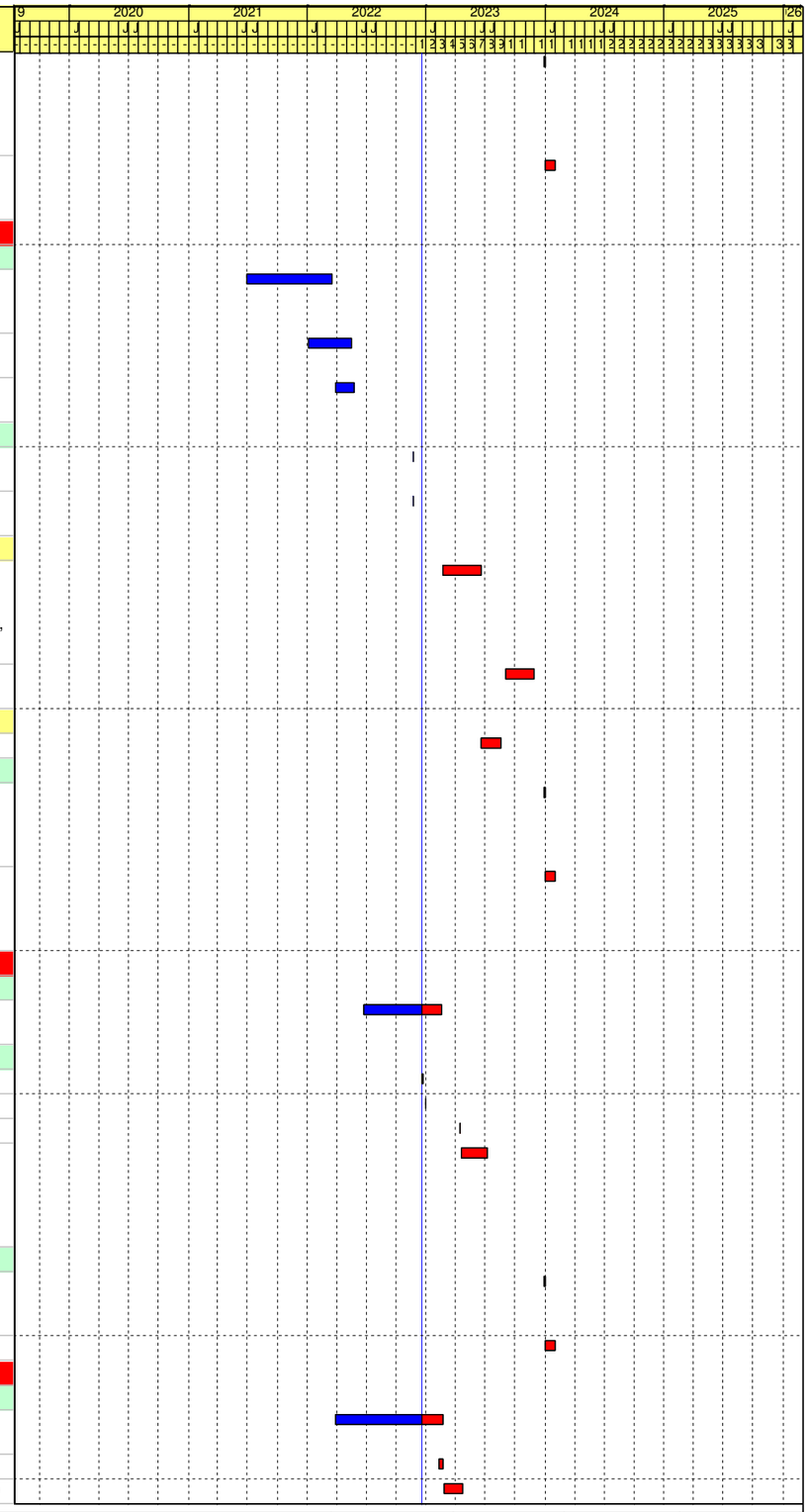
Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S5BIOT1000	Ready for Power Energisation	3	30-Dec-23	01-Jan-24	03-Jun-23	06-Jun-23	-210	S5BIOC1030, S5BIOC1020, S5WS2C1110, S5EXAC1033, S5BIOC1060	S5BIOT1010
S5BIOT1010	SAT for Biogas Storage System	30	02-Jan-24	31-Jan-24	06-Jun-23	06-Jul-23	-210	S5BIOC1040, S5CHPT1020, S5BIOT1000	S5T1070
THP Area		905	29-Jun-21 A	31-Jan-24	21-Oct-22	22-May-23	-255		
Fabrication, FAT & Delivery of Major Plant & Materials		315	29-Jun-21 A	23-May-22 A	21-Oct-22	21-Oct-22			
S5THPP1000	Fabrication of THP System	300	29-Jun-21 A	18-Mar-22 A	21-Oct-22	21-Oct-22		S2P1040, S2D1410, S2D1370	S5THPP1010
S5THPP1010	FAT for THP System	14	03-Jan-22 A	17-May-22 A	21-Oct-22	21-Oct-22		S5THPP1000	S5THPP1020
S5THPP1020	Delivery of THP System	60	29-Mar-22 A	23-May-22 A	21-Oct-22	21-Oct-22		S5THPP1010	S5THPC1020
E&M Installation		344	22-Nov-22 A	29-Nov-23	21-Oct-22	22-Apr-23	-222		
S5THPC1000	Access to THP Area (Impacted by EWN-0314)	1	22-Nov-22 A	22-Nov-22 A	21-Oct-22	21-Oct-22			S5THPC1020
S5THPC1010	Access to THP Area (Impacted by EWN-0314-1)	1	22-Nov-22 A	22-Nov-22 A	21-Oct-22	21-Oct-22			S5THPC1020
Mechanical Installation		283	20-Feb-23	29-Nov-23	21-Oct-22	22-Apr-23	-222		
S5THPC1020	Mechanical Installation of THP System	120	20-Feb-23*	19-Jun-23	21-Oct-22	18-Feb-23	-122	AD1100, S5THPP1020, S5S1020, S5THPC1000, S5THPC1010	S5THPC1030, S5THPT1010, S5THPC1050, S5WGBC1020, S5THPT1000
S5THPC1030	Mechanical Installation of Thickened Sludge Feed Pipe to THP System	90	01-Sep-23*	29-Nov-23	22-Jan-23	22-Apr-23	-222	S5THPC1020	S5THPT1010, PL1210
Electrical Installation		60	20-Jun-23	18-Aug-23	18-Feb-23	19-Apr-23	-122		
S5THPC1050	Electrical Installation for THP Facilities	60	20-Jun-23	18-Aug-23	18-Feb-23	19-Apr-23	-122	S5THPC1020	S5THPT1000
Testing and Commissioning		33	30-Dec-23	31-Jan-24	19-Apr-23	22-May-23	-255		
S5THPT1000	Ready for Power Energisation	3	30-Dec-23	01-Jan-24	19-Apr-23	22-Apr-23	-255	S5THPC1020, S5WS2C1110, S5EXAC1033, S5THPC1050	S5THPT1010
S5THPT1010	SAT of THP System	30	02-Jan-24	31-Jan-24	22-Apr-23	22-May-23	-255	S5THPC1020, S5THPC1030, S5CHPT1020, S5THPT1000	S5T1050
H2S Removal Area		529	23-Jun-22 A	31-Jan-24	01-Dec-22	06-Jun-23	-240		
Fabrication, FAT & Delivery of Major Plant & Materials		150	23-Jun-22 A	18-Feb-23	01-Dec-22	30-Jan-23	-20		
S5H2SP1000	Fabrication & Delivery of H2S Removal System	150	23-Jun-22 A	18-Feb-23	01-Dec-22	30-Jan-23	-20	S2P1060, S2D1530	S5H2SC1020
Installation		198	21-Dec-22	06-Jul-23	12-Feb-23	04-May-23	-64		
S5H2SC1000	Access to H2S Removal Area (Impacted by EWN-0314)	1	21-Dec-22*	21-Dec-22	12-Feb-23	13-Feb-23	54		S5H2SC1020
S5H2SC1010	Access to H2S Removal Area (Impacted by EWN-0314-1)	1	31-Dec-22*	31-Dec-22	12-Feb-23	13-Feb-23	44		S5H2SC1020
S5H2SC1015	Assume Actual Access Date	1	17-Apr-23*	17-Apr-23	12-Feb-23	13-Feb-23	-64		S5H2SC1020
S5H2SC1020	E&M Installation of H2S Removal System	80	18-Apr-23	06-Jul-23	13-Feb-23	04-May-23	-64	AD1100, S5H2SP1000, S5H2SC1000, S5H2SC1010, S5H2SC1015	S5H2ST1000, PL1210
Testing and Commissioning		33	30-Dec-23	31-Jan-24	04-May-23	06-Jun-23	-240		
S5H2ST1000	Ready for Power Energisation	3	30-Dec-23	01-Jan-24	04-May-23	07-May-23	-240	S5H2SC1020, S5WS2C1110, S5EXAC1033	S5H2ST1010
S5H2ST1010	SAT of H2S Removal System	30	02-Jan-24	31-Jan-24	07-May-23	06-Jun-23	-240	S5H2ST1000	S5T1080
Waste Gas Burning Area		635	29-Mar-22 A	16-Mar-24	31-Oct-22	21-Jul-23	-240		
Fabrication, FAT & Delivery of Major Plant & Materials		308	29-Mar-22 A	24-Apr-23	31-Oct-22	05-Mar-23	-51		
S5WGBP1000	Fabrication of Waste Gas Burning System	210	29-Mar-22 A	23-Feb-23	31-Oct-22	04-Jan-23	-51	S2P1080, S2D1650	S5WGBP1010
S5WGBP1010	FAT for Waste Gas Burning System	14	10-Feb-23	23-Feb-23	21-Dec-22	04-Jan-23	-51	S5WGBP1000	S5WGBP1020
S5WGBP1020	Delivery of Waste Gas Burning System	60	24-Feb-23	24-Apr-23	04-Jan-23	05-Mar-23	-51	S5WGBP1010	S5WGBC1020



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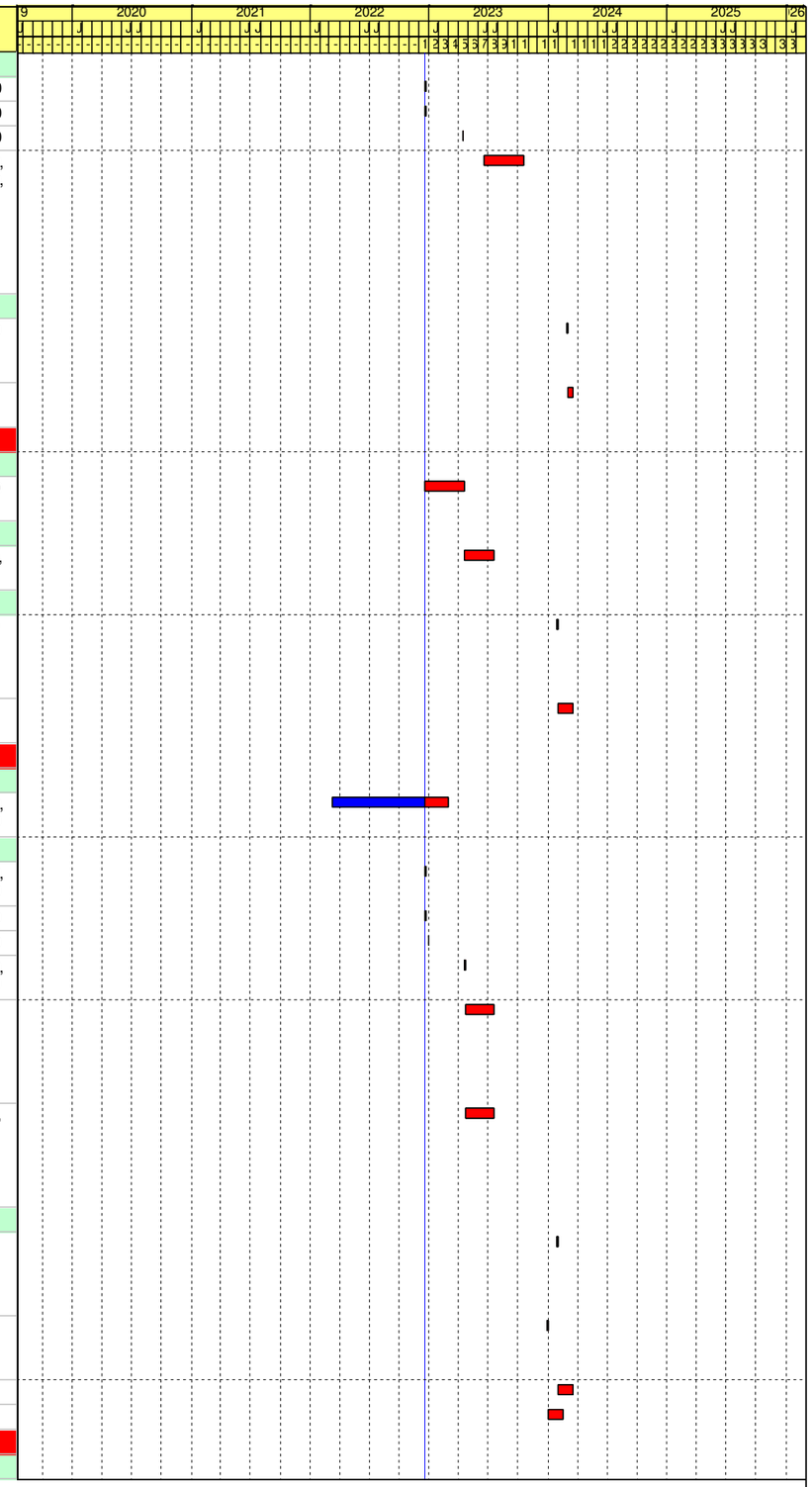
Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
Installation		301	21-Dec-22	17-Oct-23	04-Mar-23	03-Jul-23	-107		
S5WGBC1000	Access to Waste Gas Burning Area (Impacted by EWN-0314)	1	21-Dec-22*	21-Dec-22	04-Mar-23	05-Mar-23	74		S5WGBC1020
S5WGBC1010	Access to Waste Gas Burning Area (Impacted by EWN-0314-1)	1	21-Dec-22*	21-Dec-22	04-Mar-23	05-Mar-23	74		S5WGBC1020
S5WGBC1015	Assume Actual Access Date	1	17-Apr-23*	17-Apr-23	04-Mar-23	05-Mar-23	-44		S5WGBC1020
S5WGBC1020	E&M Installation of Waste Gas Burning System	120	20-Jun-23	17-Oct-23	05-Mar-23	03-Jul-23	-107	AD1100, S5WGBP1020, S5BIOC1030, S5THPC1020, S5WGBC1000, S5WGBC1010, S5WGBC1015	S5WGBT1010, S5WGBT1000, PL1210
Testing and Commissioning		18	28-Feb-24	16-Mar-24	03-Jul-23	21-Jul-23	-240		
S5WGBT1000	Ready for Power Energisation	3	28-Feb-24	01-Mar-24	03-Jul-23	06-Jul-23	-240	S5WGBC1020, S5WS2C1110, S5EXAC1036	S5WGBT1010
S5WGBT1010	SAT for Gas Burning System	15	02-Mar-24	16-Mar-24	06-Jul-23	21-Jul-23	-240	S5WGBC1020, S5WGBT1000	S5T1090
Plant Service Water Area		452	21-Dec-22	16-Mar-24	22-Aug-22	07-May-23	-315		
Fabrication, FAT & Delivery of Major Plant & Materials		120	21-Dec-22	19-Apr-23	22-Aug-22	20-Dec-22	-121		
S5PSWP1000	Fabrication & Delivery of Plant Service Water System	120	21-Dec-22	19-Apr-23	22-Aug-22	20-Dec-22	-121	S2P1090, S2D1690	S5PSWC1000
Installation		90	20-Apr-23	18-Jul-23	20-Dec-22	20-Mar-23	-121		
S5PSWC1000	E&M Installation of Plant Service Water System	90	20-Apr-23	18-Jul-23	20-Dec-22	20-Mar-23	-121	AD1100, S5PSWP1000	S5PSWT1000, PL1210
Testing and Commissioning		48	29-Jan-24	16-Mar-24	20-Mar-23	07-May-23	-315		
S5PSWT1000	Ready for Power Energisation	3	29-Jan-24	31-Jan-24	20-Mar-23	23-Mar-23	-315	S5PSWC1000, S5WS2C1130, S5EXAC1040, S5TXRT1010	S5PSWT1010
S5PSWT1010	SAT & System Commissioning Tests for Plant Services Water System	45	01-Feb-24	16-Mar-24	23-Mar-23	07-May-23	-315	S5PSWT1000, S5UVPC1000	S5T1060
DO Area		666	10-Mar-22 A	16-Mar-24	10-Nov-22	06-Jul-23	-255		
Fabrication, FAT & Delivery of Major Plant & Materials		150	10-Mar-22 A	28-Feb-23	10-Nov-22	19-Jan-23	-41		
S5DOUP1000	Fabrication & Delivery of DO System	150	10-Mar-22 A	28-Feb-23	10-Nov-22	19-Jan-23	-41	S2P1150, S2D1930	S5DOUC1030, S5DOUC1040
Installation		212	21-Dec-22	21-Jul-23	15-Jan-23	19-May-23	-63		
S5DOUC1000	Access to DO Area (Impacted by EWN-0314)	1	21-Dec-22*	21-Dec-22	18-Jan-23	19-Jan-23	29		S5DOUC1030, S5DOUC1040
S5DOUC1010	Access to DO Area No.11 (Impacted by EWN-0314-1)	1	21-Dec-22*	21-Dec-22	18-Jan-23	19-Jan-23	29		S5DOUC1030
S5DOUC1020	Access to DO Area No.12 (Impacted by EWN-0314-1)	1	31-Dec-22*	31-Dec-22	17-Feb-23	18-Feb-23	49		S5DOUC1040
S5DOUC1025	Assume Actual Access Date	4	18-Apr-23*	22-Apr-23	15-Jan-23	19-Jan-23	-93		S5DOUC1030, S5DOUC1040
S5DOUC1030	E&M Installation of DO System No.11	90	22-Apr-23	21-Jul-23	19-Jan-23	19-Apr-23	-93	AD1100, S5DOUP1000, S5DOUC1000, S5DOUC1010, S5DOUC1025	S5DOUT1000
S5DOUC1040	E&M Installation of DO System No.12	90	22-Apr-23	21-Jul-23	18-Feb-23	19-May-23	-63	AD1100, S5DOUP1000, S5DOUC1000, S5DOUC1020, S5DOUC1025	S5DOUT1010, PL1210
Testing and Commissioning		78	30-Dec-23	16-Mar-24	19-Apr-23	06-Jul-23	-255		
S5DOUT1000	Ready for Power Energisation of DO No.11	3	29-Jan-24	31-Jan-24	19-Apr-23	22-Apr-23	-285	S5DOUC1030, S5WS2C1130, S5EXAC1040, S5TXRT1010	S5DOUT1020
S5DOUT1010	Ready for Power Energisation of DO No.12	3	30-Dec-23	01-Jan-24	19-May-23	22-May-23	-225	S5DOUC1040, S5WS2C1110, S5EXAC1033	S5DOUT1030
S5DOUT1020	SAT & System Commissioning Tests for DO System No.11	45	01-Feb-24	16-Mar-24	22-Apr-23	06-Jun-23	-285	S5DOUT1000	S5T1060
S5DOUT1030	SAT & System Commissioning Tests for DO System No.12	45	02-Jan-24	15-Feb-24	22-May-23	06-Jul-23	-225	S5DOUT1010	S5T1080
Sewage Pump Station		635	23-May-22 A	16-Mar-24	07-Oct-22	07-Feb-24	-39		
Fabrication, FAT & Delivery of Major Plant & Materials		543	23-May-22 A	26-Sep-23	07-Oct-22	17-Jul-23	-72		



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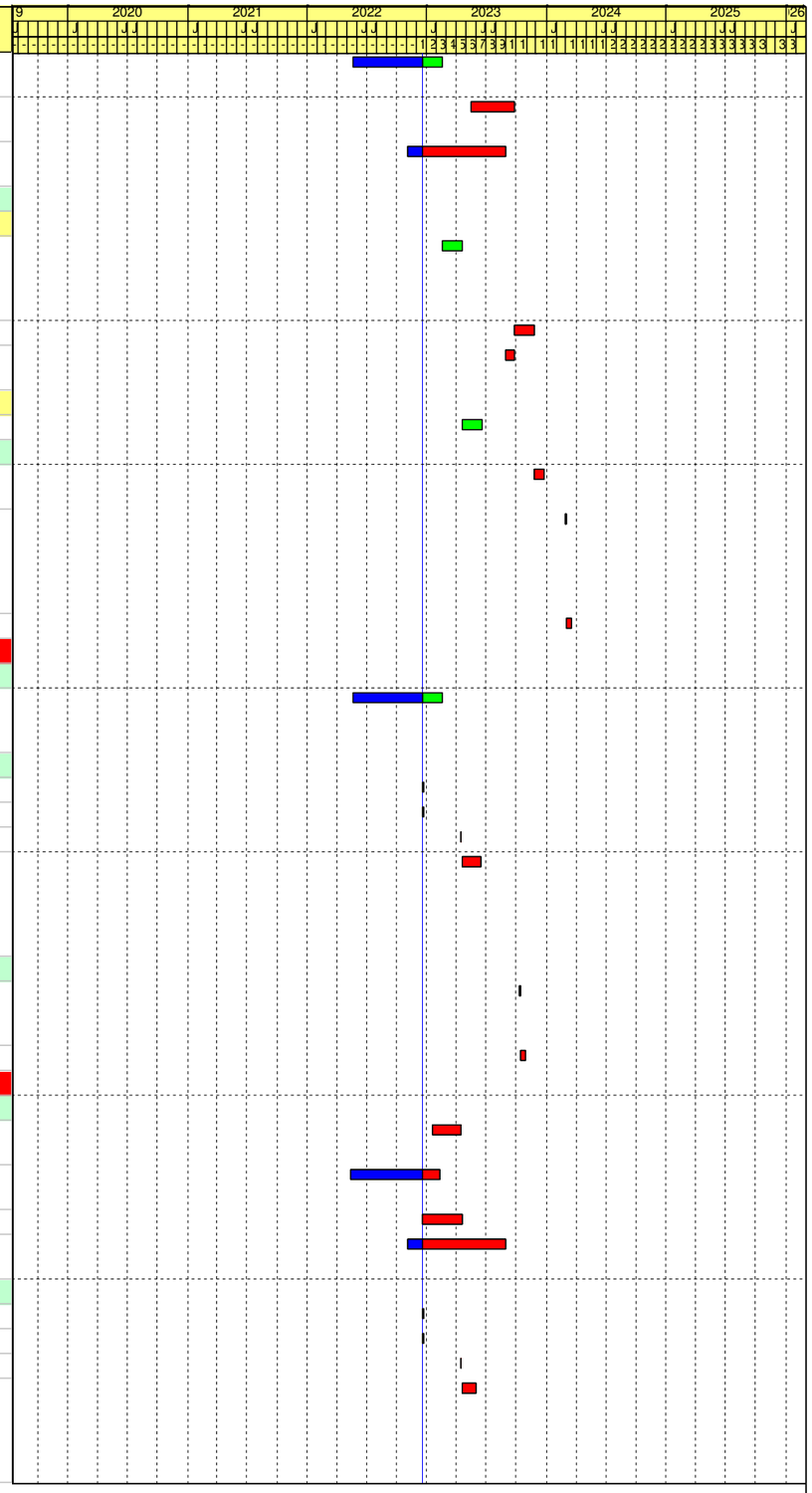
S5SPSP1000	Fabrication & Delivery of Sewage Pump	150	23-May-22 A	18-Feb-23	19-Jan-23	20-Mar-23	30	S2P1180, S2D1940	S5SPSC1000
S5SPSP1010	Fabrication & Delivery of LV Switchboard	134	16-May-23*	26-Sep-23	07-Oct-22	18-Feb-23	-221		S5SPSC1001, S5SPST0990
S5SPSP1020	Delivery of Control & Monitoring System / SCADA System	360	04-Nov-22 A	28-Aug-23	08-Nov-22	17-Jul-23	-43		S5SPSC1010
Installation		280	19-Feb-23	25-Nov-23	18-Feb-23	07-Feb-24	74		
E&M Installation		280	19-Feb-23	25-Nov-23	18-Feb-23	16-Aug-23	-102		
S5SPSC1000	E&M Installation of Sewage Pump	60	19-Feb-23	19-Apr-23	20-Mar-23	19-May-23	30	AD1100, S5SPSP1000	S5SPSC1020, S5SPST1000, PL1210, S5SPSC1010
S5SPSC1001	LV Switchboard Installation	60	27-Sep-23	25-Nov-23	18-Feb-23	19-Apr-23	-221	S5SPSP1010	S5SPST0990
S5SPSC1010	Installation of SCADA System / Control Monitoring System	30	29-Aug-23	27-Sep-23	17-Jul-23	16-Aug-23	-43	S5SPSP1020, S5SPSC1000	S5T1000, S5T1010
BS Installation		60	20-Apr-23	18-Jun-23	09-Dec-23	07-Feb-24	234		
S5SPSC1020	BS Installation for Sewage Pumping Station	60	20-Apr-23	18-Jun-23	09-Dec-23	07-Feb-24	234	S5SPSC1000	S5S1160
Testing and Commissioning		112	26-Nov-23	16-Mar-24	19-Apr-23	06-Jun-23	-285		
S5SPST0990	SAT of Switchboard	30	26-Nov-23	25-Dec-23	19-Apr-23	19-May-23	-221	S5SPSP1010, S5SPSC1001	S5SPST1000
S5SPST1000	Ready for Power Energisation	3	28-Feb-24	01-Mar-24	19-May-23	22-May-23	-285	S5SPSC1000, S5WS2C1110, S5SPST0990, S5EXAC1036, S5EXAC1045	S5SPST1010
S5SPST1010	SAT & System Commissioning Tests for Sewage Pumping Station	15	02-Mar-24	16-Mar-24	22-May-23	06-Jun-23	-285	S5SPST1000	S5T1060
THP Cooling Water Transfer Pumping Station		496	23-May-22 A	29-Oct-23	04-Jan-23	22-May-23	-161		
Fabrication, FAT & Delivery of Major Plant & Materials		150	23-May-22 A	18-Feb-23	04-Jan-23	05-Mar-23	15		
S5TCWP1000	Fabrication & Delivery of THP Cooling Pump	150	23-May-22 A	18-Feb-23	04-Jan-23	05-Mar-23	15	S2P1210, S2D1970, S2D1370	S5TCWC1020
Installation		178	21-Dec-22	16-Jun-23	04-Mar-23	04-May-23	-44		
S5TCWC1000	Access to THP CW Transfer Pumping Station (Impacted by EWN-0314)	1	21-Dec-22*	21-Dec-22	04-Mar-23	05-Mar-23	74		S5TCWC1020
S5TCWC1010	Access to THP CW Transfer Pumping Station (Impacted by EWN-0314-1)	1	21-Dec-22*	21-Dec-22	04-Mar-23	05-Mar-23	74		S5TCWC1020
S5TCWC1015	Assume Actual Access Date	1	17-Apr-23*	17-Apr-23	04-Mar-23	05-Mar-23	-44		S5TCWC1020
S5TCWC1020	E&M Installation of THP Cooling Pump	60	18-Apr-23	16-Jun-23	05-Mar-23	04-May-23	-44	AD1100, S5TCWP1000, S5TCWC1000, S5TCWC1010, S5TCWC1015	S5TCWT1000, PL1210
Testing and Commissioning		18	12-Oct-23	29-Oct-23	04-May-23	22-May-23	-161		
S5TCWT1000	Ready for Power Energisation	3	12-Oct-23	14-Oct-23	04-May-23	07-May-23	-161	S5TCWC1020, S5WS2C1110, S5EXAC1030	S5TCWT1010
S5TCWT1010	SAT & System Commissioning Tests for THP Cooling Water Pumping System	15	15-Oct-23	29-Oct-23	07-May-23	22-May-23	-161	S5TCWT1000	S5T1050
Ferric Chloride Dosing Facility		606	14-May-22 A	15-Apr-24	06-Oct-22	16-Aug-23	-244		
Fabrication, FAT & Delivery of Major Plant & Materials		495	14-May-22 A	28-Aug-23	06-Oct-22	17-Jul-23	-43		
S5FCDP1000	Fabrication & Delivery of Ferric Chloride Storage Tank	90	18-Jan-23	17-Apr-23	06-Oct-22	04-Jan-23	-104	S5P1030, S2D1980	S5FCDC1020
S5FCDP1010	Fabrication & Delivery of Ferric Chloride Dosing Pump	150	14-May-22 A	09-Feb-23	30-Nov-22	20-Jan-23	-21	S5P1040, S2D1980	S5FCDC1030
S5FCDP1020	Fabrication & Delivery of LV Switchboard	120	21-Dec-22*	19-Apr-23	06-Oct-22	03-Feb-23	-76		S5FCDC1030
S5FCDP1030	Delivery of Control & Monitoring System / SCADA System	360	04-Nov-22 A	28-Aug-23	08-Nov-22	17-Jul-23	-43		S5FCDP1040
Installation		281	21-Dec-22	27-Sep-23	03-Jan-23	16-Aug-23	-43		
S5FCDC1000	Access to Ferric Chloride Dosing Facility (Impacted by EWN-0314)	1	21-Dec-22*	21-Dec-22	03-Jan-23	04-Jan-23	14		S5FCDC1020
S5FCDC1010	Access to Ferric Chloride Dosing Facility (Impacted by EWN-0314-1)	1	21-Dec-22*	21-Dec-22	03-Jan-23	04-Jan-23	14		S5FCDC1020
S5FCDC1015	Assume Actual Access Date	1	17-Apr-23*	17-Apr-23	03-Jan-23	04-Jan-23	-104		S5FCDC1020
S5FCDC1020	E&M Installation of Ferric Chloride Storage Tank	45	18-Apr-23	01-Jun-23	04-Jan-23	18-Feb-23	-104	AD1100, S5FCDP1000, S5FCDC1000, S5FCDC1010, S5FCDC1015	S5FCDC1030, S5S1280



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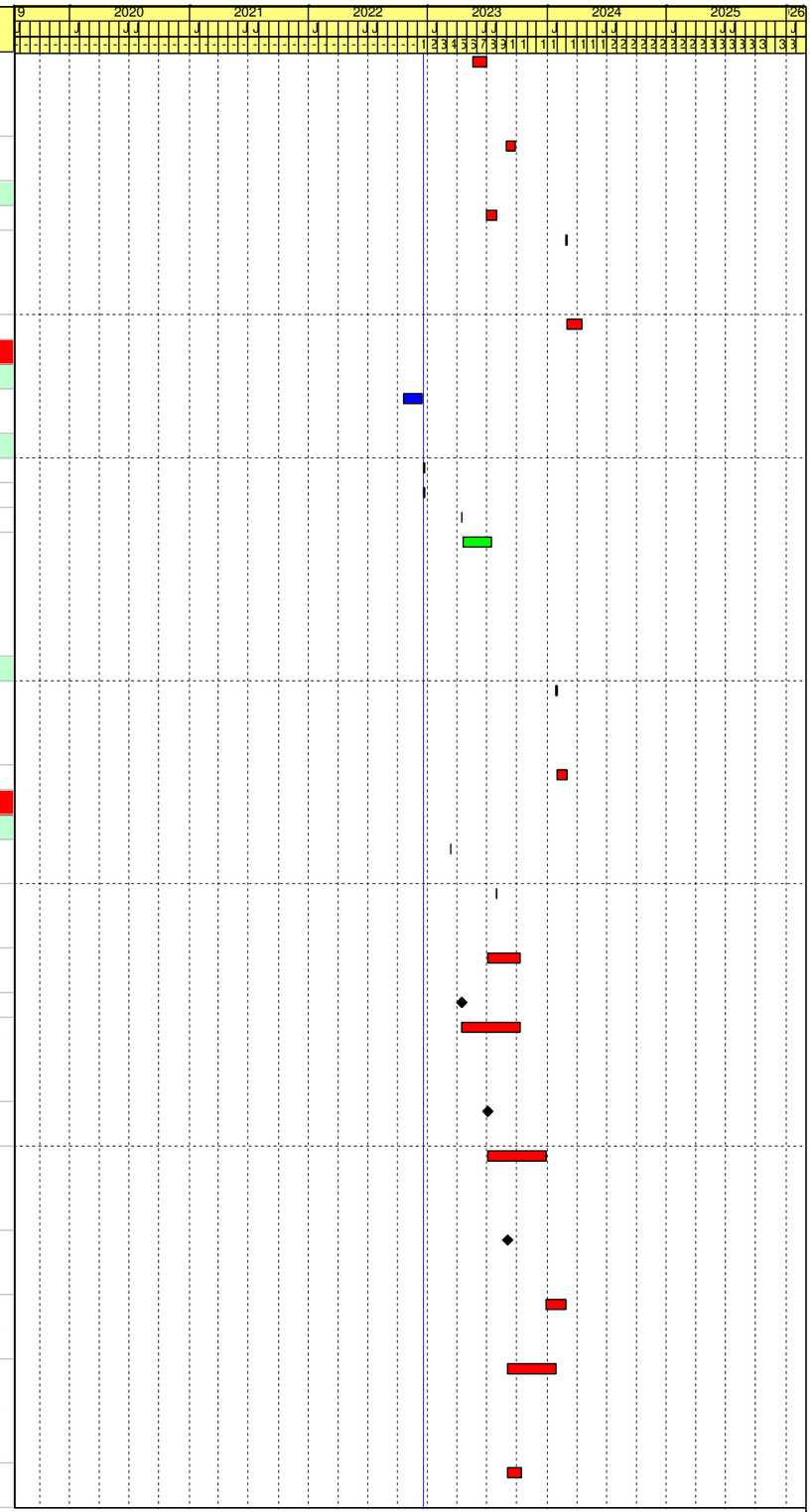
S5FCDC1030	E&M Installation of Ferric Chloride Dosing Pump	45	18-May-23	01-Jul-23	03-Feb-23	20-Mar-23	-104	AD1100, S5FCDC1020, S5FCDP1010, S5FCDP1020	S5FCDT1000, S5FCDT0990, PL1210, S5FCDP1040
S5FCDP1040	Installation of SCADA System / Control Monitoring System	30	29-Aug-23	27-Sep-23	17-Jul-23	16-Aug-23	-43	S5FCDP1030, S5FCDC1030	S5T1000, S5T1010
Testing and Commissioning		289	02-Jul-23	15-Apr-24	20-Mar-23	06-Jun-23	-315		
S5FCDT0990	SAT of Switchboard	30	02-Jul-23	31-Jul-23	20-Mar-23	19-Apr-23	-104	S5FCDC1030	S5FCDT1000
S5FCDT1000	Ready for Power Energisation	3	28-Feb-24	01-Mar-24	19-Apr-23	22-Apr-23	-315	S5FCDC1030, S5WS2C1110, S5FCDT0990, S5EXAC1036	S5FCDT1010
S5FCDT1010	SAT & System Commissioning Tests for FeCl3 Dosing Facility	45	02-Mar-24	15-Apr-24	22-Apr-23	06-Jun-23	-315	S5FCDT1000	S5T1080
Fire Hydrant and Booster Pump Room		437	18-Oct-22 A	01-Mar-24	13-Jul-23	21-Dec-23	-72		
Fabrication, FAT & Delivery of Major Plant & Materials		60	18-Oct-22 A	16-Dec-22 A	14-Jul-23	14-Jul-23			
S5SHPP1000	Fabrication & Delivery of Fire Hydrant and Booster Pump	60	18-Oct-22 A	16-Dec-22 A	14-Jul-23	14-Jul-23			S5SHPC1020
Installation		208	21-Dec-22	16-Jul-23	13-Jul-23	12-Oct-23	88		
S5SHPC1000	Access to Fire Hydrant and Booster Pump Room (Impacted by EWN-0314)	1	21-Dec-22*	21-Dec-22	13-Jul-23	14-Jul-23	205		S5SHPC1020
S5SHPC1010	Access to Fire Hydrant and Booster Pump Room (Impacted by EWN-0314-1)	1	21-Dec-22*	21-Dec-22	13-Jul-23	14-Jul-23	205		S5SHPC1020
S5SHPC1015	Assume Actual Access Date	1	17-Apr-23*	17-Apr-23	13-Jul-23	14-Jul-23	88		S5SHPC1020
S5SHPC1020	Fire Hydrant and Booster Pump Room Installation	90	18-Apr-23	16-Jul-23	14-Jul-23	12-Oct-23	88	S5S1120, AD1100, S5SHPC1000, S5SHPC1010, S5SHPP1000, S5SHPC1015	S5S1130, S5SHPT1000, PL1210
Testing and Commissioning		33	29-Jan-24	01-Mar-24	18-Nov-23	21-Dec-23	-72		
S5SHPT1000	Ready for Power Energisation	3	29-Jan-24	31-Jan-24	18-Nov-23	21-Nov-23	-72	S5SHPC1020, S5WS2C1130, S5EXAC1040, S5TXRT1010	S5SHPT1010
S5SHPT1010	SAT for Fire Hydrant and Booster Pump	30	01-Feb-24	01-Mar-24	21-Nov-23	21-Dec-23	-72	S5SHPT1000	S5S1220
External Area		351	14-Mar-23	27-Feb-24	21-Oct-22	13-Nov-23	-107		
Installation		351	14-Mar-23	27-Feb-24	21-Oct-22	13-Nov-23	-107		
S5EXAC1000	Access to Other Peripheral Systems (Impacted by EWN-0314)	1	14-Mar-23*	14-Mar-23	16-May-23	17-May-23	64		S5EXAC1050, S5EXAC1060
S5EXAC1010	Access to Other Peripheral Systems (Impacted by EWN-0314-1)	1	31-Jul-23*	31-Jul-23	05-Feb-23	06-Feb-23	-176		S5EXAC1050, S5EXAC1060, S5EXAC1030
S5EXAC1020	E&M Installation of Pipe Trench No.1, No.2	100	03-Jul-23	10-Oct-23	11-Feb-23	22-May-23	-142	AD1100, S5EXAC1031	S5T1050, PL1210
S5EXAC1025	Access to Stage 1 External Area	0	15-Apr-23*		21-Oct-22		-176		S5EXAC1030
S5EXAC1030	LV Cable Laying from CHP to Sludge Digestor, Workshop no.2 and THP CW transfer PS (120 days) & Termination (60 days)	180	15-Apr-23	11-Oct-23	21-Oct-22	19-Apr-23	-176	S5EXAC1010, S5P1050, S5EXAC1025	S5TCWT1000, S5WS2T1010, S5DIGT1010, PL1210
S5EXAC1031	Access to Stage 2 External Area	0	03-Jul-23*		21-Oct-22		-255		S5EXAC1033, S5EXAC1020
S5EXAC1033	LV Cable Laying from CHP to BHT, THP, DOU No.12, H2S removal & Guard Hse (120 days) & Termination (60 days)	180	03-Jul-23	29-Dec-23	21-Oct-22	19-Apr-23	-255	S5EXAC1031	S5BIOT1000, S5THPT1000, S5DOUT1010, S5H2ST1000
S5EXAC1034	Access to Stage 3 External Area	0	01-Sep-23*		21-Oct-22		-315		S5EXAC1036, S5EXAC1040, S5EXAC1045
S5EXAC1036	LV Cable Laying from CHP to FeCl3 Dosing Facility and Waste Gas Burning System (30 days) & Termination (30 days)	60	30-Dec-23	27-Feb-24	18-Feb-23	19-Apr-23	-315	S5EXAC1034, S5EXAC1040	S5SPST1000, S5WGBT1000, S5FCDT1000
S5EXAC1040	LV Cable Laying from TX & SW Room to DOU no. 11, Street Hydrant Pump room and PSWS (90 days) & Termination (60 days)	150	01-Sep-23	28-Jan-24	21-Oct-22	20-Mar-23	-315	S5P1050, S5EXAC1034	S5SHPT1000, S5DOUT1000, S5PSWT1000, PL1210, S5EXAC1036
S5EXAC1045	LV Cable Laying from SDB to SPS (20 days) & Termination (25 days)	45	01-Sep-23	15-Oct-23	04-Apr-23	19-May-23	-150	S5EXAC1034, S5P1050	S5SPST1000



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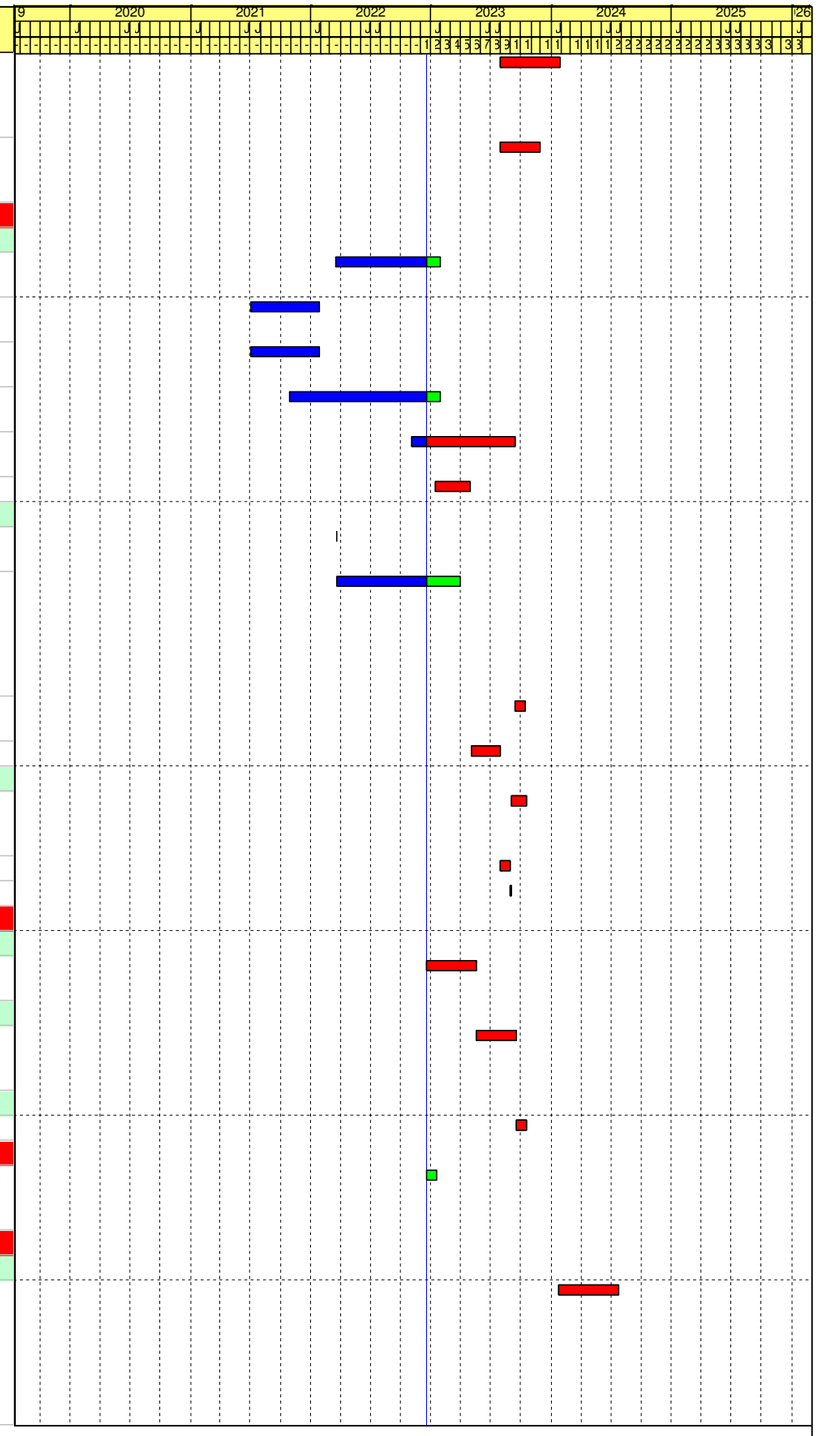
S5EXAC1050	Road Lighting Installation	180	01-Aug-23	27-Jan-24	17-May-23	13-Nov-23	-76	AD1100, S5EXAC1000, S5EXAC1010, S5P1050	S5S1220, PL1210
S5EXAC1060	Landscape Lighting Installation	120	01-Aug-23*	28-Nov-23	16-Jul-23	13-Nov-23	-16	S5EXAC1000, S5EXAC1010, S5P1050	S5S1220, PL1210
SAS Pumping Station		816	04-Jul-21 A	17-Oct-23	01-Sep-22	16-Apr-25	547		
Fabrication, FAT & Delivery of Major Plant & Materials		816	04-Jul-21 A	15-Sep-23	01-Sep-22	16-Apr-25	579		
S5SASP1000	Fabrication & Delivery of SAS Pumping System	120	16-Mar-22 A	31-Jan-23	11-Mar-23	22-Apr-23	81	S2P1100, S2D1770	S5SASC1010
S5SASP1010	Fabrication & Delivery of Stoplog	270	04-Jul-21 A	27-Jan-22 A	22-Apr-23	22-Apr-23		S2P1160	S5SASC1010
S5SASP1020	Fabrication & Delivery of Penstock	270	04-Jul-21 A	27-Jan-22 A	22-Apr-23	22-Apr-23		S2P1170	S5SASC1010
S5SASP1030	Fabrication & Delivery of Lifting Appliances	309	30-Oct-21 A	31-Jan-23	06-Mar-25	16-Apr-25	806		
S5SASP1040	Delivery of Control & Monitoring System / SCADA System	360	04-Nov-22 A	15-Sep-23	21-Oct-22	17-Jul-23	-61		S5SASC1020
S5SASP1050	Fabrication & Delivery of LV Switchboard	110	13-Jan-23*	02-May-23	01-Sep-22	20-Dec-22	-134		S5SASC1030
Installation		482	23-Mar-22 A	15-Oct-23	20-Dec-22	16-Aug-23	-61		
S5SASC1000	Access to SAS Pumping Station (Impacted by NCE-NCE-219)	1	23-Mar-22 A	23-Mar-22 A	12-Jan-23	12-Jan-23		AD1160	S5SASC1010
S5SASC1010	E&M Installation of SAS Pumping System	210	23-Mar-22 A	30-Mar-23	12-Jan-23	22-Apr-23	23	AD1160, S5SASP1000, CE0219b, S5SASP1010, S5SASP1020, S5SASC1000	S5SAST1000, PL1210, S5SASC1020
S5SASC1020	Installation of SCADA System / Control Monitoring System	30	16-Sep-23	15-Oct-23	17-Jul-23	16-Aug-23	-61	S5SASP1040, S5SASC1010	S5T1000, S5T1010
S5SASC1030	LV Switchboard Installation	90	03-May-23	31-Jul-23	20-Dec-22	20-Mar-23	-134	S5SASP1050	S5SAST1010
Testing and Commissioning		78	01-Aug-23	17-Oct-23	20-Mar-23	06-Jun-23	-134		
S5SAST1000	SAT & System Commissioning Tests for SAS Pumping Station	45	03-Sep-23	17-Oct-23	22-Apr-23	06-Jun-23	-134	S5SASC1010, S5SAST1020	S5T1110, S5T1120, S5T1060
S5SAST1010	SAT of Switchboard	30	01-Aug-23	30-Aug-23	20-Mar-23	19-Apr-23	-134	S5SASC1030	S5SAST1020
S5SAST1020	Ready for Power Energisation	3	31-Aug-23	02-Sep-23	19-Apr-23	22-Apr-23	-134	S5SAST1010	S5SAST1000
Existing Consolidation House		300	21-Dec-22	16-Oct-23	11-Jul-22	07-May-23	-163		
Fabrication, FAT & Delivery of Major Plant & Materials		150	21-Dec-22	19-May-23	11-Jul-22	08-Dec-22	-163		
S5ECHP1000	Fabrication & Delivery of Temporary Primary Sludge Pump	150	21-Dec-22	19-May-23	11-Jul-22	08-Dec-22	-163	S2P1220, S2D1990	S5ECHC1000
Installation		120	20-May-23	16-Sep-23	08-Dec-22	07-Apr-23	-163		
S5ECHC1000	E&M Installation of Existing Consolidation House	120	20-May-23	16-Sep-23	08-Dec-22	07-Apr-23	-163	CE0219d, S5ECHP1000	S5T1060, S5ECHT1000, PL1210
Testing and Commissioning		30	17-Sep-23	16-Oct-23	07-Apr-23	07-May-23	-163		
S5ECHT1000	SAT for Temporary Primary Sludge Pump	30	17-Sep-23	16-Oct-23	07-Apr-23	07-May-23	-163	S5ECHC1000	S5T1060
Miscellaneous		30	21-Dec-22	19-Jan-23	21-Feb-23	23-Mar-23	63		
S5UVPC1000	E&M Installation of Lift-up Pumps & Associated Pipeworks / Valves	30	21-Dec-22	19-Jan-23	21-Feb-23	23-Mar-23	63	S4C1030, S4P1080, S4T1020	S5PSWT1010, PL1210
Testing & Commissioning		421	26-Jan-24	21-Mar-25	07-May-23	11-May-24	-315		
T&C of Control Monitoring System		180	26-Jan-24	23-Jul-24	16-Aug-23	12-Feb-24	-163		
S5T1000	SAT of SCADA System	180	26-Jan-24	23-Jul-24	16-Aug-23	12-Feb-24	-163	S5WS2C1180, S5CHPC1120, S5CHPC1250, S5TXRC1050, S5SPSC1010, S5FCDP1040, S5SASC1020	SC51110, S5T1140



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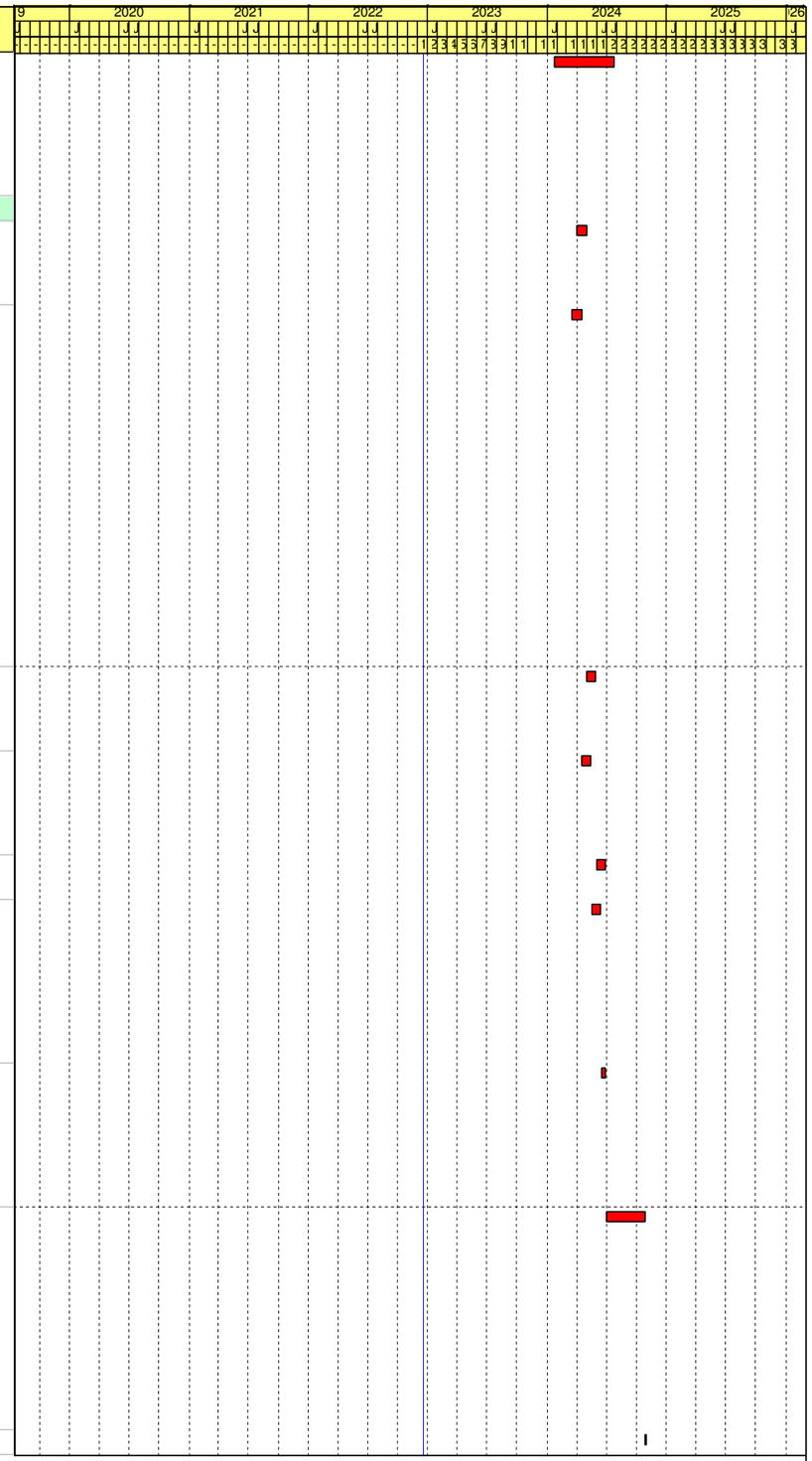
S5T1010	SAT of PMS	180	26-Jan-24	23-Jul-24	16-Aug-23	12-Feb-24	-163	S5WS2C1180, S5CHPC1120, S5CHPC1250, S5TXRC1050, S5SPSC1010, S5FCDP1040, S5SASC1020	SC51110, S5T1140
T&C of E&M Process		370	17-Mar-24	21-Mar-25	07-May-23	11-May-24	-315		
S5T1050	System Commissioning Tests for THP System	30	01-Apr-24	30-Apr-24	22-May-23	21-Jun-23	-315	S5THPT1010, S5EXAC1020, S5T1060, S5TCWT1010	S5T1120, S5T1080, S5T1110
S5T1060	System Commissioning Tests for Sludge Dewatering System	30	17-Mar-24	15-Apr-24	07-May-23	06-Jun-23	-315	S5ECHC1000, S5DOUT1020, S5SPST1010, S5SAST1000, S5ECHT1000, S5SDBT1180, S5SDBT1032, S5SDBT1070, S5SDBT1181, S5SDBT1160, S5SDBT1058, S5SDBT1045, S5SDBT1170, S5SDBT1068, S5SDBT1100, S5SDBC1870, S5SDBC1860, S5PSWT1010	S5T1120, S5T1110, PL1520, S5T1050
S5T1070	System Commissioning Tests for Biogas Storage System	30	01-May-24	30-May-24	21-Jun-23	21-Jul-23	-315	S5BIOT1010, S5T1080	S5T1120, S5T1110, S5S1070, S5T1100
S5T1080	System Commissioning Tests for Sludge Digestion System	30	16-Apr-24	15-May-24	06-Jun-23	06-Jul-23	-315	S5DIGT1020, S5T1050, S5H2ST1010, S5DOUT1030, S5FCDT1010	S5T1120, S5T1110, S5T1070
S5T1090	System Commissioning Tests for Gas Burning System	30	31-May-24	29-Jun-24	21-Jul-23	20-Aug-23	-315	S5WGBT1010, S5T1100	S5T1120, S5T1110
S5T1100	System Commissioning Tests for CHP System	30	16-May-24	14-Jun-24	06-Jul-23	05-Aug-23	-315	S5CHPT1030, S5S1310, S5CHPC1120, S5CHPT1000, S5CHPC1250, S5CHPT1040, S5CHPT1050, S5T1070	S5T1120, S5T1110, PL1560, S5T1090
S5T1110	Seeding	14	16-Jun-24	29-Jun-24	06-Aug-23	20-Aug-23	-315	S5T1090, S5T1070, S5T1080, S5T1100, S5T1060, S5T1050, S5SAST1000	S5T1120
S5T1120	Process Start Up - Digester 1	120	30-Jun-24	27-Oct-24	20-Aug-23	18-Dec-23	-315	S5T1090, S5T1070, S5T1080, S5T1100, S5T1060, S5T1050, S5T1110, S5S1080, S5TXRC1050, S5SAST1000, S3T1290	S5T1150, S5T1130, S3T1340
S5T1130	Notice to Commence Phase 1 System Commissioning - Digester 1	3	28-Oct-24	30-Oct-24	09-Feb-24	12-Feb-24	-262	S5T1120	S5T1140



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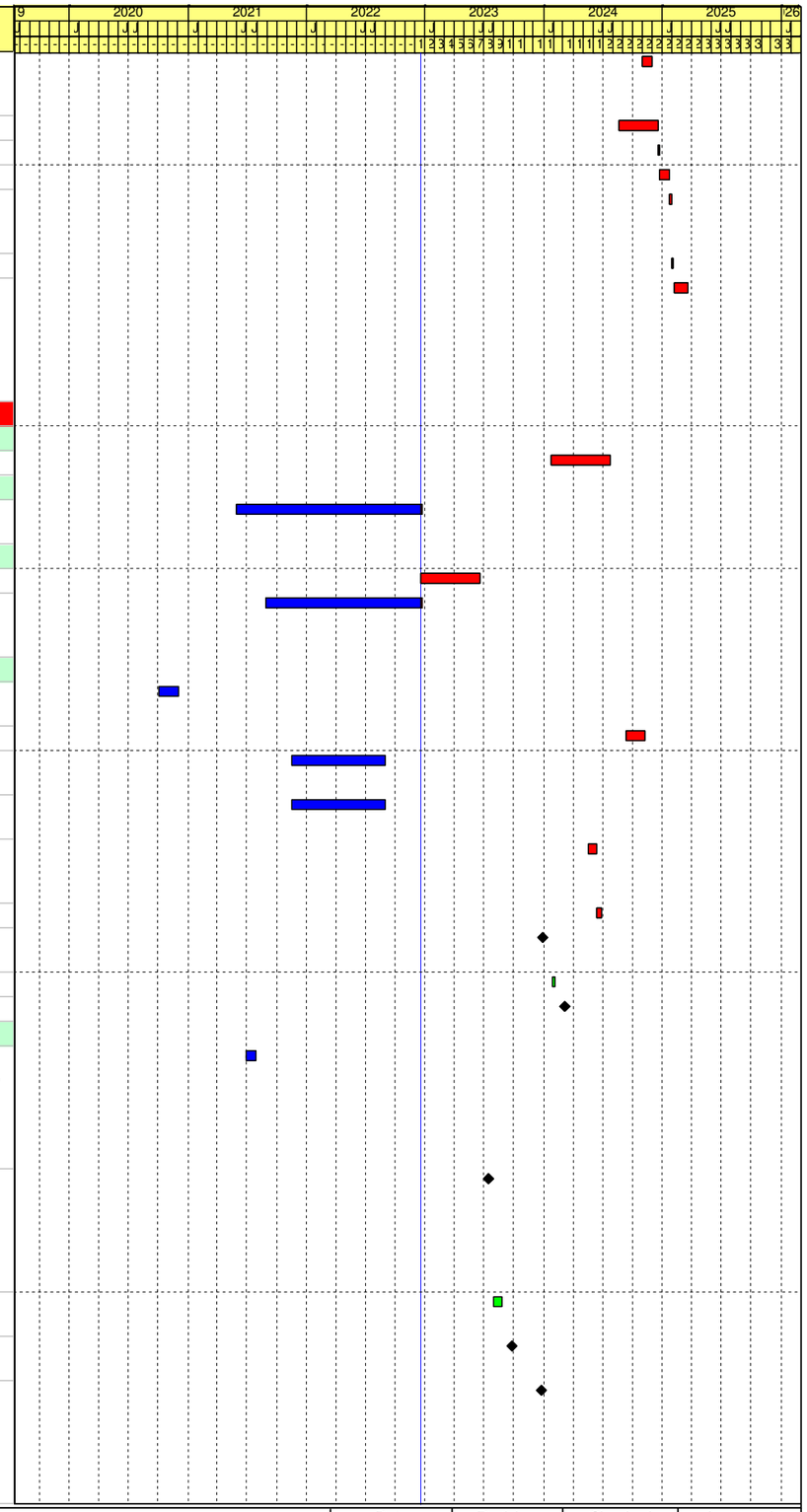
S5T1140	Phase 1 System Commissioning - Digester 1	30	31-Oct-24	29-Nov-24	12-Feb-24	13-Mar-24	-262	S5T1130, S5T1000, S5T1010	S5T1180
S5T1150	Process Start Up - Digester 2	120	22-Aug-24	19-Dec-24	12-Oct-23	09-Feb-24	-315	S5T1120	S5T1160
S5T1160	Notice to Commence Phase 1 System Commissioning - Digester 2	3	20-Dec-24	22-Dec-24	09-Feb-24	12-Feb-24	-315	S5T1150	S5T1170
S5T1170	Phase 1 System Commissioning - Digester 2	30	23-Dec-24	21-Jan-25	12-Feb-24	13-Mar-24	-315	S5T1160	S5T1180
S5T1180	Phase 2 System Commissioning - Digester 1 & 2	7	22-Jan-25	28-Jan-25	13-Mar-24	20-Mar-24	-315	S5T1170, S5T1140	S5T1190, PL1310, S3T1360
S5T1190	Notice to Commence Plant Commissioning	7	29-Jan-25	04-Feb-25	20-Mar-24	27-Mar-24	-315	S5T1180	S5T1200
S5T1200	Plant Commissioning Tests	45	05-Feb-25	21-Mar-25	27-Mar-24	11-May-24	-315	S5T1190, S5S1020, S5TXRC1050, S5WS2C1180, S5S1150, S3T1320	SC51110
Statutory Submission / Inspection		1282	03-Oct-20 A	09-Nov-24	03-May-22	06-Jun-24	-157		
HKT Submission		180	26-Jan-24	23-Jul-24	13-Nov-23	11-May-24	-74		
S5S0990	Application of Telemetry Lines for Workshop No. 2.	180	26-Jan-24	23-Jul-24	13-Nov-23	11-May-24	-74	S5WS2C1180	SC51110
CLP Submission		275	30-May-21 A	21-Dec-22	18-Dec-22	19-Dec-22	-3		
S5S1000	Submission & Approval of Electrical Schematic Wiring Diagram to CLP	275	30-May-21 A	21-Dec-22	18-Dec-22	19-Dec-22	-3		S5WS2C1040
EPD Submission / Inspection		660	28-Aug-21 A	18-Jun-23	03-May-22	24-Nov-22	-207		
S5S1010	EPD Submission & Approval for Air Pollution Control - Genset	180	21-Dec-22	18-Jun-23	28-May-22	24-Nov-22	-207	S2D1860	S5SDBC1500
S5S1020	EPD Submission & Approval for Air Pollution Control - CHP & Burner	180	28-Aug-21 A	21-Dec-22	03-May-22	04-May-22	-232	S2D1610	S5T1200, S5THPC1020, S5CHPC1020
EMSD Submission / Inspection		1282	03-Oct-20 A	09-Nov-24	27-Jul-22	06-Jun-24	-157		
S5S1030	BEEO Stage one: Submit EE1 & EE-SU to EMSD	60	03-Oct-20 A	02-Dec-20 A	27-Jul-22	27-Jul-22		S2D1890	S5WS2C1000
S5S1040	BEEO Stage two: Submit EE2 & EE-SU to EMSD	60	11-Sep-24	09-Nov-24	07-Apr-24	06-Jun-24	-157	S5S1250	SC51120
S5S1050	Application & Approval of the Zone Classification of Hazardous Area - including Fire Risk Assessment Report	180	15-Nov-21 A	30-Aug-22 A	14-Aug-22	14-Aug-22		S2D1070	S5S1070, S5S1060
S5S1060	Application for Construction Approval of Notifiable Gas Installation (Form 104)	180	15-Nov-21 A	30-Aug-22 A	14-Aug-22	14-Aug-22		S2D1070, S5S1050	S5S1070, S5BIOC1020
S5S1070	Application for Approval of Use of Notifiable Gas Installation (Form 105)	28	17-May-24	13-Jun-24	09-Jul-23	06-Aug-23	-313	S5S1060, S5T1070, S5S1050	S5S1080
S5S1080	EMSD Inspection - Gas Holding Tanks	14	14-Jun-24	27-Jun-24	06-Aug-23	20-Aug-23	-313	S5S1070	S5T1120
S5S1090	Form 5 Submission to EMSD - Lift Installation	0	31-Dec-23		05-Mar-24		66	S5WS2T1020, S5SDBT1110	S5S1100
S5S1100	EMSD Inspection - Lift Installation	7	30-Jan-24	05-Feb-24	04-Apr-24	11-Apr-24	66	S5S1090	S5S1110
S5S1110	Issuance of Form 6 - Lift Installation	0		06-Mar-24		11-May-24	66	S5S1100	SC51110
WSD Submission / Inspection		1002	01-Jul-21 A	28-Mar-24	14-Jul-23	11-May-24	44		
S5S1120	Submit WWO46 Part I / II to WSD (FS/PD)	30	01-Jul-21 A	30-Jul-21 A	14-Jul-23	14-Jul-23		S2D1910, S2D1860, S2D1870, S2D1880, S2D1890, S2D1900	S5S1130, S5WS2C1140, S5SHPC1020, S5DIGC1300, S5WS2C1170
S5S1130	Submit WWO46 Part IV to WSD (FS)	0	17-Jul-23		12-Oct-23		88	S5S1120, S5WS2C1140, S5SHPC1020, S5SDBC1352, S5SDBC1152, S5SDBC1052	S5S1140, S5S1150
S5S1140	WSD Inspection (FS)	28	31-Jul-23	27-Aug-23	26-Oct-23	23-Nov-23	88	S5S1130	S5S1250, S5S1150
S5S1150	Issuance of FS Water Certificate	0		24-Sep-23		21-Dec-23	88	S5S1130, S5S1140	S5T1200, S5S1220
S5S1160	Submit WWO46 Part IV to WSD (PD)	0	26-Dec-23		07-Feb-24		44	S5SPSC1020, S5CHPC1240, S5CHPC1110, S5DIGC1300, S5WS2C1170, S5SDBT1150	S5S1170



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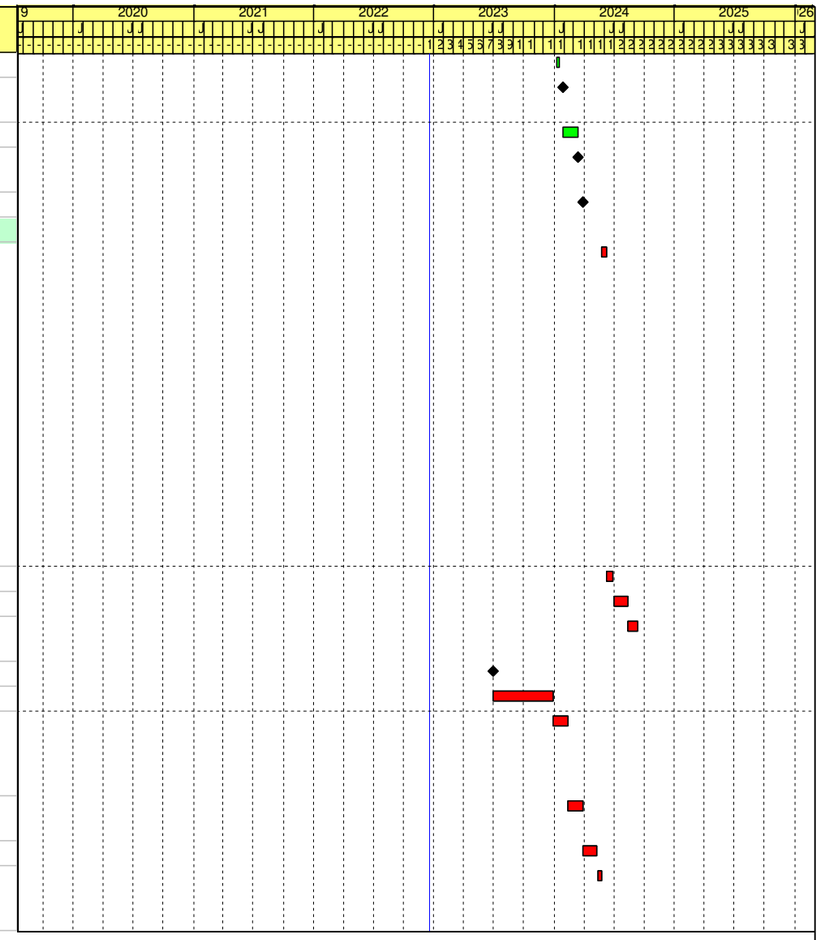
Remaining Work
Critical Activity
Milestone
Actual Progress

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 Dec 2022

Date	Revision	Checked	Approved
31-Aug-22	Rev.25	LT	KM
30-Sep-22	Rev.26	LT	KM
31-Oct-22	Rev.27	LT	KM
30-Nov-22	Rev.28	LT	KM
31-Dec-22	Rev.29	LT	KM

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S5S1170	WSD Inspection	7	09-Jan-24	15-Jan-24	21-Feb-24	28-Feb-24	44	S5S1160	S5S1180
S5S1180	Issuance of Form WWO46 Part Va	0		29-Jan-24		13-Mar-24	44	S5S1170	S5S1200, S5S1190
S5S1190	System Flushing / Sampling	45	30-Jan-24	14-Mar-24	13-Mar-24	27-Apr-24	44	S5S1180	S5S1200
S5S1200	Issuance of Form WWO46 Part Vb	0		14-Mar-24		27-Apr-24	44	S5S1180, S5S1190	S5S1210
S5S1210	Issuance of Water Certificate	0		28-Mar-24		11-May-24	44	S5S1200	SC51110
FSD Submission / Inspection		437	02-Jul-23	10-Sep-24	10-Sep-22	07-Apr-24	-157		
S5S1220	Prepare & Submit FSI/314 & FSI/501	14	26-May-24	08-Jun-24	21-Dec-23	04-Jan-24	-157	S5WS2C1150, S5S1310, S5S1150, S5EXAC1050, S5EXAC1060, S5CHPC1080, S5CHPC1090, S5CHPC1210, S5CHPC1220, S5DIGC1280, S5DIGC1290, S5SHPT1010, S5SDBT1048, S5SDBT1130, S5SDBT1140, S5SDBT1120	S5S1230
S5S1230	FSD Review & Approval of FSI/314 & FSI/501	21	09-Jun-24	29-Jun-24	04-Jan-24	25-Jan-24	-157	S5S1220	S5S1240
S5S1240	F.S. Inspection, Defects Rectification & Re-inspection	45	30-Jun-24	13-Aug-24	25-Jan-24	10-Mar-24	-157	S5S1230	S5S1250
S5S1250	Issuance of Acceptance Letter	28	14-Aug-24	10-Sep-24	10-Mar-24	07-Apr-24	-157	S5S1240, S5S1140	SC51110, S5S1040
S5S1260	Application of D.G. Licence	0	02-Jul-23		10-Sep-22		-295	S2D1860	S5S1270
S5S1270	Processing of D.G. Licence Application	180	02-Jul-23	28-Dec-23	10-Sep-22	09-Mar-23	-295	S5S1260	S5S1280
S5S1280	Apply for D.G. Inspection	45	29-Dec-23	11-Feb-24	09-Mar-23	23-Apr-23	-295	S5S1270, S5CHPC1150, S5FCDC1020, S5SDBT1078	S5S1310, S5S1290
S5S1290	D.G. Inspection, Defects Rectification & Re-inspection (Ventilation Division)	45	12-Feb-24	27-Mar-24	23-Apr-23	07-Jun-23	-295	S5S1280	S5S1310, S5S1300
S5S1300	D.G. Inspection, Defects Rectification & Re-inspection (DG Division)	45	28-Mar-24	11-May-24	07-Jun-23	22-Jul-23	-295	S5S1290	S5S1310
S5S1310	Issue D.G. Licence	14	12-May-24	25-May-24	22-Jul-23	05-Aug-23	-295	S5S1290, S5S1300, S5S1280	S5S1220, S5T1100



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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 Dec 2022

Date	Revision	Checked	Approved
31-Aug-22	Rev.25	LT	KM
30-Sep-22	Rev.26	LT	KM
31-Oct-22	Rev.27	LT	KM
30-Nov-22	Rev.28	LT	KM
31-Dec-22	Rev.29	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 01/12/2022 to 01/03/2023)

Updated on: **20-Dec-22**

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 Submisssion 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)	8/28/2020	9/18/2020	11/5/2020	11/5/2020	Task Completed	no.	26	26	100%		
	KD1A: Submission of Electrical Schematic Drawing (Final)	7/15/2020	7/15/2020	11/5/2020	11/5/2020	Task Completed	no.	11	11	100%		
	KD1A: 6 November 2020											
KD1B: Submission of remaining civil and dimenssional 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)	9/30/2020	9/28/2020	12/30/2020	3/31/2021	Task Completed	no.	47	47	100%		
	KD1B: Submission of Civil Requirement Drawing (Final)	11/6/2020	11/5/2020	6/4/2021	6/4/2021	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)	3/1/2020	2/24/2020	3/14/2020	4/22/2020	Task Completed				100%	-	Bestwise resubmitted on 22 April 2020
	Acceptance of subletting package (C9)	3/14/2020	5/6/2020	4/1/2020	5/5/2020	Task Completed				100%	-	AECOM accepted subletting package on 5 May 2020
	Tender invitation (C9)	4/1/2020	5/15/2020	4/15/2020	5/22/2020	Task Completed				100%	-	Invitation to tender was commenced on 12 May 2020 and tender returned on 22 May 2020
	Tender award (C9)	4/15/2020	5/22/2020	4/29/2020	5/26/2020	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		6/15/2020		7/25/2020	Task Completed				100%		
	Removal of emergency generators	6/1/2020	6/15/2020	6/30/2020	7/25/2020	Task Completed				100%		
KD3A: 04SC010 - Dismantle & Removal of Emergency Generators in existing Power House	KD3A: Testing and Comissioning	7/1/2020	7/3/2020	7/29/2020	7/29/2020	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											
	Submission of onsite survey plan on E&M aspects for	3/1/2020	3/25/2020	3/30/2020	4/27/2020	Task Completed				100%	-	Bestwise resubmitted onsite survey plan on 27 April 2020
	Acceptance of submission of onsite survey plan	3/1/2020	3/25/2020	3/30/2020	5/22/2020	Task Completed				100%	-	AECOM accepted the onsite survey plan on 22 May 2020. Onsite coordination with ST1
KD3B: 6B.2.15 Operation Restoration of Existing Primary Sedimentation Tank (PST) No. 4 and 6	KD3B: Submission of onsite survey report	7/11/2020	7/20/2020	7/16/2020	7/30/2021	Task Completed				100%	Bestwise	- 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: Acceptancce of onsite survey report	7/17/2020	8/6/2020	7/23/2020	8/6/2021	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)	12/2/2019	8/1/2020	4/13/2020	8/7/2020	Task Completed				100%		
	KD3B: Tender invitation - Clarifier (C11)	12/2/2019	8/14/2020	4/13/2020	8/26/2020	Task Completed				100%		
	KD3B: Tender Award - Clarifier (C11)	12/2/2019	8/26/2020	4/13/2020	9/25/2020	Task Completed				100%		
	KD3B: Acceptance of tender award (C11)	12/2/2019	9/11/2020	4/13/2020	9/18/2020	Task Completed				-		
	KD3B: Tender invitation - DI Pipe (C11)	12/2/2019	1/13/2021	4/13/2020	1/19/2021	Task Completed				100%		
	KD3B: Tender Award - DI Pipe (C11)	12/2/2019	1/21/2021	4/13/2020	1/23/2021	Task Completed				100%		
	KD3B: Tender invitation - LCP (C11)	12/2/2019	2/3/2021	4/13/2020	2/5/2021	Task Completed						
	KD3B: Tender Award - LCP (C11)	12/2/2019	2/6/2021	4/13/2020	2/8/2021	Task Completed				100%		
	KD3B: Preparation of subletting package for dismantling work (C9)	12/2/2019	9/21/2020	4/13/2020	10/21/2020	Task Completed				100%		
	KD3B: Tender invitation for dismantling work (C9)	12/2/2019	11/12/2020	4/13/2020	11/19/2020	Task Completed				100%		
	KD3B: Tender Award for dismantling work (C9)	12/2/2019	11/20/2020	4/13/2020	11/22/2020	Task Completed				100%		
	KD3B: Acceptance of tender award for dismantling work (C9)	12/2/2019	11/23/2020	4/13/2020	12/1/2020	Task Completed				100%		

	KD3B: Preparation and Acceptance of subletting package for installation work (C9)	12/2/2019	12/15/2020	4/13/2020	3/1/2021	Task Completed				100%		
	KD3B: Tender invitation for installation work (C9)	12/2/2019	3/3/2021	4/13/2020	3/10/2021	Task Completed				100%		
	KD3B: Tender Award for installation work (C9)	12/2/2019	3/12/2021	4/13/2020	3/15/2021	Task Completed				100%		
	KD3B: Acceptance of tender award for installation work (C9)	12/2/2019	3/15/2021	4/13/2020	3/19/2021	Task Completed				100%		
	Submission and Acceptance of Drawing Submission	4/14/2020	8/5/2020	9/10/2020	1/11/2021	Task Completed				100%		
	Submission and Acceptance of P&M Submission	4/14/2020	8/5/2020	9/10/2020	6/30/2021	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	12/1/2020	1/27/2021	12/15/2020	2/16/2021	Task Completed				100%		
	Submission and Acceptance of SAT Plan	3/1/2021	3/1/2021	4/1/2021	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	2/22/2021	N/A	5/13/2021	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	2/24/2021	N/A	4/19/2021	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	2/9/2021	12/21/2020	2/19/2021	1/15/2021	Task Completed				100%		
	Flow Diversion and drain out PST No.4	N/A	1/25/2021	N/A	3/26/2021	Task Completed				100%		
	KD3B: Dismantle and Removal of E&M Equipment at PST No. 4	2/9/2021	3/5/2021	2/19/2021	4/1/2021	Task Completed				100%		
	KD3B: Material Manufacturing (Clarifier)	9/12/2020	12/16/2020	12/12/2020	2/20/2021	Task Completed				100%		The clarifier would be manufactured in 2 batches (rotating bridge related and FRP launder cover). Manufaturing 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 thie moment due to second surge of COVID-19 in india)
	KD3B: FAT of the Clarifier	N/A	2/24/2021	N/A	3/1/2021	Task Completed				100%		FAT Report submitted on 24 Feb 2021 and AECOM accepted subject to comment on 1 Mar 2021
	KD3B: Material Delivery (Clarifier)	12/13/2020	2/27/2021	1/18/2021	4/6/2021	Task Completed				100%		
	KD3B: Material Deliver to Site (Clarifier)	N/A	4/6/2021	N/A	4/8/2021	Task Completed				100%		
	KD3B: Material Manufacturing (DI pipes and fittings)	9/11/2020	1/26/2021	1/18/2021	3/15/2021	Task Completed				100%		Extracted from C9 package to C11 package to suit the installation programme
	KD3B: Material Delivery (DI pipes and fittings)	9/11/2020	3/16/2021	1/18/2021	3/24/2021	Task Completed				100%		
	KD3B: Material Delivery (FRP Cover)	N/A	3/26/2021	N/A	6/21/2021	Task Completed				100%		All the FRP covers were delivered to site.
	KD3B: Material Manufacturing (LCP)	9/11/2020	3/4/2021	1/18/2021	4/16/2021	Task Completed				100%		
	KD3B: Material Delivery (LCP)	9/11/2020	4/17/2021	1/18/2021	4/30/2021	Task Completed				100%		
	KD3B: Retrofitting Concrete Structure of PST No. 4	N/A	4/2/2021	N/A	4/22/2021	Task Completed				100%		
	KD3B: Installation of E&M Equipment at PST No. 4	2/27/2021	4/5/2021	5/10/2021	5/17/2021	Task Completed						
	KD3B: Testing and Comisssioning for PST No. 4	5/11/2021	4/19/2021	6/9/2021	7/26/2021	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	5/19/2021	N/A	5/20/2021	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	5/19/2021	N/A	5/30/2021	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	5/28/2021	N/A	6/24/2021	Task Completed				100%		
	KD3B: Mechanical Installation of E&M Equipment at PST No. 6	2/27/2021	5/31/2021	5/10/2021	7/21/2021	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	2/27/2021	6/9/2021	5/10/2021	7/21/2021	Task Completed				100%		This includes installation of LCP, cable laying & terminations.
	KD3B: Testing and Comisssioning for PST No. 6	5/11/2021	6/22/2021	6/9/2021	8/20/2021	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	6/22/2021	N/A	9/3/2021	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	3/1/2020	3/25/2020	3/30/2020	4/21/2020	Task Completed				100%	-	Bestwise resubmitted onsite survey plan on 21 April 2020
	Acceptance of submission of onsite survey plan	3/1/2020	3/25/2020	3/30/2020	5/12/2020	Task Completed				100%	-	Survey plan acceptance received on 12 May 2020. Onsite discussion with ST1 was
	Submission of onsite survey report	5/21/2020	5/21/2020	5/29/2020	5/29/2020	Task Completed				100%		
	Acceptancce of onsite survey report	5/30/2020	5/30/2020	6/15/2020	6/15/2020	Task Completed				-		
	Preparation of procurement package (C11)	6/22/2020	6/22/2020	7/6/2020	7/14/2020	Task Completed				100%		
	Tender invitation (C11)	7/15/2020	7/15/2020	7/22/2020	7/24/2020	Task Completed				100%		
	Tender Award (C11)	7/23/2020	7/25/2020	7/29/2020	7/31/2020	Task Completed				100%		Revised survey report (second draft) was sent to AECOM on 21 Oct 2020. Technical
	Material Submission	8/21/2020	8/21/2020	8/28/2020	12/7/2020	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	12/1/2020	12/1/2020	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	3/1/2020	3/25/2020	3/30/2020	Task to be deleted	Task to be deleted				-	-	PPMI No.5 was issused 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	3/1/2020	4/1/2020	3/30/2020	5/7/2020	Task Completed				100%	-	Bestwise resubmitted onsite survey plan on 7 May 2020
	Acceptance of submission of onsite survey plan	3/1/2020	4/1/2020	3/30/2020	5/23/2020	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*	9/2/2020	30/07/2020 -> 30/11/2020*	2/9/2021	Task Completed				100%	Bestwise	- * = PMI014 - Revised Location for Construction of Temporary Filtrate Equalization System reveiced 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*	9/2/2020	30/07/2020 -> 30/11/2020*	1/15/2021	Task Completed				100%		* = PMI014 - Revised Location for Construction of Temporary Filtrate Equalization System reveiced 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**	9/2/2020	30/07/2020 -> 22/10/2020**	1/15/2021	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**	9/2/2020	30/07/2020 -> 22/10/2020**	2/19/2021	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*	9/2/2020	30/07/2020 -> 30/11/2020*	1/15/2021	Task Completed				100%		- * = PMI014 - Revised Location for Construction of Temporary Filtrate Equalization System reveiced on 17 Aug 2020. - Bestwise submitted Rev.0 on 12 Jan 2020.
	Submission and Acceptance of Contractor's Design for Temporary Filtrate Equalisation System (E&M Works) (CDS010-2)	01/06/2020 -> 7/9/2020**	7/5/2020	30/07/2020 -> 30/11/2020**	7/30/2021	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*	9/29/2020	30/07/2020 -> 30/11/2020*	3/5/2021	Task Completed				100%	Bestwise	- '* = PMI014 - Revised Location for Construction of Temporary Filtrate Equalization System reveiced 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*	11/29/2020	30/07/2020 -> 30/11/2020*	2/25/2021	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)	4/17/2020	4/17/2020	5/7/2020	5/7/2020	Task Completed				100%		
	Tender award (C11) (EQT-002 & EQT-004)	4/14/2020	4/24/2020	5/13/2020	5/13/2020	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-	4/25/2020	4/25/2020	5/21/2020	5/21/2020	Task Completed				100%	Bestwise	
	Material Submission	20/07/2020 ->	10/16/2020	20/08/2020 -	2/5/2021	Task Completed				-	Bestwise	** = Change of material of temporary filtrate equalization tank from concrete to FRP on 18

	Submission of subletting package for acceptance (C9)	3/1/2020	7/13/2020	3/14/2020	7/13/2020	Task Completed				100%		
	Acceptance of subletting package (C9)	3/15/2020	7/14/2020	3/28/2020	7/14/2020	Task Completed				100%		
	Tender invitation (C9)	3/29/2020	7/15/2020	4/11/2020	7/22/2020	Task Completed				100%		
	Tender award (C9)	4/12/2020	7/23/2020	4/25/2020	8/13/2020	Task Completed				100%		
	Acceptance of tender award for civil construction work (C9)	26/04/2020	8/14/2020	5/5/2020	9/2/2020	Task Completed				100%		
	Preparation of subletting package for mech work (C9)	01/08/2020 -> 01/12/2020*	1/25/2021	08/08/20 -> 08/12/2020*	3/1/2021	Task Completed				100%		* = PMI014 - Revised Location for Construction of Temporary Filtrate Equalization System reveiced on 17 Aug 2020. Subletting package would was submitted on 25 Feb 2021 and AECOM accepted on 1 Mar
	Tender invitation for mech work (C9)	08/08/20 ->	3/2/2021	15/08/2020 -	3/9/2021	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 ->	3/10/2021	22/08/2020 -	3/15/2021	Task Completed				100%		Tender report was submitted on 15 Mar 2021
	Acceptance of tender award for mech work (C9)	22/08/2020 ->	3/15/2021	29/08/2020 -	3/19/2021	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*	3/1/2021	Task Completed				100%		* = PMI014 - Revised Location for Construction of Temporary Filtrate Equalization System reveiced 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 ->	3/2/2021	15/08/2020 -	3/9/2021	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 ->	3/10/2021	22/08/2020 -	3/15/2021	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*	3/15/2021	29/08/2020 - > 29/12/2020*	3/19/2021	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*	10/5/2020	10/15/2020	3/31/2021	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	11/7/2020	1/12/2021	12/30/2020	2/25/2021	Task Completed				100%		
	Construction of concrete plinth for filtrate EQ tank	1/23/2021	2/8/2021	2/1/2021	2/26/2021	Task Completed				100%		
	Offsite fabrication and delivery of filtrate EQ tank	10/31/2020	1/16/2021	2/2/2021	3/4/2021	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	3/1/2021	3/12/2021	4/16/2021	Task Completed				100%		
6B.2.16 Temporary Filtrate Equalisation System	Mechanical Installation	3/17/2021	3/30/2021	4/12/2021	5/14/2021	Task Completed				-		
	Electrical Installation	3/13/2021	3/29/2021	4/15/2021	12/10/2021	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 Comissioning	4/15/2021	4/22/2021	5/1/2021	11/30/2022	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	6/1/2020	6/1/2020	6/30/2020	7/2/2020	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	6/14/2020	7/3/2020	6/30/2020	7/17/2020	Task Completed				-		
6B Overall plant process equipment sizing review	Submission of Contractor's Design Calculation for	6/1/2020	6/1/2020	6/30/2020	7/2/2020	Task Completed				-	Bestwise	Preliminary Draft submitted, meeting completed on 15 May 2020 with SRE and TPS. Initial
	Acceptance of submission for further detail design	6/14/2020	7/3/2020	6/30/2020	7/17/2020	Task Completed				-		
6B.2.1 Inlet Works	Submission of Contractor's Design for Inlet Works No. 1	9/6/2020	11/16/2020	5/14/2021	12/30/2022	99%				-	Bestwise	All finalized design calculations for Inlet Works no.1 shall be submitted by 30 Dec 2022.
	Submission of P&M Submission	9/6/2020	9/7/2020	5/14/2021	12/30/2022	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 30 Dec 2022.
	Submission of P&ID Drawing	9/6/2020	9/6/2020	5/14/2021	12/29/2020	Task Completed						PID (rev.B) submitted on 13 Nov 2020. AECOM accepted subject to comments on 29 Dec 2020.
	Submission of GA Drawing	9/6/2020	1/5/2021	5/14/2021	12/30/2022	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	9/6/2020	1/15/2021	5/14/2021	12/30/2022	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 30 Dec 2022.
	Acceptance of submission	5/15/2021	5/15/2021	5/29/2021	12/30/2022	98%				-		
	Submission of detailed design for electrical installation for Inlet Works No. 1 (CDS021)	9/6/2020	9/6/2020	5/14/2021	5/14/2021	Task Completed						
	Submission of detailed design for LV Switchboards for Inlet Works No. 1 (CDS025-1)	9/6/2020	9/6/2020	5/14/2021	5/14/2021	Task Completed						

	Submission of detailed design for electrical installation BS for Inlet Works No. 1 (CDS034-1)	9/6/2020	9/6/2020	5/14/2021	5/14/2021	Task Completed						
	Submission of civil work requirements for Inlet Works No. 1 up to +8.0 mPD (CDS080-1)	9/1/2020	9/1/2020	10/30/2020	10/30/2020	Task Completed						
	KD1A: Submission of civil requirement drawing for Inlet Works No. 1 up to +8.0 mPD (First Draft))	7/15/2020	7/15/2020	8/15/2020	9/17/2020	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)	8/28/2020	9/18/2020	11/5/2020	11/5/2020	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)	7/15/2020	7/15/2020	8/15/2020	9/30/2020	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)	9/7/2020	10/1/2020	11/5/2020	10/20/2020	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	9/6/2020	12/28/2020	5/14/2021	12/30/2022	99%				-	Bestwise	PFD (rev.B) under DWG0004 submitted on 22 June 2021. Finalized design calculations for PST shall be submitted by 30 Dec 2022.
	Submission of P&M Submission	9/6/2020	11/26/2020	5/14/2021	12/30/2022	99%						P&M0058 - Lamella Plate Settler (status: B) P&M0097 - Scum Skimmer and Scum Collection Pipe (status: C) P&M0086 - Sludge Bottom Scraper (status: C) P&M0051 - Drain Pump (status: C) P&M0044 - Primary Sludge Pump (status: B) Finalized material submissions for PST shall be submitted by 30 Dec 2022.
	Submission of P&ID Drawing	9/6/2020	10/2/2020	5/14/2021	6/24/2021	Task Completed						PID under DWG0037 (rev.1) submitted on 24 June 2021 and is accepted by AECOM.
	Submission of GA Drawing	9/6/2020	2/3/2021	5/14/2021	12/30/2022	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	9/6/2020	1/15/2021	5/14/2021	12/30/2022	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 30 Dec 2022.
	Acceptance of submission	5/15/2021	4/2/2021	5/29/2021	12/30/2022	98%				-		Refer to outstanding list under "Certificate of completion no.1 - section 1 of the works".
	Submission of detailed design for electrical installation	9/6/2020	9/6/2020	5/14/2021	5/14/2021	Task Completed						
	Submission of detailed design for LV Switchboards for Primary Sedimentation Tanks (CDS025-2)	9/6/2020	9/6/2020	5/14/2021	5/14/2021	Task Completed						
	Submission of detailed design for electrical installation	9/6/2020	9/6/2020	5/14/2021	5/14/2021	Task Completed						
	Submission of civil work requirements for Primary Sedimentation Tanks up to +8.0 mPD (CDS080-2)	9/1/2020	9/1/2020	10/30/2020	10/30/2020	Task Completed						
	KD1A: Submission of civil requirement drawing for Primary Sedimentation Tanks No. 1-4 up to +8.0 mPD	7/15/2020	7/15/2020	8/15/2020	9/30/2020	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	8/28/2020	10/1/2020	11/5/2020	11/5/2020	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)	7/15/2020	7/15/2020	8/15/2020	9/30/2020	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)	9/7/2020	10/1/2020	11/5/2020	10/20/2020	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)	9/6/2020	1/7/2021	5/14/2021	10/29/2021	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	9/6/2020	9/6/2020	5/14/2021	10/30/2021	Task Completed						Finalized material submissions for chemical system was submitted on 30 Oct 2021.
	Submission of P&ID Drawing	9/6/2020	12/11/2020	5/14/2021	6/29/2021	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	9/6/2020	2/8/2021	5/14/2021	12/30/2022	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	9/6/2020	1/15/2021	5/14/2021	12/30/2022	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 30 Dec 2022.
	Acceptance of submission	5/15/2021	5/15/2021	5/29/2021	12/30/2022	98%				-		
	Submission of detailed design for electrical installations	9/6/2020	9/6/2020	5/14/2021	5/14/2021	Task Completed						
	Submission of detailed design for electrical installations	9/6/2020	9/6/2020	5/14/2021	5/14/2021	Task Completed						
	Submission of detailed design for electrical installations	9/6/2020	9/6/2020	5/14/2021	5/14/2021	Task Completed						
	Submission of detailed design for electrical installation	9/6/2020	9/6/2020	5/14/2021	5/14/2021	Task Completed						
	KD1A: Submission of civil requirement drawing for	7/15/2020	7/15/2020	8/15/2020	9/16/2020	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	9/7/2020	9/17/2020	11/5/2020	11/5/2020	Task Completed	no.	2	2	100%		Bestwise resubmitted (Rev.A) on 5 Nov 2020.
	KD1A: Submission of electrical schematic drawings for	7/15/2020	7/15/2020	8/15/2020	9/15/2020	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)	9/7/2020	9/16/2020	11/5/2020	11/5/2020	Task Completed						
	KD1A: Submission of civil requirement drawing for Temporary Chemical System up to +8.0 mPD (First	7/15/2020	7/15/2020	8/15/2020	9/15/2020	Task Completed	no.	1	1	100%		1st draft of drawing submitted on 15 September 2020
	KD1A: Submission of civil requirement drawing for Temporary Chemical System up to +8.0 mPD (Final)	9/7/2020	9/16/2020	11/5/2020	11/5/2020	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)	7/15/2020	7/15/2020	8/15/2020	9/15/2020	Task Completed				-		1st draft of drawing to be submitted by 16 September 2020
	KD1A: Submission of electrical schematic drawings for	9/7/2020	9/16/2020	11/5/2020	11/5/2020	Task Completed						
	KD1A: 6 November 2020											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)	9/6/2020	1/12/2021	5/14/2021	12/30/2022	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 30 Dec 2022.
	Submission of P&M Submission	9/6/2020	11/26/2020	5/14/2021	12/30/2022	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 30 Dec 2022.
	Submission of P&ID Drawing	9/6/2020	11/2/2020	5/14/2021	7/2/2021	Task Completed						PID (Rev.1) under DWG0042 resubmitted on 6 July 2021.
	Submission of GA Drawing	9/6/2020	2/17/2021	5/14/2021	12/30/2022	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	9/6/2020	1/15/2021	5/14/2021	12/30/2022	99%						Electrical SLD submitted on 5 Feb 2021. AECOM commented on 20 Feb 2021. Bestwise to resubmit. Finalized drawing shall be submitted by 30 Dec 2022.
	Acceptance of submission	5/15/2021	5/15/2021	5/29/2021	12/30/2022	98%				-		Refer to outstanding list under "Certificate of completion no.1 - section 1 of the works".
	Submission of detailed design for electrical installation	9/6/2020	9/6/2020	5/14/2021	5/14/2021	Task Completed						
	Submission of detailed design for LV Switchboards for BR 2A and 2B (CDS025-3)	9/6/2020	9/6/2020	5/14/2021	5/14/2021	Task Completed						
	Submission of detailed design for electrical installation	9/6/2020	9/6/2020	5/14/2021	5/14/2021	Task Completed						
	Submission of civil work requirements for BR 2A and 2B up to +8.0 mPD (CDS080-3)	9/1/2020	9/1/2020	10/30/2020	10/30/2020	Task Completed						
	KD1A: Submission of civil requirement drawing for BR 2A and 2B up to +8.0 mPD (First Draft)	7/15/2020	7/15/2020	8/15/2020	9/30/2020	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)	8/28/2020	10/1/2020	11/5/2020	11/5/2020	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)	7/15/2020	7/15/2020	8/15/2020	9/30/2020	Task Completed				-		1st draft of drawing was sent to AECOM via email on 15 September 2020
	KD1A: Submission of electrical schematic drawings for	9/7/2020	10/1/2020	11/5/2020	11/5/2020	Task Completed						
	KD1A: 6 November 2020											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)	9/6/2020	1/11/2021	5/14/2021	12/30/2022	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	9/6/2020	11/19/2020	5/14/2021	12/30/2022	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: C) P&M0091 - Chemical Pump (status: B) P&M0xxx - Chemical Tank (to be submitted) Finalized material submission shall be submitted by 30 Dec 2022.
	Submission of P&ID Drawing	9/6/2020	10/30/2020	5/14/2021	7/2/2021	Task Completed						DWG0049 (Rev.1) was resubmitted on 2 Jul 2021.
	Submission of GA Drawing	3/31/2021	2/18/2021	5/14/2021	12/30/2022	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)
	Submission of Electrical Drawing	4/15/2021	1/15/2021	5/14/2021	12/30/2022	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 30 Dec 2022.
	Acceptance of submission	5/15/2021	5/15/2021	5/29/2021	12/30/2022	98%				-		
	Submission of detailed design for electrical installation	9/6/2020	9/6/2020	5/14/2021	5/14/2021	Task Completed						
	Submission of detailed design for LV Switchboards for	9/6/2020	9/6/2020	5/14/2021	5/14/2021	Task Completed						
	Submission of detailed design for electrical installation BS for MFB (CDS034-4)	9/6/2020	9/6/2020	5/14/2021	5/14/2021	Task Completed						
	Submission of civil work requirements for MFB up to	9/1/2020	9/1/2020	9/30/2020	9/30/2020	Task Completed						
	KD1A: Submission of civil requirement drawing for	7/15/2020	7/15/2020	8/15/2020	9/30/2020	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)	8/28/2020	10/1/2020	11/5/2020	11/5/2020	Task Completed	no.	7	7	100%	Bestwise	Bestwise resubmitted (Rev.1) on 5 Nov 2020.
	KD1A: Submission of electrical schematic drawings for	7/15/2020	7/15/2020	8/15/2020	9/30/2020	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)	9/7/2020	10/1/2020	11/5/2020	10/20/2020	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)	4/17/2020	4/17/2020	4/24/2020	4/24/2020	Task Completed				100%		
6B.2.6 Deodorisation System (EQT-001 - Deodorization Unit)	Tender award (C11)	4/25/2020	4/25/2020	5/12/2020	5/12/2020	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)	5/13/2020	5/13/2020	5/21/2020	5/21/2020	Task Completed				100%		
	Submission of Contractor's Design for Deodorisation System , DOU No. 1 (CDS0019 & CDS0045)	9/6/2020	9/6/2020	5/14/2021	12/31/2021	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	9/6/2020	8/5/2020	5/14/2021	7/2/2021	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	9/6/2020	9/6/2020	5/14/2021	12/30/2022	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	3/21/2021	1/30/2021	5/14/2021	12/30/2022	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 30 Dec 2022.
	Acceptance of submission	5/15/2021	5/15/2021	5/29/2021	12/30/2022	98%				-		
	KD1A: Submission of civil requirement drawing for Deodorisation System , DOU No. 1 up to +8.0 mPD (First Draft)	7/15/2020	7/15/2020	8/15/2020	9/28/2020	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)	8/28/2020	9/29/2020	11/2/2020	11/5/2020	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)	9/6/2020	9/6/2020	5/14/2021	12/10/2021	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	9/6/2020	8/5/2020	5/14/2021	7/2/2021	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	9/6/2020	8/3/2020	5/14/2021	12/30/2022	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	3/21/2021	1/26/2021	5/14/2021	12/30/2022	99%						Bestwise submitted (rev.0) on 26 Jan 2021, AECOM commented on 4 Feb 2021. Bestwise to resubmit. Finalized drawing shall be submitted by 30 Dec 2022.
	Acceptance of submission	5/15/2021	5/15/2021	5/29/2021	12/30/2022	98%				-		

	Submission of Contractor's Design for Deodorisation System , DOU No. 3A (CDS0019 & CDS0055)	9/6/2020	9/6/2020	5/14/2021	12/10/2021	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	9/6/2020	8/5/2020	5/14/2021	7/2/2021	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. 3A	9/6/2020	7/8/2020	5/14/2021	12/30/2022	99%				-	Bestwise	Bestwise submitted (rev.1) on 28 Oct 2020. AECOM commeneted 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	3/21/2021	2/26/2021	5/14/2021	12/30/2022	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 30 Dec 2022.
	Acceptance of submission	5/15/2021	5/15/2021	5/29/2021	12/30/2022	98%						
	KD1A: Submission of civil requirement drawing for Deodorisation System , DOU No. 3A up to +8.0 mPD	7/15/2020	7/15/2020	8/15/2020	9/28/2020	Task Completed	no.	1	1	100%		1st draft of drawing was submitted on 28 September 2020
	KD1A: Submission of civil requirement drawing for	8/28/2020	9/29/2020	11/2/2020	11/5/2020	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. 3B (CDS0019 & CDS0049)	9/6/2020	9/6/2020	5/14/2021	12/10/2021	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	9/6/2020	8/5/2020	5/14/2021	7/2/2021	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	9/6/2020	9/6/2020	5/14/2021	12/30/2022	99%						Bestwise submitted DWG0081 (rev.0) on 5 Feb 2021. AECOM commeneted on 12 Mar 2021. Bestwise to resubmit. Finalized drawings shall be submitted by 30 June 2022 and BIM GA revew meeting is scheduled on 16, 23, 30/6/2022.
	Submission of Electrical Drawing of DOU No. 3B	3/21/2021	2/22/2021	5/14/2021	12/30/2022	99%						GA submitted on 24 Jun 2021 Finalized drawing shall be submitted by 30 Dec 2022.
	Acceptance of submission	5/15/2021	5/15/2021	5/29/2021	12/30/2022	98%				-		
	Submission of detailed design for electrical installation	9/6/2020	9/6/2020	5/14/2021	5/14/2021	Task Completed						
	Submission of detailed design for LV Switchboards for	9/6/2020	9/6/2020	5/14/2021	5/14/2021	Task Completed						
	Submission of detailed design for electrical installation	9/6/2020	9/6/2020	5/14/2021	5/14/2021	Task Completed						
	Submission of civil work requirements for MFB up to	9/1/2020	9/1/2020	9/30/2020	9/30/2020	Task Completed						
	Submission of civil requirement drawing for MFB up to	8/28/2020	8/28/2020	11/2/2020	11/2/2020	Task Completed						
	KD1A: Submission of electrical schematic drawings for	7/15/2020	7/15/2020	8/15/2020	9/30/2020	Task Completed				-		1st draft of drawing to be submitted by 30 September 2020
	KD1A: Submission of electrical schematic drawings for	9/7/2020	10/1/2020	11/5/2020	11/5/2020	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)	-	-	-	7/6/2020	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)	9/6/2020	12/5/2020	9/6/2020	12/30/2022	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 30 Dec 2022.
	Submission of detailed design for lifting appliances for Primary Sedimentation Tanks (CDS050-2)	9/6/2020	12/5/2020	9/6/2020	12/30/2022	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 30 Dec 2022.
	Submission of detailed design for lifting appliances for BR 2A and 2B (CDS050-3)	9/6/2020	12/5/2020	9/6/2020	12/30/2022	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 30 Dec 2022.
	Submission of detailed design for lifting appliances for MFB (CDS050-4)	9/6/2020	12/5/2020	9/6/2020	12/30/2022	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 30 Dec 2022.
	Submission of detailed design for lifting appliances for Temporary Filtration Tank (CDS050-5)	9/6/2020	12/5/2020	9/6/2020	5/21/2021	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	12/10/2020	N/A	12/30/2022	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 30 Dec 2022.
	Submission for Fire Services System	N/A	3/15/2021	N/A	12/30/2022	98%						Subletting Package to be resubmitted by 31 Mar 2021. AECOM accepted on 9 Apr 2021. Drawings: Inlet Works: submitted on 8 June 2021. PST 1-4: submitted on 23 Jun 2021 BR2A &2B: submitted on 8 Jun 2021 MFB 2: submitted on 8 Jun 2021 Finalized design shall be submitted by 30 Dec 2022.

	Submission for Plumbing and Drainage System	N/A	3/15/2021	N/A	12/30/2022	98%						Subletting Package resubmitted by 10 Mar 2021. AECOM accepted on 12 Mar 2021. Tender invitation was conducted on 15 Mar 2021 and closed on 26 Mar 2021. Finalized design shall be submitted by 30 Dec 2022.
	Submission for Electrical Services System	N/A	12/10/2020	N/A	12/30/2022	99%						GA for lighting was submitted on 18 Dec 2020. AECOM commented on 6 Jan 2021. Bestwise to resubmit. GA for small power system was submitted in 8 Feb 2021. AECOM commented on 3 Mar 2021. Bestwise to resubmit. Finalized design shall be submitted by 30 Dec 2022.
	Submission of ELV system	N/A	1/8/2021	N/A	12/30/2022	99%						GA for CCTV was resubmitted on 16 Mar 2021. AECOM commented on 30 Mar 2021. Bestwise resubmitted on 25 Jun 2021. Finalized design shall be submitted by 30 Dec 2022.
	Submission for PV system	N/A	3/15/2021	N/A	12/30/2022	98%						Tender package was submitted to AECOM. Finalized design shall be submitted by 30 Dec 2022.
SCADA System & PMS	Submission for SCADA system	N/A	2/11/2021	N/A	12/30/2022	99%						Revised SCADA structure was provided via email on 9 Apr 2021 and tender package is under preparation. Finalized design shall be submitted by 30 Dec 2022.
	Submission for PMS system	N/A	3/8/2021	N/A	12/30/2022	98%						Tender package to be resubmitted on 29 June 2021. Finalized design shall be submitted by 30 Dec 2022.
	Submission for CMMS & IDMS system	N/A	6/1/2021	N/A	12/30/2022	98%						Finalized design shall be submitted by 30 Dec 2022.
Section 2 of Works												
Street Fire Hydrant Pump Room	KD1A: Submission of civil requirement drawing for	7/15/2020	7/15/2020	8/15/2020	9/17/2020	Task Completed	no.	1	1	100%		1st draft of drawing submitted on 17 September 2020
	KD1A: Submission of civil requirement drawing for	8/28/2020	9/18/2020	11/2/2020	11/5/2020	Task Completed	no.	1	1	100%		Bestwise resubmitted (rev.1) on 5 Nov 2020.
	KD1A: Submission of electrical schematic drawings for	7/15/2020	7/15/2020	8/15/2020	9/30/2020	Task Completed						1st draft of drawing to be submitted by 30 September 2020
	KD1A: Submission of electrical schematic drawings for	9/7/2020	10/1/2020	11/5/2020	11/5/2020	Task Completed						
	KD1A: 6 November 2020											Notice of completion works was submitted on 17 Nov 2020
FS & Sprinkler Pump Room	KD1A: Submission of civil requirement drawing for FS	7/15/2020	7/15/2020	8/15/2020	9/17/2020	Task Completed	no.	1	1	100%		1st draft of drawing submitted on 17 September 2020
	KD1A: Submission of civil requirement drawing for FS	8/28/2020	9/18/2020	11/2/2020	11/5/2020	Task Completed	no.	1	1	100%		Bestwise resubmitted (rev.1) on 5 Nov 2020.
	KD1A: Submission of electrical schematic drawings for	7/15/2020	7/15/2020	8/15/2020	9/30/2020	Task Completed						
	KD1A: Submission of electrical schematic drawings for	9/7/2020	10/1/2020	11/5/2020	11/5/2020	Task Completed						
	KD1A: 6 November 2020											Notice of completion works was submitted on 17 Nov 2020
Emergency Generator House	KD1A: Submission of civil requirement drawing for Emergency Generator House up to +8.0 mPD (First	7/15/2020	7/15/2020	8/15/2020	9/18/2020	Task Completed	no.	1	1	100%		1st draft of drawing submitted on 18 September 2020
	KD1A: Submission of civil requirement drawing for Emergency Generator House up to +8.0 mPD (Final)	8/28/2020	9/19/2020	11/2/2020	11/5/2020	Task Completed	no.	1	1	100%		Bestwise resubmitted (rev.1) on 5 Nov 2020.
	KD1A: Submission of electrical schematic drawings for	7/15/2020	7/15/2020	8/15/2020	9/30/2020							
	KD1A: Submission of electrical schematic drawings for Street Fire Hydrant Pump Room (Final)	9/7/2020	10/1/2020	11/5/2020	11/5/2020							
	KD1A: 6 November 2020											Notice of completion works was submitted on 17 Nov 2020
Lightning Protection System for DOU3A (underground)	Submission and Acceptance for Lightning Protection System Design	12/6/2021	12/6/2021	1/31/2022	1/31/2022	Task Completed						
	Material Delivery	2/7/2022	2/7/2022	2/28/2022	2/28/2022	Task Completed						Material Delivery was by End Feb 2022.
	Installation Work	3/31/2022	4/26/2022	5/5/2022	5/5/2022	Task Completed						The installation work was completed on 5 May 2022.
	Testing & Commissioning	1/7/2023	1/7/2023	1/31/2023	1/31/2023							
Lightning Protection System for Inlet Works (underground)	Submission and Acceptance for Lightning Protection System Design	12/20/2021	12/20/2021	1/31/2022	1/31/2022							
	Material Delivery	12/15/2022	10/1/2022	3/31/2022	10/31/2022							
	Installation Work	3/15/2022	11/1/2022	10/30/2022	12/14/2022							Underground works subject to site coordination with JV.
	Testing & Commissioning	11/1/2022	12/15/2022	11/15/2022	12/31/2022							
Section 3 of Works												
6B.2.12 Provision of New Replacement Filter Plates	Submission of onsite survey plan for acceptance	3/1/2020	3/25/2020	3/30/2020	4/21/2020	Task Completed				100%	-	Bestwise resubmitted onsite survey plan on 21 April 2020
	Acceptance of submission of onsite survey plan	3/1/2020	3/25/2020	3/30/2020	5/12/2020	Task Completed				100%	-	Survey plan acceptance received on 12 May 2020. Onsite discussion with ST1 was
	Submission of onsite survey report	5/21/2020	5/21/2020	5/29/2020	5/29/2020	Task Completed				100%		
	Acceptancce of onsite survey report	5/30/2020	5/30/2020	6/15/2020	6/15/2020	Task Completed				-		
	Preparation of procurement package (C11)	6/22/2020	6/22/2020	7/6/2020	7/14/2020	Task Completed				100%		
	Tender invitation (C11)	7/15/2020	7/15/2020	7/22/2020	7/24/2020	Task Completed				100%		
	Tender Award (C11)	7/23/2020	7/25/2020	7/29/2020	7/31/2020	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	8/21/2020	8/21/2020	8/28/2020	12/7/2020	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	12/1/2020	12/1/2020	8/8/2021	7/13/2021	Task Completed				-		Handed over to DSD.
	Completion Date of Section 3: 22 September 2021											
Subcontracting												
	Submission of subletting package for acceptance	1/1/2020	3/6/2020	3/30/2020	3/6/2020	Task Completed				100%	-	
	Acceptance of subletting package	3/1/2020	3/21/2020	3/30/2020	3/21/2020	Task Completed				100%	-	
	Tender invitation	3/1/2020	3/24/2020	4/1/2020	3/30/2020	Task Completed				100%	-	
	Tender award	3/22/2020		4/14/2020	4/6/2020	Task Completed				100%	-	Bestwise submitted tender report on 6 April 2020
	Acceptance of tender award	-	-	-	4/15/2020	Task Completed				100%		AECOM accepted tender report on 15 April 2020
Construction of *Contractor*'s site accommodation in WA1-C	Design of MiC	4/15/2020	4/16/2020	6/1/2020	8/15/2020	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	7/1/2020	7/1/2020	7/14/2020	9/4/2020	Task Completed				100%		Design calculation of foundation work was submitted on 7 July 2020, comment received on 27 July 2020. Bestwise to resubmit.
	Site Clearence Work	7/15/2020	7/20/2020	7/31/2020	8/15/2020	Task Completed				100%		Tender invitation commenced on 29 May 2020 and tenders received on 4 June 2020. Tender
	Off-site fabrication of Septic tank	7/15/2020	7/20/2020	7/31/2020	7/31/2020	Task Completed				100%		Site clearence work started on 20 July 2020
	Submission of method statement with ICE certificate	8/1/2020	8/1/2020	8/7/2020	10/8/2020	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	8/1/2020	8/1/2020	8/7/2020	10/8/2020	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	10/9/2020	8/14/2020	10/16/2020	Task Completed				100%		Method Statement and Design Calculation was submitted on 8 Oct 2020.
	Submission of method statement with ICE certificate	8/1/2020	8/1/2020	8/7/2020	11/23/2020	Task Completed				100%		
	Submission of design calculation with ICE certificate	8/1/2020	8/1/2020	8/7/2020	11/23/2020	Task Completed				100%		
	Acceptance of method statement and design calculation	8/8/2020	11/24/2020	8/14/2020	11/27/2020	Task Completed				100%		
	Excavation work	8/17/2020	10/21/2020	8/18/2020	10/21/2020	Task Completed				100%		
	Installation of septic tank	8/19/2020	10/21/2020	8/20/2020	10/22/2020	Task Completed				100%		
	Construction of RC foundation	8/21/2020	10/23/2020	8/31/2020	11/12/2020	Task Completed				100%		
	Off-site fabrication and delivery of MiC Office	6/1/2020	9/30/2020	7/31/2020	12/4/2020	Task Completed				100%		
	On-site installation of MiC Office	8/1/2020	12/4/2020	8/30/2020	1/5/2021	Task Completed				100%		
	Installation of car park shelter	1/4/2021	1/7/2021	1/11/2021	1/9/2021	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)	3/1/2020	3/25/2020	3/14/2020	3/25/2020	Task Completed				100%	-	
	Acceptance of subletting package (C9)	3/14/2020	4/2/2020	3/30/2020	4/2/2020	Task Completed				100%	-	
	Tender invitation (C9)	4/1/2020	4/1/2020	4/8/2020	4/9/2020	Task Completed				100%	-	
	Tender award (C9)	-	-	-	4/15/2020	Task Completed				100%	-	Bestwise submitted tender report on 15 April 2020
	Submission of subletting package for acceptance	3/14/2020	3/16/2020	3/30/2020	4/20/2020	Task Completed				100%	-	Bestwise resubmitted on 20 April 2020
	Acceptance of subletting package	3/28/2020	5/4/2020	4/13/2020	5/13/2020	Task Completed				100%	-	AECOM accepted subletting package on 13 May 2020
	Tender invitation	4/11/2020	6/19/2020	4/27/2020	6/26/2020	Task Completed				-		Invitation to tender was commenced on 19 June 2020 and tender returned on 26 June 2020
	Tender award	4/25/2020	6/27/2020	5/11/2020	7/4/2020	Task Completed				-		Bestwise submitted tender report on 30 June 2020
	Acceptance of tender award	-	-	-	7/18/2020					-		
04SC007 - Independent Beam Plus Consultant	Submission of subletting package for acceptance	3/1/2020	3/30/2020	3/14/2020	3/30/2020	Task Completed				100%	-	
	Acceptance of subletting package	3/14/2020	4/3/2020	3/30/2020	4/3/2020	Task Completed				100%	-	
	Tender invitation	3/30/2020	3/30/2020	4/9/2020	4/9/2020	Task Completed				100%	-	
	Tender award	-	-	-	4/15/2020	Task Completed				100%	-	Bestwise submitted tender report on 15 April 2020
	Acceptance of tender award	-	-	-	4/17/2020	Task Completed				100%	-	AECOM accepted tender report on 17 April 2020
	Introduction meeting with IBPC, Cinotech	-	-	-	4/28/2020	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)	4/1/2020	3/17/2020	4/14/2020	3/17/2020	Task Completed				100%	-	Bestwise submitted subletting package on 3 April 2020
	Acceptance of subletting package (C9)	4/14/2020	4/17/2020	4/30/2020	4/28/2020	Task Completed				100%	-	AECOM accepted subletting package on 28 April 2020
	Tender invitation (C9)	4/30/2020	5/6/2020	5/14/2020	5/28/2020	Task Completed				100%	-	Invitation to tender was commenced on 6 May 2020 and tender returned on 28 May 2020
	Tender award (C9)	5/14/2020	5/29/2020	5/30/2020	6/9/2020	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 ->	8/14/2020	15/05/2020 -	8/27/2020	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 -> 30/7/2020*	8/15/2020	15/06/2020- > 15/8/2020*	9/16/2020	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-> 15/8/2020*	9/9/2020	22/06/2020- > 22/8/2020*	10/14/2020	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-> 22/8/2020*	9/17/2020	29/06/2020-> 29/8/2020*	10/22/2020	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)	-	-	-	11/16/2020	Task Completed				100%		
Submission of subletting package (C9) for acceptance (Elect)	15/05/2020 -> 15/7/2020*	12/9/2020	15/05/2020 -> 30/11/2020*	1/28/2021	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 -> 30/7/2020*	1/29/2021	15/06/2020-> 15/8/2020*	2/1/2021	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.
Tender invitation (C9) (Elect)	15/06/2020-> 15/8/2020*	2/1/2021	22/06/2020-> 22/8/2020*	2/11/2021	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-> 22/8/2020*	2/11/2021	29/06/2020-> 29/8/2020*	2/23/2021	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)	-	-	-	2/26/2021	Task Completed				100%		
Tender invitation (C11)	30/04/2020-> 15/07/2020*	4/30/2020	30/06/2020-> 15/09/2020*	11/18/2020	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*	5/30/2020	15/07/2020->	11/30/2020	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)	-	-	-	9/18/2020					-		
Design Submission	03/07/2020 -> 15/07/2020*	8/5/2020	21/09/2020-> 02/10/2020*	5/10/2021	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 on14 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*	7/21/2020	31/08/2020 -> 31/10/2020*	6/30/2021	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*	8/3/2020	21/09/2020 -> 21/11/2020*	2/10/2021	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 finallized 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*	8/4/2020	21/10/2020 -> 21/12/2020*	4/20/2021	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 ->	11/4/2020	16/11/2020 -	6/21/2021	Task Completed						
	Mechanical Installation	01/10/2020 -> 01/12/2020*	2/2/2021	15/11/2020 -> 15/01/2021*	5/17/2021	Task Completed				-		
	Offsite Fabrication and Delivery of FRP Tank		1/16/2021		4/7/2021	Task Completed				100%		First batch to be delivered on 23 Mar 2021
	Onsite Installation of FRP Tank		4/7/2021		7/30/2021	Task Completed						Water filling to tank completed; Tank hydraulic test completed.
	Electrical Installation	01/10/2020 -> 01/12/2020*	3/19/2021	15/11/2020 -> 15/01/2021*	7/19/2021	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 Comissioning	15/11/2020 -> 15/01/2021*	5/8/2021	22/11/2020 -> 22/01/2021*	9/30/2022	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	10/15/2020	10/15/2020	10/31/2020	12/11/2020	Task Completed				100%		
	Acceptance of subletting package (C9)	11/1/2020	11/5/2020	11/15/2020	1/2/2021	Task Completed				100%		
	Tender invitation (C9)	11/16/2020	1/26/2021	11/30/2020	2/5/2021	Task Completed				100%		Tender invitation commenced on 26 Jan 2021, and returned on 5 Feb 2021
	Tender award (C9)	11/30/2020	2/18/2021	12/7/2020	2/18/2021	Task Completed				100%		Tender report was submitted on 18 Feb 2021 and accepted on 26 Feb 2021
	Acceptance of tender award (C9)	12/8/2020	2/18/2021	12/15/2020	2/26/2021	Task Completed				100%		
	Design Submission	12/15/2020	3/15/2021	1/15/2021	4/23/2021	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	3/9/2021	3/9/2021	3/9/2021	3/9/2021	Task Completed				100%		
	Drawing submission (Drawing of General Layout for Existing 600kVA Genset Container)	4/23/2021	4/23/2021	4/30/2021	4/30/2021	Task Completed				100%		
	Drawing submission (Cable route ,general arrangement, etc)	5/14/2021	5/28/2021	5/21/2021	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	8/12/2021	Task Completed				100%		
	Container deliver to HK	TBC	8/12/2021	8/10/2021	8/12/2021	Task Completed				100%		
	Off site modification work at HK factory	TBC	8/16/2021	8/24/2021	8/24/2021	Task Completed				100%		
	FAT plan of modified Genset No.2 P431 MS-036	7/12/2021	7/12/2021	8/20/2021	8/20/2021	Task Completed				100%		
	FAT of Genset No.2 after modification works	8/25/2021	8/25/2021	8/25/2021	8/25/2021	Task Completed				100%		
	Installation Work of I-beam Support	8/26/2021	8/26/2021	8/26/2021	8/26/2021	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	8/27/2021	8/27/2021	8/27/2021	8/27/2021	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	7/27/2021	7/27/2021	8/31/2021								Location to be further coordinated with DSD.
	Modification works of existing switchboard	9/1/2021	9/1/2021	9/8/2021	9/8/2021	Task Completed				100%		
	Cables (including control cable and power cables) laying and installation of cable containment, busbar chamber	7/21/2021	7/30/2021	9/8/2021	9/8/2021	Task Completed				100%		
	Supply of busbar chamber/ connection box	8/10/2021	8/10/2021	9/3/2021	9/3/2021	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	9/1/2021	9/1/2021	9/8/2021	9/8/2021	Task Completed				100%		
	Delivery of dummy load and self-test	9/9/2021	9/9/2021	9/14/2021	9/15/2021	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.)	9/15/2021	9/15/2021	9/15/2021	9/16/2021	Task Completed				100%		
04SC009 - Design, Supply and Installation of HVSB	Submission of subletting package for acceptance	4/21/2020		5/1/2020		-						
	Acceptance of subletting package	5/21/2020		5/30/2020		-						
	Tender invitation	6/1/2020		6/14/2020		-						
	Tender award	7/1/2020		7/14/2020		-						
04SC010 - Design, Supply and Installation of LVSB	Submission of subletting package for acceptance	5/1/2020		5/14/2020		-						

	Acceptance of subletting package	6/1/2020		6/14/2020		-						
	Tender invitation	6/14/2020		6/30/2020		-						
	Tender award	7/1/2020		7/14/2020		-						
04SC011 - Design and Installation of Building	Submission of subletting package for acceptance	4/14/2020		4/30/2020		-						
	Acceptance of subletting package	5/14/2020		5/30/2020		-						
	Tender invitation	5/30/2020		6/14/2020		-						
	Tender award	6/21/2020		6/30/2020		-						
04SC012 - Facility Computerized Systems	Submission of subletting package for acceptance	5/14/2020		5/30/2020		-						
	Acceptance of subletting package	6/14/2020		6/30/2020		-						
	Tender invitation	7/1/2020		7/14/2020		-						
	Tender award	7/21/2020		8/14/2020		-						
Plant and Materials (Marking Scheme)												
PS Clause no. 6B.2.1 Inlet Pump	Submission of marking scheme for PM's acceptance (fourth draft)	5/1/2020	5/1/2020	9/1/2020	8/19/2020	Task Completed				100%		AECOM commented on 14 August 2020, Bestwise resubmitted on 19 Aug 2020.
	Submission of marking scheme for PM's acceptance	5/1/2020	5/1/2020	9/1/2020	8/19/2020	Task Completed				100%		Bestwise resubmitted on 19 Aug 2020.
	Acceptance of marking scheme by the PM	5/15/2020	8/20/2020	9/15/2020	9/1/2020	Task Completed				100%		AECOM accepted on 1 Sep 2020
	Tender invitation	5/29/2020	9/9/2020	9/29/2020	9/18/2020	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	6/5/2020	9/19/2020	10/5/2020	10/7/2020	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	6/19/2020	10/17/2020	10/19/2020	11/15/2020	Task Completed				-		
	Submission of marking scheme for PM's acceptance (third draft)	5/1/2020	5/14/2020	9/1/2020	8/19/2020	Task Completed				100%		AECOM commented on 14 August 2020, Bestwise resubmitted on 19 Aug 2020
	Submission of marking scheme for PM's acceptance	5/1/2020	5/14/2020	9/1/2020	8/19/2020	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	5/15/2020	8/20/2020	9/15/2020	9/1/2020	Task Completed				100%		AECOM accepted on 1 Sep 2020
	Tender invitation	5/29/2020	11/20/2020	9/29/2020	12/11/2020	Task Completed				100%		Tender invitation was conducted on 20 Nov 2020 and returned on 11 Dec 2020. Tender
	Tender award	6/5/2020	12/13/2020	10/5/2020	3/3/2021	Task Completed				100%		Technical Submission Evaluation Report was submitted on 12 Jan 2021. AECOM noted on 22 Jan 2021. 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	5/1/2020	5/14/2020	9/1/2020	9/2/2020	Task Completed				100%		AECOM commented on 1 September 2020, Bestwise resubmitted on 2 Sep 2020
	Submission of marking scheme for PM's acceptance	5/1/2020	9/3/2020	9/1/2020	9/2/2020	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	5/15/2020	8/20/2020	9/15/2020	9/1/2020	Task Completed				100%		AECOM accepted on 1 Sep 2020, subject to conditions.
	Tender invitation	5/29/2020	2/17/2021	9/29/2020	3/12/2021	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	6/5/2020	3/18/2021	10/5/2020	4/20/2021	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	6/19/2020	2/20/2021	10/19/2020	3/12/2021	Task Completed				-		
PS Clause no. 6B.2.4	Submission of marking scheme for PM's acceptance	5/14/2020	5/14/2020	9/14/2020	8/19/2020	Task Completed				100%		AECOM commented on 14 August 2020, Bestwise resubmitted on 19 Aug 2020
	Submission of marking scheme for PM's acceptance	5/14/2020	5/14/2020	9/14/2020	8/19/2020	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	5/28/2020	8/20/2020	9/28/2020	9/1/2020	Task Completed				100%		AECOM accepted on 1 Sep 2020
	Tender invitation	6/11/2020	2/3/2021	10/12/2020	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	6/18/2020	3/4/2021	10/19/2020	4/12/2021	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	7/2/2020	3/4/2021	11/2/2020	3/25/2021	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	5/14/2020	5/1/2020	9/14/2020	9/2/2020	Task Completed				100%		AECOM commented on 1 September 2020, Bestwise resubmitted on 2 Sep 2020
	Submission of marking scheme for PM's acceptance	5/14/2020	9/3/2020	9/14/2020	9/2/2020	Task Completed				100%		Bestwise resubmitted on 2 Sep 2020
	Acceptance of marking scheme by the PM	5/28/2020	9/3/2020	9/28/2020	9/5/2020	Task Completed				100%		AECOM accepted on 5 Sep 2020 subject to conditions.
	Tender invitation	6/11/2020	9/14/2020	10/12/2020	10/5/2020	Task Completed				100%		Tender invitation was conducted on 14 Sept 2020 and returned on 5 Oct 2020.
PS Clause no. 6B.2.4 Membrane Modules, Cassettes / Racks	Tender award	6/18/2020	10/6/2020	10/19/2020	11/2/2020	Task Completed				100%		Technical Submission Evaluation Report was submitted on 14 Oct 2020, Tender report was submitted on 2 Nov 2020. AECOM noted on 4 Nov 2020.
	Acceptance of tender award	7/2/2020	11/3/2020	11/2/2020	11/24/2020	Task Completed				-		
	Submission of marking scheme for PM's acceptance (second draft)	5/14/2020	5/14/2020	9/14/2020	8/19/2020	Task Completed				100%		AECOM commented on 14 August 2020, Bestwise resubmitted on 19 Aug 2020
	Submission of marking scheme for PM's acceptance	5/14/2020	5/14/2020	9/14/2020	8/19/2020	Task Completed				100%		Bestwise resubmitted on 19 Aug 2020
	Acceptance of marking scheme by the PM	5/28/2020	8/20/2020	9/28/2020	9/1/2020	Task Completed				100%		AECOM accepeted on 1 Sep 2020
	Tender invitation	6/11/2020	9/25/2020	10/12/2020	10/29/2020	Task Completed				100%		Tender invitation was conducted on 25 Sept 2020 and returned on 29 Oct 2020.
PS Clause no. 6B.2.4 RAS Pump	Tender award	6/18/2020	10/30/2020	10/19/2020	12/2/2020	Task Completed				100%		Technical Submission Evaluation Report was submitted on 6 Nov 2020. Tender report was submitted on 24 Nov 2020, AECOM noted on 2 Dec 2020.
	Acceptance of tender award	7/2/2020	11/21/2020	11/2/2020	12/12/2020	Task Completed				-		

Usage of WA2-A		-		2/21/2020	2/21/2020	Task Completed				-		Site works including fencing and site clearnace works to be completed by DC/2018/06 by 30/4/2020 WA2C handovered to Bestwise on 21 February 2020