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

MAY 2023

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Contract No. SPW 12/2021

Shek Wu Hui Effluent Polishing Plant – Main Work

Monthly Environmental Monitoring & Audit Report

May 2023

(June 2023)

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EXECUTIVE SUMMARY

i. This is the Environmental Monitoring and Audit (EM&A) Monthly Report – May 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 21st 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 May 2023 to 31 May 2023. The cut-off date of reporting is at the end of each reporting month.

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

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

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

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

- RC works
- 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

- Superstructure works
- Electrical Installation
- Pipework Installation
- MFA and AFA Installation
- SPR Installation
- Plumbing installation
- MVAC Installation
- EOT and Monorail 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
- E&M works for Leachate Pre-treatment Plant at existing compressor house.

Air Quality Monitoring

iii. 1-hour and 24-hour Total Suspended Particulates (TSP) monitoring was conducted at two monitoring station. 24-hour TSP shall be sampled at least once in every 6 days, while sampling for 1-hour TSP shall be at least 3 times in every 6 day in the reporting month.

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

Noise Monitoring

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

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

Ecological Monitoring

vii. Ecological monitoring conducted on a weekly basis at both high and low tides (it is considered high tide when tidal levels are above 1.5m and low tide when tidal level are below 1.5m at Tsim Bei Tsui Station). The magnitude of how much above or below 1.5m was subject to tidal conditions of that week as it varied throughout different times of the year. Nonetheless, the high and low tide relative to that week's tidal condition were taken into consideration.

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

Water Quality Monitoring

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

x. Seven (7) limit level exceedances and two (2) action level exceedances were recorded in the reporting month. After investigation, all recorded exceedances were considered non-project related.

Site Inspections and Audit

xi. The Environmental Team (ET) conducted weekly site inspections on 2(DE/2018/03 and DE/2018/04), 4(DC/2018/06 and DC/2018/07), 9(DE/2018/03 and DE/2018/04), 11(DC/2018/06 and DC/2018/07), 16(DE/2018/03 and DE/2018/04), 18(DC/2018/06 and DC/2018/07), 23, 30(DC/2018/06 and DC/2018/07) and 31(DE/2018/03 and DE/2018/04) May 2023 and biweekly landscape inspection on 4 and 18 May 2023. IEC attended the joint site inspection on 23 May 2023. No non-compliance was found during the site inspection while reminders on environmental measures were recommended.

Complaints, Notifications of Summons and Successful Prosecutions

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

Reporting Changes

xiii. There are no particular reporting changes.

Future Key Issues

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

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

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

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

- RC works
- 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

- Superstructure works
- Electrical Installation
- Pipework Installation
- MFA and AFA Installation

- SPR Installation
- Plumbing installation
- MVAC Installation
- EOT and Monorail 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.
- E&M & civil works for Leachate Pre-treatment Plant at existing compressor house and BR No 3&4.
- E&M works at Portion B-7, including DOU No.3A, Emergency Generator House and FS & Sprinkler Pumping Room, Chemical System No.1, Street Fire Hydrant & Booster Pump Room and Temporary Chemical System.
- E&M works at Portion B-4, BR 2A & 2B.
- E&M works at Portion B-2, 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	Engineer	Ms. Li Lin	2594 7463
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

2.3 Construction Activities

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

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

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

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

- RC works
- 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

- Superstructure works
- Electrical Installation
- Pipework Installation
- MFA and AFA Installation
- SPR Installation
- Plumbing installation
- MVAC Installation
- EOT and Monorail 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
- E&M works for Leachate Pre-treatment Plant at existing compressor house.

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	5	Section 4, Utility Corridor, Transformer and Switchroom, DO System
	Scissor lift platform	4	SDB and CHP
DC/2018/07	Excavator	7	Area C, Area D, Inlet, SAS, MFB
	Generator	1	MFB
	Mobile Crane	3	PST, Inlet
	Tower crane	1	MFB
DE/2018/03	Generator	6	Sidestream, THP and Bio-gas Tank
	Tower Crane	1	Sidestream
DE/2018/04	-	-	-

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

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

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

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

- RC works
- 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

- Superstructure works
- Electrical Installation
- Pipework Installation
- MFA and AFA Installation
- SPR Installation
- Plumbing installation
- MVAC Installation
- EOT and Monorail 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.
- E&M & civil works for Leachate Pre-treatment Plant at existing compressor house and BR No 3&4.
- E&M works at Portion B-7, including DOU No.3A, Emergency Generator House and FS & Sprinkler Pumping Room, Chemical System No.1, Street Fire Hydrant & Booster Pump Room and Temporary Chemical System.
- E&M works at Portion B-4, BR 2A & 2B.
- E&M works at Portion B-2, 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-RN0219-23	1 Mar 2023	30 Jun 2023	Valid

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

Permits and/or Licences	Permit. No. / Account No.	Valid From	Expiry Date	Status
Environmental Permit	FEP-02/474/2013	15 Feb 2018	N/A	Valid
Notification pursuant to Air Pollution Control (Construction Dust) Regulation	449210	23 Sep 2019	N/A	Valid
Water Pollution Ordinance Licence	WT00035727-2020	1 Apr 2020	30 Apr 2025	Valid
Billing Account for Disposal of Construction Waste	7035985	9 Dec 2019	N/A	Valid
Registration as a Chemical Waste Producer	5213-624-K3371-02	6 Jan 2020	N/A	Valid
Special Waste	17144	17 Nov 2022	16 May 2023	Expired
Construction Noise Permit	GW-RN0219-23	1 Mar 2023	30 Jun 2023	Valid

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

Permits and/or Licences	Permit. No. / Account No.	Valid From	Expiry Date	Status
Environmental Permit	FEP-02/474/2013	15 Feb 2018	N/A	Valid
Notification pursuant to Air Pollution Control (Construction Dust) Regulation	455843 (WA3)	6 May 2020	N/A	Valid
	457212 (WA1-B)	15 Jun 2020	N/A	Valid
	460065 (Sidestream)	16 Sep 2020	N/A	Valid
Water Pollution Ordinance Licence	WT00037220-2020	16 Mar 2021	31 Jan 2026	Valid
Billing Account for Disposal of Construction Waste	7035700	6 Nov 2019	N/A	Valid
Registration as a Chemical Waste Producer	5213-624-T3861-01	14 Apr 2020	N/A	Valid
Construction Noise Permit	GW-RN0306-23	24 Mar 2023	4 July 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	Verified by IEC on 16 May 2023
Condition 3.3	Baseline Monitoring Report (Ecology)	The Report was first submitted to IEC for review on 22 Nov 2019, and verified on 29 Nov 2019
Condition 3.3	Baseline Monitoring Report	The Report will be submitted to EPD at least 6 weeks before the commencement of Corresponding parts of landscape and visual mitigation measures of the Project

4 Monitoring Requirements

4.1 Noise Monitoring

NOISE MONITORING STATIONS

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

Table 4.1 Noise Monitoring Station

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

NOISE MONITORING PARAMETERS, FREQUENCY AND DURATION

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

Table 4.2 Noise Monitoring Parameters, Frequency and Duration

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

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

MONITORING EQUIPMENT

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

Table 4.3 Noise Monitoring Equipment

Equipment	Brand and Model	Series Number	Expiry Date
Integrated Sound Level Meter	Nti XL2 Larson Davis LxT1	A2A-15269-EO 0004797	9-Mar-2024 4-Nov-2023
Acoustic Calibrator	LD CAL200	13437	04-Nov-2023

4.1.4. The calibration certificates of the noise monitoring equipment are attached in ***Appendix 4.2***.

SAMPLING PROCEDURE AND MONITORING EQUIPMENT

4.1.5. Monitoring Procedure

(a) Noise measurements shall not be made in fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s. The wind speed shall be checked with a portable wind speed meter capable of measuring the wind speed in m/s

(b) The monitoring station shall normally be at a point 1 m from the exterior of the sensitive receiver building facade and be at a position 1.2 m above the ground. If there is problem with access to the normal monitoring position, an alternative position may be chosen, and a correction to the measurements shall be made. For reference, a correction of +3 dB(A) shall be made to the free field measurements.

(c) The battery condition was checked to ensure the correct functioning of the meter.

(d) Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:

- Frequency weighting: A
- Time weighting: Fast
- Time measurement: Leq (30min) for noise monitoring

(e) Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1.0 dB, the measurement would be considered invalid and repeat of noise measurement would be required after recalibration or repair of the equipment.

(f) The wind speed was checked with the portable wind meter before noise monitoring.

(g) At the end of the monitoring period, the Leq, L90 and L10 were recorded. In addition, site conditions and noise sources were recorded on a record sheet.

4.1.6. Maintenance and Calibration

(a) The microphone head of the sound level and calibrator would be cleaned with soft cloth regularly.

(b) The noise monitoring equipment shall be calibrated annually.

CONSTRUCTION NOISE LEVEL

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

EVENT AND ACTION PLAN

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

Table 4.4 Action and Limit Level for Noise Monitoring

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

4.2 Air Monitoring

AIR QUALITY MONITORING STATIONS

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

Table 4.5 Air Monitoring Station

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

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

AIR MONITORING PARAMETERS, FREQUENCY AND DURATION

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

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

SAMPLING PROCEDURE AND MONITORING EQUIPMENT

4.2.4. 24-hour TSP Measuring Installation (HVS)

(a) 0.6 – 1.7 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	Expiry Date
Portable direct reading dust meter	Met One BT- 645 / Met One AEROCET831	C15622 Y23153	3-Feb-2024
Calibration Kit	Tisch Environmental (Calibration Model: TE-5025A)	3880 3166	28-Jun-2023 31-Mar-2024

High Volume Sampler	Tisch Total Suspended Particulate Mass Flow Controlled High Volume Air Sampler (Model no. G3101)	2036 & 774	8-Jul-2023
Wind Anemometer	YGY-FSXY1	YG 21071630T0924	22-Sep-2023

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

WIND DATA

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

EVENT AND ACTION PLAN

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

Table 4.7 Action and Limit Level for Air Quality Monitoring

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

4.3 Ecological Monitoring

4.3.1. According to the Updated EM&A Manual, weekly transect at both high and low tides shall be undertaken to identify and enumerate all bird species utilising the river channels and identify any sources of actual or potential disturbance to birds due to construction activities throughout the construction period. ***Appendix 4.1*** shows the established Action/Limit Levels for ecological monitoring works.

4.3.2. The monitoring should be conducted by the ET and supervised by a qualified ecologist who will be a member of the ET.

MONITORING LOCATIONS

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

Table 4.8 Ecological Monitoring Stations

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

Point Count Location P7	At Intersection between Sheung Yue River and Shek Sheung River	Yes

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	Expiry Date
Multifunctional Meter	YSI Professional Plus	19H100656 / 14E101065 14E100105 / 17G100383	8-May-2023 30-Jun-2023
Turbidimeter	Xin Rui WGZ-3B	1807073	10-Jun-2023

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	54.9 – 57.2	75 dB
NM2	54.2 – 68.5	
NM3	58.8 – 64.3	

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	15	12 – 20	320	500
AM2	15	12 – 19	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*	46	35 - 64	189	500
AM2a	58	41 - 85	187	500

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

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

5.2.4 The air quality monitoring result measured in reporting month was similar to previous months. The air quality monitoring result was slightly 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	33	1156
Waterbirds	11	200

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	119
Ardea cinerea	Grey Heron	蒼鷺	5
Ardeola bacchus	Chinese Pond Heron	池鷺	44
Phalacrocorax carbo	Great Cormorant	普通鸬鹚	0
Ardea alba	Great Egret	大白鷺	9
Bubulcus coromandus	Eastern Cattle Egret	牛背鷺	4
		Total	**181**

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% (-2.353)	99% (-4.541)
Abundance	**Monthly**	**0.733**	✓	✓
	Seasonal	**0.498**	✓	✓

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	1.262	✔	✔	1.262	✔	✔	✔
Grey Heron	NA*						
Chinese Pond Heron	-1.444	✔	✔	-1.805	✔	✔	✔
Great Cormorant	NA*						
Great Egret	0.456	✔	✔	-1.369	✔	✔	✔
Eastern Cattle Egret	-1.534	✔	✔	-3.068	✕	✔	✔

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

5.3.3 No Action Level and Limit Level was triggered for ecological monitoring in the reporting month.

5.3.4 Site observation in the reporting month shows that construction activities are similar to previous months. The photos are provided in **Appendix 5.5**.

5.3.5 In recent months, it is found that there are different construction sites for example construction of footbridge, excavation and sheet-piling, and human activities including cycling, 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 Cycling, 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 Fishing, Cycling, and Landscape Planting Construction activities such as Sheet-piling, generator & welding works, Scaffolding, sedimentation tank, Excavation, crane and breaking works
PC5	Construction activities such as Excavation and crane	N/A
T3 (PC6, PC7)	Construction activities such as Sheet-piling	Human Activities such as Cycling, Grazing and Fishing Construction activities such as Excavation, Sheet-piling, generator & 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	M1		C1		Action Level, (µg/m3)	Limit Level, (µg/m3)
	Range	Average	Range	Average		
DO (mg/L)	5.6 – 10.3	8.8	5.9 – 10.8	9.0	≤ 7.8 mg/L	≤ 7.7 mg/L
Turbidity (NTU)	4.6 – 21.9	9.9	4.1 – 33.7	10.4	≥ 14.6 NTU or When M1 ≥ 120% of C1	≥ 15.6 NTU or When M1 ≥ 130% of C1
SS (mg/L)	6.8 – 21.8	12.4	8.1 – 25.8	13.0	≥ 18.8 mg/L or When M1 ≥ 120% of C1	≥ 19.5 mg/L or When M1 ≥ 130% of C1

5.4.2 Seven (7) limit level exceedances and two (2) 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(1))
	DO	Turbidity	SS	
3 May 2023	LL	LL	-	No activity
5 May 2023	-	LL	LL	No activity
8 May 2023	-	LL	-	No activity
10 May 2023	-	-	-	No activity
12 May 2023	-	-	LL	No activity
15 May 2023	-	-	-	No activity
17 May 2023	-	-	-	No activity
19 May 2023	-	AL	LL	No activity
22 May 2023	-	-	-	No activity
24 May 2023	-	-	-	No activity
27 May 2023	-	-	-	No activity
29 May 2023	-	-	-	No activity
31 May 2023	-	AL	-	No activity

Remarks:

1. As confirmed by the engineer, the works under the outfall area has been finished, and thus the site diary only updated till 12th May 2023

5.4.3 After the exceedances were recorded, the ET had taken the action required in the Event and Action Plan, the taken actions are mentioned in **Appendix 6.2**. The investigation result was provided in the following sections.

5.4.4 According to the Project Layout, no physical works from the project were expected to interface with the nearby watercourse (Ng Tung River), except for the construction of the outfall. In fact, according to Section 5.3.5.4 of the Updated EM&A Manual, only during the course of the construction works at the outfall at Ng Tung River, impact water quality monitoring shall be undertaken. The Project Layout and the location of the constructed outfall are shown in **Figure 2.1.**

5.4.5 ET conducted site investigations after the record of each exceedance. No other works under the Project except for the outfall construction were identified to interface with the Ng Tung River. The photo record of the site boundary next to the Ng Tung River taken at each water quality monitoring were annexed in **Appendix 5.10b**.

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

5.4.7 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. No excavation or sheet piling work was conducted in May 2023. The site diary shows that no construction work for the outfall was conducted in May 2023. The site diary from ER and the photo record taken by the ET for the outfall were annexed in **Appendix 5.10a** and **Appendix 5.10b** respectively.

5.4.8 After reviewing the site diary for Outfall and the photo recorded taken during the water quality monitoring process, considering the no construction work for the outfall was conducted in this reporting month, and water mitigation measures (provision of concrete blocks and plastic barriers) have been implemented by the Contractor, there was no evidence showing the exceedance recorded in May 2023 were related to the Project's work, so the exceedances recorded in the reporting month should be considered as 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)	1.633	1.803	7.786
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)	0.083	0.051	0.363

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)	0.213	1.877	15.341
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)	0.047	0.072	0.287

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)	4.810	8.660	13.470

Waste Type	Quantity (Previous month)	Quantity (Reporting month)	Annual Cumulative Quantity (2023)
Paper / Cardboard Packing (in '000kg)	0.000	0.154	0.439
Plastics (in '000kg)	0.000	0.000	0.010
Chemical Wastes (in '000kg)	0.000	0.000	0.000
General Refuses (in '000kg)	12.620	15.690	74.460

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)	0.000	0.000	7.260
Metals (in '000kg)	36.230	0	36.230
Paper / Cardboard Packing (in '000kg)	0.000	0.000	0.000
Plastics (in '000kg)	0.000	0.000	0.000
Chemical Wastes (in '000kg)	0.800	0.000	0.800
General Refuses (in '000kg)	0.000	1.060	3.030

6 Compliance Audit

6.0.1 The Event Action Plan for construction noise, air quality and ecological monitoring are presented in ***Appendix 6.1.***

6.0.2 The summary of exceedance is presented in ***Appendix 6.2.***

6.1 Noise Monitoring

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

6.2 Air Quality Monitoring

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

6.3 Ecological Monitoring

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

6.4 Water Quality Monitoring

6.4.1 Seven (7) limit level exceedances and two (2) 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 details of investigation results 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 2(DE/2018/03 and DE/2018/04), 4(DC/2018/06 and DC/2018/07), 9(DE/2018/03 and DE/2018/04), 11(DC/2018/06 and DC/2018/07), 16(DE/2018/03 and DE/2018/04), 18(DC/2018/06 and DC/2018/07), 23, 30(DC/2018/06 and DC/2018/07) and 31(DE/2018/03 and DE/2018/04) May 2023 and biweekly landscape inspection on 4 and 18 May 2023. IEC attended the joint site inspection on 23 May 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
20230504_1	4-May-2023	Dust suppression measures should be provided to the exposed stockpile.	Stockpile has been properly covered.	Rectified on 11-May-23.
20230504_2	4-May-2023	Contractor was reminded to provide bunding to the U-channel to prevent discharge of site-runoff.	N/A	N/A
20230518_1	18-May-2023	Drip tray should be provided to the oil drums.	Oil drums have been removed.	Rectified on 23-May-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
20230511_1	11-May-2023	Contractor was advised to remove the blue hose from the U-channel to prevent discharge of muddy water.	The blue hose has been removed from the U-channel.	Rectified on 18-May-23.
20230523_1	23-May-2023	NRMM label should be affixed on the crane.	NRMM label has been affixed on the crane.	Rectified on 30-May-23.
20230530_1	30-May-2023	Contractor was reminded to replace the faded NRMM label on the generator near MFB2.	Faded NRMM label has been replaced by a new one.	Rectified on 8-June-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
20230502_1	2-May-2023	Contractor was reminded to remove the stagnant water in the drip tray (sidestream).	Stagnant water in the drip tray has been removed.	Rectified on 9-May-2023.

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

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

8 Complaints, Notification of Summons and Prosecution

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

8.1.2. The details environmental complaints for the Project are summarized by complaint log in ***Appendix 8.1.***

8.1.3. Cumulative statistics on complaints and successful prosecutions are summarized in ***Table 8.1*** and ***Table 8.2*** respectively.

Table 8.1 Cumulative Statistics on Complaints in the Reporting Month

Reporting Period	No. of Complaints
Commencement works (Feb 2018) to last reporting month	4
May 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

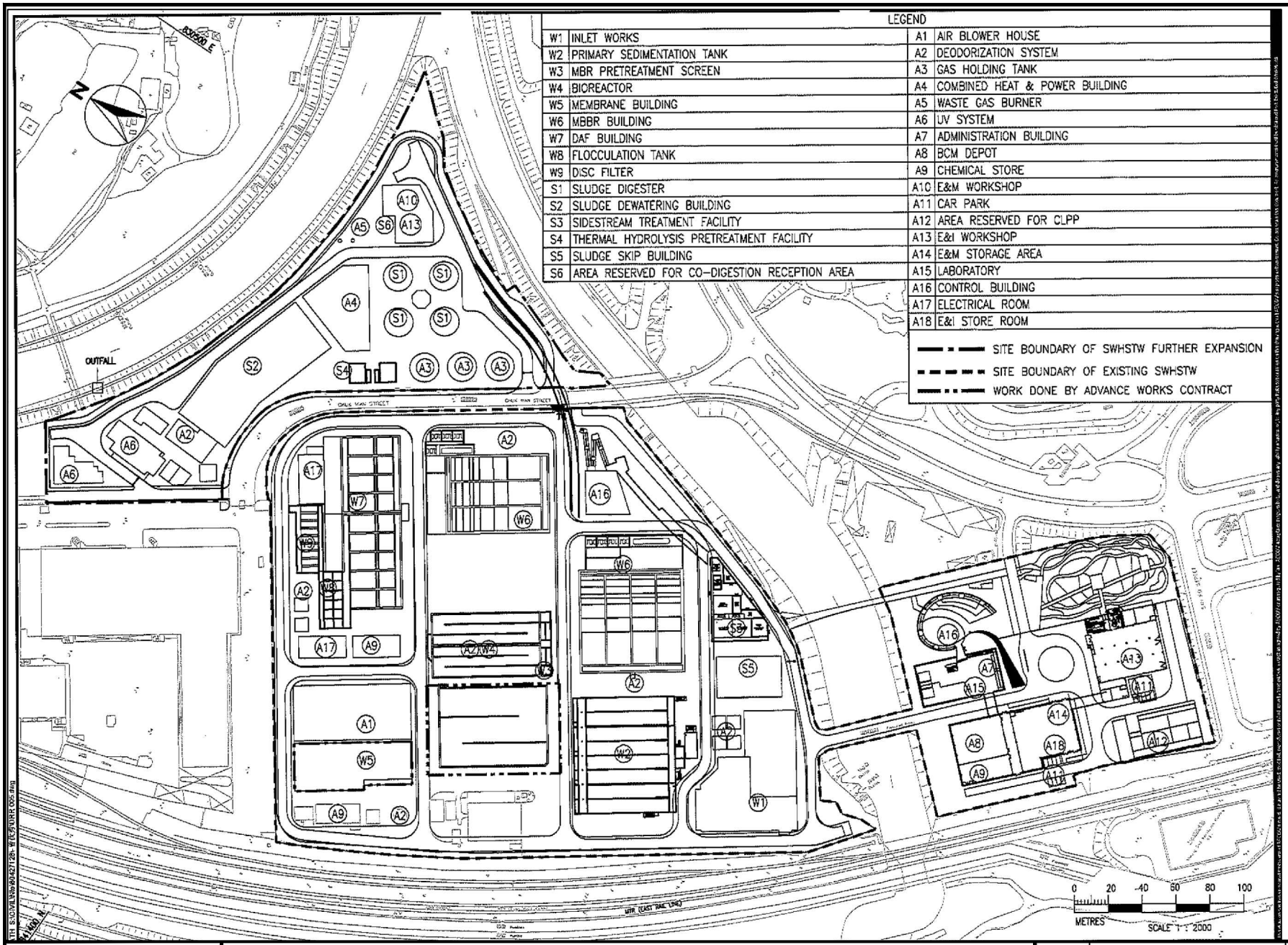
Contract No.	Key Construction Works	Recommended Mitigation Measures
DC/2018/06	• RC works • Pipe jacking • Sewage, utility and pipe works • ABWF works • ELS	• Implement proper dust mitigation measures on dusty surface, stockpiles and related dusty works • Implement proper measures to prevent excavated material, silt or debris being deposited or washed into existing drainage systems and waterbodies • Implement proper noise mitigation measures to prevent potential noise nuisances to nearby sensitive receivers • Proper maintenance of the on-site drainage system • Provision of protection to ensure no runoff out of site area or direct discharge into public drainage system • Good site practices should be adopted to check for any accumulation of waste materials on site and dispose waste materials at designated areas. • Segregate and store different types of waste to enhance reuse or recycling of materials and their proper disposal • Ensure all on-site regulated machines have displayed valid NRMM labels and the application of ULSD as fuel for diesel-powered machinery.
DC/2018/07	• RC works • Pile laying	• Implement proper dust mitigation measures on dusty surface and stockpiles

Contract No.	Key Construction Works	Recommended Mitigation Measures
		• 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	• Superstructure works • Electrical Installation • Pipework Installation • MFA and AFA Installation • SPR Installation • Plumbing installation • MVAC Installation • EOT and Monorail Installation • Bio-Gas Holding tank Installation • Penstock and Stoplog Installation • Delivery and Installation of THP System	• 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
DE/2018/04	• Improvement works for Temporary Primary Sludge Thickener and its accessories. • E&M & civil works for Leachate Pre-treatment Plant at existing compressor house and BR No 3&4. • E&M works at Portion B-7, including DOU No.3A, Emergency Generator House and FS & Sprinkler Pumping Room, Chemical System No.1, Street Fire Hydrant & Booster Pump Room and Temporary Chemical System. • E&M works at Portion B-4, BR 2A & 2B. • E&M works at Portion B-2, 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

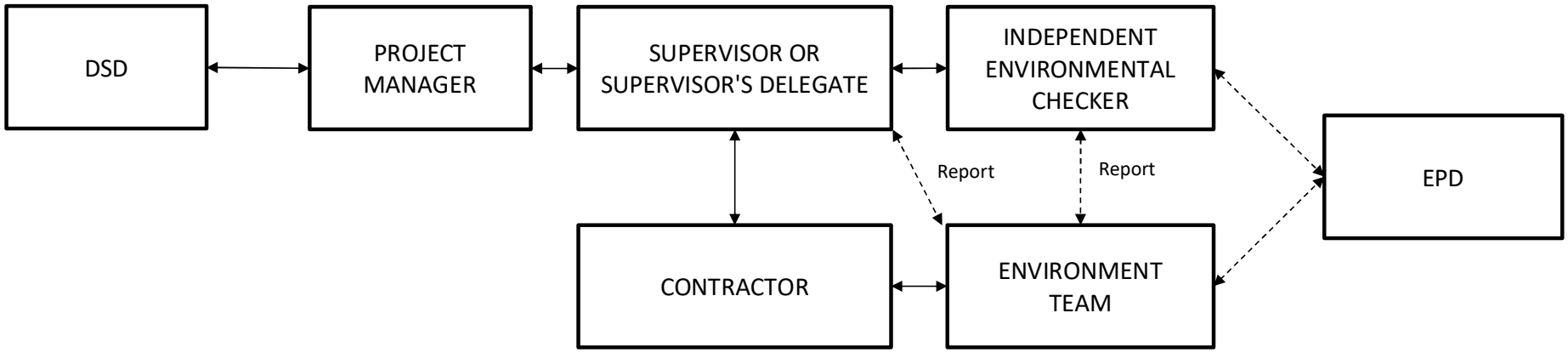
Project Layout



Shek Wu Hui Effluent Polishing Plant	SCALE	As Shown	DATE SEP 2019
	CHECK	JM	DRAWN SY
General Site Layout Of SWHEPP	JOB No.		FIGURE NO. 1.1 REV -

Figure 2.2

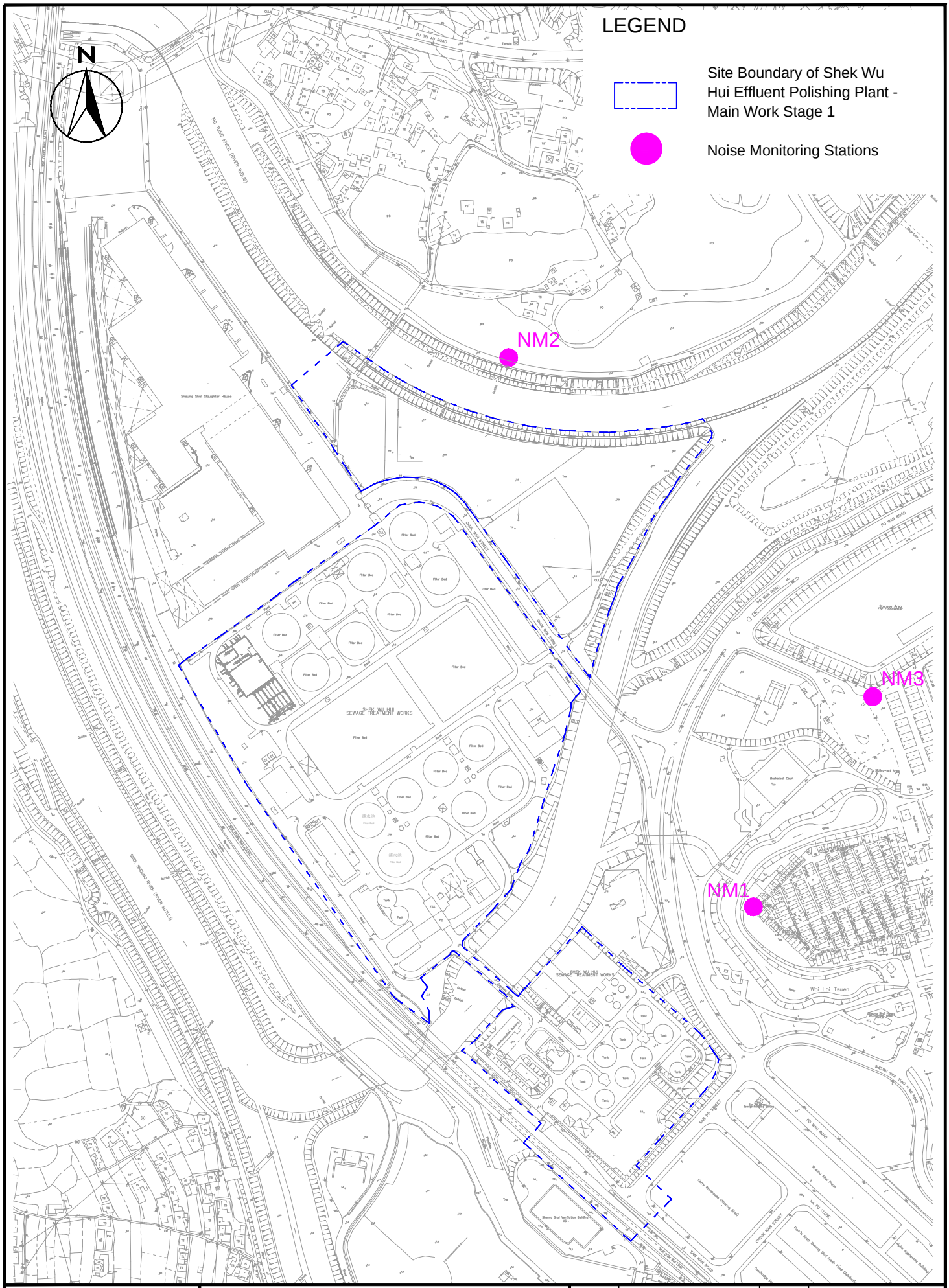
Project Organization Chart



	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

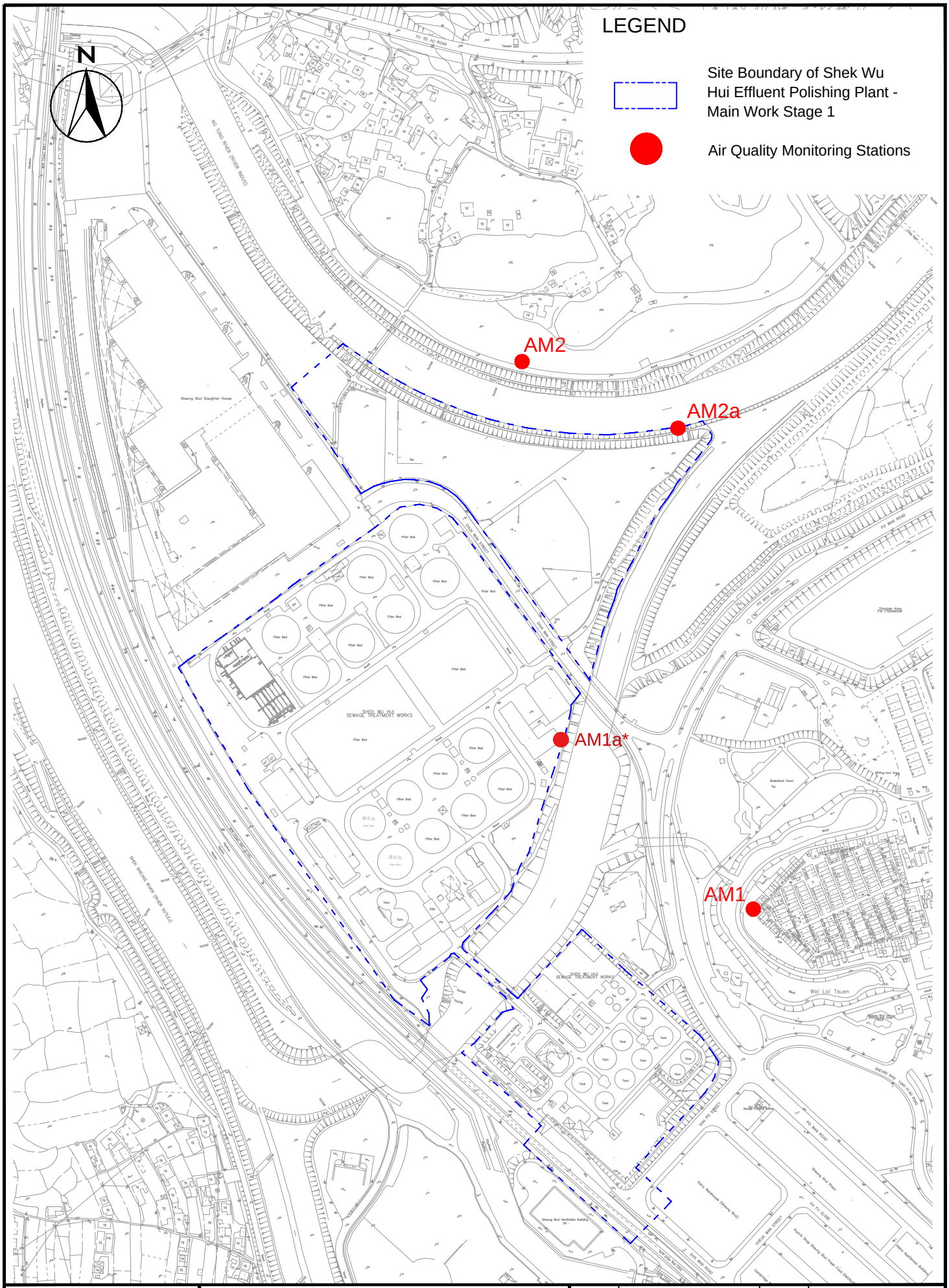
Locations of Noise Monitoring Stations



Shek Wu Hui Effluent Polishing Plant Location of Noise Monitoring Stations	SCALE	1:4000@A4	DATE	SEP 2019
	CHECK	JM	DRAWN	SY
	JOB No.	MA19019	FIGURE NO. 3	REV -

Figure 4.2

Locations of Air Quality Monitoring Stations

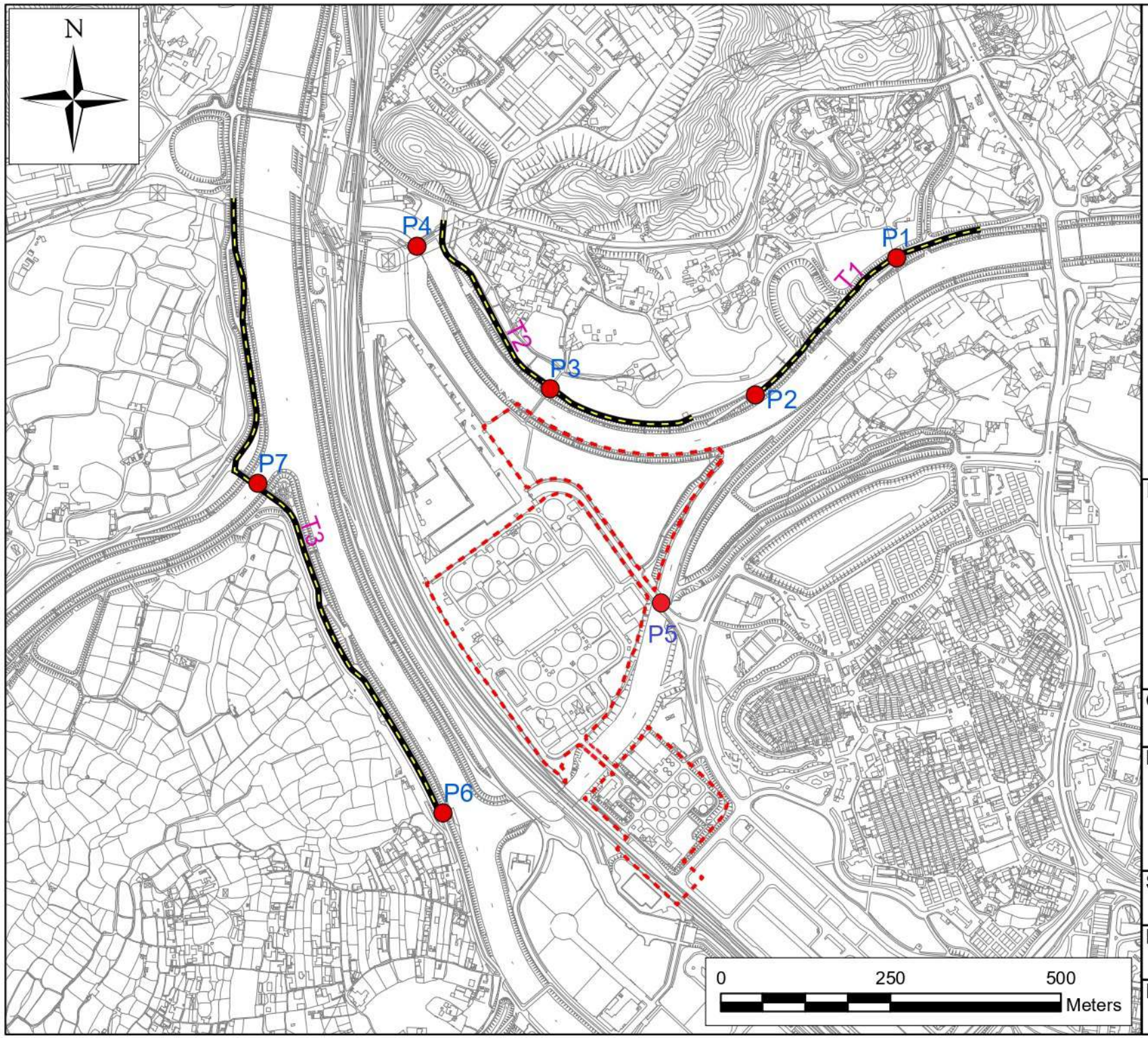


Shek Wu Hui Effluent Polishing Plant - Location of Air Quality Monitoring Stations	SCALE	1:400@A4	DATE	SEP 2019
	CHECK	JM	DRAWN	SY
	JOB No.		FIGURE NO. 2	REV -

F:/Project_drawings

Figure 4.3

Locations of Ecological Monitoring Stations



Legend

- Project Site Boundary
- Walk Transects
- Point Count Locations

PREPARED BY

Lam Environmental Services Limited

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

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CONTRACT NO.

SPW 12/2021

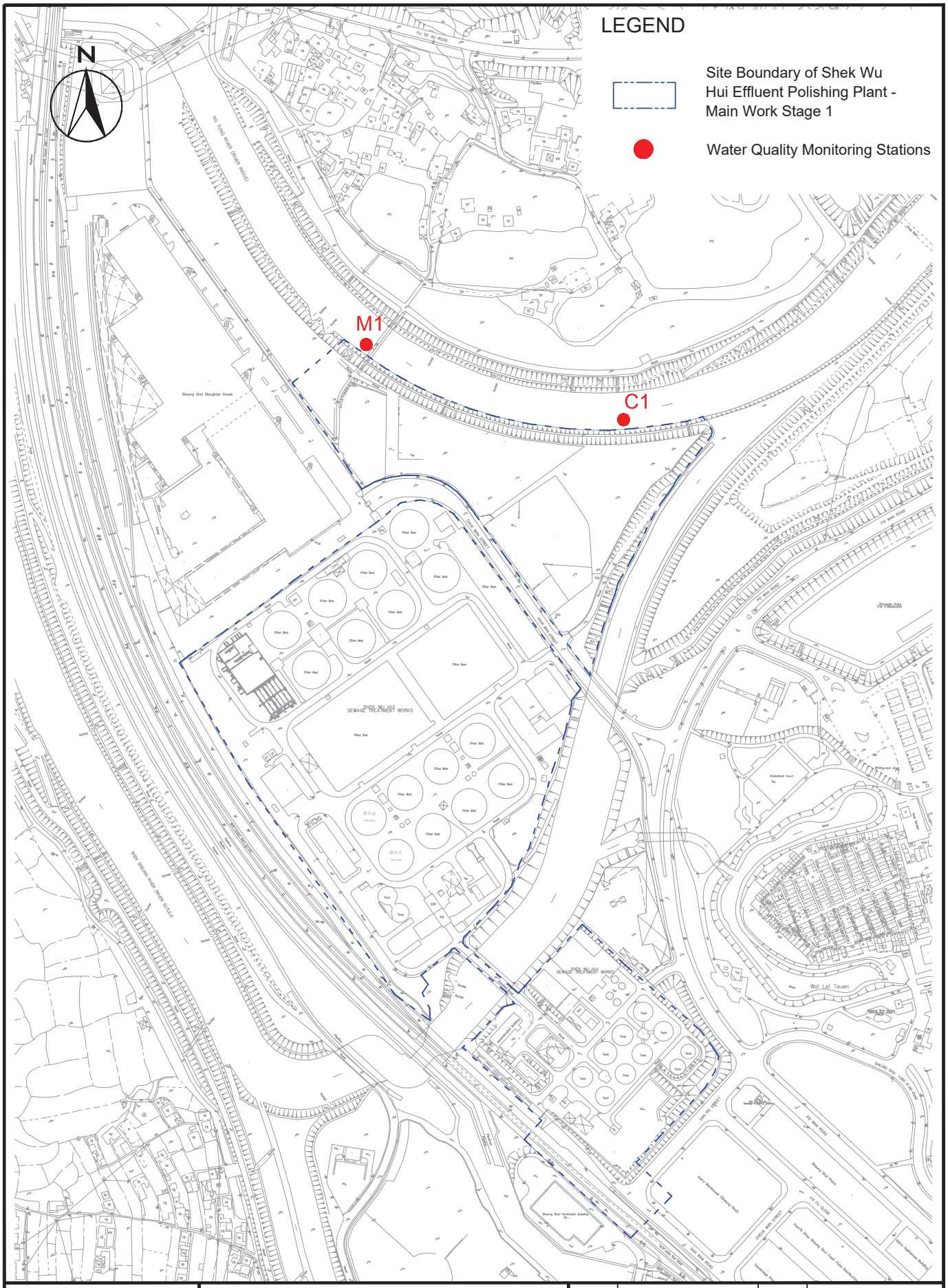
PROJECT TITLE

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

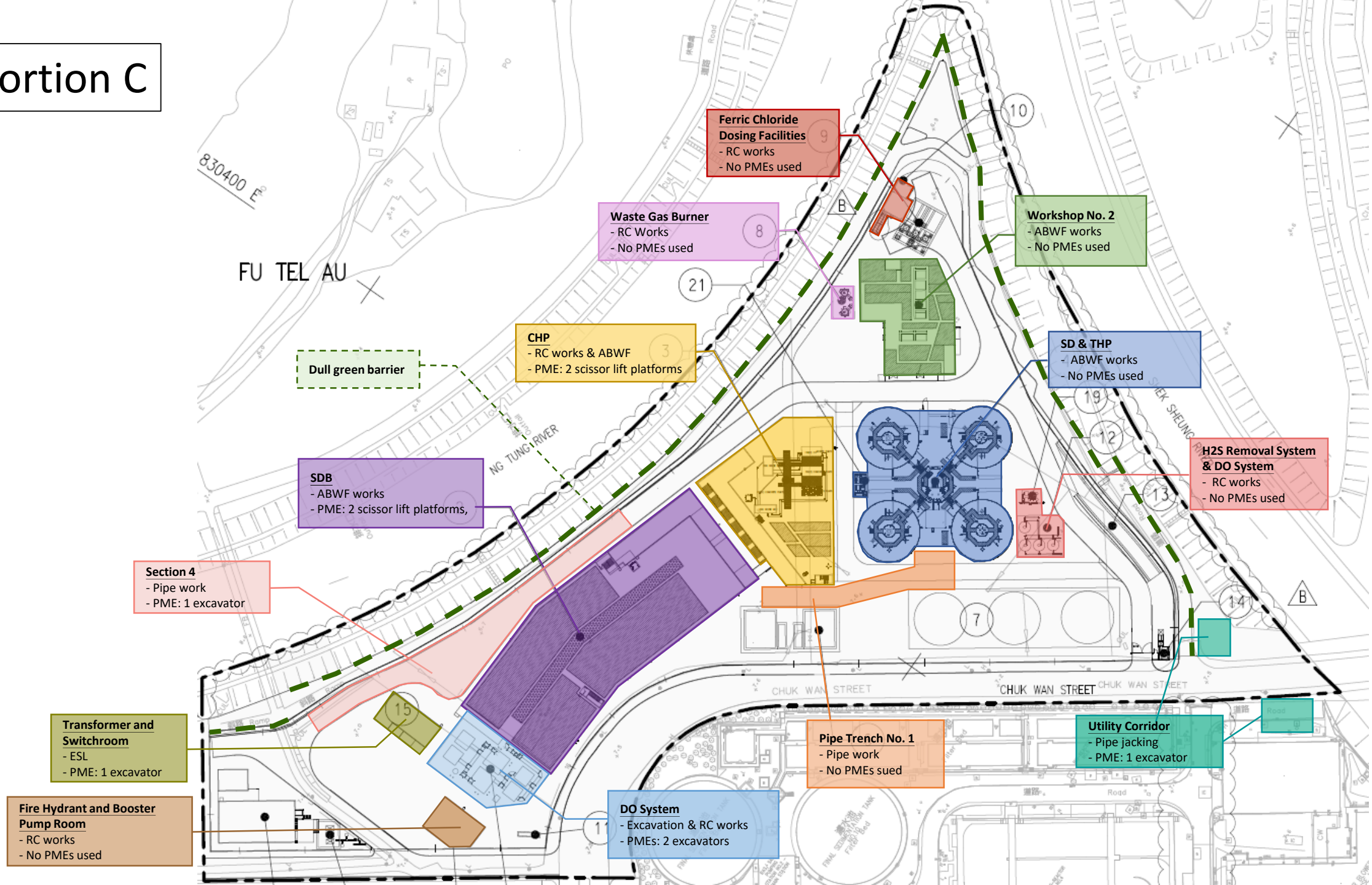
DE/2018/03

Sidestream	Bio Gas Tank

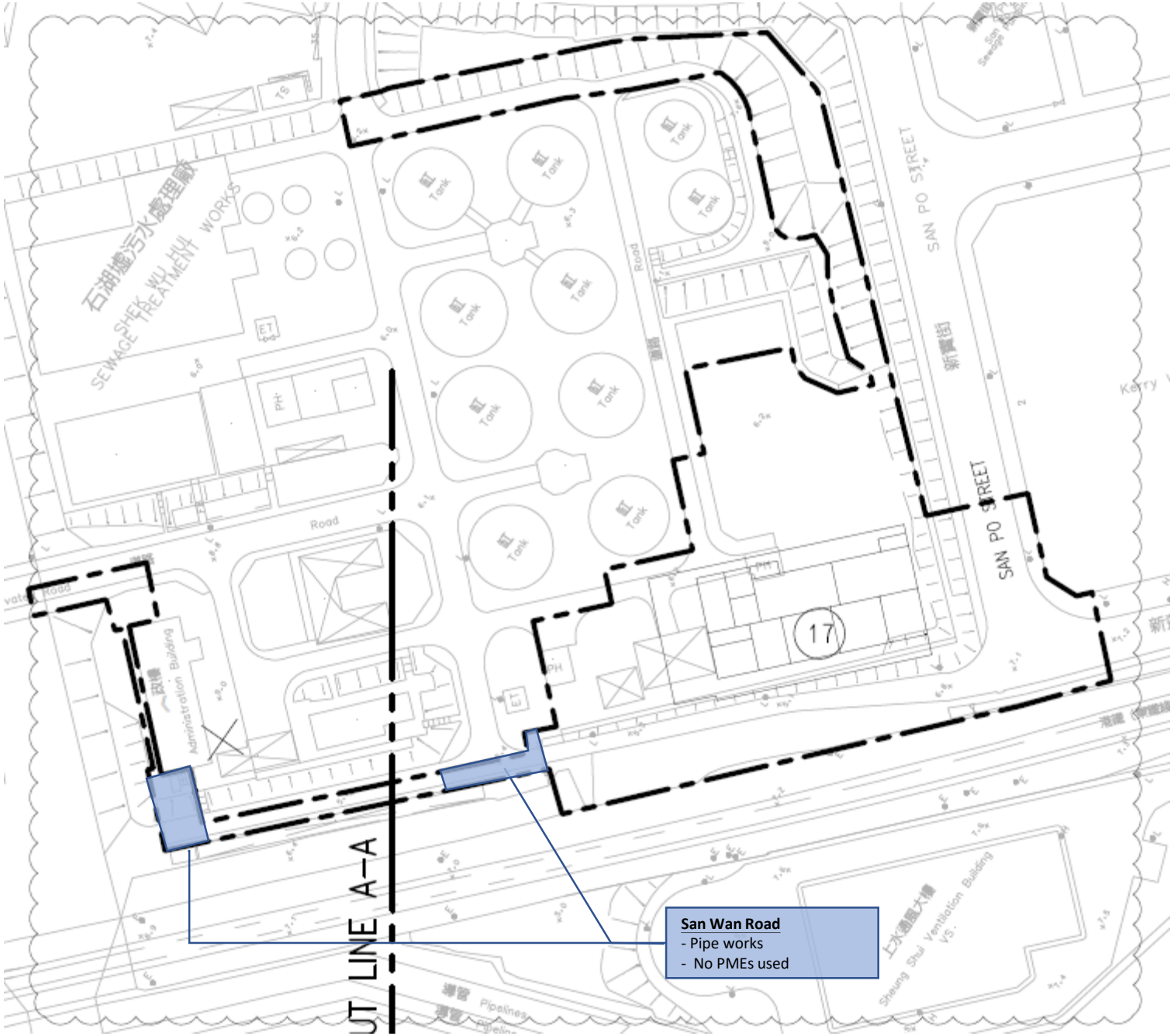
DE/2018/04

Compressor House

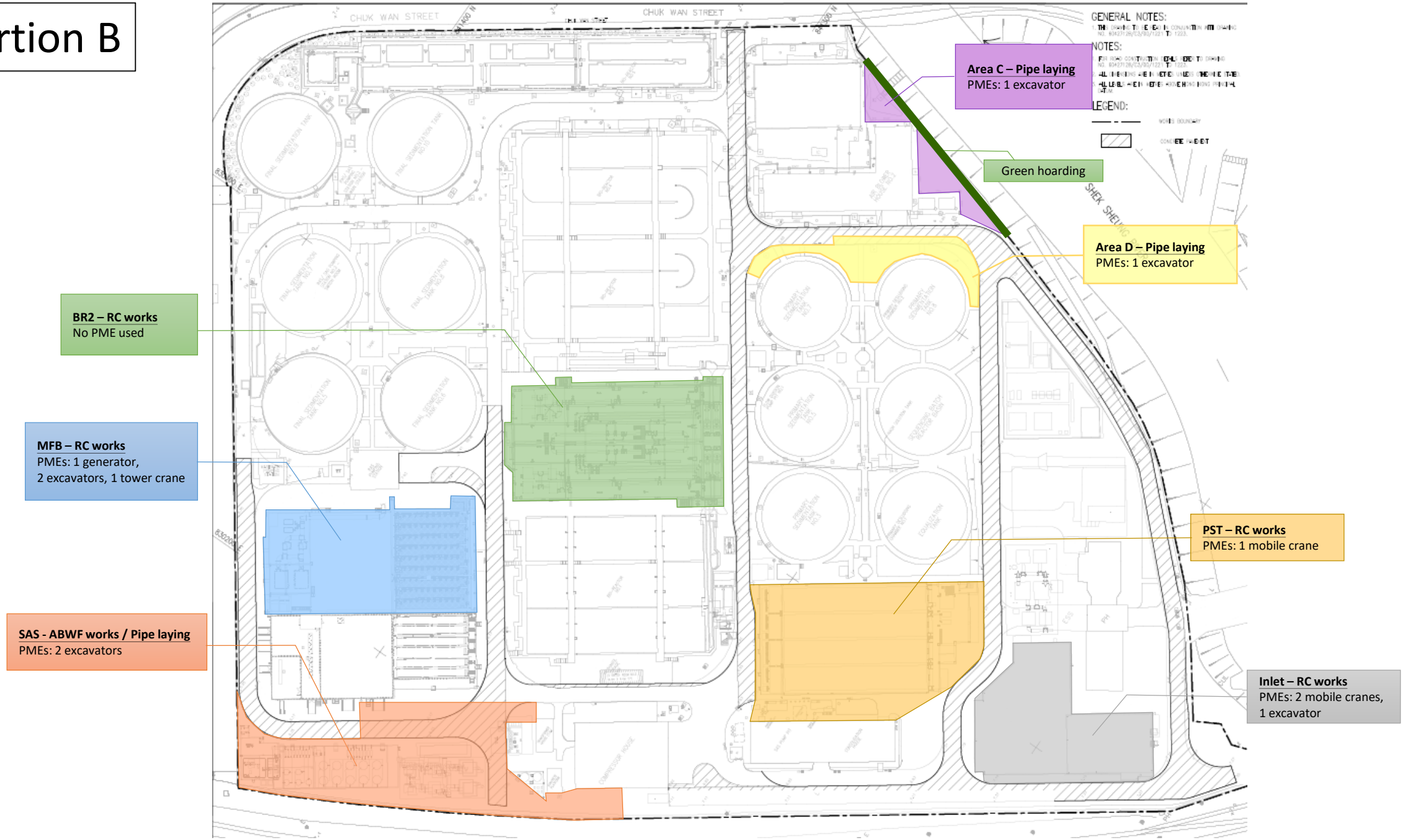
Portion C

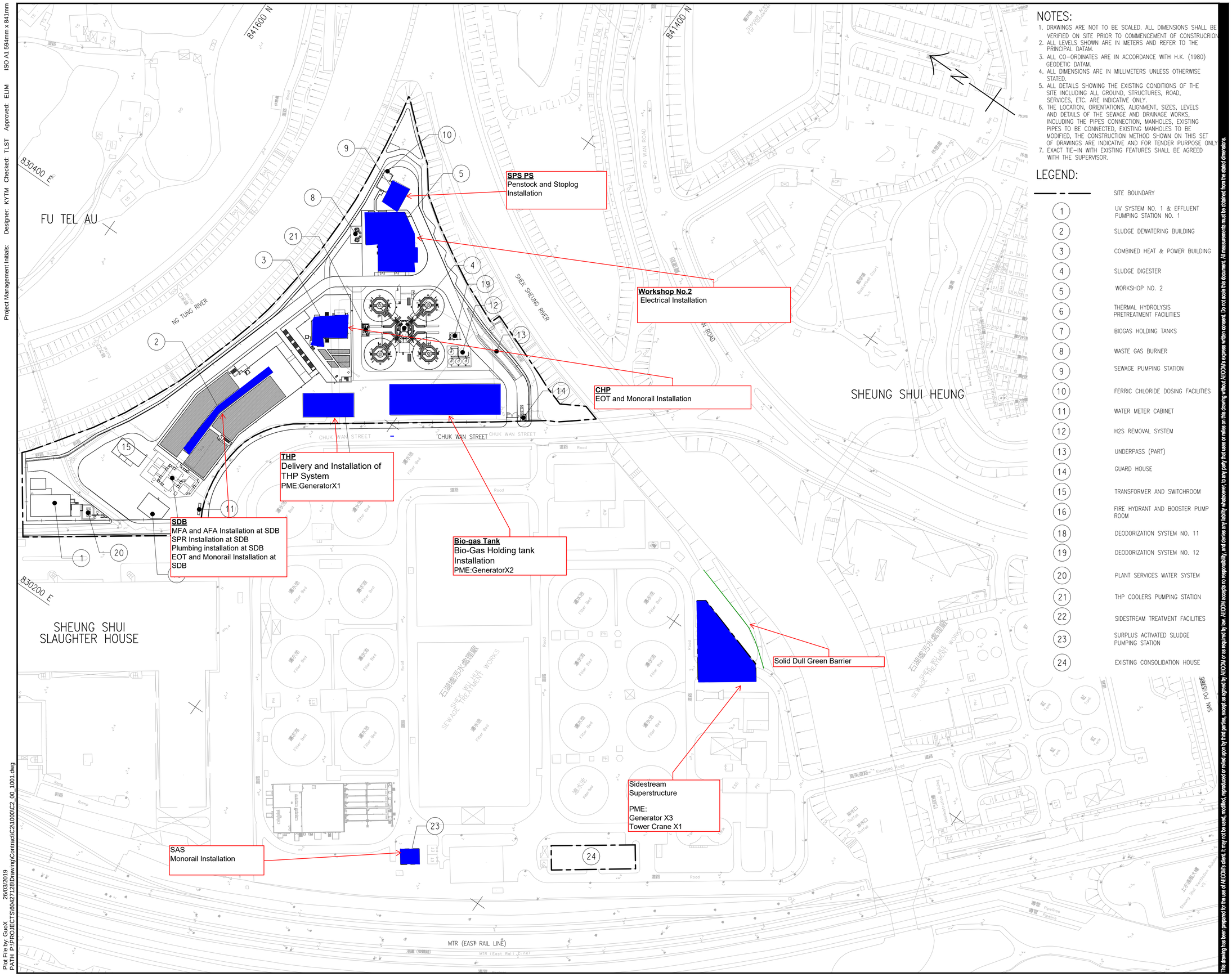

Ferric Chloride Dosing Facilities
- RC works
- No PMEs used
Waste Gas Burner
- RC Works
- No PMEs used
Workshop No. 2
- ABWF works
- No PMEs used
CHP
- RC works & ABWF
- PME: 2 scissor lift platforms
Dull green barrier
SD & THP
- ABWF works
- No PMEs used
H2S Removal System & DO System
- RC works
- No PMEs used
SDB
- ABWF works
- PME: 2 scissor lift platforms,
Section 4
- Pipe work
- PME: 1 excavator
Transformer and Switchroom
- ESL
- PME: 1 excavator
Fire Hydrant and Booster Pump Room
- RC works
- No PMEs used
DO System
- Excavation & RC works
- PMEs: 2 excavators
Pipe Trench No. 1
- Pipe work
- No PMEs sued
Utility Corridor
- Pipe jacking
- PME: 1 excavator
FU TEL AU
830400 E
NG TUNG RIVER
CHUK WAN STREET
CHUK WAN STREET
CHUK WAN STREET
10
9
8
21
3
19
12
13
14
7
15
11
B
B

Portion A


SHEK WU HUI SEWAGE TREATMENT WORKS
石湖墟污水處理廠
Tank
Tank
Tank
Tank
Tank
Tank
Tank
Tank
Tank
Road
Road
Administration Building
PH
ET
TS
SAN PO STREET
SAN PO STREET
新圍街
17
Pipelines
Sheung Shui Ventilation Building
San Wan Road
- Pipe works
- No PMEs used
UT LINE A–A

Portion B


CHUK WAN STREET
CHUK WAN STREET
GENERAL NOTES:
NOTES:
LEGEND:
Area C – Pipe laying
PMEs: 1 excavator
Green hoarding
Area D – Pipe laying
PMEs: 1 excavator
BR2 – RC works
No PME used
MFB – RC works
PMEs: 1 generator,
2 excavators, 1 tower crane
PST – RC works
PMEs: 1 mobile crane
SAS - ABWF works / Pipe laying
PMEs: 2 excavators
Inlet – RC works
PMEs: 2 mobile cranes,
1 excavator



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
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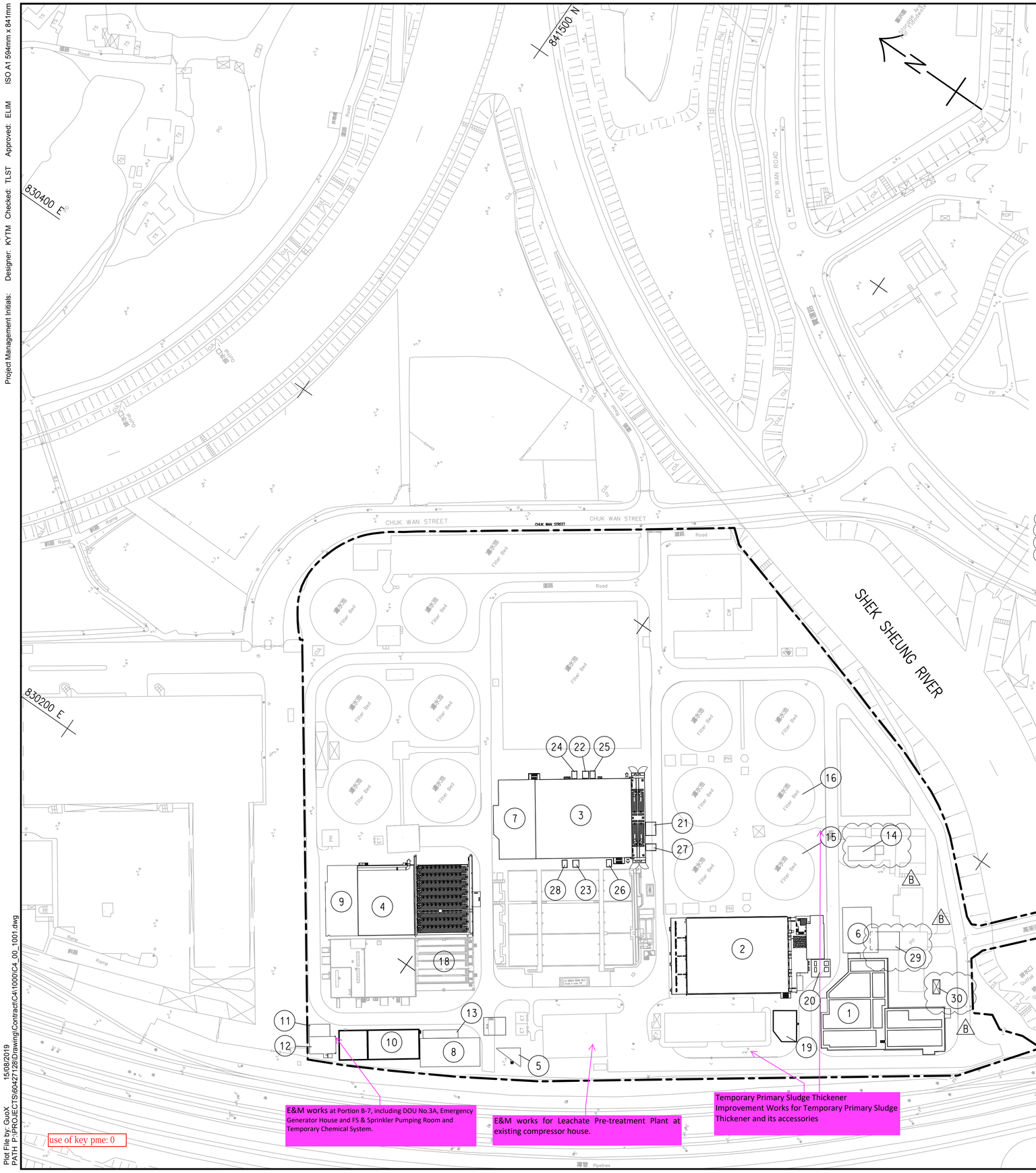

10	CHEMICAL SYSTEM NO. 1
11	EMERGENCY GENERATOR HOUSE
12	FS AND SPRINKLER PUMPING ROOM
13	CHEMICAL SYSTEM NO. 2
14	TEMPORARY FILTRATE LIFTING WELL AND EQUALISATION TANK
15	EXISTING PRIMARY SEDIMENTATION TANK NO.4
16	EXISTING PRIMARY SEDIMENTATION TANK NO.6
17	EXISTING SLUDGE PRESS HOUSE
18	EXISTING MBR FACILITIES BUILDING NO.1
19	STREET FIRE HYDRANT PUMP ROOM (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
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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

TISCH Environmental

RECALIBRATION DUE DATE:
March 31, 2024

Certificate of Calibration

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

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

Data Tabulation

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

Calculations

Vstd=	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
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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**	:	7-Mar-23
Equipment no.	:	2036	**Calbration Due Date**	:	7-May-23

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition					
Temperature, T_a	295	Kelvin	**Pressure, P_a**	1017	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	1.0	1.0	2.0	0.6914	36	36.2486
2	1.5	1.5	3.0	0.8460	42	42.2900
3	2.3	2.3	4.6	1.0467	50	50.3453
4	3.1	3.1	6.2	1.2146	54	54.3729
5	4.0	4.0	8.0	1.3793	60	60.4143

By Linear Regression of Y on X

Slope, m	=	34.6587	Intercept, b	=	12.8419
Correlation Coefficient*	=	0.9970			
Calibration Accepted	=	Yes/~~No~~**			

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

** Delete as appropriate.

Remarks : Serial No.:2036

Calibrated by	:	William Cheung	**Checked by**	:	Derek Lo
Date	:	7-Mar-23	**Date**	:	7-Mar-23

Lam Environmental Services Limited

Calibration Data for High Volume Sampler (TSP Sampler)

Location	:	AM2a	**Calbration Date**	:	7-Mar-23
Equipment no.	:	774	**Calbration Due Date**	:	7-May-23

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition					
Temperature, T_a	295	Kelvin	**Pressure, P_a**	1017	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)**			**Q_{std}** (m^3 / min.)	**Continuous Flow Recorder, W**	**IC** ($W(P_a/1013.3 \times 298/T_a)^{1/2}/35.31$)
	(up)	(down)	(difference)	**X-axis**	(CFM)	**Y-axis**
1	1.0	1.0	2.0	0.6914	10	10.0691
2	1.7	1.7	3.4	0.9004	20	20.1381
3	2.7	2.7	5.4	1.1338	30	30.2072
4	3.3	3.3	6.6	1.2531	34	34.2348
5	4.3	4.3	8.6	1.4299	40	40.2762

By Linear Regression of Y on X

Slope, m	=	41.0046	Intercept, b	=	-17.3701
Correlation Coefficient*	=	0.9970			
Calibration Accepted	=	Yes/~~No~~**			

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

** Delete as appropriate.

Remarks : Serial No.:774

Calibrated by	:	William Cheung	**Checked by**	:	Derek Lo
Date	:	7-Mar-23	**Date**	:	7-Mar-23

Lam Environmental Services Limited

Calibration Data for High Volume Sampler (TSP Sampler)

Location	:	AM1a*	**Calbration Date**	:	8-May-23
Equipment no.	:	2036	**Calbration Due Date**	:	8-Jul-23

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition					
Temperature, T_a	296	Kelvin	**Pressure, P_a**	1011	mmHg

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

Calibration of TSP						
Calibration Point	**Manometer Reading H (inches of water)**			**Q_{std}** (m^3 / min.) **X-axis**	**Continuous Flow Recorder, W** (CFM)	**IC** ($W(P_a/1013.3 \times 298/T_a)^{1/2}/35.31$) **Y-axis**
	(up)	(down)	(difference)			
1	1.5	1.5	3.0	0.8419	28	28.0625
2	2.4	2.4	4.8	1.0641	34	34.0759
3	3.8	3.8	7.6	1.3380	43	43.0960
4	5.1	5.1	10.2	1.5495	50	50.1117
5	6.5	6.5	13.0	1.7489	56	56.1251

By Linear Regression of Y on X

Slope, m	=	31.3910	Intercept, b	=	1.2198
Correlation Coefficient*	=	0.9995			
Calibration Accepted	=	Yes/~~No~~**			

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

** Delete as appropriate.

Remarks : Serial No.:2036

Calibrated by	:	William Cheung	**Checked by**	:	Derek Lo
Date	:	8-May-23	**Date**	:	8-May-23

Lam Environmental Services Limited

Calibration Data for High Volume Sampler (TSP Sampler)

Location	:	AM2a	**Calbration Date**	:	8-May-23
Equipment no.	:	774	**Calbration Due Date**	:	8-Jul-23

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition					
Temperature, T_a	296	Kelvin	**Pressure, P_a**	1011	mmHg

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

Calibration of TSP						
Calibration Point	**Manometer Reading H (inches of water)**			**Q_{std}** (m^3 / min.)	**Continuous Flow Recorder, W**	**IC** ($W(P_a/1013.3 \times 298/T_a)^{1/2}/35.31$)
	(up)	(down)	(difference)	**X-axis**	(CFM)	**Y-axis**
1	1.8	1.8	3.6	0.9220	28	28.0625
2	2.1	2.1	4.2	0.9956	33	33.0737
3	3.4	3.4	6.8	1.2658	41	41.0916
4	4.2	4.2	8.4	1.4065	46	46.1027
5	5.3	5.3	10.6	1.5795	51	51.1139

By Linear Regression of Y on X

Slope, m	=	33.8519	Intercept, b	=	-1.8800
Correlation Coefficient*	=	0.9949			
Calibration Accepted	=	Yes/~~No~~**			

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

** Delete as appropriate.

Remarks : Serial No.:774

Calibrated by	:	William Cheung	**Checked by**	:	Derek Lo
Date	:	8-May-23	**Date**	:	8-May-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.

Hong Kong Calibration Ltd.
香港校正有限公司

Calibration Certificate

Certificate No. **211036**

Customer : Lam Environmental Services Limited

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

Order No. : Q24331 **Date of receipt :** 24-Nov-22

Item Tested

Description : Aerosol Mass Monitor

Manufacturer : Met One **I.D.** : --

Model : Aerocet 831 **Serial No.** : Y23153

Test Conditions

Date of Test : 13-Dec-22 **Supply Voltage :** --

Ambient Temperature : (23 ± 3)°C **Relative Humidity :** (50 ± 25) %

Test Specifications

Calibration check.

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

Test Results

All results were within the tolerance(s).

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

Main Test equipment used:

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

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

The test equipment used for calibration are traceable to International System of Units (SI), or by reference to a natural constant.
The test results apply to the above Unit-Under-Test only

Calibrated by : Kin Wong

Approved by : Steve Kwan

Date: 13-Dec-22

This Certificate is issued by:
Hong Kong Calibration Ltd.
Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street,Kwai Chung, NT,Hong Kong.
Tel: 2425 8801 Fax: 2425 8646

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O

Hong Kong Calibration Ltd.
香港校正有限公司

Calibration Certificate

Results :

1. General

Internal Filters : checked and found clean.

2. Flow Meter

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

3. Timer

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

4. Dust Particle (PM_{10})

Applied Value ($\mu g/m^3$)	UUT Reading ($\mu g/m^3$) K Factor : 1.26	Tolerance	Uncertainty
350	364	± 20 %	± 10 %

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

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

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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

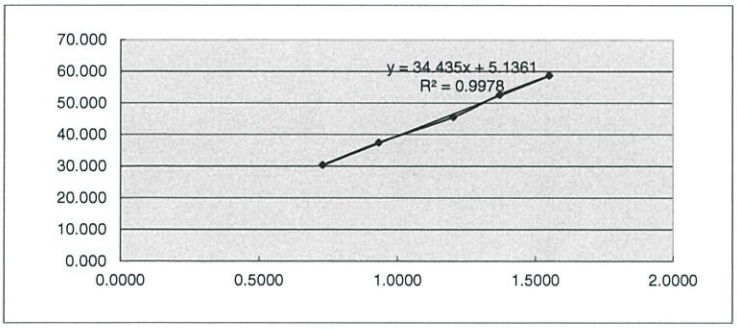
Calibration Point	**Manometer Reading H (inches of water)** (up)	(down)	(difference)	**Q_{std}** (m^3 / min.) **X-axis**	**Continuous Flow Recorder, W** (CFM)	**IC** $(W(P_a/1013.3 \times 298/T_a)^{1/2}/35.31)$ **Y-axis**
1	1.1	1.1	2.2	0.7290	30	30.3769
2	1.8	1.8	3.6	0.9316	37	37.4648
3	3.0	3.0	6.0	1.2016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

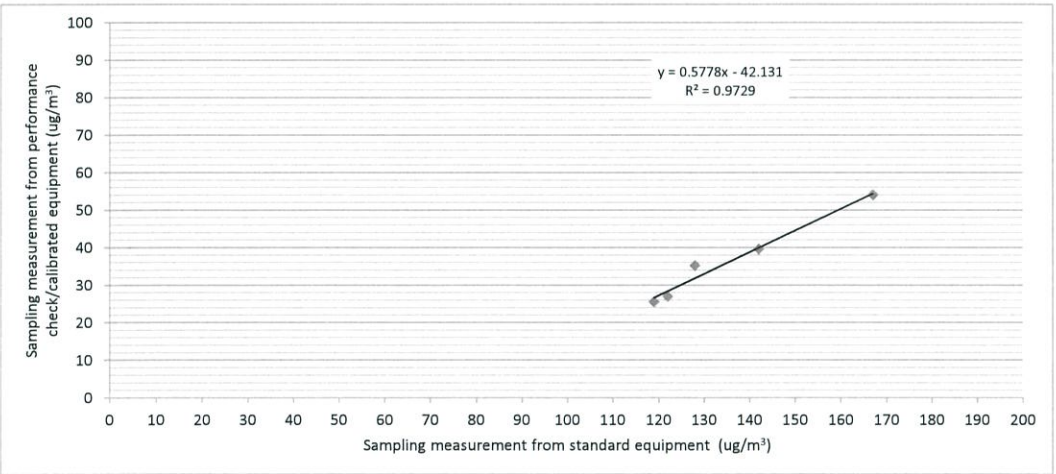
Equipment	Portable Dust Meter	Standard Equipment (High Volume Sampler)
Manufacturer	MET ONE INSTRUMENTS	TISCH
Model Number	BT-645	TE-5170
Serial Number	C15622	2493
Date	3/2/2023	3/2/2023
Location	GCE laboratory - G/FL; No.20, Pak Kung Street, Hung Hom,Kowloon.	

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

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

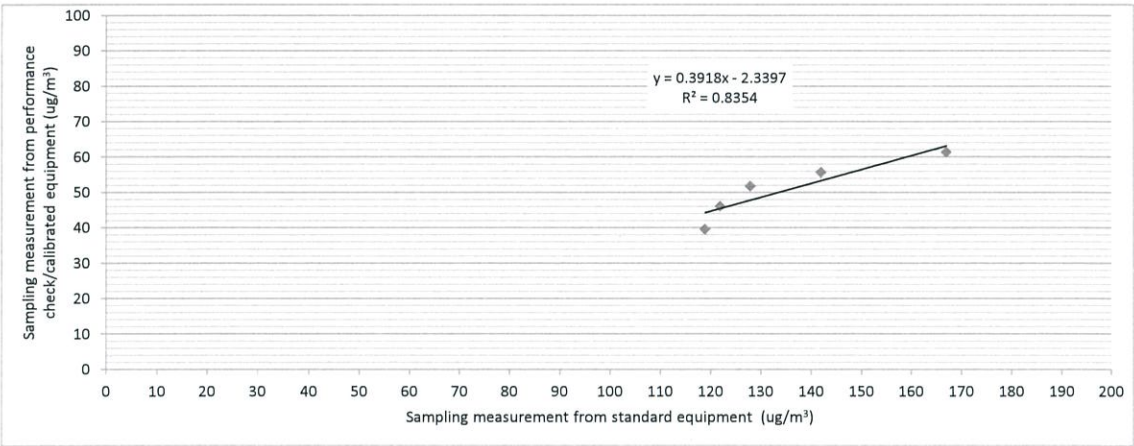
Equipment	Portable Dust Meter	Standard Equipment (High Volume Sampler)
Manufacturer	MET ONE INSTRUMENTS	TISCH
Model Number	AEROCET831	TE-5170
Serial Number	Y23153	2493
Date	3/2/2023	3/2/2023
Location	GCE laboratory-G/FL;No.20 Pak Kung Street., Hung Hom, Kowloon	

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

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Tel: (852) 2873 6860 Fax: (852) 2555 7533 E-mail: smec@cigismec.com Website: www.cigismec.com

ilac-MRA HKAS HOKLAS 028 CAL

CERTIFICATE OF CALIBRATION

Certificate No.: 23CA0308 01 **Page** 1 **of** 2

Item tested

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

Item submitted by

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

Date of test: 09-Mar-2023

Reference equipment used in the calibration

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

Ambient conditions

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

Test specifications

1, The Sound Level Meter has been calibrated in accordance with the requirements as specified in BS 7580: Part 1: 1997 and the lab calibration procedure SMTP004-CA-152.
2, The electrical tests were performed using an electrical signal substituted for the microphone which was removed and replaced by an equivalent capacitance within a tolerance of ±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:** 13-Mar-2023 **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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CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.: 23CA0308 01 **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 **Checked by:** Chan Yuk Yiu

Date: 09-Mar-2023 **Date:** 13-Mar-2023

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

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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	09-Mar-2023
Microphone type:	MC230A	Serial No.	A16673		
				Report:	23CA0308 01

SELF GENERATED NOISE TEST

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

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

LINEARITY TEST

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

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

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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 09-Mar-2023
Microphone type: MC230A Serial No. A16673
Report: 23CA0308 01

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

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

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

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

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

FREQUENCY WEIGHTING TEST

The frequency response of the weighting 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	95.2	1.0	1.0	0.0
3981.0	94.0	95.0	95.0	1.0	1.0	0.0
7943.0	94.0	92.9	92.9	1.5	3.0	0.0
12590.0	94.0	89.7	89.5	3.0	6.0	-0.2

Frequency weighting C:

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

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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 09-Mar-2023
Microphone type: MC230A Serial No. A16673
Report: 23CA0308 01

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

Frequency weighting Lin:

Frequency	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	94.0	1.0	1.0	0.0
7943.0	94.0	94.0	94.0	1.5	3.0	0.0
12590.0	94.0	94.0	93.9	3.0	6.0	-0.1

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

TIME WEIGHTING FAST TEST

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

Ref. level	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 09-Mar-2023
Microphone type: MC230A Serial No. A16673
Report: 23CA0308 01

PEAK RESPONSE TEST

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

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

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

Negative polarities:

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

RMS ACCURACY TEST

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

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

	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 09-Mar-2023
Microphone type: MC230A Serial No. A16673
Report: 23CA0308 01

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

PULSE RANGE AND SOUND EXPOSURE LEVEL TEST

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

Test frequency: 4000 Hz

Integration time: 10 sec

The integrating sound level meter set to Leq:

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

The integrating sound level meter set to SEL:

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

OVERLOAD INDICATION TEST

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

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

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

For integrating SLM, with the instrument indicating Leq.

For integrating SLM, with the instrument indicating Leq and set to the reference range. The test signal as following:
The test tone burst signal is superimposed on a baseline signal corresponding to the lower limit of reference range

Test frequency: 4000 Hz
Integration time: 10 sec
Single burst duration: 1 msec

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

ACOUSTIC TEST

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

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

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SMECLab

Test Data for Sound Level Meter

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

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

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

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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

ilac-MRA HKAS HOKLAS 028 CAL

CERTIFICATE OF CALIBRATION

Certificate No.: 22CA1101 02-01 **Page** 1 **of** 2

Item tested

Description:	Sound Level Meter (Type 1)	Microphone	Preamp
Manufacturer:	Larson Davis	PCB	PCB
Type/Model No.:	LxT1	377B02	PRMLxT1L
Serial/Equipment No.:	0004797	340739	042622
Adaptors used:	-	-	-

Item submitted by

Customer Name:	Lam Environmental Services Limited.
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:
Multi function sound calibrator	B&K 4226	2288444	23-Aug-2023	CIGISMEC
Signal generator	DS 360	33873	21-Jan-2023	CEPREI

Ambient conditions

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

Test specifications

1, The Sound Level Meter has been calibrated in accordance with the requirements as specified in BS 7580: Part 1: 1997 and the lab calibration procedure SMTP004-CA-152.

2, The electrical tests were performed using an electrical signal substituted for the microphone which was removed and replaced by an equivalent capacitance within a tolerance of ±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:** 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 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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CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.: 22CA1101 02-01 **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 Uncertainty (dB)	Coverage Factor
Self-generated noise	A	Pass	0.3	
	C	Pass	0.8	2.1
	Lin	Pass	1.6	2.2
Linearity range for Leq	At reference range , Step 5 dB at 4 kHz	Pass	0.3	
	Reference SPL on all other ranges	Pass	0.3	
	2 dB below upper limit of each range	Pass	0.3	
	2 dB above lower limit of each range	Pass	0.3	
Linearity range for SPL	At reference range , Step 5 dB at 4 kHz	Pass	0.3	
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:** 04-Nov-2022

Checked by: Chan Yuk Yiu **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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SMECLab

Sound level meter type:	LxT1	Serial No.	0004797	Date	04-Nov-2022
Microphone type:	377B02	Serial No.	340739		
Preamp type:	PRMLxT1L	Serial No.	042622	Report:	22CA1101 02-01

SELF GENERATED NOISE TEST

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

Noise level in A weighting	8.7	dB
Noise level in C weighting	12.1	dB
Noise level in Lin	20.4	dB

LINEARITY TEST

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

Reference/Expected level	Actual level		Tolerance	Deviation	
	non-integrated	integrated		non-integrated	integrated
dB	dB	dB	+/- dB	dB	dB
94.0	94.0	94.0	0.7	0.0	0.0
99.0	99.0	99.0	0.7	0.0	0.0
104.0	104.0	104.0	0.7	0.0	0.0
109.0	109.0	109.0	0.7	0.0	0.0
114.0	114.0	114.0	0.7	0.0	0.0
115.0	115.0	115.0	0.7	0.0	0.0
116.0	116.0	116.0	0.7	0.0	0.0
117.0	117.0	117.0	0.7	0.0	0.0
118.0	118.0	118.0	0.7	0.0	0.0
119.0	119.0	119.0	0.7	0.0	0.0
120.0	120.0	120.0	0.7	0.0	0.0
89.0	89.0	89.0	0.7	0.0	0.0
84.0	84.0	84.0	0.7	0.0	0.0
79.0	79.0	79.0	0.7	0.0	0.0
74.0	74.0	74.0	0.7	0.0	0.0
69.0	69.0	69.0	0.7	0.0	0.0
64.0	64.0	64.0	0.7	0.0	0.0
59.0	59.0	59.0	0.7	0.0	0.0
54.0	54.0	54.0	0.7	0.0	0.0
49.0	49.0	49.0	0.7	0.0	0.0
44.0	44.0	44.0	0.7	0.0	0.0
39.0	38.9	38.9	0.7	-0.1	-0.1
34.0	34.0	34.0	0.7	0.0	0.0
33.0	33.0	33.0	0.7	0.0	0.0

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SMECLab

Sound level meter type:	LxT1	Serial No.	0004797	Date	04-Nov-2022
Microphone type:	377B02	Serial No.	340739		
Preamp type:	PRMLxT1L	Serial No.	042622	Report:	22CA1101 02-01

32.0	32.0	32.0	0.7	0.0	0.0
31.0	30.9	30.9	0.7	-0.1	-0.1
30.0	30.0	30.0	0.7	0.0	0.0

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

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

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

Ranges	Reference/Expected level	Actual level	Tolerance	Deviation
dB	dB	dB	+/- dB	dB
20-120	30.0	30.0	0.7	0.0
	118.0	118.0	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	54.6	1.5	1.5	0.0
63.1	94.0	67.8	67.8	1.5	1.5	0.0
125.9	94.0	77.9	77.9	1.0	1.0	0.0
251.2	94.0	85.4	85.4	1.0	1.0	0.0
501.2	94.0	90.8	90.7	1.0	1.0	-0.1
1995.0	94.0	95.2	95.2	1.0	1.0	0.0
3981.0	94.0	95.0	95.0	1.0	1.0	0.0
7943.0	94.0	92.9	92.9	1.5	3.0	0.0
12590.0	94.0	89.7	89.7	3.0	6.0	0.0

Frequency weighting C:

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	91.0	91.0	1.5	1.5	0.0
63.1	94.0	93.2	93.1	1.5	1.5	-0.1
125.9	94.0	93.8	93.8	1.0	1.0	0.0
251.2	94.0	94.0	94.0	1.0	1.0	0.0
501.2	94.0	94.0	94.0	1.0	1.0	0.0

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SMECLab

Sound level meter type: LxT1 Serial No. 0004797 Date 04-Nov-2022
Microphone type: 377B02 Serial No. 340739
Preamp type: PRMLxT1L Serial No. 042622 Report: 22CA1101 02-01

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

Frequency weighting Lin:

Frequency	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	93.9	1.5	1.5	-0.1
63.1	94.0	94.0	94.0	1.5	1.5	0.0
125.9	94.0	94.0	94.0	1.0	1.0	0.0
251.2	94.0	94.0	94.0	1.0	1.0	0.0
501.2	94.0	94.0	94.0	1.0	1.0	0.0
1995.0	94.0	94.0	94.0	1.0	1.0	0.0
3981.0	94.0	94.0	94.0	1.0	1.0	0.0
7943.0	94.0	94.0	94.0	1.5	3.0	0.0
12590.0	94.0	94.0	94.0	3.0	6.0	0.0

TIME WEIGHTING FAST TEST

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

Ref. level	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	111.8	1.0	1.0	-0.1

PEAK RESPONSE TEST

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

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

Ref. level	Response to 10 ms	Response to 100 us	Tolerance	Deviation
dB	dB	dB	+/- dB	dB
119.0	119.0	118.5	2.0	-0.5

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SMECLab

Sound level meter type:	LxT1	Serial No.	0004797	Date	04-Nov-2022
Microphone type:	377B02	Serial No.	340739		
Preamp type:	PRMLxT1L	Serial No.	042622	Report:	22CA1101 02-01

Negative polarities:

Ref. level	Response to 10 ms	Response to 100 us	Tolerance	Deviation
dB	dB	dB	+/- dB	dB
119.0	119.0	118.5	2.0	-0.5

RMS ACCURACY TEST

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

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

Time wighting	Ref. Level	Expected level	Tone burst signal	Tolerance	Deviation
	dB	dB	indication(dB)	+/- dB	dB
Slow	114.0+6.6	114.0	113.9	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
msec	dB	dB	dB	+/- dB	dB	
1000	90.0	90.0	89.9	1.0	-0.1	60s integ.
10000	80.0	80.0	79.9	1.0	-0.1	6min. integ.

PULSE RANGE AND SOUND EXPOSURE LEVEL TEST

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

Test frequency: 4000 Hz
Integration time: 10 sec

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SMECLab

Sound level meter type:	LxT1	Serial No.	0004797	Date	04-Nov-2022
Microphone type:	377B02	Serial No.	340739		
Preamp type:	PRMLxT1L	Serial No.	042622	Report:	22CA1101 02-01

The integrating sound level meter set to Leq:

Duration	Rms level of	Expected	Actual	Tolerance	Deviation
msec	tone burst (dB)	dB	dB	+/- dB	dB
10	90.0	60.0	60.0	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	90.0	70.0	70.0	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
113.2	112.2	109.2	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
119.9	118.9	78.9	78.9	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
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	93.9	1.5	3.0	1.0

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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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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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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.

Lam Environmental Services Limited

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 : 22-Mar-2023

Performance Check Results

Wind Speed Range (m/s)	Reading Value (V1, m/s)	Anemometer Value (V2, m/s)	Difference (V1 - V2, m/s)
Zero Check	0.0	0.0	0.0
1 - 2	1.5	1.8	-0.3
3 - 4	4.1	4.0	0.1
5 - 6	5.8	5.1	0.7
7 - 8	7.4	7.3	0.2

Wind Direction (^{o})	Reading Value (W1, ^{o})	Compass Value (W2, ^{o})	Difference (W1 - W2, ^{o})
0	0	0	0
90	89	90	-1
180	181	180	1
270	270	270	0

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

ALS Technichem (HK) Pty Ltd
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www.alsglobal.com

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	DEREK LO	**WORK ORDER:**	HK2303761
CLIENT:	LAM ENVIRONMENTAL SERVICES LTD		
ADDRESS:	19/F, REMEX CENTRE, 42 WONG CHUK HANG ROAD, HONG KONG	**SUB-BATCH:**	0
		LABORATORY:	HONG KONG
		DATE RECEIVED:	31-Jan-2023
		DATE OF ISSUE:	09-Feb-2023

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]/ [Professional Plus]
Serial No./ Equipment No.:	[19H100656/14E101065]/ [N/A]
Date of Calibration:	08-February-2023

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: HK2303761

SUB-BATCH: 0
DATE OF ISSUE: 09-Feb-2023
CLIENT: LAM ENVIRONMENTAL SERVICES LTD

Equipment Type: Multifunctional Meter
Brand Name/ Model No.: [YSI]/ [Professional Plus]
Serial No./ Equipment No.: [19H100656/14E101065]/ [N/A]
Date of Calibration: 08-February-2023 Date of Next Calibration: 08-May-2023

PARAMETERS:

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

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
2.79	2.61	-0.18
5.24	5.34	+0.10
7.60	7.65	+0.05
	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	3.91	-0.09
7.0	7.02	+0.02
10.0	9.90	-0.10
	Tolerance Limit (pH unit)	±0.20

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

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.01	--
10	9.58	-4.2
20	19.84	-0.8
30	29.16	-2.8
	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: HK2303761

SUB-BATCH: 0
DATE OF ISSUE: 09-Feb-2023
CLIENT: LAM ENVIRONMENTAL SERVICES LTD

Equipment Type: Multifunctional Meter
Brand Name/ Model No.: [YSI]/ [Professional Plus]
Serial No./ Equipment No.: [19H100656/14E101065]/ [N/A]
Date of Calibration: 08-February-2023 Date of Next Calibration: 08-May-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)
11.5	10.9	-0.6
22.0	21.2	-0.8
38.0	37.3	-0.7
	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

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	DEREK LO	**WORK ORDER:**	HK2312013
CLIENT:	LAM ENVIRONMENTAL SERVICES LTD		
ADDRESS:	19/F, REMEX CENTRE, 42 WONG CHUK HANG ROAD, HONG KONG	**SUB-BATCH:**	0
		LABORATORY:	HONG KONG
		DATE RECEIVED:	29-Mar-2023
		DATE OF ISSUE:	03-Apr-2023

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]/ [Professional Plus]
Serial No./ Equipment No.:	[14E100105/17G100383]/ [N/A]
Date of Calibration:	31-March-2023

GENERAL COMMENTS

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

Mr Chan Siu Ming, Vico
Manager - Inorganics

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER: HK2312013

SUB-BATCH: 0
DATE OF ISSUE: 03-Apr-2023
CLIENT: LAM ENVIRONMENTAL SERVICES LTD

Equipment Type: Multifunctional Meter
Brand Name/ Model No.: [YSI]/ [Professional Plus]
Serial No./ Equipment No.: [14E100105/17G100383]/ [N/A]
Date of Calibration: 31-March-2023 Date of Next Calibration: 30-June-2023

PARAMETERS:

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

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
2.58	2.41	-0.17
5.26	5.10	-0.16
7.27	7.20	-0.07
	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	3.93	-0.07
7.0	7.03	+0.03
10.0	9.97	-0.03
	Tolerance Limit (pH unit)	±0.20

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

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.00	--
10	9.86	-1.4
20	19.62	-1.9
30	29.37	-2.1
	Tolerance Limit (%)	±10.0

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

Mr Chan Siu Ming, Vico
Manager - Inorganics

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER: HK2312013

SUB-BATCH: 0
DATE OF ISSUE: 03-Apr-2023
CLIENT: LAM ENVIRONMENTAL SERVICES LTD

Equipment Type: Multifunctional Meter
Brand Name/ Model No.: [YSI]/ [Professional Plus]
Serial No./ Equipment No.: [14E100105/17G100383]/ [N/A]
Date of Calibration: 31-March-2023 Date of Next Calibration: 30-June-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)
10.0	9.6	-0.4
23.0	22.7	-0.3
43.0	42.7	-0.3
	Tolerance Limit (°C)	±2.0

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

Mr Chan Siu Ming, Vico
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-C03D3701**
CLIENT:	**LAM ENVIRONMENTAL SERVICES LTD.**		
DATE RECEIVED:	**03/03/2023**		
DATE OF ISSUE:	**13/03/2023**		
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.:	1807073
Equipment No.:	---
Date of Calibration:	10/03/2023

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: _____ Issue Date: 13/03/2023
WONG Chi Wai Sanio
Senior Chemist

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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-C03D3701
DATE OF ISSUE: 13/03/2023
CLIENT: LAM ENVIRONMENTAL SERVICES LTD.

Equipment Type:	Turbidimeter
Brand Name:	Xin Rui
Model No.:	WGZ-3B
Serial No.:	1807073
Equipment No.:	---
Date of Calibration:	10/03/2023
Date of next Calibation:	10/06/2023
Lab I.D.:	H230010-01

Parameters:
Turbidity

Method Ref: APHA 22nd ed. 2130B

Expected Reading (NTU)	Display Reading (NTU)	Tolerance
0	0.00	---
4	4.00	0.0%
10	9.98	-0.2%
40	40.00	0.0%
100	98.86	-1.1%
400	400	0.0%
1000	994	-0.6%
	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-May-23	00:00	1.1	102(ESE)
	01:00	1.3	225(SW)
	02:00	1.7	178(S)
	03:00	0.9	56(NE)
	04:00	0.0	268(W)
	05:00	1.1	105(ESE)
	06:00	0.7	32(NNE)
	07:00	0.9	158(SSE)
	08:00	0.9	277(W)
	09:00	0.5	159(SSE)
	10:00	0.7	217(SW)
	11:00	0.0	335(NNW)
	12:00	0.5	287(WNW)
	13:00	0.0	340(NNW)
	14:00	0.0	167(SSE)
	15:00	0.0	328(NNW)
	16:00	0.9	273(W)
	17:00	0.0	159(SSE)
	18:00	0.0	239(WSW)
	19:00	0.0	220(SW)
	20:00	1.1	211(SSW)
	21:00	2.9	144(SE)
	22:00	0.0	177(S)
	23:00	0.0	16(NNE)
2-May-23	00:00	0.5	193(SSW)
	01:00	0.7	229(SW)
	02:00	2.5	46(NE)
	03:00	1.1	174(S)
	04:00	1.7	165(SSE)
	05:00	0.0	163(SSE)
	06:00	2.1	120(ESE)
	07:00	0.0	349(N)
	08:00	0.0	303(WNW)
	09:00	0.0	74(ENE)
	10:00	0.0	151(SSE)
	11:00	0.7	166(SSE)
	12:00	0.0	316(NW)
	13:00	1.9	64(ENE)
	14:00	0.0	288(WNW)
	15:00	0.9	133(SE)
	16:00	1.3	153(SSE)
	17:00	0.7	81(E)
	18:00	1.1	136(SE)
	19:00	0.0	172(S)
	20:00	0.0	232(SW)
	21:00	0.0	159(SSE)
	22:00	0.0	127(SE)
	23:00	0.0	202(SSW)

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
3-May-23	00:00	0.0	170(S)
	01:00	0.0	178(S)
	02:00	0.0	171(S)
	03:00	0.0	178(S)
	04:00	0.0	141(SE)
	05:00	0.7	73(ENE)
	06:00	0.9	111(ESE)
	07:00	1.3	99(E)
	08:00	1.7	122(ESE)
	09:00	1.3	145(SE)
	10:00	1.1	280(W)
	11:00	0.7	121(ESE)
	12:00	1.1	171(S)
	13:00	0.0	0(N)
	14:00	1.3	166(SSE)
	15:00	0.0	89(E)
	16:00	0.9	261(W)
	17:00	1.1	62(ENE)
	18:00	0.0	125(SE)
	19:00	0.0	191(S)
	20:00	0.5	280(W)
	21:00	0.0	145(SE)
	22:00	0.0	286(WNW)
	23:00	0.0	80(E)
4-May-23	00:00	0.0	128(SE)
	01:00	0.0	84(E)
	02:00	0.5	274(W)
	03:00	0.7	205(SSW)
	04:00	0.5	217(SW)
	05:00	0.0	234(SW)
	06:00	0.0	165(SSE)
	07:00	0.5	36(NE)
	08:00	0.7	129(SE)
	09:00	0.7	176(S)
	10:00	1.1	196(SSW)
	11:00	0.0	151(SSE)
	12:00	0.9	328(NNW)
	13:00	2.1	340(NNW)
	14:00	1.3	158(SSE)
	15:00	1.5	139(SE)
	16:00	1.9	53(NE)
	17:00	1.1	54(NE)
	18:00	0.9	23(NNE)
	19:00	0.0	203(SSW)
	20:00	0.0	134(SE)
	21:00	0.0	112(ESE)
	22:00	0.0	224(SW)
	23:00	0.0	136(SE)

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
5-May-23	00:00	0.9	138(SE)
	01:00	0.0	124(SE)
	02:00	0.0	105(ESE)
	03:00	0.0	166(SSE)
	04:00	0.0	108(ESE)
	05:00	0.0	21(NNE)
	06:00	0.0	236(SW)
	07:00	0.0	64(ENE)
	08:00	0.0	221(SW)
	09:00	0.0	63(ENE)
	10:00	0.0	188(S)
	11:00	0.7	135(SE)
	12:00	1.5	166(SSE)
	13:00	1.3	251(WSW)
	14:00	1.7	210(SSW)
	15:00	1.5	160(SSE)
	16:00	1.5	263(W)
	17:00	1.7	37(NE)
	18:00	1.7	70(ENE)
	19:00	0.7	148(SSE)
	20:00	1.3	27(NNE)
	21:00	0.0	36(NE)
	22:00	0.0	131(SE)
	23:00	0.7	91(E)
6-May-23	00:00	0.0	192(SSW)
	01:00	0.5	60(ENE)
	02:00	0.5	153(SSE)
	03:00	0.7	142(SE)
	04:00	1.3	86(E)
	05:00	0.5	164(SSE)
	06:00	0.0	347(NNW)
	07:00	0.0	287(WNW)
	08:00	1.3	35(NE)
	09:00	1.1	146(SE)
	10:00	1.7	226(SW)
	11:00	1.3	114(ESE)
	12:00	1.7	161(SSE)
	13:00	2.1	84(E)
	14:00	2.7	194(SSW)
	15:00	1.1	230(SW)
	16:00	1.9	141(SE)
	17:00	2.1	142(SE)
	18:00	0.7	314(NW)
	19:00	0.5	65(ENE)
	20:00	0.0	142(SE)
	21:00	0.5	71(ENE)
	22:00	0.0	64(ENE)
	23:00	0.0	70(ENE)

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
7-May-23	00:00	0.0	125(SE)
	01:00	0.0	260(W)
	02:00	0.0	151(SSE)
	03:00	0.0	194(SSW)
	04:00	0.0	54(NE)
	05:00	0.0	125(SE)
	06:00	0.0	286(WNW)
	07:00	0.0	150(SSE)
	08:00	0.0	176(S)
	09:00	0.0	248(WSW)
	10:00	0.0	153(SSE)
	11:00	1.5	170(S)
	12:00	0.9	33(NNE)
	13:00	0.0	256(WSW)
	14:00	0.0	304(NW)
	15:00	0.9	269(W)
	16:00	0.0	147(SSE)
	17:00	0.0	56(NE)
	18:00	0.0	170(S)
	19:00	0.0	148(SSE)
	20:00	0.0	181(S)
	21:00	0.0	108(ESE)
	22:00	0.0	279(W)
	23:00	0.0	122(ESE)
8-May-23	00:00	0.0	163(SSE)
	01:00	0.0	324(NW)
	02:00	0.0	343(NNW)
	03:00	0.0	352(N)
	04:00	0.0	339(NNW)
	05:00	0.0	203(SSW)
	06:00	0.0	133(SE)
	07:00	0.0	217(SW)
	08:00	0.5	302(WNW)
	09:00	0.0	187(S)
	10:00	0.0	115(ESE)
	11:00	0.0	295(WNW)
	12:00	1.3	190(S)
	13:00	0.0	349(N)
	14:00	0.0	161(SSE)
	15:00	1.7	85(E)
	16:00	1.1	108(ESE)
	17:00	0.0	229(SW)
	18:00	0.0	280(W)
	19:00	0.0	120(ESE)
	20:00	0.0	269(W)
	21:00	1.3	154(SSE)
	22:00	0.0	291(WNW)
	23:00	0.0	250(WSW)

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
9-May-23	00:00	0.9	233(SW)
	01:00	0.0	180(S)
	02:00	0.0	216(SW)
	03:00	0.0	31(NNE)
	04:00	0.0	164(SSE)
	05:00	0.5	165(SSE)
	06:00	0.0	271(W)
	07:00	2.1	46(NE)
	08:00	0.7	111(ESE)
	09:00	1.1	299(WNW)
	10:00	0.7	94(E)
	11:00	1.3	184(S)
	12:00	0.5	27(NNE)
	13:00	0.0	108(ESE)
	14:00	1.7	47(NE)
	15:00	1.1	215(SW)
	16:00	0.0	131(SE)
	17:00	0.9	169(S)
	18:00	0.0	280(W)
	19:00	1.7	135(SE)
	20:00	0.7	168(SSE)
	21:00	0.9	138(SE)
	22:00	1.7	134(SE)
	23:00	0.7	208(SSW)
10-May-23	00:00	1.9	105(ESE)
	01:00	1.3	106(ESE)
	02:00	0.0	288(WNW)
	03:00	1.1	60(ENE)
	04:00	1.5	179(S)
	05:00	1.5	229(SW)
	06:00	0.9	243(WSW)
	07:00	2.7	138(SE)
	08:00	0.9	8(N)
	09:00	1.1	153(SSE)
	10:00	1.1	76(ENE)
	11:00	0.7	83(E)
	12:00	0.0	126(SE)
	13:00	0.7	109(ESE)
	14:00	2.1	213(SSW)
	15:00	0.0	136(SE)
	16:00	1.1	325(NW)
	17:00	0.0	243(WSW)
	18:00	0.5	189(S)
	19:00	1.5	279(W)
	20:00	0.0	180(S)
	21:00	0.9	99(E)
	22:00	0.0	145(SE)
	23:00	1.1	308(NW)

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
11-May-23	00:00	1.7	119(ESE)
	01:00	0.0	192(SSW)
	02:00	0.0	217(SW)
	03:00	0.7	11(N)
	04:00	1.3	83(E)
	05:00	0.5	335(NNW)
	06:00	1.5	121(ESE)
	07:00	0.9	130(SE)
	08:00	0.0	141(SE)
	09:00	0.9	215(SW)
	10:00	1.1	182(S)
	11:00	0.0	128(SE)
	12:00	1.1	249(WSW)
	13:00	0.0	291(WNW)
	14:00	0.5	221(SW)
	15:00	0.0	231(SW)
	16:00	0.0	196(SSW)
	17:00	0.0	60(ENE)
	18:00	0.0	194(SSW)
	19:00	0.0	338(NNW)
	20:00	0.0	347(NNW)
	21:00	0.0	239(WSW)
	22:00	0.0	334(NNW)
	23:00	0.0	123(ESE)
12-May-23	00:00	0.0	107(ESE)
	01:00	0.0	147(SSE)
	02:00	0.0	219(SW)
	03:00	1.9	98(E)
	04:00	0.0	187(S)
	05:00	0.0	276(W)
	06:00	0.0	90(E)
	07:00	0.7	247(WSW)
	08:00	1.1	143(SE)
	09:00	0.0	115(ESE)
	10:00	0.0	44(NE)
	11:00	1.1	346(NNW)
	12:00	1.7	180(S)
	13:00	2.3	66(ENE)
	14:00	1.5	79(E)
	15:00	3.1	67(ENE)
	16:00	2.3	85(E)
	17:00	1.5	62(ENE)
	18:00	2.9	97(E)
	19:00	0.0	114(ESE)
	20:00	0.0	168(SSE)
	21:00	0.0	231(SW)
	22:00	0.0	51(NE)
	23:00	0.0	163(SSE)

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
13-May-23	00:00	0.0	122(ESE)
	01:00	0.0	260(W)
	02:00	0.0	257(WSW)
	03:00	0.0	125(SE)
	04:00	0.0	233(SW)
	05:00	0.0	169(S)
	06:00	0.0	145(SE)
	07:00	0.0	225(SW)
	08:00	0.0	107(ESE)
	09:00	1.9	50(NE)
	10:00	0.0	193(SSW)
	11:00	1.1	19(NNE)
	12:00	1.1	84(E)
	13:00	0.0	239(WSW)
	14:00	0.0	97(E)
	15:00	0.0	103(ESE)
	16:00	0.7	66(ENE)
	17:00	0.0	121(ESE)
	18:00	0.9	143(SE)
	19:00	0.0	86(E)
	20:00	0.0	282(WNW)
	21:00	0.0	202(SSW)
	22:00	0.0	171(S)
	23:00	0.0	180(S)
14-May-23	00:00	0.0	237(WSW)
	01:00	0.0	286(WNW)
	02:00	0.5	259(W)
	03:00	0.7	318(NW)
	04:00	0.0	310(NW)
	05:00	1.1	266(W)
	06:00	0.0	283(WNW)
	07:00	0.0	116(ESE)
	08:00	0.0	177(S)
	09:00	1.1	144(SE)
	10:00	0.7	114(ESE)
	11:00	0.0	263(W)
	12:00	0.0	245(WSW)
	13:00	0.9	94(E)
	14:00	1.1	137(SE)
	15:00	1.5	156(SSE)
	16:00	1.1	90(E)
	17:00	0.9	216(SW)
	18:00	0.7	210(SSW)
	19:00	0.0	223(SW)
	20:00	0.9	107(ESE)
	21:00	1.9	90(E)
	22:00	0.7	167(SSE)
	23:00	0.9	92(E)

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
15-May-23	00:00	0.0	231(SW)
	01:00	1.1	102(ESE)
	02:00	0.9	149(SSE)
	03:00	0.9	138(SE)
	04:00	0.0	153(SSE)
	05:00	0.5	203(SSW)
	06:00	0.7	150(SSE)
	07:00	0.5	129(SE)
	08:00	0.9	79(E)
	09:00	0.9	28(NNE)
	10:00	0.9	152(SSE)
	11:00	1.3	159(SSE)
	12:00	0.5	263(W)
	13:00	1.1	18(NNE)
	14:00	1.5	253(WSW)
	15:00	0.5	305(NW)
	16:00	1.7	275(W)
	17:00	0.9	173(S)
	18:00	0.7	229(SW)
	19:00	0.5	240(WSW)
	20:00	1.1	175(S)
	21:00	0.5	186(S)
	22:00	0.7	220(SW)
	23:00	1.3	99(E)
16-May-23	00:00	0.0	222(SW)
	01:00	1.1	145(SE)
	02:00	0.0	303(WNW)
	03:00	0.9	285(WNW)
	04:00	0.0	276(W)
	05:00	0.0	272(W)
	06:00	0.7	83(E)
	07:00	1.3	172(S)
	08:00	2.3	116(ESE)
	09:00	0.9	266(W)
	10:00	2.3	143(SE)
	11:00	2.9	135(SE)
	12:00	3.5	183(S)
	13:00	0.9	290(WNW)
	14:00	3.3	196(SSW)
	15:00	4.1	108(ESE)
	16:00	3.5	230(SW)
	17:00	1.5	167(SSE)
	18:00	2.3	139(SE)
	19:00	1.1	161(SSE)
	20:00	1.3	34(NE)
	21:00	1.7	125(SE)
	22:00	2.1	107(ESE)
	23:00	0.9	129(SE)

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
17-May-23	00:00	0.5	213(SSW)
	01:00	0.7	122(ESE)
	02:00	1.3	116(ESE)
	03:00	2.5	102(ESE)
	04:00	0.7	274(W)
	05:00	1.5	207(SSW)
	06:00	0.9	113(ESE)
	07:00	0.0	293(WNW)
	08:00	1.1	281(W)
	09:00	1.7	224(SW)
	10:00	4.5	285(WNW)
	11:00	1.5	172(S)
	12:00	4.5	285(WNW)
	13:00	1.5	172(S)
	14:00	1.3	276(W)
	15:00	1.1	296(WNW)
	16:00	2.7	230(SW)
	17:00	2.5	244(WSW)
	18:00	1.9	293(WNW)
	19:00	1.5	290(WNW)
	20:00	1.1	244(WSW)
	21:00	1.1	255(WSW)
	22:00	0.9	278(W)
	23:00	1.1	106(ESE)
18-May-23	00:00	1.1	114(ESE)
	01:00	1.1	98(E)
	02:00	0.0	272(W)
	03:00	1.1	78(ENE)
	04:00	0.5	279(W)
	05:00	0.9	98(E)
	06:00	0.0	176(S)
	07:00	0.9	215(SW)
	08:00	1.7	123(ESE)
	09:00	1.1	280(W)
	10:00	1.1	56(NE)
	11:00	1.9	334(NNW)
	12:00	3.1	283(WNW)
	13:00	2.5	268(W)
	14:00	2.1	279(W)
	15:00	1.9	278(W)
	16:00	1.5	270(W)
	17:00	1.5	306(NW)
	18:00	1.5	273(W)
	19:00	1.1	285(WNW)
	20:00	0.9	294(WNW)
	21:00	0.5	175(S)
	22:00	0.0	181(S)
	23:00	0.0	273(W)

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
19-May-23	00:00	0.0	293(WNW)
	01:00	0.7	93(E)
	02:00	0.9	83(E)
	03:00	0.0	279(W)
	04:00	1.1	80(E)
	05:00	0.0	292(WNW)
	06:00	0.7	164(SSE)
	07:00	1.5	106(ESE)
	08:00	1.7	153(SSE)
	09:00	1.1	127(SE)
	10:00	0.9	175(S)
	11:00	2.1	126(SE)
	12:00	4.1	293(WNW)
	13:00	2.9	119(ESE)
	14:00	2.1	290(WNW)
	15:00	1.1	306(NW)
	16:00	2.9	273(W)
	17:00	1.9	221(SW)
	18:00	1.7	269(W)
	19:00	0.0	267(W)
	20:00	0.7	42(NE)
	21:00	0.9	61(ENE)
	22:00	1.7	113(ESE)
	23:00	0.9	97(E)

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
20-May-23	00:00	1.5	85(E)
	01:00	0.5	99(E)
	02:00	0.7	81(E)
	03:00	0.7	105(ESE)
	04:00	0.5	307(NW)
	05:00	0.5	211(SSW)
	06:00	0.5	274(W)
	07:00	0.9	24(NNE)
	08:00	1.5	117(ESE)
	09:00	0.9	300(WNW)
	10:00	2.3	123(ESE)
	11:00	1.1	24(NNE)
	12:00	1.7	183(S)
	13:00	2.9	220(SW)
	14:00	1.9	313(NW)
	15:00	3.5	215(SW)
	16:00	2.9	275(W)
	17:00	2.1	285(WNW)
	18:00	1.9	298(WNW)
	19:00	1.3	216(SW)
	20:00	0.9	281(W)
	21:00	0.7	30(NNE)
	22:00	0.7	98(E)
	23:00	0.0	210(SSW)
21-May-23	00:00	1.1	320(NW)
	01:00	0.7	217(SW)
	02:00	0.9	263(W)
	03:00	0.5	281(W)
	04:00	0.9	275(W)
	05:00	0.0	298(WNW)
	06:00	0.0	94(E)
	07:00	1.9	287(WNW)
	08:00	1.7	238(WSW)
	09:00	3.1	278(W)
	10:00	2.3	221(SW)
	11:00	1.9	60(ENE)
	12:00	1.3	133(SE)
	13:00	3.7	240(WSW)
	14:00	3.5	277(W)
	15:00	3.1	283(WNW)
	16:00	1.7	240(WSW)
	17:00	3.1	276(W)
	18:00	1.7	282(WNW)
	19:00	1.9	300(WNW)
	20:00	1.3	285(WNW)
	21:00	1.1	256(WSW)
	22:00	1.9	289(WNW)
	23:00	2.3	298(WNW)

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
22-May-23	00:00	0.0	280(W)
	01:00	2.7	160(SSE)
	02:00	1.5	251(WSW)
	03:00	1.1	264(W)
	04:00	0.0	263(W)
	05:00	0.0	228(SW)
	06:00	0.0	88(E)
	07:00	1.1	130(SE)
	08:00	1.7	284(WNW)
	09:00	0.7	331(NNW)
	10:00	2.7	277(W)
	11:00	2.5	302(WNW)
	12:00	2.7	284(WNW)
	13:00	1.9	216(SW)
	14:00	1.1	314(NW)
	15:00	2.3	285(WNW)
	16:00	3.5	307(NW)
	17:00	1.5	224(SW)
	18:00	1.5	268(W)
	19:00	0.9	283(WNW)
	20:00	2.5	278(W)
	21:00	1.3	303(WNW)
	22:00	0.7	297(WNW)
	23:00	0.7	324(NW)
23-May-23	00:00	0.0	291(WNW)
	01:00	1.1	267(W)
	02:00	1.1	269(W)
	03:00	0.7	205(SSW)
	04:00	0.5	276(W)
	05:00	2.1	48(NE)
	06:00	2.9	157(SSE)
	07:00	0.7	102(ESE)
	08:00	0.7	298(WNW)
	09:00	3.1	133(SE)
	10:00	0.7	125(SE)
	11:00	1.1	15(NNE)
	12:00	0.5	276(W)
	13:00	1.7	115(ESE)
	14:00	3.1	82(E)
	15:00	1.3	134(SE)
	16:00	1.7	112(ESE)
	17:00	1.1	135(SE)
	18:00	2.1	66(ENE)
	19:00	2.3	88(E)
	20:00	3.7	100(E)
	21:00	4.5	104(ESE)
	22:00	3.3	111(ESE)
	23:00	4.3	133(SE)

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
24-May-23	00:00	2.5	102(ESE)
	01:00	4.1	144(SE)
	02:00	2.5	137(SE)
	03:00	4.1	108(ESE)
	04:00	1.7	156(SSE)
	05:00	2.3	194(SSW)
	06:00	3.3	98(E)
	07:00	2.7	150(SSE)
	08:00	2.7	114(ESE)
	09:00	1.7	159(SSE)
	10:00	1.1	114(ESE)
	11:00	3.1	165(SSE)
	12:00	2.1	168(SSE)
	13:00	1.3	225(SW)
	14:00	3.9	109(ESE)
	15:00	2.9	123(ESE)
	16:00	1.9	209(SSW)
	17:00	0.9	150(SSE)
	18:00	2.1	88(E)
	19:00	0.9	93(E)
	20:00	0.7	269(W)
	21:00	1.1	144(SE)
	22:00	2.7	123(ESE)
	23:00	2.7	110(ESE)
25-May-23	00:00	1.9	111(ESE)
	01:00	0.9	68(ENE)
	02:00	2.1	79(E)
	03:00	1.7	114(ESE)
	04:00	3.9	103(ESE)
	05:00	1.7	79(E)
	06:00	1.1	134(SE)
	07:00	3.3	98(E)
	08:00	2.7	112(ESE)
	09:00	4.9	141(SE)
	10:00	2.5	75(ENE)
	11:00	0.9	129(SE)
	12:00	2.3	176(S)
	13:00	2.1	179(S)
	14:00	2.3	173(S)
	15:00	1.5	134(SE)
	16:00	2.7	87(E)
	17:00	0.9	145(SE)
	18:00	3.7	151(SSE)
	19:00	1.1	157(SSE)
	20:00	0.0	314(NW)
	21:00	4.9	118(ESE)
	22:00	1.1	40(NE)
	23:00	2.9	100(E)

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
26-May-23	00:00	1.9	53(NE)
	01:00	2.7	124(SE)
	02:00	0.7	234(SW)
	03:00	0.7	337(NNW)
	04:00	2.1	121(ESE)
	05:00	1.7	71(ENE)
	06:00	0.7	239(WSW)
	07:00	1.1	47(NE)
	08:00	1.5	26(NNE)
	09:00	1.5	184(S)
	10:00	1.7	89(E)
	11:00	2.9	188(S)
	12:00	3.7	176(S)
	13:00	1.7	252(WSW)
	14:00	3.1	190(S)
	15:00	2.3	261(W)
	16:00	3.3	67(ENE)
	17:00	4.5	93(E)
	18:00	5.3	134(SE)
	19:00	2.7	135(SE)
	20:00	2.5	61(ENE)
	21:00	2.5	24(NNE)
	22:00	1.7	194(SSW)
	23:00	0.9	322(NW)
27-May-23	00:00	1.5	57(ENE)
	01:00	1.5	86(E)
	02:00	1.5	56(NE)
	03:00	1.1	31(NNE)
	04:00	1.7	118(ESE)
	05:00	1.1	84(E)
	06:00	0.7	81(E)
	07:00	0.0	161(SSE)
	08:00	0.7	95(E)
	09:00	1.5	74(ENE)
	10:00	1.3	174(S)
	11:00	2.5	95(E)
	12:00	1.1	286(WNW)
	13:00	3.1	111(ESE)
	14:00	1.9	113(ESE)
	15:00	6.3	203(SSW)
	16:00	3.5	72(ENE)
	17:00	1.7	177(S)
	18:00	3.9	70(ENE)
	19:00	1.9	73(ENE)
	20:00	1.9	76(ENE)
	21:00	1.9	94(E)
	22:00	1.9	62(ENE)
	23:00	1.7	143(SE)

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
28-May-23	00:00	1.1	33(NNE)
	01:00	2.9	102(ESE)
	02:00	1.7	76(ENE)
	03:00	0.9	58(ENE)
	04:00	1.1	87(E)
	05:00	1.7	138(SE)
	06:00	1.9	88(E)
	07:00	0.0	152(SSE)
	08:00	1.5	122(ESE)
	09:00	3.5	130(SE)
	10:00	1.9	231(SW)
	11:00	2.9	107(ESE)
	12:00	1.9	220(SW)
	13:00	1.7	132(SE)
	14:00	1.5	124(SE)
	15:00	1.3	60(ENE)
	16:00	0.7	226(SW)
	17:00	1.3	90(E)
	18:00	1.7	130(SE)
	19:00	1.3	47(NE)
	20:00	2.1	114(ESE)
	21:00	1.5	63(ENE)
	22:00	0.9	89(E)
	23:00	2.1	88(E)
29-May-23	00:00	1.1	76(ENE)
	01:00	1.1	62(ENE)
	02:00	1.1	62(ENE)
	03:00	1.9	93(E)
	04:00	0.9	37(NE)
	05:00	1.3	79(E)
	06:00	1.1	54(NE)
	07:00	0.0	282(WNW)
	08:00	0.9	296(WNW)
	09:00	1.1	137(SE)
	10:00	0.7	312(NW)
	11:00	0.5	310(NW)
	12:00	1.9	280(W)
	13:00	1.5	303(WNW)
	14:00	3.5	291(WNW)
	15:00	3.5	283(WNW)
	16:00	2.3	296(WNW)
	17:00	2.7	290(WNW)
	18:00	2.7	292(WNW)
	19:00	1.9	298(WNW)
	20:00	1.5	251(WSW)
	21:00	0.9	244(WSW)
	22:00	0.9	276(W)
	23:00	0.9	308(NW)

Wind Speed and Wind Direction

Date	Time	Wind Speed (m/s)	Wind Direction (degree)
30-May-23	00:00	0.0	281(W)
	01:00	0.0	280(W)
	02:00	0.0	288(WNW)
	03:00	0.7	274(W)
	04:00	0.5	122(ESE)
	05:00	0.0	254(WSW)
	06:00	0.0	254(WSW)
	07:00	0.7	291(WNW)
	08:00	1.3	295(WNW)
	09:00	2.5	253(WSW)
	10:00	0.9	94(E)
	11:00	0.7	244(WSW)
	12:00	2.5	291(WNW)
	13:00	0.7	218(SW)
	14:00	1.3	285(WNW)
	15:00	2.5	276(W)
	16:00	1.3	316(NW)
	17:00	1.9	226(SW)
	18:00	1.1	290(WNW)
	19:00	1.3	272(W)
	20:00	1.1	275(W)
	21:00	0.9	284(WNW)
	22:00	0.0	288(WNW)
	23:00	0.0	274(W)
31-May-23	00:00	0.7	300(WNW)
	01:00	0.5	270(W)
	02:00	0.0	204(SSW)
	03:00	0.5	277(W)
	04:00	0.0	270(W)
	05:00	0.0	268(W)
	06:00	0.0	278(W)
	07:00	1.7	165(SSE)
	08:00	2.3	136(SE)
	09:00	2.3	89(E)
	10:00	2.3	110(ESE)
	11:00	0.0	80(E)
	12:00	1.1	226(SW)
	13:00	2.5	68(ENE)
	14:00	2.9	292(WNW)
	15:00	1.3	275(W)
	16:00	1.9	54(NE)
	17:00	0.7	141(SE)
	18:00	1.3	33(NNE)
	19:00	1.5	100(E)
	20:00	1.5	116(ESE)
	21:00	1.1	74(ENE)
	22:00	0.0	168(SSE)
	23:00	1.3	67(ENE)

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
May 2023

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

Remarks

-Considering no outfall works were conducted on 1 May 2023, the related WQM was cancelled.

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

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

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
Jul 2023

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

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

Appendix 5.2

Noise Monitoring Results and Graphical Presentations

Noise Monitoring Result

Location: NM1 - G/F, Wai Loi Tsuen

Date	Time	Weather	Wind Speed (m/s)	Measurement Noise Level			Baseline Level	Construction Noise Level	Limit Level
				Leq	L10	L90	Leq	Leq	Leq
				Unit: dB(A), (30min)					
04/05/2023	8:45	Fine	0.0	57.2	60.5	52.4	63.4	57.2	75
10/05/2023	8:30	Fine	0.0	56.7	57.4	52.6	63.4	56.7	75
16/05/2023	8:30	Fine	0.0	56.2	58.0	52.8	63.4	56.2	75
22/05/2023	11:15	Sunny	0.0	54.9	55.9	52.0	63.4	54.9	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)					
04/05/2023	15:50	Fine	4.3	63.0	67.4	54.2	58.0	61.3	75
10/05/2023	9:25	Fine	0.0	59.5	60.8	55.2	58.0	54.2	75
16/05/2023	9:15	Fine	0.0	67.9	66.9	59.0	58.0	67.4	75
22/05/2023	14:45	Sunny	0.0	68.9	72.8	58.8	58.0	68.5	75

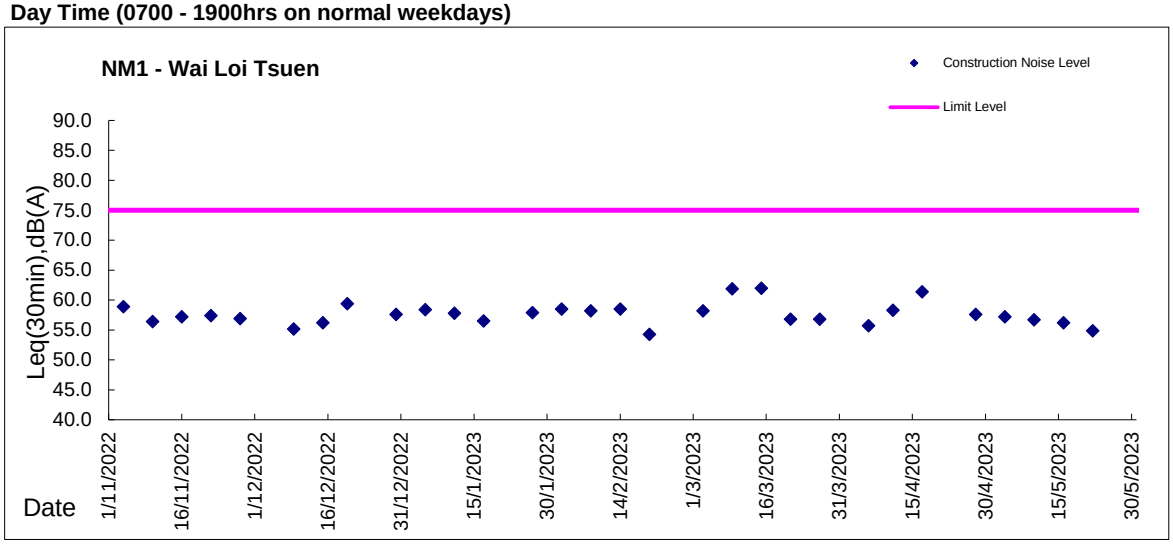
Location: NM3 - G/F, Man kok Village

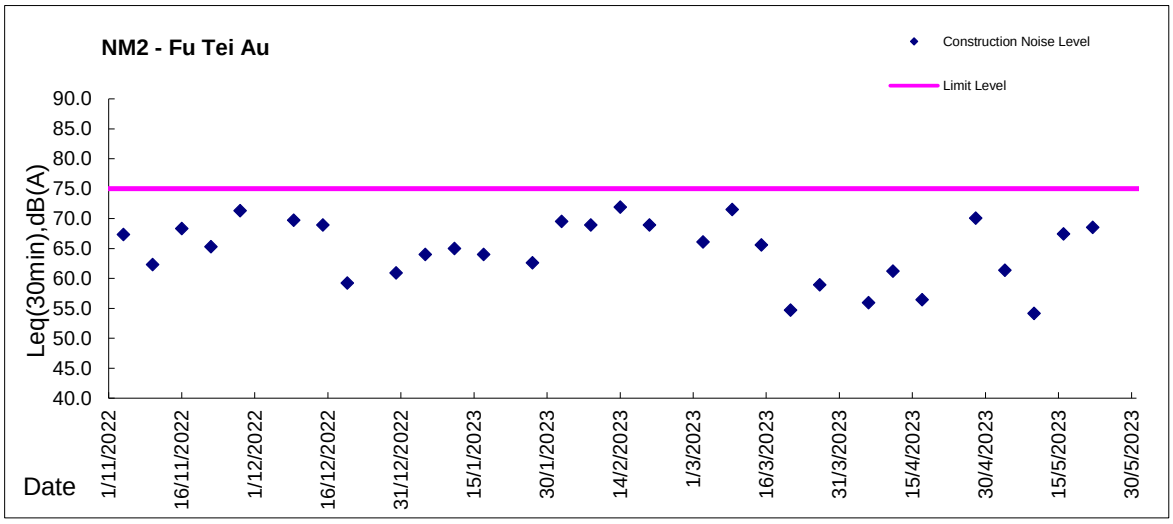
Date	Time	Weather	Wind Speed (m/s)	Measurement Noise Level			Baseline Level	Construction Noise Level	Limit Level
				Leq	L10	L90	Leq	Leq	Leq
				Unit: dB(A), (30min)					
04/05/2023	12:20	Fine	0.0	66.9	67.4	66.1	63.4	64.3	75
10/05/2023	10:45	Fine	0.0	61.4	62.8	59.3	63.4	61.4	75
16/05/2023	10:45	Fine	0.0	62.9	65.0	56.9	63.4	62.9	75
22/05/2023	14:00	Sunny	0.0	64.7	66.8	52.1	63.4	58.8	75

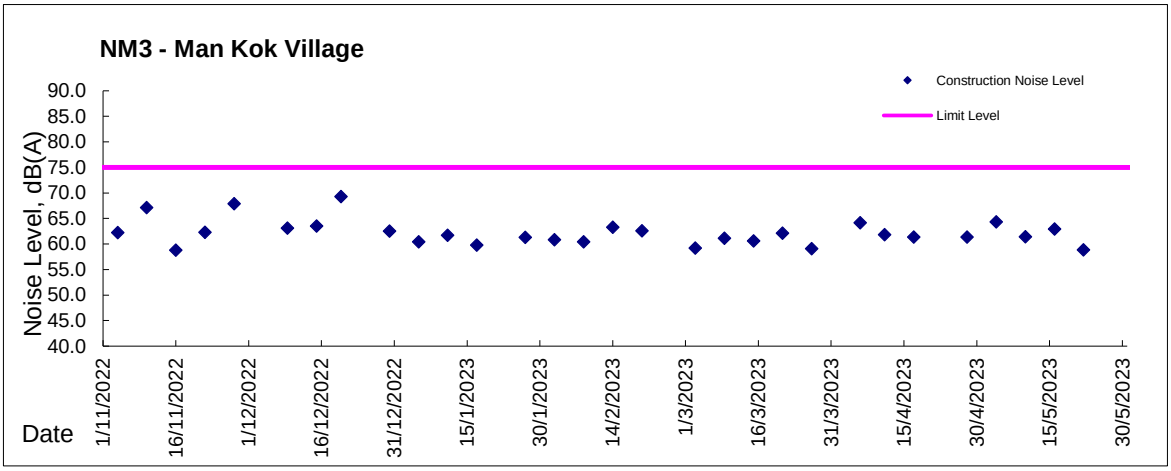
* Free field correction (Additional 3dB(A)) was made on NM1, NM2, and NM3 measurement result

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.
4-May-23	Fine	8:12	17	AEROCET 831	C15622
4-May-23	Fine	9:14	14		
4-May-23	Fine	10:15	12		
10-May-23	Cloudy	8:14	20		
10-May-23	Cloudy	9:15	17		
10-May-23	Cloudy	10:17	16		
16-May-23	Fine	8:53	17		
16-May-23	Fine	9:54	12		
16-May-23	Fine	10:55	12		
22-May-23	Fine	12:29	13		
22-May-23	Fine	13:29	14		
22-May-23	Fine	14:30	15		
27-May-23	Fine	8:54	18		
27-May-23	Fine	9:55	16		
27-May-23	Fine	10:56	14		

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

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

Date	Weather Condition	Time	Mass Concentration (µg/m3)	Model No.	Serial No.
4-May-23	Fine	8:36	16	AEROCET 831	Y23153
4-May-23	Fine	9:37	14		
4-May-23	Fine	10:38	12		
10-May-23	Cloudy	8:30	19		
10-May-23	Cloudy	9:31	16		
10-May-23	Cloudy	10:32	16		
16-May-23	Fine	9:06	16		
16-May-23	Fine	10:07	12		
16-May-23	Fine	11:08	12		
22-May-23	Fine	11:44	14		
22-May-23	Fine	12:45	17		
22-May-23	Fine	13:47	19		
27-May-23	Fine	9:06	18		
27-May-23	Fine	10:06	16		
27-May-23	Fine	11:07	14		

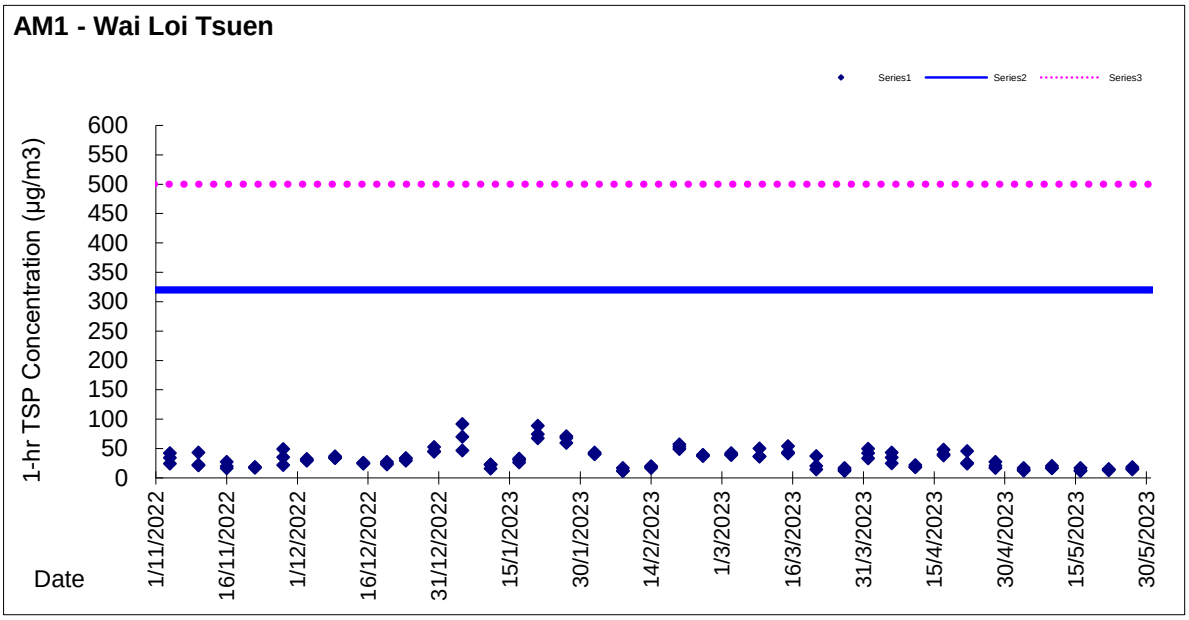
Location: AM1a* - Site boundary of the Shek Wu Hui STW (East), Roof floor of the control room of SWHSTW
Impact Monitoring Result on 24-hour TSP monitoring

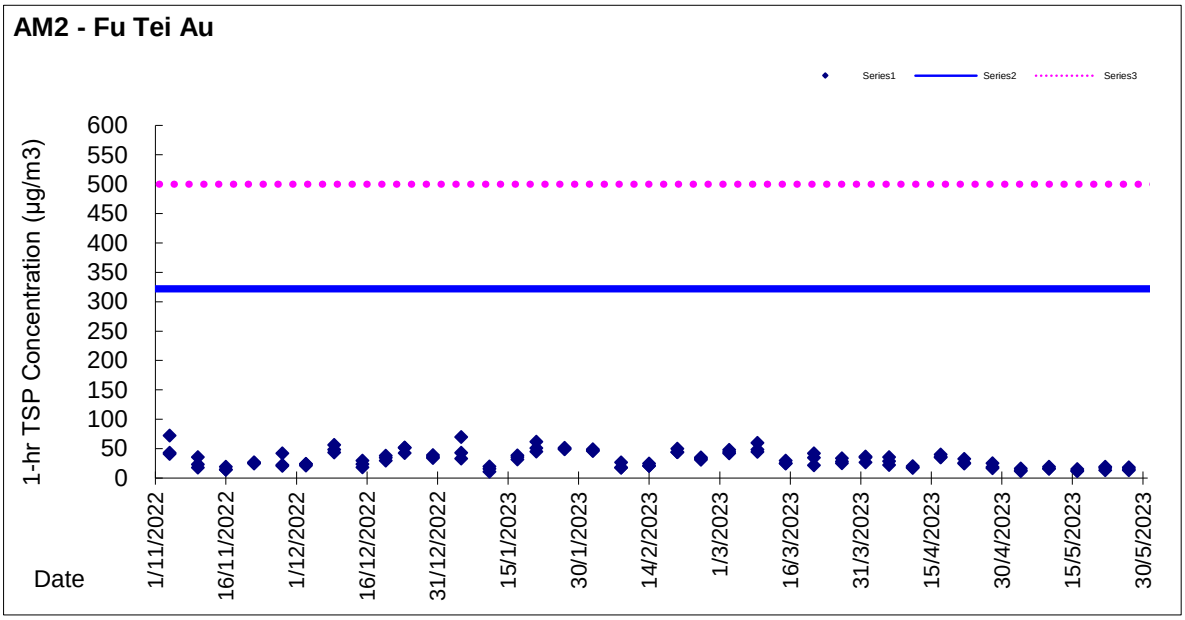
Date	Sampling Time	Weather Condition	Pressure, hPa		Temp. , °C		Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling Time, hr	Flow Rate, m^3/min			Total Volume, m^3	TSP Level, ug/m^3	Model No.	Serial No.
			Initial	Final	Initial	Final		Initial	Final	Initial	Final		Initial, Qsi	Final, Qsf	Average				
03-May-23	8:00	Cloudy	1013.4	1008.8	25.4	27.0	AM1a_24hr_011166	2.7795	2.8191	16846.12	16870.12	24.00	0.79	0.79	0.79	1141	35	G3101	2036
09-May-23	8:00	Fine	1013.2	1013.7	23.8	23.9	AM1a_24hr_011168	2.7888	2.8523	16870.12	16894.12	24.00	1.02	1.02	1.02	1463	43		
15-May-23	8:00	Fine	1010.4	1009.6	24.3	25.2	AM1a_24hr_011170	2.7834	2.8748	16894.12	16918.12	24.00	1.24	1.23	1.24	1779	51		
20-May-23	8:00	Cloudy	1016.5	1014.0	25.4	25.3	AM1a_24hr_011174	2.7774	2.8505	16918.12	16942.12	24.00	1.24	1.24	1.24	1781	41		
25-May-23	8:00	Fine	1016.7	1017.0	25.8	25.9	AM1a_24hr_011175	2.7665	2.8403	16942.12	16966.12	24.00	1.26	1.26	1.26	1813	41		
31-May-23	8:00	Sunny	1002.1	1002.8	31.4	29.2	AM1a_24hr_011183	2.7656	2.8799	16966.12	16990.12	24.00	1.24	1.23	1.24	1779	64		

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

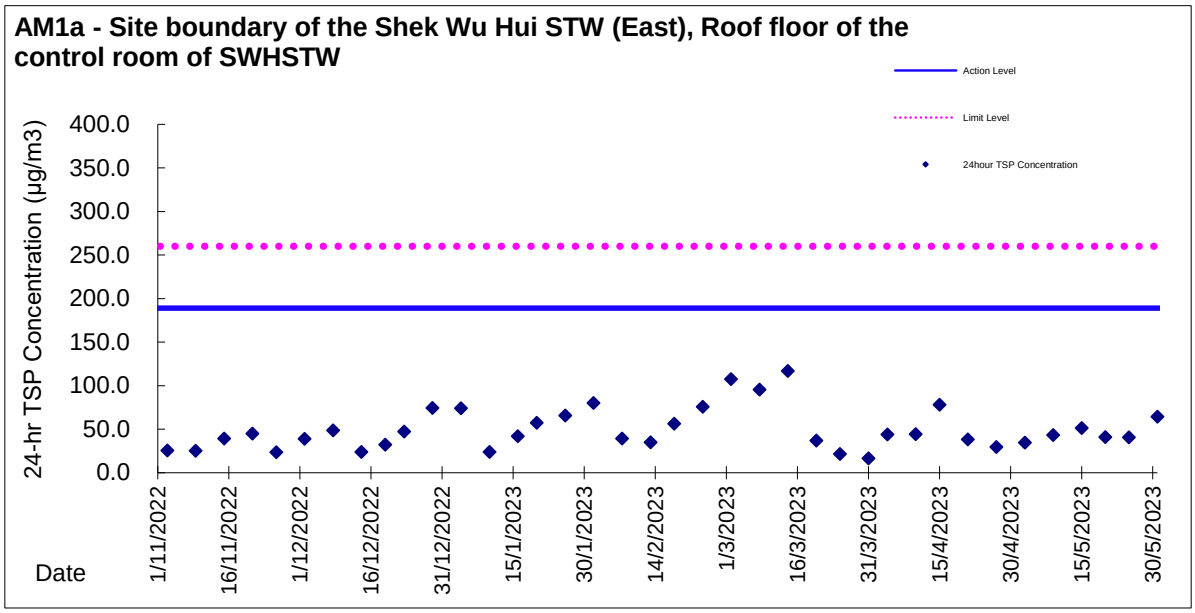
Date	Sampling Time	Weather Condition	Pressure, hPa		Temp. , °C		Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling Time, hr	Flow Rate, m^3/min			Total Volume, m^3	TSP Level, ug/m^3	Model No.	Serial No.
			Initial	Final	Initial	Final		Initial	Final	Initial	Final		Initial, Qsi	Final, Qsf	Average				
03-May-23	8:00	Cloudy	1013.4	1008.8	25.4	27.0	AM2a_24hr_011167	2.7775	2.8903	13302.53	13326.53	24.00	1.53	1.50	1.52	2185	52	G3101	774
09-May-23	8:00	Fine	1013.2	1013.7	23.8	23.9	AM2a_24hr_011169	2.7804	2.8993	13326.53	13350.53	24.00	1.53	1.53	1.53	2208	54		
15-May-23	8:00	Fine	1010.4	1009.6	24.3	25.2	AM2a_24hr_011171	2.7703	2.9511	13350.53	13374.53	24.00	1.49	1.48	1.48	2138	85		
20-May-23	8:00	Cloudy	1016.5	1014.0	25.4	25.3	AM2a_24hr_011173	2.7756	2.8890	13374.53	13398.53	24.00	1.49	1.49	1.49	2140	53		
25-May-23	8:00	Fine	1016.7	1017.0	25.8	25.9	AM2a_24hr_011176	2.7557	2.8427	13398.53	13422.53	24.00	1.49	1.49	1.49	2140	41		
31-May-23	8:00	Sunny	1002.1	1002.8	31.4	29.2	AM2a_24hr_011184	2.7614	2.9039	13422.53	13446.53	24.00	1.47	1.50	1.49	2138	67		

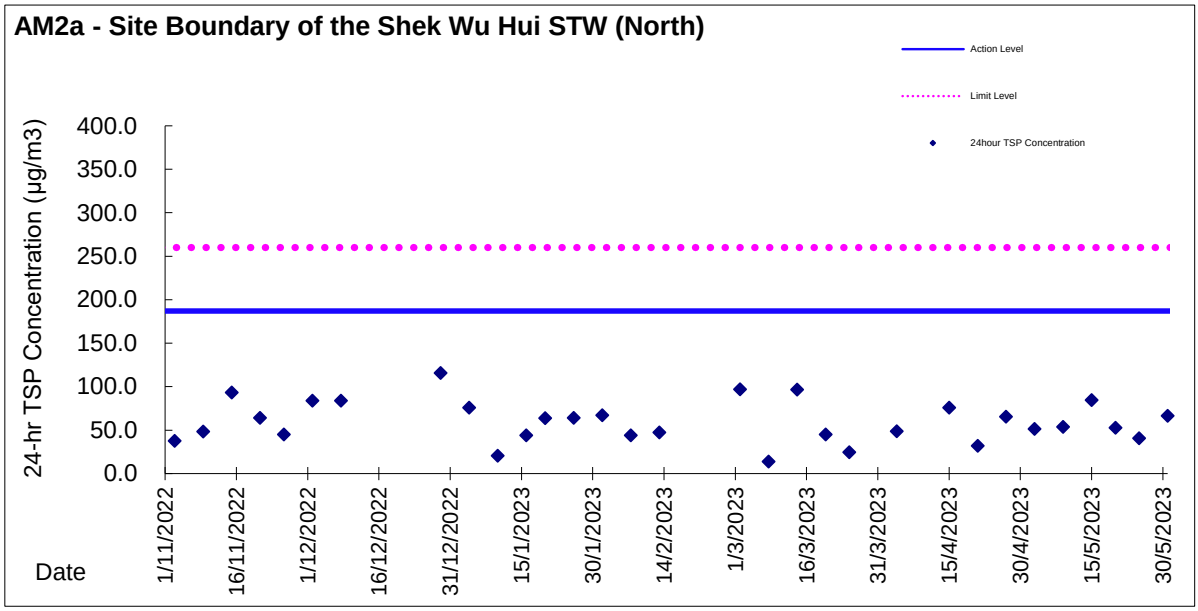
Graphic Presentation of TSP Result





Graphic Presentation of TSP Result





Appendix 5.4

Details of Ecological Monitoring Results in the Reporting Month

Summary data of the Ecological Monitoring

Scientific Names	Common Names	Chinese Names	Waterbird	Point Count Abundance	Transect Count Abundance
Ardeola bacchus	Chinese Pond Heron	池鷺	X	44	+++++
Bubulcus coromandus	Eastern Cattle Egret	牛背鷺	X	4	++
Ardea cinerea	Grey Heron	蒼鷺	X	5	+
Ardea alba	Great Egret	大白鷺	X	9	+
Egretta garzetta	Little Egret	小白鷺	X	119	+++++
Milvus migrans	Black Kite	黑鳶	X	7	+
Amaurornis phoenicurus	White-breasted Waterhen	白胸苦惡鳥	X	2	+
Himantopus himantopus	Black-winged Stilt	黑翅長腳鷸	X	0	+
Actitis hypoleucos	Common Sandpiper	磯鷸	X	8	++
Spilopelia chinensis	Spotted Dove	珠頸斑鳩		48	+++++
Centropus sinensis	Greater Coucal	褐翅鴉鵑		2	+
Eudynamys scolopaceus	Asian Koel	噪鵑		29	+++
Hierococcyx sparverioides	Large Hawk Cuckoo	大鷹鵑		1	+
Alcedo atthis	Common Kingfisher	普通翠鳥	X	0	+
Ceryle rudis	Pied Kingfisher	斑魚狗	X	2	+
Urocissa erythroryncha	Red-billed Blue Magpie	紅嘴藍鵲		2	+
Pica pica	Eurasian Magpie	喜鵲		0	+

Scientific Names	Common Names	Chinese Names	Waterbird	Point Count Abundance	Transect Count Abundance
Corvus macrorhynchos	Large-billed Crow	大嘴烏鴉		1	+
Parus cinereus	Cinereous Tit	蒼背山雀		4	+
Pycnonotus jocosus	Red-whiskered Bulbul	紅耳鵯		97	+++++
Pycnonotus sinensis	Chinese Bulbul	白頭鵯		17	+++
Hirundo rustica	Barn Swallow	家燕		46	+++++
Prinia flaviventris	Yellow-bellied Prinia	黃腹鷦鶯		3	+
Prinia inornata	Plain Prinia	純色鷦鶯		1	+
Orthotomus sutorius	Common Tailorbird	長尾縫葉鶯		10	++
Garrulax perspicillatus	Masked Laughingthrush	黑臉噪鶥		16	++++
Zosterops japonicus	Japanese White-eye	暗綠繡眼鳥		9	+
Acridotheres cristatellus	Crested Myna	八哥		250	+++++
Gracupica nigricollis	Black-collared Starling	黑領椋鳥		86	+++++
Copsychus saularis	Oriental Magpie Robin	鵲鴝		2	+
Passer montanus	Eurasian Tree Sparrow	樹麻雀		17	+++++
Lonchura punctulata	Scaly-breasted Munia	斑文鳥		32	++
Motacilla alba	White Wagtail	白鶺鴒		14	++

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	4/5/2023	11:00	H	84	212	16
		14:45	L	128		22
2	10/5/2023	15:00	H	112	267	13
		17:15	L	155		20
3	16/5/2023	10:15	H	86	203	17
		14:30	L	117		18
4	24/5/2023	15:00	H	113	205	14
		17:30	L	92		13

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	4/5/2023	12:15	H	21	49
		10:00	L	28	
2	10/5/2023	15:00	H	26	60
		17:15	L	34	
3	16/5/2023	10:15	H	10	41
		14:30	L	31	
4	24/5/2023	15:00	H	25	50
		17:30	L	25	

Remarks: H: High Tide; L: Low Tide

T-Test Analysis for All Waterbirds

Baseline Data

Monthly Average Abundance (May)	41.44
Seasonal Average Abundance (Summer season)	44.18

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	0.733	✓	✓
	Seasonal	0.498	✓	✓

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 (May)**	**Avg (Summer)**
Species Name	**Common Name**	**Chinese Name**	**4/5/2023**	**10/5/2023**	**16/5/2023**	**24/5/2023**				
Egretta garzetta	Little Egret	小白鷺	21	39	23	36	119	30	20	20
Ardea cinerea	Grey Heron	蒼鷺	0	1	0	4	5	1	0	1
Ardeola bacchus	Chinese Pond Heron	池鷺	14	11	12	7	44	11	15	16
Phalacrocorax carbo	Great Cormorant	普通鸬鹚	0	0	0	0	0	0	0	0
Ardea alba	Great Egret	大白鷺	3	2	2	2	9	2	2	3
Bubulcus coromandus	Eastern Cattle Egret	牛背鷺	0	3	1	0	4	1	2	3

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	1.262	✓	✓	1.262	✓	✓	✓
Grey Heron	NA*						
Chinese Pond Heron	-1.444	✓	✓	-1.805	✓	✓	✓
Great Cormorant	NA*						
Great Egret	0.456	✓	✓	-1.369	✓	✓	✓
Eastern Cattle Egret	-1.534	✓	✓	-3.068	X	✓	✓

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 10 May 2023)	**Shek Sheung River – Survey Point 6 (Taken on 4 May 2023)**
Shek Sheung River - Survey Point 5 (Taken on 16 May 2023)	**Ng Tung River - Survey Point 4 (Taken on 24 May 2023)**

Human Activities & Site Conditions

Construction Activities (Ng Tung River) **(Project-related, taken on 24 May 2023)**	**Construction Activities (Shek Sheung River)** **(Project-related, taken on 10 May 2023)**
Construction Activities (Sheung Yue River) **(Non-project-related, taken on 10 May 2023)**	**Construction Activities (Ng Tung River)** **(Non-Project-related, taken on 16 May 2023)**

Human Activities (Sheung Yue River) **(Non-project-related, taken on 10 May 2023)**	**Human Activities (Sheung Yue River)** **(Non-project-related, taken on 16 May 2023)**	**Human Activities (Ng Tung River)** **(Non-project-related, taken on 16 May 2023)**
Construction Activities (Ng Tung River) **(Non-Project-related, taken on 10 May2023)**	**Construction Activities (Sheung Yue River)** **(Non-project-related, taken on 4 May 2023)**	**Construction Activities (Sheung Yue River)** **(Non-project-related, taken on 24 May 2023)**

Waterbird Species

Great Egret	**Grey Heron**	**Little Egret**
Eastern Cattle Egret	**Black Kite**	**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: 3-May-23 Weather Condition: Sunny Ambient Temperature,°C: 27

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	10:55	Middle	Pale Green	27.4	27.4	6.50	6.50	0.27	0.27	72.8	71.9	5.76	5.68	5.64	7.68	7.61	7.53	9.7		9.35	
Impact Station, Downstream of the proposed outfall	M1 DUP	10:57			27.4	27.4	6.60	6.60	0.27	0.27	70.6	70.2	5.57	5.55		7.51	7.32		9.0			
C1	C1	9:20	Middle	Pale Green	27.5	27.5	6.10	6.10	0.29	0.29	119.0	117.6	9.39	9.27	9.22	4.69	4.37	4.14	8.8		8.60	
Control Station, Upstream of the proposed outfall	C1 DUP	9:22			27.5	27.6	6.20	6.30	0.29	0.29	116.4	115.0	9.17	9.05		4.17	3.33		8.4			

Action Level Exceedance
Limit Level Exceedance

Date of Sampling: 5-May-23 Weather Condition: Sunny Ambient Temperature,°C: 30

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	9:50	Middle	Pale Green	28.7	28.8	6.40	6.40	0.30	0.30	115.1	113.3	8.88	8.73	8.67	21.30	20.50	20.85	21.4		21.75	
Impact Station, Downstream of the proposed outfall	M1 DUP	9:52			28.8	28.9	6.50	6.60	0.30	0.30	111.7	110.2	8.60	8.48		20.90	20.70		22.1			
C1	C1	10:20	Middle	Pale Green	30.0	30.0	6.90	7.00	0.26	0.26	79.9	78.1	6.05	5.89	5.92	7.94	7.78	9.73	15.4		15.15	
Control Station, Upstream of the proposed outfall	C1 DUP	10:22			29.9	29.9	7.00	7.00	0.26	0.26	76.1	79.2	5.75	5.99		11.80	11.40		14.9			

Action Level Exceedance
Limit Level Exceedance

Date of Sampling: 8-May-23 Weather Condition: Drizzle Ambient Temperature,°C: 23

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	10:35	Middle	Pale Green	26.0	25.9	5.70	5.70	0.21	0.21	117.5	116.7	9.53	9.47	9.34	22.40	20.90	21.88	18.4		18.40	
Impact Station, Downstream of the proposed outfall	M1 DUP	10:37			26.0	26.0	5.80	6.00	0.20	0.20	114.0	112.3	9.24	9.10		22.10	22.10		18.4			
C1	C1	10:55	Middle	Pale Green	25.4	25.4	6.30	6.30	0.15	0.15	121.5	117.5	9.97	9.63	9.48	33.30	33.00	33.68	25.4		25.75	
Control Station, Upstream of the proposed outfall	C1 DUP	11:59			25.4	25.5	6.30	6.20	0.14	0.14	113.3	110.4	9.28	9.04		35.50	32.90		26.1			

Action Level Exceedance
Limit Level Exceedance

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

Date of Sampling: 10-May-23 Weather Condition: Fine Ambient Temperature,°C: 26

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	9:10	Middle	Pale Green	26.4	26.4	5.70	5.80	0.26	0.26	126.4	122.8	10.16	9.87	9.44	6.98	6.37	6.83	7.7		8.10	
Impact Station, Downstream of the proposed outfall	M1 DUP	9:15			26.5	26.5	6.00	6.10	0.21	0.21	110.8	109.6	8.90	8.81		7.30	6.67		8.5			
C1	C1	10:15	Middle	Pale Green	26.6	26.6	6.30	6.40	0.11	0.11	121.5	118.9	9.75	9.54	9.68	14.60	14.20	12.23	16.6		16.35	
Control Station, Upstream of the proposed outfall	C1 DUP	10:20			26.0	26.1	6.30	6.40	0.11	0.11	122.0	117.6	9.89	9.53		12.40	7.71		16.1			

Action Level Exceedance
Limit Level Exceedance

Date of Sampling: 12-May-23 Weather Condition: Cloudy Ambient Temperature,°C: 25

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	9:00	Middle	Pale Green	24.8	24.8	6.20	6.20	0.13	0.15	107.8	103.3	8.93	8.56	9.03	11.40	7.93	8.76	15.3		**15.10**	
Impact Station, Downstream of the proposed outfall	M1 DUP	9:05			24.8	24.8	6.30	6.30	0.14	0.14	111.8	112.7	9.28	9.35		7.89	7.82		14.9			
C1	C1	9:30	Middle	Pale Green	24.9	24.9	6.00	6.10	0.13	0.13	127.7	121.8	10.55	10.07	9.93	7.76	7.54	7.59	10.9		10.80	
Control Station, Upstream of the proposed outfall	C1 DUP	9:35			24.9	24.9	6.50	6.50	0.12	0.13	115.7	115.2	9.57	9.53		7.64	7.41		10.7			

Action Level Exceedance
Limit Level Exceedance

Date of Sampling: 15-May-23 Weather Condition: Fine Ambient Temperature,°C: 26

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	24.8	24.8	6.80	6.90	0.10	0.10	126.4	121.9	10.48	10.10	10.32	14.30	13.40	13.68	12.4		12.15	
Impact Station, Downstream of the proposed outfall	M1 DUP	10:15			24.9	24.9	7.00	7.00	0.10	0.10	128.7	121.4	10.65	10.05		13.40	13.60		11.9			
C1	C1	10:35	Middle	Pale Green	25.3	25.3	6.50	6.50	0.10	0.10	143.6	134.7	11.80	11.06	10.85	12.50	12.60	12.88	12.0		12.05	
Control Station, Upstream of the proposed outfall	C1 DUP	10:40			25.3	25.3	6.70	6.70	0.10	0.10	127.2	122.6	10.45	10.07		13.20	13.20		12.1			

Action Level Exceedance
Limit Level Exceedance

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

Date of Sampling: 17-May-23 Weather Condition: Fine Ambient Temperature,°C: 30

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	9:00	Middle	Pale Green	27.4	27.4	6.20	6.30	0.27	0.27	113.4	104.6	8.96	8.26	8.77	8.25	8.20	8.15	12.2		12.15	
Impact Station, Downstream of the proposed outfall	M1 DUP	9:05			27.4	27.4	6.40	6.40	0.27	0.27	113.3	112.9	8.95	8.92		8.07	8.07		12.1			
C1	C1	10:00	Middle	Pale Green	27.5	27.5	6.10	6.20	0.26	0.26	139.2	132.6	10.98	10.46	10.03	7.96	8.09	7.71	12.8		13.20	
Control Station, Upstream of the proposed outfall	C1 DUP	10:03			27.5	27.5	6.40	6.50	0.26	0.26	120.8	115.9	9.53	9.14		7.62	7.17		13.6			

Action Level Exceedance
Limit Level Exceedance

Date of Sampling: 19-May-23 Weather Condition: Fine Ambient Temperature,°C: 30

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	11:45	Middle	Pale Green	30.0	30.0	6.10	6.20	0.25	0.25	118.5	116.7	8.94	8.80	8.75	8.00	7.80	**7.98**	13.8		**13.45**	
Impact Station, Downstream of the proposed outfall	M1 DUP	11:50			29.7	29.8	6.70	6.70	0.25	0.25	114.4	113.5	8.67	8.60		8.18	7.94		13.1			
C1	C1	12:25	Middle	Pale Green	30.0	30.1	7.40	7.40	0.21	0.21	111.4	112.0	8.39	8.44	8.40	6.55	6.74	6.19	7.7		8.10	
Control Station, Upstream of the proposed outfall	C1 DUP	12:30			30.1	30.1	7.40	7.40	0.21	0.21	111.5	111.1	8.40	8.37		5.77	5.68		8.5			

Action Level Exceedance
Limit Level Exceedance

Date of Sampling: 22-May-23 Weather Condition: Sunny Ambient Temperature,°C: 33

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	11:45	Middle	Pale Green	33.9	33.9	6.60	6.70	0.29	0.29	145.9	133.5	10.31	9.42	9.25	7.19	7.16	6.23	9.2		9.05	
Impact Station, Downstream of the proposed outfall	M1 DUP	11:50			33.3	32.6	6.90	6.90	0.30	0.30	122.1	117.7	8.76	8.49		5.14	5.44		8.9			
C1	C1	12:25	Middle	Pale Green	34.5	34.5	6.80	7.00	0.15	0.15	155.5	145.6	10.88	10.19	9.53	6.88	7.52	6.96	10.8		10.50	
Control Station, Upstream of the proposed outfall	C1 DUP	12:30			33.6	33.7	7.50	7.60	0.14	0.14	121.3	118.6	8.63	8.41		7.05	6.38		10.2			

Action Level Exceedance
Limit Level Exceedance

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

Date of Sampling: 24-May-23 Weather Condition: Cloudy Ambient Temperature,°C: 26

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	10:20	Middle	Pale green	28.0	28.0	6.10	6.30	0.32	0.32	115.0	112.1	8.98	8.75	8.78	4.34	4.68	4.64	6.5		6.75	
Impact Station, Downstream of the proposed outfall	M1 DUP	10:25			28.1	28.1	6.30	6.30	0.32	0.32	111.4	111.3	8.69	8.68		5.14	4.41		7.0			
C1	C1	10:40	Middle	Pale green	27.4	27.4	6.00	6.10	0.08	0.08	117.1	114.5	9.25	9.05	9.06	13.60	13.80	13.50	12.2		12.45	
Control Station, Upstream of the proposed outfall	C1 DUP	10:45			27.4	27.4	6.20	6.30	0.08	0.08	113.9	113.2	9.01	8.94		13.30	13.30		12.7			

Action Level Exceedance
Limit Level Exceedance

Date of Sampling: 27-May-23 Weather Condition: Sunny Ambient Temperature,°C: 32

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	9:20	Middle	Pale green	29.7	29.7	6.40	6.50	0.12	0.12	129.2	123.8	9.81	9.39	9.24	8.06	7.81	7.92	14.6		14.40	
Impact Station, Downstream of the proposed outfall	M1 DUP	9:25			29.7	29.6	6.70	7.00	0.12	0.12	118.5	115.1	9.01	8.76		7.85	7.96		14.2			
C1	C1	10:10	Middle	Pale green	30.1	30.1	6.50	6.50	0.12	0.12	101.5	95.4	7.59	7.13	7.57	8.21	8.13	8.01	13.7		13.50	
Control Station, Upstream of the proposed outfall	C1 DUP	10:15			30.4	30.2	6.60	6.60	0.12	0.12	99.7	107.0	7.49	8.05		7.71	7.97		13.3			

Action Level Exceedance
Limit Level Exceedance

Date of Sampling: 29-May-23 Weather Condition: Sunny Ambient Temperature,°C: 33

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	9:50	Middle	Pale green	30.6	30.6	6.40	6.40	0.14	0.14	119.7	119.1	8.95	8.91	8.62	6.88	6.98	7.09	11.1		11.20	
Impact Station, Downstream of the proposed outfall	M1 DUP	9:55			30.5	30.5	6.40	6.40	0.14	0.14	109.6	112.1	8.21	8.39		7.56	6.93		11.3			
C1	C1	10:15	Middle	Pale green	31.5	31.5	7.00	7.00	0.12	0.12	121.5	120.2	8.95	8.85	8.64	6.63	6.98	7.39	12.4		12.60	
Control Station, Upstream of the proposed outfall	C1 DUP	10:20			31.3	31.4	7.10	7.00	0.12	0.12	116.9	110.3	8.63	8.14		7.97	7.97		12.8			

Action Level Exceedance
Limit Level Exceedance

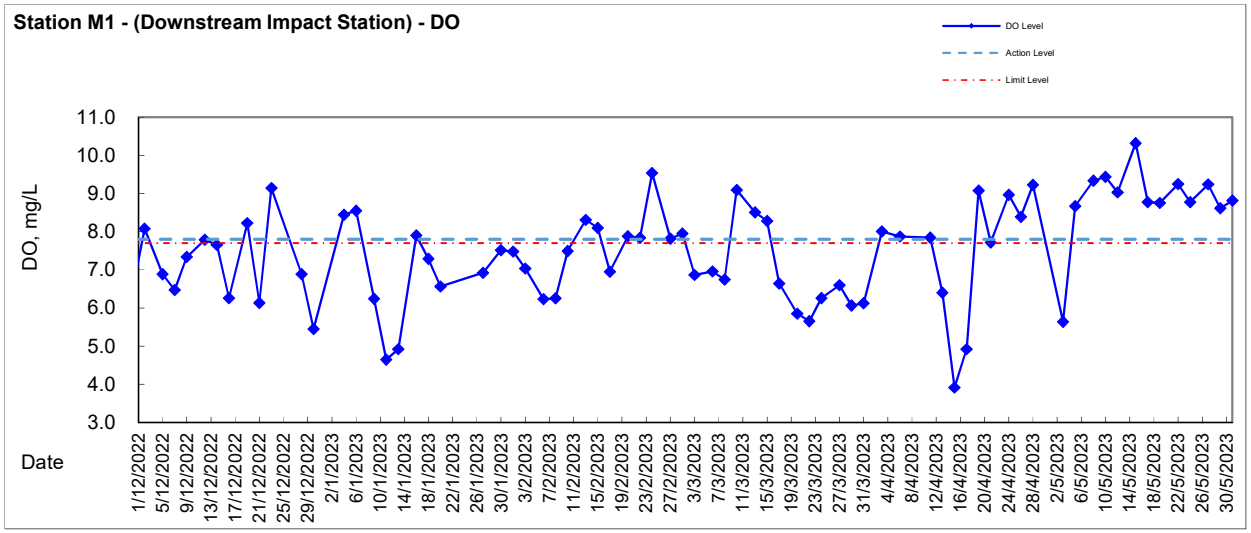
Data Sheet for Impact Water Quality Monitoring - SPW 12/2021

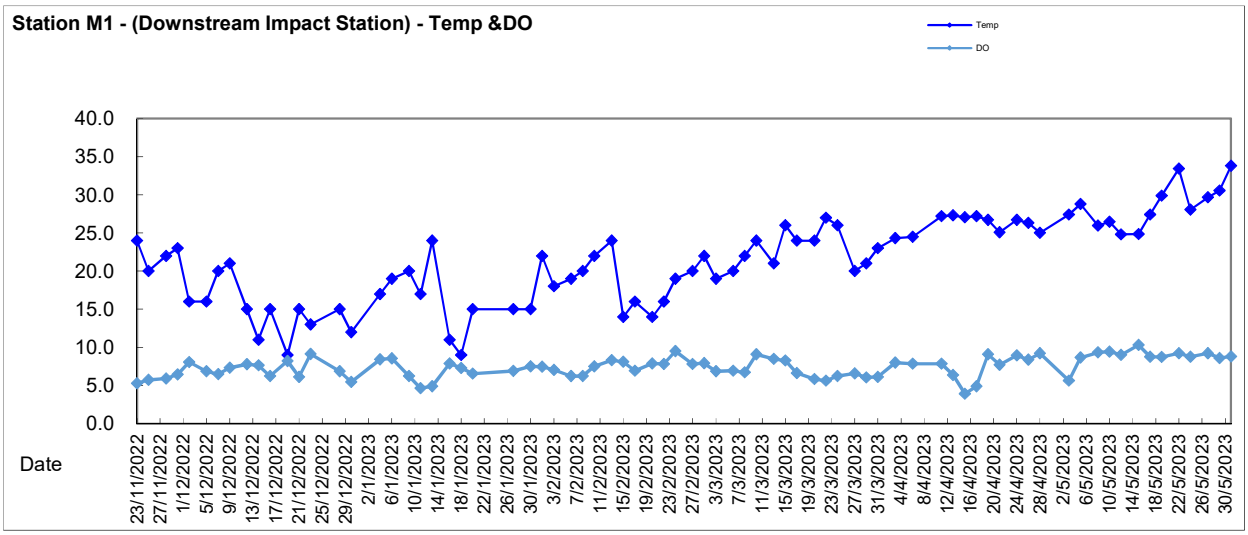
Date of Sampling: 31-May-23 Weather Condition: Sunny Ambient Temperature,°C: 33

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	11:30	Middle	Pale green	33.8	33.8	7.20	7.30	0.18	0.18	134.6	128.6	9.53	9.09	8.82	7.24	7.27	**6.73**	9.9	9.75	
Impact Station, Downstream of the proposed outfall	M1 DUP	11:35			33.8	33.7	7.40	7.40	0.19	0.19	121.1	114.0	8.58	8.08		6.30	6.11		9.6		
C1	C1	11:05	Middle	Pale green	33.7	33.7	6.90	7.00	0.15	0.15	115.6	115.0	8.21	8.16	8.14	5.73	4.88	5.25	9.2	9.35	
Control Station, Upstream of the proposed outfall	C1 DUP	11:10			33.6	33.6	8.00	8.10	0.16	0.16	113.1	114.7	8.04	8.15		4.98	5.41		9.5		

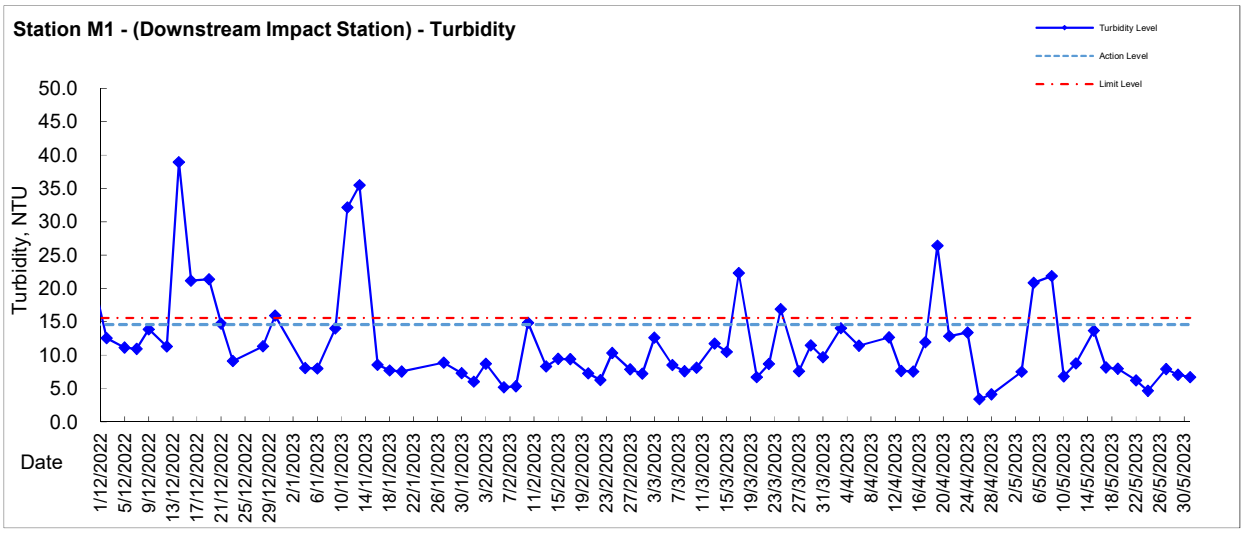
Action Level Exceedance
Limit Level Exceedance

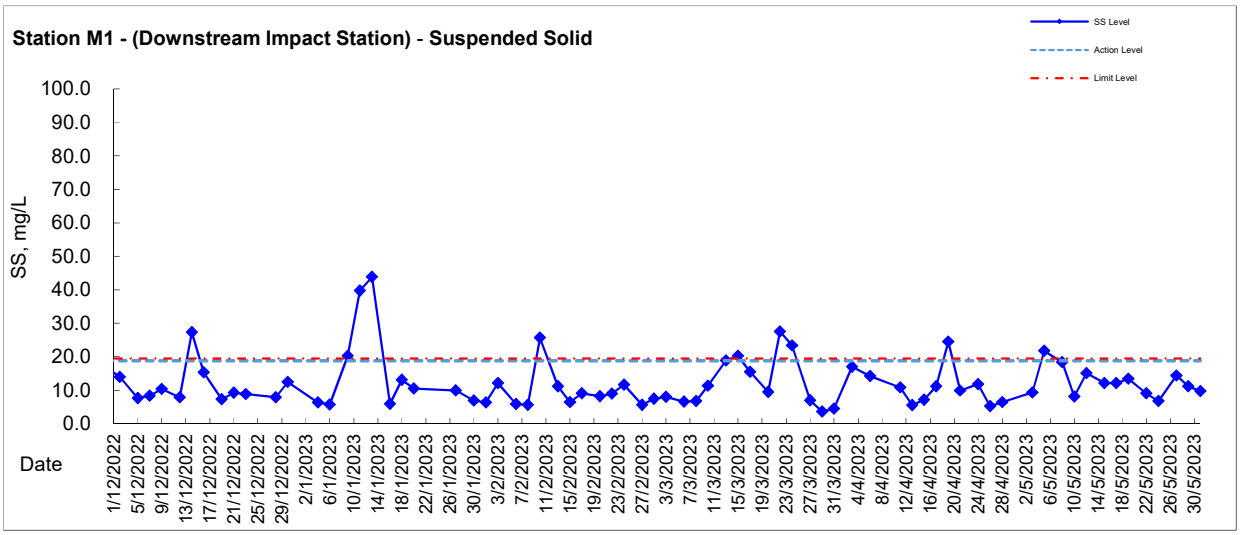
Graphic Presentation of WQM Result



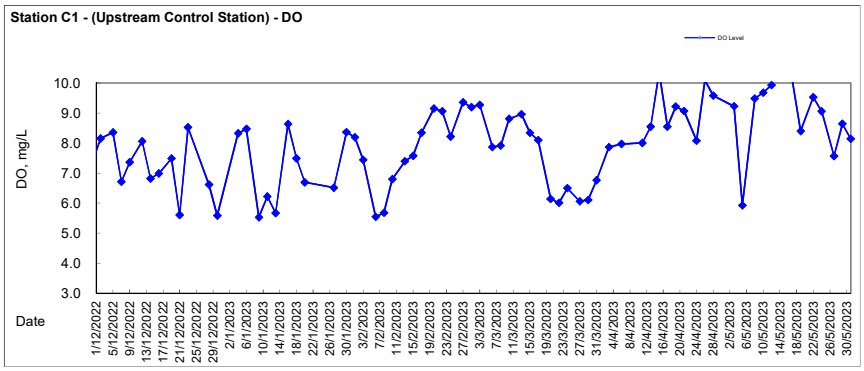


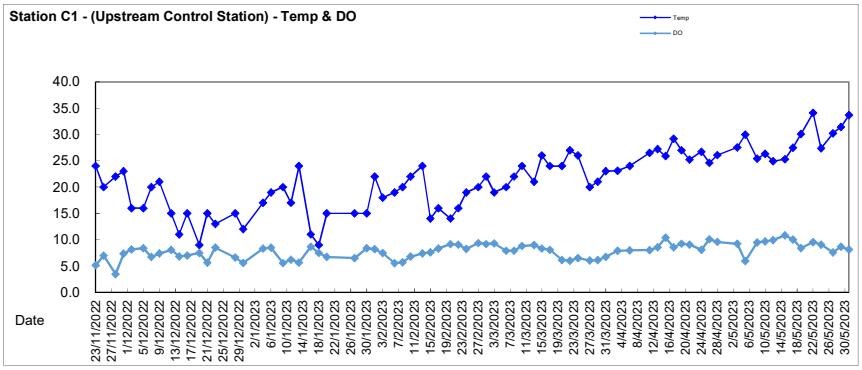
Graphic Presentation of WQM Result

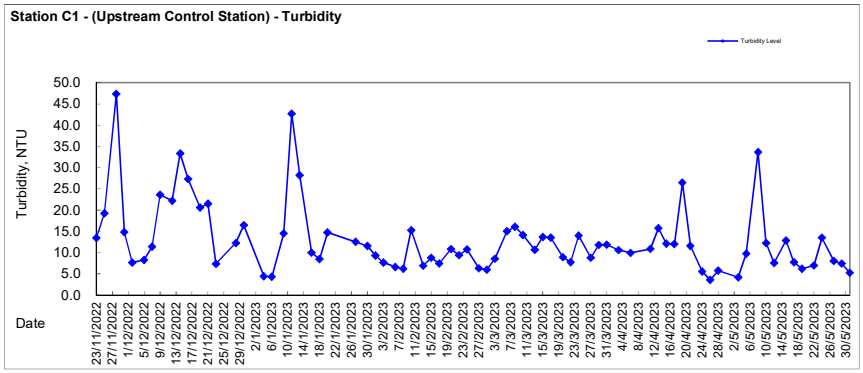


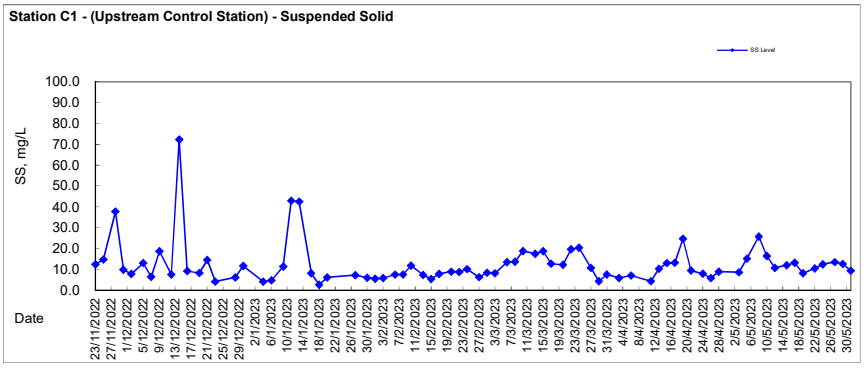


Graphic Presentation of WQM Result









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	: HK2316375
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		
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	: 03-May-2023
Order number	: ----	Quote number	: HKE/2224/2021_V3	Issue Date	: 05-May-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

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 03-May-2023 to 05-May-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: HK2316375

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	03-May-2023	03-May-2023	03-May-2023	03-May-2023	----
Compound	CAS Number	LOR	Unit	HK2316375-001	HK2316375-002	HK2316375-003	HK2316375-004	--------
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2.0	mg/L	8.8	8.4	9.7	9.0	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 5027300)								
HK2316328-001	Anonymous	EA025: Suspended Solids (SS)	----	0.5	mg/L	9.1	8.9	1.9

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
		LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 5027300)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	96.0	----	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	: HK2316386
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		
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	: 05-May-2023
Order number	: ----	Quote number	: HKE/2224/2021_V3	Issue Date	: 11-May-2023
C-O-C number	: ----			No. of samples received	: 4
Site	:			No. of samples analysed	: 4

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

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 05-May-2023 to 11-May-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: HK2316386

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	05-May-2023	05-May-2023	05-May-2023	05-May-2023	----
Compound	CAS Number	LOR	Unit	HK2316386-001	HK2316386-002	HK2316386-003	HK2316386-004	--------
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2.0	mg/L	15.4	14.9	21.4	22.1	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 5039399)								
HK2316386-001	C1	EA025: Suspended Solids (SS)	----	0.5	mg/L	15.4	16.0	4.0

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
		LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 5039399)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	95.5	----	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.

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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	: HK2316389
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		
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	: 08-May-2023
Order number	: ----	Quote number	: HKE/2224/2021_V3	Issue Date	: 11-May-2023
C-O-C number	: ----			No. of samples received	: 4
Site	:			No. of samples analysed	: 4

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

General Comments

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Testing period is from 08-May-2023 to 11-May-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: HK2316389

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	08-May-2023	08-May-2023	08-May-2023	08-May-2023	----
Compound	CAS Number	LOR	Unit	HK2316389-001	HK2316389-002	HK2316389-003	HK2316389-004	--------
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2.0	mg/L	25.4	26.1	18.4	18.4	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report: LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 5039399)								
HK2316386-001	Anonymous	EA025: Suspended Solids (SS)	----	0.5	mg/L	15.4	16.0	4.0

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report: LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report: Spike Concentration	Spike Recovery (%): LCS	DCS	Recovery Limits(%): Low	High	RPD (%): Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 5039399)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	95.5	----	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.

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ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	: LAM ENVIRONMENTAL SERVICES LTD	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: WILLIAM CHEUNG	Contact	: Richard Fung	Work Order	: HK2316393
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		
E-mail	: williamcheung@lamenviro.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: 54000218	Telephone	: +852 2610 1044		
Facsimile	: 28823331	Facsimile	: +852 2610 2021		
Project	: CONTRACT NO. SPW 12/2021 - SHEK WU HUI EFFLUENT POLISHING PLANT			Date Samples Received	: 10-May-2023
Order number	: ----	Quote number	: HKE/2224/2021_V3	Issue Date	: 18-May-2023
C-O-C number	: ----			No. of samples received	: 4
Site	:			No. of samples analysed	: 4

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

General Comments

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Testing period is from 10-May-2023 to 18-May-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: HK2316393

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	10-May-2023	10-May-2023	10-May-2023	10-May-2023	----
Compound	CAS Number	LOR	Unit	HK2316393-001	HK2316393-002	HK2316393-003	HK2316393-004	--------
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2.0	mg/L	16.6	16.1	7.7	8.5	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 5054043)								
HK2316393-001	C1	EA025: Suspended Solids (SS)	----	0.5	mg/L	16.6	16.9	1.8
HK2316395-003	Anonymous	EA025: Suspended Solids (SS)	----	0.5	mg/L	12.4	13.0	4.3

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 5054043)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	95.5	----	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.

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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	: WILLIAM CHEUNG	Contact	: Richard Fung	Work Order	: HK2316394
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		
E-mail	: williamcheung@lamenviro.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: 54000218	Telephone	: +852 2610 1044		
Facsimile	: 28823331	Facsimile	: +852 2610 2021		
Project	: CONTRACT NO. SPW 12/2021 - SHEK WU HUI EFFLUENT POLISHING PLANT			Date Samples Received	: 12-May-2023
Order number	: ----	Quote number	: HKE/2224/2021_V3	Issue Date	: 18-May-2023
C-O-C number	: ----			No. of samples received	: 4
Site	:			No. of samples analysed	: 4

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

General Comments

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Testing period is from 12-May-2023 to 18-May-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: HK2316394

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	12-May-2023	12-May-2023	12-May-2023	12-May-2023	----
Compound	CAS Number	LOR	Unit	HK2316394-001	HK2316394-002	HK2316394-003	HK2316394-004	--------
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2.0	mg/L	10.9	10.7	15.3	14.9	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
				Laboratory Duplicate (DUP) Report				
EA/ED: Physical and Aggregate Properties (QC Lot: 5054043)								
HK2316393-001	Anonymous	EA025: Suspended Solids (SS)	----	0.5	mg/L	16.6	16.9	1.8
HK2316395-003	Anonymous	EA025: Suspended Solids (SS)	----	0.5	mg/L	12.4	13.0	4.3

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
		LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 5054043)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	95.5	----	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	: WILLIAM CHEUNG	Contact	: Richard Fung	Work Order	: HK2316395
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		
E-mail	: williamcheung@lamenviro.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: 54000218	Telephone	: +852 2610 1044		
Facsimile	: 28823331	Facsimile	: +852 2610 2021		
Project	: CONTRACT NO. SPW 12/2021 - SHEK WU HUI EFFLUENT POLISHING PLANT			Date Samples Received	: 15-May-2023
Order number	: ----	Quote number	: HKE/2224/2021_V3	Issue Date	: 18-May-2023
C-O-C number	: ----			No. of samples received	: 4
Site	:			No. of samples analysed	: 4

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

General Comments

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Testing period is from 15-May-2023 to 18-May-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: HK2316395

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	15-May-2023	15-May-2023	15-May-2023	15-May-2023	----
Compound	CAS Number	LOR	Unit	HK2316395-001	HK2316395-002	HK2316395-003	HK2316395-004	--------
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2.0	mg/L	12.0	12.1	12.4	11.9	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 5054043)								
HK2316393-001	Anonymous	EA025: Suspended Solids (SS)	----	0.5	mg/L	16.6	16.9	1.8
HK2316395-003	M1	EA025: Suspended Solids (SS)	----	0.5	mg/L	12.4	13.0	4.3

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 5054043)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	95.5	----	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	: WILLIAM CHEUNG	Contact	: Richard Fung	Work Order	: HK2316397
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E-mail	: williamcheung@lamenviro.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: 54000218	Telephone	: +852 2610 1044		
Facsimile	: 28823331	Facsimile	: +852 2610 2021		
Project	: CONTRACT NO. SPW 12/2021 - SHEK WU HUI EFFLUENT POLISHING PLANT			Date Samples Received	: 17-May-2023
Order number	: ----	Quote number	: HKE/2224/2021_V3	Issue Date	: 24-May-2023
C-O-C number	: ----			No. of samples received	: 4
Site	:			No. of samples analysed	: 4

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

General Comments

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Testing period is from 17-May-2023 to 23-May-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: HK2316397

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	17-May-2023	17-May-2023	17-May-2023	17-May-2023	----
Compound	CAS Number	LOR	Unit	HK2316397-001	HK2316397-002	HK2316397-003	HK2316397-004	--------
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2.0	mg/L	12.8	13.6	12.2	12.1	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 5063374)								
HK2316397-001	C1	EA025: Suspended Solids (SS)	----	0.5	mg/L	12.8	13.4	5.0

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
		LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 5063374)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	98.0	----	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	: WILLIAM CHEUNG	Contact	: Richard Fung	Work Order	: HK2316405
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		
E-mail	: williamcheung@lamenviro.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: 54000218	Telephone	: +852 2610 1044		
Facsimile	: 28823331	Facsimile	: +852 2610 2021		
Project	: CONTRACT NO. SPW 12/2021 - SHEK WU HUI EFFLUENT POLISHING PLANT			Date Samples Received	: 19-May-2023
Order number	: ----	Quote number	: HKE/2224/2021_V3	Issue Date	: 24-May-2023
C-O-C number	: ----			No. of samples received	: 4
Site	:			No. of samples analysed	: 4

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

General Comments

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Testing period is from 19-May-2023 to 23-May-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: HK2316405

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	19-May-2023	19-May-2023	19-May-2023	19-May-2023	----
Compound	CAS Number	LOR	Unit	HK2316405-001	HK2316405-002	HK2316405-003	HK2316405-004	--------
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2.0	mg/L	7.7	8.5	13.8	13.1	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 5063374)								
HK2316397-001	Anonymous	EA025: Suspended Solids (SS)	----	0.5	mg/L	12.8	13.4	5.0

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
		LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 5063374)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	98.0	----	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	: WILLIAM CHEUNG	Contact	: Richard Fung	Work Order	: HK2316409
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		
E-mail	: williamcheung@lamenviro.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: 54000218	Telephone	: +852 2610 1044		
Facsimile	: 28823331	Facsimile	: +852 2610 2021		
Project	: CONTRACT NO. SPW 12/2021 - SHEK WU HUI EFFLUENT POLISHING PLANT			Date Samples Received	: 22-May-2023
Order number	: ----	Quote number	: HKE/2224/2021_V3	Issue Date	: 29-May-2023
C-O-C number	: ----			No. of samples received	: 4
Site	:			No. of samples analysed	: 4

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

General Comments

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Testing period is from 22-May-2023 to 29-May-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: HK2316409

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-May-2023	22-May-2023	22-May-2023	22-May-2023	----
Compound	CAS Number	LOR	Unit	HK2316409-001	HK2316409-002	HK2316409-003	HK2316409-004	--------
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2.0	mg/L	10.8	10.2	9.2	8.9	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 5070596)								
HK2316409-001	C1	EA025: Suspended Solids (SS)	----	0.5	mg/L	10.8	10.5	3.3

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report: Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 5070596)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	98.0	----	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.

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CERTIFICATE OF ANALYSIS

Client	: LAM ENVIRONMENTAL SERVICES LTD	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: WILLIAM CHEUNG	Contact	: Richard Fung	Work Order	: HK2316412
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		
E-mail	: williamcheung@lamenviro.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: 54000218	Telephone	: +852 2610 1044		
Facsimile	: 28823331	Facsimile	: +852 2610 2021		
Project	: CONTRACT NO. SPW 12/2021 - SHEK WU HUI EFFLUENT POLISHING PLANT			Date Samples Received	: 24-May-2023
Order number	: ----	Quote number	: HKE/2224/2021_V3	Issue Date	: 29-May-2023
C-O-C number	: ----			No. of samples received	: 4
Site	:			No. of samples analysed	: 4

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

General Comments

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Testing period is from 24-May-2023 to 29-May-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: HK2316412

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	24-May-2023	24-May-2023	24-May-2023	24-May-2023	----
Compound	CAS Number	LOR	Unit	HK2316412-001	HK2316412-002	HK2316412-003	HK2316412-004	--------
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2.0	mg/L	12.2	12.7	6.5	7.0	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 5070596)								
HK2316409-001	Anonymous	EA025: Suspended Solids (SS)	----	0.5	mg/L	10.8	10.5	3.3

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report: Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 5070596)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	98.0	----	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.

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CERTIFICATE OF ANALYSIS

Client	: LAM ENVIRONMENTAL SERVICES LTD	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: WILLIAM CHEUNG	Contact	: Richard Fung	Work Order	: HK2316414
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		
E-mail	: williamcheung@lamenviro.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: 54000218	Telephone	: +852 2610 1044		
Facsimile	: 28823331	Facsimile	: +852 2610 2021		
Project	: CONTRACT NO. SPW 12/2021 - SHEK WU HUI EFFLUENT POLISHING PLANT			Date Samples Received	: 27-May-2023
Order number	: ----	Quote number	: HKE/2224/2021_V3	Issue Date	: 05-Jun-2023
C-O-C number	: ----			No. of samples received	: 4
Site	:			No. of samples analysed	: 4

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

General Comments

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Testing period is from 27-May-2023 to 05-Jun-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: HK2316414

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	27-May-2023	27-May-2023	27-May-2023	27-May-2023	----
Compound	CAS Number	LOR	Unit	HK2316414-001	HK2316414-002	HK2316414-003	HK2316414-004	--------
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2.0	mg/L	13.7	13.3	14.6	14.2	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 5085025)								
HK2316414-001	C1	**EA025: Suspended Solids (SS)**	----	0.5	mg/L	13.7	13.4	2.4
HK2320703-003	Anonymous	**EA025: Suspended Solids (SS)**	----	0.5	mg/L	9.9	9.6	3.3

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 5085025)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	98.0	----	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.

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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	: WILLIAM CHEUNG	Contact	: Richard Fung	Work Order	: HK2316415
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		
E-mail	: williamcheung@lamenviro.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: 54000218	Telephone	: +852 2610 1044		
Facsimile	: 28823331	Facsimile	: +852 2610 2021		
Project	: CONTRACT NO. SPW 12/2021 - SHEK WU HUI EFFLUENT POLISHING PLANT			Date Samples Received	: 29-May-2023
Order number	: ----	Quote number	: HKE/2224/2021_V3	Issue Date	: 05-Jun-2023
C-O-C number	: ----			No. of samples received	: 4
Site	:			No. of samples analysed	: 4

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

General Comments

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Testing period is from 29-May-2023 to 05-Jun-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: HK2316415

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	29-May-2023	29-May-2023	29-May-2023	29-May-2023	----
Compound	CAS Number	LOR	Unit	HK2316415-001	HK2316415-002	HK2316415-003	HK2316415-004	--------
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2.0	mg/L	12.4	12.8	11.1	11.3	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report: LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 5085025)								
HK2316414-001	Anonymous	EA025: Suspended Solids (SS)	----	0.5	mg/L	13.7	13.4	2.4
HK2320703-003	Anonymous	EA025: Suspended Solids (SS)	----	0.5	mg/L	9.9	9.6	3.3

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report: LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report: Spike Concentration	Spike Recovery (%): LCS	DCS	Recovery Limits(%): Low	High	RPD (%): Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 5085025)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	98.0	----	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
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CERTIFICATE OF ANALYSIS

Client	: LAM ENVIRONMENTAL SERVICES LTD	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: WILLIAM CHEUNG	Contact	: Richard Fung	Work Order	: HK2320703
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E-mail	: williamcheung@lamenviro.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: 54000218	Telephone	: +852 2610 1044		
Facsimile	: 28823331	Facsimile	: +852 2610 2021		
Project	: CONTRACT NO. SPW 12/2021 - SHEK WU HUI EFFLUENT POLISHING PLANT			Date Samples Received	: 31-May-2023
Order number	: ----	Quote number	: HKE/2224/2021_V3	Issue Date	: 05-Jun-2023
C-O-C number	: ----			No. of samples received	: 4
Site	:			No. of samples analysed	: 4

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

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 31-May-2023 to 05-Jun-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: HK2320703

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	31-May-2023	31-May-2023	31-May-2023	31-May-2023	----
Compound	CAS Number	LOR	Unit	HK2320703-001	HK2320703-002	HK2320703-003	HK2320703-004	--------
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2.0	mg/L	9.2	9.5	9.9	9.6	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 5085025)								
HK2316414-001	Anonymous	EA025: Suspended Solids (SS)	----	0.5	mg/L	13.7	13.4	2.4
HK2320703-003	M1	EA025: Suspended Solids (SS)	----	0.5	mg/L	9.9	9.6	3.3

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 5085025)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	98.0	----	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.

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	1.381	0.000	0.000	0.000	1.381	2.962	0.000	0.000	0.000	0.000	0.078
Mar	2.528	0.000	0.000	0.000	2.528	3.530	0.000	0.000	0.000	0.000	0.090
Apr	1.633	0.000	0.000	0.000	1.633	0.280	0.000	0.000	0.000	0.000	0.083
May	1.803	0.000	0.000	0.000	1.803	0.616	0.000	0.000	0.000	0.000	0.051
Jun											
Sub-total	7.786	0.000	0.000	0.000	7.786	11.185	0.000	0.000	0.000	0.000	0.363
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	7.786	0.000	0.000	0.000	7.786	11.185	0.000	0.000	0.000	0.000	0.363

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.

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	0.341	0.000	0.000	0.000	0.341	0.000	0.00	0.000	0.000	0.000	0.074
Apr	0.213	0.000	0.000	0.000	0.213	0.000	0.00	0.000	0.000	0.000	0.047
May	1.877	0.000	0.000	0.000	1.877	0.000	0.00	0.000	0.000	0.000	0.072
Jun											
Sub-total											
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	15.341	0.000	0.000	0.000	15.341	0.132	0.000	0.000	0.000	0.000	0.287

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	0	0	0	0	0	0	0	0.155	0.01	0	18.31T
Apr	0	0	0	0	0	0	4.81	0	0	0	12.62T
May	0	0	0	0	0	0	8.66	0.154	0	0	15.69T
June											
Sub-total	0	0	0	0	0	0	13.47	0.439	0.01	0	74.5T
July											
Aug											
Sept											
Oct											
Nov											
Dec											
Total	0	0	0	0	0	0	13.47	0.439	0.01	0	74.5T

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	0	0	0	0	0	0	0	0	0	0	0
Apr	0	0	0	0	0	0	36.23	0	0	0.8	0
May	0	0	0	0	0	0	0	0	0	0	1.06
June											
Sub-total	7.26	0	0	0	7.26	0	36.23	0	0	0.8	3.03
July											
Aug											
Sept											
Oct											
Nov											
Dec											
Total	7.26	0	0	0	7.26	0	36.23	0	0	0.8	3.03

Appendix 5.10

Exceedance Investigation Finding

Appendix 5.10a
Site Diary
From Engineer Respective

Diary Date	Section	Location	Sub Location	Period	Activity
2023/05/12	Portion C	Portion C	Outfall	08:00 - 18:00	No activity
2023/05/11	Portion C	Portion C	Outfall	08:00 - 18:00	No activity
2023/05/10	Portion C	Portion C	Outfall	08:00 - 18:00	No activity
2023/05/09	Portion C	Portion C	Outfall	08:00 - 18:00	No activity
2023/05/08	Portion C	Portion C	Outfall	08:00 - 18:00	No activity
2023/05/07	Portion C	Portion C	Outfall	08:00 - 18:00	No activity on Sunday
2023/05/06	Portion C	Portion C	Outfall	08:00 - 18:00	No activity
2023/05/05	Portion C	Portion C	Outfall	08:00 - 18:00	No activity
2023/05/04	Portion C	Portion C	Outfall	08:00 - 18:00	No activity
2023/05/03	Portion C	Portion C	Outfall	08:00 - 18:00	No activity
2023/05/02	Portion C	Portion C	Outfall	08:00 - 18:00	No activity
2023/05/01	Portion C	Portion C	Outfall	08:00 - 18:00	No activity on Public Holiday

Appendix 5.10b
Site Photo Record
Taken During exceedances of WQM

Photo record for WQM on 3 May 2023

 Control Station	 Monitoring Station
 Rubbish and debris trapped between the control station and monitoring station	 Outfall and the Project Site boundary along Ng Tung River

Photo record for WQM on 5 May 2023

Control Station	Monitoring Station
Rubbish and debris trapped between the control station and monitoring station	Outfall and the Project Site boundary along Ng Tung River

Photo record for WQM on 8 May 2023

 Control Station	 Monitoring Station
 Upstream of the control station	 Outfall and the Project Site boundary along Ng Tung River

Photo record for WQM on 12 May 2023

 Control Station	 Monitoring Station
 Outfall and the Project Site boundary along Ng Tung River, soil and debris on the riverbank were washed into the river by rainfall.	

Photo record for WQM on 19 May 2023

Control Station	Monitoring Station
Soil and debris being washed from the slope into the river.	Outfall and the Project Site boundary along Ng Tung River

Photo record for WQM on 31 May 2023

 Control Station	 Monitoring Station
 Rubbish and debris trapped between the control station and monitoring station	 Outfall and the Project Site boundary along Ng Tung River

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: May 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_056_w	3-May-23	M1	DO (mg/L)	**5.64 mg/L (Limit Level Exceedance)**	<7.8 mg/L	<7.7 mg/L	Cause of Exceedance:	Rubbish and debris trapped by the concrete blocks placed between the control station and the monitoring station.
			Turbidity (NTU)	**7.53 NTU (Limit Level Exceedance)**	>4.97NTU (>120% of C1)	>5.38 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)	9.22 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. Notification of Exceedance was sent to IEC and ER. 4. According to the record of ER's site diary, no works have been conducted at the outfall. 5. ET checked the site boundary near the Ng Tung River and did not discover any discharge of muddy water or site runoff from the site. 6. After the recording of the exceedance, ET tried to identify the source of the exceedance immediately, the only pollution identified was the large amount of rubbish and debris trapped by the concrete blocks placed between the control station and the monitoring station.
			Turbidity (NTU)	4.14 NTU				

SWH_057_w	5-May-23	M1	Turbidity (NTU)	**20.85 NTU (Limit Level Exceedance)**	>11.68NTU (>120% of C1)	>12.65 NTU (>130% of C1)	Cause of Exceedance:	Rubbish and debris trapped by the concrete blocks placed between the control station and the monitoring station.
			SS (mg/L)	**21.75 mg/L (Limit Level Exceedance)**	>18.8 mg/L	>19.5 mg/L	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)	9.73 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. Notification of Exceedance was sent to IEC and ER. 4. According to the record of ER's site diary, no works have been conducted at the outfall. 5. ET checked the site boundary near the Ng Tung River and did not discover any discharge of muddy water or site runoff from the site. 6. After the recording of the exceedance, ET tried to identify the source of the exceedance immediately, the only pollution identified was the large amount of rubbish and debris trapped by the concrete blocks placed between the control station and the monitoring station.
			SS (mg/L)	15.15 mg/L				
SWH_058_w	8-May-23	M1	Turbidity (NTU)	**21.88 NTU (Limit Level Exceedance)**	>14.6 NTU	>15.6 NTU	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.
		C1 (Control Station for comparing to the impact station - M1)	Turbidity (NTU)	33.68 NTU			Contractor's actions to implement the mitigation:	Construction activities were checked; Outfall was checked and no soil or water dropped from outfall was observed.
							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. Notification of Exceedance was sent to IEC and ER. 4. According to the record of ER's site diary, no works have been conducted at the outfall. 5. ET checked the site boundary near the Ng Tung River and did not discover any discharge of muddy water or site runoff from the site. 6. After the recording of the exceedance, ET tried to identify the source of the exceedance immediately, no pollution source can be observed. 7. With respect to the fact that the measured values of turbidity at the control station is even much higher than the one at the monitoring station, it suggested that the background water quality had exceeded the limit level before being affected by the Project site during this WQM.

SWH_ 059_w	12-May-23	M1	SS (mg/L)	**15.10 mg/L (Limit Level Exceedance)**	>12.96 mg/L (>120% of C1)	>14.04 mg/L (>130% of C1)	Cause of Exceedance: ET's conclusions and recommendations for mitigation: Contractor's actions to implement the mitigation:	Soil and debris deposited on the riverbank being washed into the river by heavy rainfall 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)	SS (mg/L)	10.08 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. Notification of Exceedance was sent to IEC and ER. 4. According to the record of ER's site diary, no works have been conducted at the outfall. 5. ET checked the site boundary near the Ng Tung River and did not discover any discharge of muddy water or site runoff from the site. 6. After the recording of the exceedance, ET tried to identify the source of the exceedance immediately, and observed that soil and debris deposited on the riverbank were being washed into the river after rainfall event.
SWH_ 060_w	19-May-23	M1	Turbidity (NTU)	**7.98 NTU (Action Level Exceedance)**	>7.42 NTU (>120% of C1)	>8.04 NTU (>130% of C1)	Cause of Exceedance:	Soil and debris deposited on the riverbank being washed into the river by heavy rainfall
			SS (mg/L)	**13.45 mg/L (Limit Level Exceedance)**	>9.72 mg/L (>120% of C1)	>10.53 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.
		C1 (Control Station for comparing to the impact station - M1)	Turbidity (NTU)	6.19 NTU			Contractor's actions to implement the mitigation:	Construction activities were checked; Outfall was checked and no soil or water dropped from outfall was observed.
			SS (mg/L)	8.10 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. Notification of Exceedance was sent to IEC and ER. 4. According to the record of ER's site diary, no works have been conducted at the outfall. 5. ET checked the site boundary near the Ng Tung River and did not discover any discharge of muddy water or site runoff from the site. 6. After the recording of the exceedance, ET tried to identify the source of the exceedance immediately, and observed that soil and debris deposited on the riverbank were being washed into the river after rainfall event.

SWH_ 061_w	31-May-23	M1	Turbidity (NTU)	**6.73 NTU (Action Level Exceedance)**	>6.30 NTU (>120% of C1)	>6.83 NTU (>130% of C1)	Cause of Exceedance: ET's conclusions and recommendations for mitigation: Contractor's actions to implement the mitigation:	Rubbish and debris trapped by the concrete blocks placed between the control station and the monitoring station. 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)	Turbidity (NTU)	5.25 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. Notification of Exceedance was sent to IEC and ER. 4. According to the record of ER's site diary, no works have been conducted at the outfall. 5. ET checked the site boundary near the Ng Tung River and did not discover any discharge of muddy water or site runoff from the site. 6. After the recording of the exceedance, ET tried to identify the source of the exceedance immediately, the only pollution identified was the large amount of rubbish and debris trapped by the concrete blocks placed between the control station and the monitoring station.

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)

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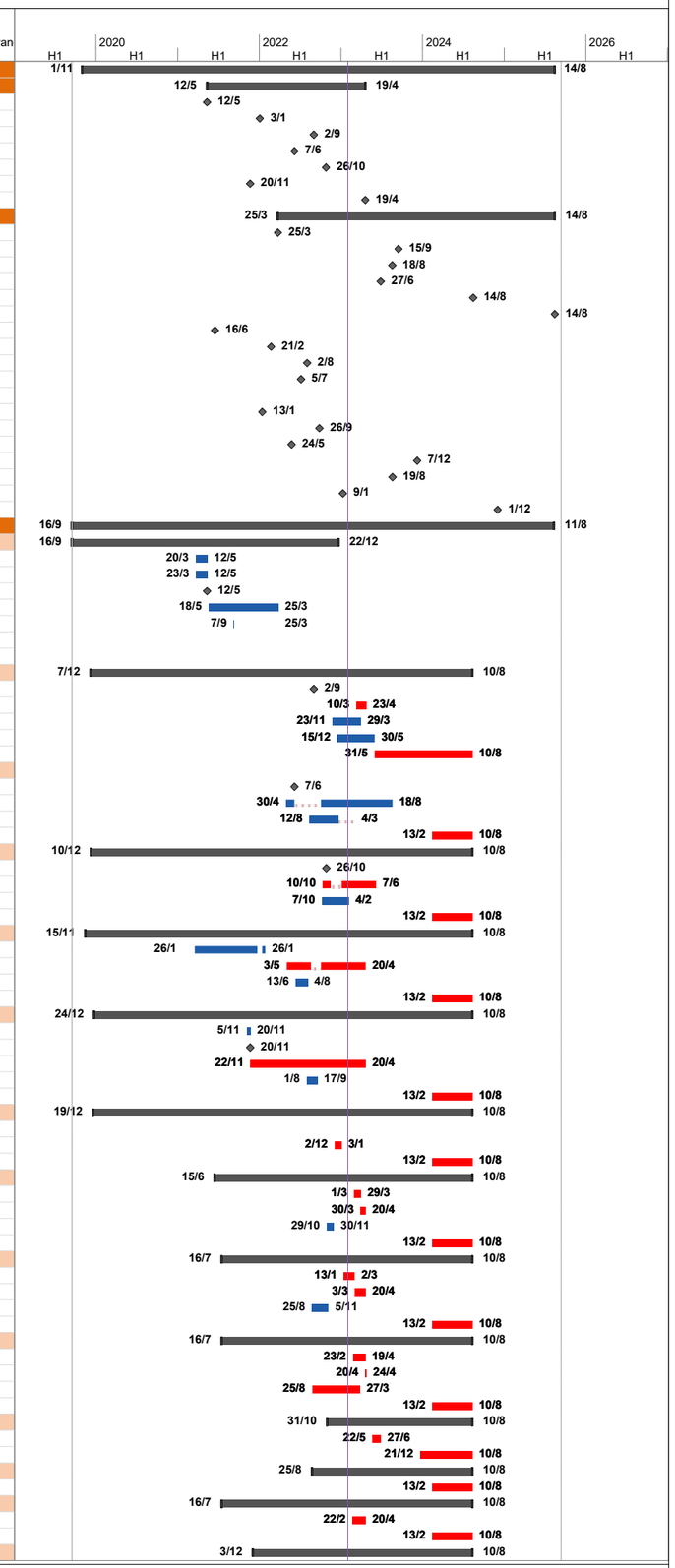
ID	Activity ID	KD	Task Name	Inclement Weather CE no. (NCE no.)	PMI & CE no. (NCE no.)	Duration	Start	Finish	Actual Start	Actual Finish	Predecessors	Successors	% Complete	Time Risk Allowan
34	**PD-00000**	*	**Planned Completion - Key Date (cal. day)**			**2114 days**	**Fri 1/11/19**	**Thu 14/8/25**	**Fri 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,620F	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)

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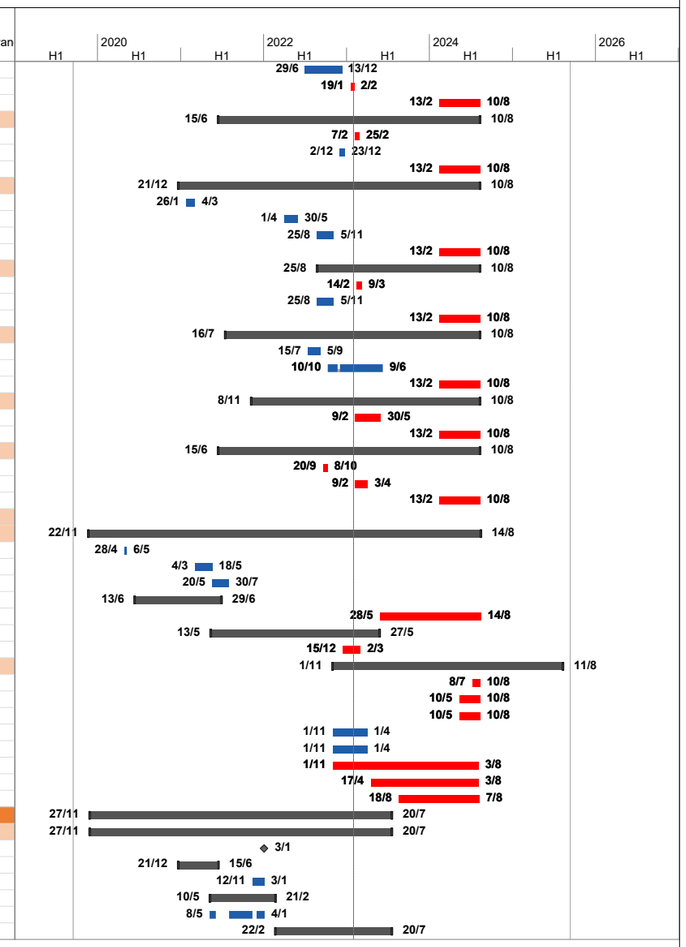
KL－CW JV

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%	

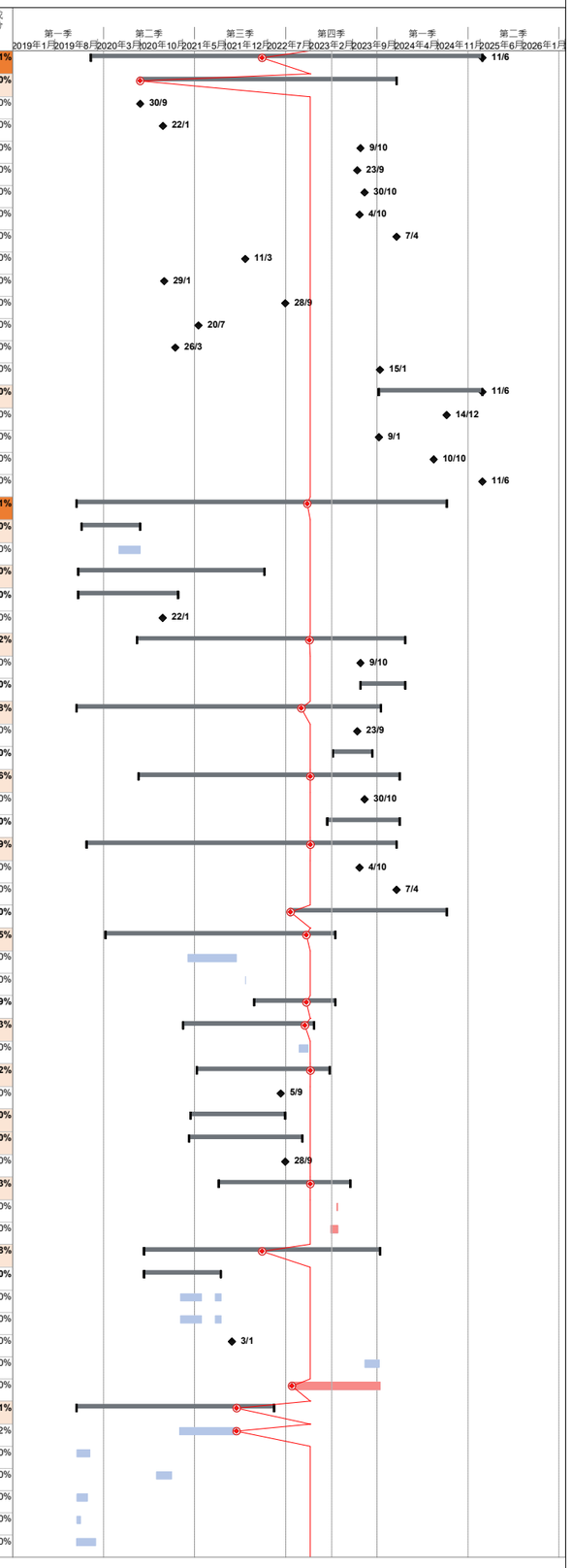


Critical Split | Task | Milestone | Summary | Critical

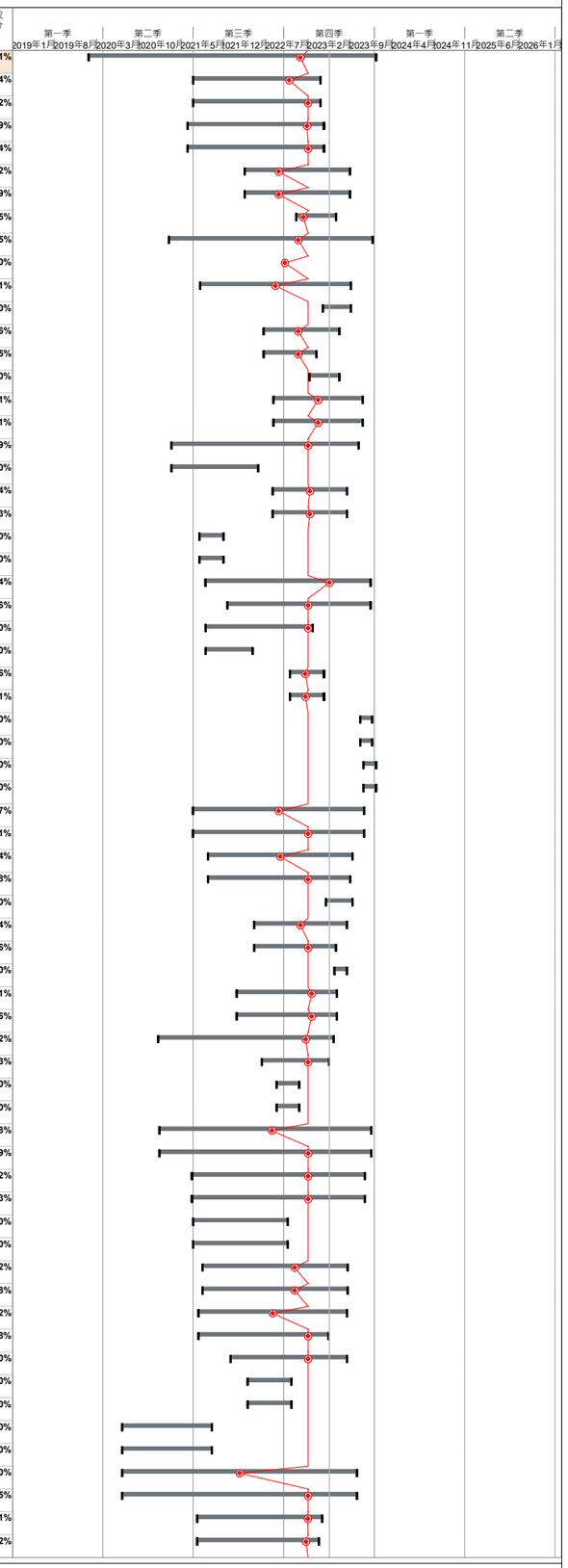
Contract No. DC/2018/07
Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1

Revised Works Programme (Status Date: 31/03/2023)

識別碼	Activity ID	Key Date	NCE/(EW	PMI/(CE)	Task Name	比較基準工期	比較基準開始時間	比較基準完成時間	工期	開始時間	完成時間	實際開始時間	實際完成時間	前置任務	後續任務	總寬限時間	Rid All	完成百分比
40	**PD-1000**	*			**Planned Completion**	**2049 days**	**2020年9月30日**	**2026年5月11日**	**1962 days**	**2020年1月28日星期二**	**2025年6月11日,**	**年1月28日星期二2020**	**NA**			**105 days**		**51%**
41	**PCD-1000**	*			**Planned Completion - Key Dates (cal. day)**	**1202 days**	**2020年9月30日**	**2024年1月15日**	**1285 days**	**2020年9月30日星期三**	**2024年4月7日星**	**年9月30日星期三2020**	**NA**			**-83 days**		**0%**
42	PKD-1010	KD1A			KD1A completion of AR3 in Portion B-1	0 days	2020年9月30日	2020年9月30日	0 days	2020年9月30日星期三	2020年9月30日!	年9月30日星期三2020	年9月30日星期三2020	236FF		0 days		100%
43	PCD-1020	KD1B			KD1B completion of utilities diversion for commencement of Inlet Works No.1 in Portion B-2	0 days	2021年1月22日	2021年1月22日	0 days	2021年1月22日星期五	2021年1月22日!	年1月22日星期五2021	年1月22日星期五2021	319FF,301FF		0 days		100%
44	PCD-1030	KD1C			KD1C completion of civil and structural works of Inlet Works No.1 in Portion B-2	0 days	2022年12月1日	2022年12月1日	0 days	2023年10月9日星期一	2023年10月9日!	NA	NA	276FF,323FF,238FF,278	23FF	-254 days		0%
45	PCD-1040	KD1D			KD1D completion of civil and structural works of Primary Sedimentation Tanks in Portion B-3	0 days	2023年2月20日	2023年2月20日	0 days	2023年9月23日星期六	2023年9月23日!	NA	NA	492FF	24FF	-215 days		0%
46	PCD-1050	KD1E			KD1E completion of civil and structural works of Bioreactor in Portion B-4	0 days	2023年6月26日	2023年6月26日	0 days	2023年10月30日星期	2023年10月30日	NA	NA	582FF,574FF,576FF	25FF	-193 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	0 days	2022年9月17日	2022年9月17日	0 days	2023年10月4日星期二	2023年10月4日!	NA	NA	743FF,700FF	26FF	-464 days		0%
48	PCD-1070	KD1G			KD1G completion of civil and structural works of MFB in Portion B-5	0 days	2023年1月16日	2023年1月16日	0 days	2024年4月7日星期日	2024年4月7日星	NA	NA	744FF	27FF	-501 days		0%
49	PCD-1080	KD1H			KD1H completion of civil and structural works of SAS Pumping Station in Portion B-6	0 days	2022年1月7日星	2022年1月7日星	0 days	2022年3月11日星期五	2022年3月11日!	年3月11日星期五2022	年3月11日星期五2022	788FF,786FF	28FF	0 days		100%
50	PCD-1090	KD1I			KD1I completion alternation works for existing Power House in Portion B-7A	0 days	2021年1月29日	2021年1月29日	0 days	2021年1月29日星期五	2021年1月29日!	年1月29日星期五2021	年1月29日星期五2021	988FF		0 days		100%
51	PCD-1100	KD1J			KD1J completion of auxiliary facilities in Portion B-7	0 days	2022年7月11日	2022年7月11日	0 days	2022年9月28日星期二	2022年9月28日!	年9月28日星期三2022	年9月28日星期三2022	921FF,920FF,945FF,928	30FF	0 days		100%
52	PCD-1110	KD2A			KD2A completion of effluent pipes to UV system and connection to its downstream in Portion B-9	0 days	2021年7月20日	2021年7月20日	0 days	2021年7月20日星期二	2021年7月20日!	年7月20日星期二2021	年7月20日星期二2021	994FF,992FF		0 days		100%
53	PCD-1120	KD2B			KD2B completion of air supply main alternation to existing air blower house No.2 in Portion B-8A	0 days	2021年3月26日	2021年3月26日	0 days	2021年3月26日星期五	2021年3月26日!	年3月26日星期五2021	年3月26日星期五2021	981FF,985FF,986FF,987		0 days		100%
54	PCD-1130	KD3A			KD3A completion of all utilities and road works in Portion B-9A	0 days	2024年1月15日	2024年1月15日	0 days	2024年1月15日星期一	2024年1月15日!	NA	NA	990FF,989FF,1081FF	33FF	0 days		0%
55	**PCD-1000**	*			**Planned Completion Date (cal. Day)**	**1077 days**	**2022年6月30日**	**2025年6月11日**	**519 days**	**2024年1月9日星期二**	**2025年6月11日,**	**NA**	**NA**			**-431 days**		**0%**
56	PCD-1010	SW1			Section 1 of the Works	0 days	2024年1月19日	2024年1月19日	0 days	2024年12月14日星期	2024年12月14日	NA	NA	977FF,979FF,791FF,907	35FF	-198 days		0%
57	PCD-1020	SW2			Section 2 of the Works	0 days	2022年6月30日	2022年6月30日	0 days	2024年1月9日星期二	2024年1月9日星	NA	NA	1008FF,1042FF,1052FF,	36FF	-431 days		0%
58	PCD-1030	SW3			Section 3 of the Works	0 days	2024年6月11日	2024年6月11日	0 days	2024年10月10日星期	2024年10月10日	NA	NA	1994FF,1995FF,990FF,9	37FF	-17 days		0%
59	PCD-1040	DLP			Defects Liability Period	0 days	2025年6月11日	2025年6月11日	0 days	2025年6月11日星期一	2025年6月11日!	NA	NA	1996FF,173FF	38FF	105 days		0%
221	**C-1000**	*			**Construction Works (Working day)**	**1524 days**	**2019年11月18日**	**2024年1月19日**	**1854 days**	**2019年11月18日星期**	**2024年12月14日**	**年11月18日星期一2019**	**NA**			**284 days**		**71%**
227	**CAR-0000**	*			**Access Road (AR3), B-1**	**238 days**	**2019年12月12日**	**2020年9月30日**	**238 days**	**2019年12月12日星期**	**2020年9月30日,**	**年12月12日星期四2019**	**年9月30日星期三2020**	**4,176**	**1081SS**	**0 days**		**100%**
236	CAR-3000	KD1A			Roadworks	133 days	2020年4月24日	2020年9月30日	133 days	2020年4月24日星期五	2020年9月30日!	年4月24日星期五2020	年9月30日星期二2020	146,235,234	42FF	0 days		100%
237	**CIW-0000**	*			**Inlet Works No.1, B-2**	**665 days**	**2019年11月26日**	**2022年2月23日**	**754 days**	**2019年11月26日星期**	**2022年6月15日,**	**年11月26日星期二2019**	**年6月15日星期三2022**			**0 days**		**100%**
278	**CIW-1510**	**KD1B**			**Diversion of Tank Drain MHD9.5 (approx. 70m CHES1 & CHES2)**	**405 days**	**2019年11月26日**	**2021年4月10日**	**405 days**	**2019年11月26日星期**	**2021年4月10日,**	**年11月26日星期二2019**	**年4月10日星期六2021**	**306**	**339,44FF**	**0 days**		**100%**
337	CIW-2500	KD1B			Conditions to be met for KD1B	0 days	NA	NA	0 days	2021年1月22日星期五	2021年1月22日!	年1月22日星期五2021	年1月22日星期五2021	335	336	0 days		100%
338	**CIW-3000**	*			**Inlet Works No.1 Building (1)**	**747 days**	**2020年9月15日**	**2023年3月23日**	**1088 days**	**2020年9月15日星期**	**2024年5月21日,**	**年9月15日星期二2020**	**NA**	**6**		**414 days**		**52%**
402	CIW-3700	KD1C			Allow access to Contractor DE/2018/04 for E&M installation and T&C works	0 days	2022年12月1日	2022年12月1日	0 days	2023年10月9日星期	2023年10月9日!	NA	NA	379,391,401	44FF,413,403	-207 days		0%
413	**CIW-4000**	SW1			**ABWF Works**	**90 days**	**2022年12月2日**	**2023年3月23日**	**180 days**	**2023年10月10日星期**	**2024年5月21日,**	**NA**	**NA**	**211,161,402**		**8 days**		**0%**
421	**CPS-0000**	*			**Primary Sedimentation Tanks, B-3 (2)**	**1115 days**	**2019年11月18日星期一**	**2023年8月23日星期三**	**1238 days**	**2019年11月18日星期一**	**2024年1月20日星期六**	**年11月18日星期一2019**	**NA**	**8**		**103 days**		**68%**
492	CPS-9000	KD1D			Allow access to Contractor DE/2018/04 for E&M installation and T&C works	0 days	2023年2月20日	2023年2月20日	0 days	2023年9月23日星期六	2023年9月23日!	NA	NA	454,491	45FF	-177 days		0%
496	**CPS-10000**	**SW1**			**ABWF works + BS works**	**150 days**	**2023年2月21日**	**2023年8月23日**	**164 days**	**2023年5月25日星期五**	**2023年12月8日,**	**NA**	**NA**	**211,161**		**137 days**		**0%**
504	**CBR-0000**	*			**Bioreactors No.2A & 2B, B-4 (3)**	**1237 days**	**2019年11月18日**	**2024年1月19日**	**1059 days**	**2020年9月23日星期三**	**2024年4月23日,**	**年9月23日星期三2020**	**NA**	**9**		**436 days**		**66%**
582	CBR-18000	KD1E			Allow access to Contractor DE/2018/04 for E&M installation and T&C works	0 days	2023年6月26日星期一	2023年6月26日星期一	0 days	2023年10月30日星期一	2023年10月30日星期一	NA	NA	574,579,580,581	46FF	-158 days		0%
585	**CBR-21000**	**SW1**			**ABWF Works + BS Works**	**171 days**	**2023年6月27日星期二**	**2024年1月19日星期五**	**296 days**	**2023年4月25日星期二**	**2024年4月23日星期二**	**NA**	**NA**	**211,161**	**56FF**	**30 days**		**0%**
591	**CMF-0000**	*			**Membrane Facilities Building No.2 , B-5**	**1650 days**	**2019年11月18日**	**2025年6月11日**	**1258 days**	**2020年1月6日星期一**	**2024年4月7日星**	**年1月6日星期一2020**	**NA**	**2**		**450 days**		**69%**
743	CMF-8000	KD1F			Allow access to Contractor DE/2018/04 for E&M installation and T&C works (from B1 to Level 1)	0 days	2022年9月17日星期六	2022年9月17日星期六	0 days	2023年10月4日星期三	2023年10月4日星期三	NA	NA	704,728,742,705	47FF	-378 days		0%
744	CMF-8100	KD1G			Allow access to Contractor DE/2018/04 for E&M installation and T&C works (from Level 1 to Roof)	0 days	2023年1月16日	2023年1月16日	0 days	2024年4月7日星期日	2024年4月7日星	NA	NA	730,715,716	48FF	-402 days		0%
745	**CMF-9000**	**SW1**			**ABWF works + BS works**	**210 days**	**2023年1月17日**	**2023年10月3日**	**638 days**	**2022年10月24日星期**	**2024年12月14日**	**年10月24日星期一2022**	**NA**	**211**	**56FF**	**-165 days**		**0%**
763	**CSA-0000**	*			**SAS Pumping Station, B-6**	**733 days**	**2020年4月9日星**	**2022年9月28日**	**934 days**	**2020年4月9日星期四**	**2023年6月6日星**	**年4月9日星期四2020**	**NA**	**11**		**291 days**		**95%**
786	CSA-7000	KD1H			R.C. Structure works (including ELS demolition works)	142 days	2021年5月27日	2021年11月13日	201 days	2021年5月27日星期四	2022年1月25日!	年5月27日星期四2021	年1月25日星期二2022	784,785SS-3 emons	49FF,787FF	0 days	5	100%
788	CSA-8000	KD1H			Allow access to Contractor DE/2018/03 for E&M installation and T&C works	0 days	2022年1月7日星	2022年1月7日星	1 day	2022年3月11日星期五	2022年3月11日!	年3月11日星期五2022	年3月11日星期五2022	787	49FF,789SS-1 day	0 days		100%
791	**CSA-9000**	**SW1**			**ABWF works + BS works**	**90 days**	**2022年6月14日**	**2022年9月28日**	**331 days**	**2022年4月25日星期**	**2023年6月6日星**	**年4月25日星期一2022**	**NA**	**790**	**56FF**	**291 days**		**79%**
803	**CFS-1000**	*		**301**	**Fire Services Sprinkler Pumping Room & Emergency Generator House (9)+(10)****	**442 days**	**2021年5月4日星**	**2022年10月27日**	**534 days**	**2021年5月4日星期二**	**2023年2月18日,**	**年5月4日星期二2021**	**NA**			**783 days**		**93%**
860	CFS-6100	SW1			Inspection and Handover	0 days	NA	NA	37 days	2022年12月6日星期二	2023年1月20日星期五	年12月6日星期二2022	年1月20日星期五2023	858,859	56FF	0 days		100%
861	**CCS-1000**	*	**295,297**		**Chemical System No.1 (8)***	**323 days**	**2021年8月27日**	**2022年9月28日**	**539 days**	**2021年7月13日星期**	**2023年5月8日星**	**年7月13日星期二2021**	**NA**			**315 days**		**92%**
895	CCS-1900	KD1J			Allow access to Contractor DE/2018/04 for E&M installation and T&C works	0 days	2022年4月9日星	2022年4月9日星	0 days	2022年9月5日星期一	2022年9月5日星	年9月5日星期一2022	年9月5日星期一2022	897	51FF,902,901	0 days		100%
908	**CDS-0000**	*			**Deodorization System No.3A (7)***	**159 days**	**2021年6月11日**	**2021年12月18日**	**387 days**	**2021年6月11日星期五**	**2022年9月28日,**	**年6月11日星期五2021**	**年9月28日星期三2022**			**0 days**		**100%**
922	**CTC-0000**	*			**Temporary Chemical Dosing System (5)**	**312 days**	**2021年9月9日星**	**2022年9月28日**	**466 days**	**2021年6月3日星期四**	**2022年12月23日**	**年6月3日星期四2021**	**年12月23日星期五2022**			**0 days**		**100%**
945	CTC-11000	KD1J			Allow access to Contractor DE/2018/04 for E&M installation and T&C works	0 days	2022年2月5日星	2022年2月5日星	0 days	2022年9月28日星期二	2022年9月28日!	年9月28日星期三2022	年9月28日星期三2022	943FS+1 day	51FF,947	0 days		100%
951	**CFB-0000**	*			**Fire Hydrant and Booster Pump Room (13)***	**193 days**	**2022年2月5日星**	**2022年9月28日**	**536 days**	**2021年10月29日星期**	**2023年8月21日,**	**年10月29日星期五2021**	**NA**			**228 days**		**3%**
963	CFB-4000	KD1C			Allow access to Contractor DE/2018/04 for E&M installation and T&C works	0 days	2022年6月13日	2022年6月13日	1 day	2023年6月14日星期二	2023年6月14日!	NA	NA	962FF	964SF,44FF	-111 days		0%
977	CDS1-3000	KD1C			Footing works	30 days	2021年11月12日	2021年12月16日	30 days	2023年5月13日星期六	2023年6月17日!	NA	NA	975	56FF,978,44FF	-121 days		0%
980	**CAA-0000**	*			**Additional and Alternation Works for Existing Facilities (B-7A, B-8, B-8A)**	**1074 days**	**2019年11月18日**	**2023年7月6日星**	**961 days**	**2020年10月19日星期**	**2024年1月15日,**	**年10月19日星期一2020**	**NA**			**0 days**		**68%**
981	**CAA-1000**	**KD2B**			**B-8A Alternation works for existing Air Blower House No.2 (Pipeline CHTA, approx. 133m DN800 D.I.)**	**359 days**	**2020年10月19日**	**2022年1月3日星**	**315 days**	**2020年10月19日星期**	**2021年11月9日,**	**年10月19日星期一2020**	**年11月9日星期二2021**	**15,162,206**	**53FF**	**0 days**		**100%**
986	CAA-1500	KD2B		064	Re-alignment of DN800 Temporary Air Main (CHTA) and Provision of FRP Staircases	212 days	2021年4月20日	2022年1月3日星	168 days	2021年4月20日星期二	2021年11月9日!	年4月20日星期二2021	年11月9日星期二2021	982,983,984	53FF	0 days		100%
987	CAA-1600	KD2B	017	062	Elevated Section of DN800 Temporary Air Main (CHTA) across existing Bioreactor's Distribution Chamber No. 2	212 days	2021年4月20日	2022年1月3日星	168 days	2021年4月20日星期二	2021年11月9日!	年4月20日星期二2021	年11月9日星期二2021	982,983,984	53FF,988	0 days		100%
988	CAA-2000	KD1I			B7-A Alternation works for existing Power House	0 days	2022年1月3日星	2022年1月3日星	0 days	2022年1月3日星期一	2022年1月3日星	年1月3日星期一2022	年1月3日星期一2022	13FS-1 day,142,180,182,	50FF,989FS+540 days	0 days		100%
989	CAA-2100	SW3		224	Additional works for Power House	60 days	2023年3月18日	2023年6月2日星	60 days	2023年10月31日星期	2024年1月11日!	NA	NA	988FS+540 days	58FF,54FF	3 days		0%
990	CAA-3000	SW3			Alternation works for existing Membrane Facilities Building No.1	360 days	2022年4月19日	2023年7月6日星	359 days	2022年10月31日星期	2024年1月15日!	NA	NA	14FS-1 day,195FS+160	58FF,54FF	0 days		0%
991	**C2AUU-0000**	*			**External Underground Service, Utilities, Road/Drain (KD2A)**	**802 days**	**2019年11月18日**	**2022年8月3日星**	**802 days**	**2019年11月18日星期**	**2022年8月3日星**	**年11月18日星期一2019**	**NA**	**16**		**945 days**		**81%**
992	C2AUU-1000	KD2A		33, 222, 255	Process Pipes CHR and CHS (approx. 93m twin DN900 D.I.)	530 days	2020年10月19日	2022年8月3日星	530 days	2020年10月19日星期	2022年8月3日星	年10月19日星期一2020	NA	206,162	52FF	945 days		72%
993	C2AUU-1000a	KD2A	029	33	Special Treatment for Removing the Existing Abandoned DN1800 By-pass Pipe and the Concrete Mass in Conflict with the Pro	54 days	2019年11月18日	2020年1月22日	54 days	2019年11月18日星期	2020年1月22日!	年11月18日星期一2019	年1月22日星期三2020			0 days		100%
994	C2AUU-1000b	KD2A		255	Trenchless work for Process Pipes CHR and CHS (approx. 7m twin DN900 D.I.)	60 days	2020年12月21日	2021年3月6日星	60 days	2020年12月21日星期	2021年3月6日星	年12月21日星期一2020	年3月6日星期六2021		52FF	0 days		100%
995	C2AUU-1001	KD2A		033	Removal of Abandoned DN1800 Concrete Pipe and Concrete Mass near Existing UV Disinfection Channel at CHR & CHS Proc	43 days	2019年11月18日	2020年1月9日星	43 days	2019年11月18日星期	2020年1月9日星	年11月18日星期一2019	年1月9日星期四2020			0 days		100%
996	C2AUU-1002	KD2A		222	Grouting for Sheung Shui Slaughter House Boundary Walls along CHR & CHS Pipes Works Area	20 days	2019年11月18日	2019年12月10日	16.83 days	2019年11月18日星期	2019年12月6日!	年11月18日星期一2019	年12月6日星期五2019			0 days		100%
997	C2AUU-1004	KD2A		(076)	Delay Delivery of DI pipes due to COVID-19	75 days	2019年11月18日	2020年2月19日	75 days	2019年11月18日星期	2020年2月19日!	年11月18日星期一2019	年2月19日星期三2020			0 days		100%

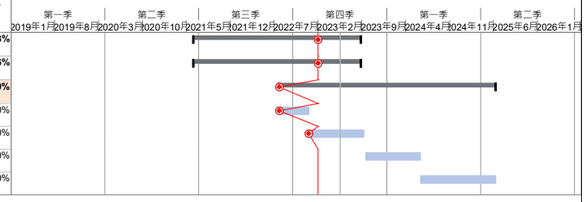


識別碼	Activity ID	Key Date	NCE/(EW	PMI/(CE)	Task Name	比較基準工期	比較基準開始時間	比較基準完成時間	工期	開始時間	完成時間	實際開始時間	實際完成時間	前置任務	後續任務	總寬限時間	Rid All 完成百分比
998	CS2-0000	SW2			External Underground Service, Utilities, Road/Drain (Section 2)	616 days	2021年3月24日	2023年4月24日	1177 days	2020年1月20日星期-	2024年1月9日星	年1月20日星期一2020	NA			519 days	61%
1026	CS2-1000	SW2			Sewerage and utilities in Workfront A2	179 days	2021年6月30日	2022年2月4日星	525 days	2021年6月30日星期	2023年4月4日星	年6月30日星期三2021	NA			745 days	94%
1044	CS2-1100	SW2			Workfront A2b : Construction of 2 nos. of DN250 DI sludge pipe (CHPS1,CHPS2 CH157-190), 2 nos. of DN350 DI sew	179 days	2021年6月30日	2022年2月4日星	525 days	2021年6月30日星期	2023年4月4日星	年6月30日星期三2021	NA		1027	745 days	82%
1054	CS2-2000	SW2			Sewerage and utilities in Workfront A3	54 days	2021年12月13日	2022年2月19日	559 days	2021年6月2日星期三	2023年4月21日,	年6月2日星期三2021	NA			734 days	59%
1071	CS2-2100	SW2			Workfront A3b: Construction of 2 nos. of DN250 DI sludge pipe (CHPS1, CHPS2 CH133-146), 2 nos. of DN350 DI sew	54 days	2021年12月13日	2022年2月19日	559 days	2021年6月2日星期三	2023年4月21日,	年6月2日星期三2021	NA			734 days	64%
1082	CS2-3000a	SW2			Sewerage and utilities in Workfront A5a	86 days	2022年2月4日星	2022年5月21日	430 days	2022年3月18日星期	2023年8月30日,	年3月18日星期五2022	NA		1825	-130 days	22%
1084	CS2-3100a	SW2			Construction of DN825 concrete pipe (CHU CH9.81-67.72) and manhole MHS01-MHS02	86 days	2022年2月4日星	2022年5月21日	430 days	2022年3月18日星期	2023年8月30日,	年3月18日星期五2022	NA			-130 days	19%
1102	CS2-3000b	SW2			Sewerage and utilities in Workfront A5b	86 days	2022年2月4日星	2022年5月21日	160 days	2022年12月3日星期	2023年6月21日,	年12月3日星期六2022	NA		1825	-93 days	15%
1111	CS2-3300	SW2			Sewerage and utilities in Workfront A6	0 days	NA	NA	837 days	2021年3月1日星期一	2023年12月22日	年3月1日星期一2021	NA			531 days	45%
1113	CS2-3310	SW2			Construction of CHPS1 CH274.233 - 355.037 ; CHPSW8 CH0-3.640	0 days	NA	NA	171 days	2022年10月6日星期	2023年5月5日星	年10月6日星期四2022	NA			0 days	0%
1156	CS2-4000	SW2			Sewerage and utilities in Workfront B1	49 days	2021年9月1日星	2021年10月30日	619 days	2021年8月4日星期三	2023年9月4日星	年8月4日星期三2021	NA			622 days	11%
1169	CS2-4100	SW2			Workfront B1b: DN600 concrete pipe (CHU CH0-9.81)	0 days	NA	NA	117 days	2023年4月17日星期-	2023年9月4日星	NA	NA	1164SS		-243 days	0%
1184	CS2-5000	SW2			Sewerage and utilities in Workfront C1	152 days	2022年7月2日星	2022年12月31日	311 days	2022年6月21日星期	2023年7月8日星	年6月21日星期二2022	NA		1839	111 days	36%
1185	CS2-5100	SW2			Workfront C1a: Construction of 2 nos. of DN250 DI sludge pipe (CHPS1,CHPS2 CH50-133), 2 nos. of DN350 DI sewa	152 days	2022年7月2日星	2022年12月31日	218 days	2022年6月21日星期	2023年3月13日,	年6月21日星期二2022	NA	1346		204 days	55%
1212	CS2-5100	SW2			Workfront C1b: Construction of 2 nos. of DN250 DI sludge pipe (CHPS1,CHPS2 CH50-133), 2 nos. of DN350 DI sewa	152 days	2022年7月2日星	2022年12月31日	124 days	2023年2月6日星期一	2023年7月8日星	NA	NA	1201	1230	-553 days	0%
1229	CS2-6000	SW2			Sewerage and utilities in Workfront C2	77 days	2022年7月2日星	2022年9月30日	368 days	2022年8月9日星期二	2023年11月3日,	年8月9日星期二2022	NA		1846,1320	-367 days	1%
1230	CS2-6100	SW2			Construction of 2 nos. of DN250 DI sludge pipe(CHPS1, CHPS2 CH25-50), CH PSW-7	77 days	2022年7月2日星	2022年9月30日	368 days	2022年8月9日星期二	2023年11月3日,	年8月9日星期二2022	NA	1212		-367 days	1%
1247	CS2-7000	SW2			Sewerage and utilities in Workfront C3	219 days	2021年10月2日	2022年6月30日	766 days	2021年3月13日星期	2023年10月12日	年3月13日星期六2021	NA		1853	-189 days	69%
1248	CS2-7100	SW2			Construction of DN1000 HDPE odour pipe (CHDO2), DN250 DI sludge pipe (CHPS1, CHPS2; CH0-25), DN250 DI pipe	219 days	2021年10月2日	2022年6月30日	353 days	2021年3月13日星期	2022年5月24日,	年3月13日星期六2021	年5月24日星期二2022	1340		0 days	100%
1281	CS2-8000	SW2			Sewerage and utilities in Workfront D1	91 days	2022年6月1日星期三	2022年9月13日星期二	306 days	2022年8月5日星期五	2023年8月16日星期三	年8月5日星期五2022	NA			638 days	54%
1282	CS2-8100	SW2			Construction of DN250 DI pipe (CHTFT-2), DN800 MS pipe (CHTA) and watermains	91 days	2022年6月1日星期三	2022年9月13日星期二	306 days	2022年8月5日星期五	2023年8月16日星期三	年8月5日星期五2022	NA	1200,1221		638 days	63%
1307	CS2-9000	SW2			Sewerage and utilities in Workfront D2	67 days	2021年9月1日星	2021年11月20日	100 days	2021年8月2日星期一	2021年11月29日	年8月2日星期一2021	年11月29日星期一2021			0 days	100%
1308	CS2-9100	SW2			Construction of DN350 DI temportary flow diversion pipe (CHTE(A), CHTE(B))	67 days	2021年9月1日星	2021年11月20日	100 days	2021年8月2日星期一	2021年11月29日	年8月2日星期一2021	年11月29日星期一2021			0 days	100%
1318	CS2-10000	SW2			Sewerage and utilities in Workfront D3	64 days	2022年2月4日星	2022年4月23日	679 days	2021年8月31日星期	2023年12月13日	年8月31日星期二2021	NA			539 days	84%
1320	CS2-10100	SW2			Construction of DN100 DI pretreatment screen pipe (CHPT2)	64 days	2022年2月4日星	2022年4月23日	587 days	2021年12月20日星期	2023年12月13日	年12月20日星期一2021	NA	1229		539 days	66%
1334	CS2-11000	SW2			Sewerage and utilities in Portion D4	75 days	2021年9月1日星	2021年11月30日	438 days	2021年9月1日星期三	2023年2月23日,	年9月1日星期三2021	年2月23日星期四2023			0 days	100%
1335	CS2-11100	SW2			Construction of DN350 DI pipe (CHPSW-1)	75 days	2021年9月1日星	2021年11月30日	191 days	2021年9月1日星期三	2022年4月26日,	年9月1日星期三2021	年4月26日星期二2022			0 days	100%
1360	CS2-12000	SW2			Sewerage and utilities in Portion E1	88 days	2023年1月3日星	2023年4月22日	138 days	2022年11月1日星期	2023年4月21日,	年11月1日星期二2022	NA			734 days	36%
1361	CS2-12100	SW2			Construction of watermains	88 days	2023年1月3日星	2023年4月22日	138 days	2022年11月1日星期	2023年4月21日,	年11月1日星期二2022	NA			734 days	41%
1381	CS2-13000	SW2			Sewerage and utilities in Portion E2	86 days	2022年9月19日	2022年12月31日	52 days	2023年10月21日星期	2023年12月21日	NA	NA		1884	-333 days	0%
1382	CS2-13100	SW2			Construction of DN1600 DI sewage pipe (CHI CH75-95)	86 days	2022年9月19日	2022年12月31日	52 days	2023年10月21日星期	2023年12月21日	NA	NA			-333 days	0%
1397	CS2-14000	SW2			Sewerage and utilities in Portion E3	93 days	2021年10月11日	2022年1月31日	52 days	2023年11月7日星期	2024年1月9日星	NA	NA		1891	-349 days	0%
1398	CS2-14100	SW2			Construction of DN1600 DI sewage pipe (CHI CH35-75), CHJ	93 days	2021年10月11日	2022年1月31日	52 days	2023年11月7日星期	2024年1月9日星	NA	NA	1414FS-3 days	57FF	-349 days	0%
1414	CS2-15000	SW2			Sewerage and utilities in Portion E4	75 days	2021年8月2日星	2021年10月30日	703 days	2021年6月29日星期	2023年11月9日,	年6月29日星期二2021	NA		1398FS-3 days	-349 days	67%
1417	CS2-15100	SW2			Construction of DN1600 DI sewage pipe CHH, CHG	75 days	2021年8月2日星	2021年10月30日	703 days	2021年6月29日星期	2023年11月9日,	年6月29日星期二2021	NA			-349 days	1%
1433	CS2-16000	SW2			Sewerage and utilities in Workfront E5	100 days	2022年9月10日	2023年1月11日	593 days	2021年9月13日星期-	2023年9月13日,	年9月13日星期一2021	NA		1903	94 days	4%
1434	CS2-16100a	SW2			Workfront E5a: Process Pipe CHG chainage 0-50, CHH chainage 0-80, CHI chainage 0-35 & CHJ chainage 0-40, CHP	100 days	2022年9月10日	2023年1月11日	582 days	2021年9月13日星期-	2023年8月31日,	年9月13日星期一2021	NA	1623		105 days	8%
1445	CS2-16100b	SW2			Workfront E5b: Process Pipe CHI chainage 0-35	0 days	NA	NA	113 days	2023年5月2日星期二	2023年9月13日,	NA	NA			-244 days	0%
1471	CS2-17000	SW2			Sewerage and utilities in Workfront F1	50 days	2022年10月3日	2022年11月30日	380 days	2022年5月5日星期四	2023年8月14日,	年5月5日星期四2022	NA			640 days	34%
1472	CS2-17100a	SW2			Workfront F1a: Process Pipe CHPSW-1 CH100-108 , DN150 DI SAS pipe CHZB, Bioreactor Tank Drain CHTD1, water	50 days	2022年10月3日	2022年11月30日	335 days	2022年5月5日星期四	2023年6月20日,	年5月5日星期四2022	NA			685 days	46%
1487	CS2-17100b	SW2			Workfront F1b: Bioreactor Tank Drain CHTD1, cable ducts laying	0 days	NA	NA	53 days	2023年6月12日星期-	2023年8月14日,	NA	NA			-226 days	0%
1497	CS2-18000	SW2			Sewerage and utilities in Workfront F2	48 days	2022年2月4日星	2022年3月31日	410 days	2022年2月4日星期五	2023年6月24日,	年2月4日星期五2022	NA			682 days	61%
1498	CS2-18100	SW2			Workfront F2a: Construction of Process Pipe CHPSW-4	48 days	2022年2月4日星	2022年3月31日	410 days	2022年2月4日星期五	2023年6月24日,	年2月4日星期五2022	NA			682 days	76%
1522	CS2-19000	SW2			Sewerage and utilities in Workfront F3	125 days	2021年9月1日星	2022年1月31日	717 days	2021年1月5日星期二	2023年6月8日星	年1月5日星期二2021	NA			695 days	82%
1540	CS2-19300	SW2			Construction of DN350 DI process pipe CHPSW-1	125 days	2021年9月1日星	2022年1月31日	276 days	2022年6月12日星期	2023年5月17日,	年6月12日星期日2022	NA			713 days	63%
1564	CS2-20000	SW2			Sewerage and utilities in Workfront G1	75 days	2022年10月3日	2022年12月31日	96 days	2022年8月25日星期	2022年12月17日	年8月25日星期四2022	年12月17日星期六2022			0 days	100%
1565	CS2-20100	SW2			Process Pipe DN900 DI RAS pipe (CHP) and 2 nos. of DN250 DI sludge pipe (CHSS1 CH140-183, CHSS2 CH140-182)	75 days	2022年10月3日	2022年12月31日	96 days	2022年8月25日星期	2022年12月17日	年8月25日星期四2022	年12月17日星期六2022	1714		0 days	100%
1579	CS2-21000	SW2			Sewerage and utilities in Workfront G2	118 days	2021年9月1日星	2022年1月22日	871 days	2021年1月11日星期-	2023年12月16日	年1月11日星期一2021	NA			536 days	58%
1581	CS2-21100	SW2			Process Pipe DN1400 DI sewage pipe (CHK CH0-6), 2 nos. of DN250 DI sludge pipe (CHSS1, CHSS2 CH100-140)	118 days	2021年9月1日星	2022年1月22日	871 days	2021年1月11日星期-	2023年12月16日	年1月11日星期一2021	NA			536 days	79%
1607	CS2-22000	SW2			Sewerage and utilities in Workfront G3	125 days	2021年9月1日星	2022年1月31日	710 days	2021年6月24日星期	2023年11月13日	年6月24日星期四2021	NA		1940	0 days	82%
1610	CS2-22100	SW2			Process Pipe DN1400 DI sewage pipe of CHK CH6-43.5, CHL CH0-31, DN300 CHN CH54-70, 2x DN250 CHSS1, CHSS2	125 days	2021年9月1日星	2022年1月31日	710 days	2021年6月24日星期	2023年11月13日	年6月24日星期四2021	NA			0 days	73%
1639	CS2-23000	SW2			Sewerage and utilities in Workfront G4	157 days	2021年6月25日	2021年12月31日	390 days	2021年6月30日星期	2022年10月21日	年6月30日星期三2021	年10月21日星期五2022			0 days	100%
1640	CS2-23100	SW2			DN700 CHER CH0-38	157 days	2021年6月25日	2021年12月31日	390 days	2021年6月30日星期	2022年10月21日	年6月30日星期三2021	年10月21日星期五2022			0 days	100%
1652	CS2-24000	SW2			Sewerage and utilities in Workfront G5	189 days	2021年8月2日星	2022年3月19日	593 days	2021年8月17日星期	2023年8月17日,	年8月17日星期二2021	NA		1704SS+21 days	637 days	72%
1653	CS2-24100	SW2	310	489	Process Pipe CHM, CHN, CHO, CHP, CHQ, CHV	189 days	2021年8月2日星	2022年3月19日	593 days	2021年8月17日星期	2023年8月17日,	年8月17日星期二2021	NA			637 days	78%
1677	CS2-25000	SW2			Sewerage and utilities in Workfront G6	158 days	2022年3月21日	2022年9月30日	609 days	2021年7月27日星期	2023年8月15日,	年7月27日星期二2021	NA		1947	61 days	42%
1679	CS2-25100a	SW2			Workfront G6a: Process Pipe CHN, CHPSW-1, CHSS1, CHSS2	158 days	2022年3月21日	2022年9月30日	532 days	2021年7月27日星期	2023年5月13日,	年7月27日星期二2021	NA	1591SS+36 days	1739	-399 days	8%
1689	CS2-25100b	SW2			Workfront G6b: Process Pipe CHN, CHPSW-1, CHSS1, CHSS2	0 days	NA	NA	476 days	2022年1月5日星期三	2023年8月15日,	年1月5日星期三2022	NA	1688		61 days	50%
1703	CS2-26000	SW2			Sewerage and utilities in Workfront H1	100 days	2022年3月21日	2022年7月23日	178 days	2022年4月1日星期五	2022年11月7日,	年4月1日星期五2022	年11月7日星期一2022			0 days	100%
1704	CS2-26100	SW2			Process Pipe CHSS1, CHSS2 CH181-254	100 days	2022年3月21日	2022年7月23日	178 days	2022年4月1日星期五	2022年11月7日,	年4月1日星期五2022	年11月7日星期一2022	1652SS+21 days		0 days	100%
1715	CS2-27000	SW2			Sewerage and utilities in Workfront I1	88 days	2023年1月4日星	2023年4月24日	370 days	2020年7月8日星期三	2021年10月2日,	年7月8日星期三2020	年10月2日星期六2021			0 days	100%
1716	CS2-27100	SW2			Process Pipe CHS CH0-72 , CHR CH 57-132	88 days	2023年1月4日星	2023年4月24日	370 days	2020年7月8日星期三	2021年10月2日,	年7月8日星期三2020	年10月2日星期六2021			0 days	100%
1727	CS2-28000	SW2			Sewerage and utilities in Workfront I2	92 days	2022年9月13日	2023年1月3日星	963 days	2020年7月8日星期三	2023年10月4日,	年7月8日星期三2020	NA			598 days	40%
1728	CS2-28100	SW2			Process Pipe CHR CH0-26	92 days	2022年9月13日	2023年1月3日星	963 days	2020年7月8日星期三	2023年10月4日,	年7月8日星期三2020	NA			598 days	55%
1744	CS2-29000	SW2			Sewerage and utilities in Workfront I3	128 days	2022年8月1日星	2023年1月3日星	512 days	2021年7月21日星期	2023年4月13日,	年7月21日星期三2021	NA		1969	176 days	91%
1745	CS2-29100	SW2	294,286,		Construction of manhole MHFB51A, MHFB51, MHFB52, PSW3	128 days	2022年8月1日星	2023年1月3日星	501 days	2021年7月21日星期	2023年3月27日,	年7月21日星期三2021	NA			187 days	92%

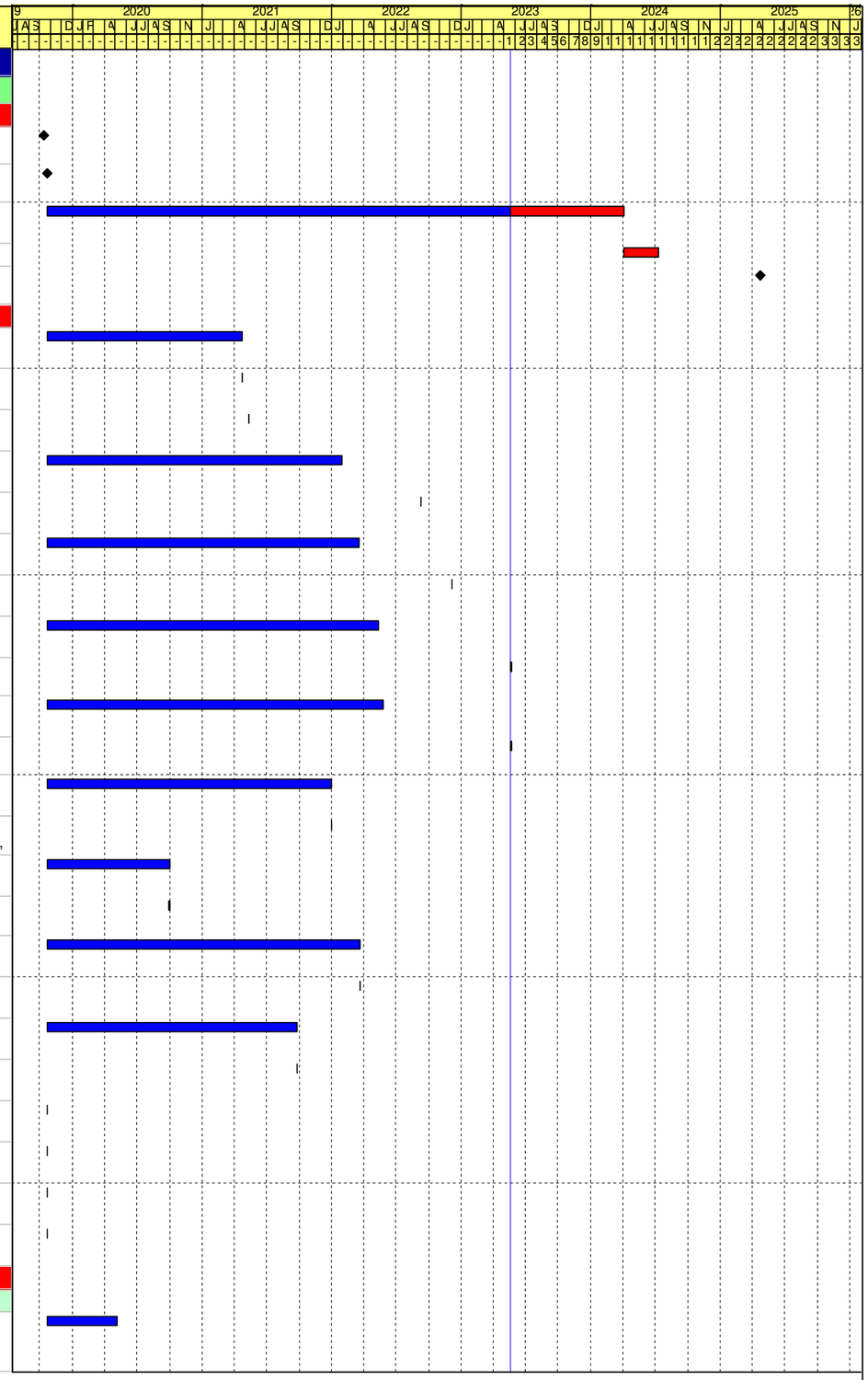


Revised Works Programme (Status Date: 31/03/2023)

識別碼	Activity ID	Key Date	NCE/(EW	PMI/(CE)	Task Name	比較基準工期	比較基準開始時間	比較基準完成時間	工期	開始時間	完成時間	實際開始時間	實際完成時間	前置任務	後續任務	總寬限時間	Rid All	完成百分比
1780	**CS2-30000**	**SW2**			**Sewerage and utilities in Workfront I4**	**86 days**	**2021年10月11日**	**2022年1月22日**	**661 days**	**2021年6月5日星期六**	**2023年8月26日,**	**年6月5日星期六2021**	**NA**		**1961**	**27 days**		**58%**
1783	**CS2-30100**	**SW2**	**230,238,**		**Construction of Process Pipes CHPSW3; CHDO1, chemical trench**	**86 days**	**2021年10月11日**	**2022年1月22日**	**661 days**	**2021年6月5日星期六**	**2023年8月26日,**	**年6月5日星期六2021**	**NA**			**27 days**		**86%**
1992	**CLW-0000**	*			**Landscaping Works**	**855 days**	**2022年7月27日**	**2025年6月11日**	**862 days**	**2022年7月27日星期三**	**2025年6月11日,**	**NA**	**NA**	**16**		**90 days**		**0%**
1993	CLW-1000	SW3			Irrigation System	120 days	2022年7月27日	2022年12月16日	120 days	2022年7月27日星期三	2022年12月16日	NA	NA		1994	94 days		0%
1994	CLW-2000	SW3			Hard Landscaping Works	214 days	2022年12月17日	2023年9月8日星	215 days	2022年12月17日星期	2023年9月9日星	NA	NA	1993	58FF,1995	94 days	5	0%
1995	CLW-3000	SW3			Soft Landscaping Works	214 days	2023年9月9日星	2024年6月11日	213 days	2023年9月19日星期二	2024年6月11日	NA	NA	1994	1996,58FF	87 days	5	0%
1996	CLW-4000	DLP			Establishment Works (365 days)	365 days	2024年6月12日	2025年6月11日	365 days	2024年6月12日星期三	2025年6月11日	NA	NA	1995,163	59FF,60FF	105 days	5	0%



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 Work		2022	11-Oct-19 A	23-Apr-25	31-Oct-21	23-Apr-25	0		
Contract Data		2022	11-Oct-19 A	23-Apr-25	13-May-22	23-Apr-25	0		
Starting Date & Completion Date		2022	11-Oct-19 A	23-Apr-25	13-May-22	23-Apr-25	0		
CD1000	Contract Date (LOA)	0	11-Oct-19 A		13-May-22				CD1010, S1P1000,
CD1010	Starting Date	0	23-Oct-19 A		13-May-22			CD1000	S1D1040, AD1050,
CD1020	Whole Contract Period (1626 days from starting date)	1626	23-Oct-19 A	04-Apr-24	21-May-23	04-Apr-24	0	CD1010	CD1040, CD1030
CD1030	Extension of Time Granted (Total 94.5days)	95	05-Apr-24	08-Jul-24*	05-Apr-24	08-Jul-24	0	CD1020	CD1040
CD1040	Completion Date for the whole of the Works	0		23-Apr-25		23-Apr-25	0	CD1020, CD1010,	
Access Date		1434	23-Oct-19 A	21-May-23	13-May-22	23-Apr-25	703		
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	23-Apr-25	23-Apr-25		CD1010	AD1040
AD1040	Planned Access Date for Portion C-2A	1	09-Sep-22 A	09-Sep-22 A	23-Apr-25	23-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	16-Dec-22	16-Dec-22		CD1010	AD1060
AD1060	Planned Access Date for Portion C-2B	1	07-Dec-22 A	07-Dec-22 A	16-Dec-22	16-Dec-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-May-23	21-May-23*	13-May-22	13-May-22	-373	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-May-23	21-May-23*	24-May-22	24-May-22	-362	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	21-Sep-22	21-Sep-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	21-Sep-22	21-Sep-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	21-May-23	21-May-23		CD1010	AD1140
AD1140	Planned Access Date for Portion B-1	1	30-Sep-20 A	30-Sep-20 A	21-May-23	21-May-23		AD1130	KD1030, S3C1020,
AD1150	Portion B-2a (within 615 to 705 days from starting date) (SS by NCE-NCE-219, within 771 to 891 days from starting date)	891	23-Oct-19 A	23-Mar-22 A	24-Mar-23	24-Mar-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	24-Mar-23	24-Mar-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	23-Apr-25	23-Apr-25			
AD1180	Planned Access Date for Portion B-2b (SS by NCE-NCE-219)	1	24-Sep-21 A	24-Sep-21 A	23-Apr-25	23-Apr-25			
AD1190	Works Area WA1-B (starting date)	1	23-Oct-19 A	23-Oct-19 A	26-Oct-22	26-Oct-22		CD1010	AD1200
AD1200	Planned Access Date for Works Area WA1-B	1	23-Oct-19 A	23-Oct-19 A	26-Oct-22	26-Oct-22		CD1010, AD1190	PL1000, PL1020
AD1210	Works Area WA3 (starting date)	1	23-Oct-19 A	23-Oct-19 A	06-Mar-24	06-Mar-24		CD1010	AD1220
AD1220	Planned Access Date for Works Area WA3	1	23-Oct-19 A	23-Oct-19 A	06-Mar-24	06-Mar-24		CD1010, AD1210	PL1000, PL1030
Key Dates		1831	23-Oct-19 A	26-Oct-24	18-Feb-23	23-Apr-25	179		
Contractual Completion (Include Implemented CE)		1579	23-Oct-19 A	17-Feb-24	18-Feb-23	23-Apr-25	432		
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	18-Feb-23	18-Feb-23		CD1010, S1D1040, S1D1100	CD1040, S4P1040



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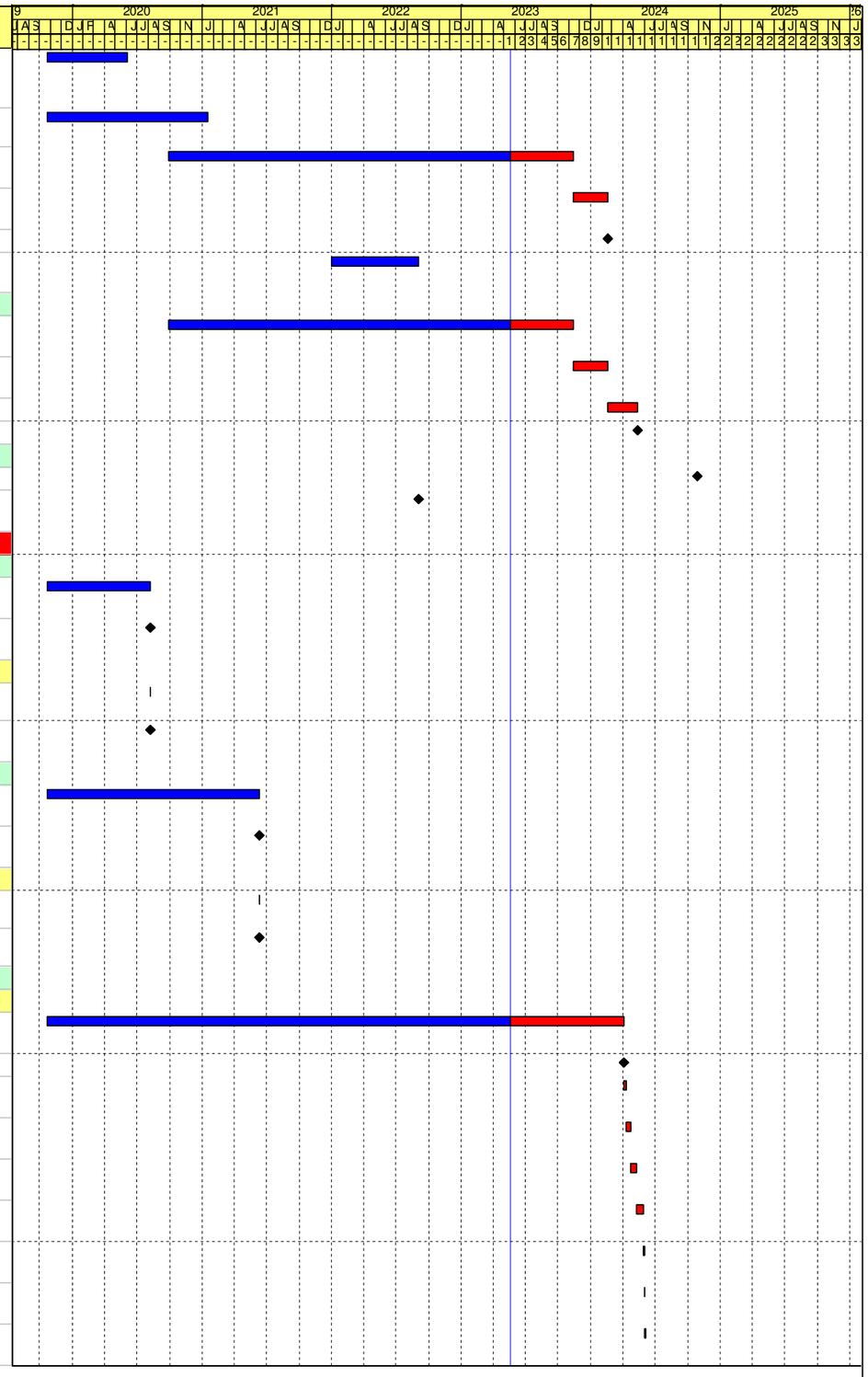
Remaining Work
Critical Activity
Milestone
Actual Progress

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 May 2023

Date	Revision	Checked	Approved
31-Jan-23	Rev.30	IM/LT	KM
28-Feb-23	Rev.31	IM/LT	KM
31-Mar-23	Rev.32	IM/LT	KM
30-Apr-23	Rev.33	IM/LT	KM
31-May-23	Rev.34	IM/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	23-Apr-25	23-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	23-Apr-25	23-Apr-25		CD1010, S2D1120,	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-May-23	14-Nov-23	0	AD1140	KD1040
KD1040	Extension of Time Granted for KD3A (Total 94.5days)	95	15-Nov-23	17-Feb-24	15-Nov-23	17-Feb-24	0	KD1030	SC31110, KD1050
KD1050	Revised Completion Date for KD3A	0		17-Feb-24*		17-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	23-Apr-25	23-Apr-25		AD1120, S5WS2C1010	
Expected Completion (Include Non-implemented CE)		1268	30-Sep-20 A	11-May-24	21-May-23	11-May-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-May-23	14-Nov-23	0	AD1140	KD1040-1
KD1040-1	Extension of Time Granted for KD3A (Total 94.5days)	95	15-Nov-23	17-Feb-24	15-Nov-23	17-Feb-24	0	KD1030-1	SC31110, KD1045
KD1045	Extension of Time for KD3A - Non-implemented (Total 84.5days)	85	17-Feb-24	11-May-24	17-Feb-24	11-May-24	0	KD1040-1	KD1050-1
KD1050-1	Expected Completion Date for KD3A	0		11-May-24*		11-May-24	0	KD1045	
Planned Completion		754	02-Sep-22 A	26-Oct-24	17-Feb-24	23-Apr-25	179		
KD1050-2	Planned Completion Date for KD3A	0		26-Oct-24*		17-Feb-24	-253	S3T1230	SC31110
KD1060-1	Planned Completion Date for KD5A	0		02-Sep-22 A		23-Apr-25		AD1120, S5WS2C1010	
Completion Date		2010	23-Oct-19 A	23-Apr-25	21-May-23	23-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	23-Apr-25	23-Apr-25			
SC11000	Contract Duration of Section 1	291	23-Oct-19 A	08-Aug-20 A	23-Apr-25	23-Apr-25		CD1010	SC11100
SC11100	Completion date - Section 1 (290 days after starting date)	0		08-Aug-20 A		23-Apr-25		SC11000	SC11120
Time Risk Allowance and Planned Completion		1	08-Aug-20 A	08-Aug-20 A	23-Apr-25	23-Apr-25			
SC11110	Time Risk Allowance for Section 1	1	08-Aug-20 A	08-Aug-20 A	23-Apr-25	23-Apr-25		S1P1000, S1P1040,	SC11120
SC11120	Planned Completion for Section 1	0		08-Aug-20 A		23-Apr-25		SC11110, SC11100	CD1040
Section 2 - Complete All Designs (exclude Sec. 1 & 3)		632	23-Oct-19 A	11-Jun-21 A	23-Apr-25	23-Apr-25			
SC21000	Contract Duration of Section 2	601	23-Oct-19 A	11-Jun-21 A	23-Apr-25	23-Apr-25		CD1010	SC21100
SC21100	Completion date - Section 2 (600 days after starting date)	0		11-Jun-21 A		23-Apr-25		SC21000	SC21120
Time Risk Allowance and Planned Completion		9	11-Jun-21 A	11-Jun-21 A	23-Apr-25	23-Apr-25			
SC21110	Time Risk Allowance for Section 2	6	11-Jun-21 A	11-Jun-21 A	23-Apr-25	23-Apr-25		S2P1000, S2P1010,	SC21120
SC21120	Planned Completion for Section 2	0		11-Jun-21 A		23-Apr-25		SC21110, SC21100,	CD1040
Section 3 - Complete Design, Construction & T&C for Sidestream Facilities		2010	23-Oct-19 A	23-Apr-25	21-May-23	23-Apr-25	0		
Contractual Completion (Include Implemented CE)		1721	23-Oct-19 A	08-Jul-24	21-May-23	08-Jul-24	0		
SC31000	Contract Duration of Section 3	1626	23-Oct-19 A	04-Apr-24	21-May-23	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



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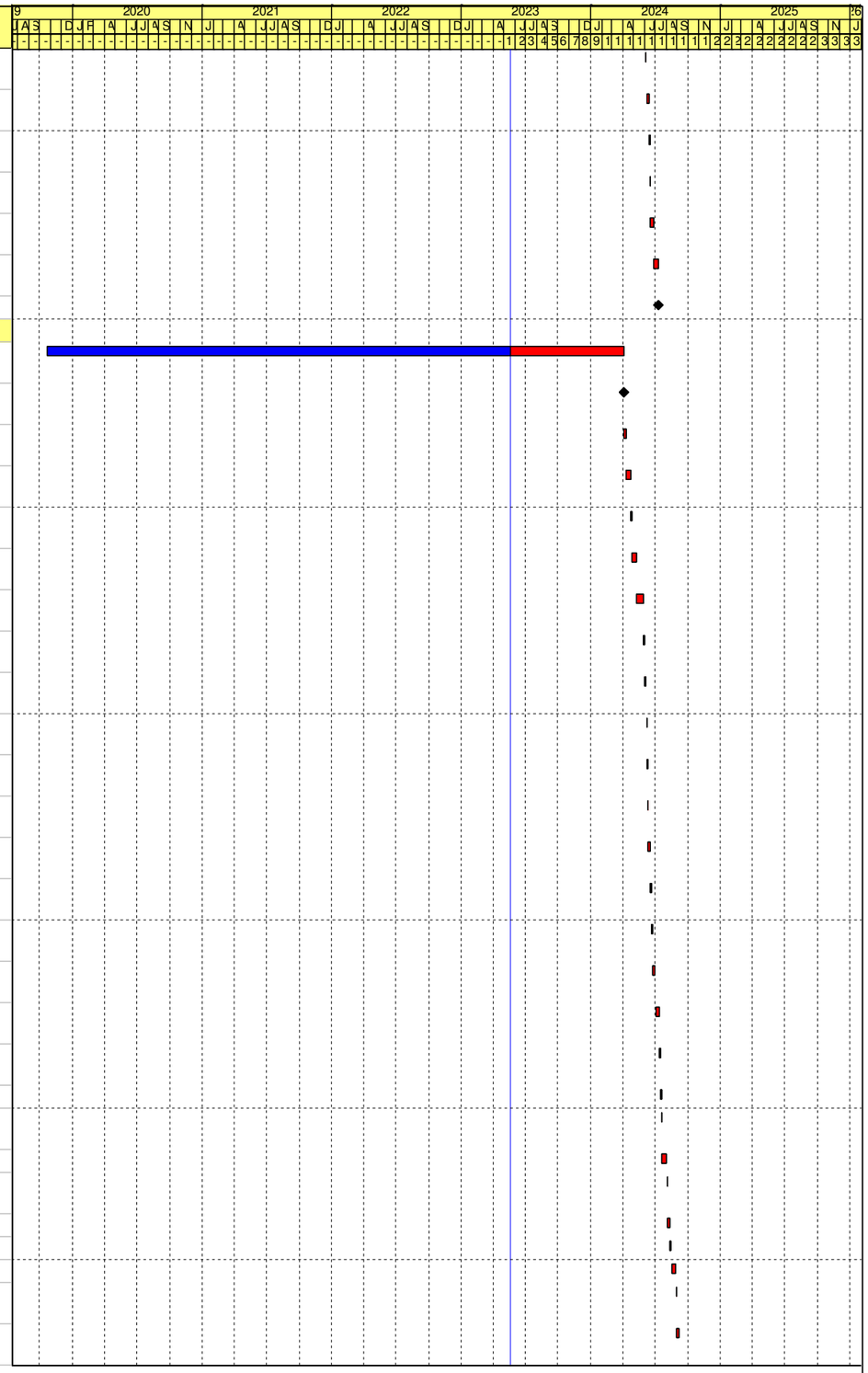
Remaining Work
Critical Activity
Milestone
Actual Progress

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 May 2023

Date	Revision	Checked	Approved
31-Jan-23	Rev.30	IM/LT	KM
28-Feb-23	Rev.31	IM/LT	KM
31-Mar-23	Rev.32	IM/LT	KM
30-Apr-23	Rev.33	IM/LT	KM
31-May-23	Rev.34	IM/LT	KM

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
SC31012	NICE-CNE-0344 Inclement Weather (January 2022) - 0.5days (Implemented)	1	05-Jun-24	05-Jun-24	05-Jun-24	05-Jun-24	0	SC31011	SC31013
SC31013	NICE-CNE-0345 Inclement Weather (February 2022) - 6.5days (Implemented)	7	06-Jun-24	12-Jun-24	06-Jun-24	12-Jun-24	0	SC31012	SC31014
SC31014	NICE-CNE-0386 Inclement Weather (March 2022) - 3.5days (Implemented)	4	12-Jun-24	15-Jun-24	12-Jun-24	15-Jun-24	0	SC31013	SC31015
SC31015	NICE-CNE-0387 Inclement Weather (April 2022) - 2.5days (Implemented)	3	16-Jun-24	18-Jun-24	16-Jun-24	18-Jun-24	0	SC31014	SC31016
SC31016	NICE-CNE-0391 Inclement Weather (May 2022) - 8.5days (Implemented)	9	18-Jun-24	26-Jun-24	18-Jun-24	26-Jun-24	0	SC31015	SC31026
SC31026	NICE-CNE-0397 Inclement Weather (June 2022) - 11.5days (Implemented)	12	27-Jun-24	08-Jul-24	27-Jun-24	08-Jul-24	0	SC31016	SC31100
SC31100	Revised Completion for Section 3	0		08-Jul-24*		08-Jul-24	0	SC31026	
Expected Completion (Include Non-implemented CE)		2010	23-Oct-19 A	23-Apr-25	21-May-23	23-Apr-25	0		
SC31000-1	Contract Duration of Section 3	1626	23-Oct-19 A	04-Apr-24	21-May-23	04-Apr-24	0	CD1010	SC31001-1
SC31001-1	Completion date - Section 3 (1625 days after starting date)	0		04-Apr-24*		04-Apr-24	0	SC31000-1	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	SC31009-1
SC31009-1	CNE-020 Inclement Weather (October 2021) (Time and Cost Implication) - 4days	4	02-Jun-24	05-Jun-24	02-Jun-24	05-Jun-24	0	SC31007-1	SC31010-1
SC31010-1	NICE-CNE-0313 Inclement Weather (November 2021) - 0.5days (Implemented)	1	06-Jun-24	06-Jun-24	06-Jun-24	06-Jun-24	0	SC31009-1	SC31011-1
SC31011-1	NICE-CNE-0343 Inclement Weather (December 2021) - 4days (Implemented)	4	06-Jun-24	10-Jun-24	06-Jun-24	10-Jun-24	0	SC31010-1	SC31012-1
SC31012-1	NICE-CNE-0344 Inclement Weather (January 2022) - 0.5days (Implemented)	1	10-Jun-24	10-Jun-24	10-Jun-24	10-Jun-24	0	SC31011-1	SC31013-1
SC31013-1	NICE-CNE-0345 Inclement Weather (February 2022) - 6.5days (Implemented)	7	11-Jun-24	17-Jun-24	11-Jun-24	17-Jun-24	0	SC31012-1	SC31014-1
SC31014-1	NICE-CNE-0386 Inclement Weather (March 2022) - 3.5days (Implemented)	4	17-Jun-24	20-Jun-24	17-Jun-24	20-Jun-24	0	SC31013-1	SC31015-1
SC31015-1	NICE-CNE-0387 Inclement Weather (April 2022) - 2.5days (Implemented)	3	21-Jun-24	23-Jun-24	21-Jun-24	23-Jun-24	0	SC31014-1	SC31016-1
SC31016-1	NICE-CNE-0391 Inclement Weather (May 2022) - 8.5days (Implemented)	9	23-Jun-24	01-Jul-24	23-Jun-24	01-Jul-24	0	SC31015-1	SC31017-1
SC31017-1	NICE-CNE-0397 Inclement Weather (June 2022) - 11.5days (Implemented)	12	02-Jul-24	13-Jul-24	02-Jul-24	13-Jul-24	0	SC31016-1	SC31018-1
SC31018-1	CNE-053 Inclement Weather (June 2022) (Time and Cost Implication) - 2days	2	13-Jul-24	15-Jul-24	13-Jul-24	15-Jul-24	0	SC31017-1	SC31019-1
SC31019-1	CNE-054 Inclement Weather (July 2022) - 4days	4	15-Jul-24	19-Jul-24	15-Jul-24	19-Jul-24	0	SC31018-1	SC31020-1
SC31020-1	CNE-055 Inclement Weather (July 2022) (Time and Cost Implication) - 1day	1	19-Jul-24	20-Jul-24	19-Jul-24	20-Jul-24	0	SC31019-1	SC31021-1
SC31021-1	CNE-056 Inclement Weather (August 2022) - 13.5days	14	20-Jul-24	02-Aug-24	20-Jul-24	02-Aug-24	0	SC31020-1	SC31022-1
SC31022-1	CNE-057 Inclement Weather (August 2022) (Time and Cost Implication) - 1day	1	03-Aug-24	03-Aug-24	03-Aug-24	03-Aug-24	0	SC31021-1	SC31023-1
SC31023-1	CNE-058 Inclement Weather (September 2022) - 8days	8	04-Aug-24	11-Aug-24	04-Aug-24	11-Aug-24	0	SC31022-1	SC31024-1
SC31024-1	CNE-059 Inclement Weather (October 2022) - 4days	4	12-Aug-24	15-Aug-24	12-Aug-24	15-Aug-24	0	SC31023-1	SC31025-1
SC31025-1	CNE-061 Inclement Weather (November 2022) - 13days	13	16-Aug-24	28-Aug-24	16-Aug-24	28-Aug-24	0	SC31024-1	SC31026-1
SC31026-1	CNE-062 Inclement Weather (November 2022) (Time and Cost Implication) - 2days	2	29-Aug-24	30-Aug-24	29-Aug-24	30-Aug-24	0	SC31025-1	SC31027-1
SC31027-1	CNE-065 Inclement Weather (December 2022) (Time Implication) - 5days	5	31-Aug-24	04-Sep-24	31-Aug-24	04-Sep-24	0	SC31026-1	SC31028-1



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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
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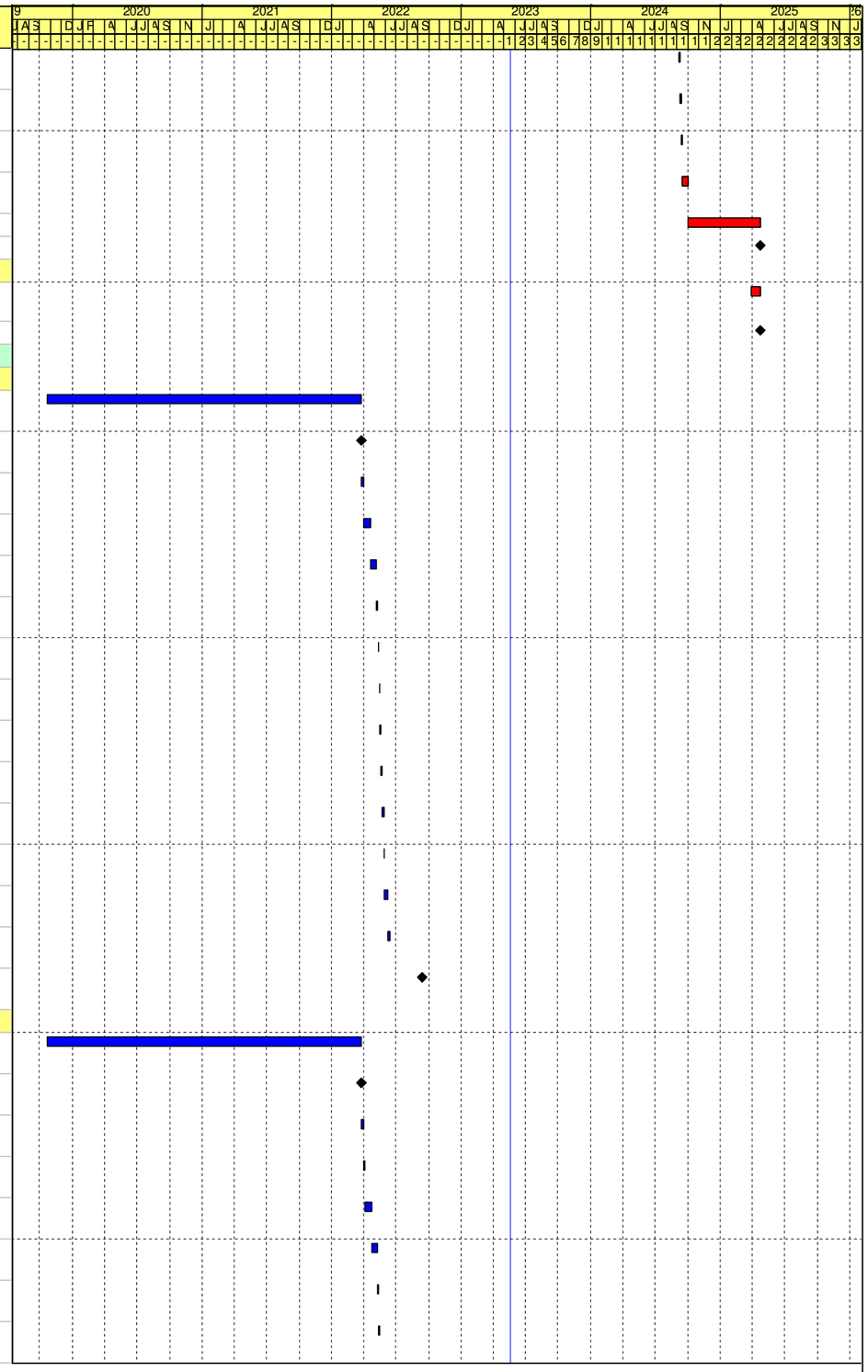
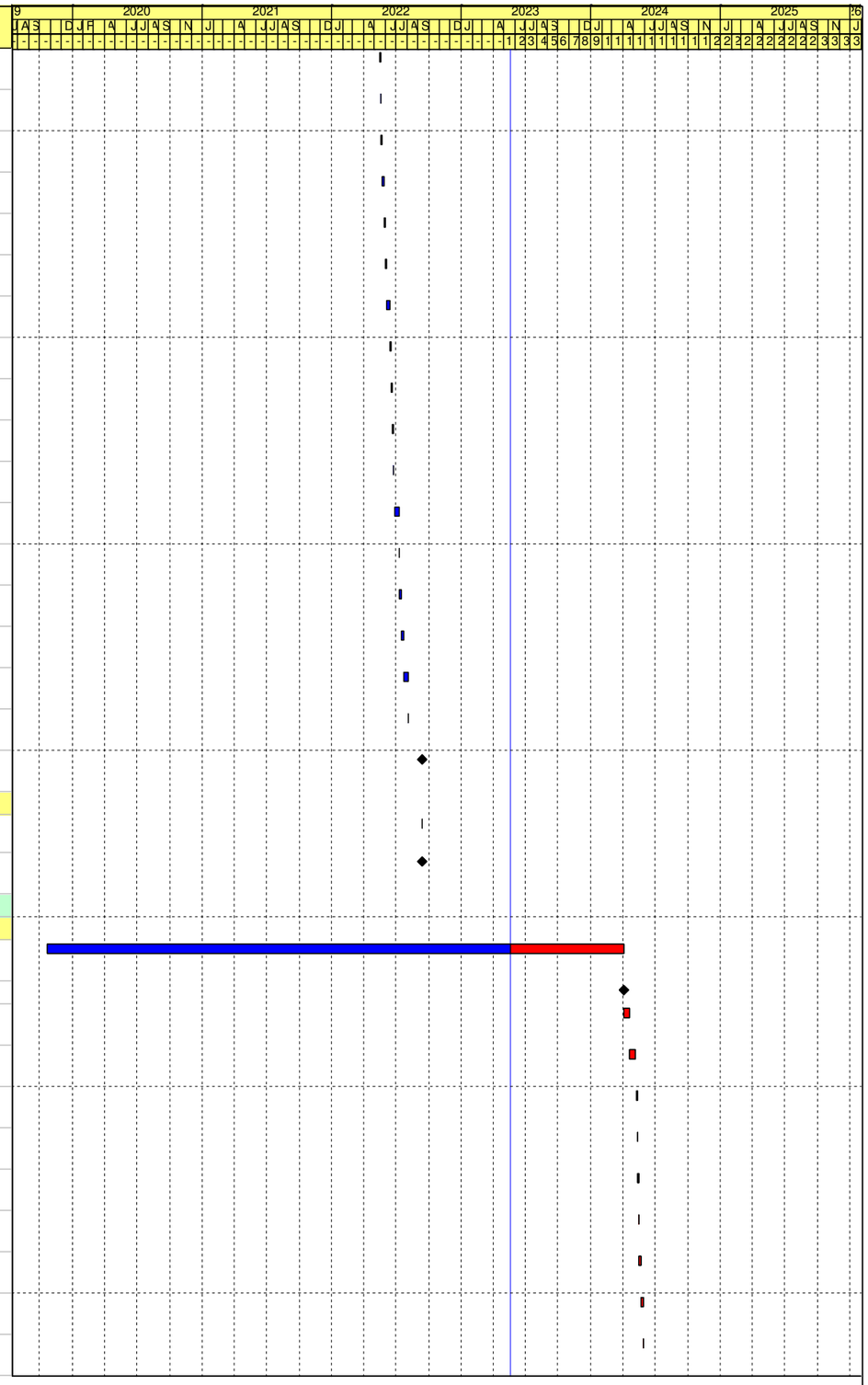
Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
SC31028-1	CNE-068 Inclement Weather (January 2023) (Time Implication) - 5days	5	05-Sep-24	09-Sep-24	05-Sep-24	09-Sep-24	0	SC31027-1	SC31029-1
SC31029-1	CNE-070 Inclement Weather (February 2023) (Time Implication) - 2days	2	10-Sep-24	11-Sep-24	10-Sep-24	11-Sep-24	0	SC31028-1	SC31030-1
SC31030-1	CNE-071 Inclement Weather (March 2023) (Time Implication) - 5days	5	12-Sep-24	16-Sep-24	12-Sep-24	16-Sep-24	0	SC31029-1	SC31031-1
SC31031-1	CNE-072 Inclement Weather (April 2023) (Time Implication) - 14days	14	17-Sep-24	30-Sep-24	17-Sep-24	30-Sep-24	0	SC31030-1	SC31099-1
SC31099-1	EWN-0314 Extention of Time for change of access date	205	01-Oct-24	23-Apr-25	01-Oct-24	23-Apr-25	0	SC31031-1	SC31100-1
SC31100-1	Expected Completion for Section 3	0		23-Apr-25*		23-Apr-25	0	SC31099-1	
Time Risk Allowance and Planned Completion		26	29-Mar-25	23-Apr-25	12-Jun-24	08-Jul-24	-290		
SC31110	Time Risk Allowance for Section 3	26	29-Mar-25	23-Apr-25	12-Jun-24	08-Jul-24	-290	SC31001-1, S3C1160,	SC31120
SC31120	Planned Completion for Section 3	0		23-Apr-25*		08-Jul-24	-290	SC31110	CD1040
Section 4 - Complete Construction & T&C for UV System No.1 & EP Station No. 1		1309	23-Oct-19 A	14-Sep-22 A	23-Apr-25	23-Apr-25			
Contractual Completion (Include Implemented CE)		1309	23-Oct-19 A	14-Sep-22 A	23-Apr-25	23-Apr-25			
SC41000	Contract Duration of Section 4	886	23-Oct-19 A	26-Mar-22 A	23-Apr-25	23-Apr-25			SC41001
SC41001	Completion date - Section 4 (885 days after starting date)	0		26-Mar-22 A		23-Apr-25		SC41000	SC41002
SC41002	NICE-CNE-0256 Inclement Weather (June 2021) - 6.5days (Implemented)	7	27-Mar-22 A	02-Apr-22 A	23-Apr-25	23-Apr-25		SC41001	SC41004
SC41004	NICE-CNE-0264 Inclement Weather (July 2021) - 19days (Implemented)	19	02-Apr-22 A	21-Apr-22 A	23-Apr-25	23-Apr-25		SC41002	SC41005
SC41005	NICE-CNE-0292 Inclement Weather (August 2021) - 16days (Implemented)	16	21-Apr-22 A	07-May-22 A	23-Apr-25	23-Apr-25		SC41004	SC41006
SC41006	NICE-CNE-0293 Inclement Weather (September 2021) - 4.5days (Implemented)	5	07-May-22 A	11-May-22 A	23-Apr-25	23-Apr-25		SC41005	SC41007
SC41007	NICE-CNE-0309 Inclement Weather (October 2021) - 3days (Implemented)	3	12-May-22 A	14-May-22 A	23-Apr-25	23-Apr-25		SC41006	SC41009
SC41009	NICE-CNE-0313 Inclement Weather (November 2021) - 0.5days (Implemented)	1	15-May-22 A	15-May-22 A	23-Apr-25	23-Apr-25		SC41007	SC41010
SC41010	NICE-CNE-0343 Inclement Weather (December 2021) - 4days (Implemented)	4	15-May-22 A	19-May-22 A	23-Apr-25	23-Apr-25		SC41009	SC41012
SC41012	NICE-CNE-0345 Inclement Weather (February 2022) - 4.5days (Implemented)	5	19-May-22 A	23-May-22 A	23-Apr-25	23-Apr-25		SC41010	SC41013
SC41013	NICE-CNE-0386 Inclement Weather (March 2022) - 4.5days (Implemented)	5	24-May-22 A	28-May-22 A	23-Apr-25	23-Apr-25		SC41012	SC41014
SC41014	NICE-CNE-0387 Inclement Weather (April 2022) - 1.5days (Implemented)	2	28-May-22 A	29-May-22 A	23-Apr-25	23-Apr-25		SC41013	SC41015
SC41015	NICE-CNE-0391 Inclement Weather (May 2022) - 10.5days (Implemented)	11	30-May-22 A	09-Jun-22 A	23-Apr-25	23-Apr-25		SC41014	SC41016
SC41016	NICE-CNE-0397 Inclement Weather (June 2022) - 4.5days (Implemented)	5	09-Jun-22 A	13-Jun-22 A	23-Apr-25	23-Apr-25		SC41015	SC41100
SC41100	Revised Completion for Section 4	0		14-Sep-22 A		23-Apr-25		SC41016	
Expected Completion (Include Non-implemented CE)		1170	23-Oct-19 A	14-Sep-22 A	23-Apr-25	23-Apr-25			
SC41000-1	Contract Duration of Section 4	886	23-Oct-19 A	26-Mar-22 A	23-Apr-25	23-Apr-25		CD1010	SC41001-1
SC41001-1	Completion date - Section 4 (885 days after starting date)	0		26-Mar-22 A		23-Apr-25		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	23-Apr-25	23-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	23-Apr-25	23-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	23-Apr-25	23-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	23-Apr-25	23-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	23-Apr-25	23-Apr-25		SC41005-1	SC41007-1
SC41007-1	NICE-CNE-0309 Inclement Weather (October 2021) - 3days (Implemented)	3	13-May-22 A	15-May-22 A	23-Apr-25	23-Apr-25		SC41006-1	SC41008-1



Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
SC41008-1	CNE-020 Inclement Weather (October 2021) (Time and Cost Implication) - 4days	4	16-May-22 A	19-May-22 A	23-Apr-25	23-Apr-25		SC41007-1	SC41009-1
SC41009-1	NICE-CNE-0313 Inclement Weather (November 2021) - 0.5days (Implemented)	1	20-May-22 A	20-May-22 A	23-Apr-25	23-Apr-25		SC41008-1	SC41010-1
SC41010-1	NICE-CNE-0343 Inclement Weather (December 2021) - 4days (Implemented)	4	20-May-22 A	24-May-22 A	23-Apr-25	23-Apr-25		SC41009-1	SC41012-1
SC41012-1	NICE-CNE-0345 Inclement Weather (February 2022) - 4.5days (Implemented)	5	24-May-22 A	28-May-22 A	23-Apr-25	23-Apr-25		SC41010-1	SC41013-1
SC41013-1	NICE-CNE-0386 Inclement Weather (March 2022) - 4.5days (Implemented)	5	29-May-22 A	02-Jun-22 A	23-Apr-25	23-Apr-25		SC41012-1	SC41014-1
SC41014-1	NICE-CNE-0387 Inclement Weather (April 2022) - 1.5days (Implemented)	2	02-Jun-22 A	03-Jun-22 A	23-Apr-25	23-Apr-25		SC41013-1	SC41015-1
SC41015-1	NICE-CNE-0391 Inclement Weather (May 2022) - 10.5days (Implemented)	11	04-Jun-22 A	14-Jun-22 A	23-Apr-25	23-Apr-25		SC41014-1	SC41016-1
SC41016-1	NICE-CNE-0397 Inclement Weather (June 2022) - 4.5days (Implemented)	5	14-Jun-22 A	18-Jun-22 A	23-Apr-25	23-Apr-25		SC41015-1	SC41017-1
SC41017-1	CNE-053 Inclement Weather (June 2022) (Time and Cost Implication) - 2day	2	19-Jun-22 A	20-Jun-22 A	23-Apr-25	23-Apr-25		SC41016-1	SC41018-1
SC41018-1	CNE-054 Inclement Weather (July 2022) - 4days	4	21-Jun-22 A	24-Jun-22 A	23-Apr-25	23-Apr-25		SC41017-1	SC41019-1
SC41019-1	CNE-055 Inclement Weather (July 2022) (Time and Cost Implication) - 1day	1	25-Jun-22 A	25-Jun-22 A	23-Apr-25	23-Apr-25		SC41018-1	SC41020-1
SC41020-1	CNE-056 Inclement Weather (August 2022) - 13.5days	14	26-Jun-22 A	09-Jul-22 A	23-Apr-25	23-Apr-25		SC41019-1	SC41021-1
SC41021-1	CNE-057 Inclement Weather (August 2022) (Time and Cost Implication) - 1day	1	09-Jul-22 A	10-Jul-22 A	23-Apr-25	23-Apr-25		SC41020-1	SC41022-1
SC41022-1	CNE-058 Inclement Weather (September 2022) - 8days	8	10-Jul-22 A	18-Jul-22 A	23-Apr-25	23-Apr-25		SC41021-1	SC41023-1
SC41023-1	CNE-059 Inclement Weather (October 2022) - 4days	4	18-Jul-22 A	22-Jul-22 A	23-Apr-25	23-Apr-25		SC41022-1	SC41024-1
SC41024-1	CNE-061 Inclement Weather (November 2022) - 13days	13	22-Jul-22 A	04-Aug-22 A	23-Apr-25	23-Apr-25		SC41023-1	SC41025-1
SC41025-1	CNE-062 Inclement Weather (November 2022) (Time and Cost Implication) - 2days	2	04-Aug-22 A	06-Aug-22 A	23-Apr-25	23-Apr-25		SC41024-1	SC41100-1
SC41100-1	Expected Completion for Section 4	0		14-Sep-22 A		23-Apr-25		SC41025-1	
Time Risk Allowance and Planned Completion		7	14-Sep-22 A	14-Sep-22 A	23-Apr-25	23-Apr-25			
SC41110	Time Risk Allowance for Section 4	7	14-Sep-22 A	14-Sep-22 A	23-Apr-25	23-Apr-25		SC41001-1, S4C1100,	SC41120
SC41120	Planned Completion for Section 4	0		14-Sep-22 A		23-Apr-25		SC41110	CD1040
Section 5 - Complete all remaining Works (incl. T&C)		2010	23-Oct-19 A	23-Apr-25	21-May-23	23-Apr-25	0		
Contractual Completion (Include Implemented CE)		1700	23-Oct-19 A	17-Jun-24	21-May-23	17-Jun-24	0		
SC51000	Contract Duration of Section 5	1626	23-Oct-19 A	04-Apr-24	21-May-23	04-Apr-24	0		SC51001
SC51001	Completion date - Section 5 (1625 days after starting date)	0		04-Apr-24*		04-Apr-24	0	SC51000	SC51002
SC51002	NICE-CNE-0264 Inclement Weather (July 2021) - 14days (Implemented)	14	05-Apr-24	18-Apr-24	05-Apr-24	18-Apr-24	0	SC51001	SC51003
SC51003	NICE-CNE-0292 Inclement Weather (August 2021) - 19days (Implemented)	19	19-Apr-24	07-May-24	19-Apr-24	07-May-24	0	SC51002	SC51004
SC51004	NICE-CNE-0293 Inclement Weather (September 2021) - 3.5days (Implemented)	4	08-May-24	11-May-24	08-May-24	11-May-24	0	SC51003	SC51007
SC51007	NICE-CNE-0313 Inclement Weather (November 2021) - 0.5days (Implemented)	1	11-May-24	11-May-24	11-May-24	11-May-24	0	SC51004	SC51008
SC51008	NICE-CNE-0343 Inclement Weather (December 2021) - 5days (Implemented)	5	12-May-24	16-May-24	12-May-24	16-May-24	0	SC51007	SC51009
SC51009	NICE-CNE-0344 Inclement Weather (January 2022) - 0.5days (Implemented)	1	17-May-24	17-May-24	17-May-24	17-May-24	0	SC51008	SC51010
SC51010	NICE-CNE-0345 Inclement Weather (February 2022) - 5.5days (Implemented)	6	17-May-24	22-May-24	17-May-24	22-May-24	0	SC51009	SC51011
SC51011	NICE-CNE-0386 Inclement Weather (March 2022) - 4.5days (Implemented)	5	23-May-24	27-May-24	23-May-24	27-May-24	0	SC51010	SC51012
SC51012	NICE-CNE-0387 Inclement Weather (April 2022) - 1.5days (Implemented)	2	27-May-24	28-May-24	27-May-24	28-May-24	0	SC51011	SC51013



JEC

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Layout: DE1803 RP (May 2023) - WBS
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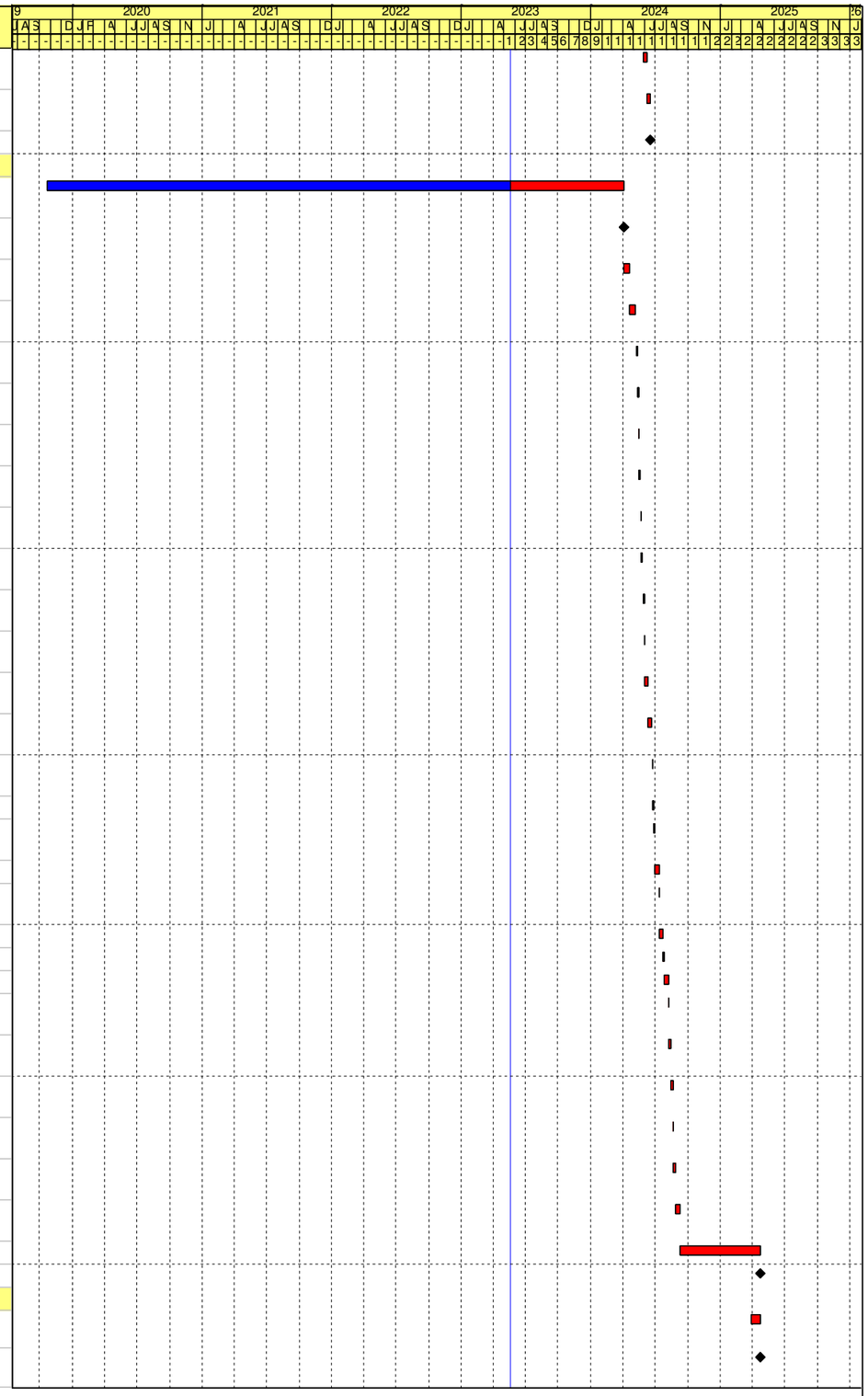
SC51013	NICE-CNE-0391 Inclement Weather (May 2022) - 8.5days (Implemented)	9	29-May-24	06-Jun-24	29-May-24	06-Jun-24	0	SC51012	SC51014
SC51014	NICE-CNE-0397 Inclement Weather (June 2022) - 11.5ays (Implemented)	12	06-Jun-24	17-Jun-24	06-Jun-24	17-Jun-24	0	SC51013	SC51100
SC51100	Revised Completion for Section 5	0		17-Jun-24*		17-Jun-24	0	SC51014	
Expected Completion (Include Non-implemented CE)		2010	23-Oct-19 A	23-Apr-25	21-May-23	23-Apr-25	0		
SC51000-1	Contract Duration of Section 5	1626	23-Oct-19 A	04-Apr-24	21-May-23	04-Apr-24	0	CD1010	SC51001-1
SC51001-1	Completion date - Section 5 (1625 days after starting date)	0		04-Apr-24*		04-Apr-24	0	SC51000-1	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	SC51006-1
SC51006-1	CNE-020 Inclement Weather (October 2021) (Time and Cost Implication) - 4days	4	11-May-24	15-May-24	11-May-24	15-May-24	0	SC51004-1	SC51007-1
SC51007-1	ICE-CNE-0313 Inclement Weather (November 2021) - 0.5days (Implemented)	1	15-May-24	15-May-24	15-May-24	15-May-24	0	SC51006-1	SC51008-1
SC51008-1	NICE-CNE-0343 Inclement Weather (December 2021) - 5days (Implemented)	5	16-May-24	20-May-24	16-May-24	20-May-24	0	SC51007-1	SC51009-1
SC51009-1	NICE-CNE-0344 Inclement Weather (January 2022) - 0.5days (Implemented)	1	21-May-24	21-May-24	21-May-24	21-May-24	0	SC51008-1	SC51010-1
SC51010-1	NICE-CNE-0345 Inclement Weather (February 2022) - 5.5days (Implemented)	6	21-May-24	26-May-24	21-May-24	26-May-24	0	SC51009-1	SC51011-1
SC51011-1	NICE-CNE-0386 Inclement Weather (March 2022) - 4.5days (Implemented)	5	27-May-24	31-May-24	27-May-24	31-May-24	0	SC51010-1	SC51012-1
SC51012-1	NICE-CNE-0387 Inclement Weather (April 2022) - 1.5days (Implemented)	2	31-May-24	01-Jun-24	31-May-24	01-Jun-24	0	SC51011-1	SC51013-1
SC51013-1	NICE-CNE-0391 Inclement Weather (May 2022) - 8.5days (Implemented)	9	02-Jun-24	10-Jun-24	02-Jun-24	10-Jun-24	0	SC51012-1	SC51014-1
SC51014-1	NICE-CNE-0397 Inclement Weather (June 2022) - 11.5ays (Implemented)	12	10-Jun-24	21-Jun-24	10-Jun-24	21-Jun-24	0	SC51013-1	SC51015-1
SC51015-1	CNE-053 Inclement Weather (June 2022) (Time and Cost Implication) - 2days	2	22-Jun-24	23-Jun-24	22-Jun-24	23-Jun-24	0	SC51014-1	SC51016-1
SC51016-1	CNE-054 Inclement Weather (July 2022) - 4days	4	24-Jun-24	27-Jun-24	24-Jun-24	27-Jun-24	0	SC51015-1	SC51017-1
SC51017-1	CNE-055 Inclement Weather (July 2022) (Time and Cost Implication) - 1day	1	28-Jun-24	28-Jun-24	28-Jun-24	28-Jun-24	0	SC51016-1	SC51018-1
SC51018-1	CNE-056 Inclement Weather (August 2022) - 13.5days	14	29-Jun-24	12-Jul-24	29-Jun-24	12-Jul-24	0	SC51017-1	SC51019-1
SC51019-1	CNE-057 Inclement Weather (August 2022) (Time and Cost Implication) - 1day	1	12-Jul-24	13-Jul-24	12-Jul-24	13-Jul-24	0	SC51018-1	SC51020-1
SC51020-1	CNE-058 Inclement Weather (September 2022) - 8days	8	13-Jul-24	21-Jul-24	13-Jul-24	21-Jul-24	0	SC51019-1	SC51021-1
SC51021-1	CNE-059 Inclement Weather (October 2022) - 4days	4	21-Jul-24	25-Jul-24	21-Jul-24	25-Jul-24	0	SC51020-1	SC51022-1
SC51022-1	CNE-061 Inclement Weather (November 2022) - 13days	13	25-Jul-24	07-Aug-24	25-Jul-24	07-Aug-24	0	SC51021-1	SC51023-1
SC51023-1	CNE-062 Inclement Weather (November 2022) (Time and Cost Implication) - 2days	2	07-Aug-24	09-Aug-24	07-Aug-24	09-Aug-24	0	SC51022-1	SC51024-1
SC51024-1	CNE-065 Inclement Weather (December 2022) (Time Implication) - 5days	5	09-Aug-24	14-Aug-24	09-Aug-24	14-Aug-24	0	SC51023-1	SC51025-1
SC51025-1	CNE-068 Inclement Weather (January 2023) (Time Implication) - 5days	5	14-Aug-24	19-Aug-24	14-Aug-24	19-Aug-24	0	SC51024-1	SC51026-1
SC51026-1	CNE-070 Inclement Weather (February 2023) (Time Implication) - 2days	2	19-Aug-24	21-Aug-24	19-Aug-24	21-Aug-24	0	SC51025-1	SC51027-1
SC51027-1	CNE-071 Inclement Weather (March 2023) (Time Implication) - 5days	5	21-Aug-24	26-Aug-24	21-Aug-24	26-Aug-24	0	SC51026-1	SC51028-1
SC51028-1	CNE-072 Inclement Weather (April 2023) (Time Implication) - 14days	14	26-Aug-24	09-Sep-24	26-Aug-24	09-Sep-24	0	SC51027-1	SC51099-1
SC51099-1	EWN-0314 Extention of Time for change of access date	227	09-Sep-24	23-Apr-25	09-Sep-24	23-Apr-25	0	SC51028-1	SC51100-1
SC51100-1	Expected Completion for Section 5	0		23-Apr-25*		23-Apr-25	0	SC51099-1	
Time Risk Allowance and Planned Completion		26	29-Mar-25	23-Apr-25	23-May-24	17-Jun-24	-310		
SC51110	Time Risk Allowance for Section 5	26	29-Mar-25	23-Apr-25	23-May-24	17-Jun-24	-310	SC51001-1, S5S1250,	SC51120
SC51120	Planned Completion for Section 5	0		23-Apr-25*		17-Jun-24	-310	SC51110, PL1520,	CD1040



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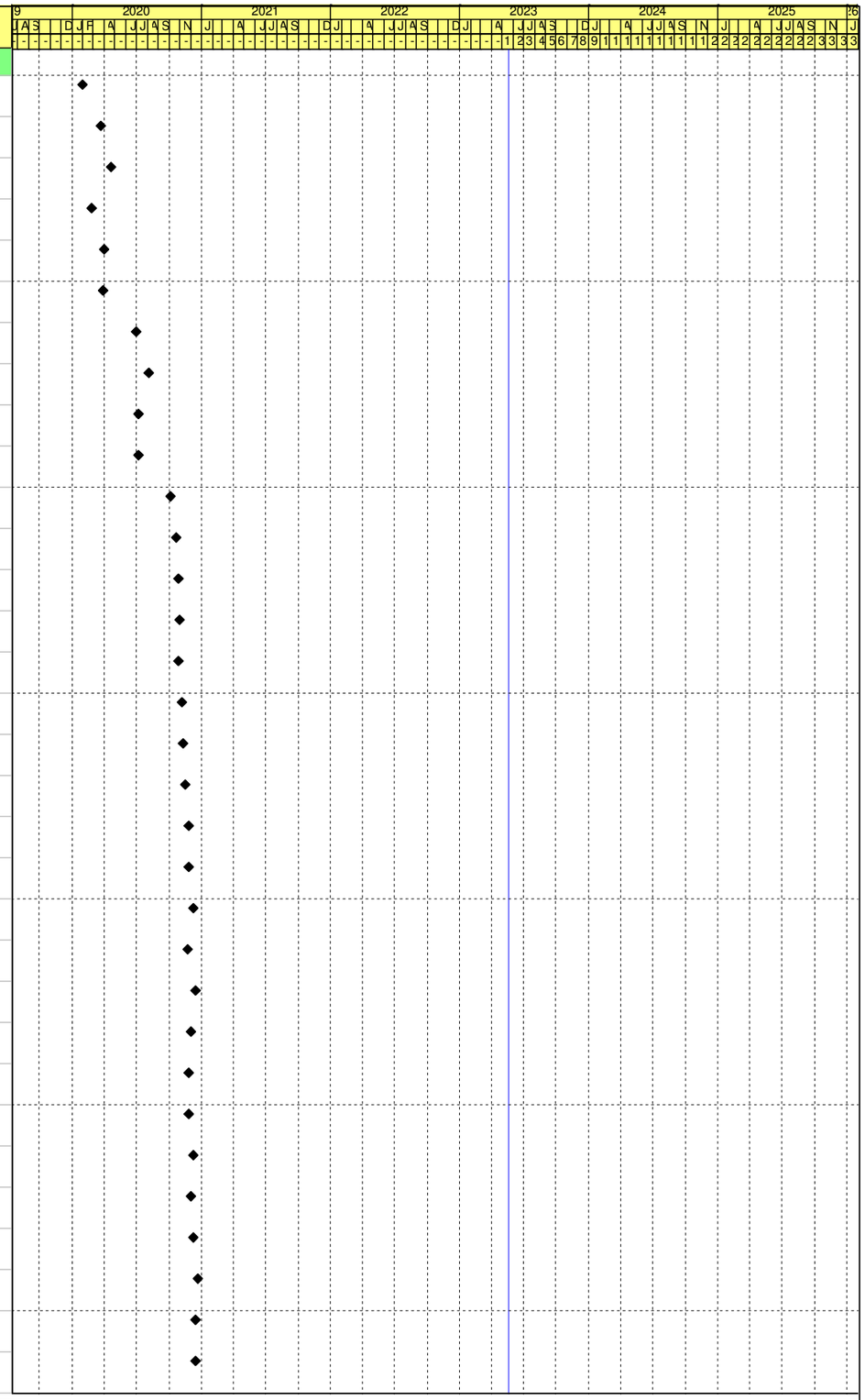
Remaining Work
Critical Activity
Milestone
Actual Progress

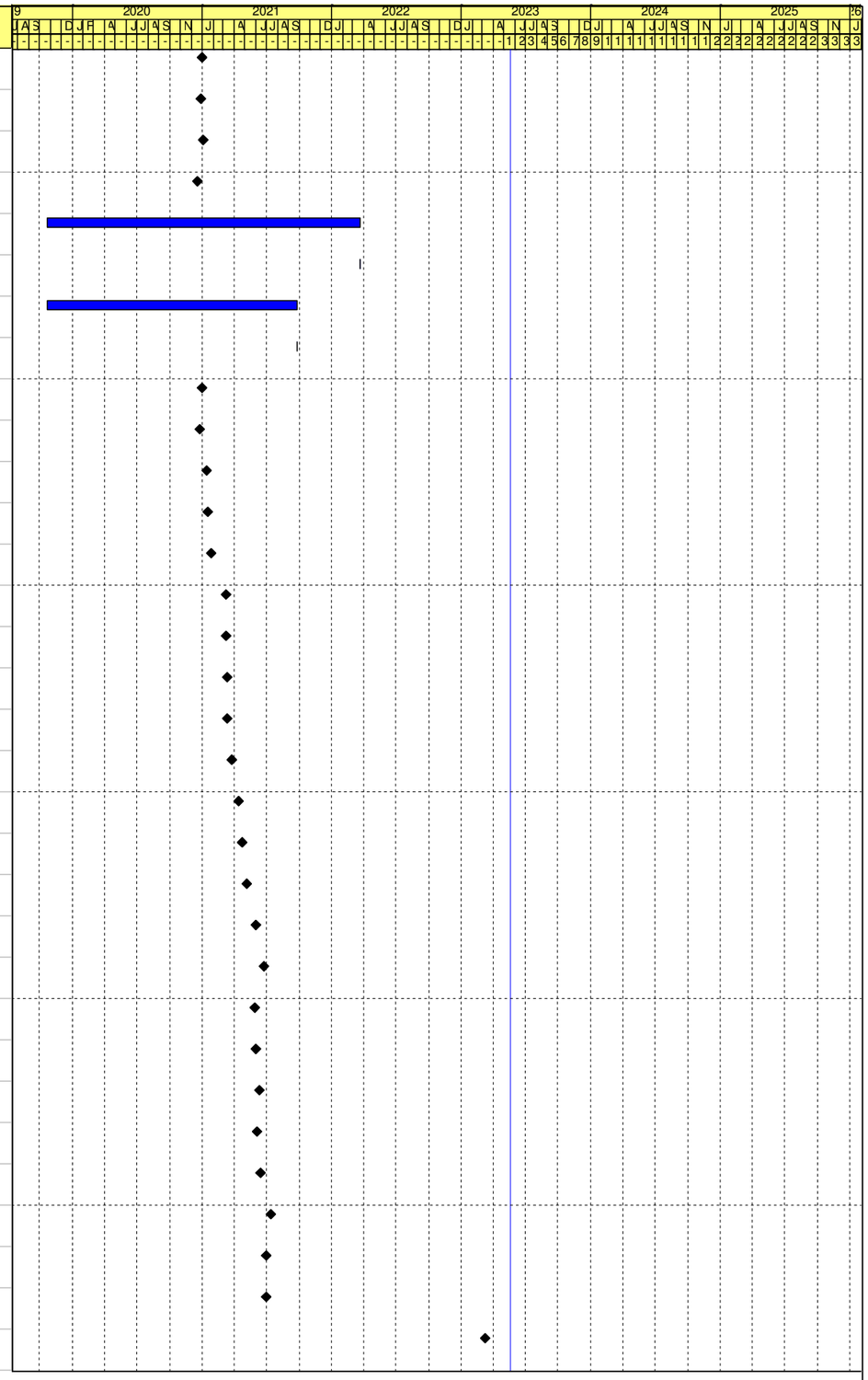
Contract No. DE/2018/03
Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1
Sidestream Treatment Facilities and E&M Works for Sludge Treatment Facilities
Revised Programme - as at 20 May 2023

Date	Revision	Checked	Approved
31-Jan-23	Rev.30	IM/LT	KM
28-Feb-23	Rev.31	IM/LT	KM
31-Mar-23	Rev.32	IM/LT	KM
30-Apr-23	Rev.33	IM/LT	KM
31-May-23	Rev.34	IM/LT	KM

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
Compensation Event		1621	23-Oct-19 A	21-May-23	30-Jan-22	23-Apr-25	703		
CE0001	CE No.001 - Special Work Arrangement in Reducing the Risk of the Spread of Novel Coronavirus	0		30-Jan-20 A		23-Apr-25			
CE0002	CE No.002 - The Contractor's Site Accomodation by Modular Integrated Construction (MIC) Method	0		23-Mar-20 A		23-Apr-25			
CE0003	CE No.003 - Flowmeter Relocation & Pipework Rearrangement at Effluent Transfer Pumping Station	0		20-Apr-20 A		23-Apr-25			
CE0004	CE No.004 - Designated Area for the Contractor's Site Accommodation in Works Area WA1	0		26-Feb-20 A		23-Apr-25			
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		23-Apr-25			
CE0006	CE No.006 - Additional Duty Point for Effluent Transfer Pumps	0		27-Mar-20 A		23-Apr-25			
CE0007	CE No.007 - Additional Adjustable Weir at UV System No.1 & Effluent Pumping Station No.1	0		30-Jun-20 A		23-Apr-25			
CE0008	CE No.008 - Provision of Additional 2nd Temp. Power Supply for UV System No.1 & Effluent Pumping Station No.1	0		03-Aug-20 A		23-Apr-25			
CE0009	CE No.009 - Employment of Temporary Staff under Anti-Epidemic Fund	0		07-Jul-20 A		23-Apr-25			
CE0010	CE No.010 - Revised Setting Out Plan for Sidestream Treatment Facilities	0		07-Jul-20 A		23-Apr-25			
CE0012	CE No.012 - Provision of Touchscreen Display System for the Project Manager's Office	0		06-Oct-20 A		23-Apr-25			
CE0013	CE No.013 - Feasibility Study for Adopting emMiC & DfMA	0		22-Oct-20 A		23-Apr-25			
CE0014	CE No.014 - Revised FS Water Supply Arrangement for CHP, Guard House, Workshop No.2, SludgeDigester&DistributionChamber	0		28-Oct-20 A		23-Apr-25			
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		23-Apr-25			
CE0016	CE No.016 - Elect. Provisions for Addit. 800A ACB w/ CMPD as Standby Supply for MBBR for UV No.2 for Future Expansion	0		28-Oct-20 A		23-Apr-25			
CE0018	CE No.018 - MVAC Layout for Plant Service Water System	0		05-Nov-20 A		23-Apr-25			
CE0020	CE No.020 - Addit. set of 11kV power feeder panel at 11kV SB in CHP for future connection to Zone B in Stage 2	0		09-Nov-20 A		23-Apr-25			
CE0201	NCE-PMI-0201 - Provision of Access Platform for EOT cranes in UV System No.1 & Effluent Pumping Station No.1	0		16-Nov-20 A		23-Apr-25			
CE0202	NCE-PMI-0202 - Revised Plumbing Arrangement for Sludge Dewatering Building	0		26-Nov-20 A		23-Apr-25			
CE0203	NCE-PPMI-0203 - MVAC Layout for SAS Pumping Station	0		25-Nov-20 A		23-Apr-25			
CE0204	NCE-PMI-0204 - CHP - Provisional of Additional ATS for Power Supply for UPS	0		08-Dec-20 A		23-Apr-25			
CE0205	NCE-PPMI-0205 - Fibre Optics Network Connection for SCADA Systems between Zone B & Zone C	0		23-Nov-20 A		23-Apr-25			
CE0206	NCE-PMI-0206 - SDB - Provisional of Additional ATS for Power Supply for UPS	0		15-Dec-20 A		23-Apr-25			
CE0207	NCE-PMI-0207 - TX Rm & Switch Rm - Provision of ATS for Power Supply for UPS	0		01-Dec-20 A		23-Apr-25			
CE0208	NCE-PPMI-0208 - Provision of Drainage service Layout for SAS Pumping Station	0		26-Nov-20 A		23-Apr-25			
CE0209	NCE-PPMI-0209 - Drainage System for Plant Service Water System	0		26-Nov-20 A		23-Apr-25			
CE0210	NCE-PPMI-0210 - Electrical provisions for MVAC & Drainage Systems in SAS Pumping Station	0		08-Dec-20 A		23-Apr-25			
CE0211	NCE-PPMI-0211 - Revised MVAC Layout & Electrical Provisions for MVAC in TX and Switch Rm	0		02-Dec-20 A		23-Apr-25			
CE0212	NCE-PMI-0212 - Provision of Louvre Panel for Outdoor AC Units at Contractor's Site Accomodation	0		07-Dec-20 A		23-Apr-25			
CE0213	NCE-PPMI-0213 - Electrical provisions for MVAC & Drainage System in UV System No.1 & Effluent Pumping Station No.1	0		21-Dec-20 A		23-Apr-25			
CE0214	NCE-PPMI-0214 - Additional Sump Pump & Drain Pipes at UV System No.1 & Effluent Pumping Station	0		14-Dec-20 A		23-Apr-25			
CE0215	NCE-PPMI-0215 - Revised MVAC Layout for UV System No.1 & Effluent Pumping Station No.1	0		14-Dec-20 A		23-Apr-25			



Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
CE0216	NCE-PPMI-0216 - Electrical Provisions for MVAC & drainage Sytems in Plant Service Water System	0		31-Dec-20 A		23-Apr-25			
CE0217	NCE-PMI-0217 - Revised Duty Points for Effluent Transfer Pumps	0		29-Dec-20 A		23-Apr-25			
CE0218	NCE-PMI-0218 - Scoping Study for Application of Digital Twin & IoT in Zone B & Zone C of SWHEPP	0		04-Jan-21 A		23-Apr-25			
CE0219	NCE-NCE-0219 - Change of Site Access Date to SAS Pumping Station Forming Part of Portion B-2 of the Site	0		19-Dec-20 A		23-Apr-25			
CE0219a	NCE-NCE-0219 - Portion B-2a (within 771 to 891 days from starting date)	891	23-Oct-19 A	23-Mar-22 A	24-Mar-23	24-Mar-23		CD1010	CE0219b
CE0219b	NCE-NCE-0219 - Revised Access Date for Portion B-2a	1	23-Mar-22 A	23-Mar-22 A	24-Mar-23	24-Mar-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	20-Dec-22	20-Dec-22			CE0219d
CE0219d	NCE-NCE-0219 - Revised Access Date for Portion B-2b	1	24-Sep-21 A	24-Sep-21 A	20-Dec-22	20-Dec-22		CE0219c	S5ECHC1000
CE0220	NCE-PMI-0220 - Supply of Puddle Pipes for Effluent to Shek Sheung River	0		30-Dec-20 A		23-Apr-25			
CE0221	NCE-PPMI-0221 - General Arrangement for Fire Hydrant & Booster Pump Room	0		24-Dec-20 A		23-Apr-25			
CE0222	NCE-PMI-0222 - Revised Water Supply Arrangement (FS Water) to Sludge Dewatering Building	0		12-Jan-21 A		23-Apr-25			
CE0223	NCE-PMI-0223 - Construction of Trial Pits for Sidestream Treatment Facilities	0		15-Jan-21 A		23-Apr-25			
CE0224	NCE-PMI-0224 - Independent Inspection Body (IIB) for the Factory Acceptance Test (FAT) for UV Disinfeciton System	0		25-Jan-21 A		23-Apr-25			
CE0225	NCE-PMI-0225 - Supply of Ductile Iron Puddle Pipes at the Basement of Sludge Dewatering Building	0		09-Mar-21 A		23-Apr-25			
CE0226	NCE-PMI-0226 - Provision of Solar Water Heating System at the Contractor's Site Accomodation	0		09-Mar-21 A		23-Apr-25			
CE0227	NCE-PMI-0227 - Dual Power Fedder for LV Switch Panel at Sewage Pumping Station	0		11-Mar-21 A		23-Apr-25			
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		23-Apr-25			
CE0230	NCE-PMI-0230 - Provision of Project Jackets with Fleece Vests	0		26-Mar-21 A		23-Apr-25			
CE0231	NCE-PMI-0231 - Extension of Sampling Pipe From Low Level on Sludge Digesters	0		12-Apr-21 A		23-Apr-25			
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		23-Apr-25			
CE0233	NCE-PMI-0233 - Sampling, Simulating and Testing of Existing Sludge for Obtaining the Viscosity of the Mixed Sludge	0		06-May-21 A		23-Apr-25			
CE0234	NCE-PMI-0234 - Provision of FRP Walkway, Access Platform & Handrailing for Sludge Digester No. 2	0		02-Jun-21 A		23-Apr-25			
CE0237	NCE-CNE-0237 - Provision of Inspectin Windows for Sludge Digester	0		25-Jun-21 A		23-Apr-25			
CE0238	NCE-PMI-0238 - Supply of Stainless Steel Puddle Pipes for Surplus Activated Sludge (SAS) Pumping Station	0		27-May-21 A		23-Apr-25			
CE0239	NCE-PMI-0239 - Revised the Arrangement for Process Water Supply and Plant Services Water System	0		01-Jun-21 A		23-Apr-25			
CE0240	NCE-PMI-0240 - Revised Coping and Invert Levels for Penstock and Stoplog of SAS Pumping Station	0		09-Jun-21 A		23-Apr-25			
CE0241	NCE-PMI-0241 - Revised Diesel Fuel Tank at Combined Heat and Power (CHP) Building	0		04-Jun-21 A		23-Apr-25			
CE0242	NCE-PMI-0242 - Revised Fire Services Provision of UV System No. 1 and Effluent Pumping Station No. 1	0		15-Jun-21 A		23-Apr-25			
CE0243	NCE-PMI-0243 - Provision of Flow Signal Inputs for UV Disinfection System	0		12-Jul-21 A		23-Apr-25			
CE0244	RCNE-CNE-0244 - Access to and use of portion C-1A	0		29-Jun-21 A		23-Apr-25			
CE0245	NCE-PMI-0245 - Provision of Augmented Reality (AR) Mobile Application	0		30-Jun-21 A		23-Apr-25			
CE0245-1	NCE-PMI-0245-1 - Provision of Augmented Reality (AR) Mobile Application	0		08-Mar-23 A		23-Apr-25			



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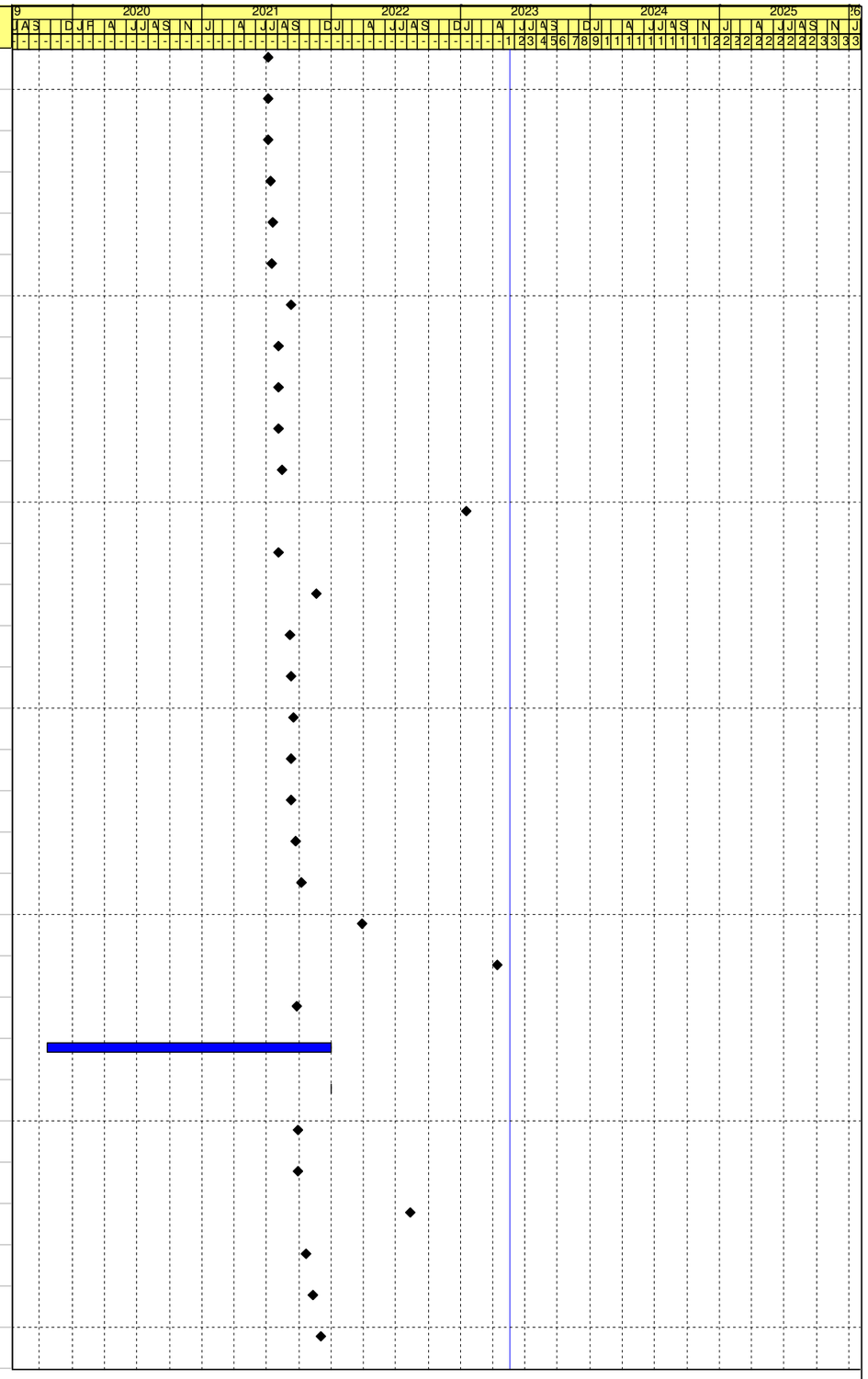
Remaining Work
Critical Activity
Milestone
Actual Progress

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 May 2023

Date	Revision	Checked	Approved
31-Jan-23	Rev.30	IM/LT	KM
28-Feb-23	Rev.31	IM/LT	KM
31-Mar-23	Rev.32	IM/LT	KM
30-Apr-23	Rev.33	IM/LT	KM
31-May-23	Rev.34	IM/LT	KM

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
CE0246	NCE-PMI-0246 - Revised HV Remote Control Panels at CHP & Workshop No. 2	0		06-Jul-21 A		23-Apr-25			
CE0247	NCE-PMI-0247 - Temporary 4G System for SCADA System Monitoring	0		07-Jul-21 A		23-Apr-25			
CE0248	NCE-PMI-0248 - Inclement Weather - May 2021 (Time Implication)	0		05-Jul-21 A		23-Apr-25			
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		23-Apr-25			
CE0252	NCE-PMI-0252 - Provision of Neutral Earthing Resistor (NER) at Workshop No. 2	0		19-Jul-21 A		23-Apr-25			
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		23-Apr-25			
CE0254	NCE-CNE-0254 - Removal of Obstructions at Trail Pit No. 3 at Sidestreamt Facilities	0		10-Sep-21 A		23-Apr-25			
CE0256	RCNE-CNE-0256 - Amber Rainstrom Warning and Inclement Weather - June 2021 (Time Implication)	0		05-Aug-21 A		23-Apr-25			
CE0257	RCNE-CNE-0257 - Black and Red Rainstrom Warning - June 2021 (Time & Cost Implication)	0		05-Aug-21 A		23-Apr-25			
CE0258	NCE-PMI-0258 - Provision of FRP Cover for Overflow Chambers of Sludge Digesters	0		04-Aug-21 A		23-Apr-25			
CE0259	NCE-PMI-0259 - Provision of Virtual Reality (VR) Safety Training Platform	0		13-Aug-21 A		23-Apr-25			
CE0259-1	NCE-PMI-0259-1 - Provision of Virtual Reality (VR) Safety Training Platform (Another 1 year subscription)	0		17-Jan-23 A		23-Apr-25			
CE0260	NCE-PMI-0260 - Provision of Chequer Plates at UV System No. 1 & Effluent Pumping Station No. 1	0		04-Aug-21 A		23-Apr-25			
CE0262	NCE-PMI-0262 - Emergency Access Door for Lift at Sludge Dewatering Building	0		18-Nov-21 A		23-Apr-25			
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		23-Apr-25			
CE0264	RCNE-CNE-0264 - Inclement Weather - July 2021 (Time Implication)	0		10-Sep-21 A		23-Apr-25			
CE0265	NCE-PMI-0265 - Water Supply to Emergency Drench Shower and Eye Fountain at Deodorization System No. 11	0		16-Sep-21 A		23-Apr-25			
CE0269	NCE-PMI-0269 - Additional Cleansing Points at Sludge Skip Area of Sludge Dewatering Building	0		10-Sep-21 A		23-Apr-25			
CE0270	NCE-CNE-0270 - Extra sampling, simulating & testing of exiting sludge for obtaining the viscosity of the existing sludge	0		10-Sep-21 A		23-Apr-25			
CE0271	NCE-PMI-0271 - Provision of Access Platform for the EOT Crane (LA-01-02) in Sludge Dewatering Building	0		23-Sep-21 A		23-Apr-25			
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		23-Apr-25			
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		23-Apr-25			
CE0272-2	NCE-PMI-0272-2 - Employment of Temporary Staff under Job Creation Scheme 2.0 (JCS 2.0) under Anti-Epidemiv Fund (AEF)	0		14-Apr-23 A		23-Apr-25			
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		23-Apr-25			
CE0273a	NCE-NCE-0273 - Portion C-3 (within 615 to 815 days from starting date)	815	23-Oct-19 A	31-Dec-21 A	23-Apr-25	23-Apr-25			CE0273b
CE0273b	NCE-NCE-0273 - Revised Access Date for Portion C-3	1	31-Dec-21 A	31-Dec-21 A	23-Apr-25	23-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		23-Apr-25			
CE0277	NCE-PMI-0277 - Provision of Access Platform for the EOT Crane (LA-01-03) in Sludge Dewatering Building	0		27-Sep-21 A		23-Apr-25			
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		23-Apr-25			
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		23-Apr-25			
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		23-Apr-25			
CE0284	NCE-PMI-0284 - Revised Road Lighting System for Zone C	0		03-Dec-21 A		23-Apr-25			



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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
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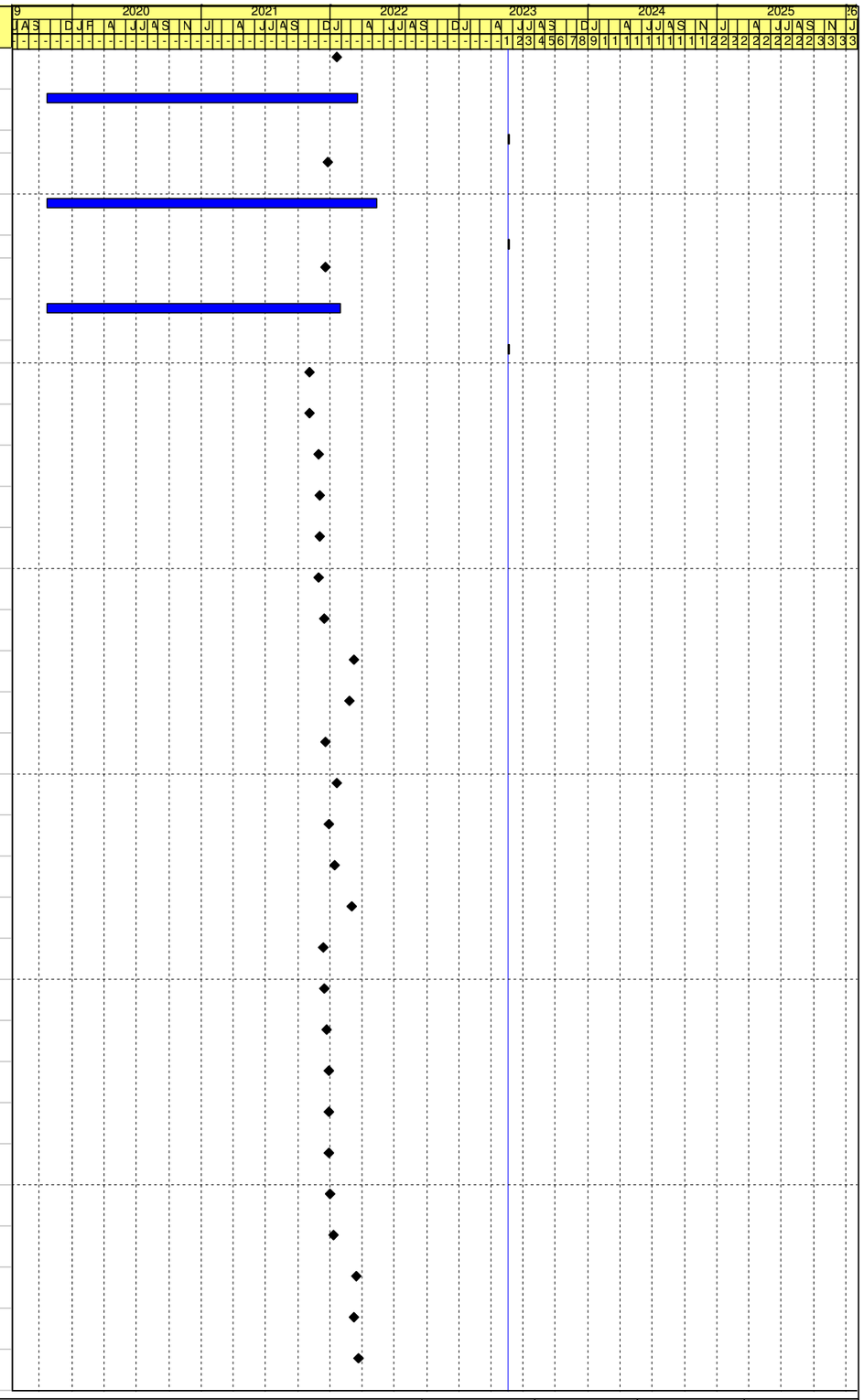
30-Apr-23	Rev.33	IM/LT	KM
31-May-23	Rev.34	IM/LT	KM

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
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		23-Apr-25			
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-May-23	21-May-23*	20-Mar-22	20-Mar-22	-427	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		23-Apr-25			
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-May-23	21-May-23*	13-May-22	13-May-22	-373	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		23-Apr-25			
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-May-23	21-May-23*	30-Jan-22	30-Jan-22	-476	CE0288a	
CE0292	RCNE-CNE-0292 - Inclement Weather - August 2021 (Time Implication)	0		02-Nov-21 A		23-Apr-25			
CE0293	RCNE-CNE-0293 - Inclement Weather - September 2021 (Time Implication)	0		02-Nov-21 A		23-Apr-25			
CE0294	NCE-PMI-0294 - IIB for FAT for THP System	0		30-Nov-21 A		23-Apr-25			
CE0296	NCE-PMI-0296 - Provision of emMiC Adoption of FRP Walkway and Platform for Sludge Digesters	0		03-Dec-21 A		23-Apr-25			
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		23-Apr-25			
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		23-Apr-25			
CE0299	NCE-PMI-0299 - Revised Plumbing Layout for UV System No.1 & Effluent Pumping Station No.1	0		14-Dec-21 A		23-Apr-25			
CE0300	NCE-PMI-0300 - Revised Plumbing Layout for CHP, DOU 12 and SD&DC	0		10-Mar-22 A		23-Apr-25			
CE0301	NCE-PMI-0301 - Revised Plumbing Layout for SDB & FeCl3 Dosing System	0		24-Feb-22 A		23-Apr-25			
CE0302	NCE-PMI-0302 - Revised Lighting Layout Plan for Workshop No.2	0		17-Dec-21 A		23-Apr-25			
CE0303	NCE-CNE-0303 - Revise Fire Services Provision for Server Room of Workshop No.2	0		19-Jan-22 A		23-Apr-25			
CE0304	NCE-PMI-0304 - Provision of Digital Displaying Screen and Softwarewithin Portion B Area	0		29-Dec-21 A		23-Apr-25			
CE0305	NCE-PMI-0305 - Process Review for Advance Works	0		12-Jan-22 A		23-Apr-25			
CE0306	NCE-CNE-0306 - Additional Trial Pits & the Associated Modification Works for Uncharted Utilities at STF	0		01-Mar-22 A		23-Apr-25			
CE0307	NCE-PMI-0307 - Revised Quantity for Stoplogs of Sewage Pumping Station	0		13-Dec-21 A		23-Apr-25			
CE0309	RCNE-CNE-0309 - Inclement Weather - October 2021 (Time Implication)	0		16-Dec-21 A		23-Apr-25			
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		23-Apr-25			
CE0311	NCE-PMI-0311 - Temp. Setup for SCADA System Monitoring & CCTV System Surveillance	0		29-Dec-21 A		23-Apr-25			
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		23-Apr-25			
CE0313	CNE-0313 - Inclement Weather - November 2021 (Time Implication)	0		29-Dec-21 A		23-Apr-25			
CE0315	NCE-PMI-0315 - Modification of Monorali LA-01-04 in Sludge Dewatering Building	0		30-Dec-21 A		23-Apr-25			
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		23-Apr-25			
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		23-Apr-25			
CE0327	NCE-PMI-0327 - Change of Material for Electrical Wiring Accessories	0		08-Mar-22 A		23-Apr-25			
CE0328	NCE-PMI-0328 - Provision of Chequer Plates at SAS Pumping Station	0		22-Mar-22 A		23-Apr-25			



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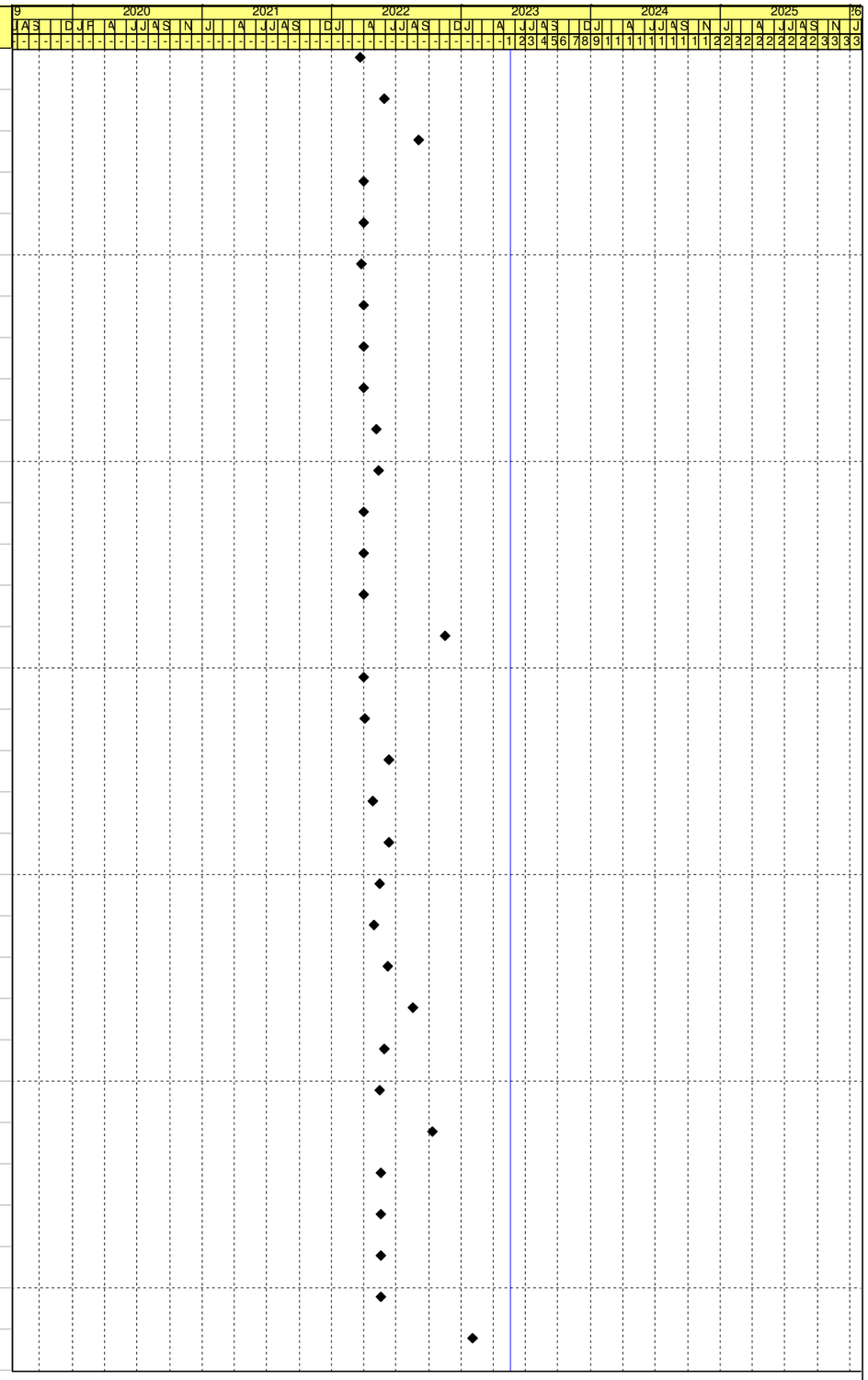
Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
CE0329	NCE-PMI-0329 - Provision of IIB for FAT for Sludge Thickening and Dewatering Centrifuges	0		23-Mar-22 A		23-Apr-25			
CE0333	NCE-PMI-0333 - Revised MVAC Layout and Control Schematic for Workshop No.2	0		30-May-22 A		23-Apr-25			
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		23-Apr-25			
CE0335	NCE-PMI-0335 - Revised Power & Control for MVAC Provision at Workshop No.2	0		01-Apr-22 A		23-Apr-25			
CE0336	NCE-PMI-0336 - Provision of Additional Temporary Storage Area	0		30-Mar-22 A		23-Apr-25			
CE0337	NCE-PMI-0337 - Revised Pipe Trenches in Zone C	0		24-Mar-22 A		23-Apr-25			
CE0338	NCE-PMI-0338 - Provision of Additional RFID Handheld Readers with 4G Data SIM Card Service	0		01-Apr-22 A		23-Apr-25			
CE0339	NCE-PMI-0339 - Revised Lighting Layout for SDB	0		01-Apr-22 A		23-Apr-25			
CE0340	NCE-PMI-0340 - Buillding Services & SCADA Interface Provisions for Workshop No.2	0		01-Apr-22 A		23-Apr-25			
CE0341	NCE-PMI-0341 - Revised MVAC Layout for Sludge Digesters and Distribution Chamber	0		05-May-22 A		23-Apr-25			
CE0342	NCE-PMI-0342 - Provision and Installation of Additional Pipes to Manhole MHSS1	0		12-May-22 A		23-Apr-25			
CE0343	CNE-0343 - Inclement Weather - December 2021 (Time Implication)	0		01-Apr-22 A		23-Apr-25			
CE0344	CNE-0344 - Inclement Weather - January 2022 (Time Implication)	0		01-Apr-22 A		23-Apr-25			
CE0345	CNE-0345 - Inclement Weather - February 2022 (Time Implication)	0		01-Apr-22 A		23-Apr-25			
CE0346	NCE-CNE-0346 - Left in Temporary Steel Casing for Pile No. SSHP5 at Sidesteam Treatment Facilities	0		16-Nov-22 A		23-Apr-25			
CE0347	NCE-PMI-0347 - IIB for FAT for 11kV Switchboards	0		01-Apr-22 A		23-Apr-25			
CE0348	NCE-PMI-0348 - Provision of (IIB) for FAT for CHP Generating Sets	0		04-Apr-22 A		23-Apr-25			
CE0352	NCE-PMI-0352 - Revised MVAC Layout and for Transformer and Switch Room	0		10-Jun-22 A		23-Apr-25			
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		23-Apr-25			
CE0354	NCE-EWP-0354 - Early Deployment of Tower Crane to Enhance Programme affected by Uncharted U/U at STF	0		10-Jun-22 A		23-Apr-25			
CE0359	NCE-PMI-0359 - Revised Lighting Layout for Sludge Digesters and Districbution Chamber (Basement 1 and Basement 2)	0		16-May-22 A		23-Apr-25			
CE0360	NCE-PMI-0360 - Provision of Video Wall with Additional Monitors in the Control Room of Workshop No.2	0		29-Apr-22 A		23-Apr-25			
CE0361	NCE-PMI-0361 - Revised Power Layout for Sludge Dewatering Building	0		08-Jun-22 A		23-Apr-25			
CE0362	NCE-CNE-0362 - Amendment of Dangers Goods Ordinance (Cap.295)	0		19-Aug-22 A		23-Apr-25			
CE0363	NCE-PMI-0363 - Revised MVAC Layout and Control Schematic for CHP Building	0		30-May-22 A		23-Apr-25			
CE0364	NCE-PMI-0364 - Provision of Security and Utility Services for Additional Temporary Storage Area	0		16-May-22 A		23-Apr-25			
CE0364-1	NCE-PMI-0364-1 - Provision of Security and Utility Services for Additional Temporary Storage Area	0		10-Oct-22 A		23-Apr-25			
CE0366	CNE-0366 - No Access to and Use of Portion C-2B for Area for CHP	0		20-May-22 A		23-Apr-25			
CE0367	NCE-PMI-0367 - Sealing Works for UV System & Effluent Pumping Station No. 1	0		20-May-22 A		23-Apr-25			
CE0369	CNE-0369 - No Access to and use of Portion C-2C for Area for SD & DC	0		20-May-22 A		23-Apr-25			
CE0370	CNE-0370 - No Access to and Use of Portion C-2A for Area for SDB	0		20-May-22 A		23-Apr-25			
CE0370-1	RCNE-CNE-0370-1 - No Access to and Use of Portion C-2A for Area for Sludge Dewatering Building	0		31-Jan-23 A		23-Apr-25			



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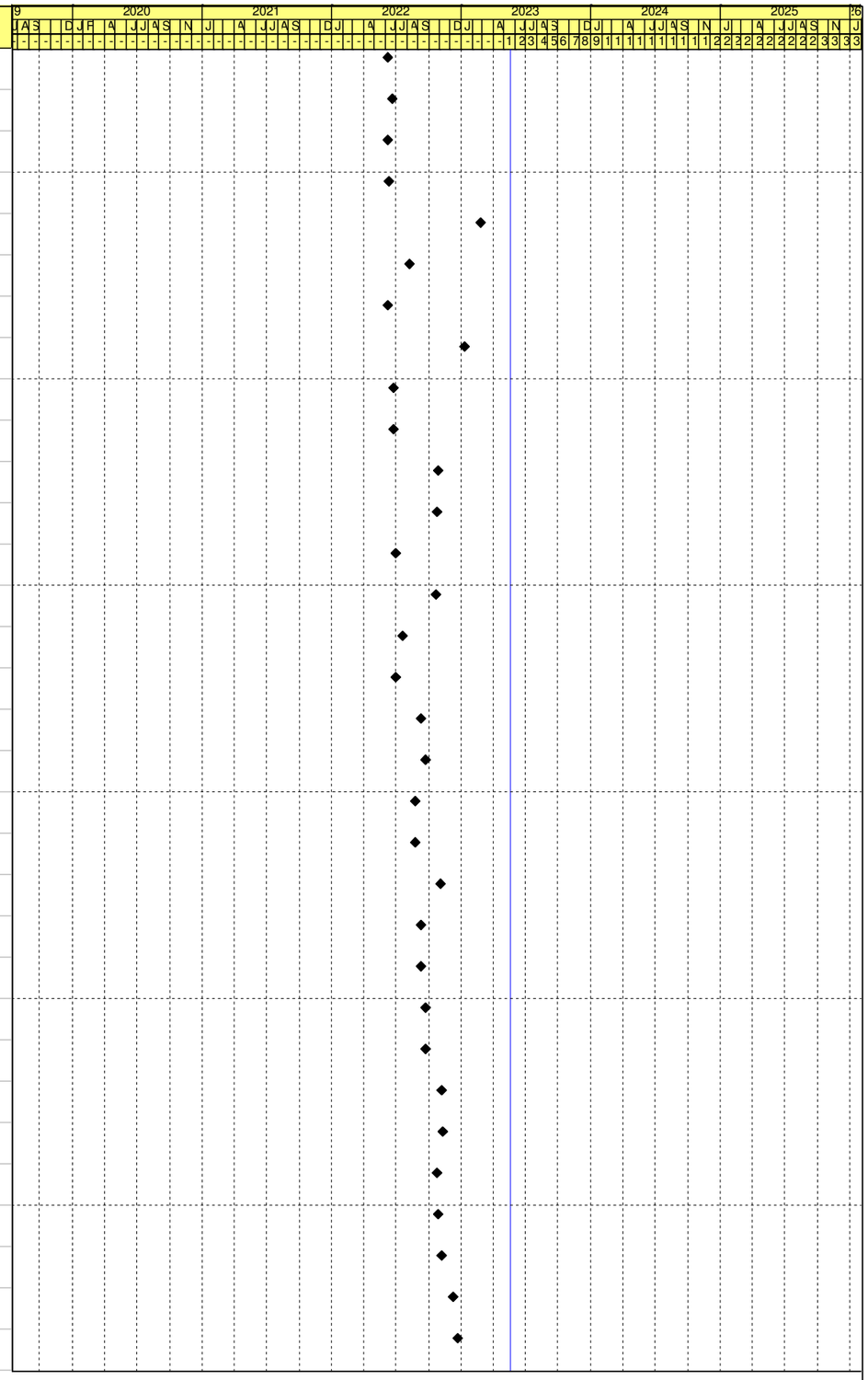
CE0372	NCE-PMI-0372 - Building Services Control & Monitoring Provisions for SDB & Gas Detection System for Pipe Tranch No.1	0		08-Jun-22 A		23-Apr-25			
CE0374	NCE-PMI-0374 - Revised Power Layout for SDDC & Control Provisions for Sump Pumps at Pipe Trench No.1 & No.2	0		20-Jun-22 A		23-Apr-25			
CE0375	NCE-PMI-0375 - Gas Detection System for Pipe Trench No.3 in Zone C	0		06-Jun-22 A		23-Apr-25			
CE0376	NCE-PMI-0376 - BS Provisions for SDDC (G/F & Roof) & Pipe Trench No.2	0		10-Jun-22 A		23-Apr-25			
CE0380	CNE-0380 - No Access and Use of Portion C-2D for Area for THP, H2S removal, DOU, WGB system, BHT, THP CWTPS, Fecl3 etc.	0		24-Feb-23 A		23-Apr-25			
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		23-Apr-25			
CE0384	NCE-PMI-0384 - Enhanced Protective Measures against Spread of Omicron COVID Variant	0		08-Jun-22 A		23-Apr-25			
CE0384-1	NCE-PMI-0384-1 - Enhanced Protective Measures against Spread of Omicron COVID Variant	0		11-Jan-23 A		23-Apr-25			
CE0386	CNE-0386 - Inclement Weather - March 2022 (Time Implication)	0		24-Jun-22 A		23-Apr-25			
CE0387	CNE-0387 - Inclement Weather - April 2022 (Time Implication)	0		24-Jun-22 A		23-Apr-25			
CE0389	NCE-PMI-0389 - Enhancement of Ventilation for CHP Acoustic Enclosures at Combined Heat and Power Building	0		27-Oct-22 A		23-Apr-25			
CE0390	NCE-PMI-0390 - Electricity Supply for DSD Maintenance Works at Workshop No.2	0		26-Oct-22 A		23-Apr-25			
CE0391	CNE-0391 - Inclement Weather - May 2022 (Time Implication)	0		30-Jun-22 A		23-Apr-25			
CE0393	NCE-PMI-0393 - Automatic Changeover System for UV System No.1 in LV Switchboard at Transformer and Switchroom	0		22-Oct-22 A		23-Apr-25			
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		23-Apr-25			
CE0397	CNE-0397 - Inclement Weather - Jun 2022 (Time Implication)	0		30-Jun-22 A		23-Apr-25			
CE0398	CNE-0398 - Red Rainstorm Warning -June 2022 (Time and Cost Implication)	0		08-Sep-22 A		23-Apr-25			
CE0399	NCE-PMI-0399 - Revised MVAC Layout for Sludge Dewatering Building	0		22-Sep-22 A		23-Apr-25			
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		23-Apr-25			
CE0402	NCE-PMI-0402 - Provision of Flow Control System for Effluent to Shek Sheung River	0		24-Aug-22 A		23-Apr-25			
CE0403	NCE-PMI-0403 - Revised MVAC Provisions for SDB, TX&Switchrrom, UV no.1 & EPS and FHBP Rm	0		03-Nov-22 A		23-Apr-25			
CE0405	CNE-0405 - Inclement Weather -July 2022 (Time Implication)	0		08-Sep-22 A		23-Apr-25			
CE0406	CNE-0406 - Tropical Cyclone Warning Signal No. 8 - July 2022 (Time and Cost Implication)	0		08-Sep-22 A		23-Apr-25			
CE0409	CNE-0409 - Inclement Weather -August 2022 (Time Implication)	0		22-Sep-22 A		23-Apr-25			
CE0410	CNE-0410 - Tropical Cyclone Warning Signal No. 8 - August 2022 (Time and Cost Implication)	0		22-Sep-22 A		23-Apr-25			
CE0411	NCE-PMI-0411 - Revised Lighting Design for CHP Building	0		07-Nov-22 A		23-Apr-25			
CE0412	NCE-PMI-0412 - Omission of the Works of CMMS & IDMS	0		09-Nov-22 A		23-Apr-25			
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		23-Apr-25			
CE0414	NCE-PMI-0414 - Sample Collection and Analysis for Existing Sewage Treatment Facilities	0		27-Oct-22 A		23-Apr-25			
CE0415	NCE-PMI-0415 - Modification Works for Instrument of UV Channels	0		07-Nov-22 A		23-Apr-25			
CE0420	NCE-PMI-0420 - Pipework Modifcation for THP Feeding System (from SDB to THP)	0		09-Dec-22 A		23-Apr-25			
CE0421	NCE-PMI-0421 - Provision of BLI System for THP Feeding System at Sludge Dewatering Building	0		22-Dec-22 A		23-Apr-25			



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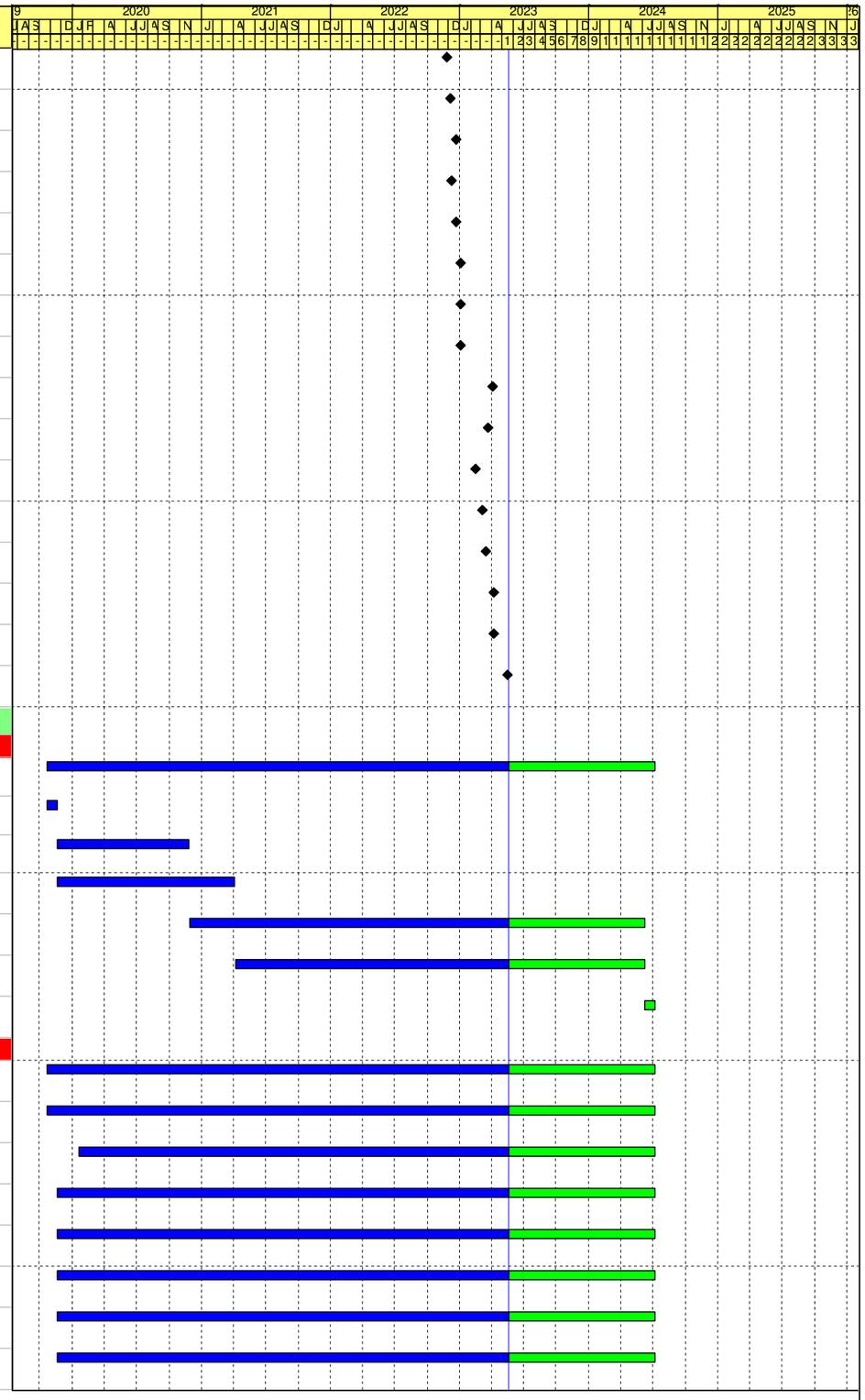
CE0422	NCE-PMI-0422 - MVAC Provisions for Store at Workshop No. 2	0		25-Nov-22 A		23-Apr-25			
CE0423	NCE-PMI-0423 - Provision of Puddle Flanges for Draft Tube Mixer Installation at Sludge Digester No. 2	0		06-Dec-22 A		23-Apr-25			
CE0424	NCE-PMI-0424 - Provision of Addtional Ethernet Module for Dual Ring in SCADA and PMS System	0		20-Dec-22 A		23-Apr-25			
CE0425	NCE-PMI-0425 - Provision of PLC Gateway for the Interface Work with Reclaimed Water Facilities in Zone D	0		09-Dec-22 A		23-Apr-25			
CE0429	NCE-PMI-0429 - Provision of Additional Access Platform for the EOT in CHP Building	0		20-Dec-22 A		23-Apr-25			
CE0430	NCE-PMI-0430 - Provision of Additional Lifting Davits for Thermal Hydrolysis Process (THP) System	0		05-Jan-23 A		23-Apr-25			
CE0433	CNE-0433 - Weather Conditions Affecting the Site in Nov 22 due to Amber Rainstorm warning, or Inclement Weather	0		05-Jan-23 A		23-Apr-25			
CE0434	CNE-0434 - Weather Condition Affecting the Site in Nov due to Typhoon Signal No.8 or above, Red/Black Rainstorm Warning	0		05-Jan-23 A		23-Apr-25			
CE0435	NCE-PMI-0435 - Provision of Hydraulic Operated Sludge Skip of Sludge Dewatering Building	0		03-Apr-23 A		23-Apr-25			
CE0439	NCE-PMI-0439 - Building Services Provision for Unmanned Services Duct	0		21-Mar-23 A		23-Apr-25			
CE0441	CNE-0441 - Weather Conditions Affecting the Site in Dec 22 due to Amber Rainstorm warning, or Inclement Weather	0		16-Feb-23 A		23-Apr-25			
CE0444	NCE-PMI-0444 - Building Services Provision for Additional Shower Cubicles at Workshop No. 2	0		06-Mar-23 A		23-Apr-25			
CE0445	NCE-PMI-0445 - Additional Power Provisions for Workshop No. 2	0		17-Mar-23 A		23-Apr-25			
CE0450	CNE-0450 - Inclement Weather - February 2023 (Time Implication)	0		06-Apr-23 A		23-Apr-25			
CE0451	CNE-0451 - Inclement Weather - January 2023 (Time Implication)	0		06-Apr-23 A		23-Apr-25			
CE0456	CNE-0456 - Inclement Weather - March 2023 (Time Implication)	0		15-May-23 A		23-Apr-25			
Preliminaries		2010	23-Oct-19 A	23-Apr-25	21-Jul-22	23-Apr-25	0		
Mobilisation		1720	23-Oct-19 A	07-Jul-24	21-Jul-22	23-Apr-25	290		
PL1000	Provison of Equipment / Facilities for the PM's Office	1720	23-Oct-19 A	07-Jul-24	06-Mar-24	23-Apr-25	290	AD1200, AD1220,	CD1040
PL1010	Mobilisation	28	23-Oct-19 A	19-Nov-19 A	21-Jul-22	21-Jul-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	26-Oct-22	26-Oct-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	06-Mar-24	06-Mar-24		AD1220, PL1010	PL1050
PL1040	Maintain Contractor's Site Office	1288	28-Nov-20 A	07-Jun-24	06-Mar-24	24-Mar-25	290	PL1020	PL1060
PL1050	Maintain Contractor's Storage Area	1159	06-Apr-21 A	07-Jun-24	06-Mar-24	24-Mar-25	290	PL1030	PL1060
PL1060	Removal of Site Office, Storage & Relevant Facilities	30	08-Jun-24	07-Jul-24	25-Mar-25	23-Apr-25	290	PL1040, PL1050	CD1040
Site Preliminaries		2010	23-Oct-19 A	23-Apr-25	16-Oct-23	23-Apr-25	0		
PL1070	Provision of Insurance, Third Party Insurances & PII	1720	23-Oct-19 A	07-Jul-24	06-Mar-24	23-Apr-25	290	CD1010	CD1040
PL1080	Provision of 2 Contract Car for the Use of the PM & Supervisor	1720	23-Oct-19 A	07-Jul-24	06-Mar-24	23-Apr-25	290	CD1010	CD1040
PL1090	Provision of 1 Electric Car for the Use of the PM & Supervisor	1629	22-Jan-20 A	07-Jul-24	06-Mar-24	23-Apr-25	290	CD1010, PL1010	CD1040
PL1100	Provision of Photographs	1692	20-Nov-19 A	07-Jul-24	06-Mar-24	23-Apr-25	290	CD1010, PL1010	CD1040
PL1110	Provision of Environmental Mitigation Measures	1692	20-Nov-19 A	07-Jul-24	06-Mar-24	23-Apr-25	290	CD1010, PL1010	CD1040
PL1120	Provision of Air Pollution Abatment	1692	20-Nov-19 A	07-Jul-24	06-Mar-24	23-Apr-25	290	CD1010, PL1010	CD1040
PL1130	Provision of Noise Pollution Abatment	1692	20-Nov-19 A	07-Jul-24	06-Mar-24	23-Apr-25	290	CD1010, PL1010	CD1040
PL1140	Provision of Wastewater Pollution Abatement	1692	20-Nov-19 A	07-Jul-24	06-Mar-24	23-Apr-25	290	CD1010, PL1010	CD1040



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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 May 2023

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31-Jan-23	Rev.30	IM/LT	KM
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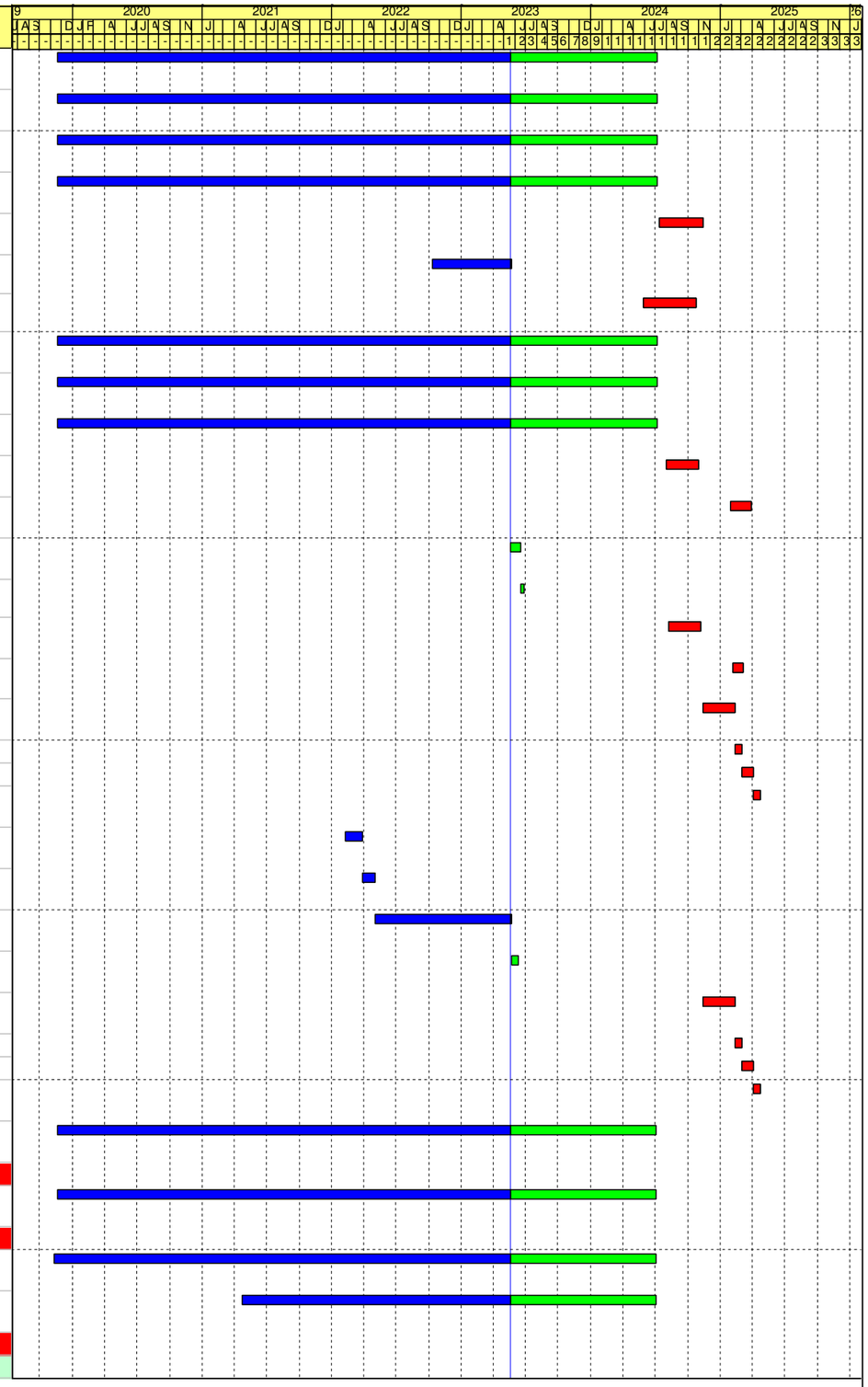
31-Mar-23	Rev.32	IM/LT	KM
30-Apr-23	Rev.33	IM/LT	KM
31-May-23	Rev.34	IM/LT	KM

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
PL1150	Provision of Wastement Management	1692	20-Nov-19 A	07-Jul-24	06-Mar-24	23-Apr-25	290	CD1010, PL1010	CD1040
PL1160	Provision of Monitoring the Use of Ultra Low Sulphur Diesel	1692	20-Nov-19 A	07-Jul-24	06-Mar-24	23-Apr-25	290	CD1010, PL1010	CD1040
PL1170	Provision of Environmental Management	1692	20-Nov-19 A	07-Jul-24	06-Mar-24	23-Apr-25	290	CD1010, PL1010	CD1040
PL1180	Provision of Site Management Plan for Trip Ticket System	1692	20-Nov-19 A	07-Jul-24	06-Mar-24	23-Apr-25	290	CD1010, PL1010	CD1040
PL1190	Provision of As-constructed Drawings for Section 3	121	14-Jul-24	11-Nov-24	12-Feb-24	12-Jun-24	-153	CD1010, S3C1150	CD1040, SC31110
PL1200	Provision of As-constructed Drawings for Section 4	221	13-Oct-22 A	21-May-23	23-Apr-25	23-Apr-25	703	CD1010, S4C1160,	CD1040, SC41110
PL1210	Provision of As-constructed Drawings for Section 5	151	27-May-24	24-Oct-24	24-Dec-23	22-May-24	-155	CD1010, S5DIGC1040,	CD1040, SC51110
PL1220	Provision of Systematic Risk Management	1691	20-Nov-19 A	06-Jul-24	07-Mar-24	23-Apr-25	291	CD1010, PL1010	CD1040
PL1230	Provision of Site Liaison Group & Community Liaison Group	1691	20-Nov-19 A	06-Jul-24	07-Mar-24	23-Apr-25	291	CD1010, PL1010	CD1040
PL1240	Provision of 24-Hour Telephone Line	1691	20-Nov-19 A	06-Jul-24	07-Mar-24	23-Apr-25	291	CD1010, PL1010	CD1040
PL1260	Submission & Acceptance of Training Programme, Training Manual & Syllabus for Section 3	90	01-Aug-24	29-Oct-24	16-Oct-23	14-Jan-24	-290		PL1270
PL1270	Provision of Training for Employer's Staff for Section 3	60	28-Jan-25	28-Mar-25	13-Apr-24	12-Jun-24	-290	CD1010, PL1260	CD1040, SC31110
PL1280	Submission & Acceptance of Training Programme, Training Manual & Syllabus for Section 4	27	21-May-23	16-Jun-23	16-Mar-25	11-Apr-25	665		PL1290
PL1290	Provision of Training for Employer's Staff for Section 4	12	17-Jun-23	28-Jun-23	12-Apr-25	23-Apr-25	665	CD1010, S4T1020,	CD1040, SC41110
PL1300	Submission & Acceptance of Training Programme, Training Manual & Syllabus for Section 5	90	09-Aug-24	06-Nov-24	26-Oct-23	23-Jan-24	-288		PL1310
PL1310	Provision of Training for Employer's Staff for Section 5	30	05-Feb-25	06-Mar-25	23-Apr-24	22-May-24	-288	CD1010, S5T1180,	CD1040, SC51110
PL1320	Prepare & Submit O&M Manual for Section 3	90	13-Nov-24	10-Feb-25	28-Jan-24	27-Apr-24	-290	CD1010	CD1040, PL1330
PL1330	PM Reivew & Comment O&M Manual for Section 3	21	11-Feb-25	03-Mar-25	27-Apr-24	18-May-24	-290	PL1320	PL1340
PL1340	Revise & Re-submit O&M Manual for Section 3	30	04-Mar-25	02-Apr-25	18-May-24	17-Jun-24	-290	PL1330	PL1350
PL1350	PM Reivew & Approval of O&M Manual for Section 3	21	03-Apr-25	23-Apr-25	17-Jun-24	08-Jul-24	-290	PL1340	CD1040, SC31110
PL1360	Prepare & Submit O&M Manual for Section 4	50	07-Feb-22 A	28-Mar-22 A	02-Apr-25	02-Apr-25		CD1010	CD1040, PL1370
PL1370	PM Reivew & Comment O&M Manual for Section 4	36	29-Mar-22 A	03-May-22 A	02-Apr-25	02-Apr-25		PL1360	PL1380
PL1380	Revise & Re-submit O&M Manual for Section 4	383	04-May-22 A	21-May-23	02-Apr-25	02-Apr-25	682	PL1370	PL1390
PL1390	PM Reivew & Approval of O&M Manual for Section 4	21	22-May-23	11-Jun-23	03-Apr-25	23-Apr-25	682	PL1380	CD1040, SC41110
PL1400	Prepare & Submit O&M Manual for Section 5	90	13-Nov-24	10-Feb-25	08-Jan-24	06-Apr-24	-310	CD1010	CD1040, PL1410
PL1410	PM Reivew & Comment O&M Manual for Section 5	21	11-Feb-25	03-Mar-25	07-Apr-24	27-Apr-24	-310	PL1400	PL1420
PL1420	Revise & Re-submit O&M Manual for Section 5	30	04-Mar-25	02-Apr-25	28-Apr-24	27-May-24	-310	PL1410	PL1430
PL1430	PM Reivew & Approval of O&M Manual for Section 5	21	03-Apr-25	23-Apr-25	28-May-24	17-Jun-24	-310	PL1420	CD1040, SC51110
PL1440	Provision of ICE for Certification of the Design, Cal, Dwgs, Plans and all relevant Doc and Process Commissioning	1689	20-Nov-19 A	04-Jul-24	09-Mar-24	23-Apr-25	293	CD1010, PL1010	CD1040
Site Upkeeping		1689	20-Nov-19 A	04-Jul-24	09-Mar-24	23-Apr-25	293		
PL1450	General Site Upkeeping of the Site	1689	20-Nov-19 A	04-Jul-24	09-Mar-24	23-Apr-25	293	CD1010, PL1010	CD1040
Safety and Environmental Management		1705	10-Nov-19 A	04-Jul-24	09-Mar-24	23-Apr-25	293		
PL1460	Construction Health and Safety Plan	1699	10-Nov-19 A	04-Jul-24	09-Mar-24	23-Apr-25	293	CD1000	CD1040
PL1470	Site Traffic Safety Management Plan	1167	25-Apr-21 A	04-Jul-24	09-Mar-24	23-Apr-25	293	AD1010	CD1040
Compliance with BEAM Requirements		1134	11-Jun-21 A	18-Aug-24	09-Jun-23	17-Jun-24	-62		
Sludge Dewatering Building		1074	11-Jun-21 A	19-Jun-24	17-Aug-23	17-Jun-24	-2		



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Remaining Work
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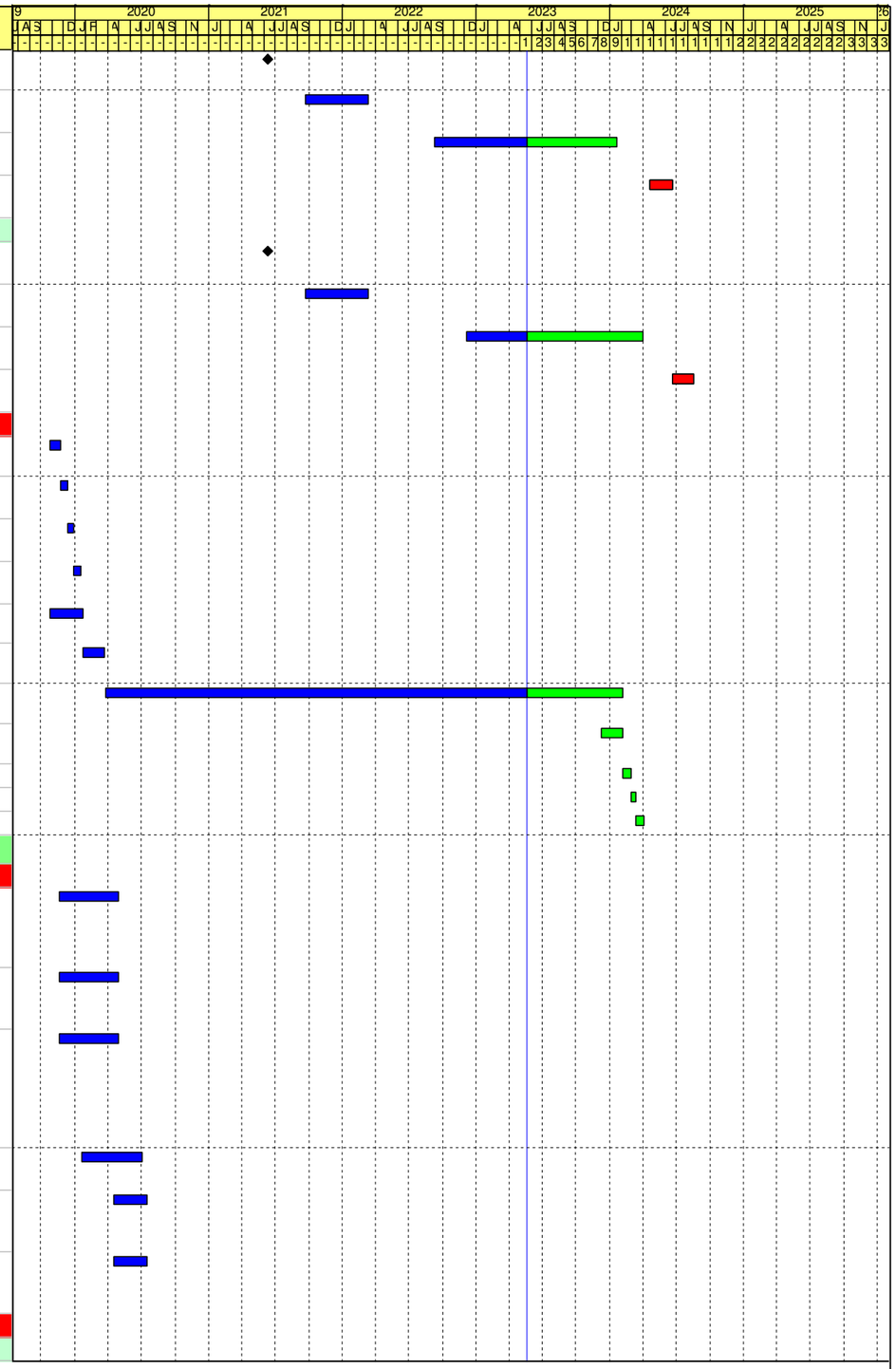
PL1490	Material Submission & Design Calculation Approved	0		11-Jun-21 A		17-Aug-23		S2D1290, S2D1330,	PL1500, SC21120
PL1500	Issued approved submission & Calculation to Cinotech	161	21-Sep-21 A	11-Mar-22 A	17-Aug-23	17-Aug-23		PL1490	PL1510
PL1510	Monthly Review & Submission	500	09-Sep-22 A	21-Jan-24	17-Aug-23	18-Apr-24	88	PL1500	PL1520
PL1520	Submission & Approval of Test Record	60	21-Apr-24	19-Jun-24	19-Apr-24	17-Jun-24	-2	PL1510, S5T1060	SC51120
CHP Building		1134	11-Jun-21 A	18-Aug-24	09-Jun-23	17-Jun-24	-62		
PL1530	Material Submission & Design Calculation Approved	0		11-Jun-21 A		09-Jun-23		S2D1610	PL1540, SC21120
PL1540	Issued approved submission & Calculation to Cinotech	168	21-Sep-21 A	11-Mar-22 A	09-Jun-23	09-Jun-23		PL1530	PL1550
PL1550	Monthly Review & Submission	480	07-Dec-22 A	30-Mar-24	09-Jun-23	18-Apr-24	19	S5CHPC1020, PL1540	PL1560
PL1560	Submission & Approval of Test Record	60	20-Jun-24	18-Aug-24	19-Apr-24	17-Jun-24	-62	PL1550, S5T1100	SC51120
BIM		1623	24-Oct-19 A	02-Apr-24	10-Jun-24	23-Apr-25	386		
PL1570	Prepare & Submit Construction Stage BIM Execution Plan	30	24-Oct-19 A	22-Nov-19 A	10-Jun-24	10-Jun-24		CD1010	PL1580, PL1630,
PL1580	PM Reivew & Comment Construction Stage BIM Execution Plan	21	23-Nov-19 A	13-Dec-19 A	10-Jun-24	10-Jun-24		PL1570	PL1590
PL1590	Revise & Re-submit Construction Stage BIM Execution Plan	14	14-Dec-19 A	27-Dec-19 A	10-Jun-24	10-Jun-24		PL1580	PL1600
PL1600	PM Reivew & Approval of Construction Stage BIM Execution Plan	21	28-Dec-19 A	17-Jan-20 A	10-Jun-24	10-Jun-24		PL1590	PL1630, PL1620
PL1610	Contractor Review & Study Design Stage BIM	92	24-Oct-19 A	23-Jan-20 A	10-Jun-24	10-Jun-24		CD1010	CD1040, PL1640,
PL1620	Contractor Develop 1st Construction Stage BIM	60	24-Jan-20 A	23-Mar-20 A	10-Jun-24	10-Jun-24		PL1600, PL1570,	CD1040, PL1640,
PL1630	Review & Update BIM Execution Plan & BIM Model	1415	24-Mar-20 A	06-Feb-24	10-Jun-24	26-Feb-25	386	PL1570, PL1620,	CD1040, PL1640
PL1640	Prepare & Submit the Fully Coordinated BIM	60	09-Dec-23	06-Feb-24	29-Dec-24	26-Feb-25	386	PL1620, PL1630,	PL1650
PL1650	PM Reivew & Comment Fully Coordinated BIM	21	07-Feb-24	27-Feb-24	27-Feb-25	19-Mar-25	386	PL1640	PL1660
PL1660	Revise & Re-submit Fully Coordinated BIM	14	28-Feb-24	12-Mar-24	20-Mar-25	02-Apr-25	386	PL1650	PL1670
PL1670	PM Reivew & Approval of Fully Coordinated BIM	21	13-Mar-24	02-Apr-24	03-Apr-25	23-Apr-25	386	PL1660	CD1040
Section 1 - Design for UV System No. 1 & Effluent Pumping Station No.1		284	21-Nov-19 A	08-Aug-20 A	21-Jul-22	23-Apr-25			
Major Plant & Materials Procurement		240	21-Nov-19 A	17-Jul-20 A	21-Jul-22	18-Feb-23			
S1P1000	Procurement & PO for UV Disinfection System (S10)	150	21-Nov-19 A	28-Apr-20 A	21-Jul-22	21-Jul-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	21-Jul-22	21-Jul-22		CD1010, PL1010	SC11110, S4P1070, S1D1000
S1P1020	Procurement & PO for Transfer Pumps (S13)	150	21-Nov-19 A	28-Apr-20 A	21-Jul-22	21-Jul-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	18-Feb-23	18-Feb-23		S1P1000	SC11110, S4P1100
S1P1040	Procurement & PO for Stoplogs (S21)	90	18-Apr-20 A	17-Jul-20 A	18-Feb-23	18-Feb-23		S1P1020, PL1010	SC11110, S4P1110, S2P1160
S1P1050	Procurement & PO for Penstocks (S21)	90	18-Apr-20 A	17-Jul-20 A	18-Feb-23	18-Feb-23		S1P1020, PL1010	SC11110, S4P1120, S2P1170
Design & Submission		217	27-Jan-20 A	08-Aug-20 A	21-Jul-22	23-Apr-25			
General Arrangement Drawings		217	27-Jan-20 A	08-Aug-20 A	21-Jul-22	23-Apr-25			



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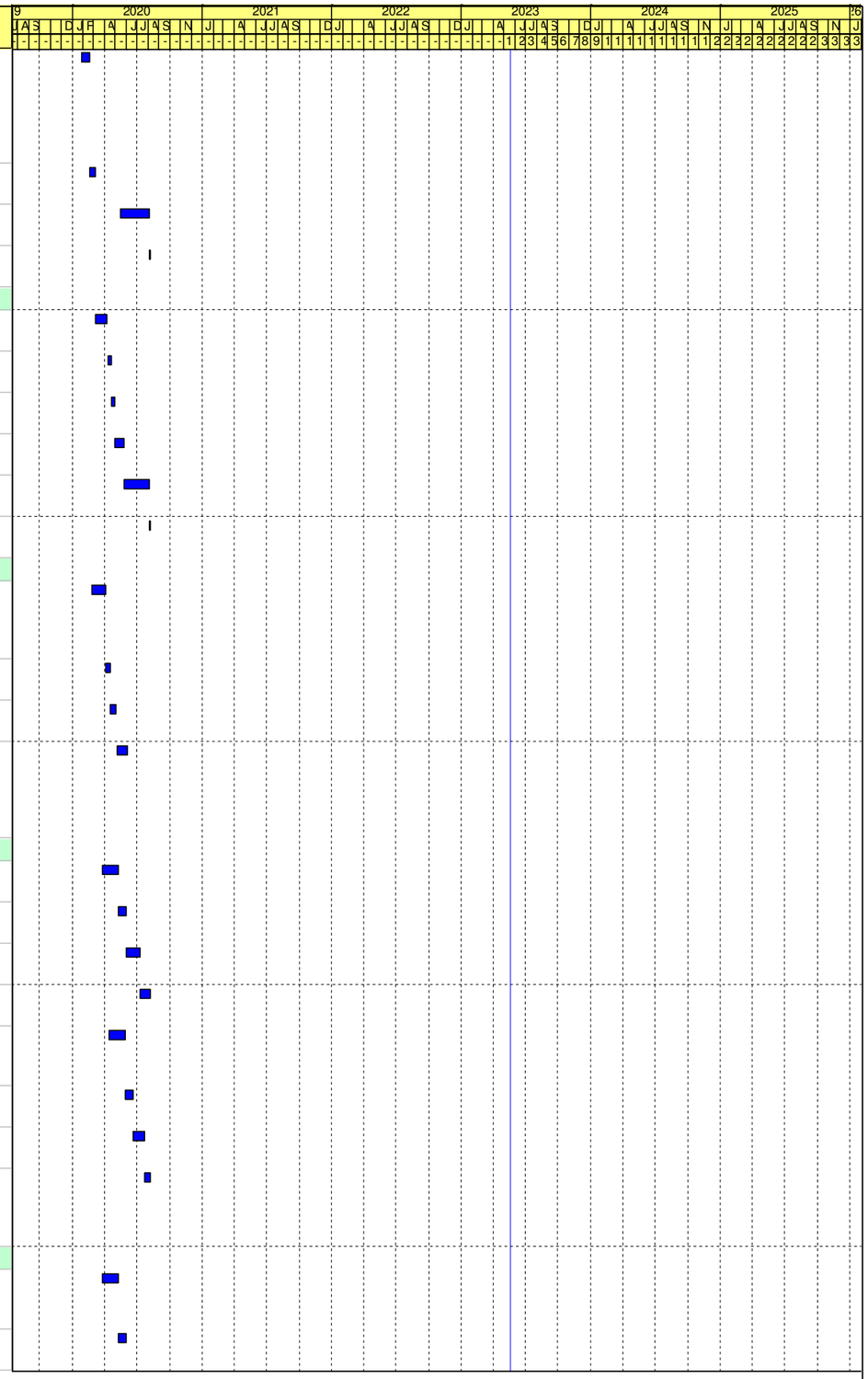
S1D1000	Prepare & Submit General Arrangement Drawings	90	27-Jan-20 A	19-Feb-20 A	21-Jul-22	21-Jul-22		S1P1000, S1P1010, S1P1020, PL1010	S1D1010, S1D1040, S1D1100, S1D1180, S1D1260, S4P1010
S1D1010	Review & Comment on General Arrangement Drawings by PM	21	20-Feb-20 A	04-Mar-20 A	23-Apr-25	23-Apr-25		S1D1000	S1D1020
S1D1020	Revise & Re-submit General Arrangement Drawings	14	16-May-20 A	05-Aug-20 A	23-Apr-25	23-Apr-25		S1D1010	S1D1030
S1D1030	Review & Accept of General Arrangement Drawings by PM	5	06-Aug-20 A	08-Aug-20 A	23-Apr-25	23-Apr-25		S1D1020	SC11110
Civil & Dimensional / Tolerance Requirement Drawings		176	07-Mar-20 A	08-Aug-20 A	18-Feb-23	23-Apr-25			
S1D1040	Prepare & Submit Civil Requirement Drawings	60	07-Mar-20 A	08-Apr-20 A	18-Feb-23	18-Feb-23		CD1010, S1D1000	S1D1050, KD1000
S1D1050	Review & Comment on Civil Requirement Drawings by PM	21	09-Apr-20 A	20-Apr-20 A	23-Apr-25	23-Apr-25		S1D1040	S1D1060
S1D1060	Revise & Re-submit Civil Requirement Drawings	14	21-Apr-20 A	29-Apr-20 A	23-Apr-25	23-Apr-25		S1D1050	S1D1070
S1D1070	Review & Comment of Civil Requirement Drawings by PM	21	30-Apr-20 A	25-May-20 A	23-Apr-25	23-Apr-25		S1D1060	SC11110, S1D1080
S1D1080	Revise & Re-submit Civil Requirement Drawings	28	26-May-20 A	05-Aug-20 A	23-Apr-25	23-Apr-25		S1D1070	S1D1090
S1D1090	Review & Accept of Civil Requirement Drawings by PM	5	06-Aug-20 A	08-Aug-20 A	23-Apr-25	23-Apr-25		S1D1080	SC11110
Electrical Schematic Drawings		116	25-Feb-20 A	03-Jun-20 A	21-Jul-22	22-Aug-22			
S1D1100	Prepare & Submit Elec. Schematic Drawings	60	25-Feb-20 A	03-Apr-20 A	21-Jul-22	21-Jul-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	22-Aug-22	22-Aug-22		S1D1100	S1D1120
S1D1120	Revise & Re-submit Elec. Schematic Drawings	14	17-Apr-20 A	04-May-20 A	22-Aug-22	22-Aug-22		S1D1110	S1D1130
S1D1130	Review & Accept of Elec. Schematic Drawings by PM	21	05-May-20 A	03-Jun-20 A	22-Aug-22	22-Aug-22		S1D1120	S5TXRP1000, S4C1000, S4C1010, S4P1020, SC11110
UV System No. 1		146	24-Mar-20 A	08-Aug-20 A	21-Jul-22	23-Apr-25			
S1D1140	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	60	24-Mar-20 A	08-May-20 A	21-Jul-22	21-Jul-22		CD1010, S1D1100	S1D1150, S1D1180
S1D1150	Review & Comment on Wiring Dwgs, Cable Schedule & Design Cal.	21	09-May-20 A	01-Jun-20 A	23-Apr-25	23-Apr-25		S1D1140	S1D1160
S1D1160	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	14	02-Jun-20 A	10-Jul-20 A	23-Apr-25	23-Apr-25		S1D1150	S1D1170
S1D1170	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	21	11-Jul-20 A	06-Aug-20 A	23-Apr-25	23-Apr-25		S1D1160	SC11110
S1D1180	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	60	15-Apr-20 A	29-May-20 A	21-Jul-22	21-Jul-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	21-Jul-22	21-Jul-22		S1D1180	S1D1200
S1D1200	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	14	20-Jun-20 A	23-Jul-20 A	21-Jul-22	21-Jul-22		S1D1190	S1D1210
S1D1210	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	14	24-Jul-20 A	08-Aug-20 A	21-Jul-22	21-Jul-22		S1D1200	S4P1040, S5TXRP1000, S5TXRP1010, SC11110
Effluent Pumping Station No. 1		139	24-Mar-20 A	08-Aug-20 A	21-Jul-22	23-Apr-25			
S1D1220	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	60	24-Mar-20 A	08-May-20 A	21-Jul-22	21-Jul-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	23-Apr-25	23-Apr-25		S1D1220	S1D1240



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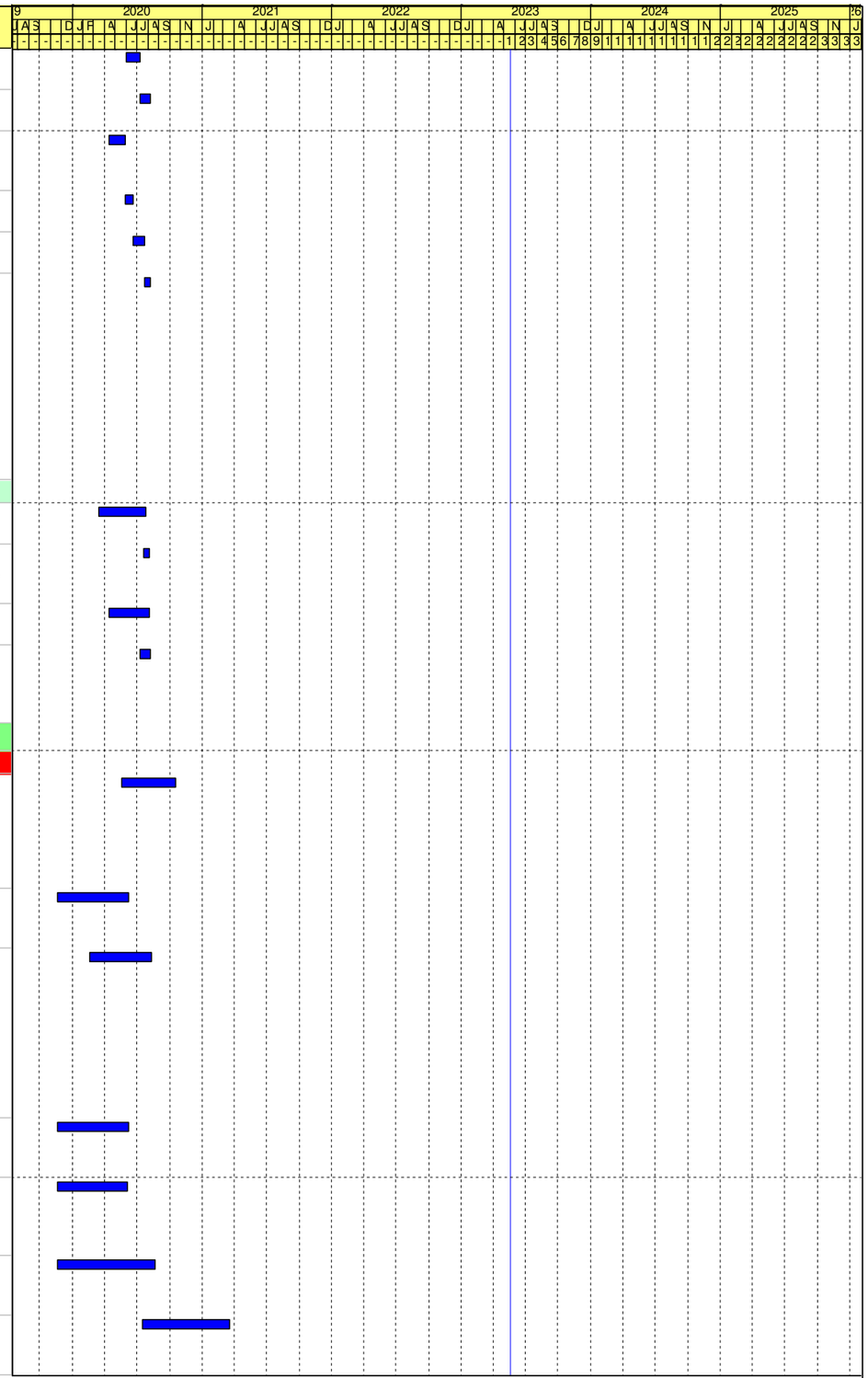
S1D1240	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	14	02-Jun-20 A	10-Jul-20 A	23-Apr-25	23-Apr-25		S1D1230	S1D1250
S1D1250	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	21	11-Jul-20 A	08-Aug-20 A	23-Apr-25	23-Apr-25		S1D1240	SC11110
S1D1260	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	60	15-Apr-20 A	29-May-20 A	21-Jul-22	21-Jul-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	21-Jul-22	21-Jul-22		S1D1260	S1D1280
S1D1280	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	14	20-Jun-20 A	23-Jul-20 A	21-Jul-22	21-Jul-22		S1D1270	S1D1290
S1D1290	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	14	24-Jul-20 A	08-Aug-20 A	21-Jul-22	21-Jul-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	23-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	23-Apr-25	23-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	23-Apr-25	23-Apr-25		S1D1320	SC11110, S4P1030, S4P1140, S4P1150
Section 2 - Complete All Designs (exclude Sec. 1 & 3)		943	20-Nov-19 A	21-May-23	31-Oct-21	23-Apr-25	703		
Major Plant & Materials Procurement		571	20-Nov-19 A	23-Apr-21 A	21-Jul-22	23-Apr-25			
S2P1000	Procurement & PO for Sludge Screening System (S2)	150	18-May-20 A	16-Oct-20 A	21-Sep-22	21-Sep-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	21-Sep-22	21-Sep-22		PL1010, CD1010	SC21110, S2D1300, S2P1030
S2P1020	Procurement & PO for Sludge Digestion System (S5)	150	18-Feb-20 A	12-Aug-20 A	10-Aug-22	10-Aug-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	21-Sep-22	21-Sep-22		PL1010, CD1010, S2P1010	SC21110, S2D1460
S2P1040	Procurement & PO for THP System (S4)	180	20-Nov-19 A	05-Jun-20 A	10-Aug-22	10-Aug-22		CD1010, PL1010	SC21110, S5THPP1000, S2D1340, S2P1020
S2P1050	Procurement & PO for Biogas Holding Tanks(S7)	180	20-Nov-19 A	20-Aug-20 A	21-Sep-22	21-Sep-22		PL1010	SC21110, S5BIOP1010, S2D1500
S2P1060	Procurement & PO for H2S Removal System (S7)	234	17-Jul-20 A	17-Mar-21 A	21-Sep-22	21-Sep-22		S2P1000	SC21110, S5H2SP1000, S2D1500



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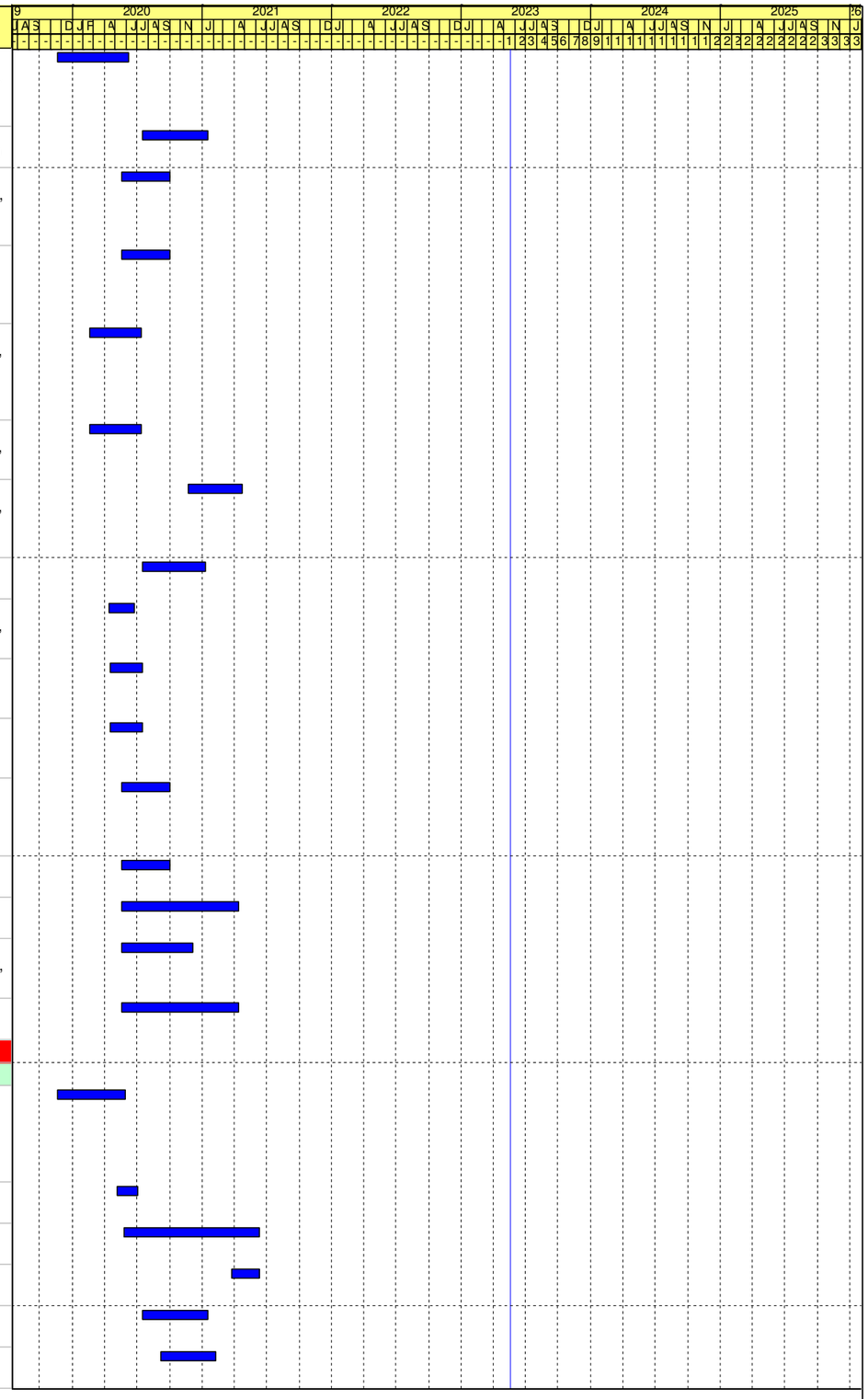
Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S2P1070	Procurement & PO for CHP System (S8)	180	20-Nov-19 A	08-Jun-20 A	21-Jul-22	21-Jul-22		PL1010	SC21110, S5CHPP1010, S2D1540, S2P1110
S2P1080	Procurement & PO for Waste Gas Burning System (S9)	150	17-Jul-20 A	15-Jan-21 A	09-Feb-23	09-Feb-23			SC21110, S5WGBP1000
S2P1090	Procurement & PO for Plant Service Water System (S12)	150	18-May-20 A	30-Sep-20 A	21-Sep-22	21-Sep-22			SC21110, S5PSWP1000, S2D1660, S2P1190
S2P1100	Procurement & PO for SAS Pumping System (S14)	150	18-May-20 A	30-Sep-20 A	20-Dec-22	20-Dec-22			SC21110, S5SASP1000, S2D1700, S2P1220
S2P1110	Procurement & PO for Transfomers (S17)	150	18-Feb-20 A	13-Jul-20 A	21-Jul-22	21-Jul-22		S2P1070	SC21110, S5WS2P1000, S2P1120, S2P1140, S5TXRP1000
S2P1120	Procurement & PO for 11 kV Switchboard (S17)	150	18-Feb-20 A	13-Jul-20 A	21-Jul-22	21-Jul-22		S2P1110	SC21110, S5WS2P1060, S2P1130
S2P1130	Procurement & PO for 380V Switchboard (S17)	174	21-Nov-20 A	23-Apr-21 A	21-Jul-22	21-Jul-22		S2P1120, S2D1220	SC21110, S5WS2P1090, S5P1050, S5TXRP1010
S2P1140	Procurement & PO for Control & Monitoring System (S18)	183	17-Jul-20 A	11-Jan-21 A	12-Dec-22	12-Dec-22		PL1010, S2P1110	SC21110, S5TXRP1020
S2P1150	Procurement & PO for DO System (S21)	150	15-Apr-20 A	24-Jun-20 A	08-Jan-23	08-Jan-23		S2P1000	SC21110, S5DOUP1000, S2D1930
S2P1160	Procurement & PO for Stoplog (S21)	90	18-Apr-20 A	17-Jul-20 A	03-May-23	03-May-23		PL1010, S1P1040	SC21110, S5SASP1010, S2P1170
S2P1170	Procurement & PO for Penstock (S21)	90	18-Apr-20 A	17-Jul-20 A	03-May-23	03-May-23		PL1010, S2P1160, S1P1050	SC21110, S5SASP1020
S2P1180	Procurement & PO for Sewage Pump (S21)	120	18-May-20 A	30-Sep-20 A	12-Feb-23	12-Feb-23		S2P1020	SC21110, S5SPSP1000, S2D1940, S2P1200
S2P1190	Procurement & PO for Process Water Pump (S21)	120	18-May-20 A	30-Sep-20 A	23-Apr-25	23-Apr-25		S2P1090	SC21110, S2D1950
S2P1200	Procurement & PO for External Sludge Transfer Pump (S21)	348	18-May-20 A	14-Apr-21 A	12-May-23	12-May-23		S2P1180	SC21110, S2D1960
S2P1210	Procurement & PO for THP Cooling Pump (S21)	150	18-May-20 A	04-Dec-20 A	12-May-23	12-May-23		S2P1020	SC21110, S5TCWP1000, S2D1970
S2P1220	Procurement & PO for Temporary Primary Sludge Pump (S21)	348	18-May-20 A	14-Apr-21 A	20-Dec-22	20-Dec-22		PL1010, S2P1100	SC21110, S5ECHP1000
Design & Submission		**860**	**20-Nov-19 A**	**11-Jun-21 A**	**21-Jul-22**	**23-Apr-25**			
General Arrangement Drawings		**715**	**20-Nov-19 A**	**11-Jun-21 A**	**21-Jul-22**	**23-Apr-25**			
S2D1000	Prepare & Submit General Arrangement Drawings (from formation level up to +8mPD)	180	20-Nov-19 A	29-May-20 A	21-Jul-22	21-Jul-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	23-Apr-25	23-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	23-Apr-25	23-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	23-Apr-25	23-Apr-25		S2D1020	SC21110
S2D1040	Prepare & Submit General Arrangement Drawings (remaining)	177	17-Jul-20 A	15-Jan-21 A	24-Aug-22	24-Aug-22		PL1010, S2D1000	S2D1050, S2D1120
S2D1050	Review & Comment on General Arrangement Drawings by PM (remaining)	21	05-Sep-20 A	08-Feb-21 A	24-Aug-22	24-Aug-22		S2D1040	S2D1060



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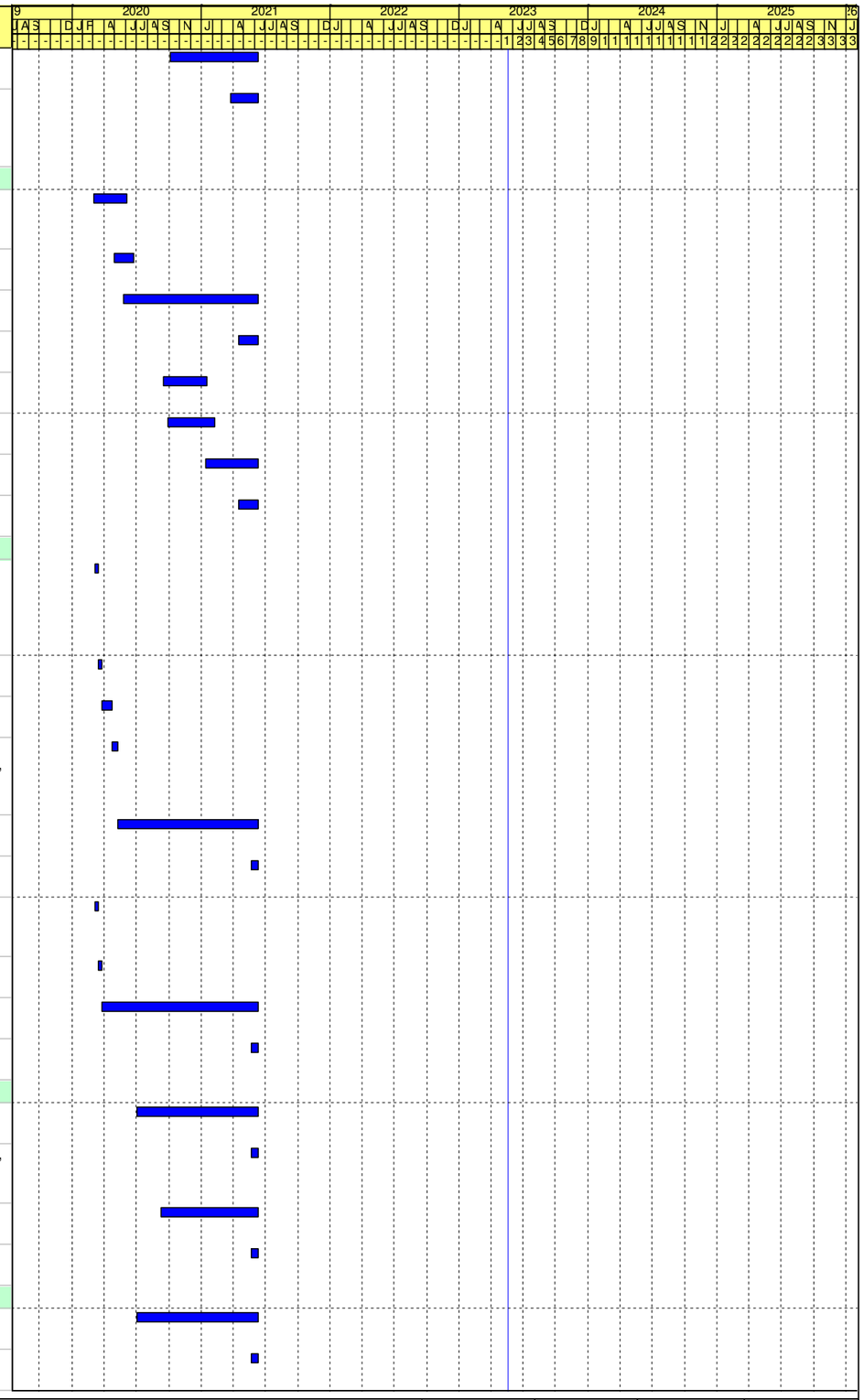
Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S2D1060	Revise & Re-submit General Arrangement Drawings (remaining)	248	06-Oct-20 A	10-Jun-21 A	24-Aug-22	24-Aug-22		S2D1050	S2D1070
S2D1070	Review & Accept of General Arrangement Drawings by PM (remaining)	77	26-Mar-21 A	11-Jun-21 A	24-Aug-22	24-Aug-22		S2D1060	SC21110, S5S1060, S5P1010, S5S1050
Civil & Dimensional / Tolerance Requirement Drawings		522	04-Mar-20 A	11-Jun-21 A	21-Sep-22	23-Apr-25			
S2D1080	Prepare & Submit Civil Requirement Drawings (from formation level up to +8mPD) -KD2A	90	04-Mar-20 A	04-Jun-20 A	21-Sep-22	21-Sep-22		S2D1000	S2D1090, S2D1660, KD1010
S2D1090	Review & Comment on Civil Requirement Drawings by PM (from formation level up to +8mPD)	21	30-Apr-20 A	23-Jun-20 A	21-Sep-22	21-Sep-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	21-Sep-22	21-Sep-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	21-Sep-22	21-Sep-22		S2D1100	SC21110, AD1120
S2D1120	Prepare & Submit Civil Requirement Drawings (remaining) -KD2B	120	15-Sep-20 A	15-Jan-21 A	23-Apr-25	23-Apr-25		S2D1040	S2D1130, KD1020
S2D1130	Review & Comment on Civil Requirement Drawings by PM (remaining)	21	28-Sep-20 A	08-Feb-21 A	23-Apr-25	23-Apr-25		S2D1120	S2D1140
S2D1140	Revise & Re-submit Civil Requirement Drawings (remaining)	150	12-Jan-21 A	10-Jun-21 A	23-Apr-25	23-Apr-25		S2D1130	S2D1150
S2D1150	Review & Accept of Civil Requirement Drawings by PM (remaining)	55	17-Apr-21 A	11-Jun-21 A	23-Apr-25	23-Apr-25		S2D1140	SC21110
Electrical Schematic Drawings		754	05-Mar-20 A	11-Jun-21 A	21-Jul-22	23-Apr-25			
S2D1160	Prepare & Elec. Schematic Drawings (from formation level up to +8mPD) -KD2A	90	05-Mar-20 A	16-Mar-20 A	21-Jul-22	21-Jul-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	21-Jul-22	21-Jul-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	21-Jul-22	21-Jul-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	21-Jul-22	21-Jul-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	23-Apr-25	23-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	23-Apr-25	23-Apr-25		S2D1200	SC21110
S2D1220	Prepare & Submit Elec. Schematic Drawings (remaining) -KD2B	120	05-Mar-20 A	16-Mar-20 A	21-Jul-22	21-Jul-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	17-Oct-23	17-Oct-23		S2D1220	S2D1240
S2D1240	Revise & Re-submit Elec. Schematic Drawings (remaining)	443	25-Mar-20 A	10-Jun-21 A	17-Oct-23	17-Oct-23		S2D1230	S2D1250
S2D1250	Review & Accept of Elec. Schematic Drawings by PM (remaining)	21	24-May-21 A	11-Jun-21 A	17-Oct-23	17-Oct-23		S2D1240, S2D1190	SC21110, S5WS2P1090
Sludge Screening (SSc)		357	02-Jul-20 A	11-Jun-21 A	21-Sep-22	17-Aug-23			
S2D1260	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	344	02-Jul-20 A	10-Jun-21 A	21-Sep-22	21-Sep-22		S2D1160, S2P1000	S2D1270
S2D1270	Review & Accept on Wiring Dwgs, Cable Schedule & Design Cal.	21	24-May-21 A	11-Jun-21 A	21-Sep-22	21-Sep-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	17-Aug-23	17-Aug-23			S2D1290
S2D1290	Review & Accept on the Schedule, Design Cal. & Fixing Details of Equipment	21	24-May-21 A	11-Jun-21 A	17-Aug-23	17-Aug-23		S2D1280	SC21110, PL1490
Sludge Thickening (STh)		357	02-Jul-20 A	11-Jun-21 A	21-Sep-22	17-Aug-23			
S2D1300	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	344	02-Jul-20 A	10-Jun-21 A	21-Sep-22	21-Sep-22		S2P1010	S2D1310
S2D1310	Review & Accept on Wiring Dwgs, Cable Schedule & Design Cal.	21	24-May-21 A	11-Jun-21 A	21-Sep-22	21-Sep-22		S2D1300	SC21110, S5P1050



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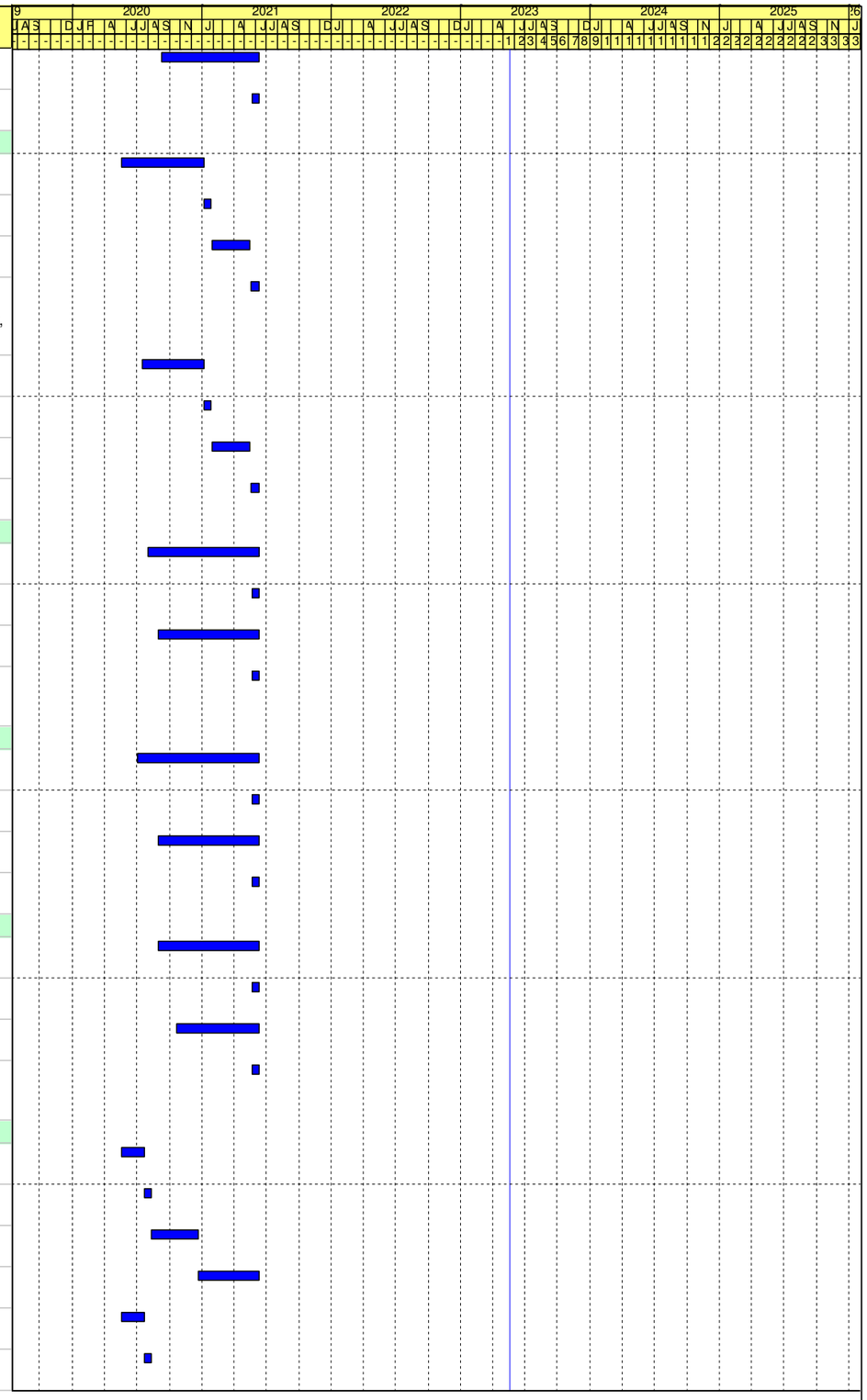
S2D1320	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	274	10-Sep-20 A	10-Jun-21 A	17-Aug-23	17-Aug-23			S2D1330
S2D1330	Review & Accept on the Schedule, Design Cal. & Fixing Details of Equipment	21	24-May-21 A	11-Jun-21 A	17-Aug-23	17-Aug-23		S2D1320	SC21110, PL1490
Thermal Hydrolysis Process (THP)		416	18-May-20 A	11-Jun-21 A	21-Sep-22	01-Oct-22			
S2D1340	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	241	18-May-20 A	07-Jan-21 A	21-Sep-22	21-Sep-22		S2P1040, S2D1000	S2D1350, S2D1970
S2D1350	Review & Comment on Wiring Dwgs, Cable Schedule & Design Cal.	21	08-Jan-21 A	27-Jan-21 A	21-Sep-22	21-Sep-22		S2D1340	S2D1360
S2D1360	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	117	28-Jan-21 A	17-May-21 A	21-Sep-22	21-Sep-22		S2D1350	S2D1370
S2D1370	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	24	18-May-21 A	11-Jun-21 A	21-Sep-22	21-Sep-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	01-Oct-22	01-Oct-22			S2D1390
S2D1390	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	21	08-Jan-21 A	27-Jan-21 A	01-Oct-22	01-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	01-Oct-22	01-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	01-Oct-22	01-Oct-22		S2D1400	S5THPP1000, SC21110
Sludge Digestion (SDi)		325	01-Aug-20 A	11-Jun-21 A	10-Aug-22	21-Sep-22			
S2D1420	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	314	01-Aug-20 A	10-Jun-21 A	21-Sep-22	21-Sep-22		S2P1020	S2D1430
S2D1430	Review & Accept on Wiring Dwgs, Cable Schedule & Design Cal.	21	24-May-21 A	11-Jun-21 A	21-Sep-22	21-Sep-22		S2D1420	SC21110, S5P1050
S2D1440	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	284	31-Aug-20 A	10-Jun-21 A	10-Aug-22	10-Aug-22			S2D1450
S2D1450	Review & Accept on the Schedule, Design Cal. & Fixing Details of Equipment	21	24-May-21 A	11-Jun-21 A	10-Aug-22	10-Aug-22		S2D1440	S5DIGP1000, SC21110, PL1490
Sludge Dewatering (SDe)		357	02-Jul-20 A	11-Jun-21 A	21-Sep-22	17-Aug-23			
S2D1460	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	344	02-Jul-20 A	10-Jun-21 A	21-Sep-22	21-Sep-22		S2P1030	S2D1470
S2D1470	Review & Accept on Wiring Dwgs, Cable Schedule & Design Cal.	21	24-May-21 A	11-Jun-21 A	21-Sep-22	21-Sep-22		S2D1460	SC21110, S5P1050
S2D1480	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	284	31-Aug-20 A	10-Jun-21 A	17-Aug-23	17-Aug-23			S2D1490
S2D1490	Review & Accept on the Schedule, Design Cal. & Fixing Details of Equipment	21	24-May-21 A	11-Jun-21 A	17-Aug-23	17-Aug-23		S2D1480	SC21110, PL1490
Biogas Storage & Pre-Treatment (BSPT)		295	31-Aug-20 A	11-Jun-21 A	21-Sep-22	22-Sep-22			
S2D1500	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	284	31-Aug-20 A	10-Jun-21 A	21-Sep-22	21-Sep-22		S2P1060, S2P1050	S2D1510
S2D1510	Review & Accept on Wiring Dwgs, Cable Schedule & Design Cal.	21	24-May-21 A	11-Jun-21 A	21-Sep-22	21-Sep-22		S2D1500	SC21110, S5P1050
S2D1520	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	232	22-Oct-20 A	10-Jun-21 A	22-Sep-22	22-Sep-22			S2D1530
S2D1530	Review & Accept on the Schedule, Design Cal. & Fixing Details of Equipment	21	24-May-21 A	11-Jun-21 A	22-Sep-22	22-Sep-22		S2D1520	S5BIOP1010, S5H2SP1000, SC21110
Combined Heat & Power Generation (CHP)		512	18-May-20 A	11-Jun-21 A	29-Aug-22	21-Sep-22			
S2D1540	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	233	18-May-20 A	21-Jul-20 A	21-Sep-22	21-Sep-22		S2P1070	S2D1550
S2D1550	Review & Comment on Wiring Dwgs, Cable Schedule & Design Cal.	21	22-Jul-20 A	11-Aug-20 A	21-Sep-22	21-Sep-22		S2D1540	S2D1560, S2D1870
S2D1560	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	28	12-Aug-20 A	21-Dec-20 A	21-Sep-22	21-Sep-22		S2D1550	S2D1570
S2D1570	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	171	22-Dec-20 A	11-Jun-21 A	21-Sep-22	21-Sep-22		S2D1560	SC21110, S5P1050
S2D1580	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	180	18-May-20 A	21-Jul-20 A	29-Aug-22	29-Aug-22			S2D1590
S2D1590	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	21	22-Jul-20 A	11-Aug-20 A	29-Aug-22	29-Aug-22		S2D1580	S2D1600



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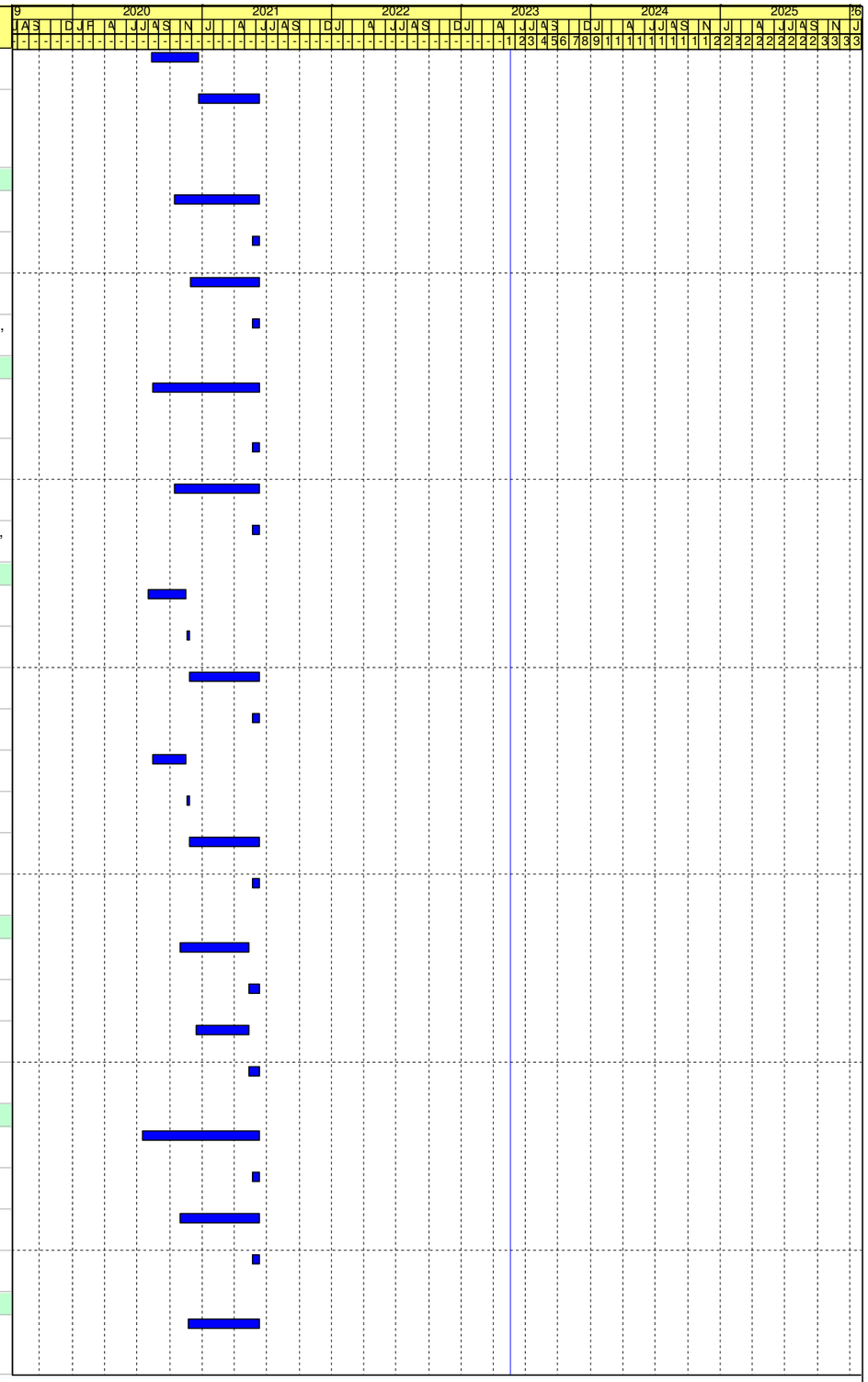
S2D1600	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	28	12-Aug-20 A	21-Dec-20 A	29-Aug-22	29-Aug-22		S2D1590	S2D1610
S2D1610	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	171	22-Dec-20 A	11-Jun-21 A	29-Aug-22	29-Aug-22		S2D1600	S5CHPP1010, SC21110, S5S1020, PL1530
Waste Gas Burning System (WGB)		264	15-Oct-20 A	11-Jun-21 A	21-Sep-22	09-Feb-23			
S2D1620	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	239	15-Oct-20 A	10-Jun-21 A	21-Sep-22	21-Sep-22			S2D1630
S2D1630	Review & Accept on Wiring Dwgs, Cable Schedule & Design Cal.	21	24-May-21 A	11-Jun-21 A	21-Sep-22	21-Sep-22		S2D1620	SC21110, S5P1050
S2D1640	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	194	29-Nov-20 A	10-Jun-21 A	09-Feb-23	09-Feb-23			S2D1650
S2D1650	Review & Accept on the Schedule, Design Cal. & Fixing Details of Equipment	21	24-May-21 A	11-Jun-21 A	09-Feb-23	09-Feb-23		S2D1640	S5WGBP1000, SC21110
Plant Service Water System (PSW)		325	16-Aug-20 A	11-Jun-21 A	21-Sep-22	09-Nov-22			
S2D1660	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	299	16-Aug-20 A	10-Jun-21 A	21-Sep-22	21-Sep-22		S2D1080, S2D1160, S2P1090	S2D1670
S2D1670	Review & Accept on Wiring Dwgs, Cable Schedule & Design Cal.	21	24-May-21 A	11-Jun-21 A	21-Sep-22	21-Sep-22		S2D1660	SC21110, S5P1050
S2D1680	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	239	15-Oct-20 A	10-Jun-21 A	09-Nov-22	09-Nov-22			S2D1690
S2D1690	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	21	24-May-21 A	11-Jun-21 A	09-Nov-22	09-Nov-22		S2D1680	S5PSWP1000, SC21110
Surplus Activated Sludge Pumping Station (SAS)		440	01-Aug-20 A	11-Jun-21 A	26-Apr-23	23-Apr-25			
S2D1700	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	202	01-Aug-20 A	17-Nov-20 A	23-Apr-25	23-Apr-25		S2P1100	S2D1710
S2D1710	Review & Comment on Wiring Dwgs, Cable Schedule & Design Cal.	21	18-Nov-20 A	24-Nov-20 A	23-Apr-25	23-Apr-25		S2D1700	S2D1720
S2D1720	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	198	25-Nov-20 A	10-Jun-21 A	23-Apr-25	23-Apr-25		S2D1710	S2D1730
S2D1730	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	21	24-May-21 A	11-Jun-21 A	23-Apr-25	23-Apr-25		S2D1720	SC21110
S2D1740	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	183	16-Aug-20 A	17-Nov-20 A	26-Apr-23	26-Apr-23			S2D1750
S2D1750	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	21	18-Nov-20 A	24-Nov-20 A	26-Apr-23	26-Apr-23		S2D1740	S2D1760
S2D1760	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	198	25-Nov-20 A	10-Jun-21 A	26-Apr-23	26-Apr-23		S2D1750	S2D1770
S2D1770	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	21	24-May-21 A	11-Jun-21 A	26-Apr-23	26-Apr-23		S2D1760	S5SASP1000, SC21110
Control and Monitoring System		211	30-Oct-20 A	11-Jun-21 A	23-Apr-25	23-Apr-25			
S2D1780	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	193	30-Oct-20 A	11-May-21 A	23-Apr-25	23-Apr-25			S2D1790
S2D1790	Review & Accept on Wiring Dwgs, Cable Schedule & Design Cal.	30	12-May-21 A	11-Jun-21 A	23-Apr-25	23-Apr-25		S2D1780	SC21110
S2D1800	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	148	14-Dec-20 A	11-May-21 A	23-Apr-25	23-Apr-25			S2D1810
S2D1810	Review & Accept on the Schedule, Design Cal. & Fixing Details of Equipment	30	12-May-21 A	11-Jun-21 A	23-Apr-25	23-Apr-25		S2D1800	SC21110
Lifting Appliances		358	17-Jul-20 A	11-Jun-21 A	23-Apr-25	23-Apr-25			
S2D1820	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	329	17-Jul-20 A	10-Jun-21 A	23-Apr-25	23-Apr-25			S2D1830
S2D1830	Review & Accept on Wiring Dwgs, Cable Schedule & Design Cal.	21	24-May-21 A	11-Jun-21 A	23-Apr-25	23-Apr-25		S2D1820	SC21110
S2D1840	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	224	30-Oct-20 A	10-Jun-21 A	23-Apr-25	23-Apr-25			S2D1850
S2D1850	Review & Acceptt on the Schedule, Design Cal. & Fixing Details of Equipment	21	24-May-21 A	11-Jun-21 A	23-Apr-25	23-Apr-25		S2D1840	SC21110
Building Services		357	02-Jul-20 A	11-Jun-21 A	30-Jul-22	23-Apr-25			
S2D1860	Submit & Accept BS Works Design & Dwgs for Sludge Dewatering Building	202	21-Nov-20 A	11-Jun-21 A	30-Jul-22	30-Jul-22			SC21110, S5S1010, S5S1120



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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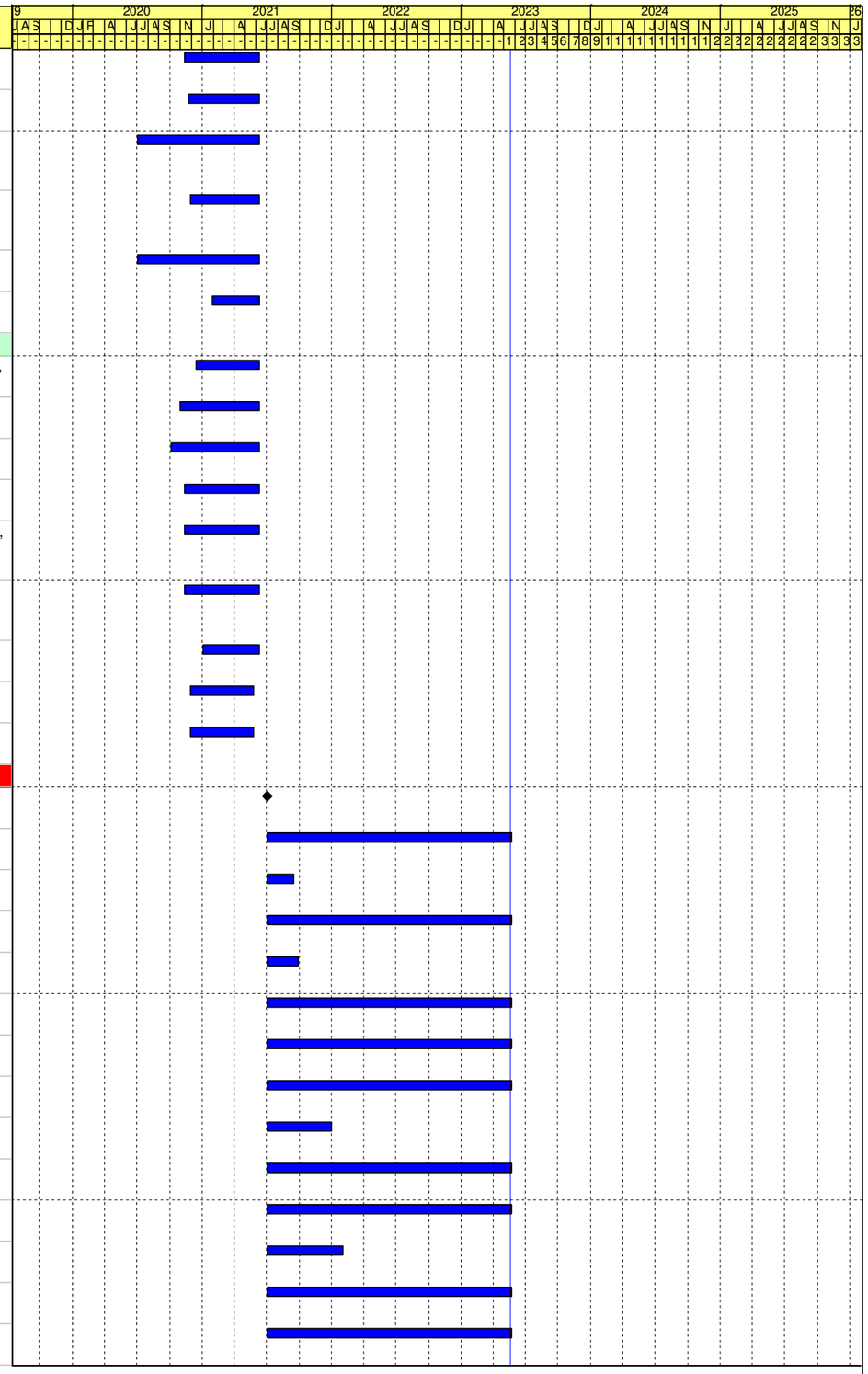
31-Mar-23	Rev.32	IM/LT	KM
30-Apr-23	Rev.33	IM/LT	KM
31-May-23	Rev.34	IM/LT	KM

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S2D1870	Submit & Accept BS Works Design & Dwgs for CHP Building	209	14-Nov-20 A	11-Jun-21 A	26-Jul-23	26-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	26-Jul-23	26-Jul-23			SC21110, S5S1120
S2D1890	Submit & Accept BS Works Design & Dwgs for Workshop No. 2	344	02-Jul-20 A	11-Jun-21 A	21-Sep-22	21-Sep-22			SC21110, S5S1030, S5S1120
S2D1900	Submit & Accept BS Works Design & Dwgs for Other Facilities	194	29-Nov-20 A	11-Jun-21 A	26-Jul-23	26-Jul-23			S2D1920, SC21110, S5S1120
S2D1910	Submit & Accept BS Works Design & Dwgs for FS Installation	344	02-Jul-20 A	11-Jun-21 A	26-Jul-23	26-Jul-23			SC21110, S5S1120
S2D1920	Submit & Accept BS Works Design & Dwgs for Outdoor Lighting Installation	134	28-Jan-21 A	11-Jun-21 A	23-Apr-25	23-Apr-25		S2D1900	SC21110
Miscellaneous		264	05-Oct-20 A	11-Jun-21 A	26-Oct-22	23-Apr-25			
S2D1930	Submit & Accept Design & Dwgs for DO System	179	14-Dec-20 A	11-Jun-21 A	08-Jan-23	08-Jan-23		S2P1150, PL1020	S5DOUP1000, SC21110
S2D1940	Submit & Accept Design & Dwgs for Sewage Pumping Station	224	30-Oct-20 A	11-Jun-21 A	12-Feb-23	12-Feb-23		S2P1180	S5SPSP1000, SC21110
S2D1950	Submit & Accept Design & Dwgs for Process Water Pumping System	249	05-Oct-20 A	11-Jun-21 A	23-Apr-25	23-Apr-25		S2P1190	SC21110
S2D1960	Submit & Accept Design & Dwgs for External Sludge Transfer Pumping System	209	14-Nov-20 A	11-Jun-21 A	12-May-23	12-May-23		S2P1200	S2D1970, SC21110
S2D1970	Submit & Accept Design & Dwgs for THP Cooling Water Pumping Station	209	14-Nov-20 A	10-Jun-21 A	12-May-23	12-May-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	15-Nov-22	15-Nov-22			S5FCDP1000, S5FCDP1010, SC21110
S2D1990	Submit & Accept Design & Dwgs for Temporary Primary Sludge Pumping Facility	158	04-Jan-21 A	11-Jun-21 A	20-Dec-22	20-Dec-22		PL1020	S5ECHP1000, SC21110
S2D2000	Submit & Accept Design & Dwgs for Gas Detection System	194	29-Nov-20 A	24-May-21 A	26-Oct-22	26-Oct-22			SC21110, S5CHPP1040
S2D2010	Submit & Accept Design & Dwgs for CCTV System	194	29-Nov-20 A	26-May-21 A	23-Apr-25	23-Apr-25			SC21110
Outstanding Works		334	02-Jul-21 A	21-May-23	31-Oct-21	23-Apr-25	703		
S2D2020	Certifiate of Completion - Section 2 of the works (Ref: RCYK:ccm:60427128/92-2021004626w)	0	02-Jul-21 A		23-Apr-25				
S2D2030	Provide ICE Certificate for all design, calculations, drawings, plans & relevant documents	334	02-Jul-21 A	21-May-23*	31-May-22	31-May-22	-355		
S2D2040	Submit finalized design calculations, drawings & material submissions for BS systems (Workshop No.2)	76	02-Jul-21 A	15-Sep-21 A	23-Apr-25	23-Apr-25			
S2D2050	Submit finalized design calculations, drawings & material submissions for BS systems (except Workshop No.2)	303	02-Jul-21 A	21-May-23*	30-Apr-22	30-Apr-22	-386		
S2D2060	Submit finalized sizing calculations for the actuators and stems for penstocks	91	02-Jul-21 A	30-Sep-21 A	23-Apr-25	23-Apr-25			
S2D2070	Submit finalized cable schedules & sizing calculation (LV System)	294	02-Jul-21 A	21-May-23*	31-Dec-21	31-Dec-21	-506		
S2D2080	Submit finalized pumps and associated motor and VSD calculations	294	02-Jul-21 A	21-May-23*	31-Dec-21	31-Dec-21	-506		
S2D2090	Submit finalized electrical loads to verify the rating of the switchgears, transformers and protective devices	294	02-Jul-21 A	21-May-23*	31-Dec-21	31-Dec-21	-506		
S2D2100	Submit finalized material submissions of the cables, cable tray, ladder and accessories	294	02-Jul-21 A	31-Dec-21 A	23-Apr-25	23-Apr-25			
S2D2110	Submit finalized cable route drawings	294	02-Jul-21 A	21-May-23*	31-Dec-21	31-Dec-21	-506		
S2D2120	Submit finalized layout and control wiring diagrams for switchboard, MCC, control panel, etc	294	02-Jul-21 A	21-May-23*	31-Jan-22	31-Jan-22	-475		
S2D2130	Submit finalized design submissions of the CHP system	294	02-Jul-21 A	31-Jan-22 A	23-Apr-25	23-Apr-25			
S2D2140	Submit finalized interlock devices for electrical equipment and system	303	02-Jul-21 A	21-May-23*	30-Apr-22	30-Apr-22	-386		
S2D2150	Submit finalized calculations for total harmonic distortion, electrical faults and touch voltage	303	02-Jul-21 A	21-May-23*	30-Apr-22	30-Apr-22	-386		



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Remaining Work
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Sidestream Treatment Facilities and E&M Works for Sludge Treatment Facilities
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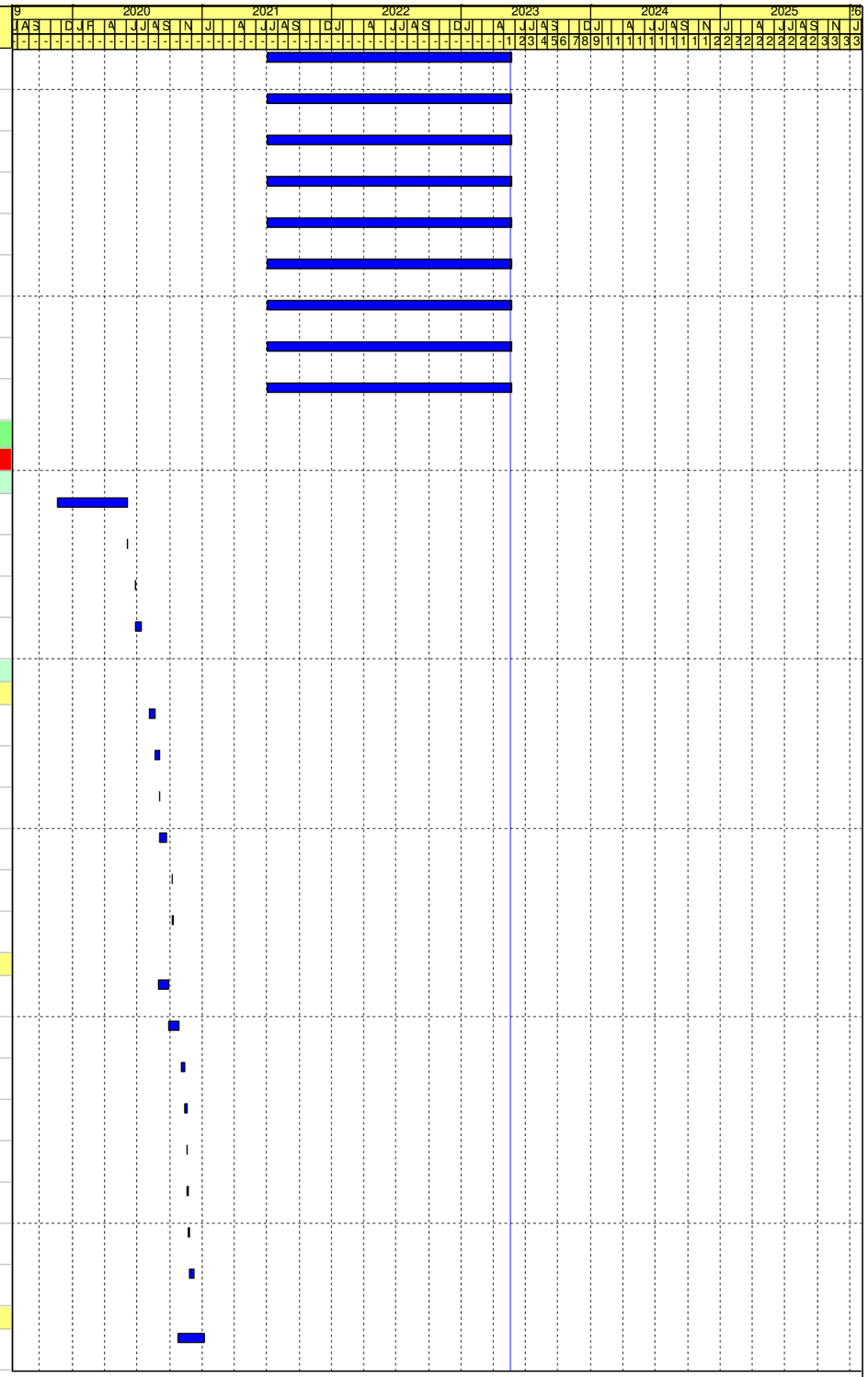
Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S2D2160	Submit finalized design calculations, drawings & material submissions for ELV systems	294	02-Jul-21 A	21-May-23*	31-Dec-21	31-Dec-21	-506		
S2D2170	Submit finalized design submissions of SCADA, PMS, CMMS, IDMS, UPS for FCS	294	02-Jul-21 A	21-May-23*	31-Dec-21	31-Dec-21	-506		
S2D2180	Submit finalized configuration of SCADA / PLC system, CMMS & PMS	294	02-Jul-21 A	21-May-23*	31-Dec-21	31-Dec-21	-506		
S2D2190	Submit finalized PLC and MCC panel design	294	02-Jul-21 A	21-May-23*	28-Feb-22	28-Feb-22	-447		
S2D2200	Submit finalized design & philosophy of the process instrument	294	02-Jul-21 A	21-May-23*	31-Dec-21	31-Dec-21	-506		
S2D2210	Submit finalized Process Design Submission	152	02-Jul-21 A	21-May-23*	30-Nov-21	30-Nov-21	-537		
S2D2220	Submit finalized acoustic and noise calculations for all equipment	303	02-Jul-21 A	21-May-23*	30-Apr-22	30-Apr-22	-386		
S2D2230	Submit finalized design of THP feeding system	122	02-Jul-21 A	21-May-23*	31-Oct-21	31-Oct-21	-567		
S2D2240	Submit finalized design of the centrifuge discharge system	152	02-Jul-21 A	21-May-23*	30-Nov-21	30-Nov-21	-537		
Section 3 - Complete Design, Construction & T&C for Sidestream Facili		1956	20-Nov-19 A	28-Mar-25	28-Aug-22	23-Apr-25	26		
Major Subcontractor / Supplier Procurement		633	20-Nov-19 A	06-Sep-21 A	27-Feb-23	23-Apr-25			
Design		320	20-Nov-19 A	12-Jul-20 A	27-Feb-23	23-Apr-25			
S3P1000	Procurement & PO for Deammonification Sidestream Treatment Facilities	200	20-Nov-19 A	05-Jun-20 A	27-Feb-23	27-Feb-23		CD1010, PL1010	S3D1000, S3D1440
S3P1010	E&M (Process) Designer Award	1	05-Jun-20 A	05-Jun-20 A	23-Apr-25	23-Apr-25			
S3P1020	Civil & BS Designer Award	1	26-Jun-20 A	26-Jun-20 A	23-Apr-25	23-Apr-25			S3P1030
S3P1030	Mobilisation	14	27-Jun-20 A	12-Jul-20 A	23-Apr-25	23-Apr-25		S3P1020	
Civil & Building Contractor		327	05-Aug-20 A	06-Sep-21 A	02-Jul-23	02-Jul-23			
For Site Clearance & Survey		36	05-Aug-20 A	12-Oct-20 A	02-Jul-23	02-Jul-23			
S3P1040	Submit Tender proprosal of Civil Contractor (Site Clearance & Survey)	14	05-Aug-20 A	20-Aug-20 A	02-Jul-23	02-Jul-23			S3P1050
S3P1050	Review & Comment the Tender proprosal of Civil Contractor (Site Clearance & Survey)	14	21-Aug-20 A	01-Sep-20 A	02-Jul-23	02-Jul-23		S3P1040	S3P1060
S3P1060	Re-submit Tender proprosal of Civil Contractor (Site Clearance & Survey)	14	02-Sep-20 A	02-Sep-20 A	02-Jul-23	02-Jul-23		S3P1050	S3P1070
S3P1070	Review & Accept Tender proprosal of Civil Contractor (Site Clearance & Survey)	14	03-Sep-20 A	23-Sep-20 A	02-Jul-23	02-Jul-23		S3P1060	S3P1080
S3P1080	Civil Contractor (Site Clearance & Survey) Award	1	07-Oct-20 A	07-Oct-20 A	02-Jul-23	02-Jul-23		S3P1070	S3P1090
S3P1090	Mobilisation	5	08-Oct-20 A	12-Oct-20 A	02-Jul-23	02-Jul-23		S3P1080	S3C1010
For Ground Investigation		98	29-Aug-20 A	08-Dec-20 A	02-Jul-23	02-Jul-23			
S3P1100	Submit Tender proprosal of Civil Contractor (Ground Investigation)	14	29-Aug-20 A	29-Sep-20 A	02-Jul-23	02-Jul-23			S3P1110
S3P1110	Review & Accept the Tender proprosal of Civil Contractor (Ground Investigation)	21	30-Sep-20 A	27-Oct-20 A	02-Jul-23	02-Jul-23		S3P1100	S3P1120
S3P1120	Tender Invitation of Civil Contractor (Ground Investigation)	7	02-Nov-20 A	13-Nov-20 A	02-Jul-23	02-Jul-23		S3P1110	S3P1130
S3P1130	Submission of Tender Report	7	14-Nov-20 A	18-Nov-20 A	02-Jul-23	02-Jul-23		S3P1120	S3P1140
S3P1140	Review & Accept the Tender Report by PM	21	19-Nov-20 A	19-Nov-20 A	02-Jul-23	02-Jul-23		S3P1130	S3P1150
S3P1150	Contract Preparation	3	20-Nov-20 A	23-Nov-20 A	02-Jul-23	02-Jul-23		S3P1140	S3P1160
S3P1160	Civil Contractor (Ground Investigation) Award	1	24-Nov-20 A	24-Nov-20 A	02-Jul-23	02-Jul-23		S3P1150	S3P1170
S3P1170	Mobilisation	7	25-Nov-20 A	08-Dec-20 A	02-Jul-23	02-Jul-23		S3P1160	S3C1020
For Pre-drilling & Post-drilling		116	26-Oct-20 A	21-Feb-21 A	02-Jul-23	02-Jul-23			
S3P1180	Submit Tender proprosal of Civil Contractor (Pre-drilling & Post-drilling)	74	26-Oct-20 A	06-Jan-21 A	02-Jul-23	02-Jul-23		S3D1300, S3D1240	S3P1190



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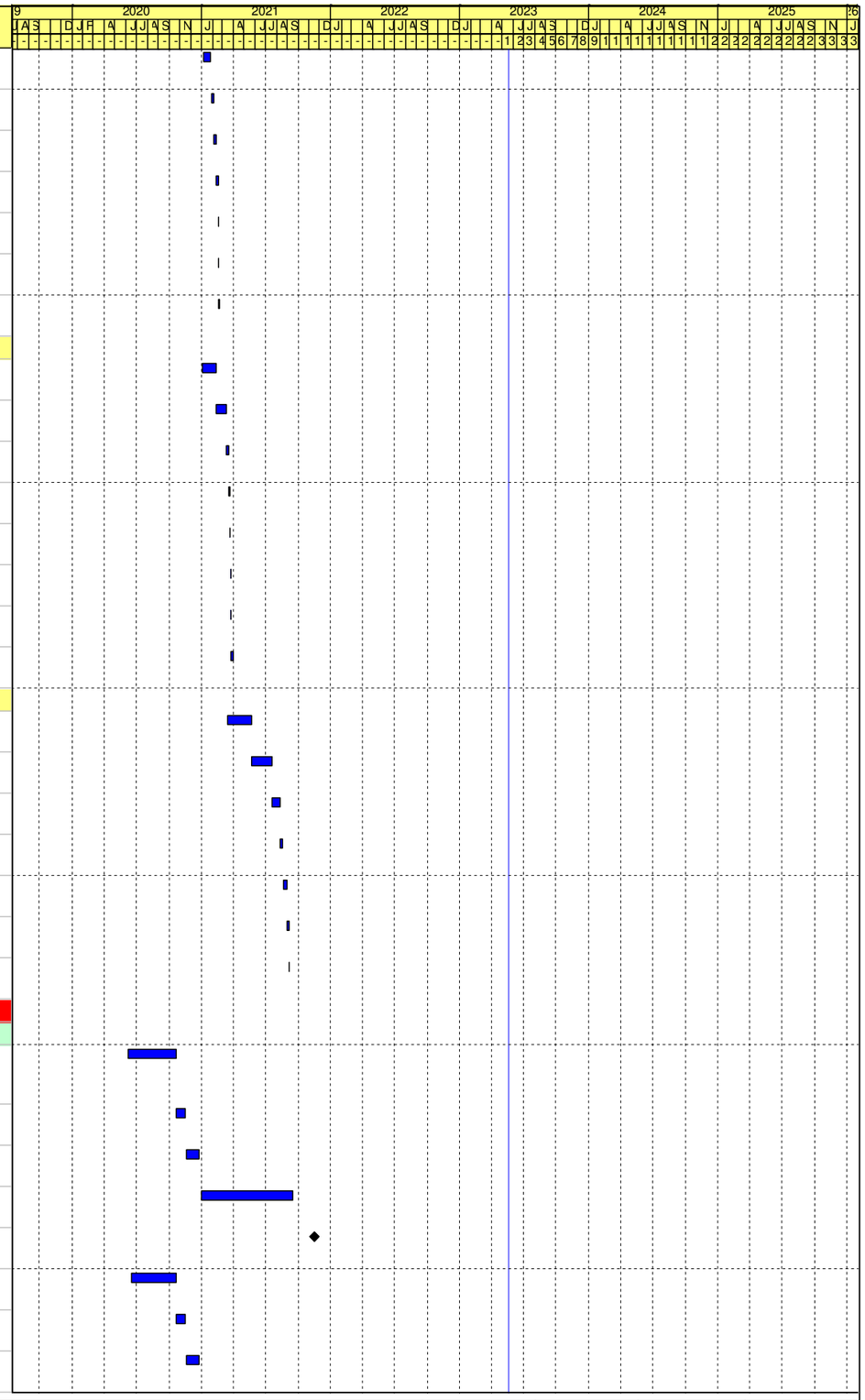
Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S3P1190	Review & Accept the Tender proprosal of Civil Contractor (Predrill & Proof drill)	21	07-Jan-21 A	27-Jan-21 A	02-Jul-23	02-Jul-23		S3P1180	S3P1200
S3P1200	Tender Invitation of Civil Contractor (Pre-drilling & Post-drilling)	14	28-Jan-21 A	04-Feb-21 A	02-Jul-23	02-Jul-23		S3P1190	S3P1210
S3P1210	Submission of Tender Report	4	05-Feb-21 A	10-Feb-21 A	02-Jul-23	02-Jul-23		S3P1200	S3P1220
S3P1220	Review & Accept the Tender Report by PM	21	11-Feb-21 A	16-Feb-21 A	02-Jul-23	02-Jul-23		S3P1210	S3P1230
S3P1230	Contract Preparation	3	17-Feb-21 A	17-Feb-21 A	02-Jul-23	02-Jul-23		S3P1220	S3P1240
S3P1240	Civil Contractor (Pre-drilling & Post-drilling) Award	1	18-Feb-21 A	18-Feb-21 A	02-Jul-23	02-Jul-23		S3P1230	S3P1250
S3P1250	Mobilisation	3	19-Feb-21 A	21-Feb-21 A	02-Jul-23	02-Jul-23		S3P1240	S3C1030
For Piling		90	04-Jan-21 A	01-Apr-21 A	02-Jul-23	02-Jul-23			
S3P1260	Submit Tender proprosal of Civil Contractor (Piling)	39	04-Jan-21 A	10-Feb-21 A	02-Jul-23	02-Jul-23			S3P1270
S3P1270	Review & Accept the Tender proprosal of Civil Contractor (Piling)	25	11-Feb-21 A	12-Mar-21 A	02-Jul-23	02-Jul-23		S3P1260	S3P1280
S3P1280	Tender Invitation of Civil Contractor (Piling)	14	12-Mar-21 A	19-Mar-21 A	02-Jul-23	02-Jul-23		S3P1270	S3P1290
S3P1290	Submission of Tender Report	7	20-Mar-21 A	22-Mar-21 A	02-Jul-23	02-Jul-23		S3P1280	S3P1300
S3P1300	Review & Accept the Tender Report by PM	21	23-Mar-21 A	23-Mar-21 A	02-Jul-23	02-Jul-23		S3P1290	S3P1310
S3P1310	Contract Preparation	3	24-Mar-21 A	25-Mar-21 A	02-Jul-23	02-Jul-23		S3P1300	S3P1320
S3P1320	Civil Contractor (Piling) Award	1	26-Mar-21 A	26-Mar-21 A	02-Jul-23	02-Jul-23		S3P1310	S3P1330
S3P1330	Mobilisation	3	26-Mar-21 A	01-Apr-21 A	02-Jul-23	02-Jul-23		S3P1320	S3C1030
For Main Civil Works		146	17-Mar-21 A	06-Sep-21 A	02-Jul-23	02-Jul-23			
S3P1340	Submit Tender proprosal of Civil Contractor (Main Civil Works)	30	17-Mar-21 A	21-May-21 A	02-Jul-23	02-Jul-23			S3P1350
S3P1350	Review & Accept the Tender proprosal of Civil Contractor (Main Civil Works)	42	22-May-21 A	19-Jul-21 A	02-Jul-23	02-Jul-23		S3P1340	S3P1360
S3P1360	Tender Invitation of Civil Contractor (Main Civil Works)	14	21-Jul-21 A	11-Aug-21 A	02-Jul-23	02-Jul-23		S3P1350	S3P1370
S3P1370	Submission of Tender Report	1	12-Aug-21 A	19-Aug-21 A	02-Jul-23	02-Jul-23		S3P1360	S3P1380
S3P1380	Review & Accept the Tender Report by PM	6	20-Aug-21 A	31-Aug-21 A	02-Jul-23	02-Jul-23		S3P1370	S3P1390
S3P1390	Contract Preparation	1	01-Sep-21 A	05-Sep-21 A	02-Jul-23	02-Jul-23		S3P1380	S3P1400
S3P1400	Civil Contractor (Main Civil Works) Award	1	06-Sep-21 A	06-Sep-21 A	02-Jul-23	02-Jul-23		S3P1390	S3D1360, S3C1070
Design & Submission		1317	07-Jun-20 A	21-May-23	28-Aug-22	23-Apr-25	703		
Architectural		1317	07-Jun-20 A	21-May-23	16-Jun-23	17-Jun-23	27		
S3D1000	Prepare & Submit Building Layout Plan	60	07-Jun-20 A	21-Oct-20 A	16-Jun-23	16-Jun-23		CD1010, S3P1000	S3D1010, S3D1050, S3D1100
S3D1010	Review & Comment on Buildingl Layout Plan by PM	67	22-Oct-20 A	17-Nov-20 A	16-Jun-23	16-Jun-23		S3D1000	S3D1020
S3D1020	Revise & Re-submit Building Layout Plan	28	18-Nov-20 A	24-Dec-20 A	16-Jun-23	16-Jun-23		S3D1010	S3D1030
S3D1030	Review & Accept of Building Layout Plan by PM	214	01-Jan-21 A	16-Sep-21 A	16-Jun-23	16-Jun-23		S3D1020	S3D1090
S3D1040	Coordination Meeting with DSD (Employer) for the Architectural Drawing	0		15-Nov-21 A		16-Jun-23			S3D1090
S3D1050	Prepare & Submit Architectural Design / Drawings	60	17-Jun-20 A	21-Oct-20 A	16-Jun-23	16-Jun-23		S3D1000	S3D1060
S3D1060	Review & Comment on Architectural Design / Drawings by PM	67	22-Oct-20 A	17-Nov-20 A	16-Jun-23	16-Jun-23		S3D1050	S3D1070
S3D1070	Revise & Re-submit Architectural Design / Drawings	28	18-Nov-20 A	24-Dec-20 A	16-Jun-23	16-Jun-23		S3D1060	S3D1080



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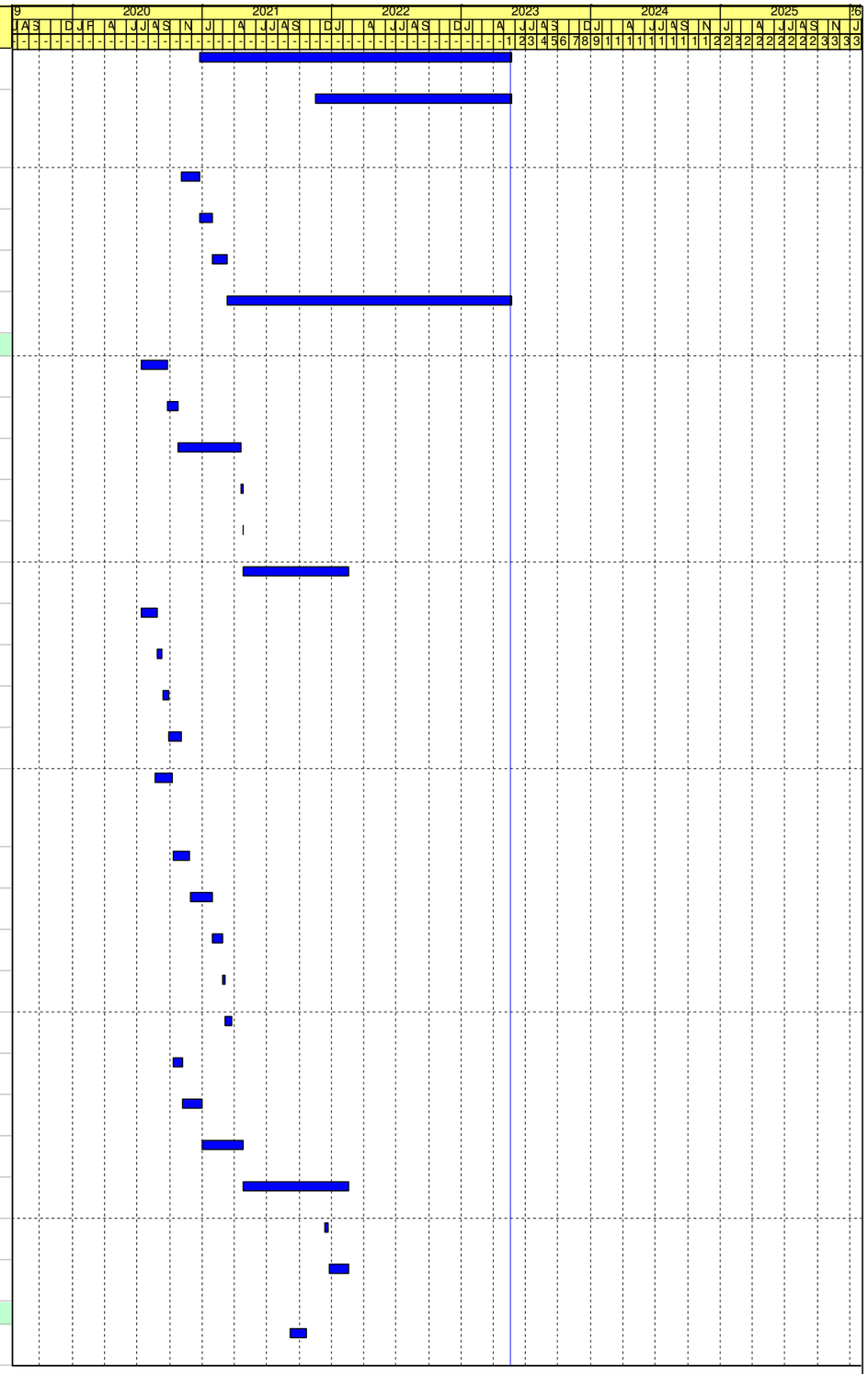
31-May-23	Rev.34	IM/LT	KM

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S3D1080	Review & Accept of Architectural Design / Drawings by PM	483	25-Dec-20 A	21-May-23	16-Jun-23	17-Jun-23	27	S3D1070	S3D1090
S3D1090	Review & Accept of Architectural Design / Drawings by DSD (incl. VCAB) & DAP of ArchSD	553	15-Nov-21 A	21-May-23	16-Jun-23	17-Jun-23	27	S3D1080, S3D1130, S3D1030, S3D1040	S3C1140, S3P2150
S3D1100	Prepare & Submit ABWF Works Drawings	68	03-Nov-20 A	24-Dec-20 A	16-Jun-23	16-Jun-23		S3D1000	S3D1110
S3D1110	Review & Comment on ABWF Works Drawings by PM	21	25-Dec-20 A	29-Jan-21 A	16-Jun-23	16-Jun-23		S3D1100	S3D1120
S3D1120	Revise & Re-submit ABWF Works Drawings	41	30-Jan-21 A	11-Mar-21 A	16-Jun-23	16-Jun-23		S3D1110	S3D1130
S3D1130	Review & Accept of ABWF Works Drawings by PM	801	12-Mar-21 A	21-May-23	16-Jun-23	17-Jun-23	27	S3D1120	S3C1140, S3D1090
Civil / Structural		639	13-Jul-20 A	18-Feb-22 A	28-Aug-22	23-Apr-25			
S3D1140	Prepare & Submit Loading Plan to ICE	60	13-Jul-20 A	25-Sep-20 A	02-Jul-23	02-Jul-23			S3D1150
S3D1150	Review & Comment on Loading Plan by ICE	14	26-Sep-20 A	23-Oct-20 A	02-Jul-23	02-Jul-23		S3D1140	S3D1160
S3D1160	Revise & Re-submit Loading Plan to ICE	175	24-Oct-20 A	20-Apr-21 A	02-Jul-23	02-Jul-23		S3D1150	S3D1170
S3D1170	Review & Accept of Loading Plan by ICE	7	21-Apr-21 A	26-Apr-21 A	02-Jul-23	02-Jul-23		S3D1160	S3D1180
S3D1180	Prepare & Submit Loading Plan to PM	7	27-Apr-21 A	27-Apr-21 A	02-Jul-23	02-Jul-23		S3D1170	S3D1190
S3D1190	Review & Accept of Loading Plan by PM & DSD (incl. BCM)	359	28-Apr-21 A	18-Feb-22 A	02-Jul-23	02-Jul-23		S3D1180	S3C1090
S3D1200	Prepare & Submit GI Plan	60	13-Jul-20 A	26-Aug-20 A	02-Jul-23	02-Jul-23			S3D1210
S3D1210	Review & Comment on GI Plan by PM	14	27-Aug-20 A	10-Sep-20 A	02-Jul-23	02-Jul-23		S3D1200	S3D1220
S3D1220	Revise & Re-submit GI Plan	7	11-Sep-20 A	28-Sep-20 A	02-Jul-23	02-Jul-23		S3D1210	S3D1230
S3D1230	Review & Accept of GI Plan by PM	21	29-Sep-20 A	02-Nov-20 A	02-Jul-23	02-Jul-23		S3D1220	S3C1020
S3D1240	Prepare & Submit Foundation Design / Drawings to ICE & PM	60	20-Aug-20 A	09-Oct-20 A	28-Aug-22	28-Aug-22			S3D1250, S3C1010, S3D1300, S3P1180
S3D1250	Review & Comment on Foundation Design / Drawings by ICE & PM	79	10-Oct-20 A	27-Nov-20 A	23-Apr-25	23-Apr-25		S3D1240	S3D1260
S3D1260	Revise & Re-submit Foundation Design / Drawings to ICE & PM	14	28-Nov-20 A	29-Jan-21 A	23-Apr-25	23-Apr-25		S3D1250	S3D1270
S3D1270	Review & Accept of Foundation Design / Drawings by ICE & PM	10	30-Jan-21 A	26-Feb-21 A	23-Apr-25	23-Apr-25		S3D1260	S3D1280
S3D1280	Prepare & Submit Foundation Design / Drawings to DSD (incl. BCM)	7	27-Feb-21 A	05-Mar-21 A	23-Apr-25	23-Apr-25		S3D1270	S3D1290
S3D1290	Review & Accept of Foundation Design / Drawings by DSD (incl. BCM)	45	06-Mar-21 A	26-Mar-21 A	23-Apr-25	23-Apr-25		S3D1280	
S3D1300	Prepare & Submit Substructure / Superstructure Design / Drawings to ICE & PM	25	10-Oct-20 A	05-Nov-20 A	28-Aug-22	28-Aug-22		S3D1240	S3D1310, S3P1180
S3D1310	Review & Comment on Substructure / Superstructure Design / Drawings by ICE & PM	55	06-Nov-20 A	30-Dec-20 A	28-Aug-22	28-Aug-22		S3D1300	S3D1320
S3D1320	Revise & Re-submit Substructure / Superstructure Design / Drawings to ICE & PM	72	31-Dec-20 A	26-Apr-21 A	28-Aug-22	28-Aug-22		S3D1310	S3D1330
S3D1330	Review & Accept of Substructure / Superstructure Design / Drawings by ICE & PM	271	27-Apr-21 A	18-Feb-22 A	28-Aug-22	28-Aug-22		S3D1320	S3D1340
S3D1340	Prepare & Submit Substructure / Superstructure Design / Drawings to DSD (incl. BCM)	2	13-Dec-21 A	23-Dec-21 A	28-Aug-22	28-Aug-22		S3D1330	S3D1350
S3D1350	Review & Accept of Substructure / Superstructure Design / Drawings by DSD (incl. BCM)	119	24-Dec-21 A	18-Feb-22 A	28-Aug-22	28-Aug-22		S3D1340	S3C1100
ELS		214	07-Sep-21 A	26-Apr-22 A	02-Jul-23	02-Jul-23			
S3D1360	Prepare & Submit ELS Plan to ICE	45	07-Sep-21 A	20-Oct-21 A	02-Jul-23	02-Jul-23		S3P1400	S3D1370



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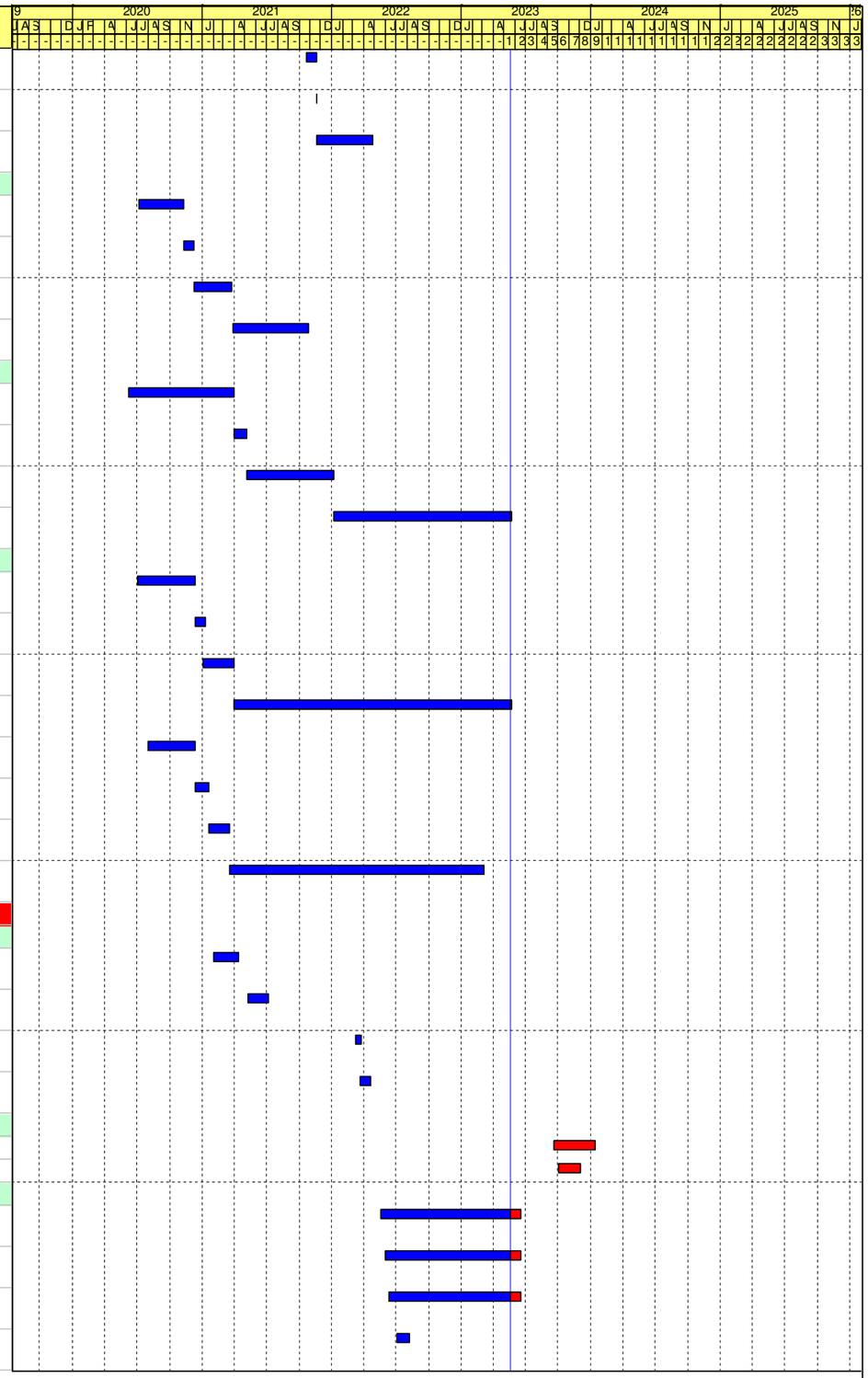
S3D1370	Review & Accept of ELS Plan by ICE	5	21-Oct-21 A	18-Nov-21 A	02-Jul-23	02-Jul-23		S3D1360	S3D1380
S3D1380	Prepare & Submit ELS Plan to PM	3	19-Nov-21 A	19-Nov-21 A	02-Jul-23	02-Jul-23		S3D1370	S3D1390
S3D1390	Review & Accept of ELS Plan by PM	153	20-Nov-21 A	26-Apr-22 A	02-Jul-23	02-Jul-23		S3D1380	S3C1080
Process Design		454	06-Jul-20 A	29-Oct-21 A	23-Apr-25	23-Apr-25			
S3D1400	Prepare & Submit E&M Works (Process) Design Drawings	198	06-Jul-20 A	10-Nov-20 A	23-Apr-25	23-Apr-25			S3D1410
S3D1410	Review & Comment on E&M Works (Process) Design Drawings by PM	21	11-Nov-20 A	08-Dec-20 A	23-Apr-25	23-Apr-25		S3D1400	S3D1420
S3D1420	Revise & Re-submit E&M Works (Process) Design Drawings	87	09-Dec-20 A	26-Mar-21 A	23-Apr-25	23-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	23-Apr-25	23-Apr-25		S3D1420	
E&M Design		1110	07-Jun-20 A	21-May-23	27-Feb-23	27-Feb-23	-83		
S3D1440	Prepare & Submit General Arrangement Drawings	298	07-Jun-20 A	31-Mar-21 A	27-Feb-23	27-Feb-23		S3P1000	S3D1450, S3C1080
S3D1450	Review & Comment on General Arrangement Drawings by PM	37	01-Apr-21 A	07-May-21 A	27-Feb-23	27-Feb-23		S3D1440	S3D1460
S3D1460	Revise & Re-submit General Arrangement Drawings	247	08-May-21 A	06-Jan-22 A	27-Feb-23	27-Feb-23		S3D1450	S3D1470
S3D1470	Review & Accept of General Arrangement Drawings by PM	500	07-Jan-22 A	21-May-23	27-Feb-23	27-Feb-23	-83	S3D1460	S3C1995
BS		993	03-Jul-20 A	21-May-23	12-Apr-23	13-Apr-23	-39		
S3D1480	Prepare & Submit BS Works Design & Dwgs for Sidestream Treatment Facilities	264	03-Jul-20 A	10-Dec-20 A	12-Apr-23	12-Apr-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	12-Apr-23	12-Apr-23		S3D1480	S3D1500
S3D1500	Revise & Re-submit BS Works Design & Dwgs for Sidestream Treatment Facilities	102	05-Jan-21 A	31-Mar-21 A	12-Apr-23	12-Apr-23		S3D1490	S3D1510
S3D1510	Review & Accept of BS Works Design & Dwgs for Sidestream Treatment Facilities by PM	781	01-Apr-21 A	21-May-23	12-Apr-23	13-Apr-23	-39	S3D1500	S3S1020
S3D1520	Submission & Submit FS Works Design & Dwgs for Sidestream Treatment Facilities	182	03-Aug-20 A	10-Dec-20 A	13-Apr-23	13-Apr-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	13-Apr-23	13-Apr-23		S3D1520	S3D1540
S3D1540	Revise & Re-submit FS Works Design & Dwgs for Sidestream Treatment Facilities	66	20-Jan-21 A	19-Mar-21 A	13-Apr-23	13-Apr-23		S3D1530	S3D1550
S3D1550	Review & Accept of FS Works Design & Dwgs for Sidestream Treatment Facilities by PM	398	20-Mar-21 A	06-Mar-23 A	13-Apr-23	13-Apr-23		S3D1540	S3S1020
Major Plant & Materials Procurement		1078	18-Feb-20 A	15-Jan-24	22-Dec-22	21-Aug-23	-147		
Civil & Structure		378	01-Feb-21 A	19-Apr-22 A	02-Jul-23	02-Jul-23			
S3P1410	Procurement, Manufacture & Delivery of Piling	60	01-Feb-21 A	14-Apr-21 A	02-Jul-23	02-Jul-23			S3C1040
S3P1420	Procurement, Manufacture & Delivery of Metal Works Material	80	09-May-21 A	07-Jul-21 A	02-Jul-23	02-Jul-23			S3C1080
S3P1430	Procurement, Manufacture & Delivery of Steel Reinforcement	15	11-Mar-22 A	25-Mar-22 A	02-Jul-23	02-Jul-23			S3C1090
S3P1440	Procurement, Manufacture & Delivery of Concrete Mix	15	21-Mar-22 A	19-Apr-22 A	02-Jul-23	02-Jul-23			S3C1090
ABWF		120	18-Sep-23	15-Jan-24	18-Apr-23	16-Aug-23	-153		
S3P1450	Procurement, Manufacture & Delivery of ABWF Works Material	120	18-Sep-23	15-Jan-24	18-Apr-23	16-Aug-23	-153		S3C1140
S3P1460	Procurement, Manufacture & Delivery of Water Proofing Material	60	03-Oct-23	01-Dec-23	03-May-23	02-Jul-23	-153		S3C1130
E&M Process		588	20-May-22 A	30-Nov-23	22-Dec-22	01-Aug-23	-121		
S3P1470	Manufacture & Delivery of Primary and Secondary Clarifiers for Phospaq	393	20-May-22 A	16-Jun-23	27-Apr-23	23-May-23	-24		S3C2280, S3C2090
S3P1480	Manufacture & Delivery of Drum sludge thickener	382	31-May-22 A	16-Jun-23	08-Mar-23	03-Apr-23	-74		S3C2240
S3P1490	Manufacture & Delivery of Tilted Plates for Phospaq and Anammox internals	371	11-Jun-22 A	16-Jun-23	27-Apr-23	23-May-23	-24		S3C2100, S3C2110
S3P1500	Procurement of Air Blower System	36	04-Jul-22 A	08-Aug-22 A	25-Mar-23	25-Mar-23			S3P1510



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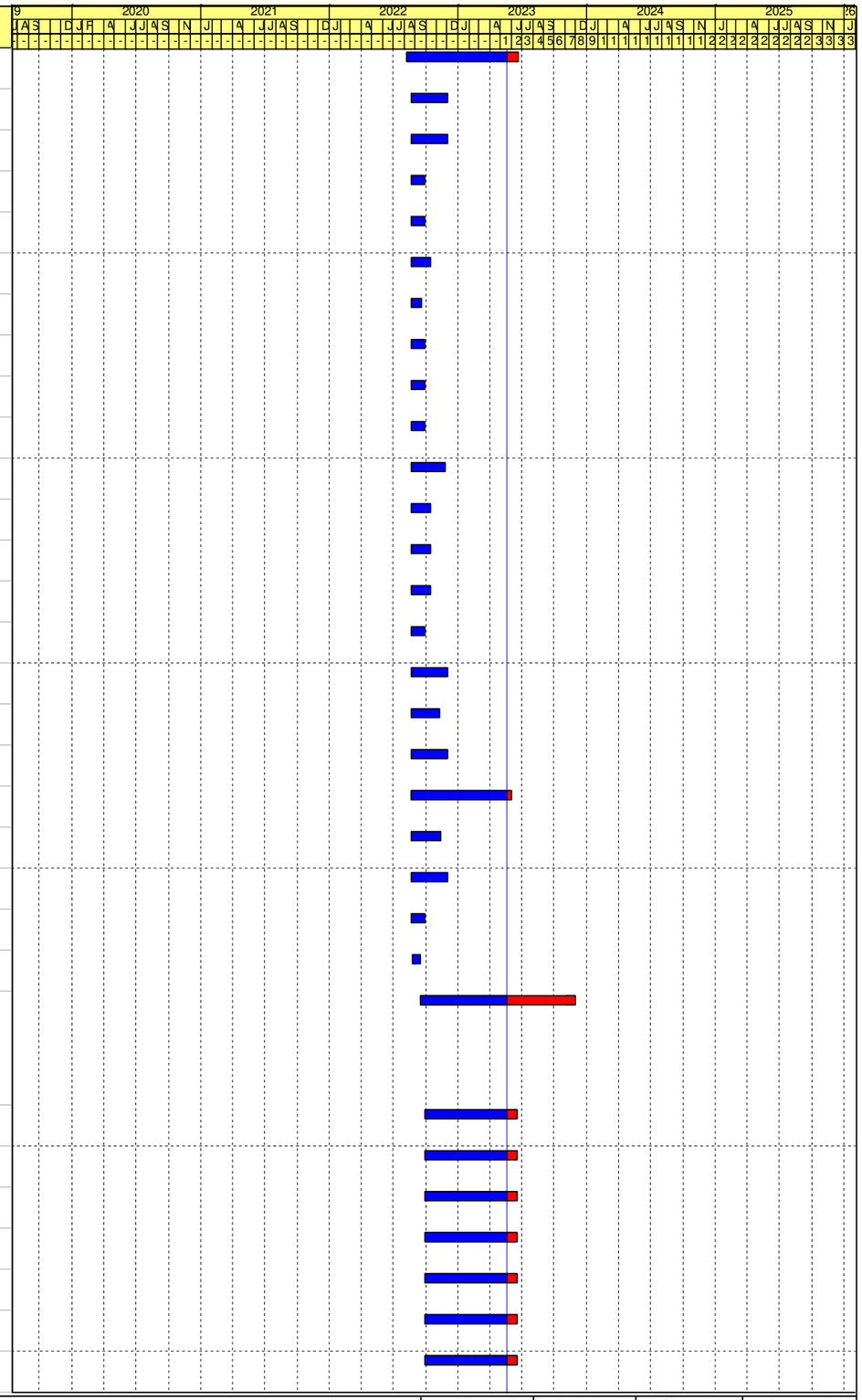
S3P1510	Manufacture & Delivery of Air Blower System	315	09-Aug-22 A	19-Jun-23	25-Mar-23	23-Apr-23	-57	S3P1500	S3C2310
S3P1520	Procurement of Diffusers for Phospaq and Anammox Internals	93	21-Aug-22 A	02-Dec-22 A	26-Feb-23	26-Feb-23			S3P1950
S3P1530	Procurement of Ancillary Air Blower	96	21-Aug-22 A	02-Dec-22 A	26-Feb-23	26-Feb-23			S3P1970
S3P1540	Procurement of Buffer tank Lifting Pump	38	21-Aug-22 A	27-Sep-22 A	01-Feb-23	01-Feb-23			S3P1760
S3P1550	Procurement of Anammox feed pump and Sludge Discharge pump	38	21-Aug-22 A	27-Sep-22 A	08-Feb-23	08-Feb-23			S3P1770
S3P1560	Procurement of Metering Pump	55	21-Aug-22 A	14-Oct-22 A	14-Mar-23	14-Mar-23			S3P1850
S3P1570	Procurement of 2nd Sludge Pump	30	21-Aug-22 A	19-Sep-22 A	08-Apr-23	08-Apr-23			S3P1780
S3P1580	Procurement of Struvite Pump	38	21-Aug-22 A	27-Sep-22 A	22-Apr-23	22-Apr-23			S3P1790
S3P1590	Procurement of Primary Sludge Pump	38	21-Aug-22 A	27-Sep-22 A	29-Apr-23	29-Apr-23			S3P1800
S3P1600	Procurement of Drum Thickener Feed Pump	38	21-Aug-22 A	27-Sep-22 A	22-Feb-23	22-Feb-23			S3P1810
S3P1610	Procurement of FRP Tanks (NaOH, Micro-Nutrient, Anti-foamer and Polymer)	97	21-Aug-22 A	25-Nov-22 A	22-Dec-22	22-Dec-22			S3P1930
S3P1620	Procurement of NaOH Dosing Pump	55	21-Aug-22 A	14-Oct-22 A	23-Mar-23	23-Mar-23			S3P1860
S3P1630	Procurement of Micro-Nutrient Dosing Pump	55	21-Aug-22 A	14-Oct-22 A	23-Mar-23	23-Mar-23			S3P1870
S3P1640	Procurement of Anti-foamer Dosing Pump	55	21-Aug-22 A	14-Oct-22 A	23-Mar-23	23-Mar-23			S3P1880
S3P1650	Procurement of Polymer Dosing Pump	38	21-Aug-22 A	27-Sep-22 A	23-Mar-23	23-Mar-23			S3P1750
S3P1660	Procurement of DOU no.4	97	21-Aug-22 A	02-Dec-22 A	11-Jan-23	11-Jan-23			S3P1980
S3P1670	Procurement of SCADA System	153	21-Aug-22 A	10-Nov-22 A	18-Mar-23	18-Mar-23			S3P1910
S3P1680	Procurement of Local control panel parts for Drum Sludge Thickener	102	21-Aug-22 A	02-Dec-22 A	12-Mar-23	12-Mar-23			S3P1990
S3P1690	Procurement of uPVC pipe and GRP Pipe	284	21-Aug-22 A	31-May-23	06-Jan-23	16-Jan-23	-135		S3P2020
S3P1700	Procurement of EM Flowmeter	86	21-Aug-22 A	14-Nov-22 A	04-Feb-23	04-Feb-23			S3P1920
S3P1710	Procurement of Instrument	111	21-Aug-22 A	02-Dec-22 A	18-Feb-23	18-Feb-23			S3P2000
S3P1720	Procurement of PAM dosing pump	38	21-Aug-22 A	27-Sep-22 A	23-Mar-23	23-Mar-23			S3P1820
S3P1730	Procurement of Lifting Applicance	14	23-Aug-22 A	16-Sep-22 A	13-Mar-23	13-Mar-23			S3P1740
S3P1740	Manufacture & Delivery of Lifting Applicance	440	17-Sep-22 A	30-Nov-23	13-Mar-23	08-Apr-23	-236	S3P1730	S3C2170, S3C2180, S3C2190, S3C2260, S3C2270, S3C2290
S3P1750	Manufacture & Delivery of Polymer Dosing Pump	262	28-Sep-22 A	16-Jun-23	23-Mar-23	18-Apr-23	-59	S3P1650	S3C2200
S3P1760	Manufacture & Delivery of Buffer tank Lifting Pump	261	29-Sep-22 A	16-Jun-23	01-Feb-23	27-Feb-23	-109	S3P1540	S3C2000
S3P1770	Manufacture & Delivery of Anammox feed pump and Anammox Sludge pump	261	29-Sep-22 A	16-Jun-23	08-Feb-23	06-Mar-23	-102	S3P1550	S3C2020, S3C2040
S3P1780	Manufacture & Delivery of 2nd Sludge Pump	261	29-Sep-22 A	16-Jun-23	08-Apr-23	04-May-23	-43	S3P1570	S3C2010
S3P1790	Manufacture & Delivery of Struvite Pump	261	29-Sep-22 A	16-Jun-23	22-Apr-23	18-May-23	-29	S3P1580	S3C2050
S3P1800	Manufacture & Delivery of Primary Sludge Pump	261	29-Sep-22 A	16-Jun-23	29-Apr-23	25-May-23	-22	S3P1590	S3C2070
S3P1810	Manufacture & Delivery of Drum Thickener Feed Pump	261	29-Sep-22 A	16-Jun-23	22-Feb-23	20-Mar-23	-88	S3P1600	S3C2060



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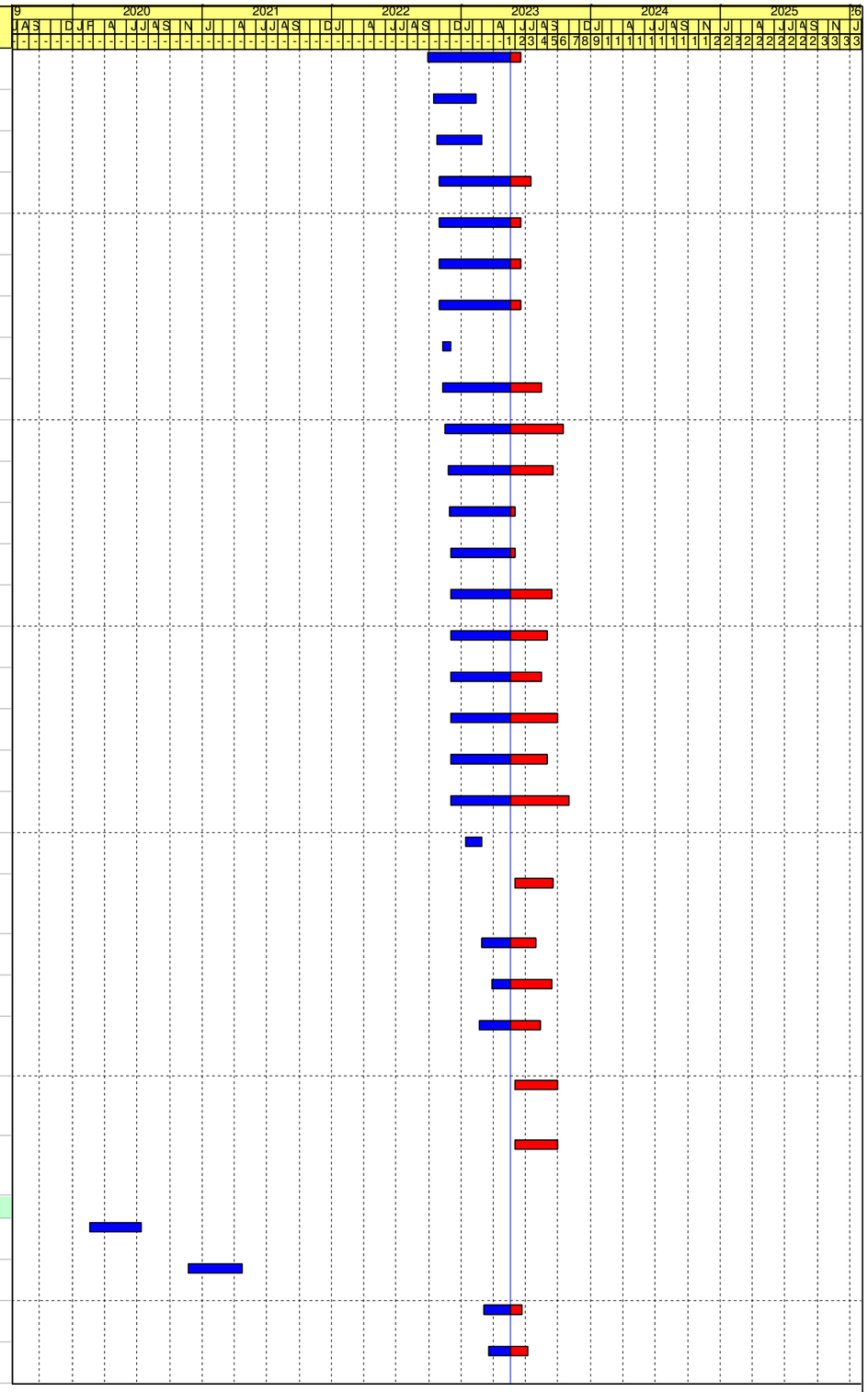
S3P1820	Manufacture & Delivery of PAM dosing pump	261	29-Sep-22 A	16-Jun-23	23-Mar-23	18-Apr-23	-59	S3P1720	S3C2200
S3P1830	Procurement of PE pipework	90	15-Oct-22 A	11-Feb-23 A	11-Feb-23	11-Feb-23			S3P2060
S3P1840	Procurement of Flushing pum	97	24-Oct-22 A	28-Feb-23 A	30-Jan-23	30-Jan-23			S3P2050
S3P1850	Manufacture & Delivery of Metering Pump	261	31-Oct-22 A	18-Jul-23	14-Mar-23	11-May-23	-68	S3P1560	S3C2030
S3P1860	Manufacture & Delivery of NaOH Dosing pump	229	31-Oct-22 A	16-Jun-23	23-Mar-23	18-Apr-23	-59	S3P1620	S3C2200
S3P1870	Manufacture & Delivery of Micro-Nutrient Dosing Pump	229	31-Oct-22 A	16-Jun-23	23-Mar-23	18-Apr-23	-59	S3P1630	S3C2200
S3P1880	Manufacture & Delivery of Anti-foamer Dosing Pump	229	31-Oct-22 A	16-Jun-23	23-Mar-23	18-Apr-23	-59	S3P1640	S3C2200
S3P1900	Procurement of Mixer	22	11-Nov-22 A	02-Dec-22 A	26-Feb-23	26-Feb-23			S3P1960
S3P1910	Manufacture & Delivery of SCADA System	277	11-Nov-22 A	14-Aug-23	18-Mar-23	12-Jun-23	-64	S3P1670	S3C2400
S3P1920	Manufacture & Delivery of EM Flowmeter	336	15-Nov-22 A	16-Oct-23	04-Feb-23	02-Jul-23	-106	S3P1700	S3C2430
S3P1930	Manufacture & Delivery of FRP Tanks (NaOH, Micro-Nutrient, Anti-foamer and Polymer)	294	26-Nov-22 A	15-Sep-23	22-Dec-22	18-Apr-23	-150	S3P1610	S3C2210
S3P1940	Procurement of SS pipe and Fittings	182	01-Dec-22 A	31-May-23	24-Dec-22	03-Jan-23	-148		S3P2070, S3P1945
S3P1945	Procurement of Ductile Iron Pipes and Fittings	181	01-Dec-22 A	31-May-23	24-Dec-22	03-Jan-23	-148	S3P1940	S3P2160
S3P1950	Manufacture & Delivery of Diffusers for Phospaq and Anammox Internals	286	03-Dec-22 A	14-Sep-23	26-Feb-23	22-Jun-23	-84	S3P1520	S3C2130, S3C2140
S3P1960	Manufacture & Delivery of Mixer	272	03-Dec-22 A	31-Aug-23	26-Feb-23	08-Jun-23	-84	S3P1900	S3C2120
S3P1970	Manufacture & Delivery of Ancillary air blower	256	03-Dec-22 A	15-Aug-23	26-Feb-23	23-May-23	-84	S3P1530	S3C2340
S3P1980	Manufacture & Delivery of DOU no.4	302	03-Dec-22 A	30-Sep-23	11-Jan-23	23-May-23	-130	S3P1660	S3C2300
S3P1990	Manufacture & Delivery of Local control panel parts for Drum Sludge Thickener	272	03-Dec-22 A	31-Aug-23	12-Mar-23	22-Jun-23	-70	S3P1680	S3C2430
S3P2000	Manufacture & Delivery of Instrument	334	03-Dec-22 A	01-Nov-23	18-Feb-23	01-Aug-23	-92	S3P1710	S3C2430
S3P2010	Procurement of Heat Exchanger (Plate type)	24	14-Jan-23 A	28-Feb-23 A	02-Feb-23	02-Feb-23			S3P2030
S3P2020	Manufacture & Delivery of uPVC pipe and GRP Pipe	107	01-Jun-23	15-Sep-23	17-Jan-23	03-May-23	-135	S3P1690	S3C2250, S3C2350, S3C2150
S3P2030	Manufacture & Delivery of Heat Exchanger (Plate type)	151	01-Mar-23 A	29-Jul-23	02-Feb-23	12-Apr-23	-108	S3P2010	S3C2220
S3P2050	Manufacture & Delivery of Flushing pump	168	30-Mar-23 A	13-Sep-23	30-Jan-23	25-May-23	-111	S3P1840	S3C2320
S3P2060	Manufacture & Delivery of PE pipework	171	21-Feb-23 A	10-Aug-23	11-Feb-23	03-May-23	-99	S3P1830	S3C2250, S3C2150, S3C2350
S3P2070	Manufacture & Delivery of SS pipe and Fittings	120	01-Jun-23	28-Sep-23	04-Jan-23	03-May-23	-148	S3P1940	S3C2150, S3C2250, S3C2350
S3P2160	Manufacture & Delivery of Ductile Iron Pipes and Fittings	120	01-Jun-23	28-Sep-23	04-Jan-23	03-May-23	-148	S3P1945	S3C2150, S3C2350, S3C2250
BS		497	18-Feb-20 A	21-Dec-23	07-Feb-23	21-Aug-23	-122		
S3P2080	Procurement of Transformer	75	18-Feb-20 A	13-Jul-20 A	07-Feb-23	07-Feb-23			S3P2120
S3P2090	Procurement of Low Voltage Switchboard and Accessories	80	21-Nov-20 A	23-Apr-21 A	10-Apr-23	10-Apr-23			S3P2110
S3P2100	Procurement of MVAC System	107	08-Mar-23 A	22-Jun-23	19-Mar-23	21-Apr-23	-63		S3P2130
S3P2110	Manufacture & Delivery of Low Voltage Switchboard and Accessories	112	18-Mar-23 A	07-Jul-23	10-Apr-23	27-May-23	-41	S3P2090	S3C2380



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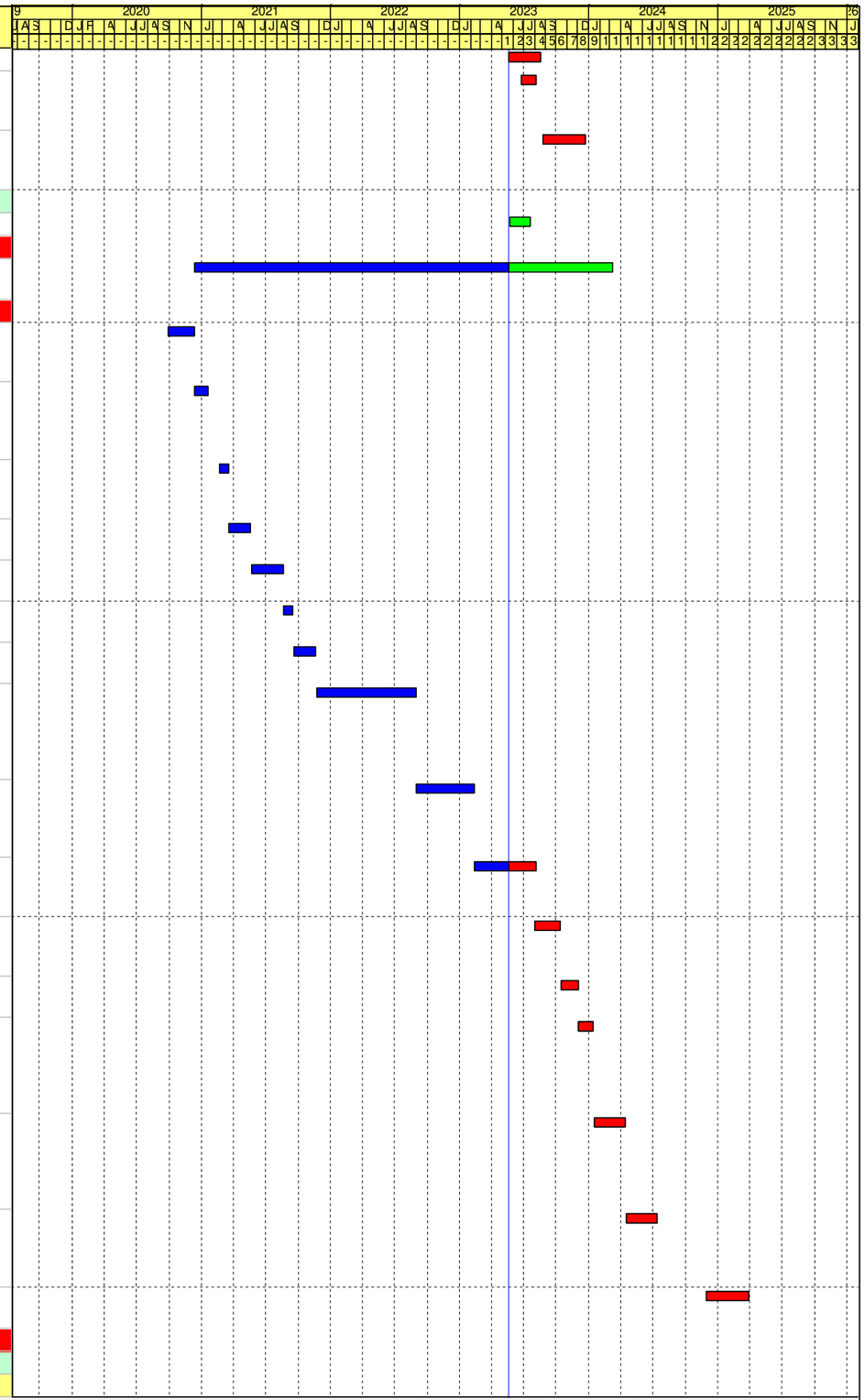
S3P2120	Manufacture & Delivery of Transformer	90	21-May-23	18-Aug-23	07-Feb-23	07-May-23	-103	S3P2080	S3C2360
S3P2130	Manufacture & Delivery of MVAC System	45	23-Jun-23	06-Aug-23	21-Apr-23	05-Jun-23	-63	S3P2100	S3C2490, S3C2500, S3C2530
S3P2140	Procurement, Manufacture & Delivery of BS Works Material	120	24-Aug-23	21-Dec-23	24-Apr-23	21-Aug-23	-122		S3T1170, S3C2420, S3T1270
Fitting-out		60	22-May-23	20-Jul-23	17-Jun-23	16-Aug-23	27		
S3P2150	Procurement, Manufacture & Delivery of Fit-out Works Material	60	22-May-23	20-Jul-23	17-Jun-23	16-Aug-23	27	S3D1090	S3C1140
Ground Settlement, Tilting & Utility Monitoring		1184	12-Dec-20 A	09-Mar-24	23-Aug-23	12-Jun-24	95		
S3C1000	Ground Settlement, Tilting & Utility Monitoring	1184	12-Dec-20 A	09-Mar-24	23-Aug-23	12-Jun-24	95	S3C1010	SC31110
Civil Works Construction		1620	30-Sep-20 A	28-Mar-25	28-Aug-22	12-Jun-24	-290		
S3C1010	Site Clearance & Survey	50	30-Sep-20 A	12-Dec-20 A	02-Jul-23	02-Jul-23		S3D1240, AD1140, S3P1090	S3C1020, S3C1000
S3C1020	Ground Investigation	65	12-Dec-20 A	18-Jan-21 A	02-Jul-23	02-Jul-23		AD1140, S3C1010, S3P1170, S3D1230	S3C1030
S3C1030	Pre-drilling Works	180	22-Feb-21 A	19-Mar-21 A	02-Jul-23	02-Jul-23		S3C1020, S3P1250, S3P1330	S3C1040
S3C1040	Minor Civil Works & Preperation Works for Piling	31	20-Mar-21 A	20-May-21 A	02-Jul-23	02-Jul-23		S3C1030, S3P1410	S3C1050
S3C1050	Piling Works (Impacted by Inclement Weather)	69	21-May-21 A	21-Aug-21 A	02-Jul-23	02-Jul-23		S3C1040	S3C1060
S3C1060	Post-drilling, Proof test & remaining works (Impacted by Inclement Weather)	23	22-Aug-21 A	17-Sep-21 A	02-Jul-23	02-Jul-23		S3C1050	S3C1080, S3C1070
S3C1070	Site Set-up / Mobilisation (Impacted by Inclement Weather)	51	18-Sep-21 A	20-Nov-21 A	02-Jul-23	02-Jul-23		S3C1060, S3P1400	S3C1080
S3C1080	Excavation / ELS (Impacted by Inclement Weather)	157	24-Nov-21 A	31-Aug-22 A	02-Jul-23	02-Jul-23		S3D1440, S3P1420, S3D1390, S3C1060, S3C1070	S3C1090
S3C1090	Pile Caps installation & Basement Slab	89	01-Sep-22 A	11-Feb-23 A	02-Jul-23	02-Jul-23		S3C1080, S3P1440, S3P1430, S3D1190	S3C1130
S3C1100	Construction of Basement up to G/F Slab	175	12-Feb-23 A	05-Aug-23	28-Aug-22	12-Nov-22	-266	S3D1350, S3S1010	S3C1110, S3C1130, S3C1995
S3C1110	Construction of G/F up to 1/F Slab	72	03-Aug-23	13-Oct-23	10-Nov-22	20-Jan-23	-266	S3C1100	S3C1120, S3C1130, S3C2155
S3C1120	Construction of 1/F up to Roof	49	14-Oct-23	01-Dec-23	21-Jan-23	10-Mar-23	-266	S3C1110	S3C1130, S3C2285
S3C1130	Waterproofing	45	02-Dec-23	15-Jan-24	02-Jul-23	16-Aug-23	-153	S3P1460, S3C1120, S3C1090, S3C1100, S3C1110	S3C1140
S3C1140	External & Internal Finishes - 1st Fix (Blockwork, Plastering, Wet Trade)	90	16-Jan-24	14-Apr-24	16-Aug-23	14-Nov-23	-153	S3C1130, S3P1450, S3D1090, S3D1130, S3P2150	S3C1150, S3C1160
S3C1150	External & Internal Finishes - 2nd Fix (Ceiling / Wall / Floor Finishing, Door)	90	15-Apr-24	13-Jul-24	14-Nov-23	12-Feb-24	-153	S3C1140	SC31110, S3S1170, S3C1160, PL1190
S3C1160	Landscaping Works	120	29-Nov-24	28-Mar-25	13-Feb-24	12-Jun-24	-290	S3C1140, S3C1150	SC31110
E&M Installation		254	19-Aug-23	28-Apr-24	28-Feb-23	15-Feb-24	-74		
Mechanical Installations		229	13-Sep-23	28-Apr-24	28-Feb-23	01-Dec-23	-150		
Basement		224	13-Sep-23	23-Apr-24	28-Feb-23	06-Aug-23	-261		



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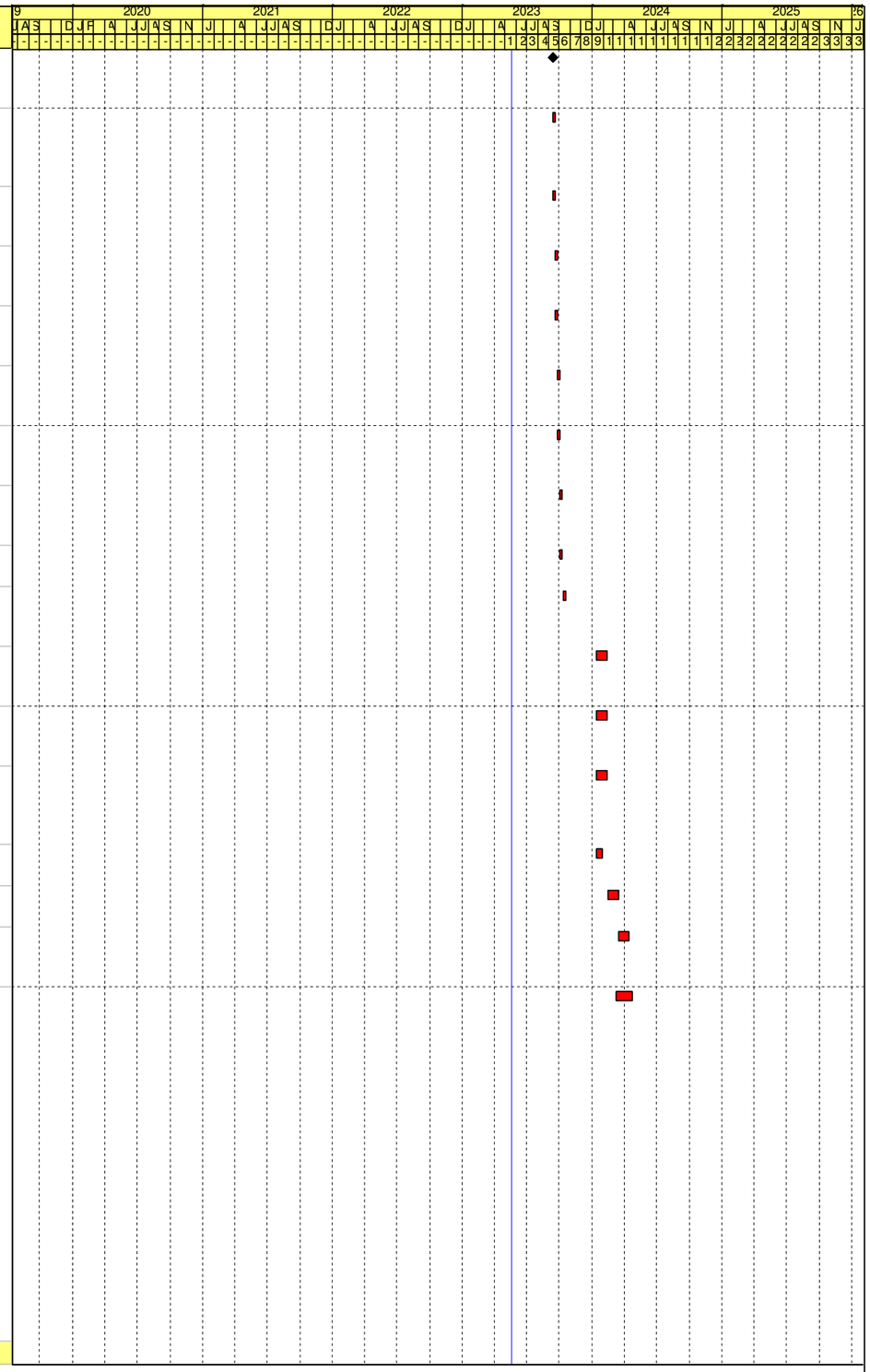
S3C1995	Access to Sidestream Treatment Facilities (B/F)	0	13-Sep-23		28-Feb-23		-197	S3C1100, S3D1470	S3C2000, S3C2450, S3C2460
S3C2000	Installation of Buffer Tank Lifting pumps (3 nos.)	7	13-Sep-23	19-Sep-23	28-Feb-23	06-Mar-23	-197	S3P1760, S3C1995	S3C2020, S3C2150, S3T1030, S3C2010
S3C2010	Installation of Secondary Clarifier Sludge discharge pumps (3 nos.)	7	13-Sep-23	19-Sep-23	05-May-23	11-May-23	-131	S3P1780, S3C2000	S3C2030, S3C2150, S3T1030
S3C2020	Installation of Anammox Feed pumps (3 nos.)	7	20-Sep-23	26-Sep-23	07-Mar-23	13-Mar-23	-197	S3C2000, S3P1770	S3C2040, S3C2150, S3T1030
S3C2030	Installation of Metering Pumps (2 nos.)	7	20-Sep-23	26-Sep-23	12-May-23	18-May-23	-131	S3C2010, S3P1850	S3C2050, S3C2150, S3T1030
S3C2040	Installation of Anammox Sludge discharge pumps (2 nos.)	7	27-Sep-23	03-Oct-23	14-Mar-23	20-Mar-23	-197	S3C2020, S3P1770	S3C2060, S3C2150, S3T1030
S3C2050	Installation of Struvite Pumps (3 nos.)	7	27-Sep-23	03-Oct-23	19-May-23	25-May-23	-131	S3C2030, S3P1790	S3C2070, S3C2150, S3T1030
S3C2060	Installation of Thickener feed pumps (2 nos.)	7	04-Oct-23	10-Oct-23	21-Mar-23	27-Mar-23	-197	S3C2040, S3P1810	S3C2080, S3C2150, S3T1030
S3C2070	Installation of Primary Clarifier sludge discharge pump (3 nos.)	7	04-Oct-23	10-Oct-23	26-May-23	01-Jun-23	-131	S3C2050, S3P1800	S3C2150, S3T1030
S3C2080	Installation of Flushing Pump (2 nos.)	7	11-Oct-23	17-Oct-23	28-Mar-23	03-Apr-23	-197	S3C2060	S3C2150, S3C2240, S3T1030
S3C2090	Installation of Secondary Clarifiers No.1 and 2	30	15-Jan-24	13-Feb-24	24-May-23	22-Jun-23	-236	S3P1470, S3C2180	S3C2110, S3C2150, S3T1110
S3C2100	Installation of Tilted Plates for Phospaq No.1 and 2	30	15-Jan-24	13-Feb-24	24-May-23	22-Jun-23	-236	S3C2280, S3P1490	S3C2150, S3C2130, S3T1140
S3C2110	Installation of Tilted Plates for Anammox No. 1 and 2	30	15-Jan-24	13-Feb-24	24-May-23	22-Jun-23	-236	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	15-Jan-24	28-Jan-24	09-Jun-23	22-Jun-23	-220	S3P1960, S3C2190	S3C2150, S3T1090
S3C2130	Installation of Diffusers and pipework for Phospaq	30	14-Feb-24	14-Mar-24	23-Jun-23	22-Jul-23	-236	S3P1950, S3C2100	S3C2150, S3T1140
S3C2140	Installation of Diffusers and pipework for Anammox	30	15-Mar-24	13-Apr-24	23-Jun-23	22-Jul-23	-266	S3C2340, S3P1950, S3C2110	S3C2150, S3T1150
S3C2150	Installation of Pipeworks, Associate Valves and Fittings	45	10-Mar-24	23-Apr-24	23-Jun-23	06-Aug-23	-261	S3C2000, S3C2010, S3C2020, S3C2030, S3C2040, S3C2050, S3C2060, S3C2070, S3C2080, S3C2120, S3C2090, S3C2100, S3C2110, S3C2130, S3C2140, S3P2060, S3P2070, S3P2020, S3P2160	S3T1000
G/F		90	01-Dec-23	28-Feb-24	04-Apr-23	01-Dec-23	-90		



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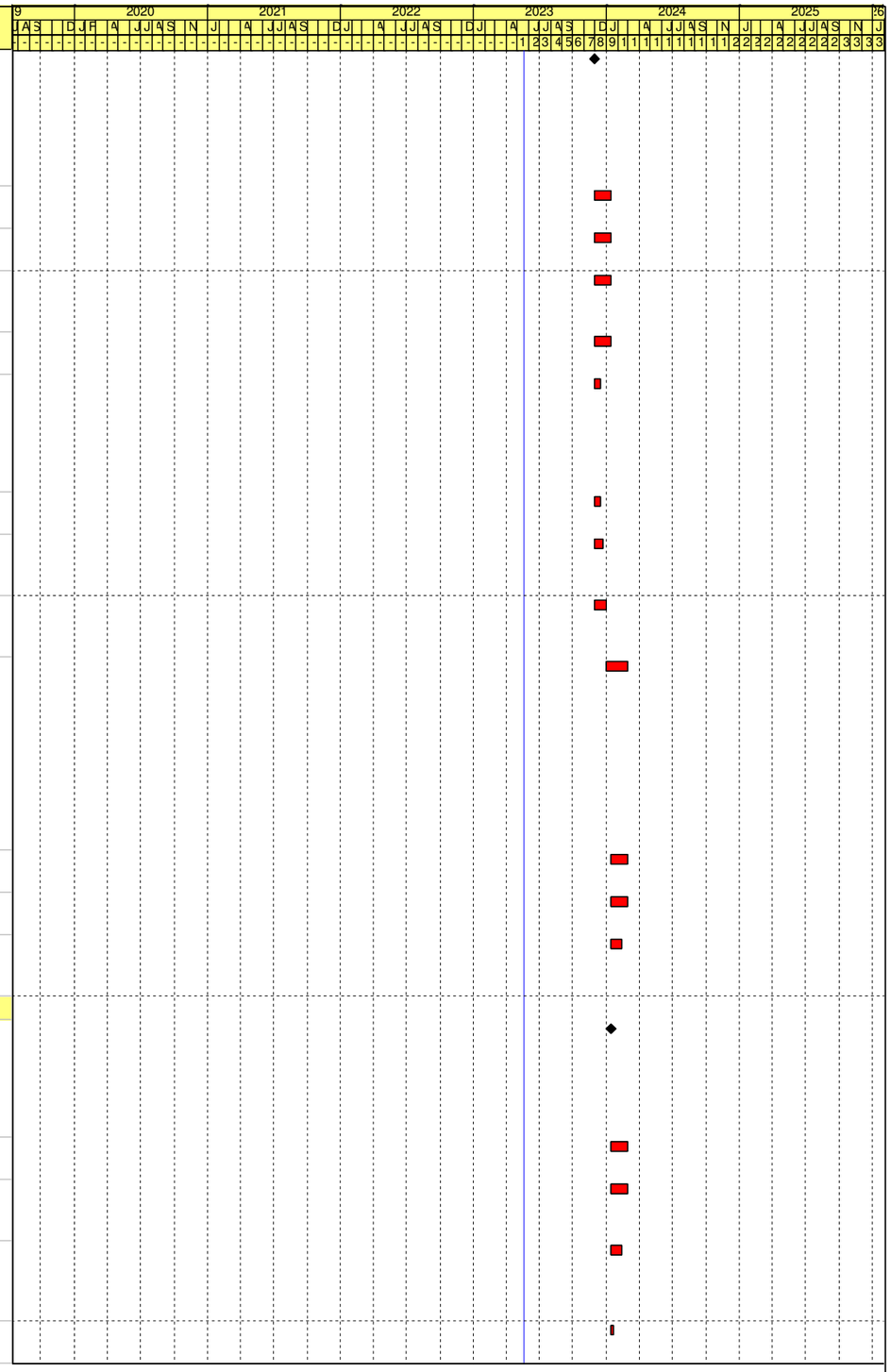
S3C2155	Access to Sidestream Treatment Facilities (G/F)	0	01-Dec-23		04-Apr-23		-241	S3C1110	S3C2200, S3C2170, S3C2210, S3C2240, S3C2220, S3C2250, S3C2160
S3C2160	E&M installation of DG Plant Room	45	01-Dec-23	14-Jan-24	17-Oct-23	01-Dec-23	-45	S3C2155, S3S1100	S3S1110
S3C2170	Installation of Lifting Appliance (LA-01)	45	01-Dec-23	14-Jan-24	09-Apr-23	23-May-23	-236	S3P1740, S3C2155	S3C2180, S3C2280
S3C2180	Installation of Lifting Appliance (LA-02)	45	01-Dec-23	14-Jan-24	09-Apr-23	23-May-23	-236	S3C2170, S3P1740	S3C2090, S3C2190, S3C2270
S3C2190	Installation of Lifting Appliance (LA-03)	45	01-Dec-23	14-Jan-24	09-Apr-23	23-May-23	-236	S3P1740, S3C2180	S3C2260, S3C2120
S3C2200	Installation of NaOH Dosing Pumps, Micro-Nutrient Dosing Pumps, Defoamer Dosing Pumps and PAM Dosing Pumps (12 nos.)	15	01-Dec-23	15-Dec-23	19-Apr-23	03-May-23	-226	S3P1860, S3P1870, S3P1880, S3P1820, S3C2155, S3P1750	S3C2250, S3T1030, S3T1020
S3C2210	Installation of PAM Tank, Deformer dissolving Tank, Micro-nutrient tank and NaOH Tank	15	01-Dec-23	15-Dec-23	19-Apr-23	03-May-23	-226	S3P1930, S3C2155	S3C2250, S3T1020
S3C2220	Installation of Heat Exchanger system	21	01-Dec-23	21-Dec-23	13-Apr-23	03-May-23	-232	S3P2030, S3C2155	S3C2340, S3C2250, S3T1010
S3C2240	Installation of Drum Sludge Thickener	30	01-Dec-23	30-Dec-23	04-Apr-23	03-May-23	-241	S3P1480, S3C2080, S3C2155	S3C2250, S3T1040
S3C2250	Installation of Pipeworks, Associate Valves and Fittings	60	31-Dec-23	28-Feb-24	04-May-23	02-Jul-23	-241	S3C2280, S3C2200, S3C2210, S3C2240, S3C2220, S3P2060, S3P2070, S3P2020, S3C2155, S3P2160	S3T1000, S3C2430
S3C2260	Installation of Lifting Appliance (LA-04)	45	15-Jan-24	28-Feb-24	24-May-23	07-Jul-23	-236	S3P1740, S3C2190	S3C2110
S3C2270	Installation of Lifting Appliance (LA-05)	45	15-Jan-24	28-Feb-24	24-May-23	07-Jul-23	-236	S3P1740, S3C2180	S3C2110
S3C2280	Installation of Primary Clarifiers No.1 and 2	30	15-Jan-24	13-Feb-24	24-May-23	22-Jun-23	-236	S3P1470, S3C2170	S3C2100, S3C2250, S3T1100
1/F		105	15-Jan-24	28-Apr-24	24-Apr-23	06-Aug-23	-266		
S3C2285	Access to Sidestream Treatment Facilities (1/F)	0	15-Jan-24		24-Apr-23		-266	S3C1120	S3C2290, S3C2300, S3C2310, S3C2340, S3C2320, S3C2350
S3C2290	Installation of Lifting Appliance (LA-06)	45	15-Jan-24	28-Feb-24	24-Apr-23	07-Jun-23	-266	S3P1740, S3C2285	S3C2310
S3C2300	Installation of Deodorisation System (DOU) No.4	45	15-Jan-24	28-Feb-24	24-May-23	07-Jul-23	-236	S3P1980, S3C2310, S3C2285	S3C2350, S3T1080
S3C2310	Installation of Air Blower System	30	15-Jan-24	13-Feb-24	24-Apr-23	23-May-23	-266	S3P1510, S3C2290, S3C2285	S3C2340, S3C2350, S3C2300, S3T1060
S3C2320	Installation of Electric Calorifier and hot water Pumps	7	15-Jan-24	21-Jan-24	26-May-23	01-Jun-23	-234	S3P2050, S3C2285	S3C2350, S3T1030



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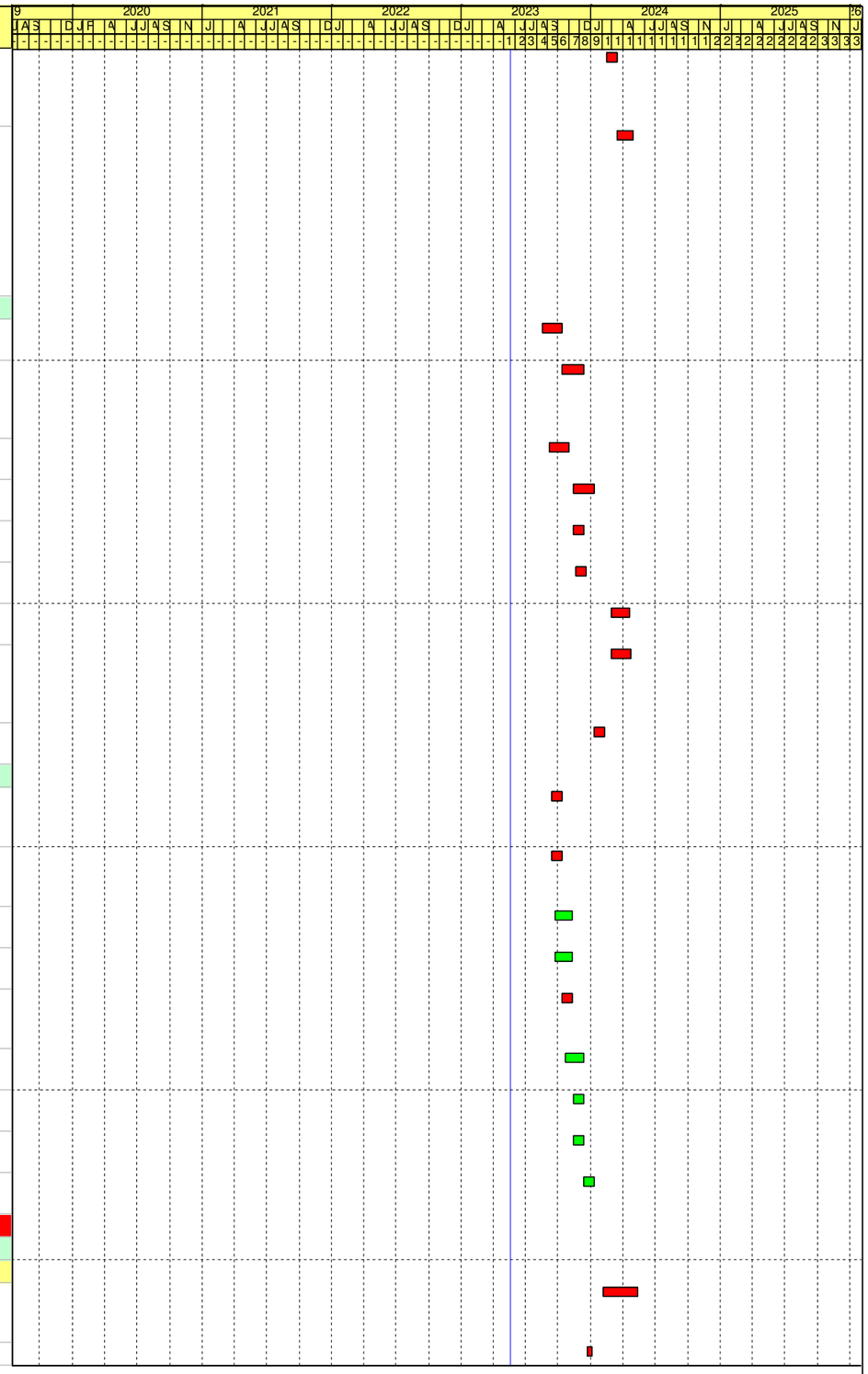
S3C2340	Installation of Ancillary Air Blower	30	14-Feb-24	14-Mar-24	24-May-23	22-Jun-23	-266	S3C2220, S3P1970, S3C2310, S3C2285	S3C2140, S3C2350, S3T1060
S3C2350	Installation of Pipeworks, Associate Valves and Fittings	45	15-Mar-24	28-Apr-24	23-Jun-23	06-Aug-23	-266	S3C2310, S3C2340, S3C2320, S3C2300, S3P2060, S3P2070, S3P2020, S3C2285, S3P2160	S3T1000
Electrical Installations		250	19-Aug-23	24-Apr-24	08-May-23	15-Feb-24	-70		
S3C2360	Installation of Transformer room	55	19-Aug-23	12-Oct-23	08-May-23	01-Jul-23	-103	S3P2120	S3T1120, S3C2380
S3C2370	Installation of Electrical system - Cable Containment	60	13-Oct-23	11-Dec-23	13-May-23	12-Jul-23	-153	S3C2490	S3C2390, S3T1280, S3C2410, S3C2400
S3C2380	Installation of LV Switchroom	55	08-Sep-23	01-Nov-23	28-May-23	21-Jul-23	-103	S3P2110, S3C2360	S3C2410, S3T1120
S3C2390	Installation of Electrical system - Wall Mount Equipment, Conduit & Wiring	60	12-Nov-23	10-Jan-24	17-Nov-23	16-Jan-24	6	S3C2370	S3C2440, S3T1280
S3C2400	Installation of SCADA system	31	12-Nov-23	12-Dec-23	12-Jun-23	13-Jul-23	-153	S3C2370, S3P1910	S3T1050
S3C2410	Power Cable laying and Termination	30	21-Nov-23	20-Dec-23	22-Jul-23	20-Aug-23	-122	S3C2380, S3C2370	S3T1160
S3C2420	Installation of Gas Detection System	50	29-Feb-24	18-Apr-24	03-Jul-23	21-Aug-23	-241	S3P2140, S3C2430	S3T1170
S3C2430	Installation of Online Monitoring instrument / Level Control Equipment	56	29-Feb-24	24-Apr-24	03-Jul-23	27-Aug-23	-241	S3P2000, S3P1920, S3P1990, S3C2250	S3C2420
S3C2440	Installation of Electrical system - Lighting and Small Power Accessories	30	11-Jan-24	09-Feb-24	16-Jan-24	15-Feb-24	6	S3C2390	S3T1280
BS Equipment Installation		120	13-Sep-23	10-Jan-24	13-Apr-23	15-Feb-24	36		
S3C2450	Installation of P&D System - Main Pipework	30	13-Sep-23	12-Oct-23	13-Apr-23	13-May-23	-153	S3C2460, S3S1020, S3C1995	S3C2470, S3C2490, S3T1250
S3C2460	Installation of FS system - Main Pipework	30	13-Sep-23	12-Oct-23	13-Apr-23	13-May-23	-153	S3S1020, S3C1995	S3C2480, S3C2450, S3T1240
S3C2470	Installation of P&D System - Branch Pipework	50	23-Sep-23	11-Nov-23	18-Oct-23	07-Dec-23	26	S3C2450	S3C2510, S3T1250
S3C2480	Installation of FS system - Branch Pipework, Conduit & Wiring	50	23-Sep-23	11-Nov-23	18-Oct-23	07-Dec-23	26	S3C2460	S3C2520, S3T1240
S3C2490	Installation of MVAC system - Ceiling Mount Equipment, Main Ductwork & Pipework	30	13-Oct-23	11-Nov-23	13-May-23	12-Jun-23	-153	S3C2450, S3P2130	S3C2500, S3T1260, S3C2370
S3C2500	Installation of MVAC system - Wall Mount Equipment, Branch Duct & pipework	50	23-Oct-23	11-Dec-23	27-Nov-23	16-Jan-24	36	S3C2490, S3P2130	S3C2530, S3T1260
S3C2510	Installation of P&D System - Sanitary Fitting	30	12-Nov-23	11-Dec-23	07-Dec-23	06-Jan-24	26	S3C2470	S3T1250, S3S1030
S3C2520	Installation of FS system - Dropper, Sprinkler Head, Detector & Devices	30	12-Nov-23	11-Dec-23	07-Dec-23	06-Jan-24	26	S3C2480	S3T1240, S3S1030
S3C2530	Installation of MVAC system - Air Grills & Diffuser	30	12-Dec-23	10-Jan-24	16-Jan-24	15-Feb-24	36	S3C2500, S3P2130	S3T1260
Testing & Commissioning		513	02-Nov-23	28-Mar-25	14-May-23	12-Jun-24	-290		
For KD3A - Completion of Phase 1 Commissioning - 15 Jan 2024		360	02-Nov-23	26-Oct-24	14-May-23	17-Feb-24	-253		
SAT		194	02-Nov-23	13-May-24	14-May-23	21-Aug-23	-266		
S3T1000	Pipe Pressure Test	100	04-Feb-24	13-May-24	14-May-23	21-Aug-23	-266	S3C2150, S3C2250, S3C2350	S3T1170
S3T1010	SAT for Heat Exchanger	14	22-Dec-23	04-Jan-24	08-Aug-23	21-Aug-23	-136	S3C2220	S3T1170



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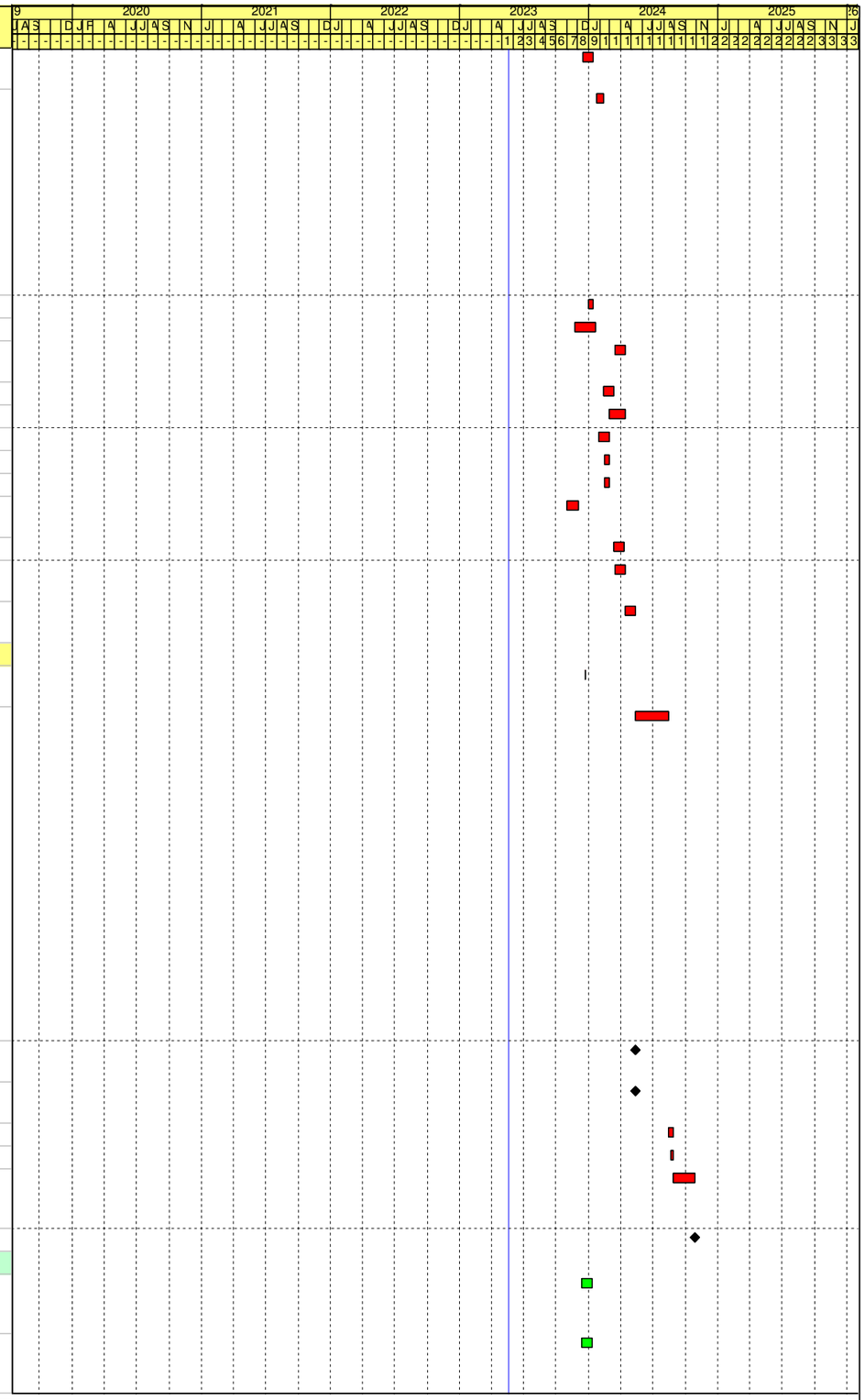
S3T1020	SAT for Dosing system	30	16-Dec-23	14-Jan-24	23-Jul-23	21-Aug-23	-146	S3C2210, S3C2200	S3T1170
S3T1030	Dry Test for Pumps	21	22-Jan-24	11-Feb-24	02-Jun-23	22-Jun-23	-234	S3C2000, S3C2010, S3C2020, S3C2030, S3C2040, S3C2050, S3C2060, S3C2070, S3C2080, S3C2200, S3C2320	S3T1070
S3T1040	SAT for Drum Sludge Thickener	14	31-Dec-23	13-Jan-24	08-Aug-23	21-Aug-23	-145	S3C2240	S3T1170
S3T1050	SAT for SCADA System	60	22-Nov-23	21-Jan-24	23-Jun-23	21-Aug-23	-153	S3C2400	S3T1170
S3T1060	SAT for Air blowers	30	15-Mar-24	13-Apr-24	23-Jul-23	21-Aug-23	-236	S3C2310, S3C2340	S3T1170
S3T1070	Wet Test for Pumps	30	12-Feb-24	12-Mar-24	23-Jun-23	22-Jul-23	-234	S3T1030	S3T1130
S3T1080	SAT for DOU no.4	45	29-Feb-24	13-Apr-24	08-Jul-23	21-Aug-23	-236	S3C2300	S3T1170
S3T1090	SAT for mixer	30	29-Jan-24	27-Feb-24	23-Jul-23	21-Aug-23	-190	S3C2120	S3T1170
S3T1100	SAT for Primary clarifier	14	14-Feb-24	27-Feb-24	08-Aug-23	21-Aug-23	-190	S3C2280	S3T1170
S3T1110	SAT for Secondary clarifier	14	14-Feb-24	27-Feb-24	08-Aug-23	21-Aug-23	-190	S3C2090	S3T1170
S3T1120	SAT for TX & LV Switchboard	30	02-Nov-23	01-Dec-23	22-Jul-23	20-Aug-23	-103	S3C2380, S3C2360	S3T1160
S3T1130	Functional Test for Pumps	30	13-Mar-24	11-Apr-24	23-Jul-23	21-Aug-23	-234	S3T1070	S3T1170
S3T1140	SAT for Phospaq Reactor	30	15-Mar-24	13-Apr-24	23-Jul-23	21-Aug-23	-236	S3C2130, S3C2100	S3T1170
S3T1150	SAT for Anammox Reactor	30	14-Apr-24	13-May-24	23-Jul-23	21-Aug-23	-266	S3C2140, S3C2110	S3T1170
Process Start Up & Phase 1 Commissioning Test		311	21-Dec-23	26-Oct-24	21-Aug-23	17-Feb-24	-253		
S3T1160	Power Energization (Power Provision from DE/2018/04 Contract)	1	21-Dec-23	21-Dec-23	21-Aug-23	21-Aug-23	-122	S3T1120, S3C2410	S3T1270, S3T1170
S3T1170	Process Start Up	92	14-May-24	13-Aug-24	22-Aug-23	21-Nov-23	-266	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		13-May-24		21-Aug-23	-266		S3T1170
S3T1190	Plant service water from zone B/C Ready (Zone B by DE/2018/04 Contract)	0		13-May-24		21-Aug-23	-266		S3T1170
S3T1200	Submission & Acceptance of Process Start Up Report	14	14-Aug-24	27-Aug-24	22-Nov-23	05-Dec-23	-266	S3T1170	S3T1210
S3T1210	Notice for Commencement of Phase 1 Commissioning Tests	7	21-Aug-24	27-Aug-24	29-Nov-23	05-Dec-23	-266	S3T1200	S3T1220
S3T1220	Phase 1 Commissioning Tests with daily result to PM	60	28-Aug-24	26-Oct-24	06-Dec-23	03-Feb-24	-266	S3T1210	S3T1300, S3T1290, S3T1230
S3T1230	Completion of KD3A	0		26-Oct-24		17-Feb-24	-253	S3T1220	KD1050-2
For Section 3 Completion - Remaining Commissioning Works - 05 Jun 2024		473	12-Dec-23	28-Mar-25	11-Jan-24	12-Jun-24	-290		
S3T1240	SAT for FS system	30	12-Dec-23	10-Jan-24	15-Feb-24	16-Mar-24	66	S3C2520, S3C2460, S3C2480	S3S1170
S3T1250	SAT for P&D system	30	12-Dec-23	10-Jan-24	15-Feb-24	16-Mar-24	66	S3C2450, S3C2470, S3C2510	S3S1170



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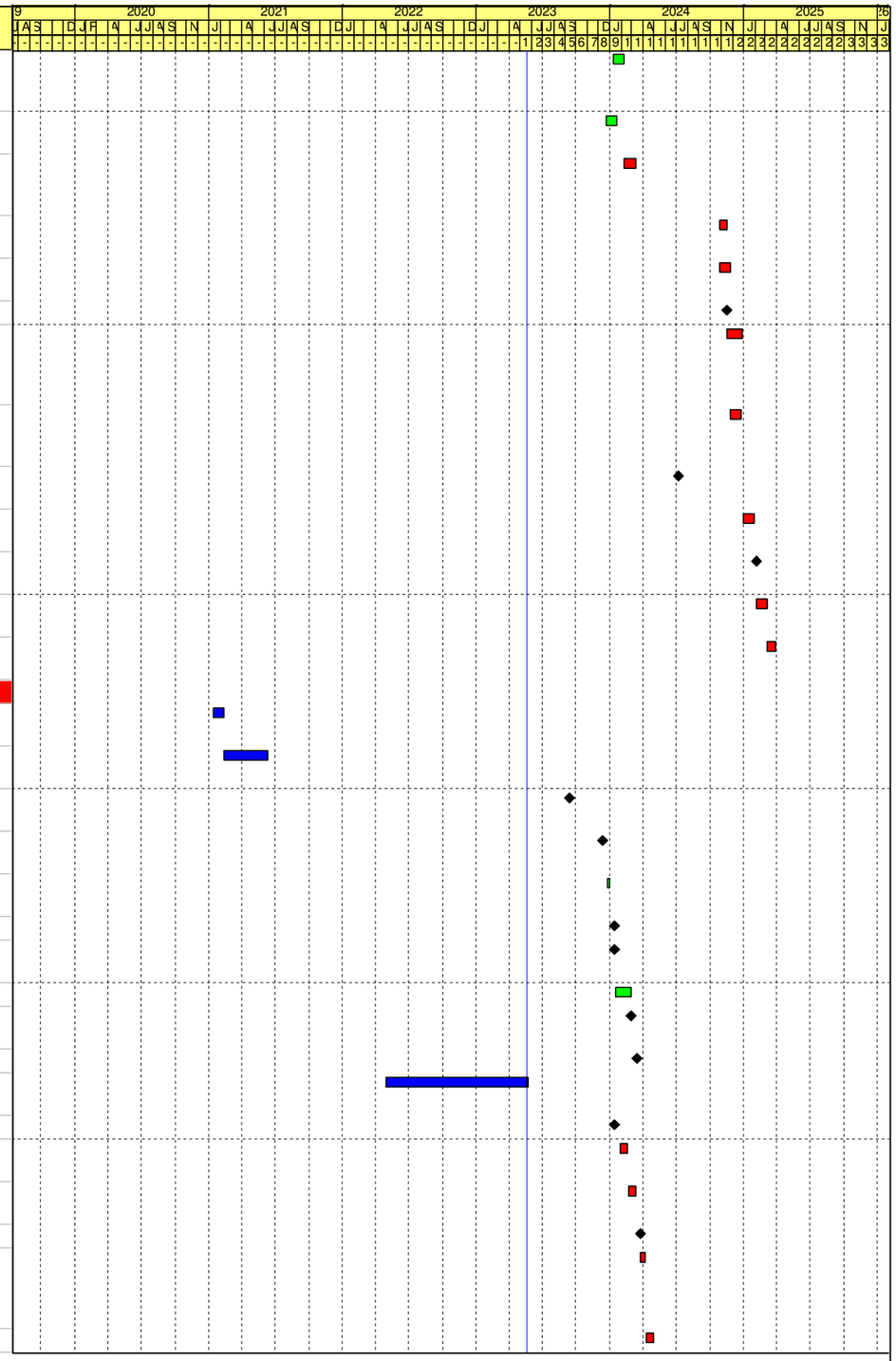
S3T1260	SAT for MVAC System	30	11-Jan-24	09-Feb-24	15-Feb-24	16-Mar-24	36	S3C2530, S3C2490, S3C2500	S3S1170
S3T1270	Essential T&C for FSD Inspection	30	22-Dec-23	20-Jan-24	11-Jan-24	10-Feb-24	21	S3T1160, S3P2140	S3S1150
S3T1280	SAT for Electrical System (BS)	30	10-Feb-24	10-Mar-24	15-Feb-24	16-Mar-24	6	S3C2370, S3C2390, S3C2440	S3S1170
S3T1290	Phase 1 Post Commissioning with daily result to PM	19	27-Oct-24	14-Nov-24	04-Feb-24	22-Feb-24	-266	S3T1220	S3T1330, S3T1320
S3T1300	Submission & Acceptance of Phase 1 Commissioning Tests Report	30	27-Oct-24	25-Nov-24	21-Feb-24	22-Mar-24	-249	S3T1220	S3T1330
S3T1310	THP digested sludge centrate from Zone C Ready	0		14-Nov-24		22-Feb-24	-266		S3T1320
S3T1320	Phase 2 Commissioning Tests with daily result to PM	45	15-Nov-24	29-Dec-24	23-Feb-24	07-Apr-24	-266	S3T1310, S3T1290, S3T1340	S3T1350, S3T1360, S3T1370, S5T1200
S3T1330	Submission & Acceptance of Phase 1 Post Commissioning Report	30	26-Nov-24	25-Dec-24	22-Mar-24	21-Apr-24	-249	S3T1290, S3T1340, S3T1300	S3T1350
S3T1340	Ready to Process start up of the first Anaerobic Digester in Zone C	0	07-Jul-24		23-Feb-24		-135	S5T1120	S3T1330, S3T1320
S3T1350	Submission & Acceptance of Phase 2 Commissioning Tests Report	30	30-Dec-24	28-Jan-25	21-Apr-24	21-May-24	-253	S3T1320, S3T1330	S3T1380
S3T1360	Commissioning of new Anaerobic Digesters (2 nos.) in Zone C Finished	0		04-Feb-25		21-Apr-24	-290	S3T1320, S5T1180	S3T1370
S3T1370	Phase 3 Commissioning Tests with daily result to PM	30	05-Feb-25	06-Mar-25	21-Apr-24	21-May-24	-290	S3T1360, S3T1320	S3T1380
S3T1380	Submission & Acceptance of Phase 3 Commissioning Tests Report	22	07-Mar-25	28-Mar-25	21-May-24	12-Jun-24	-290	S3T1370, S3T1350	SC31110
Statutory Submission / Inspection (FSD)		1358	12-Jan-21 A	09-Oct-24	28-Aug-22	12-Jun-24	-120		
S3S1000	Prepare & Submit GBP for FSD approval	90	12-Jan-21 A	10-Feb-21 A	28-Aug-22	28-Aug-22			S3S1010
S3S1010	FSD Review & Approval of GBP	180	11-Feb-21 A	11-Jun-21 A	28-Aug-22	28-Aug-22		S3S1000	S3S1150, S3C1100
S3S1020	Submit WWO46 Part I/II to WSD (FS / PD)	0	13-Sep-23		13-Apr-23		-153	S3D1550, S3D1510	S3C2460, S3C2450
S3S1030	Submit WWO46 Part IV to WSD (FS / PD)	0	12-Dec-23		06-Jan-24		26	S3C2510, S3C2520	S3S1040
S3S1040	WSD Inspection	7	26-Dec-23	01-Jan-24	20-Jan-24	27-Jan-24	26	S3S1030	S3S1060, S3S1050
S3S1050	Issuance of FS Water Certificate	0		15-Jan-24		10-Feb-24	26	S3S1040	S3S1150
S3S1060	Issuance of Form WWO46 Part Va	0		15-Jan-24		14-Apr-24	90	S3S1040	S3S1080, S3S1070
S3S1070	System Flushing / Sampling	45	16-Jan-24	29-Feb-24	14-Apr-24	29-May-24	90	S3S1060	S3S1080
S3S1080	Issuance of Form WWO46 Part Vb	0		29-Feb-24		29-May-24	90	S3S1060, S3S1070	S3S1090
S3S1090	Issuance of Water Certificate	0		14-Mar-24		12-Jun-24	90	S3S1080	SC31110
S3S1100	Submission & Approval of DG Application to FSD	180	29-Apr-22 A	21-May-23	16-Oct-23	17-Oct-23	149		S3C2160
S3S1110	Submit Application to FSD for DG Licence	0	15-Jan-24		01-Dec-23		-45	S3C2160	S3S1120
S3S1120	D.G. Inspection, Defects Rectification & Re-inspection (Ventilation Division)	21	30-Jan-24	19-Feb-24	16-Dec-23	06-Jan-24	-45	S3S1110	S3S1130
S3S1130	D.G. Inspection, Defects Rectification & Re-inspection (DG Division)	21	20-Feb-24	11-Mar-24	06-Jan-24	27-Jan-24	-45	S3S1120	S3S1140
S3S1140	DG Licence issued	0		25-Mar-24		10-Feb-24	-45	S3S1130	S3S1150
S3S1150	Prepare & Submit FS/314, FS/501 & FS/501a	14	26-Mar-24	08-Apr-24	10-Feb-24	24-Feb-24	-45	S3S1010, S3S1140, S3S1050, S3T1270	S3S1160
S3S1160	FSD Review & Approval of FS/314, FS/501 & FS/501a	21	09-Apr-24	29-Apr-24	24-Feb-24	16-Mar-24	-45	S3S1150	S3S1170



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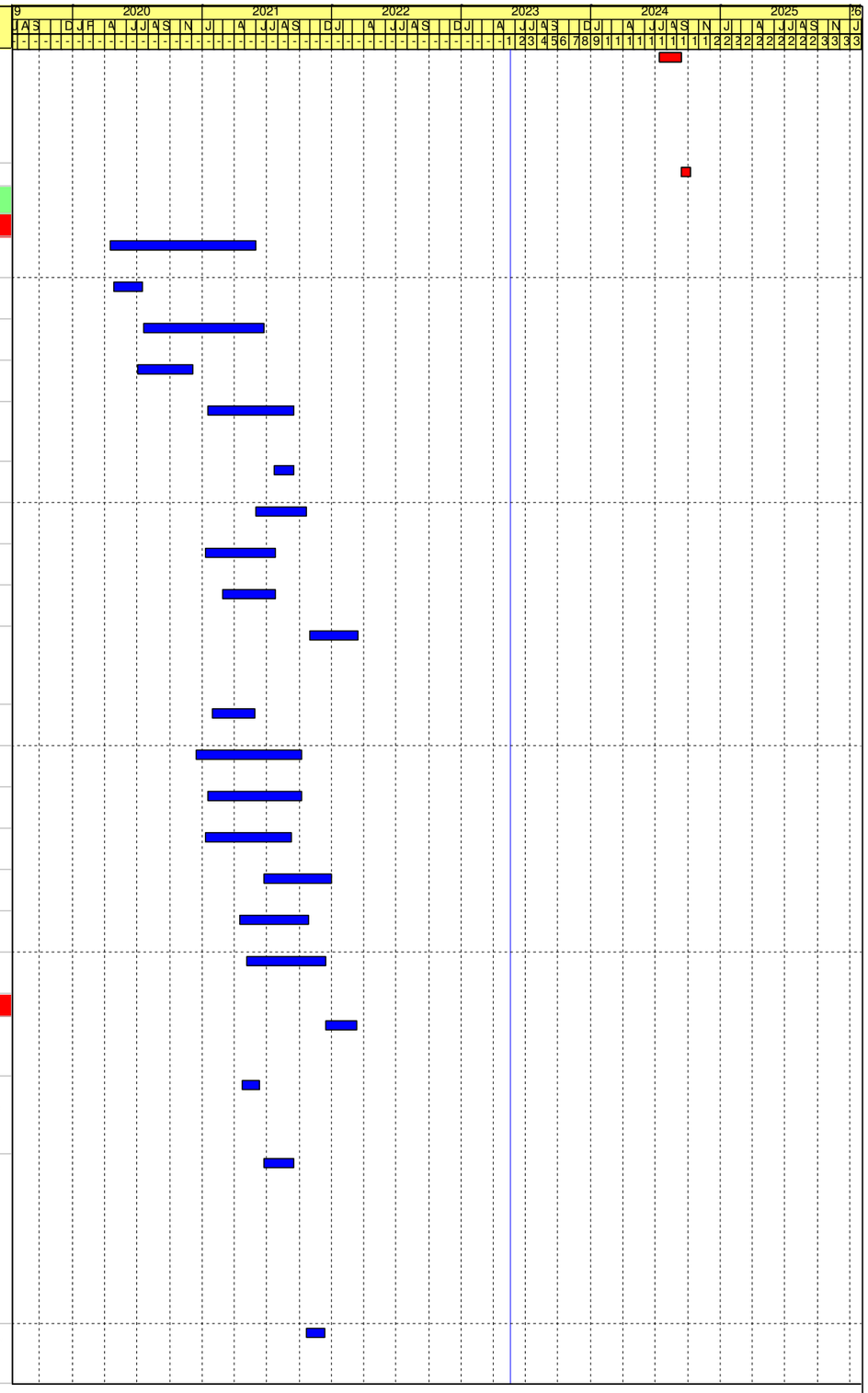
S3S1170	F.S. Inspection, Defects Rectification & Re-inspection	60	14-Jul-24	11-Sep-24	16-Mar-24	15-May-24	-120	S3S1160, S3C1150, S3T1240, S3T1250, S3T1260, S3T1280	S3S1180
S3S1180	Issuance of Acceptance Letter	28	12-Sep-24	09-Oct-24	15-May-24	12-Jun-24	-120	S3S1170	SC31110
Section 4 - Complete Construction & T&C for UV System No.1 & EP Stat		932	18-Apr-20 A	14-Sep-22 A	18-Oct-22	23-Apr-25			
Major Plant & Materials Fabrication & Delivery		725	18-Apr-20 A	16-Mar-22 A	18-Feb-23	23-Apr-25			
S4P1000	Procurement & PO for FRP Cover	409	18-Apr-20 A	31-May-21 A	18-Feb-23	18-Feb-23		PL1010	S4P1090
S4P1010	Procurement & PO for Pipeworks & Associated Valves	90	25-Apr-20 A	15-Jul-20 A	18-Feb-23	18-Feb-23		S1D1000	S4P1130
S4P1020	Procurement & PO for Elec. Materials	365	18-Jul-20 A	22-Jun-21 A	23-Apr-25	23-Apr-25		S1D1130	S4P1140
S4P1030	Procurement & PO for FS System	60	02-Jul-20 A	04-Dec-20 A	23-Apr-25	23-Apr-25		S1D1330	S4P1150
S4P1040	Fabrication of UV Disinfection System	239	18-Jan-21 A	17-Sep-21 A	18-Feb-23	18-Feb-23		S1P1000, KD1000, S1D1210	S4C1080, S4P1050
S4P1050	FAT for UV Disinfection System	71	23-Jul-21 A	17-Sep-21 A	18-Feb-23	18-Feb-23		S4P1040	S4P1060
S4P1060	Delivery of UV Disinfection System	149	01-Jun-21 A	22-Oct-21 A	18-Feb-23	18-Feb-23		S4P1050	S4C1080
S4P1070	Fabrication & Delivery of Lift-up Pumps	225	11-Jan-21 A	26-Jul-21 A	18-Feb-23	18-Feb-23		S1P1010, S1D1290	S4C1040
S4P1080	Fabrication & Delivery of Transfer Pumps	218	26-Feb-21 A	26-Jul-21 A	18-Feb-23	18-Feb-23		S1P1020, S1D1290	S5UVPC1000
S4P1090	Fabrication & Delivery of FRP Cover	89	01-Nov-21 A	16-Mar-22 A	18-Feb-23	18-Feb-23		S1D1290, S4P1000, S1P1020, PL1010	S4T1010
S4P1100	Fabrication & Delivery of EOT Cranes (2T & 5T)	170	28-Jan-21 A	27-May-21 A	18-Feb-23	18-Feb-23		S1P1030, S1D1290	S4C1020
S4P1110	Fabrication & Delivery of Stoplogs	289	16-Dec-20 A	07-Oct-21 A	18-Feb-23	18-Feb-23		S1P1040, S1D1290	S4C1070
S4P1120	Fabrication & Delivery of Penstocks	256	18-Jan-21 A	07-Oct-21 A	18-Feb-23	18-Feb-23		S1P1050, S1D1290	S4C1070
S4P1130	Fabrication & Delivery of Pipeworks & Associated Valves	200	11-Jan-21 A	08-Sep-21 A	18-Feb-23	18-Feb-23		S4P1010, S1D1290	S4C1040
S4P1140	Fabrication & Delivery of Elec. Materials	190	24-Jun-21 A	31-Dec-21 A	23-Apr-25	23-Apr-25		S4P1020, S1D1330	S4C1120
S4P1150	Fabrication & Delivery of FS System	187	18-Apr-21 A	28-Oct-21 A	23-Apr-25	23-Apr-25		S4P1030, S1D1330	S4C1100
S4P1160	Fabrication & Delivery of Temp. Switchboard	194	05-May-21 A	15-Dec-21 A	18-Feb-23	18-Feb-23			S4C1000
E&M Installation		449	25-Apr-21 A	23-Jun-22 A	18-Oct-22	23-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	18-Feb-23	18-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	18-Feb-23	18-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	18-Feb-23	18-Feb-23		S4C1020	S5UVPC1000, S4T1000, PL1200



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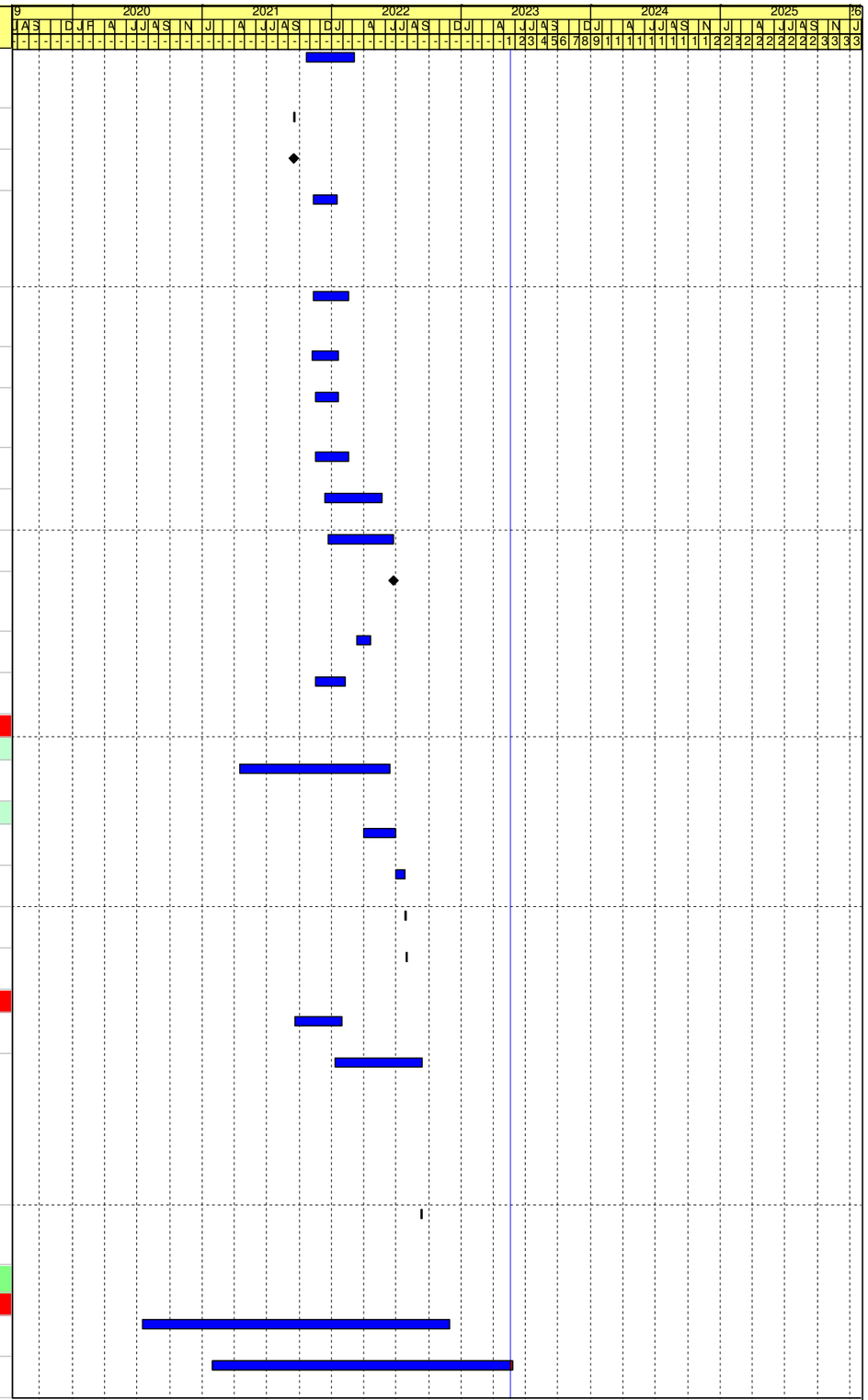
S4C1040	E&M Installation of Transfer Pumps & Associated Pipeworks / Valves	103	21-Oct-21 A	05-Mar-22 A	18-Feb-23	18-Feb-23		S4C1020, S4P1070, S4P1130	S5TXRC1050, S4T1010, PL1200
S4C1050	Preperation Works for E&M Installation of Penstocks & Stoplogs	3	17-Sep-21 A	19-Sep-21 A	18-Feb-23	18-Feb-23			S4C1070
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		18-Feb-23				S4C1070
S4C1070	E&M Installation of Penstocks & Stoplogs (Impacted by CNE-014)	66	11-Nov-21 A	15-Jan-22 A	18-Feb-23	18-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	18-Feb-23	18-Feb-23		S4P1040, S4P1060, S4C1020	S4T1010, S5TXRC1050, PL1200
S4C1090	FS Installation - Conduits, Trunking, & Pipeworks	74	08-Nov-21 A	18-Jan-22 A	23-Apr-25	23-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	23-Apr-25	23-Apr-25		S4P1150, S4C1090	SC41110, S4S1010, PL1200
S4C1110	BS Fitting Installation - Conduits, Trunking, & Ductworks	111	15-Nov-21 A	19-Feb-22 A	23-Apr-25	23-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	23-Apr-25	23-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	18-Feb-23	18-Feb-23			S4C1140
S4C1140	Ready for Power Energization	0		23-Jun-22 A		18-Feb-23		S4C1000, S4C1130, S4S1000	S4S1030, S4T1010
S4C1150	Installation of CCTV System	37	14-Mar-22 A	19-Apr-22 A	23-Apr-25	23-Apr-25		S4C1120	SC41110, PL1200
S4C1160	Installation of FS Link	84	17-Nov-21 A	08-Feb-22 A	23-Apr-25	23-Apr-25			S4S1010, PL1200
Statutory Submission / Inspection		511	17-Apr-21 A	02-Aug-22 A	18-Feb-23	23-Apr-25			
CLP Submission		425	17-Apr-21 A	15-Jun-22 A	18-Feb-23	18-Feb-23			
S4S1000	Submission & Approval of Electrical Schematic Wiring Diagram to CLP (Temp. Power)	425	17-Apr-21 A	15-Jun-22 A	18-Feb-23	18-Feb-23			S4C1140
FSD Submission & Inspection		176	01-Apr-22 A	02-Aug-22 A	23-Apr-25	23-Apr-25			
S4S1010	Prepare & Submit FS/314, FS/501 & FS/501a	91	01-Apr-22 A	30-Jun-22 A	23-Apr-25	23-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	23-Apr-25	23-Apr-25		S4S1010	S4S1030
S4S1030	F.S. Inspection, Defects Rectification & Re-inspection	4	26-Jul-22 A	29-Jul-22 A	23-Apr-25	23-Apr-25		S4S1020, S4C1140	S4S1040
S4S1040	Issuance of Acceptance Letter	14	30-Jul-22 A	02-Aug-22 A	23-Apr-25	23-Apr-25		S4S1030	SC41110
Testing & Commissioning		329	18-Sep-21 A	14-Sep-22 A	18-Feb-23	18-Feb-23			
S4T1000	T&C and R.P.E inspection for EOT Cranes	133	18-Sep-21 A	28-Jan-22 A	18-Feb-23	18-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	18-Feb-23	18-Feb-23		S4C1020, S4C1070, S4C1080, S4C1000, S4T1000, S4C1040, S4P1090, S4C1140	S4T1020
S4T1020	System Commissioning Tests	3	11-Sep-22 A	14-Sep-22 A	18-Feb-23	18-Feb-23		S4T1010	SC41110, PL1290, S5UVPC1000
Section 5 - Complete all remaining Works (incl. T&C)		1776	18-May-20 A	28-Mar-25	17-Jul-22	23-Apr-25	26		
Fabrication, FAT & Delivery of Major Plant & Materials		1112	18-May-20 A	27-May-23	18-Aug-22	23-Apr-25	697		
S5P1000	Procurement & PO for Biogas Booster and Transfer Pumps	735	17-Jul-20 A	30-Nov-22 A	03-May-23	03-May-23		S2P1000	S5BIOP1000
S5P1010	Procurement & PO for Pipeworks & Associated Valves	849	29-Jan-21 A	27-May-23	18-Aug-22	24-Aug-22	-276	S2D1070	S5CHPP1070, S5DIGP1020



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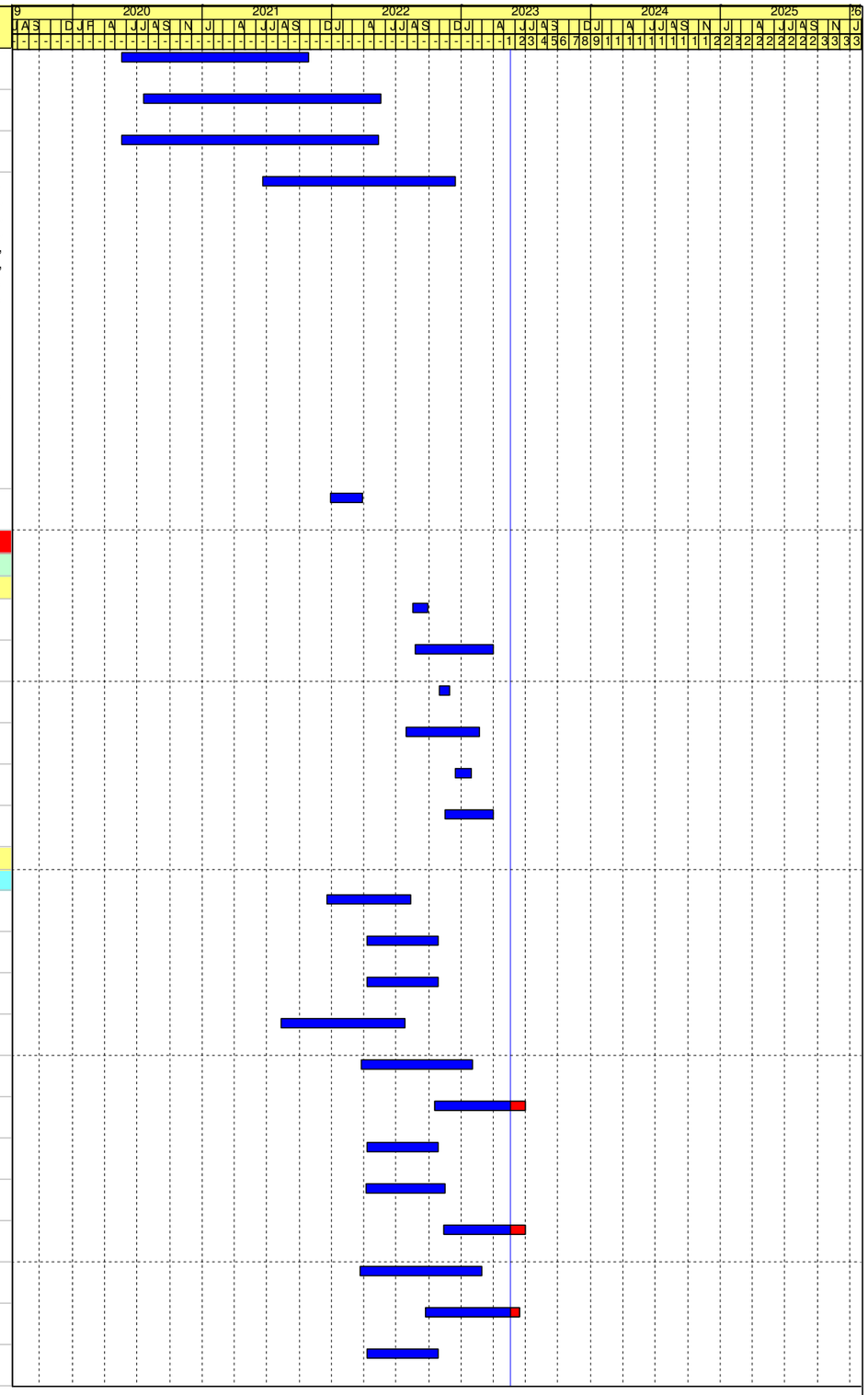
S5P1020	Procurement & PO for Lifting Appliances	530	18-May-20 A	29-Oct-21 A	23-Apr-25	23-Apr-25		S2P1020	
S5P1030	Procurement & PO for Ferric Chloride Storage Tank	668	20-Jul-20 A	18-May-22 A	15-Nov-22	15-Nov-22		S2P1000	S5FCDP1000
S5P1040	Procurement & PO for Ferric Chloride Dosing Pump	726	18-May-20 A	13-May-22 A	15-Feb-23	15-Feb-23		S2P1020	S5FCDP1010
S5P1050	Procurement & PO for Electrical Sub-contractor	396	21-Jun-21 A	14-Dec-22 A	21-Sep-22	21-Sep-22		PL1010, S2P1130, S2D1370, S2D1570, S2D1270, S2D1310, S2D1430, S2D1470, S2D1510, S2D1630, S2D1670	S5SDBC1170, S5SDBC1310, S5SDBC1540, S5CHPC1100, S5CHPC1230, S5CHPC1290, S5TXRC1030, S5TXRC1040, S5DIGC1120, S5DIGC1160, S5DIGC1200, S5DIGC1260, S5EXAC1030, S5EXAC1080, S5EXAC1100, S5EXAC1110, S5EXAC1070
S5P1070	Procurement & PO for mechanical ventilation system	90	28-Dec-21 A	28-Mar-22 A	23-Apr-25	23-Apr-25			
Sludge Dewatering Building		1330	11-Aug-21 A	21-Mar-24	17-Jul-22	23-Apr-25	398		
Procurement, Fabrication, FAT & Delivery of Major Plant & Materials		1185	11-Aug-21 A	28-Oct-23	17-Jul-22	19-Sep-23	-40		
Procurement		949	31-Jul-22 A	31-Mar-23 A	17-Jul-22	04-Feb-23			
S5SDBP1000	Procurement & PO for DI pipework (B/F)	45	17-Aug-22 A	30-Sep-22 A	05-Oct-22	05-Oct-22			S5SDBP1630
S5SDBP1010	Procurement & PO for DI pipework (G/F and 1/F)	160	24-Aug-22 A	31-Mar-23 A	21-Sep-22	21-Sep-22			S5SDBP1640
S5SDBP1020	Procurement & PO for FRP ductworks	45	31-Oct-22 A	30-Nov-22 A	22-Jan-23	22-Jan-23			S5SDBP1650
S5SDBP1030	Procurement & PO for Genset	174	31-Jul-22 A	22-Feb-23 A	25-Jul-22	25-Jul-22			S5SDBP1670
S5SDBP1040	Procurement & PO for Process Water Pumps	45	17-Dec-22 A	30-Jan-23 A	17-Jul-22	17-Jul-22			S5SDBP1210
S5SDBP1050	Procurement & PO for Sludge Skip (PS Screen & Dewatering Screen)	75	18-Nov-22 A	31-Mar-23 A	04-Feb-23	04-Feb-23			S5SDBP1230
Mechanical		697	11-Aug-21 A	29-Aug-23	17-Jul-22	19-Sep-23	20		
Fabrication and FAT		697	11-Aug-21 A	30-Jul-23	17-Jul-22	19-Sep-23	50		
S5SDBP1060	Fabrication & Delivery of Lift	210	18-Dec-21 A	10-Aug-22 A	19-Sep-23	19-Sep-23			S5SDBC1780
S5SDBP1070	Fabrication & FAT of External Sludge Transfer Pump	201	11-Apr-22 A	28-Oct-22 A	31-Oct-22	31-Oct-22			S5SDBP1400
S5SDBP1080	Fabrication & FAT of PS Screen Feed Pump	201	11-Apr-22 A	28-Oct-22 A	11-Feb-23	11-Feb-23			S5SDBP1490
S5SDBP1090	Fabrication & FAT of Sludge Screen	350	11-Aug-21 A	26-Jul-22 A	23-Feb-23	23-Feb-23			S5SDBP1520
S5SDBP1100	Fabrication and FAT of Centrate Transfer Pumps	313	25-Mar-22 A	31-Jan-23 A	25-Sep-22	25-Sep-22			S5SDBP1360
S5SDBP1110	Fabrication and FAT of Conveyor	257	17-Oct-22 A	30-Jun-23	24-Dec-22	02-Feb-23	-148		S5SDBP1370
S5SDBP1120	Fabrication and FAT of Dewatering Centrifuge Feed Pumps	201	11-Apr-22 A	28-Oct-22 A	24-Oct-22	24-Oct-22			S5SDBP1380
S5SDBP1130	Fabrication and FAT of Dewatering Polymer Powder Unit	226	06-Apr-22 A	17-Nov-22 A	03-Sep-22	03-Sep-22		S5SDBP1290	S5SDBP1390
S5SDBP1140	Fabrication and FAT of FRP Tank (Thickening & Dewatering Polymer Dosing System)	229	14-Nov-22 A	30-Jun-23	15-Oct-22	24-Nov-22	-218		S5SDBP1410
S5SDBP1150	Fabrication and FAT of Hoist	197	21-Mar-22 A	28-Feb-23 A	04-Dec-22	04-Dec-22			S5SDBP1420
S5SDBP1160	Fabrication and FAT of Mixers (Digested Sludge Holding Tank)	266	22-Sep-22 A	14-Jun-23	29-Jan-23	22-Feb-23	-112		S5SDBP1430
S5SDBP1170	Fabrication and FAT of Polymer Dosing Pumps	201	11-Apr-22 A	28-Oct-22 A	03-Apr-23	03-Apr-23			S5SDBP1440



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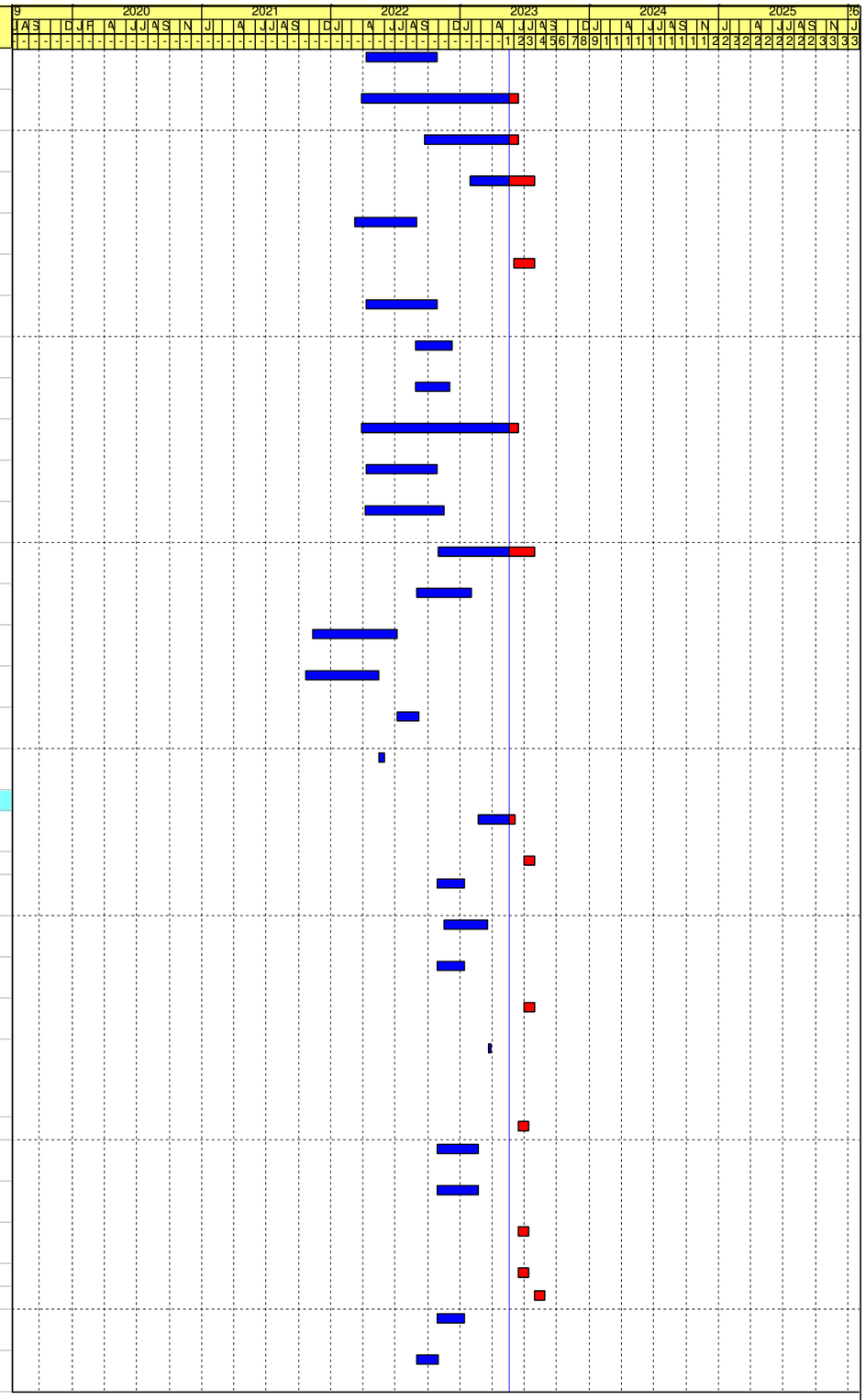
S5SDBP1180	Fabrication and FAT of Polymer Transfer Pumps	201	11-Apr-22 A	28-Oct-22 A	24-Oct-22	24-Oct-22			S5SDBP1450
S5SDBP1190	Fabrication and FAT of Preparation Tank Mixers	310	28-Mar-22 A	14-Jun-23	09-Jan-23	02-Feb-23	-132		S5SDBP1460
S5SDBP1200	Fabrication and FAT of Primary Sludge Holding Tank Mixer	266	22-Sep-22 A	14-Jun-23	29-Jan-23	22-Feb-23	-112		S5SDBP1470
S5SDBP1210	Fabrication and FAT of Process Water Pumps	179	31-Jan-23 A	28-Jul-23	17-Jul-22	23-Sep-22	-308	S5SDBP1040	S5SDBP1480
S5SDBP1220	Fabrication and FAT of Recirculation Pumps	175	10-Mar-22 A	31-Aug-22 A	17-Oct-22	17-Oct-22			S5SDBP1500
S5SDBP1230	Fabrication and FAT of Sludge Skip (PS Screen & Dewatering Screen)	60	01-Jun-23*	30-Jul-23	04-Feb-23	04-Apr-23	-117	S5SDBP1050	S5SDBP1530
S5SDBP1240	Fabrication and FAT of Sludge Transfer Pumps (THP By Pass)	201	11-Apr-22 A	28-Oct-22 A	24-Oct-22	24-Oct-22			S5SDBP1550
S5SDBP1250	Fabrication and FAT of Steel Work (EOT)	60	29-Aug-22 A	09-Dec-22 A	25-Oct-22	25-Oct-22			S5SDBP1560
S5SDBP1260	Fabrication and FAT of Steel Work (Monorails)	60	29-Aug-22 A	03-Dec-22 A	03-Feb-23	03-Feb-23			S5SDBP1570
S5SDBP1270	Fabrication and FAT of Storage Tank Mixers	444	28-Mar-22 A	14-Jun-23	09-Jan-23	02-Feb-23	-132		S5SDBP1580
S5SDBP1280	Fabrication and FAT of Thickening Centrifuge Feed Pump	201	11-Apr-22 A	28-Oct-22 A	24-Oct-22	24-Oct-22			S5SDBP1590
S5SDBP1290	Fabrication and FAT of Thickening Polymer Powder Unit	226	06-Apr-22 A	17-Nov-22 A	03-Sep-22	03-Sep-22			S5SDBP1600, S5SDBP1130
S5SDBP1300	Fabrication and FAT of Thickening Sludge Silo	270	01-Nov-22 A	28-Jul-23	10-Feb-23	19-Apr-23	-100		S5SDBP1610
S5SDBP1310	Fabrication and FAT of THP Feed Pump	100	31-Aug-22 A	31-Jan-23 A	09-Feb-23	09-Feb-23			S5SDBP1620
S5SDBP1320	Fabrication of Sludge Dewatering Centrifuges	238	10-Nov-21 A	05-Jul-22 A	04-Jan-23	04-Jan-23			S5SDBP1340
S5SDBP1330	Fabrication of Sludge Thickening Centrifuges	206	22-Oct-21 A	15-May-22 A	05-Dec-22	05-Dec-22			S5SDBP1350
S5SDBP1340	FAT of Sludge Dewatering Centrifuges	62	06-Jul-22 A	05-Sep-22 A	04-Jan-23	04-Jan-23		S5SDBP1320	S5SDBP1510
S5SDBP1350	FAT of Sludge Thickening Centrifuges	16	16-May-22 A	31-May-22 A	05-Dec-22	05-Dec-22		S5SDBP1330	S5SDBP1540
Delivery		343	01-Jun-22 A	29-Aug-23	03-Sep-22	04-May-23	-117		
S5SDBP1360	Delivery of Centrate Transfer Pumps	104	21-Feb-23 A	04-Jun-23	25-Sep-22	09-Oct-22	-238	S5SDBP1100	S5SDBC1030
S5SDBP1370	Delivery of Conveyor	30	01-Jul-23	30-Jul-23	03-Feb-23	04-Mar-23	-148	S5SDBP1110	S5SDBC1260
S5SDBP1380	Delivery of Dewatering Centrifuges Feed Pumps	78	29-Oct-22 A	14-Jan-23 A	24-Oct-22	24-Oct-22		S5SDBP1120	S5SDBC1040
S5SDBP1390	Delivery of Dewatering Polymer Powder Unit	30	18-Nov-22 A	20-Mar-23 A	03-Sep-22	03-Sep-22		S5SDBP1130	S5SDBC1050
S5SDBP1400	Delivery of External Sludge Transfer Pump	78	29-Oct-22 A	14-Jan-23 A	31-Oct-22	31-Oct-22		S5SDBP1070	S5SDBC1070
S5SDBP1410	Delivery of FRP Tank (Thickening & Dewatering Polymer Dosing System)	30	01-Jul-23	30-Jul-23	25-Nov-22	24-Dec-22	-218	S5SDBP1140	S5SDBC1480, S5SDBC1060
S5SDBP1420	Delivery of Hoist	8	21-Mar-23 A	28-Mar-23 A	04-Dec-22	04-Dec-22		S5SDBP1150	S5SDBC1230, S5SDBC1450, S5SDBC1400, S5SDBC1390
S5SDBP1430	Delivery of Mixers (Digested Sludge Holding Tank)	30	15-Jun-23	14-Jul-23	23-Feb-23	24-Mar-23	-112	S5SDBP1160	S5SDBC1420
S5SDBP1440	Delivery of Polymer Dosing Pumps	78	29-Oct-22 A	20-Feb-23 A	03-Apr-23	03-Apr-23		S5SDBP1170	S5SDBC1500, S5SDBC1520
S5SDBP1450	Delivery of Polymer Transfer Pumps	138	29-Oct-22 A	20-Feb-23 A	24-Oct-22	24-Oct-22		S5SDBP1180	S5SDBC1130, S5SDBC1280
S5SDBP1460	Delivery of Preparation Tank Mixers	30	15-Jun-23	14-Jul-23	03-Feb-23	04-Mar-23	-132	S5SDBP1190	S5SDBC1430, S5SDBC1090
S5SDBP1470	Delivery of Primay Sludge Holding Tank Mixer	30	15-Jun-23	14-Jul-23	23-Feb-23	24-Mar-23	-112	S5SDBP1200	S5SDBC1440
S5SDBP1480	Delivery of Process Water Pumps	30	29-Jul-23	27-Aug-23	24-Sep-22	23-Oct-22	-308	S5SDBP1210	S5SDBC1110
S5SDBP1490	Delivery of PS Screen Feed Pump	78	29-Oct-22 A	14-Jan-23 A	11-Feb-23	11-Feb-23		S5SDBP1080	S5SDBC1250
S5SDBP1500	Delivery of Recirculation Pumps	60	01-Sep-22 A	31-Oct-22 A	17-Oct-22	17-Oct-22		S5SDBP1220	S5SDBC1120, S5SDBC1150



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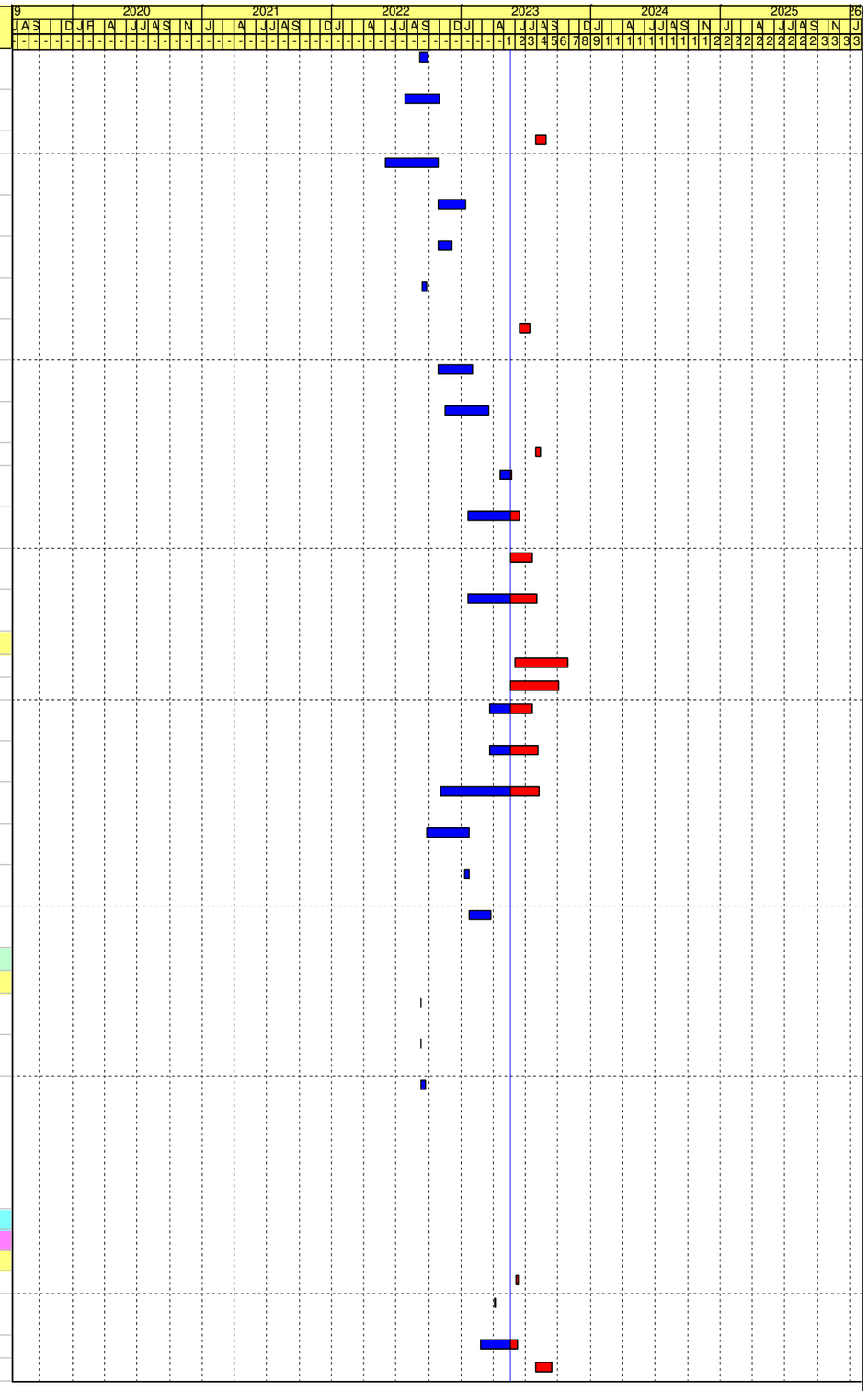
S5SDBP1510	Delivery of Sludge Dewatering Centrifuges	24	07-Sep-22 A	30-Sep-22 A	04-Jan-23	04-Jan-23		S5SDBP1340	S5SDBC1490
S5SDBP1520	Delivery of Sludge Screen Press	76	27-Jul-22 A	31-Oct-22 A	23-Feb-23	23-Feb-23		S5SDBP1090	S5SDBC1470
S5SDBP1530	Delivery of Sludge Skip (PS Screen & Dewatering Screen)	30	31-Jul-23	29-Aug-23	05-Apr-23	04-May-23	-117	S5SDBP1230	S5SDBC1300
S5SDBP1540	Delivery of Sludge Thickening Centrifuges	143	01-Jun-22 A	28-Oct-22 A	05-Dec-22	05-Dec-22		S5SDBP1350	S5SDBC1510
S5SDBP1550	Delivery of Sludge Transfer Pumps (THP By Pass)	78	29-Oct-22 A	14-Jan-23 A	24-Oct-22	24-Oct-22		S5SDBP1240	S5SDBC1150
S5SDBP1560	Delivery of Steel Work (EOT)	40	28-Oct-22 A	06-Dec-22 A	25-Oct-22	25-Oct-22		S5SDBP1250	S5SDBC1400, S5SDBC1390
S5SDBP1570	Delivery of Steel Work (Monorails)	14	12-Sep-22 A	25-Sep-22 A	03-Feb-23	03-Feb-23		S5SDBP1260	S5SDBC1230, S5SDBC1450
S5SDBP1580	Delivery of Storage Tank Mixers	30	15-Jun-23	14-Jul-23	03-Feb-23	04-Mar-23	-132	S5SDBP1270	S5SDBC1430, S5SDBC1090
S5SDBP1590	Delivery of Thickening Centrifuges Feed Pump	95	29-Oct-22 A	31-Jan-23 A	24-Oct-22	24-Oct-22		S5SDBP1280	S5SDBC1140
S5SDBP1600	Delivery of Thickening Polymer Powder Unit	75	18-Nov-22 A	20-Mar-23 A	03-Sep-22	03-Sep-22		S5SDBP1290	S5SDBC1270, S5SDBC1050
S5SDBP1610	Delivery of Thickening Sludge Silo	14	29-Jul-23	11-Aug-23	20-Apr-23	03-May-23	-100	S5SDBP1300	S5SDBC1260
S5SDBP1620	Delivery of THP Feed Pump	32	21-Apr-23 A	22-May-23	09-Feb-23	10-Feb-23	-101	S5SDBP1310	S5SDBC1290
S5SDBP1630	Fabrication and delivery of DI pipework (B/F)	146	21-Jan-23 A	15-Jun-23	05-Oct-22	30-Oct-22	-228	S5SDBP1000	S5SDBC1100
S5SDBP1640	Fabrication and delivery of DI pipework (G/F and 1/F)	60	21-May-23	19-Jul-23	21-Sep-22	19-Nov-22	-242	S5SDBP1010	S5SDBC1240, S5SDBC1460
S5SDBP1650	Fabrication and delivery of FRP ductworks	192	21-Jan-23 A	31-Jul-23	22-Jan-23	03-Apr-23	-119	S5SDBP1020	S5SDBC1210
Electrical and Control		312	26-Sep-22 A	28-Oct-23	25-Jul-22	27-Feb-23	-243		
S5SDBP1660	Fabrication & Delivery of Cable	150	01-Jun-23*	28-Oct-23	17-Aug-22	13-Jan-23	-288		S5SDBC1350
S5SDBP1670	Fabrication & Delivery of Genset	134	21-May-23*	01-Oct-23	25-Jul-22	05-Dec-22	-300	S5SDBP1030	S5SDBC1770
S5SDBP1680	Fabrication & Delivery of LV Switchboard for G/F	122	22-Mar-23 A	21-Jul-23	14-Oct-22	14-Dec-22	-219		S5SDBC1370
S5SDBP1690	Fabrication & Delivery of LV Switchboard for 1/F	136	22-Mar-23 A	04-Aug-23	30-Sep-22	14-Dec-22	-233		S5SDBC1580
S5SDBP1710	Fabrication & Delivery of SCADA System for 1/F	279	04-Nov-22 A	09-Aug-23	09-Dec-22	27-Feb-23	-163		S5SDBC1570
S5SDBP1720	Fabrication of 380V Transfomers	120	26-Sep-22 A	23-Jan-23 A	01-Dec-22	01-Dec-22			S5SDBP1730
S5SDBP1730	FAT for 380V Transfomers	14	10-Jan-23 A	23-Jan-23 A	01-Dec-22	01-Dec-22		S5SDBP1720	S5SDBP1740
S5SDBP1740	Delivery of 380V Transfomers	66	24-Jan-23 A	26-Mar-23 A	01-Dec-22	01-Dec-22		S5SDBP1730	S5SDBC1380
Installation		539	06-Jun-22 A	21-Jan-24	03-Sep-22	23-Apr-25	458		
NCE-PMI-0325 - Provision of 2 nos of 3 Tons Mobile A-frame with Electrical Hoist in SDB		539	06-Jun-22 A	21-Jan-24	03-Sep-22	23-Apr-25	458		
S5SDBC1000	Access to Sludge Dewatering Building (Impacted by EWN-0314)	1	09-Sep-22 A	09-Sep-22 A	03-Sep-22	03-Sep-22			S5SDBC1020
S5SDBC1010	Access to Sludge Dewatering Building (Impacted by EWN-0314-1)	1	09-Sep-22 A	09-Sep-22 A	03-Sep-22	03-Sep-22			S5SDBC1020
S5SDBC1020	Mobilisation	15	09-Sep-22 A	23-Sep-22 A	03-Sep-22	03-Sep-22		S5SDBC1000, S5SDBC1010	S5SDBC1200, S5SDBC1680, S5SDBC1370, S5SDBC1590, S5SDBC1770, S5SDBC1120, S5SDBC1050
E&M Installation		539	06-Jun-22 A	21-Jan-24	03-Sep-22	23-Apr-25	458		
Basement		335	21-Jan-23 A	21-Jan-24	03-Sep-22	17-Nov-23	-65		
Mechanical		335	21-Jan-23 A	21-Jan-24	03-Sep-22	03-Apr-23	-293		
S5SDBC1030	Installation of Centrate Transfer Pumps (3 nos.)	7	05-Jun-23	11-Jun-23	10-Oct-22	16-Oct-22	-238	S5SDBP1360	S5SDBC1100.
S5SDBC1040	Installation of Dewatering Centrifuges Feed Pumps (3 nos.)	7	03-Apr-23 A	08-Apr-23 A	24-Oct-22	24-Oct-22		S5SDBP1380, S5SDBC1140	S5SDBT1000, S5SDBC1100,
S5SDBC1050	Installation of Dewatering Polymer Powder Feed Units	104	24-Feb-23 A	07-Jun-23	03-Sep-22	20-Sep-22	-260	S5SDBP1390	S5SDBC1170.
S5SDBC1060	Installation of Dewatering Polymer Preparation Tanks	45	31-Jul-23	13-Sep-23	25-Dec-22	07-Feb-23	-218	S5SDBP1410	S5SDBC1480



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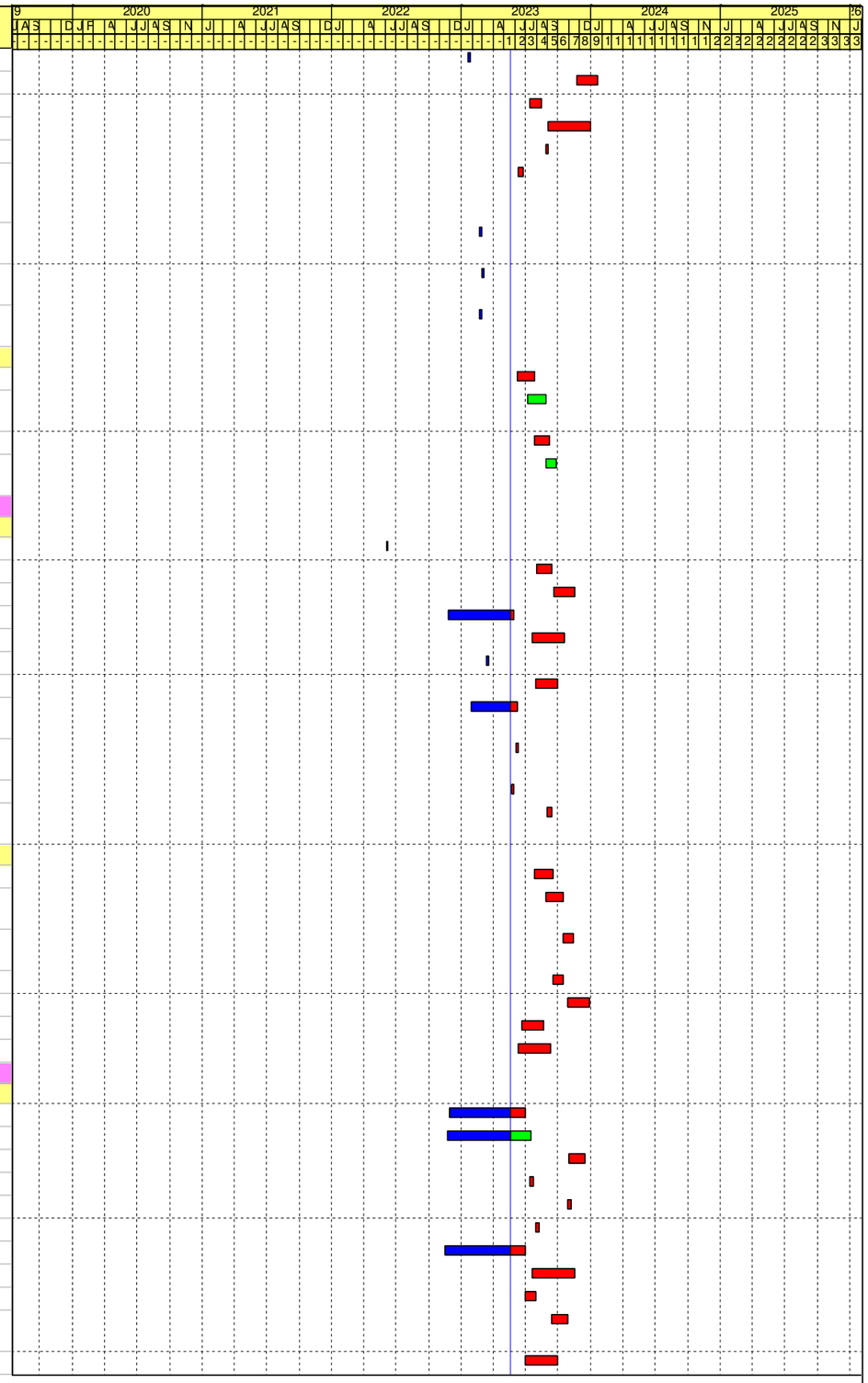
31-May-23	Rev.34	IM/LT	KM

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S5SDBC1070	Installation of External Sludge Transfer Pumps (2 nos.)	7	21-Jan-23 A	27-Jan-23 A	31-Oct-22	31-Oct-22		S5SDBP1400	S5SDBT1000,
S5SDBC1080	Installation of Instruments	60	23-Nov-23	21-Jan-24	19-Jan-23	19-Mar-23	-308	S5SDBC1100	S5SDBT1160
S5SDBC1090	Installation of Polymer Mixer	30	15-Jul-23	13-Aug-23	05-Mar-23	03-Apr-23	-132	S5SDBP1580	S5SDBT1170
S5SDBC1100	Installation of Process Pipe	120	04-Sep-23	01-Jan-24	31-Oct-22	27-Feb-23	-308	S5SDBC1120	S5SDBT1040,
S5SDBC1110	Installation of Process Water Pumps (3 nos.)	7	28-Aug-23	03-Sep-23	24-Oct-22	30-Oct-22	-308	S5SDBP1480	S5SDBT1000,
S5SDBC1120	Installation of Recirculation Pumps for Centrate Tank, Sludge Blend Tanks & THP by-pass Sludge Holding Tank (6 nos,)	14	12-Jun-23	25-Jun-23	17-Oct-22	30-Oct-22	-238	S5SDBP1500, S5SDBC1020, S5SDBC1030	S5SDBT1000, S5SDBC1100
S5SDBC1130	Installation of Sludge Dewatering Polymer Transfer Pumps (2 nos.)	7	21-Feb-23 A	27-Feb-23 A	24-Oct-22	24-Oct-22		S5SDBP1450	S5SDBT1000, S5SDBC1100,
S5SDBC1140	Installation of Thickening Centrifuges Feed Pumps (4 nos.)	7	28-Feb-23 A	06-Mar-23 A	24-Oct-22	24-Oct-22		S5SDBP1590, S5SDBC1150	S5SDBT1000, S5SDBC1100,
S5SDBC1150	Installation of THP by-pass Sludge Holding Tank Transfer Pumps (4 nos.)	7	21-Feb-23 A	27-Feb-23 A	24-Oct-22	24-Oct-22		S5SDBP1550, S5SDBP1500,	S5SDBT1000, S5SDBC1100,
Electrical		110	08-Jun-23	25-Sep-23	21-Sep-22	17-Nov-23	53		
S5SDBC1170	Installation of Electrical System - Cable Containment	50	08-Jun-23	27-Jul-23	21-Sep-22	09-Nov-22	-260	S5SDBC105C	S5SDBC1180.
S5SDBC1180	Installation of Electrical System - Wall Mount Equipment, Conduit & Wiring	50	08-Jul-23	26-Aug-23	30-Aug-23	18-Oct-23	53	S5SDBC1170	S5SDBC1190
S5SDBC1185	Installation of Control Cable Laying	40	28-Jul-23	05-Sep-23	20-Dec-22	28-Jan-23	-220	S5SDBC1170	S5SDBC1530
S5SDBC1190	Installation of Electrical System - Lighting and Small Power Accessories	30	27-Aug-23	25-Sep-23	19-Oct-23	17-Nov-23	53	S5SDBC1180	S5SDBT1130
Ground Floor		514	06-Jun-22 A	27-Dec-23	10-Nov-22	17-Nov-23	-40		
Mechanical		473	06-Jun-22 A	16-Nov-23	20-Nov-22	18-May-23	-182		
S5SDBC1200	Installation of A-Frame (Effected by NCE-PMI-0325)	3	06-Jun-22 A	06-Jun-22 A	08-Feb-23	08-Feb-23		S5SDBC1020	S5SDBC1480
S5SDBC1210	Installation of DOU Ductworks	45	01-Aug-23	14-Sep-23	04-Apr-23	18-May-23	-119	S5SDBP1650	S5T1060
S5SDBC1220	Installation of Instruments	60	18-Sep-23	16-Nov-23	19-Jan-23	19-Mar-23	-242	S5SDBC1240	S5SDBT1160
S5SDBC1230	Installation of Monorail LA-01-01	185	25-Nov-22 A	28-May-23	03-Feb-23	10-Feb-23	-107	S5SDBC145C	S5SDBC1280
S5SDBC1240	Installation of Process Pipe	90	20-Jul-23	17-Oct-23	20-Nov-22	17-Feb-23	-242	S5SDBP1640	S5SDBT1040,
S5SDBC1250	Installation of PS Screen Feed Pumps (3 nos.)	7	13-Mar-23 A	19-Mar-23 A	11-Feb-23	11-Feb-23		S5SDBP1490	S5SDBT1000,
S5SDBC1260	Installation of Silo & Conveyor	60	31-Jul-23	28-Sep-23	05-Mar-23	03-May-23	-148	S5SDBP1610	S5SDBT1060
S5SDBC1270	Installation of Sludge Thickening Polymer Preparation Tanks	128	31-Jan-23 A	07-Jun-23	31-Jan-23	17-Feb-23	-110	S5SDBP1600	S5SDBT1080, S5SDBC1420,
S5SDBC1280	Installation of Sludge Thickening Polymer Transfer Pumps (2 nos.)	7	05-Jun-23*	11-Jun-23	11-Feb-23	17-Feb-23	-114	S5SDBP1450, S5SDBC1250,	S5SDBT1000, S5SDBC1240
S5SDBC1290	Installation of THP Feed Pumps (4 nos.)	7	23-May-23*	29-May-23	11-Feb-23	17-Feb-23	-101	S5SDBP1620	S5SDBT1000,
S5SDBC1300	Position of Sludge Skips and Installation of Hydraulic System	14	30-Aug-23	12-Sep-23	05-May-23	18-May-23	-117	S5SDBP1530	S5T1060
Electrical		199	12-Jun-23	27-Dec-23	10-Nov-22	17-Nov-23	-40		
S5SDBC1310	Installation of Electrical System - Cable Containment	50	28-Jul-23	15-Sep-23	10-Nov-22	29-Dec-22	-260	S5SDBC168C	S5SDBC1320
S5SDBC1320	Installation of Electrical System - Wall Mount Equipment, Conduit & Wiring	50	27-Aug-23	15-Oct-23	30-Aug-23	18-Oct-23	3	S5SDBC1310	S5SDBC1330
S5SDBC1330	Installation of Electrical System - Lighting and Small Power Accessories	30	16-Oct-23	14-Nov-23	19-Oct-23	17-Nov-23	3	S5SDBC1320	S5SDBT1130
S5SDBC1340	Installation of Control Cable Laying	30	16-Sep-23	15-Oct-23	18-Feb-23	19-Mar-23	-210	S5SDBC1310	S5SDBT1200,
S5SDBC1350	Installation of Power Cable Laying and Termination	60	29-Oct-23	27-Dec-23	14-Jan-23	14-Mar-23	-288	S5SDBC137C	S5SDBT1050
S5SDBC1370	LV Switchroom Installation	60	22-Jun-23	20-Aug-23	15-Nov-22	13-Jan-23	-219	S5SDBC102C	S5SDBT1110,
S5SDBC1380	TX Room Installation	90	12-Jun-23*	09-Sep-23	01-Dec-22	28-Feb-23	-193	S5SDBP1740	S5SDBT1120
First Floor		350	17-Nov-22 A	03-Jan-24	25-Oct-22	23-Apr-25	476		
Mechanical		332	17-Nov-22 A	16-Dec-23	25-Oct-22	23-Apr-25	494		
S5SDBC1390	Installation of EOT Crane LA-01-02	215	28-Nov-22 A	30-Jun-23	25-Oct-22	04-Dec-22	-208	S5SDBP1560	S5SDBC1490
S5SDBC1400	Installation of EOT Crane LA-01-03	238	22-Nov-22 A	17-Jul-23	25-Feb-25	23-Apr-25	646	S5SDBC120C	
S5SDBC1410	Installation of Instruments	45	02-Nov-23	16-Dec-23	20-Mar-23	03-May-23	-227	S5SDBC1460	S5SDBT1160
S5SDBC1420	Installation of Mixer for Digested Sludge Holding Tank	10	15-Jul-23	24-Jul-23	25-Mar-23	03-Apr-23	-112	S5SDBP1430	S5SDBT1170
S5SDBC1430	Installation of Mixer for Polymer Tank	10	29-Oct-23	07-Nov-23	25-Mar-23	03-Apr-23	-218	S5SDBP1580	S5SDBT1170
S5SDBC1440	Installation of Mixer for PS holding tank	10	31-Jul-23	09-Aug-23	25-Mar-23	03-Apr-23	-128	S5SDBP1470	S5SDBT1170
S5SDBC1450	Installation of Monorail LA-01-04	226	17-Nov-22 A	30-Jun-23	03-Feb-23	15-Mar-23	-107	S5SDBP1570	S5SDBC1230
S5SDBC1460	Installation of Process Pipe	120	20-Jul-23	16-Nov-23	05-Dec-22	03-Apr-23	-227	S5SDBP1640	S5SDBT1040,
S5SDBC1470	Installation of Screen Press	30	01-Jul-23*	30-Jul-23	23-Feb-23	24-Mar-23	-128	S5SDBC120C	S5SDBT1210,
S5SDBC1480	Installation of Sludge Dewatering / Thickening Polymer Dilution Tanks	45	14-Sep-23	28-Oct-23	08-Feb-23	24-Mar-23	-218	S5SDBC1200, S5SDBP1410,	S5SDBT1080, S5SDBC1430,
S5SDBC1490	Installation of Sludge Dewatering Centrifuges (3 nos)	90	01-Jul-23	28-Sep-23	04-Jan-23	03-Apr-23	-178	S5SDBC139C	S5SDBT1090,



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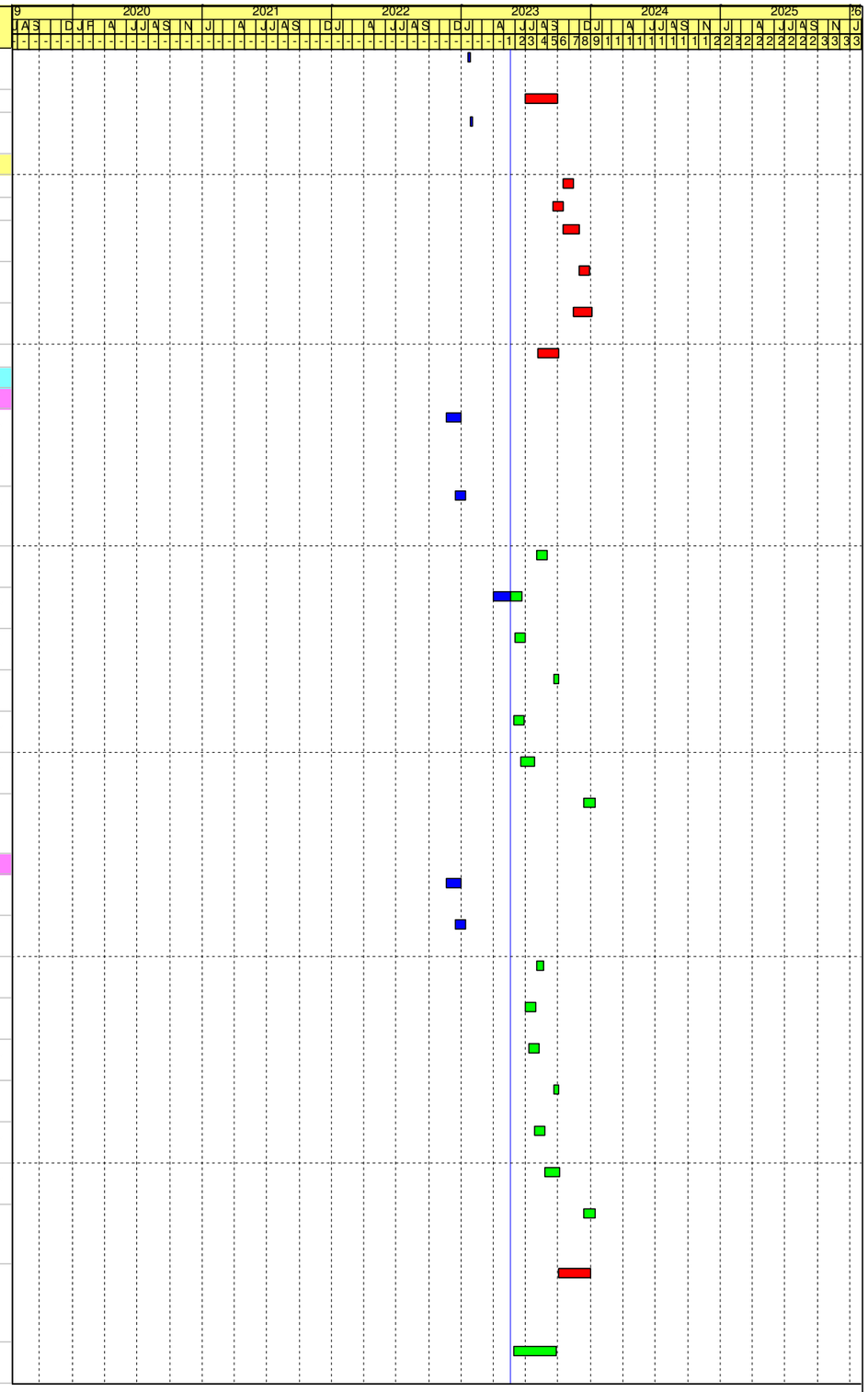
Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S5SDBC1500	Installation of Sludge Dewatering Polymer Dosing Pumps (4 nos.)	7	21-Jan-23 A	27-Jan-23 A	03-Apr-23	03-Apr-23		S5SDBP1440, S5SDBC1390	S5SDBT1000, S5SDBC1520,
S5SDBC1510	Installation of Sludge Thickening Centrifuges (4 nos.)	90	01-Jul-23	28-Sep-23	05-Dec-22	04-Mar-23	-208	S5SDBP1540	S5SDBT1100,
S5SDBC1520	Installation of Sludge Thickening Polymer Dosing Pumps (5 nos.)	7	28-Jan-23 A	03-Feb-23 A	03-Apr-23	03-Apr-23		S5SDBP1440, S5SDBC1500,	S5SDBT1000, S5SDBC1460
Electrical		152	05-Aug-23	03-Jan-24	15-Dec-22	17-Nov-23	-47		
S5SDBC1530	Installation of Control Cable Laying	30	16-Oct-23	14-Nov-23	29-Jan-23	27-Feb-23	-260	S5SDBC154C	S5SDBC1570
S5SDBC1540	Installation of Electrical System - Cable Containment	30	16-Sep-23	15-Oct-23	30-Dec-22	28-Jan-23	-260	S5SDBC131C	S5SDBT1050,
S5SDBC1550	Installation of Electrical System - Wall Mount Equipment, Conduit & Wiring	45	16-Oct-23	29-Nov-23	04-Sep-23	18-Oct-23	-42	S5SDBC1540	S5SDBC1560
S5SDBC1560	Installation of Electrical System - Lighting and Small Power Accessories	30	30-Nov-23	29-Dec-23	19-Oct-23	17-Nov-23	-42	S5SDBC1550	S5SDBT1130
S5SDBC1570	Installation of SCADA System / Control Monitoring System (SPS, Process Water)	50	15-Nov-23	03-Jan-24	28-Feb-23	18-Apr-23	-260	S5SDBC1540, S5SDBC1530,	S5SDBT1200
S5SDBC1580	LV Switchroom Installation	60	05-Aug-23	03-Oct-23	15-Dec-22	12-Feb-23	-233	S5SDBP1690	S5SDBC1350
BS Installation		368	21-Nov-22 A	12-Jan-24	21-Sep-22	19-Jan-24	7		
Basement		368	21-Nov-22 A	12-Jan-24	21-Sep-22	19-Jan-24	7		
S5SDBC1590	Installation of FS System - Main Pipework	30	21-Nov-22 A	30-Dec-22 A	21-Sep-22	21-Sep-22		S5SDBC1020	S5SDBC1620, S5SDBC1170, S5SDBC1790, S5SDBC1680
S5SDBC1600	Installation of FS System - Branch Pipework, Conduit & Wiring	40	16-Dec-22 A	14-Jan-23 A	24-Oct-23	24-Oct-23			S5SDBC1610, S5S1130, S5SDBC1690
S5SDBC1610	Installation of FS System - Dropper, Sprinkler Head, Detector & Devices	30	01-Aug-23*	30-Aug-23	03-Nov-23	02-Dec-23	94	S5SDBC1600	S5SDBT1150
S5SDBC1620	Installation of MVAC System - Ceiling Mount Equipment, Main Ductwork and Pipework	81	31-Mar-23 A	19-Jun-23	28-May-23	26-Jun-23	7	S5SDBC1590	S5SDBC1630, S5SDBC1650
S5SDBC1630	Installation of MVAC System - Wall Mount Equipment, Branch Duct & Pipework	30	31-May-23	29-Jun-23	16-Jul-23	14-Aug-23	46	S5SDBC1620	S5SDBC1640, S5SDBC1710
S5SDBC1640	Installation of MVAC System - Air Grills & Diffuser	15	18-Sep-23	02-Oct-23	03-Nov-23	17-Nov-23	46	S5SDBC1630, S5SDBC1840	S5SDBT1180, S5SDBC1730
S5SDBC1650	Installation of Plumbing System - Main Pipework	30	28-May-23*	26-Jun-23	04-Jun-23	03-Jul-23	7	S5SDBC1620	S5SDBC1670, S5SDBC1660
S5SDBC1660	Installation of Plumbing System - Branch Pipework	40	17-Jun-23	26-Jul-23	24-Jun-23	02-Aug-23	7	S5SDBC1650	S5SDBC1670, S5SDBC1740
S5SDBC1670	Installation of Plumbing System - Sanitary Fitting	30	14-Dec-23	12-Jan-24	21-Dec-23	19-Jan-24	7	S5SDBC1650, S5SDBC1660, S5SDBC1870	S5SDBT1190
Ground Floor		357	21-Nov-22 A	12-Jan-24	10-Nov-22	19-Jan-24	7		
S5SDBC1680	Installation of FS System - Main Pipework	20	21-Nov-22 A	30-Dec-22 A	10-Nov-22	10-Nov-22		S5SDBC1020, S5SDBC1590	S5SDBC1710, S5SDBC1310
S5SDBC1690	Installation of FS System - Branch pipework, Conduit & Wiring	30	16-Dec-22 A	14-Jan-23 A	24-Oct-23	24-Oct-23		S5SDBC1600	S5SDBC1700, S5S1130
S5SDBC1700	Installation of FS System - Dropper, Sprinkler Head, Detector & Devices	20	01-Aug-23*	20-Aug-23	13-Nov-23	02-Dec-23	104	S5SDBC1690	S5SDBT1150
S5SDBC1710	Installation of MVAC System - Ceiling Mount Equipment, Main Ductwork and Pipework	30	30-Jun-23	29-Jul-23	15-Aug-23	13-Sep-23	46	S5SDBC1680, S5SDBC1630	S5SDBC1720
S5SDBC1720	Installation of MVAC System - Wall Mount Equipment, Branch Duct & Pipework	30	10-Jul-23	08-Aug-23	25-Aug-23	23-Sep-23	46	S5SDBC1710	S5SDBC1730, S5SDBC1820
S5SDBC1730	Installation of MVAC System - Air Grills & Diffuser	15	18-Sep-23	02-Oct-23	03-Nov-23	17-Nov-23	46	S5SDBC1720, S5SDBC1640	S5SDBT1180
S5SDBC1740	Installation of Plumbing System - Main Pipework	30	27-Jul-23	25-Aug-23	03-Aug-23	01-Sep-23	7	S5SDBC1660	S5SDBC1760, S5SDBC1750
S5SDBC1750	Installation of Plumbing System - Branch Pipework	40	26-Aug-23	04-Oct-23	02-Sep-23	11-Oct-23	7	S5SDBC1740	S5SDBC1760, S5SDBC1850
S5SDBC1760	Installation of Plumbing System - Sanitary Fitting	30	14-Dec-23	12-Jan-24	21-Dec-23	19-Jan-24	7	S5SDBC1740, S5SDBC1750, S5SDBC1870	S5SDBT1190
S5SDBC1770	Generator & Fuel Room Installation	90	02-Oct-23	30-Dec-23	06-Dec-22	05-Mar-23	-300	S5SDBP1670, S5SDBC1020, S5S1010, S5S1260	S5SDBT1140
S5SDBC1780	Installation of Lift	120	30-May-23*	26-Sep-23	19-Sep-23	16-Jan-24	112	S5SDBP1060, S5WS2C1190	S5SDBT1070



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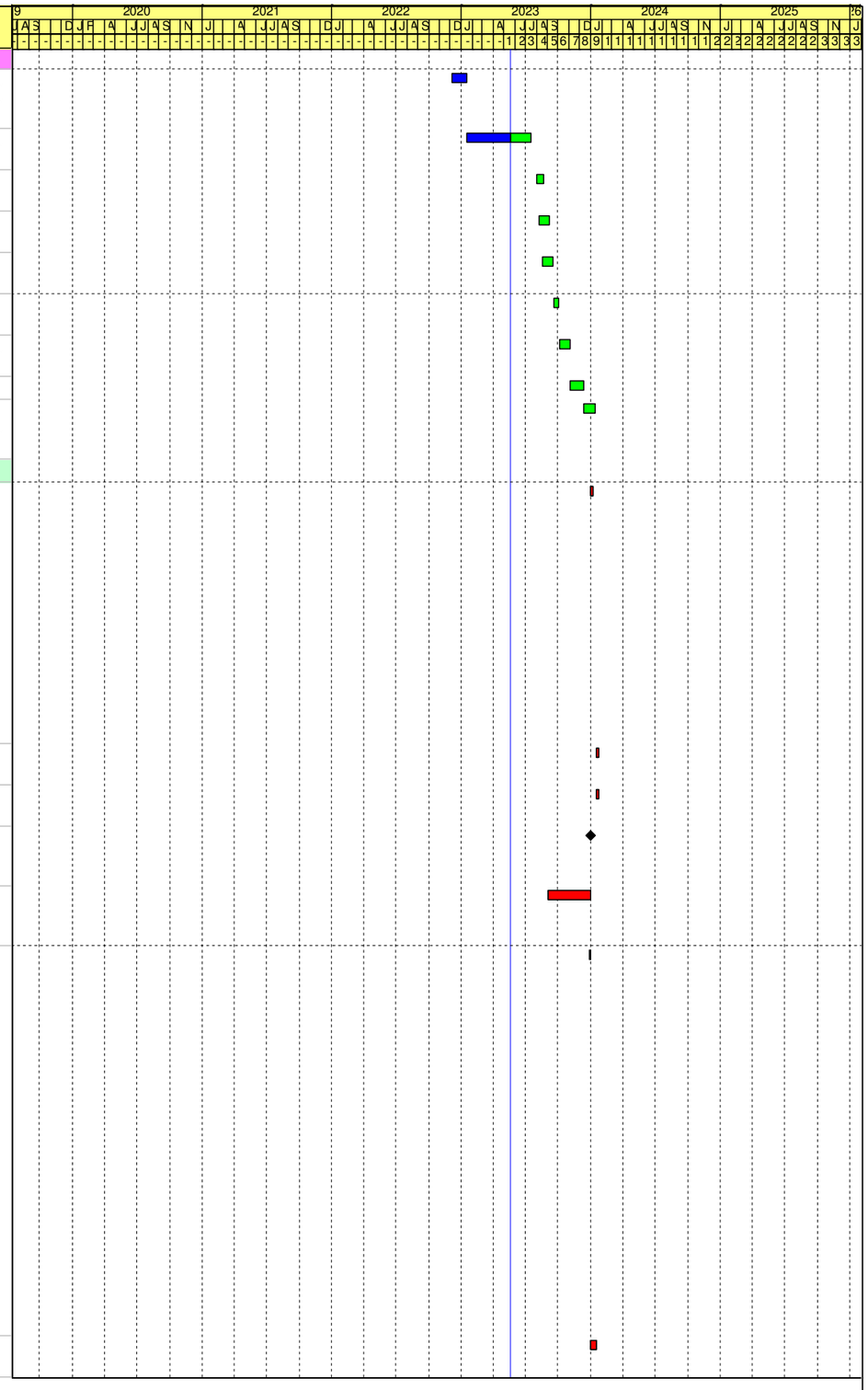
First Floor		357	06-Dec-22 A	12-Jan-24	30-Dec-22	19-Jan-24	7		
S5SDBC1790	Installation of FS System - Main Pipework	20	06-Dec-22 A	15-Jan-23 A	30-Dec-22	30-Dec-22		S5SDBC1590	S5SDBC1800, S5SDBC1540, S5SDBC1820
S5SDBC1800	Installation of FS System - Branch pipework, Conduit & Wiring	181	16-Jan-23 A	15-Jul-23	29-Aug-23	23-Oct-23	100	S5SDBC1790	S5SDBC1810, S5S1130
S5SDBC1810	Installation of FS System - Dropper, Sprinkler Head, Detector & Devices	20	01-Aug-23*	20-Aug-23	13-Nov-23	02-Dec-23	104	S5SDBC1800	S5SDBT1150
S5SDBC1820	Installation of MVAC System - Ceiling Mount Equipment, Main Ductwork and Pipework	30	09-Aug-23	07-Sep-23	24-Sep-23	23-Oct-23	46	S5SDBC1790, S5SDBC1720	S5SDBC1830
S5SDBC1830	Installation of MVAC System - Wall Mount Equipment, Branch Duct & Pipework	30	19-Aug-23	17-Sep-23	04-Oct-23	02-Nov-23	46	S5SDBC1820	S5SDBC1840
S5SDBC1840	Installation of MVAC System - Air Grills & Diffuser	15	18-Sep-23	02-Oct-23	03-Nov-23	17-Nov-23	46	S5SDBC1830	S5SDBT1180, S5SDBC1640
S5SDBC1850	Installation of Plumbing System - Main Pipework	30	05-Oct-23	03-Nov-23	12-Oct-23	10-Nov-23	7	S5SDBC1750	S5SDBC1870, S5SDBC1860
S5SDBC1860	Installation of Plumbing System - Branch Pipework	40	04-Nov-23	13-Dec-23	11-Nov-23	20-Dec-23	7	S5SDBC1850	S5SDBC1870
S5SDBC1870	Installation of Plumbing System - Sanitary Fitting	30	14-Dec-23	12-Jan-24	21-Dec-23	19-Jan-24	7	S5SDBC1850, S5SDBC1860	S5SDBT1190, S5SDBC1760, S5SDBC1670
Testing and Commissioning		214	21-Aug-23	21-Mar-24	14-Jan-23	16-Mar-24	-5		
S5SDBT1000	Dry Test for Pumps	7	02-Jan-24	08-Jan-24	28-Apr-23	04-May-23	-249	S5SDBC1250, S5SDBC1120, S5SDBC1110, S5SDBC1070, S5SDBC1130, S5SDBC1150, S5SDBC1140, S5SDBC1040, S5SDBC1290, S5SDBC1280, S5SDBC1500, S5SDBC1520, S5SDBC1030, S5SDBT1050	S5SDBT1220, S5SDBT1230
S5SDBT1010	Functional Check for Pumps (excluded FS Water Pumps and Process Water Pumps)	7	16-Jan-24	22-Jan-24	12-May-23	18-May-23	-249	S5SDBT1220, S5SDBT1050	S5T1060
S5SDBT1020	Functional Check for Pumps (FS Water Pumps and Process Water Pumps)	7	16-Jan-24	22-Jan-24	26-Dec-23	01-Jan-24	-21	S5SDBT1050, S5SDBT1230	S5S1220
S5SDBT1030	Permanent Power ready for T&C	0	02-Jan-24		19-Apr-23		-258	S5SDBT1050	S5SDBT1100, S5SDBT1230, S5SDBT1090
S5SDBT1040	Pipe Pressure Test	120	04-Sep-23	01-Jan-24	19-Jan-23	18-May-23	-228	S5SDBC1460, S5SDBC1240, S5SDBC1100	S5T1060
S5SDBT1050	Ready for Power Energisation - LV	5	28-Dec-23	01-Jan-24	15-Mar-23	19-Mar-23	-288	S5SDBC1540, S5SDBT1110, S5SDBC1350, S5SDBT1120, S5WS2C1120	S5SDBT1090, S5SDBT1070, S5SDBT1100, S5SDBT1020, S5SDBT1230, S5SDBT1080, S5SDBT1060, S5SDBT1130, S5SDBT1150, S5SDBT1180, S5SDBT1190, S5SDBT1170, S5SDBT1210, S5SDBT1200, S5SDBT1160, S5SDBT1220, S5SDBT1010, S5SDBT1000, S5SDBT1030, S5SPST1000, S5FCDT1000
S5SDBT1060	SAT for Conveyor	15	02-Jan-24	16-Jan-24	04-May-23	18-May-23	-243	S5SDBC1260, S5SDBT1050	S5T1060



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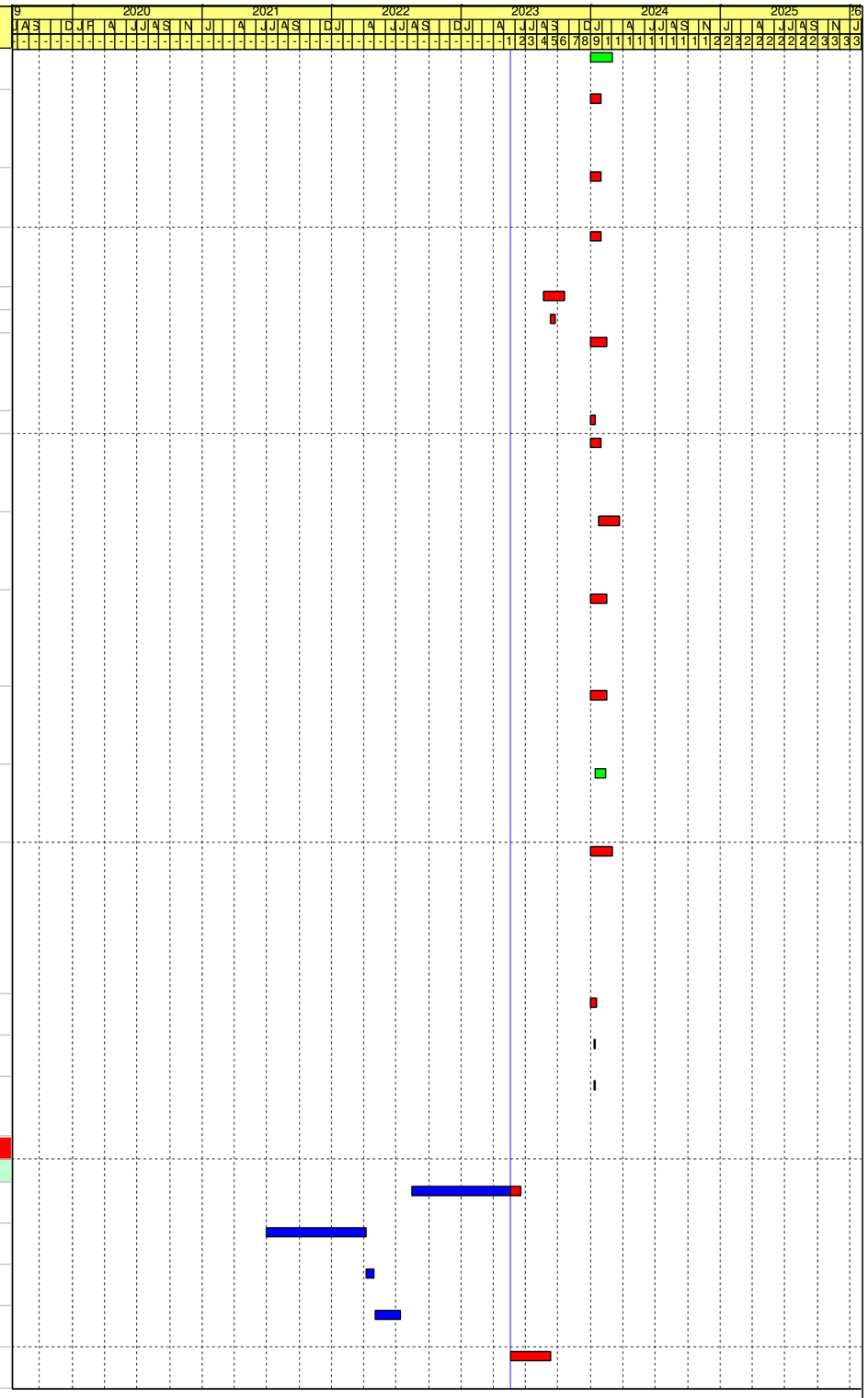
S5SDBT1070	SAT for Lift	60	02-Jan-24	01-Mar-24	17-Jan-24	16-Mar-24	15	S5SDBC1780, S5SDBT1050	S5S1090
S5SDBT1080	SAT for Polymer System	30	02-Jan-24	31-Jan-24	19-Apr-23	18-May-23	-258	S5SDBC1480, S5SDBC1270, S5SDBC1050, S5SDBT1050	S5T1060
S5SDBT1090	SAT for Sludge Dewatering Centrifuges	30	02-Jan-24	31-Jan-24	19-Apr-23	18-May-23	-258	S5SDBT1050, S5SDBC1490, S5SDBT1030	S5T1060
S5SDBT1100	SAT for Sludge Thickening Cnetrifuge	30	02-Jan-24	31-Jan-24	19-Apr-23	18-May-23	-258	S5SDBT1050, S5SDBC1510, S5SDBT1030	S5T1060
S5SDBT1110	SAT for Switchboard	60	21-Aug-23	19-Oct-23	14-Jan-23	14-Mar-23	-219	S5SDBC1370	S5SDBT1050
S5SDBT1120	SAT for Tranformer	14	10-Sep-23	23-Sep-23	01-Mar-23	14-Mar-23	-193	S5SDBC1380	S5SDBT1050
S5SDBT1130	SAT of Electrical System (BS)	45	02-Jan-24	15-Feb-24	18-Nov-23	01-Jan-24	-45	S5SDBC1330, S5SDBC1190, S5SDBC1560, S5SDBT1050	S5S1220
S5SDBT1140	SAT of Emergency Generator System	15	31-Dec-23	14-Jan-24	06-Mar-23	20-Mar-23	-300	S5SDBC1770	S5S1270
S5SDBT1150	SAT of FS System	30	02-Jan-24	31-Jan-24	03-Dec-23	01-Jan-24	-30	S5SDBC1810, S5SDBC1700, S5SDBC1610, S5SDBT1050	S5S1220
S5SDBT1160	SAT of Instrumentation	60	22-Jan-24	21-Mar-24	20-Mar-23	18-May-23	-308	S5SDBC1410, S5SDBC1220, S5SDBC1080, S5SDBT1050	S5T1060
S5SDBT1170	SAT of Mixer	45	02-Jan-24	15-Feb-24	04-Apr-23	18-May-23	-273	S5SDBC1430, S5SDBC1420, S5SDBC1440, S5SDBC1090, S5SDBT1050	S5T1060
S5SDBT1180	SAT of MVAC System	45	02-Jan-24	15-Feb-24	18-Nov-23	01-Jan-24	-45	S5SDBC1840, S5SDBC1730, S5SDBC1640, S5SDBT1050	S5S1220
S5SDBT1190	SAT of Plumbing System	30	13-Jan-24	11-Feb-24	20-Jan-24	18-Feb-24	7	S5SDBC1670, S5SDBC1760, S5SDBC1870, S5SDBT1050	S5S1160
S5SDBT1200	SAT of SCADA & PMS	60	02-Jan-24	01-Mar-24	20-Mar-23	18-May-23	-288	S5SDBC1570, S5SDBT1050, S5SDBC1170, S5SDBC1185, S5SDBC1340, S5SDBC1340, S5SDBC1310, S5SDBC1310	S5T1060
S5SDBT1210	SAT of Screen Press	15	02-Jan-24	16-Jan-24	04-May-23	18-May-23	-243	S5SDBC1470, S5SDBT1050	S5T1060
S5SDBT1220	Wet Test for Pumps (excluded FS Water Pumps and Process Water Pumps)	7	09-Jan-24	15-Jan-24	05-May-23	11-May-23	-249	S5SDBT1000, S5SDBT1050	S5SDBT1010
S5SDBT1230	Wet Test for Pumps (FS Water Pumps and Process Water Pumps)	7	09-Jan-24	15-Jan-24	19-Dec-23	25-Dec-23	-21	S5SDBT1000, S5SDBT1050, S5SDBT1030	S5SDBT1020
Combined Heat & Power Building		992	29-Jun-21 A	07-Apr-24	29-Aug-22	23-Apr-25	381		
Fabrication, FAT & Delivery of Major Plant & Materials		876	29-Jun-21 A	03-Nov-23	29-Aug-22	23-Apr-25	537		
S5CHPP1000	Fabrication & Delivery of Pre-Treatment	120	15-Aug-22 A	17-Jun-23	08-Oct-22	04-Nov-22	-225		S5CHPC1170
S5CHPP1010	Fabrication of CHP System	270	29-Jun-21 A	06-Apr-22 A	29-Aug-22	29-Aug-22		S2P1070, S2D1610	S5CHPP1020
S5CHPP1020	FAT for CHP Generators	14	07-Apr-22 A	30-Apr-22 A	29-Aug-22	29-Aug-22		S5CHPP1010	S5CHPP1030
S5CHPP1030	Delivery of CHP Generators	60	02-May-22 A	14-Jul-22 A	29-Aug-22	29-Aug-22		S5CHPP1020	S5CHPC1050
S5CHPP1040	Fabrication & Delivery of Gas Detection System	112	21-May-23*	09-Sep-23	26-Oct-22	14-Feb-23	-207	S2D2000, PL1020	S5CHPC1170, S5CHPC1280



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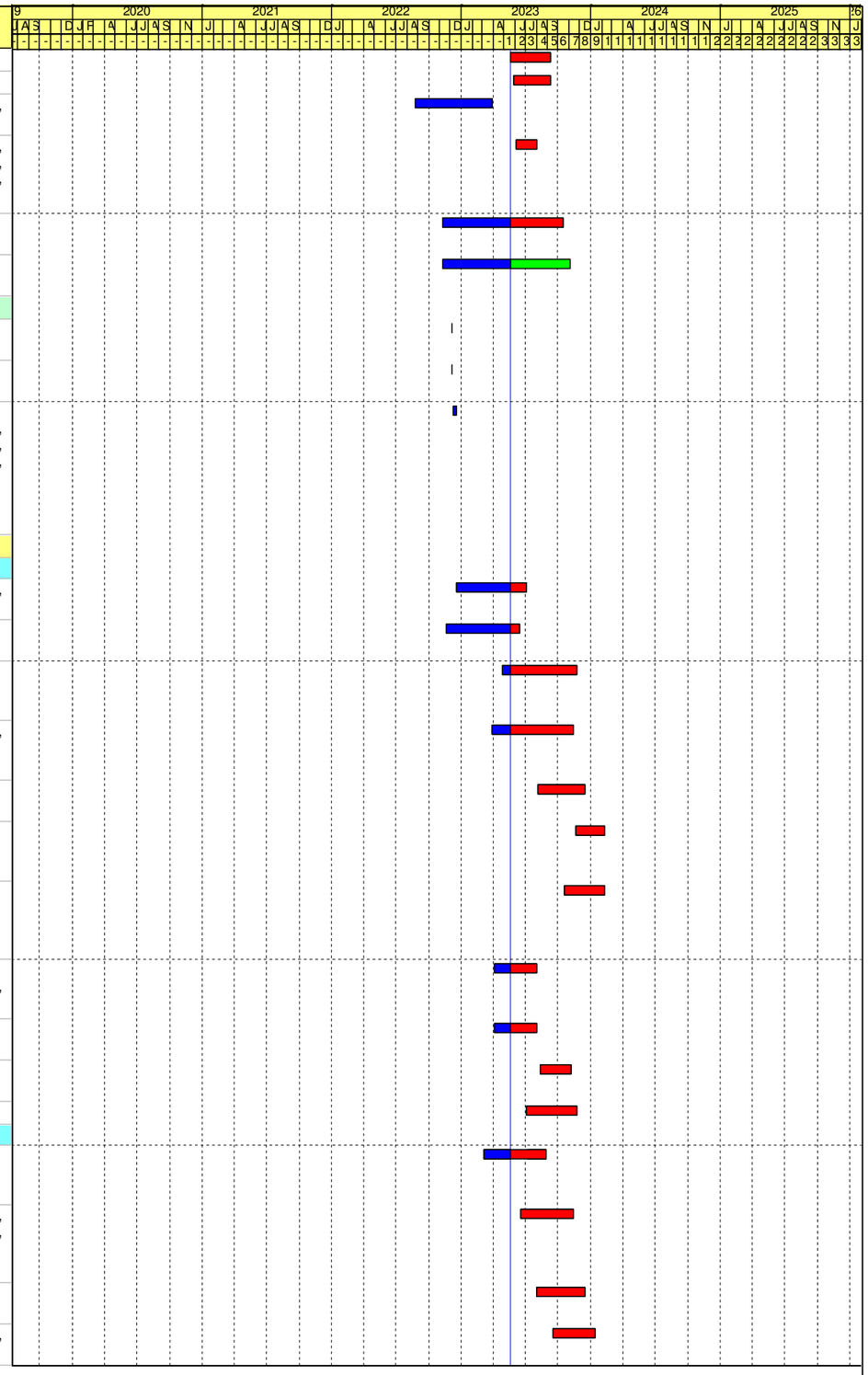
S5CHPP1050	Fabrication & Delivery of LV Switchboard for G/F	112	21-May-23*	09-Sep-23	08-Oct-22	27-Jan-23	-225		S5CHPC1145
S5CHPP1055	Fabrication & Delivery of LV Switchboard for 1/F	105	28-May-23*	09-Sep-23	11-Sep-22	24-Dec-22	-259		S5CHPC1260
S5CHPP1060	Fabrication & Delivery of Lifting Appliances	90	24-Aug-22 A	28-Mar-23 A	10-Feb-23	10-Feb-23			S5CHPC1030, S5CHPC1160
S5CHPP1070	Fabrication & Delivery of Pipeworks & Associated Valves	60	05-Jun-23*	03-Aug-23	23-Sep-22	21-Nov-22	-255	S5P1010	S5CHPC1070, S5CHPC1200, S5CHPC1270, S5CHPC1280
S5CHPP1080	Fabrication & Delivery of SCADA System for G/F	340	11-Nov-22 A	16-Oct-23	07-Dec-22	04-May-23	-165		S5CHPC1120
S5CHPP1090	Fabrication & Delivery of SCADA System for 1/F	358	11-Nov-22 A	03-Nov-23	08-Nov-24	23-Apr-25	537		
Installation		414	19-Nov-22 A	07-Feb-24	29-Aug-22	18-Feb-24	11		
S5CHPC1000	Access to CHP Building (Impacted by EWN-0314)	1	07-Dec-22 A	07-Dec-22 A	16-Dec-22	16-Dec-22			S5CHPC1020
S5CHPC1010	Access to CHP Building (Impacted by EWN-0314-1)	1	07-Dec-22 A	07-Dec-22 A	16-Dec-22	16-Dec-22			S5CHPC1020
S5CHPC1020	Mobilisation	12	08-Dec-22 A	19-Dec-22 A	16-Dec-22	16-Dec-22		AD1060, S5S1020, S5CHPC1000, S5CHPC1010	PL1550, S5CHPC1030, S5CHPC1040, S5CHPC1080, S5CHPC1130, S5CHPC1140, S5CHPC1210
E&M Installation		413	19-Nov-22 A	07-Feb-24	29-Aug-22	17-Jul-23	-205		
Ground Floor		413	19-Nov-22 A	07-Feb-24	29-Aug-22	17-Jul-23	-205		
S5CHPC1030	Installation of EOT Crane LA-04-01	199	19-Dec-22 A	05-Jul-23	27-Dec-22	10-Feb-23	-145	S5CHPC1020, S5CHPP1060	S5CHPC1050, S5CHPC1160
S5CHPC1040	Installation of Monorail LA-04-02 (total 3nos.)	209	19-Nov-22 A	15-Jun-23	16-Jan-23	10-Feb-23	-125	S5CHPC1020	S5CHPC1160
S5CHPC1050	Installation of CHP System - Mechanical Work	210	26-Apr-23 A	24-Nov-23	29-Aug-22	04-Mar-23	-265	S5CHPC1030, S5CHPP1030	S5CHPC1100, S5CHPT1030, S5CHPC1270
S5CHPC1060	Installation of Steam Boiler System - Mechanical Work	230	29-Mar-23 A	14-Nov-23	05-Nov-22	01-May-23	-197		S5CHPC1070, S5CHPC1170, S5CHPT1050
S5CHPC1070	Installation of pipework	133	04-Aug-23	14-Dec-23	22-Nov-22	03-Apr-23	-255	S5CHPC1060, S5CHPP1070	S5CHPT1000
S5CHPC1100	Installation of Electrical System	79	21-Nov-23	07-Feb-24	01-Mar-23	18-May-23	-265	S5CHPC1090, S5CHPC1050, S5P1050	S5CHPC1120, S5CHPT1050, S5CHPT1030
S5CHPC1120	Installation of SCADA System	111	20-Oct-23	07-Feb-24	29-Mar-23	17-Jul-23	-205	S5CHPC1100, S5CHPP1080	S5T1100, S5T1000, S5T1010, S5CHPC1250
S5CHPC1130	Transfomers Room Installation	120	04-Apr-23 A	01-Aug-23	16-Dec-22	26-Feb-23	-156	S5WS2P1020, S5CHPC1020	S5CHPT1020, S5CHPC1260, S5CHPT1010
S5CHPC1140	HV Switchroom Installation	120	03-Apr-23 A	31-Jul-23	16-Jan-23	28-Mar-23	-125	S5CHPC1020, S5WS2P1080	S5CHPT1020, S5CHPT1010
S5CHPC1145	LV Switchroom Installation	90	11-Aug-23	08-Nov-23	29-Dec-22	28-Mar-23	-225	S5CHPP1050	S5CHPT1010, S5CHPT1020
S5CHPC1150	Diesel Storage & Pump Room Installation	144	03-Jul-23*	23-Nov-23	28-Oct-22	20-Mar-23	-248		S5S1280
First Floor		233	07-Mar-23 A	14-Jan-24	05-Nov-22	17-Jul-23	-181		
S5CHPC1160	Installation of Monorail / Davit LA-04-03 to LA-04-10 (total 8nos.)	173	07-Mar-23 A	26-Aug-23	11-Feb-23	03-Apr-23	-145	S5CHPC1040, S5CHPP1060, S5CHPC1030	S5CHPC1170
S5CHPC1170	Installation of Biogas Pre-treatment System - Mechanical Work	150	18-Jun-23	14-Nov-23	05-Nov-22	03-Apr-23	-225	S5CHPC1060, S5CHPC1160, S5CHPP1000, S5CHPP1040	S5CHPC1200, S5CHPC1230, S5CHPT1040
S5CHPC1200	Installation of pipework	135	02-Aug-23	14-Dec-23	20-Nov-22	03-Apr-23	-255	S5CHPC1170, S5CHPP1070	S5CHPT1000
S5CHPC1230	Installation of Electrical System	120	16-Sep-23	13-Jan-24	03-Feb-23	02-Jun-23	-225	S5CHPC1170, S5P1050	S5CHPC1250, S5CHPT1040



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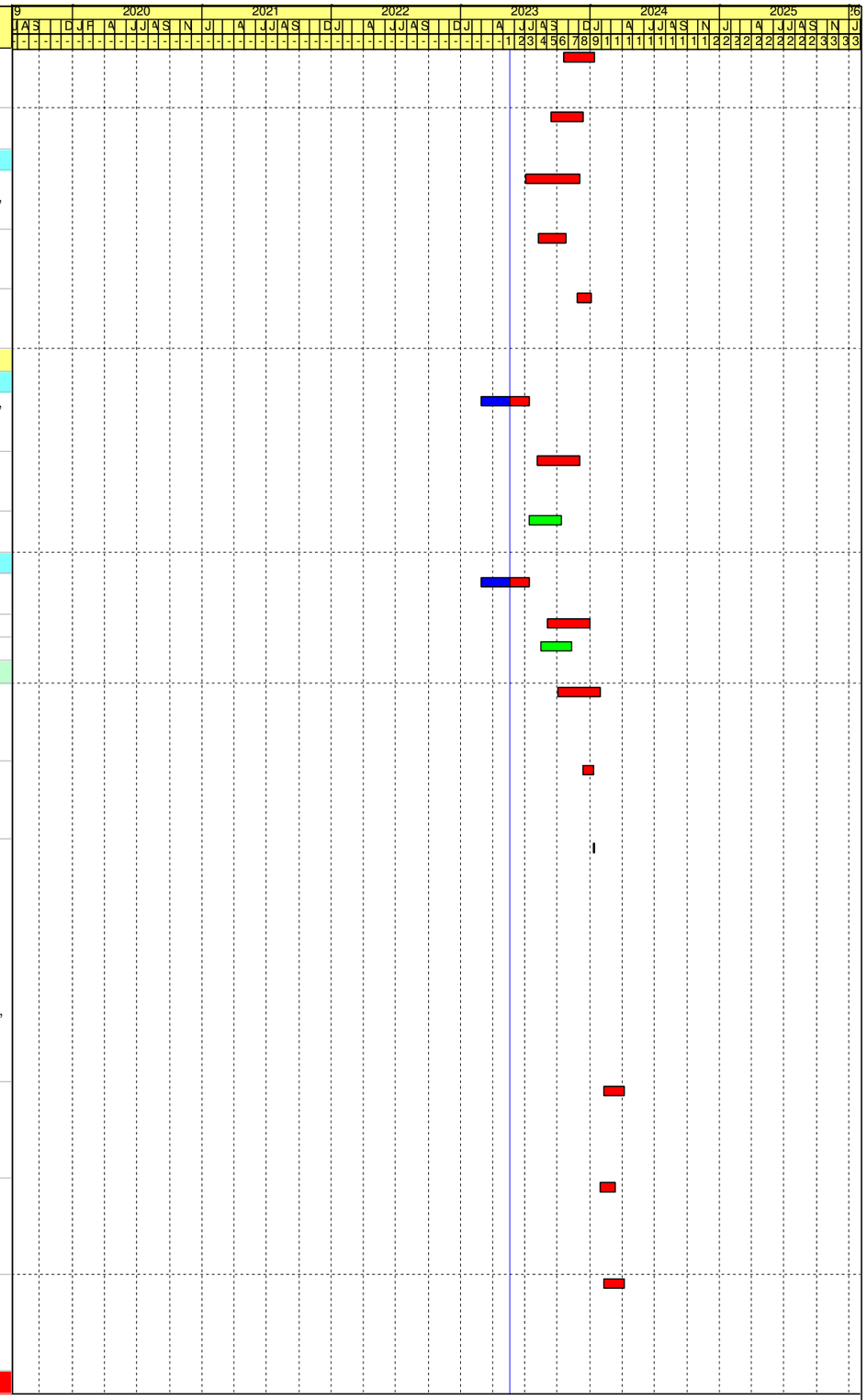
S5CHPC1250	Installation of SCADA System (THP, Digester,H2S removal System, Dou12, Biogas Holding Tank)	87	20-Oct-23	14-Jan-24	22-Apr-23	17-Jul-23	-181	S5CHPC1230, S5CHPC1120	S5T1100, S5T1000, S5T1010
S5CHPC1260	LV Switchroom Installation	92	12-Sep-23	12-Dec-23	27-Dec-22	28-Mar-23	-259	S5CHPC1130, S5CHPP1055	S5CHPT1020, S5CHPT1010
Roof		183	05-Jul-23	03-Jan-24	30-Oct-22	30-Apr-23	-248		
S5CHPC1270	Installation of CHP System - Mechanical Work	153	05-Jul-23*	04-Dec-23	30-Oct-22	31-Mar-23	-248	S5CHPC1050, S5CHPP1070	S5CHPT1030, S5CHPC1280, S5CHPC1290
S5CHPC1280	Installation of Steam Boiler System - Mechanical Work	77	09-Aug-23	24-Oct-23	14-Jan-23	31-Mar-23	-207	S5CHPC1270, S5CHPP1070, S5CHPP1040	S5CHPT1050, S5CHPC1290
S5CHPC1290	Installation of Electrical System	38	27-Nov-23	03-Jan-24	24-Mar-23	30-Apr-23	-248	S5CHPC1270, S5CHPC1280, S5P1050	S5CHPT1040, S5CHPT1020
BS Installation		286	27-Feb-23 A	31-Dec-23	05-Jan-23	18-Feb-24	49		
Ground Floor		256	27-Feb-23 A	01-Dec-23	05-Jan-23	19-Jan-24	49		
S5CHPC1080	Installation of FS System	138	27-Feb-23 A	14-Jul-23	05-Jan-23	28-Feb-23	-136	S5CHPC1020, S5CHPC1210	S5CHPC1090, S5CHPC1110, S5S1220
S5CHPC1090	Installation of MVAC System	120	04-Aug-23*	01-Dec-23	01-Mar-23	28-Jun-23	-156	S5CHPC1080	S5CHPC1100, S5S1220, S5CHPC1220
S5CHPC1110	Installation of Plumbing System	90	15-Jul-23*	12-Oct-23	22-Oct-23	19-Jan-24	99	S5CHPC1080	S5S1160, S5CHPC1240
First Floor		286	27-Feb-23 A	31-Dec-23	05-Jan-23	18-Feb-24	49		
S5CHPC1210	Installation of FS System	138	27-Feb-23 A	14-Jul-23	05-Jan-23	28-Feb-23	-136	S5CHPC1020	S5S1220, S5CHPC1080
S5CHPC1220	Installation of MVAC System	120	03-Sep-23	31-Dec-23	04-Sep-23	01-Jan-24	1	S5CHPC1090	S5S1220
S5CHPC1240	Installation of Plumbing System	90	14-Aug-23	11-Nov-23	21-Nov-23	18-Feb-24	99	S5CHPC1110	S5S1160
Testing and Commissioning		190	01-Oct-23	07-Apr-24	19-Jan-23	17-Jul-23	-265		
S5CHPT1000	Pipe Pressure Test	120	01-Oct-23	28-Jan-24	19-Jan-23	18-May-23	-255	S5CHPC1200, S5CHPC1070	S5T1100, S5CHPT1030, S5CHPT1040, S5CHPT1050
S5CHPT1010	SAT for Transformer & Switchboard	30	13-Dec-23	11-Jan-24	29-Mar-23	27-Apr-23	-259	S5CHPC1260, S5CHPC1140, S5CHPC1130, S5CHPC1145	S5CHPT1020
S5CHPT1020	Ready for Power Energisation	3	12-Jan-24	14-Jan-24	28-Apr-23	30-Apr-23	-259	S5CHPC1260, S5CHPC1130, S5CHPC1140, S5CHPT1010, S5CHPC1290, S5CHPC1145, S5WS2C1110	S5CHPT1030, S5BIOT1010, S5THPT1010, S5CHPT1040, S5CHPT1050, S5DIGT1010, S5WS2T1010, S5BIOT1000, S5THPT1000, S5H2ST1000, S5WGBT1000, S5DOUT1010, S5TCWT1000
S5CHPT1030	SAT for CHP System	60	08-Feb-24	07-Apr-24	19-May-23	17-Jul-23	-265	S5CHPT1020, S5CHPC1050, S5CHPC1100, S5CHPC1270, S5CHPT1000	S5T1100
S5CHPT1040	SAT for Pre-treatment System	45	29-Jan-24	13-Mar-24	03-Jun-23	17-Jul-23	-240	S5CHPC1170, S5CHPT1020, S5CHPC1230, S5CHPC1290, S5CHPT1000	S5T1100
S5CHPT1050	SAT for Steam Boiler System	60	08-Feb-24	07-Apr-24	19-May-23	17-Jul-23	-265	S5CHPC1060, S5CHPC1100, S5CHPT1020, S5CHPC1280, S5CHPT1000	S5T1100
Tx Rm & LV Switchroom (for UV)		401	04-Nov-22 A	07-Feb-24	21-Jul-22	31-Aug-23	-160		



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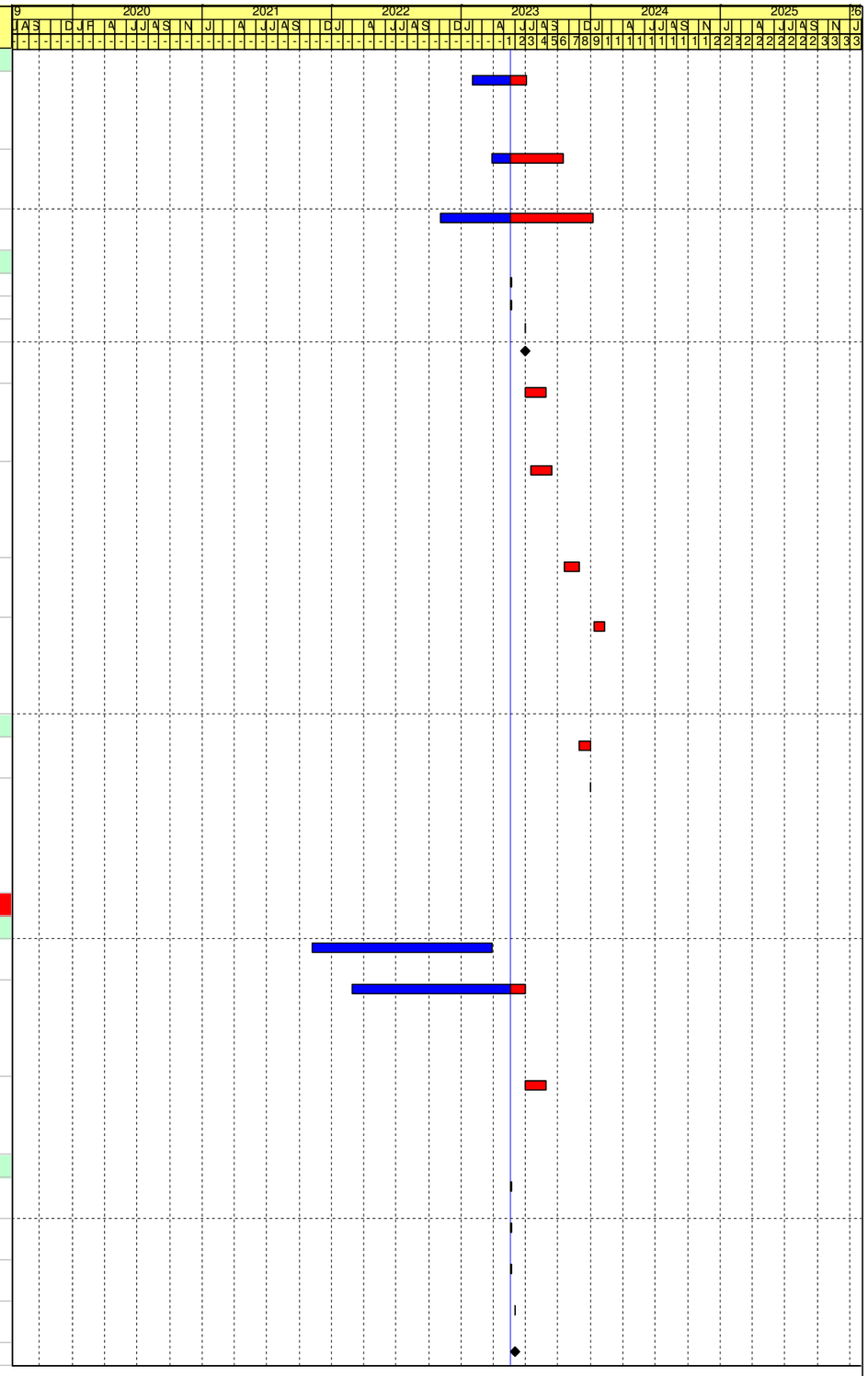
Fabrication, FAT & Delivery of Major Plant & Materials		401	04-Nov-22 A	08-Jan-24	21-Jul-22	01-Aug-23	-160		
S5TXRP1000	Fabrication & Delivery of Transfomers -UV (Tx 07 & 08)	120	03-Feb-23 A	02-Jul-23	22-Aug-22	03-Oct-22	-272	S1D1130, S1D1290, S1D1210, S2P1110	S5TXRC1030
S5TXRP1010	Fabrication & Delivery of LVSB -UV	149	28-Mar-23 A	16-Oct-23	21-Jul-22	16-Dec-22	-304	S1D1210, S1D1290, S2P1130	S5TXRC1040
S5TXRP1020	Fabrication & Delivery of SCADA System	401	04-Nov-22 A	08-Jan-24	12-Dec-22	01-Aug-23	-160	S1D1290, S2P1140	S5TXRC1050
Installation		263	21-May-23	07-Feb-24	17-Oct-22	31-Aug-23	-160		
S5TXRC1000	Access to TX Rm & LV Switchroom (Impacted by EWN-0314)	1	21-May-23*	21-May-23	27-Jan-23	27-Jan-23	-114		S5TXRC1020
S5TXRC1010	Access to TX Rm & LV Switchroom (Impacted by EWN-0314-1)	1	21-May-23*	21-May-23	27-Jan-23	27-Jan-23	-114		S5TXRC1020
S5TXRC1012	Access to TX Rm & LV Switchroom (Impacted by EWN-0314-2)	1	30-Jun-23*	30-Jun-23	17-Oct-22	17-Oct-22	-256		S5TXRC1015
S5TXRC1015	Assume actual access Date	0	01-Jul-23		18-Oct-22		-256	S5TXRC1012	S5TXRC1020, S5TXRC1030
S5TXRC1020	BS Fitting Intallation (at Tx Rm & LV Switchroom)	60	01-Jul-23	29-Aug-23	28-Jan-23	28-Mar-23	-154	AD1100, S5TXRC1000, S5TXRC1010, S5TXRC1015	S5TXRT1010
S5TXRC1030	E&M Installation of Transfomers in Tx Rm	60	17-Jul-23	14-Sep-23	18-Oct-22	16-Dec-22	-272	S4C1010, S5TXRP1000, S1D1310, S5P1050, S5TXRC1015	S5TXRC1040, S5TXRT1000
S5TXRC1040	E&M Installation of LVSB	45	17-Oct-23	30-Nov-23	17-Dec-22	30-Jan-23	-304	S5TXRC1030, S5TXRP1010, S5P1050	S5TXRT1010, S5TXRT1000, S5EXAC1080
S5TXRC1050	Installation of SCADA System (UV, DOU11, PSW)	30	09-Jan-24	07-Feb-24	02-Aug-23	31-Aug-23	-160	S4C1040, S5TXRP1020, S4C1070, S4C1080	S5T1200, S5T1120, S5T1000, S5T1010, PL1210
Testing and Commissioning		33	01-Dec-23	02-Jan-24	27-Feb-23	31-Mar-23	-277		
S5TXRT1000	SAT for Transformer & Switchboard	30	01-Dec-23	30-Dec-23	27-Feb-23	28-Mar-23	-277	S5TXRC1040, S5TXRC1030	S5TXRT1010
S5TXRT1010	Ready for Power Energisation	3	31-Dec-23	02-Jan-24	29-Mar-23	31-Mar-23	-277	S5TXRC1020, S5TXRC1040, S5WS2C1060, S5WS2C1040, S5WS2C1130, S5TXRT1000	SC51110, S5SHPT1000, S5DOUT1000, S5PSWT1000
Sludge Digesters & Distribution Chamber		835	06-Nov-21 A	04-Mar-24	25-Jul-22	23-Apr-25	415		
Fabrication, FAT & Delivery of Major Plant & Materials		692	06-Nov-21 A	29-Aug-23	10-Aug-22	16-Dec-22	-256		
S5DIGP1000	Fabrication & Delivery of Sludge Digestion System	180	06-Nov-21 A	29-Mar-23 A	10-Aug-22	10-Aug-22		S2P1020, S2D1450	S5DIGC1210
S5DIGP1010	Fabrication & Delivery of FRP Walkway / Cover	480	01-Mar-22 A	30-Jun-23	06-Nov-22	16-Dec-22	-196	S2P1020	S5DIGC1040, S5DIGC1050, S5DIGC1060, S5DIGC1070, S5DIGC1080
S5DIGP1020	Fabrication & Delivery of Pipeworks & Associated Valves	60	01-Jul-23	29-Aug-23	25-Aug-22	23-Oct-22	-310	S5P1010	S5DIGC1110, S5DIGC1150, S5DIGC1190, S5DIGC1250
Installation		266	21-May-23	10-Feb-24	25-Jul-22	23-Apr-25	438		
S5DIGC1000	Access to Sludge Digesters & Distribution Chamber (Impacted by EWN-0314)	1	21-May-23*	21-May-23	25-Jul-22	25-Jul-22	-300		S5DIGC1030
S5DIGC1010	Access to Sludge Digester No.1 & Distribution Chamber (Impacted by EWN-0314-1)	1	21-May-23*	21-May-23	25-Jul-22	25-Jul-22	-300		S5DIGC1030
S5DIGC1020	Access to Sludge Digesters - Remaining (Impacted by EWN-0314-1)	1	21-May-23*	21-May-23	09-Apr-25	09-Apr-25	689		S5DIGC1050
S5DIGC1022	Access to Sludge Digesters - Remaining (Impacted by EWN-0314-2)	1	31-May-23*	31-May-23	25-Jul-22	25-Jul-22	-310		S5DIGC1025
S5DIGC1025	Assume Actual Access Date	0	01-Jun-23		26-Jul-22		-310	S5DIGC1022	S5DIGC1030



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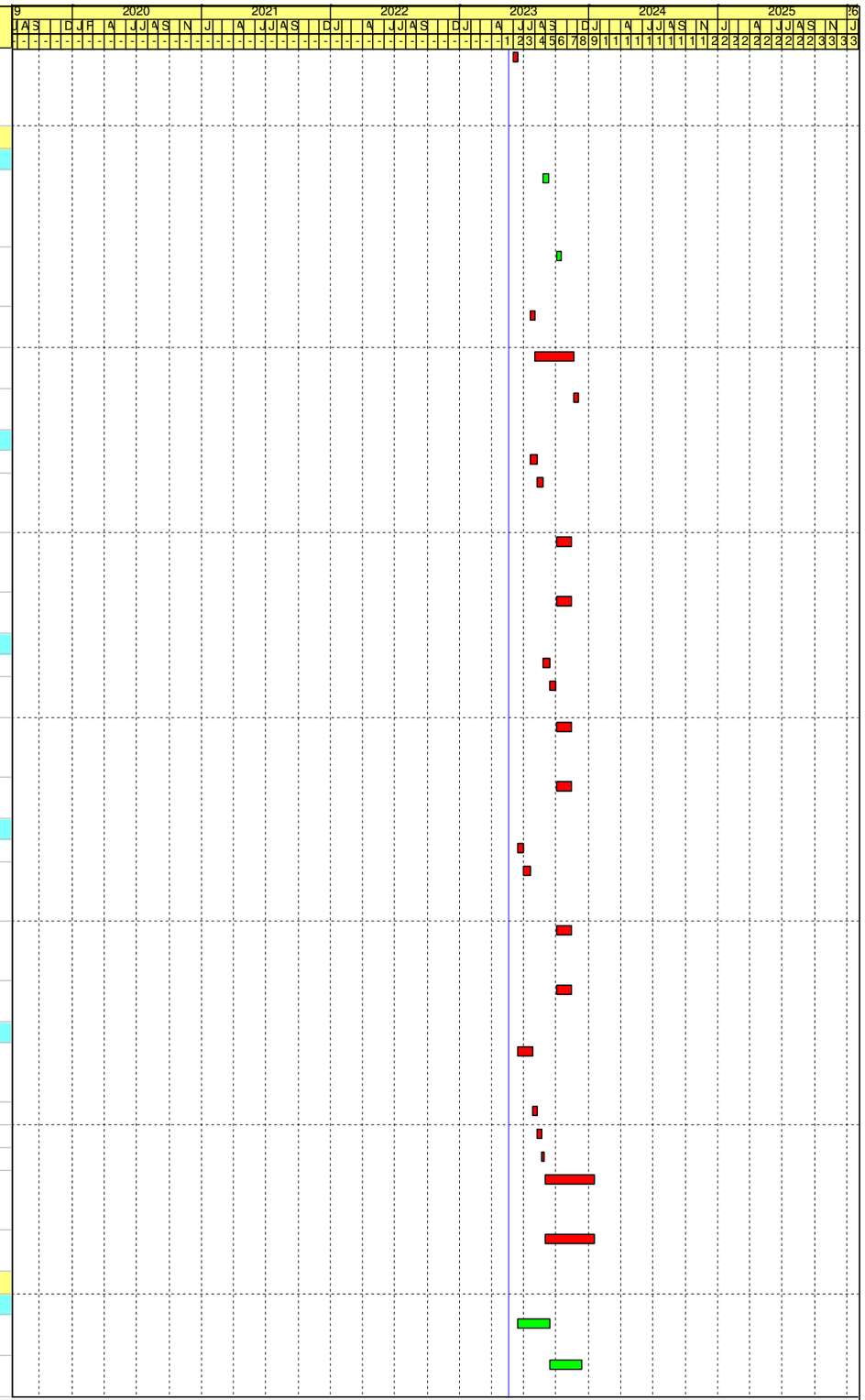
Remaining Work
Critical Activity
Milestone
Actual Progress

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 May 2023

Date	Revision	Checked	Approved
31-Jan-23	Rev.30	IM/LT	KM
28-Feb-23	Rev.31	IM/LT	KM
31-Mar-23	Rev.32	IM/LT	KM
30-Apr-23	Rev.33	IM/LT	KM
31-May-23	Rev.34	IM/LT	KM

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S5DIGC1030	Mobilisation	15	01-Jun-23	15-Jun-23	26-Jul-22	09-Aug-22	-310	AD1080, S5DIGC1000, S5DIGC1010, S5DIGC1025	S5DIGC1210, S5DIGC1040
E&M Installation		217	14-Jun-23	16-Jan-24	10-Aug-22	23-Apr-25	463		
FRP Walkway / Cover Installation		138	20-Jul-23	04-Dec-23	17-Dec-22	23-Apr-25	506		
S5DIGC1040	Installation of Working Platform for Digester 1 (Roof)	14	26-Aug-23	08-Sep-23	10-Dec-23	23-Dec-23	106	AD1080, S5DIGP1010, S5DIGC1030, S5DIGC1100	SC51110, PL1210, PL1310
S5DIGC1050	Installation of Working Platform for Digester 3 (Roof)	14	01-Oct-23	14-Oct-23	10-Apr-25	23-Apr-25	557	S5DIGC1020, S5DIGC1140, S5DIGP1010	
S5DIGC1060	Installation of Working Platform for Digester 4 (Roof)	14	20-Jul-23	02-Aug-23	17-Dec-22	30-Dec-22	-215	S5DIGC1180, S5DIGP1010	S5DIGC1070
S5DIGC1070	Installation of Working Platform for Distribution Chamber & Overflow Chamber	110	03-Aug-23	20-Nov-23	31-Dec-22	19-Apr-23	-215	S5DIGC1060, S5DIGP1010	S5DIGC1080
S5DIGC1080	Installation of Working Platform for Digester 2 (Roof)	14	21-Nov-23	04-Dec-23	20-Apr-23	03-May-23	-215	S5DIGC1070, S5DIGP1010	S5DIGT1020
Sludge Digester 1		118	20-Jul-23	14-Nov-23	03-Jan-23	30-Apr-23	-198		
S5DIGC1090	Installation of Sludge Mixer (4 nos.)	19	20-Jul-23	07-Aug-23	03-Jan-23	21-Jan-23	-198	S5DIGC1180	S5DIGC1100
S5DIGC1100	Installation of Motor with Belt adjustment	18	08-Aug-23	25-Aug-23	22-Jan-23	08-Feb-23	-198	S5DIGC1090	S5DIGC1110, S5DIGC1130, S5DIGC1040
S5DIGC1110	Installation of Pipework, Valve, Inpsection Window, Telescopic Valve & Instruments	45	01-Oct-23	14-Nov-23	17-Mar-23	30-Apr-23	-198	S5DIGC1100, S5DIGP1020, S5DIGC1150	S5DIGC1120
S5DIGC1120	Installation of Electrical System	45	01-Oct-23	14-Nov-23	17-Mar-23	30-Apr-23	-198	S5DIGC1110, S5P1050	S5DIGT1010
Sludge Digester 3		81	26-Aug-23	14-Nov-23	09-Feb-23	30-Apr-23	-198		
S5DIGC1130	Installation of Sludge Mixer (4 nos.)	18	26-Aug-23	12-Sep-23	09-Feb-23	26-Feb-23	-198	S5DIGC1100	S5DIGC1140
S5DIGC1140	Installation of Motor with Belt adjustment	18	13-Sep-23	30-Sep-23	27-Feb-23	16-Mar-23	-198	S5DIGC1130	S5DIGC1150, S5DIGC1050
S5DIGC1150	Installation of Pipework, Valve, Inpsection Window, Telescopic Valve & Instruments	45	01-Oct-23	14-Nov-23	17-Mar-23	30-Apr-23	-198	S5DIGC1140, S5DIGP1020	S5DIGC1160, S5DIGC1110, S5DIGC1190
S5DIGC1160	Installation of Electrical System	45	01-Oct-23	14-Nov-23	17-Mar-23	30-Apr-23	-198	S5DIGC1150, S5P1050	S5DIGT1010
Sludge Digester 4		154	14-Jun-23	14-Nov-23	11-Nov-22	30-Apr-23	-198		
S5DIGC1170	Installation of Sludge Mixer (4 nos.)	18	14-Jun-23*	01-Jul-23	11-Nov-22	28-Nov-22	-215		S5DIGC1180
S5DIGC1180	Installation of Motor with Belt adjustment	18	02-Jul-23	19-Jul-23	29-Nov-22	16-Dec-22	-215	S5DIGC1170	S5DIGC1190, S5DIGC1090, S5DIGC1060
S5DIGC1190	Installation of Pipework, Valve, Inpsection Window, Telescopic Valve & Instruments	45	01-Oct-23	14-Nov-23	17-Mar-23	30-Apr-23	-198	S5DIGC1180, S5DIGP1020, S5DIGC1150	S5DIGC1200
S5DIGC1200	Installation of Electrical System	45	01-Oct-23	14-Nov-23	17-Mar-23	30-Apr-23	-198	S5DIGC1190, S5P1050	S5DIGT1010
Distribution Chamber		215	16-Jun-23	16-Jan-24	10-Aug-22	30-Apr-23	-261		
S5DIGC1210	Installation of Sludge Recirculation Pumps (5 nos.)	40	16-Jun-23	25-Jul-23	10-Aug-22	18-Sep-22	-310	AD1080, S5DIGP1000, S5DIGC1030	S5DIGC1220, S5DIGC1280
S5DIGC1220	Installation of Heat Exchanger (3 nos.)	14	26-Jul-23	08-Aug-23	19-Sep-22	02-Oct-22	-310	S5DIGC1210	S5DIGC1230
S5DIGC1230	Installation of Sludge Transfer Pump (2 nos.)	14	09-Aug-23	22-Aug-23	03-Oct-22	16-Oct-22	-310	S5DIGC1220	S5DIGC1240
S5DIGC1240	Installation of Vertical Mixer at Sludge Buffer Tank (2 nos.)	7	23-Aug-23	29-Aug-23	17-Oct-22	23-Oct-22	-310	S5DIGC1230	S5DIGC1250
S5DIGC1250	Installation of Pipework, Valve & Instruments	140	30-Aug-23	16-Jan-24	24-Oct-22	12-Mar-23	-310	S5DIGC1240, S5DIGP1020	S5DIGC1260, S5DIGT1000, S5H2SC1020
S5DIGC1260	Installation of Electrical System	140	30-Aug-23	16-Jan-24	12-Dec-22	30-Apr-23	-261	S5DIGC1250, S5P1050	S5DIGT1010
BS Installation		240	16-Jun-23	10-Feb-24	24-Jun-23	18-Feb-24	8		
Distribution Chamber		240	16-Jun-23	10-Feb-24	24-Jun-23	18-Feb-24	8		
S5DIGC1280	Installation of FS System	90	16-Jun-23	13-Sep-23	24-Jun-23	21-Sep-23	8	S5DIGC1210	S5DIGC1290, S5S1220
S5DIGC1290	Installation of MVAC System	90	14-Sep-23	12-Dec-23	22-Sep-23	20-Dec-23	8	S5DIGC1280	S5DIGC1300, S5S1220



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File Name: DE/2018/03 RP R34
Layout: DE1803 RP (May 2023) - WBS

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 May 2023

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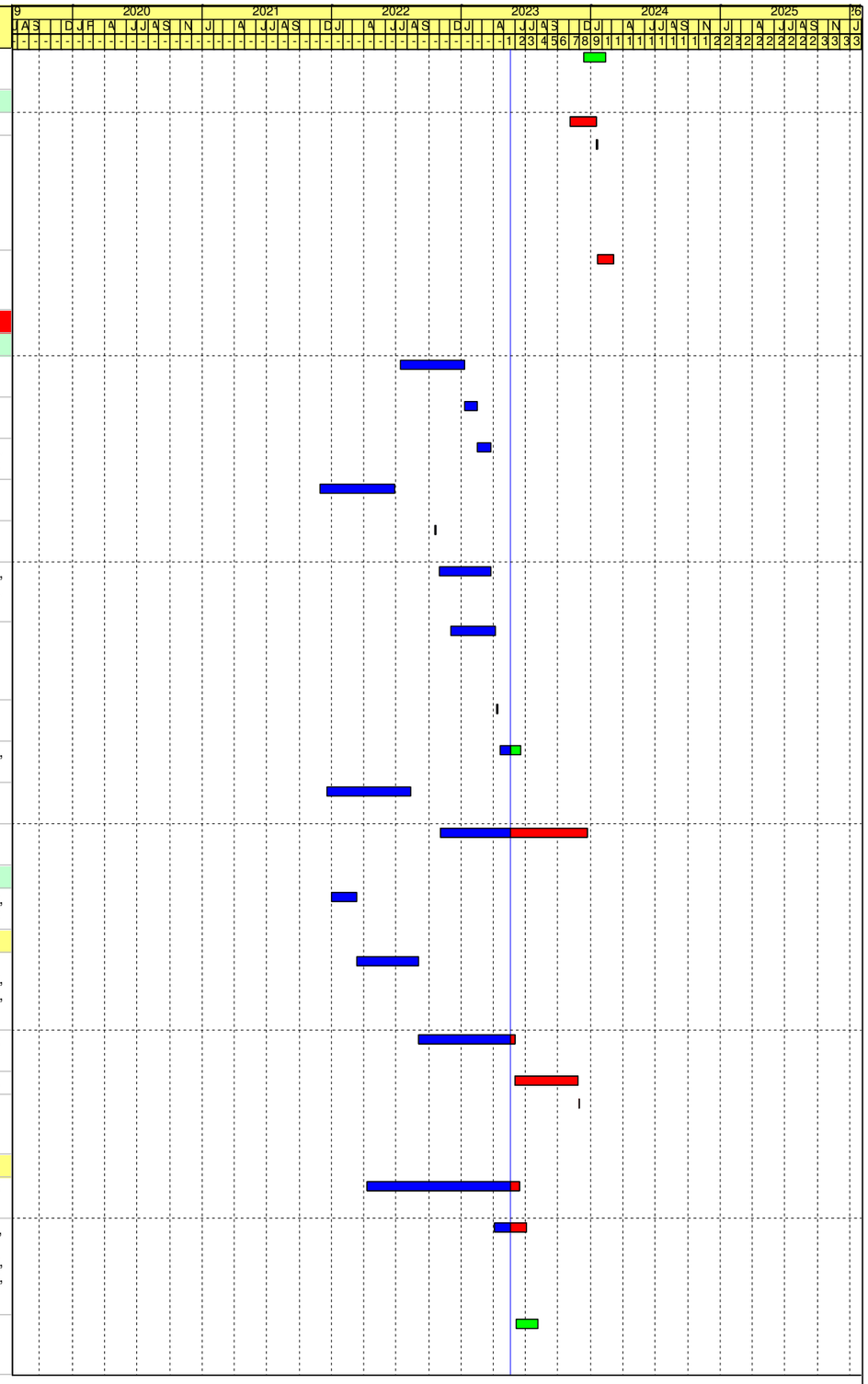
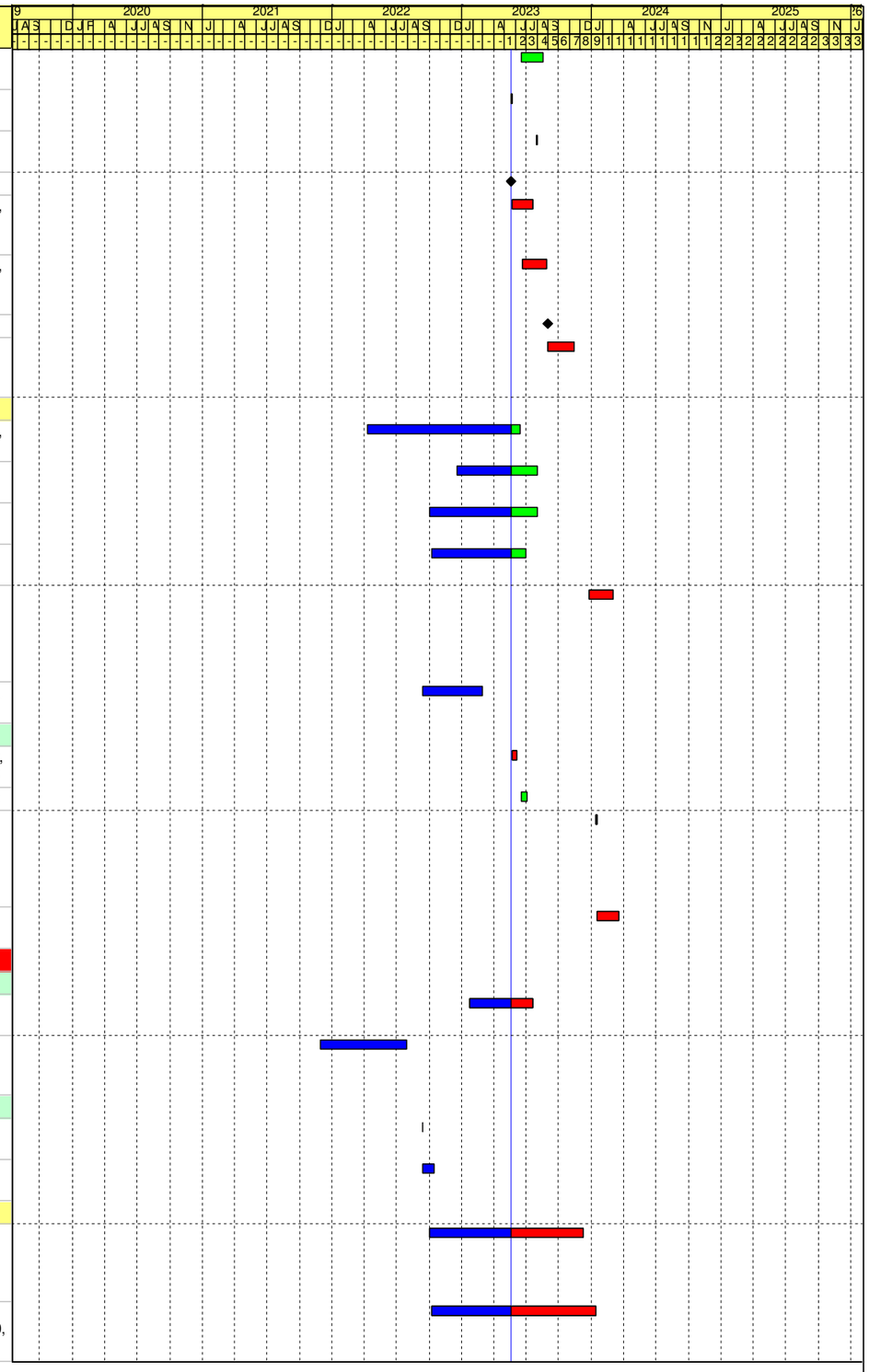
30-Apr-23	Rev.33	IM/LT	KM
31-May-23	Rev.34	IM/LT	KM

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S5DIGC1300	Installation of Plumbing System	60	13-Dec-23	10-Feb-24	21-Dec-23	18-Feb-24	8	S5S1120, S5DIGC1290	S5S1160
Testing and Commissioning		123	03-Nov-23	04-Mar-24	18-Feb-23	17-Jun-23	-261		
S5DIGT1000	Pipe Pressure Test	75	03-Nov-23	16-Jan-24	18-Feb-23	03-May-23	-258	S5DIGC1250	S5DIGT1020
S5DIGT1010	Ready for Power Energisation	3	17-Jan-24	19-Jan-24	01-May-23	03-May-23	-261	S5DIGC1260, S5DIGC1200, S5DIGC1160, S5DIGC1120, S5EXAC1030, S5CHPT1020	S5DIGT1020
S5DIGT1020	SAT for Sludge Digestion System	45	20-Jan-24	04-Mar-24	04-May-23	17-Jun-23	-261	S5DIGC1080, S5DIGT1010, S5DIGT1000	S5T1080
Workshop No. 2		787	29-Nov-21 A	17-Mar-24	21-Sep-22	23-Apr-25	402		
Fabrication, FAT & Delivery of Major Plant & Materials		760	29-Nov-21 A	23-Dec-23	29-Nov-22	14-Nov-23	-39		
S5WS2P1000	Fabrication of 11kV to 380V Transfomers	123	14-Jul-22 A	09-Jan-23 A	16-Dec-22	16-Dec-22		S2P1110	S5WS2P1010
S5WS2P1010	FAT for 11kV to 380V Transfomers	37	10-Jan-23 A	15-Feb-23 A	16-Dec-22	16-Dec-22		S5WS2P1000	S5WS2P1020
S5WS2P1020	Delivery of 11kV to 380V Transfomers	28	16-Feb-23 A	25-Mar-23 A	16-Dec-22	16-Dec-22		S5WS2P1010	S5CHPC1130, S5WS2C1070
S5WS2P1060	Fabrication of 11 kV Switchboard	210	29-Nov-21 A	26-Jun-22 A	29-Nov-22	29-Nov-22		S2P1120	S5WS2P1070
S5WS2P1070	FAT for 11 kV Switchboard	14	18-Oct-22 A	21-Oct-22 A	29-Nov-22	29-Nov-22		S5WS2P1060	S5WS2P1080
S5WS2P1080	Delivery of 11kV Switchboard	90	01-Nov-22 A	25-Mar-23 A	29-Nov-22	29-Nov-22		S5WS2P1070	S5WS2C1060, S5CHPC1140, S5WS2T1000
S5WS2P1090	Fabrication of LV Switchboard	120	04-Dec-22 A	07-Apr-23 A	17-Oct-23	17-Oct-23		S2P1130, S2D1250, S2D1190, S2D1270	S5WS2P1100
S5WS2P1100	FAT for LV Switchboard	14	10-Apr-23 A	14-Apr-23 A	17-Oct-23	17-Oct-23		S5WS2P1090	S5WS2P1110
S5WS2P1110	Delivery of LV Switchboard	60	20-Apr-23 A	18-Jun-23	17-Oct-23	14-Nov-23	149	S5WS2P1100	S5WS2C1080, S5WS2T1005
S5WS2P1120	Fabrication & Delivery of Lift	210	18-Dec-21 A	10-Aug-22 A	19-Sep-23	19-Sep-23			S5WS2C1190
S5WS2P1130	Fabrication, FAT & Delivery of SCADA System	415	04-Nov-22 A	23-Dec-23	12-Feb-23	16-Sep-23	-98		S5WS2C1180
Installation		771	31-Dec-21 A	01-Mar-24	21-Sep-22	23-Apr-25	418		
S5WS2C1000	Mobilisation	14	31-Dec-21 A	12-Mar-22 A	21-Sep-22	21-Sep-22		AD1120, S5S1030	S5WS2C1010, S5WS2C1050
CLP Substation		618	14-Mar-22 A	28-Nov-23	21-Sep-22	31-Mar-23	-242		
S5WS2C1010	BS Fitting Installation (at CLP Sub-station in Workshop No.2)	60	14-Mar-22 A	02-Sep-22 A	21-Sep-22	21-Sep-22		S5WS2C1000, AD1120	KD1060, S5WS2C1020, S5WS2C1050, KD1060-1
S5WS2C1020	Inspections, Rectification & H/O to CLP	270	03-Sep-22 A	31-May-23	21-Sep-22	01-Oct-22	-242	S5WS2C1010	S5WS2C1030
S5WS2C1030	E&M Installation of HV Transformer (By CLP)	180	01-Jun-23	27-Nov-23	02-Oct-22	30-Mar-23	-242	S5WS2C1020	S5WS2C1040
S5WS2C1040	Energisation (By CLP)	1	28-Nov-23	28-Nov-23	31-Mar-23	31-Mar-23	-242	S5WS2C1030, S5WS2C1060, S5S1000	S5TXRT1010
HV Switchroom / Transformer Room / LV Switchroom		571	11-Apr-22 A	14-Nov-23	04-Oct-22	23-Apr-25	526		
S5WS2C1050	BS Fitting Intallation	430	11-Apr-22 A	14-Jun-23	17-Jan-23	10-Feb-23	-124	S5WS2C1000, S5WS2C1010	S5WS2C1060
S5WS2C1060	HV Switchroom Installation	90	06-Apr-23 A	05-Jul-23	29-Nov-22	12-Jan-23	-174	S5WS2C1050, S5WS2P1080, S5WS2T1000	S5WS2C1130, S5TXRT1010, S5WS2C1040, S5WS2C1070, S5WS2T1010
S5WS2C1070	TX Room Installation	60	06-Jun-23*	04-Aug-23	15-Nov-23	13-Jan-24	162	S5WS2C1060, S5WS2P1020, S5WS2T1000	S5WS2T1010



Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S5WS2C1080	LV Switchroom Installation	60	19-Jun-23	17-Aug-23	15-Nov-23	13-Jan-24	149	S5WS2P1110, S5WS2T1005	S5WS2T1010
S5WS2C1090	Access to Other Peripheral Systems (Impacted by EWN-0314)	1	21-May-23*	21-May-23	04-Oct-22	04-Oct-22	-229		S5WS2C1110
S5WS2C1100	Access to Other Peripheral Systems (Impacted by EWN-0314-1)	1	31-Jul-23*	31-Jul-23	23-Apr-25	23-Apr-25	632		
S5WS2C1105	Access to Stage 1 External Area	0	21-May-23*		05-Oct-22		-228		S5WS2C1110
S5WS2C1110	HV Cables Laying between Workshop No.2 & Tx Rm for CHP Bldg and Termination	60	22-May-23	20-Jul-23	05-Oct-22	03-Dec-22	-229	S5WS2C1090, S5WS2C1105	S5WS2C1120, PL1210, S5CHPT1020
S5WS2C1120	HV Cables Laying between Workshop No.2 & Tx Rm for Sludge Dewatering Bldg and Termination	70	21-Jun-23	29-Aug-23	04-Nov-22	12-Jan-23	-229	S5WS2C1110	S5WS2C1130, PL1210, S5SDBT1050
S5WS2C1125	Access to Stage 3 External Area	0	01-Sep-23*		13-Jan-23		-231		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	13-Jan-23	28-Mar-23	-231	S5WS2C1060, S5WS2C1120, S5WS2C1125	S5TXRT1010, PL1210
Building Services		528	11-Apr-22 A	01-Mar-24	07-Jul-23	18-Feb-24	-12		
S5WS2C1140	Installation of FS System	430	11-Apr-22 A	15-Jun-23	28-Sep-23	23-Oct-23	130	S5S1120	S5WS2C1150, S5S1130
S5WS2C1150	Installation of MVAC System	225	19-Dec-22 A	31-Jul-23	22-Oct-23	01-Jan-24	154	S5WS2C1140	S5S1220
S5WS2C1160	Installation of Electrical System	300	03-Oct-22 A	31-Jul-23	07-Jul-23	16-Sep-23	47		S5WS2C1180
S5WS2C1170	Installation of Plumbing System	260	10-Oct-22 A	29-Jun-23	10-Jan-24	18-Feb-24	234	S5S1120	S5S1160
S5WS2C1180	Installation of SCADA System	69	24-Dec-23	01-Mar-24	17-Sep-23	24-Nov-23	-98	S5WS2C1160, S5WS2P1130	S5T1200, S5T1000, S5T1010, S5S0990, PL1210
S5WS2C1190	Installation of Lift	120	13-Sep-22 A	28-Feb-23 A	19-Sep-23	19-Sep-23		S5WS2P1120	S5WS2T1020, S5SDBC1780
Testing and Commissioning		301	22-May-23	17-Mar-24	29-Nov-22	16-Mar-24	-1		
S5WS2T1000	SAT for Transformer & Switchboard	14	22-May-23*	04-Jun-23	29-Nov-22	12-Dec-22	-174	S5WS2P1080	S5WS2C1060, S5WS2C1070
S5WS2T1005	SAT for LV Switchboard	14	19-Jun-23	02-Jul-23	15-Nov-23	28-Nov-23	149	S5WS2P1110	S5WS2C1080
S5WS2T1010	Ready for Power Energisation	3	15-Jan-24	17-Jan-24	14-Jan-24	16-Jan-24	-1	S5EXAC1030, S5WS2C1060, S5WS2C1080, S5WS2C1070, S5CHPT1020	S5WS2T1020
S5WS2T1020	SAT for Lift	60	18-Jan-24	17-Mar-24	17-Jan-24	16-Mar-24	-1	S5WS2C1190, S5WS2T1010	S5S1090
Biogas Storage		854	29-Nov-21 A	22-Apr-24	22-Sep-22	27-Oct-23	-178		
Fabrication, FAT & Delivery of Major Plant & Materials		608	29-Nov-21 A	20-Jul-23	22-Sep-22	02-Jul-23	-18		
S5BIOP1000	Fabrication & Delivery of Biogas Booster and Transfer Pumps	180	22-Jan-23 A	20-Jul-23	03-May-23	02-Jul-23	-18	S5P1000	S5BIOC1040
S5BIOP1010	Fabrication & Delivery of Biogas Storage	180	29-Nov-21 A	30-Jul-22 A	22-Sep-22	22-Sep-22		S2P1050, S2D1530	S5BIOC1020, S5BIOC1030, S5BIOC1040
E&M Installation		580	13-Sep-22 A	22-Apr-24	22-Sep-22	27-Oct-23	-178		
S5BIOC1000	Access to Biogas Holding Tanks (Impacted by EWN-0314-1)	1	13-Sep-22 A	13-Sep-22 A	22-Sep-22	22-Sep-22			S5BIOC1010
S5BIOC1010	Mobilisation	30	13-Sep-22 A	14-Oct-22 A	22-Sep-22	22-Sep-22		AD1100, S5BIOC1000	S5BIOC1020
Mechanical Installation		478	03-Oct-22 A	29-Feb-24	22-Sep-22	02-Jul-23	-242		
S5BIOC1020	Mechanical Installation of Biogas Storage Tank 3	433	03-Oct-22 A	09-Dec-23	22-Sep-22	11-Apr-23	-242	AD1100, S5BIOP1010, S5S1060, S5BIOC1010	S5BIOC1030, S5BIOT1000, S5BIOC1060
S5BIOC1030	Mechanical Installation of Biogas Storage Tank 2	463	10-Oct-22 A	15-Jan-24	22-Sep-22	18-May-23	-242	AD1100, S5BIOC1020, S5BIOP1010	S5BIOC1040, S5WGBC1020, S5BIOT1000



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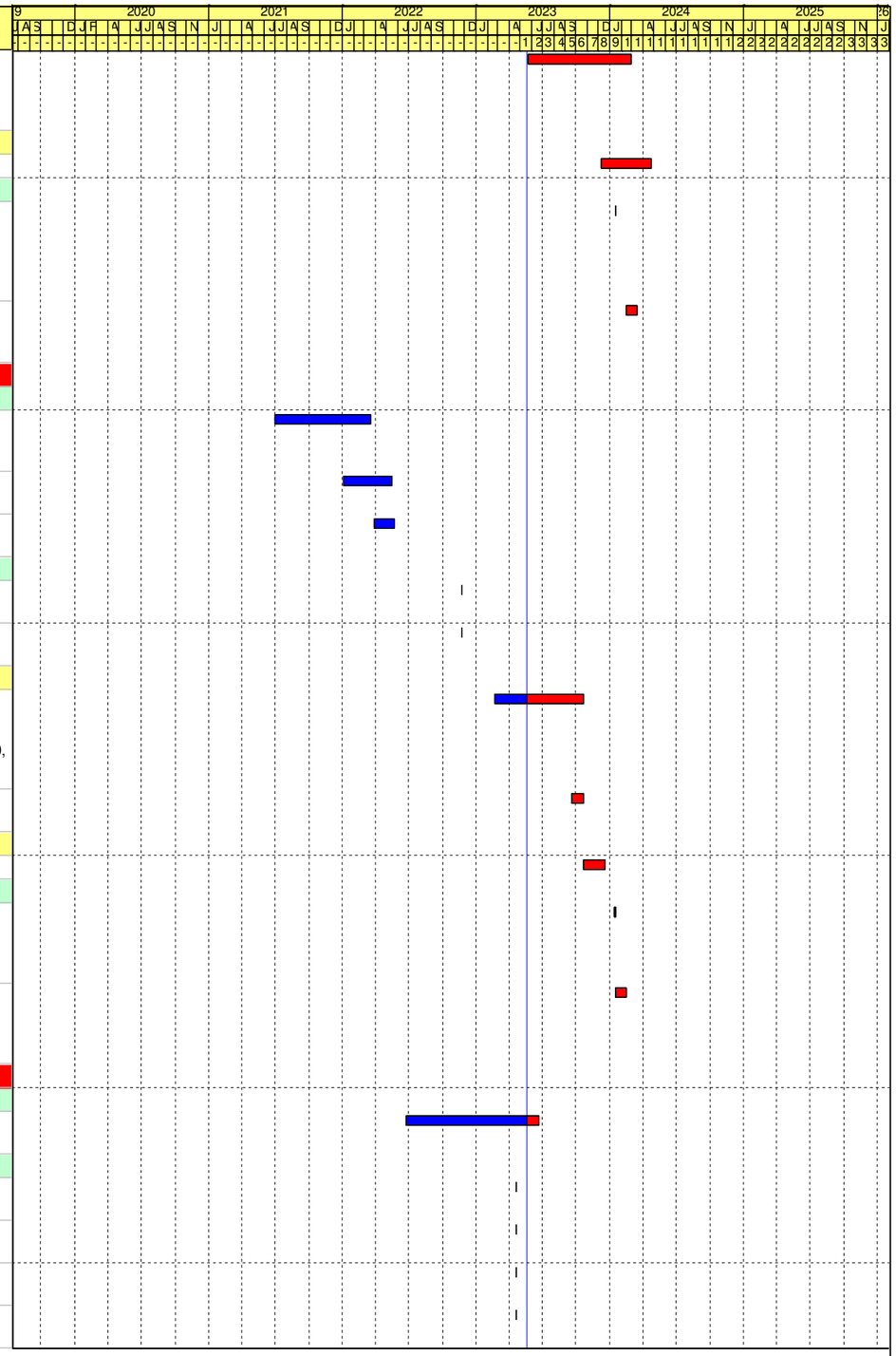
30-Apr-23	Rev.33	IM/LT	KM
31-May-23	Rev.34	IM/LT	KM

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S5BIOC1040	Mechanical Installation of Biogas Storage Tank 1	284	22-May-23*	29-Feb-24	22-Sep-22	02-Jul-23	-242	AD1100, S5BIOC1030, S5BIOP1010, S5BIOP1000	S5BIOT1010, PL1210
Electrical Installation		135	10-Dec-23	22-Apr-24	15-Jun-23	27-Oct-23	-178		
S5BIOC1060	Electrical Installation for Biogas Holding Tanks	135	10-Dec-23	22-Apr-24	15-Jun-23	27-Oct-23	-178	S5BIOC1020	S5BIOT1000
Testing and Commissioning		60	16-Jan-24	15-Mar-24	15-Jun-23	17-Jul-23	-242		
S5BIOT1000	Ready for Power Energisation	3	16-Jan-24	18-Jan-24	15-Jun-23	17-Jun-23	-215	S5BIOC1030, S5BIOC1020, S5EXAC1050, S5BIOC1060, S5CHPT1020	S5BIOT1010
S5BIOT1010	SAT for Biogas Storage System	30	15-Feb-24	15-Mar-24	18-Jun-23	17-Jul-23	-242	S5BIOC1040, S5CHPT1020, S5BIOT1000	S5T1070
THP Area		921	29-Jun-21 A	16-Feb-24	01-Oct-22	02-Jun-23	-259		
Fabrication, FAT & Delivery of Major Plant & Materials		315	29-Jun-21 A	23-May-22 A	01-Oct-22	01-Oct-22			
S5THPP1000	Fabrication of THP System	300	29-Jun-21 A	18-Mar-22 A	01-Oct-22	01-Oct-22		S2P1040, S2D1410, S2D1370	S5THPP1010
S5THPP1010	FAT for THP System	14	03-Jan-22 A	17-May-22 A	01-Oct-22	01-Oct-22		S5THPP1000	S5THPP1020
S5THPP1020	Delivery of THP System	60	29-Mar-22 A	23-May-22 A	01-Oct-22	01-Oct-22		S5THPP1010	S5THPC1020
E&M Installation		364	22-Nov-22 A	19-Dec-23	01-Oct-22	03-May-23	-230		
S5THPC1000	Access to THP Area (Impacted by EWN-0314)	1	22-Nov-22 A	22-Nov-22 A	01-Oct-22	01-Oct-22			S5THPC1020
S5THPC1010	Access to THP Area (Impacted by EWN-0314-1)	1	22-Nov-22 A	22-Nov-22 A	01-Oct-22	01-Oct-22			S5THPC1020
Mechanical Installation		241	20-Feb-23 A	20-Oct-23	01-Oct-22	03-May-23	-170		
S5THPC1020	Mechanical Installation of THP System	240	20-Feb-23 A	20-Oct-23	01-Oct-22	01-Mar-23	-233	AD1100, S5THPP1020, S5S1020, S5THPC1000, S5THPC1010	S5THPC1030, S5THPT1010, S5THPC1050, S5WGBC1020, S5THPT1000
S5THPC1030	Mechanical Installation of Thickened Sludge Feed Pipe to THP System	30	21-Sep-23*	20-Oct-23	04-Apr-23	03-May-23	-170	S5THPC1020	S5THPT1010, PL1210
Electrical Installation		60	21-Oct-23	19-Dec-23	02-Mar-23	30-Apr-23	-233		
S5THPC1050	Electrical Installation for THP Facilities	60	21-Oct-23	19-Dec-23	02-Mar-23	30-Apr-23	-233	S5THPC1020	S5THPT1000
Testing and Commissioning		33	15-Jan-24	16-Feb-24	01-May-23	02-Jun-23	-259		
S5THPT1000	Ready for Power Energisation	3	15-Jan-24	17-Jan-24	01-May-23	03-May-23	-259	S5THPC1020, S5EXAC1050, S5THPC1050, S5CHPT1020	S5THPT1010
S5THPT1010	SAT of THP System	30	18-Jan-24	16-Feb-24	04-May-23	02-Jun-23	-259	S5THPC1020, S5THPC1030, S5CHPT1020, S5THPT1000	S5T1050
H2S Removal Area		562	23-Jun-22 A	04-Mar-24	08-Nov-22	23-Apr-25	415		
Fabrication, FAT & Delivery of Major Plant & Materials		360	23-Jun-22 A	20-Jun-23	08-Nov-22	08-Dec-22	-194		
S5H2SP1000	Fabrication & Delivery of H2S Removal System	360	23-Jun-22 A	20-Jun-23	08-Nov-22	08-Dec-22	-194	S2P1060, S2D1530	S5H2SC1020
Installation		271	20-Apr-23 A	16-Jan-24	23-Dec-22	23-Apr-25	463		
S5H2SC1000	Access to H2S Removal Area (Impacted by EWN-0314)	1	20-Apr-23 A	20-Apr-23 A	23-Dec-22	23-Dec-22			S5H2SC1020
S5H2SC1010	Access to H2S Removal Area (Impacted by EWN-0314-1)	1	20-Apr-23 A	20-Apr-23 A	23-Dec-22	23-Dec-22			S5H2SC1020
S5H2SC1012	Access to H2S Removal Area (Impacted by EWN-0314-2)	1	20-Apr-23 A	20-Apr-23 A	23-Apr-25	23-Apr-25			
S5H2SC1015	Actual Access Date	1	20-Apr-23 A	20-Apr-23 A	23-Dec-22	23-Dec-22			S5H2SC1020



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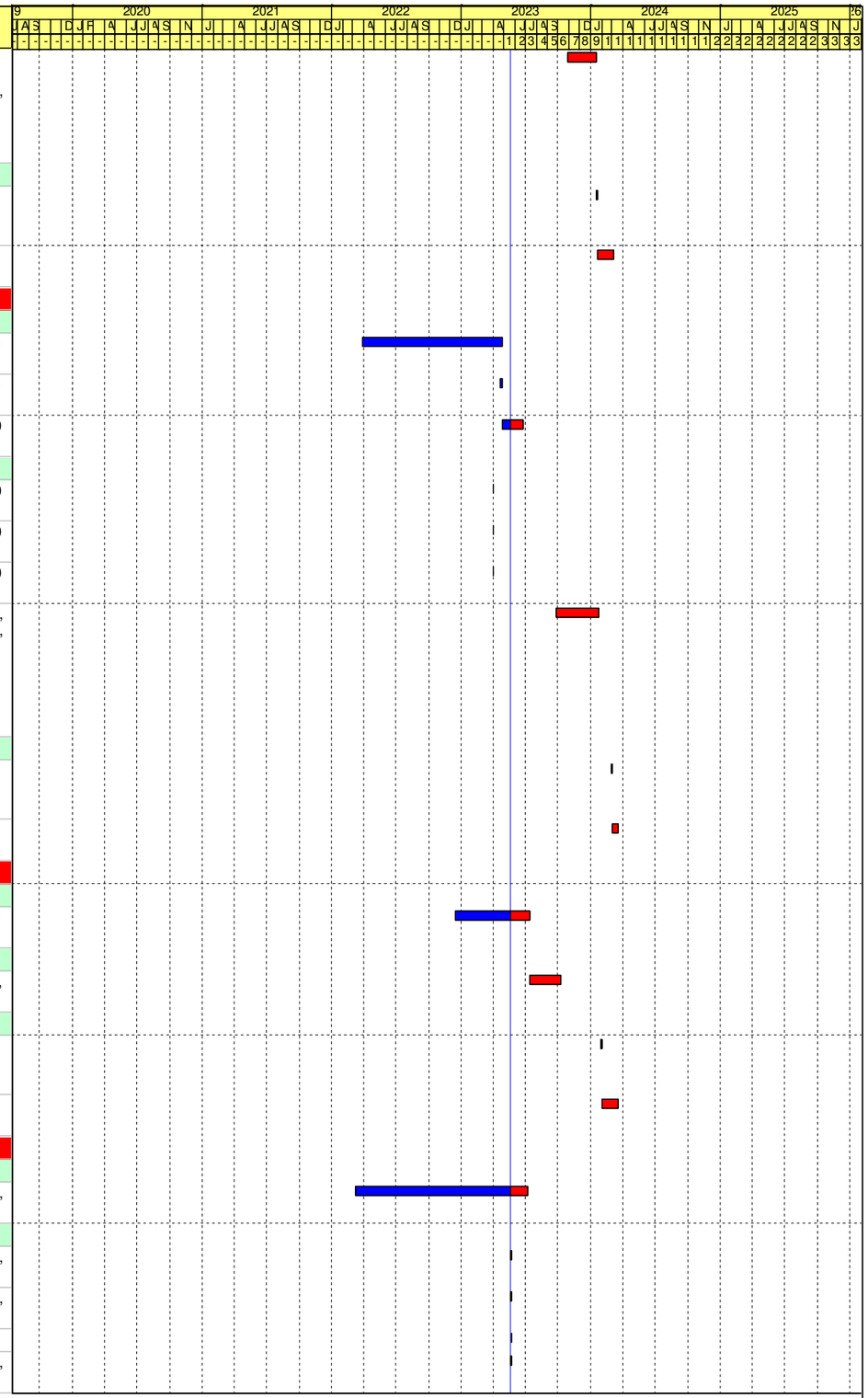
Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S5H2SC1020	E&M Installation of H2S Removal System	80	29-Oct-23	16-Jan-24	23-Dec-22	12-Mar-23	-310	AD1100, S5H2SP1000, S5H2SC1000, S5H2SC1010, S5H2SC1015, S5DIGC1250	S5H2ST1000, PL1210, S5DOUC1030, S5DOUC1040
Testing and Commissioning		48	17-Jan-24	04-Mar-24	01-May-23	17-Jun-23	-261		
S5H2ST1000	Ready for Power Energisation	3	17-Jan-24	19-Jan-24	01-May-23	03-May-23	-261	S5H2SC1020, S5EXAC1050, S5CHPT1020	S5H2ST1010
S5H2ST1010	SAT of H2S Removal System	45	20-Jan-24	04-Mar-24	04-May-23	17-Jun-23	-261	S5H2ST1000	S5T1080, S5T1110
Waste Gas Burning Area		636	29-Mar-22 A	17-Mar-24	09-Feb-23	01-Aug-23	-229		
Fabrication, FAT & Delivery of Major Plant & Materials		400	29-Mar-22 A	25-Jun-23	09-Feb-23	16-Mar-23	-101		
S5WGBP1000	Fabrication of Waste Gas Burning System	210	29-Mar-22 A	26-Apr-23 A	09-Feb-23	09-Feb-23		S2P1080, S2D1650	S5WGBP1010
S5WGBP1010	FAT for Waste Gas Burning System	6	20-Apr-23 A	26-Apr-23 A	09-Feb-23	09-Feb-23		S5WGBP1000	S5WGBP1020
S5WGBP1020	Delivery of Waste Gas Burning System	60	27-Apr-23 A	25-Jun-23	09-Feb-23	16-Mar-23	-101	S5WGBP1010	S5WGBC1020
Installation		277	31-Mar-23 A	22-Jan-24	17-Mar-23	14-Jul-23	-192		
S5WGBC1000	Access to Waste Gas Burning Area (Impacted by EWN-0314)	1	31-Mar-23 A	31-Mar-23 A	17-Mar-23	17-Mar-23			S5WGBC1020
S5WGBC1010	Access to Waste Gas Burning Area (Impacted by EWN-0314-1)	1	31-Mar-23 A	31-Mar-23 A	17-Mar-23	17-Mar-23			S5WGBC1020
S5WGBC1015	Assume Actual Access Date	1	31-Mar-23 A	31-Mar-23 A	17-Mar-23	17-Mar-23			S5WGBC1020
S5WGBC1020	E&M Installation of Waste Gas Burning System	120	25-Sep-23	22-Jan-24	17-Mar-23	14-Jul-23	-192	AD1100, S5WGBP1020, S5BIOC1030, S5THPC1020, S5WGBC1000, S5WGBC1010, S5WGBC1015	S5WGBT1010, S5WGBT1000, PL1210
Testing and Commissioning		18	29-Feb-24	17-Mar-24	15-Jul-23	01-Aug-23	-229		
S5WGBT1000	Ready for Power Energisation	3	29-Feb-24	02-Mar-24	15-Jul-23	17-Jul-23	-229	S5WGBC1020, S5EXAC1090, S5CHPT1020	S5WGBT1010
S5WGBT1010	SAT for Gas Burning System	15	03-Mar-24	17-Mar-24	18-Jul-23	01-Aug-23	-229	S5WGBC1020, S5WGBT1000	S5T1090
Plant Service Water Area		391	15-Dec-22 A	17-Mar-24	09-Nov-22	18-May-23	-304		
Fabrication, FAT & Delivery of Major Plant & Materials		210	15-Dec-22 A	12-Jul-23	09-Nov-22	31-Dec-22	-193		
S5PSWP1000	Fabrication & Delivery of Plant Service Water System	210	15-Dec-22 A	12-Jul-23	09-Nov-22	31-Dec-22	-193	S2P1090, S2D1690	S5PSWC1000
Installation		90	13-Jul-23	10-Oct-23	01-Jan-23	31-Mar-23	-193		
S5PSWC1000	E&M Installation of Plant Service Water System	90	13-Jul-23	10-Oct-23	01-Jan-23	31-Mar-23	-193	AD1100, S5PSWP1000	S5PSWT1000, PL1210
Testing and Commissioning		48	30-Jan-24	17-Mar-24	01-Apr-23	18-May-23	-304		
S5PSWT1000	Ready for Power Energisation	3	30-Jan-24	01-Feb-24	01-Apr-23	03-Apr-23	-304	S5PSWC1000, S5EXAC1080, S5TXRT1010	S5PSWT1010
S5PSWT1010	SAT & System Commissioning Tests for Plant Services Water System	45	02-Feb-24	17-Mar-24	04-Apr-23	18-May-23	-304	S5PSWT1000, S5UVPC1000	S5T1060
DO Area		729	10-Mar-22 A	18-May-24	08-Jan-23	31-Aug-23	-261		
Fabrication, FAT & Delivery of Major Plant & Materials		485	10-Mar-22 A	08-Jul-23	08-Jan-23	25-Feb-23	-133		
S5DOUP1000	Fabrication & Delivery of DO System	485	10-Mar-22 A	08-Jul-23	08-Jan-23	25-Feb-23	-133	S2P1150, S2D1930	S5DOUC1030, S5DOUC1040
Installation		316	21-May-23	31-Mar-24	25-Feb-23	26-May-23	-310		
S5DOUC1000	Access to DO Area (Impacted by EWN-0314)	1	21-May-23*	21-May-23	25-Feb-23	25-Feb-23	-85		S5DOUC1030, S5DOUC1040
S5DOUC1010	Access to DO Area No.11 (Impacted by EWN-0314-1)	1	21-May-23*	21-May-23	25-Feb-23	25-Feb-23	-85		S5DOUC1030, S5DOUC1012
S5DOUC1012	Access to DO Area No.11 (Impacted by EWN-0314-2)	1	22-May-23*	22-May-23	26-Feb-23	26-Feb-23	-85	S5DOUC1010	S5DOUC1025
S5DOUC1020	Access to DO Area No.12 (Impacted by EWN-0314-1)	1	21-May-23*	21-May-23	25-Feb-23	25-Feb-23	-85		S5DOUC1040, S5DOUC1022



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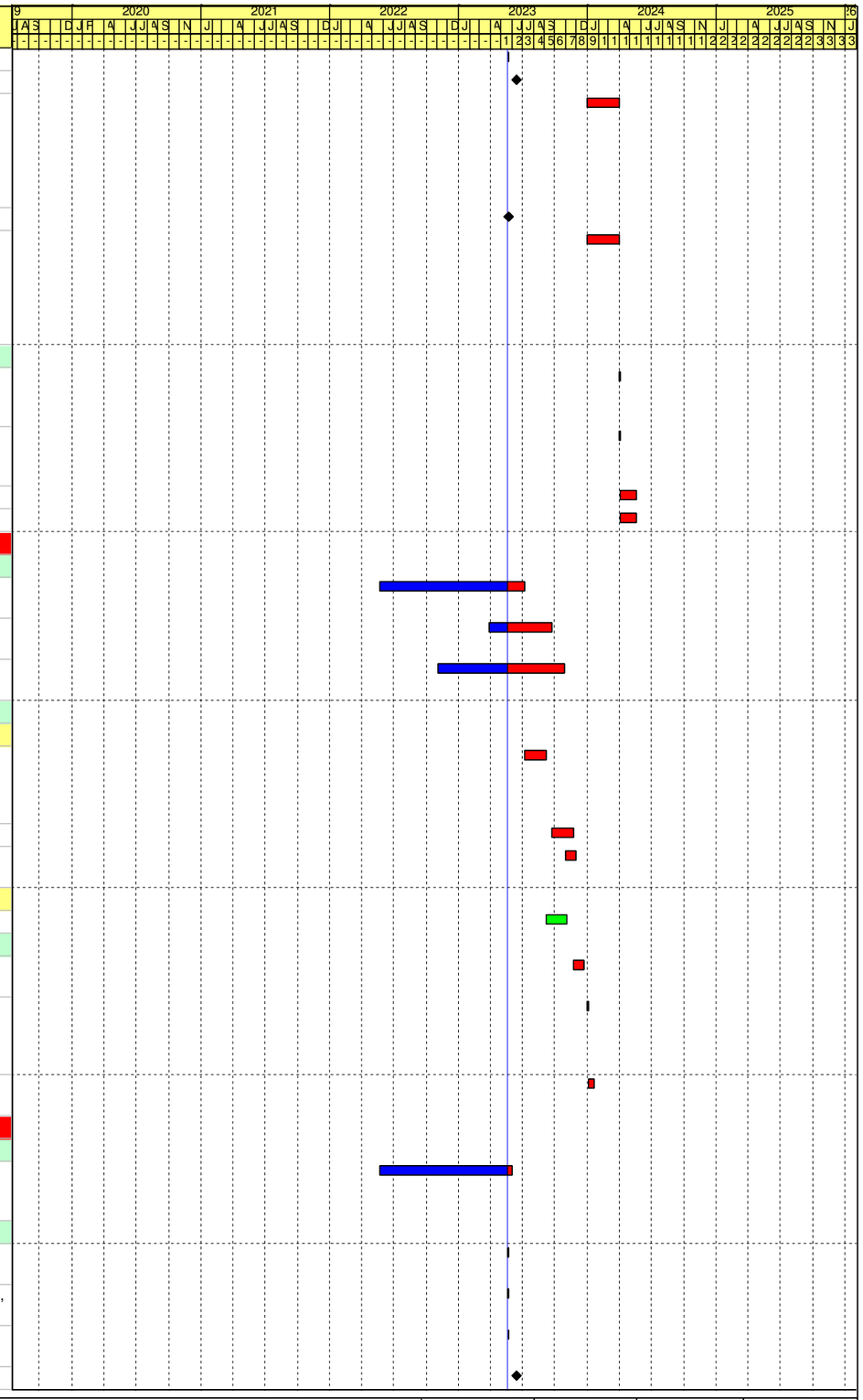
Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S5DOUC1022	Access to DO Area No.12 (Impacted by EWN-0314-2)	1	22-May-23*	22-May-23	26-Feb-23	26-Feb-23	-85	S5DOUC1020	S5DOUC1035
S5DOUC1025	Assume Actual Access Date (DO Area No.11)	0	15-Jun-23*		26-Feb-23		-109	S5DOUC1012	S5DOUC1030
S5DOUC1030	E&M Installation of DO System No.11	90	02-Jan-24	31-Mar-24	26-Feb-23	26-May-23	-310	AD1100, S5DOUP1000, S5DOUC1000, S5DOUC1010, S5DOUC1025, S5H2SC1020	S5DOUT1000, S5TCWC1020
S5DOUC1035	Assume Actual Access Date (DO Area No.12)	0	22-May-23		26-Feb-23		-85	S5DOUC1022	S5DOUC1040
S5DOUC1040	E&M Installation of DO System No.12	90	02-Jan-24	31-Mar-24	26-Feb-23	26-May-23	-310	AD1100, S5DOUP1000, S5DOUC1000, S5DOUC1020, S5DOUC1035, S5H2SC1020	S5DOUT1010, PL1210, S5TCWC1020
Testing and Commissioning		48	01-Apr-24	18-May-24	15-Jul-23	31-Aug-23	-261		
S5DOUT1000	Ready for Power Energisation of DO No.11	3	01-Apr-24	03-Apr-24	15-Jul-23	17-Jul-23	-261	S5DOUC1030, S5EXAC1080, S5TXRT1010	S5DOUT1020
S5DOUT1010	Ready for Power Energisation of DO No.12	3	01-Apr-24	03-Apr-24	15-Jul-23	17-Jul-23	-261	S5DOUC1040, S5EXAC1050, S5CHPT1020	S5DOUT1030
S5DOUT1020	SAT & System Commissioning Tests for DO System No.11	45	04-Apr-24	18-May-24	18-Jul-23	31-Aug-23	-261	S5DOUT1000	S5T1110
S5DOUT1030	SAT & System Commissioning Tests for DO System No.12	45	04-Apr-24	18-May-24	18-Jul-23	31-Aug-23	-261	S5DOUT1010	S5T1110
Sewage Pump Station		578	23-May-22 A	19-Jan-24	27-Oct-22	18-Feb-24	30		
Fabrication, FAT & Delivery of Major Plant & Materials		543	23-May-22 A	29-Oct-23	27-Oct-22	28-Jul-23	-93		
S5SPSP1000	Fabrication & Delivery of Sewage Pump	410	23-May-22 A	07-Jul-23	12-Feb-23	31-Mar-23	-98	S2P1180, S2D1940	S5SPSC1000
S5SPSP1010	Fabrication & Delivery of LV Switchboard	180	28-Mar-23 A	23-Sep-23	27-Oct-22	01-Mar-23	-206		S5SPSC1001, S5SPST0990
S5SPSP1020	Delivery of Control & Monitoring System / SCADA System	360	04-Nov-22 A	29-Oct-23	17-Feb-23	28-Jul-23	-93		S5SPSC1010
Installation		144	08-Jul-23	28-Nov-23	02-Mar-23	18-Feb-24	82		
E&M Installation		144	08-Jul-23	28-Nov-23	02-Mar-23	27-Aug-23	-93		
S5SPSC1000	E&M Installation of Sewage Pump	60	08-Jul-23	05-Sep-23	01-Apr-23	30-May-23	-98	AD1100, S5SPSP1000	S5SPSC1020, S5SPST1000, PL1210, S5SPSC1010
S5SPSC1001	LV Switchboard Installation	60	24-Sep-23	22-Nov-23	02-Mar-23	30-Apr-23	-206	S5SPSP1010	S5SPST0990
S5SPSC1010	Installation of SCADA System / Control Monitoring System	30	30-Oct-23	28-Nov-23	29-Jul-23	27-Aug-23	-93	S5SPSP1020, S5SPSC1000	S5T1000, S5T1010
BS Installation		60	06-Sep-23	04-Nov-23	21-Dec-23	18-Feb-24	106		
S5SPSC1020	BS Installation for Sewage Pumping Station	60	06-Sep-23	04-Nov-23	21-Dec-23	18-Feb-24	106	S5SPSC1000	S5S1160
Testing and Commissioning		58	23-Nov-23	19-Jan-24	01-May-23	17-Jun-23	-216		
S5SPST0990	SAT of Switchboard	30	23-Nov-23	22-Dec-23	01-May-23	30-May-23	-206	S5SPSP1010, S5SPSC1001	S5SPST1000
S5SPST1000	Ready for Power Energisation	3	02-Jan-24	04-Jan-24	31-May-23	02-Jun-23	-216	S5SPSC1000, S5SPST0990, S5EXAC1070, S5SDBT1050	S5SPST1010
S5SPST1010	SAT & System Commissioning Tests for Sewage Pumping Station	15	05-Jan-24	19-Jan-24	03-Jun-23	17-Jun-23	-216	S5SPST1000	S5T1060
THP Cooling Water Transfer Pumping Station		747	23-May-22 A	06-Jul-24	12-May-23	31-Aug-23	-310		
Fabrication, FAT & Delivery of Major Plant & Materials		374	23-May-22 A	31-May-23	12-May-23	22-May-23	-9		
S5TCWP1000	Fabrication & Delivery of THP Cooling Pump	374	23-May-22 A	31-May-23	12-May-23	22-May-23	-9	S2P1210, S2D1970, S2D1370	S5TCWC1020
Installation		372	21-May-23	26-May-24	22-May-23	21-Jul-23	-310		
S5TCWC1000	Access to THP CW Transfer Pumping Station (Impacted by EWN-0314)	1	21-May-23*	21-May-23	22-May-23	22-May-23	1		S5TCWC1020
S5TCWC1010	Access to THP CW Transfer Pumping Station (Impacted by EWN-0314-1)	1	21-May-23*	21-May-23	22-May-23	22-May-23	1		S5TCWC1020, S5TCWC1012
S5TCWC1012	Access to THP CW Transfer Pumping Station (Impacted by EWN-0314-2)	1	22-May-23*	22-May-23	23-May-23	23-May-23	1	S5TCWC1010	S5TCWC1015
S5TCWC1015	Assume Actual Access Date	0	15-Jun-23*		23-May-23		-23	S5TCWC1012	S5TCWC1020



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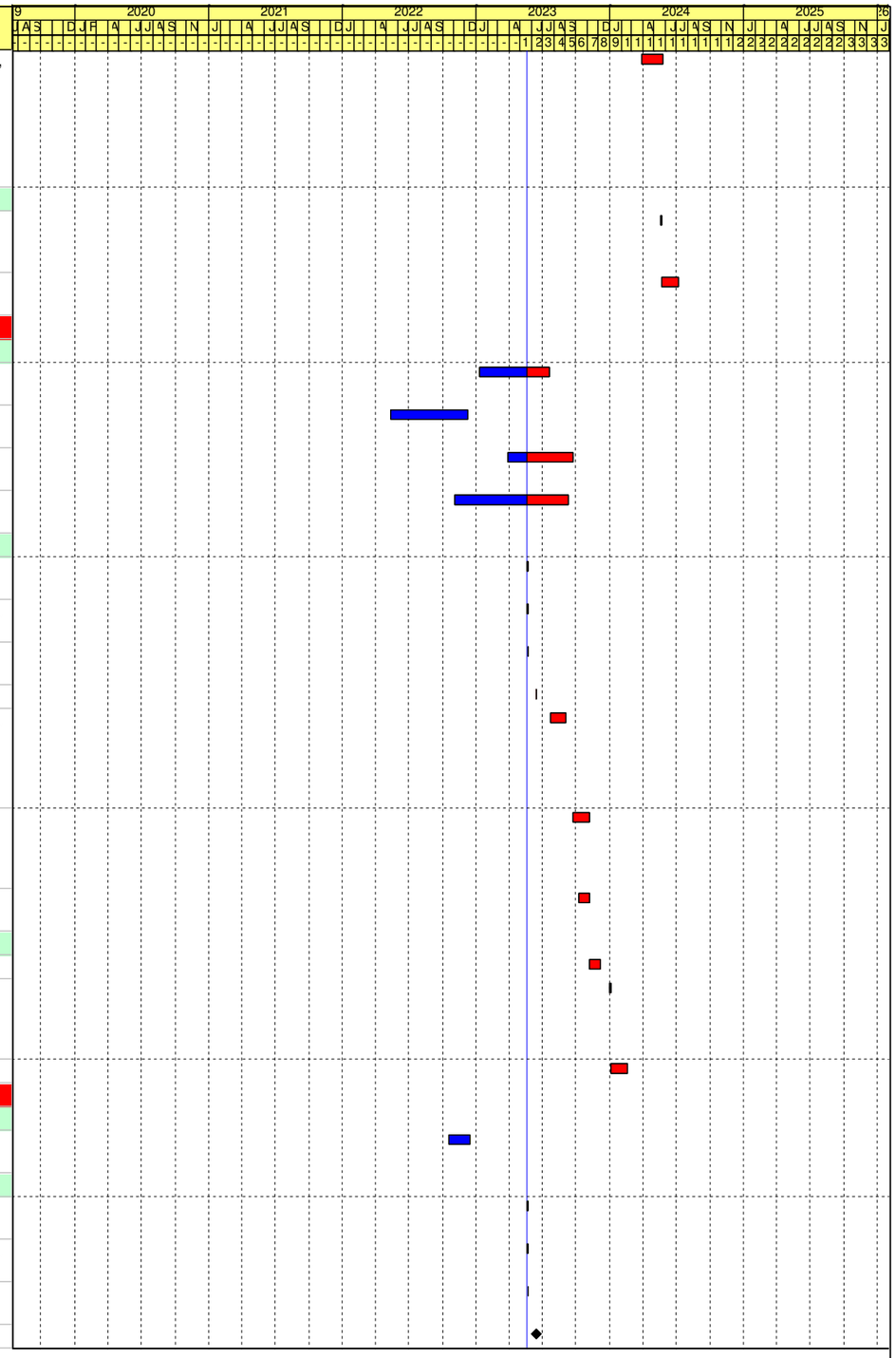
S5TCWC1020	E&M Installation of THP Cooling Pump	60	28-Mar-24	26-May-24	23-May-23	21-Jul-23	-310	AD1100, S5TCWP1000, S5TCWC1000, S5TCWC1010, S5TCWC1015, S5DOUC1030, S5DOUC1040	S5TCWT1000, PL1210, S5TCWT1010
Testing and Commissioning		48	20-May-24	06-Jul-24	15-Jul-23	31-Aug-23	-310		
S5TCWT1000	Ready for Power Energisation	3	20-May-24	22-May-24	15-Jul-23	17-Jul-23	-310	S5TCWC1020, S5EXAC1030, S5CHPT1020	S5TCWT1010
S5TCWT1010	SAT & System Commissioning Tests for THP Cooling Water Pumping System	45	23-May-24	06-Jul-24	18-Jul-23	31-Aug-23	-310	S5TCWT1000, S5TCWC1020	S5T1110
Ferric Chloride Dosing Facility		549	14-May-22 A	18-Feb-24	12-Oct-22	27-Aug-23	-175		
Fabrication, FAT & Delivery of Major Plant & Materials		488	14-May-22 A	23-Sep-23	12-Oct-22	28-Jul-23	-57		
S5FCDP1000	Fabrication & Delivery of Ferric Chloride Storage Tank	90	09-Jan-23 A	21-Jul-23	15-Nov-22	15-Jan-23	-187	S5P1030, S2D1980	S5FCDC1020
S5FCDP1010	Fabrication & Delivery of Ferric Chloride Dosing Pump	150	14-May-22 A	09-Dec-22 A	15-Feb-23	15-Feb-23		S5P1040, S2D1980	S5FCDC1030
S5FCDP1020	Fabrication & Delivery of LV Switchboard	180	28-Mar-23 A	23-Sep-23	12-Oct-22	14-Feb-23	-221		S5FCDC1030
S5FCDP1030	Delivery of Control & Monitoring System / SCADA System	311	04-Nov-22 A	10-Sep-23	07-Apr-23	28-Jul-23	-44		S5FCDP1040
Installation		171	21-May-23	07-Nov-23	13-Jan-23	27-Aug-23	-72		
S5FCDC1000	Access to Ferric Chloride Dosing Facility (Impacted by EWN-0314)	1	21-May-23*	21-May-23	15-Jan-23	15-Jan-23	-126		S5FCDC1020
S5FCDC1010	Access to Ferric Chloride Dosing Facility (Impacted by EWN-0314-1)	1	21-May-23*	21-May-23	13-Jan-23	13-Jan-23	-128		S5FCDC1020, S5FCDC1012
S5FCDC1012	Access to Ferric Chloride Dosing Facility (Impacted by EWN-0314-2)	1	22-May-23*	22-May-23	14-Jan-23	14-Jan-23	-128	S5FCDC1010	S5FCDC1015
S5FCDC1015	Assume Actual Access Date	1	15-Jun-23*	15-Jun-23	15-Jan-23	15-Jan-23	-151	S5FCDC1012	S5FCDC1020
S5FCDC1020	E&M Installation of Ferric Chloride Storage Tank	45	22-Jul-23	04-Sep-23	16-Jan-23	01-Mar-23	-187	AD1100, S5FCDP1000, S5FCDC1000, S5FCDC1010, S5FCDC1015	S5FCDC1030, S5S1280
S5FCDC1030	E&M Installation of Ferric Chloride Dosing Pump	45	24-Sep-23	07-Nov-23	15-Feb-23	31-Mar-23	-221	AD1100, S5FCDC1020, S5FCDP1010, S5FCDP1020	S5FCDT1000, S5FCDT0990, PL1210, S5FCDP1040
S5FCDP1040	Installation of SCADA System / Control Monitoring System	30	09-Oct-23	07-Nov-23	29-Jul-23	27-Aug-23	-72	S5FCDP1030, S5FCDC1030	S5T1000, S5T1010
Testing and Commissioning		103	08-Nov-23	18-Feb-24	01-Apr-23	17-Jun-23	-246		
S5FCDT0990	SAT of Switchboard	30	08-Nov-23	07-Dec-23	01-Apr-23	30-Apr-23	-221	S5FCDC1030	S5FCDT1000
S5FCDT1000	Ready for Power Energisation	3	02-Jan-24	04-Jan-24	01-May-23	03-May-23	-246	S5FCDC1030, S5FCDT0990, S5EXAC1070, S5SDBT1050	S5FCDT1010
S5FCDT1010	SAT & System Commissioning Tests for FeCl3 Dosing Facility	45	05-Jan-24	18-Feb-24	04-May-23	17-Jun-23	-246	S5FCDT1000	S5T1080
Fire Hydrant and Booster Pump Room		438	18-Oct-22 A	02-Mar-24	25-Jul-23	01-Jan-24	-61		
Fabrication, FAT & Delivery of Major Plant & Materials		60	18-Oct-22 A	16-Dec-22 A	26-Jul-23	26-Jul-23			
S5SHPP1000	Fabrication & Delivery of Fire Hydrant and Booster Pump	60	18-Oct-22 A	16-Dec-22 A	26-Jul-23	26-Jul-23			S5SHPC1020
Installation		115	21-May-23	12-Sep-23	25-Jul-23	23-Oct-23	41		
S5SHPC1000	Access to Fire Hydrant and Booster Pump Room (Impacted by EWN-0314)	1	21-May-23*	21-May-23	25-Jul-23	25-Jul-23	65		S5SHPC1020
S5SHPC1010	Access to Fire Hydrant and Booster Pump Room (Impacted by EWN-0314-1)	1	21-May-23*	21-May-23	25-Jul-23	25-Jul-23	65		S5SHPC1020, S5SHPC1012
S5SHPC1012	Access to Fire Hydrant and Booster Pump Room (Impacted by EWN-0314-2)	1	22-May-23*	22-May-23	26-Jul-23	26-Jul-23	65	S5SHPC1010	S5SHPC1015
S5SHPC1015	Assume Actual Access Date	0	15-Jun-23*		26-Jul-23		41	S5SHPC1012	S5SHPC1020



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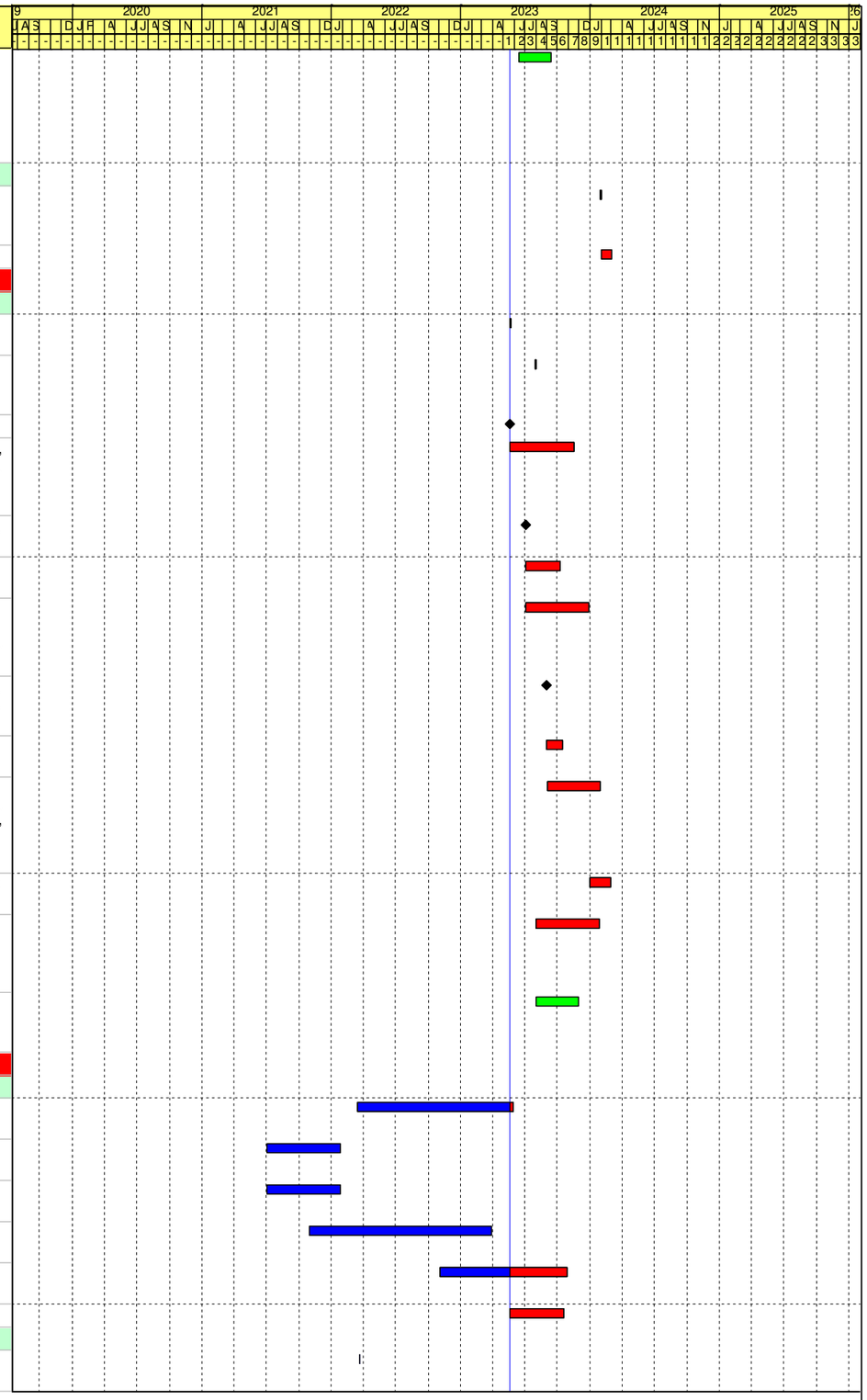
Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S5SHPC1020	Fire Hydrant and Booster Pump Room Installation	90	15-Jun-23	12-Sep-23	26-Jul-23	23-Oct-23	41	S5S1120, AD1100, S5SHPC1000, S5SHPC1010, S5SHPP1000, S5SHPC1015	S5S1130, S5SHPT1000, PL1210
Testing and Commissioning		33	30-Jan-24	02-Mar-24	30-Nov-23	01-Jan-24	-61		
S5SHPT1000	Ready for Power Energisation	3	30-Jan-24	01-Feb-24	30-Nov-23	02-Dec-23	-61	S5SHPC1020, S5EXAC1080, S5TXRT1010	S5SHPT1010
S5SHPT1010	SAT for Fire Hydrant and Booster Pump	30	02-Feb-24	02-Mar-24	03-Dec-23	01-Jan-24	-61	S5SHPT1000	S5S1220
External Area		284	21-May-23	28-Feb-24	02-Nov-22	23-Dec-23	-67		
Installation		284	21-May-23	28-Feb-24	02-Nov-22	23-Dec-23	-67		
S5EXAC1000	Access to Other Peripheral Systems (Impacted by EWN-0314)	1	21-May-23*	21-May-23	26-Jun-23	26-Jun-23	36		S5EXAC1100, S5EXAC1110
S5EXAC1010	Access to Other Peripheral Systems (Impacted by EWN-0314-1)	1	31-Jul-23*	31-Jul-23	17-Feb-23	17-Feb-23	-164		S5EXAC1100, S5EXAC1110, S5EXAC1030
S5EXAC1020	Access to Stage 1 External Area	0	21-May-23*		02-Nov-22		-200		S5EXAC1030
S5EXAC1030	LV Cable Laying from CHP to Sludge Digestor, Workshop no.2 and THP CW transfer PS (120 days) & Termination (60 days)	180	21-May-23	16-Nov-23	02-Nov-22	30-Apr-23	-200	S5EXAC1010, S5P1050, S5EXAC1020	S5TCWT1000, S5WS2T1010, S5DIGT1010, PL1210
S5EXAC1040	Access to Stage 2 External Area	0	03-Jul-23*		02-Nov-22		-243		S5EXAC1050, S5EXAC1045
S5EXAC1045	E&M Installation of Pipe Trench No.1, No.2 (Duration assumed no interface work)	100	03-Jul-23	10-Oct-23	23-Feb-23	02-Jun-23	-130	AD1100, S5EXAC1040	S5T1050, PL1210
S5EXAC1050	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	02-Nov-22	30-Apr-23	-243	S5EXAC1040	S5BIOT1000, S5THPT1000, S5DOUT1010, S5H2ST1000
S5EXAC1060	Access to Stage 3 External Area	0	01-Sep-23*		02-Nov-22		-303		S5EXAC1090, S5EXAC1080, S5EXAC1070
S5EXAC1070	LV Cable Laying from SDB to SPS (20 days) & Termination (25 days)	45	01-Sep-23	15-Oct-23	17-Mar-23	30-Apr-23	-168	S5EXAC1060, S5P1050	S5SPST1000, S5FCDT1000
S5EXAC1080	LV Cable Laying from TX & SW Room to DOU no. 11, Street Hydrant Pump room and PSWS (90 days) & Termination (60 days)	150	02-Sep-23	29-Jan-24	02-Nov-22	31-Mar-23	-304	S5P1050, S5EXAC1060, S5TXRC1040	S5SHPT1000, S5DOUT1000, S5PSWT1000, PL1210, S5EXAC1090
S5EXAC1090	LV Cable Laying from CHP to FeCl3 Dosing Facility and Waste Gas Burning System (30 days) & Termination (30 days)	60	31-Dec-23	28-Feb-24	16-May-23	14-Jul-23	-229	S5EXAC1060, S5EXAC1080	S5WGBT1000
S5EXAC1100	Road Lighting Installation	180	01-Aug-23	27-Jan-24	27-Jun-23	23-Dec-23	-35	AD1100, S5EXAC1000, S5EXAC1010, S5P1050	S5S1220, PL1210
S5EXAC1110	Landscape Lighting Installation	120	01-Aug-23*	28-Nov-23	26-Aug-23	23-Dec-23	25	S5EXAC1000, S5EXAC1010, S5P1050	S5S1220, PL1210
SAS Pumping Station		925	04-Jul-21 A	02-Apr-24	04-Aug-22	27-Aug-23	-219		
Fabrication, FAT & Delivery of Major Plant & Materials		816	04-Jul-21 A	29-Oct-23	04-Aug-22	28-Jul-23	-93		
S5SASP1000	Fabrication & Delivery of SAS Pumping System	120	16-Mar-22 A	28-May-23	26-Apr-23	03-May-23	-25	S2P1100, S2D1770	S5SASC1010
S5SASP1010	Fabrication & Delivery of Stoplog	270	04-Jul-21 A	27-Jan-22 A	03-May-23	03-May-23		S2P1160	S5SASC1010
S5SASP1020	Fabrication & Delivery of Penstock	270	04-Jul-21 A	27-Jan-22 A	03-May-23	03-May-23		S2P1170	S5SASC1010
S5SASP1030	Fabrication & Delivery of Lifting Appliances	309	30-Oct-21 A	28-Mar-23 A	03-May-23	03-May-23			S5SASC1010
S5SASP1040	Delivery of Control & Monitoring System / SCADA System	360	04-Nov-22 A	29-Oct-23	17-Feb-23	28-Jul-23	-93		S5SASC1020
S5SASP1050	Fabrication & Delivery of LV Switchboard	150	21-May-23*	17-Oct-23	04-Aug-22	31-Dec-22	-290		S5SASC1030
Installation		574	23-Mar-22 A	15-Jan-24	01-Jan-23	27-Aug-23	-141		
S5SASC1000	Access to SAS Pumping Station (Impacted by NCE-NCE-219)	1	23-Mar-22 A	23-Mar-22 A	24-Mar-23	24-Mar-23		AD1160	S5SASC1010



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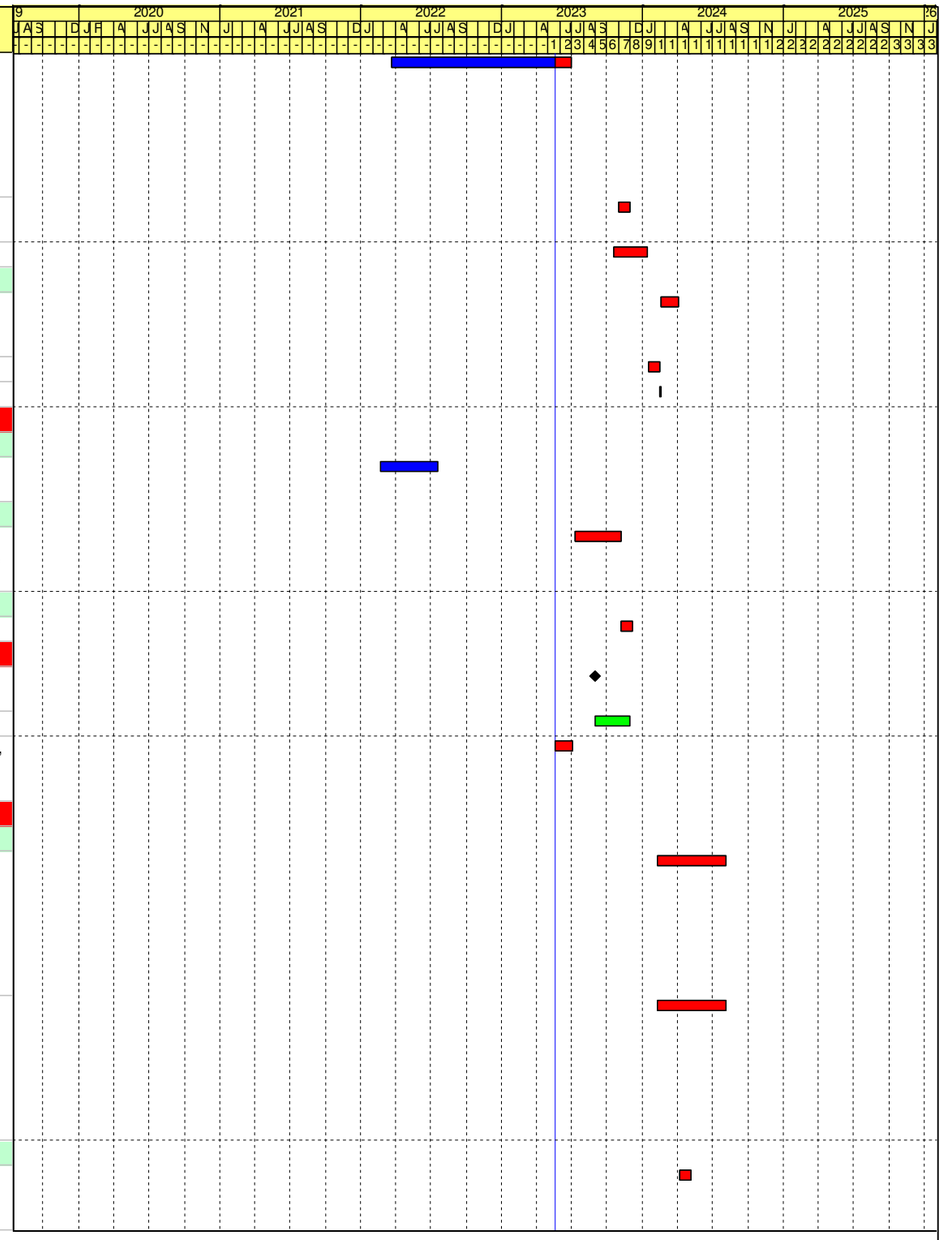
Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S5SASC1010	E&M Installation of SAS Pumping System	465	23-Mar-22 A	30-Jun-23	24-Mar-23	03-May-23	-58	AD1160, S5SASP1000, CE0219b, S5SASP1010, S5SASP1020, S5SASC1000, S5SASP1030	S5SAST1000, PL1210, S5SASC1020
S5SASC1020	Installation of SCADA System / Control Monitoring System	30	30-Oct-23	28-Nov-23	29-Jul-23	27-Aug-23	-93	S5SASP1040, S5SASC1010	S5T1000, S5T1010
S5SASC1030	LV Switchboard Installation	90	18-Oct-23	15-Jan-24	01-Jan-23	31-Mar-23	-290	S5SASP1050	S5SAST1010
Testing and Commissioning		78	16-Jan-24	02-Apr-24	01-Apr-23	17-Jun-23	-290		
S5SAST1000	SAT & System Commissioning Tests for SAS Pumping Station	45	18-Feb-24	02-Apr-24	04-May-23	17-Jun-23	-290	S5SASC1010, S5SAST1020	S5T1110, S5T1120, S5T1060
S5SAST1010	SAT of Switchboard	30	16-Jan-24	14-Feb-24	01-Apr-23	30-Apr-23	-290	S5SASC1030	S5SAST1020
S5SAST1020	Ready for Power Energisation	3	15-Feb-24	17-Feb-24	01-May-23	03-May-23	-290	S5SAST1010	S5SAST1000
Existing Consolidation House		289	21-Feb-22 A	06-Dec-23	20-Dec-22	18-May-23	-202		
Fabrication, FAT & Delivery of Major Plant & Materials		150	21-Feb-22 A	20-Jul-22 A	20-Dec-22	20-Dec-22			
S5ECHP1000	Fabrication & Delivery of Temporary Primary Sludge Pump	150	21-Feb-22 A	20-Jul-22 A	20-Dec-22	20-Dec-22		S2P1220, S2D1990	S5ECHC1000
Installation		120	10-Jul-23	06-Nov-23	20-Dec-22	18-Apr-23	-202		
S5ECHC1000	E&M Installation of Existing Consolidation House	120	10-Jul-23*	06-Nov-23	20-Dec-22	18-Apr-23	-202	CE0219d, S5ECHP1000	S5T1060, S5ECHT1000, PL1210
Testing and Commissioning		30	07-Nov-23	06-Dec-23	19-Apr-23	18-May-23	-202		
S5ECHT1000	SAT for Temporary Primary Sludge Pump	30	07-Nov-23	06-Dec-23	19-Apr-23	18-May-23	-202	S5ECHC1000	S5T1060
Miscellaneous		192	21-May-23	28-Nov-23	18-Feb-23	01-Jan-24	34		
S5MISC1000	Access to Other Peripheral Systems - Guard House Only (Impacted by EWN-0314-2)	0	31-Aug-23*		04-Oct-23		34		S5MISC1010
S5MISC1010	E&M Installation - Guard House	90	31-Aug-23	28-Nov-23	04-Oct-23	01-Jan-24	34	S5MISC1000	S5S1220
S5UVPC1000	E&M Installation of Lift-up Pumps & Associated Pipeworks / Valves	45	21-May-23*	04-Jul-23	18-Feb-23	03-Apr-23	-92	S4C1030, S4P1080, S4T1020	S5PSWT1010, PL1210
Testing & Commissioning		415	08-Feb-24	28-Mar-25	19-May-23	22-May-24	-310		
T&C of Control Monitoring System		180	08-Feb-24	05-Aug-24	28-Aug-23	23-Feb-24	-164		
S5T1000	SAT of SCADA System	180	08-Feb-24	05-Aug-24	28-Aug-23	23-Feb-24	-164	S5WS2C1180, S5CHPC1120, S5CHPC1250, S5TXRC1050, S5SPSC1010, S5FCDP1040, S5SASC1020	SC51110, S5T1140
S5T1010	SAT of PMS	180	08-Feb-24	05-Aug-24	28-Aug-23	23-Feb-24	-164	S5WS2C1180, S5CHPC1120, S5CHPC1250, S5TXRC1050, S5SPSC1010, S5FCDP1040, S5SASC1020	SC51110, S5T1140
T&C of E&M Process		372	22-Mar-24	28-Mar-25	19-May-23	22-May-24	-310		
S5T1050	System Commissioning Tests for THP System	30	06-Apr-24	05-May-24	03-Jun-23	02-Jul-23	-308	S5THPT1010, S5EXAC1045, S5T1060	S5T1120, S5T1080, S5T1110



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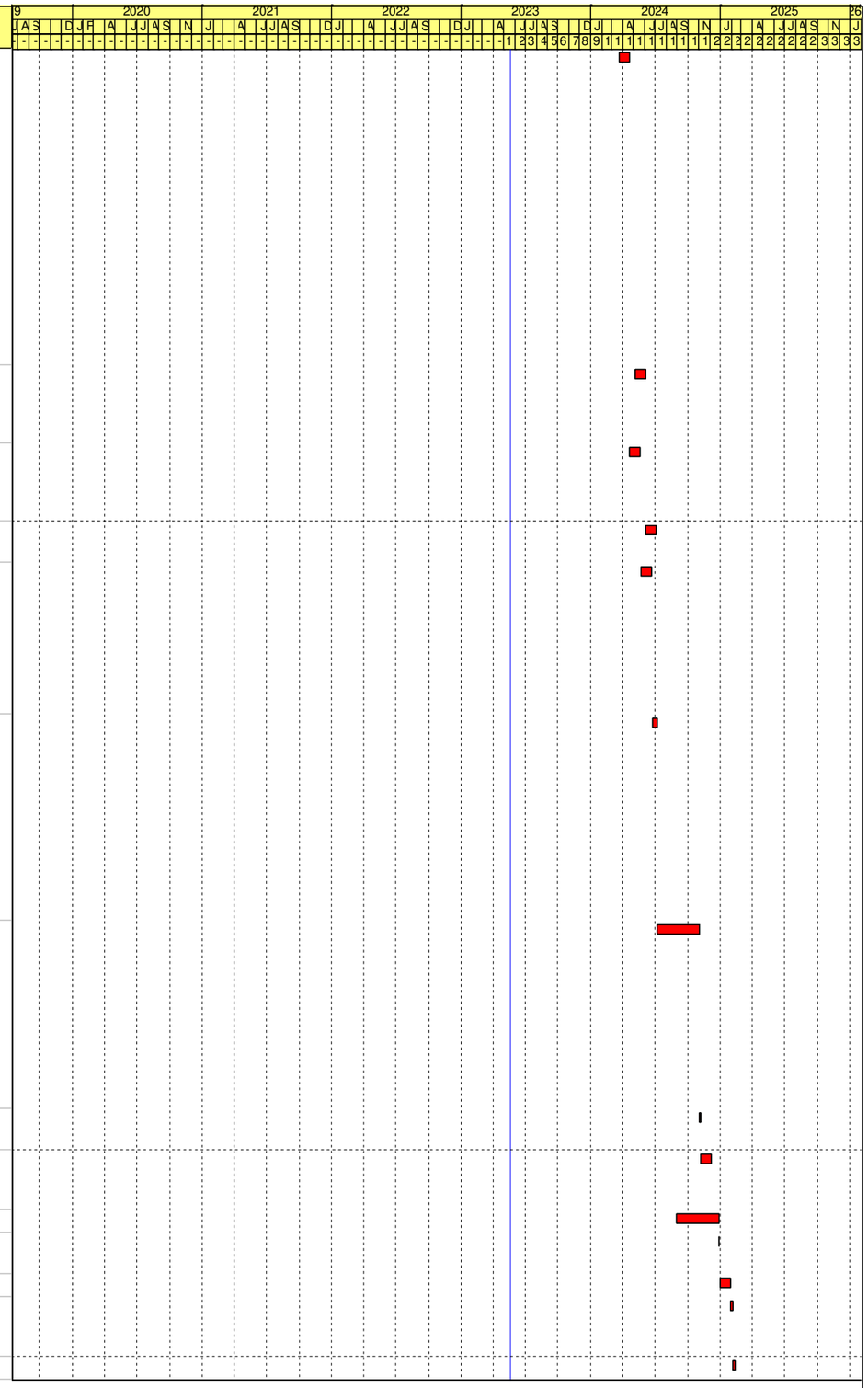
Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S5T1060	System Commissioning Tests for Sludge Dewatering System	30	22-Mar-24	20-Apr-24	19-May-23	17-Jun-23	-308	S5ECHC1000, S5SPST1010, S5SAST1000, S5ECHT1000, S5SDBT1200, S5SDBT1100, S5SDBT1090, S5SDBT1160, S5SDBT1170, S5SDBT1080, S5SDBT1010, S5SDBT1210, S5SDBT1060, S5SDBT1040, S5SDBC1300, S5SDBC1210, S5PSWT1010	S5T1120, S5T1110, PL1520, S5T1050
S5T1070	System Commissioning Tests for Biogas Storage System	30	06-May-24	04-Jun-24	03-Jul-23	01-Aug-23	-308	S5BIOT1010, S5T1080	S5T1120, S5T1110, S5S1070, S5T1100
S5T1080	System Commissioning Tests for Sludge Digestion System	30	21-Apr-24	20-May-24	18-Jun-23	17-Jul-23	-308	S5DIGT1020, S5T1050, S5H2ST1010, S5FCDT1010	S5T1120, S5T1110, S5T1070
S5T1090	System Commissioning Tests for Gas Burning System	30	05-Jun-24	04-Jul-24	02-Aug-23	31-Aug-23	-308	S5WGBT1010, S5T1100	S5T1120, S5T1110
S5T1100	System Commissioning Tests for CHP System	30	21-May-24	19-Jun-24	18-Jul-23	16-Aug-23	-308	S5CHPT1030, S5S1310, S5CHPC1120, S5CHPT1000, S5CHPC1250, S5CHPT1040, S5CHPT1050, S5T1070	S5T1120, S5T1110, PL1560, S5T1090
S5T1110	Seeding	14	23-Jun-24	06-Jul-24	18-Aug-23	31-Aug-23	-310	S5T1090, S5T1070, S5T1080, S5T1100, S5T1060, S5T1050, S5SAST1000, S5TCWT1010, S5DOUT1020, S5DOUT1030, S5H2ST1010	S5T1120
S5T1120	Process Start Up - Digester 1	120	07-Jul-24	03-Nov-24	01-Sep-23	29-Dec-23	-310	S5T1090, S5T1070, S5T1080, S5T1100, S5T1060, S5T1050, S5T1110, S5S1080, S5TXRC1050, S5SAST1000	S5T1150, S5T1130, S3T1340
S5T1130	Notice to Commence Phase 1 System Commissioning - Digester 1	3	04-Nov-24	06-Nov-24	21-Feb-24	23-Feb-24	-257	S5T1120	S5T1140
S5T1140	Phase 1 System Commissioning - Digester 1	30	07-Nov-24	06-Dec-24	24-Feb-24	24-Mar-24	-257	S5T1130, S5T1000, S5T1010	S5T1180
S5T1150	Process Start Up - Digester 2	120	29-Aug-24	26-Dec-24	24-Oct-23	20-Feb-24	-310	S5T1120	S5T1160
S5T1160	Notice to Commence Phase 1 System Commissioning - Digester 2	3	27-Dec-24	29-Dec-24	21-Feb-24	23-Feb-24	-310	S5T1150	S5T1170
S5T1170	Phase 1 System Commissioning - Digester 2	30	30-Dec-24	28-Jan-25	24-Feb-24	24-Mar-24	-310	S5T1160	S5T1180
S5T1180	Phase 2 System Commissioning - Digester 1 & 2	7	29-Jan-25	04-Feb-25	25-Mar-24	31-Mar-24	-310	S5T1170, S5T1140	S5T1190, PL1310, S3T1360
S5T1190	Notice to Commence Plant Commissioning	7	05-Feb-25	11-Feb-25	01-Apr-24	07-Apr-24	-310	S5T1180	S5T1200



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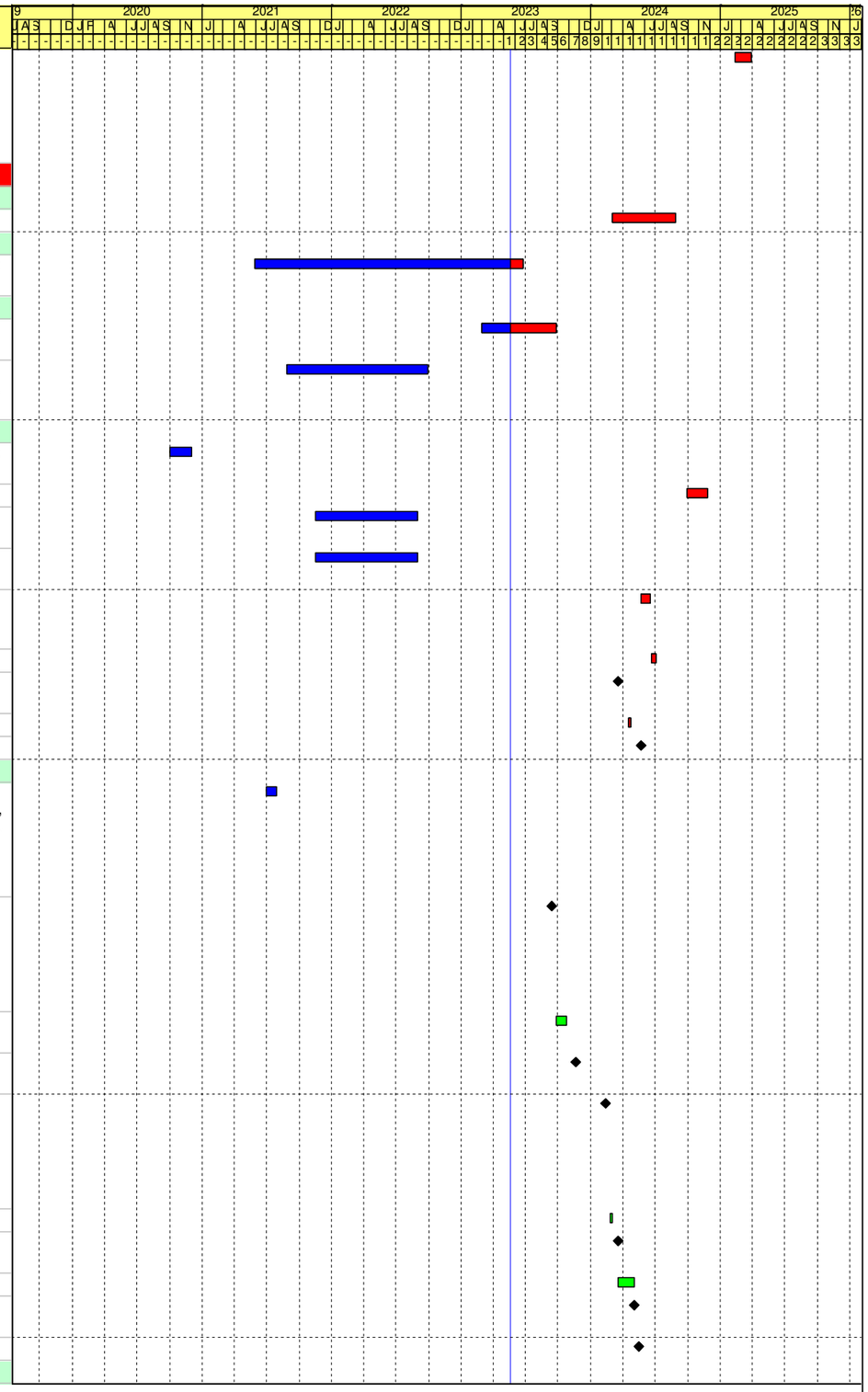
S5T1200	Plant Commissioning Tests	45	12-Feb-25	28-Mar-25	08-Apr-24	22-May-24	-310	S5T1190, S5S1020, S5TXRC1050, S5WS2C1180, S5S1150, S3T1320	SC51110
Statutory Submission / Inspection		1299	03-Oct-20 A	26-Nov-24	30-Jul-22	17-Jun-24	-162		
HKT Submission		180	02-Mar-24	28-Aug-24	25-Nov-23	22-May-24	-98		
S5S0990	Application of Telemetry Lines for Workshop No. 2.	180	02-Mar-24	28-Aug-24	25-Nov-23	22-May-24	-98	S5WS2C1180	SC51110
CLP Submission		275	30-May-21 A	25-Jun-23	25-Nov-22	30-Dec-22	-177		
S5S1000	Submission & Approval of Electrical Schematic Wiring Diagram to CLP	275	30-May-21 A	25-Jun-23	25-Nov-22	30-Dec-22	-177		S5WS2C1040
EPD Submission / Inspection		781	28-Aug-21 A	26-Sep-23	30-Jul-22	05-Dec-22	-295		
S5S1010	EPD Submission & Approval for Air Pollution Control - Genset	180	01-Mar-23 A	26-Sep-23	30-Jul-22	05-Dec-22	-295	S2D1860	S5SDBC1770
S5S1020	EPD Submission & Approval for Air Pollution Control - CHP & Burner	180	28-Aug-21 A	29-Sep-22 A	01-Oct-22	01-Oct-22		S2D1610	S5T1200, S5THPC1020, S5CHPC1020
EMSD Submission / Inspection		1299	03-Oct-20 A	26-Nov-24	21-Sep-22	17-Jun-24	-162		
S5S1030	BEEO Stage one: Submit EE1 & EE-SU to EMSD	60	03-Oct-20 A	02-Dec-20 A	21-Sep-22	21-Sep-22		S2D1890	S5WS2C1000
S5S1040	BEEO Stage two: Submit EE2 & EE-SU to EMSD	60	28-Sep-24	26-Nov-24	19-Apr-24	17-Jun-24	-162	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	22-Sep-22	22-Sep-22		S2D1070	S5S1070, S5S1060
S5S1060	Application for Construction Approval of Notifiable Gas Installation (Form 104)	180	15-Nov-21 A	30-Aug-22 A	22-Sep-22	22-Sep-22		S2D1070, S5S1050	S5S1070, S5BIOC1020
S5S1070	Application for Approval of Use of Notifiable Gas Installation (Form 105)	28	22-May-24	18-Jun-24	21-Jul-23	17-Aug-23	-306	S5S1060, S5T1070, S5S1050	S5S1080
S5S1080	EMSD Inspection - Gas Holding Tanks	14	19-Jun-24	02-Jul-24	18-Aug-23	31-Aug-23	-306	S5S1070	S5T1120
S5S1090	Form 5 Submission to EMSD - Lift Installation	0	18-Mar-24		17-Mar-24		-1	S5WS2T1020, S5SDBT1070	S5S1100
S5S1100	EMSD Inspection - Lift Installation	7	17-Apr-24	23-Apr-24	16-Apr-24	22-Apr-24	-1	S5S1090	S5S1110
S5S1110	Issuance of Form 6 - Lift Installation	0		23-May-24		22-May-24	-1	S5S1100	SC51110
WSD Submission / Inspection		1050	01-Jul-21 A	15-May-24	26-Jul-23	22-May-24	7		
S5S1120	Submit WWO46 Part I / II to WSD (FS/PD)	30	01-Jul-21 A	30-Jul-21 A	26-Jul-23	26-Jul-23		S2D1910, S2D1860, S2D1870, S2D1880, S2D1890, S2D1900	S5S1130, S5WS2C1140, S5SHPC1020, S5DIGC1300, S5WS2C1170
S5S1130	Submit WWO46 Part IV to WSD (FS)	0	13-Sep-23		24-Oct-23		41	S5S1120, S5WS2C1140, S5SHPC1020, S5SDBC1800, S5SDBC1690, S5SDBC1600	S5S1140, S5S1150
S5S1140	WSD Inspection (FS)	28	27-Sep-23	24-Oct-23	07-Nov-23	04-Dec-23	41	S5S1130	S5S1250, S5S1150
S5S1150	Issuance of FS Water Certificate	0		21-Nov-23		01-Jan-24	41	S5S1130, S5S1140	S5T1200, S5S1220
S5S1160	Submit WWO46 Part IV to WSD (PD)	0	12-Feb-24		19-Feb-24		7	S5SPSC1020, S5CHPC1240, S5CHPC1110, S5DIGC1300, S5WS2C1170, S5SDBT1190	S5S1170
S5S1170	WSD Inspection	7	26-Feb-24	03-Mar-24	04-Mar-24	10-Mar-24	7	S5S1160	S5S1180
S5S1180	Issuance of Form WWO46 Part Va	0		17-Mar-24		24-Mar-24	7	S5S1170	S5S1200, S5S1190
S5S1190	System Flushing / Sampling	45	18-Mar-24	01-May-24	25-Mar-24	08-May-24	7	S5S1180	S5S1200
S5S1200	Issuance of Form WWO46 Part Vb	0		01-May-24		08-May-24	7	S5S1180, S5S1190	S5S1210
S5S1210	Issuance of Water Certificate	0		15-May-24		22-May-24	7	S5S1200	SC51110
FSD Submission / Inspection		455	29-Apr-22 A	27-Sep-24	05-Dec-22	18-Apr-24	-162		



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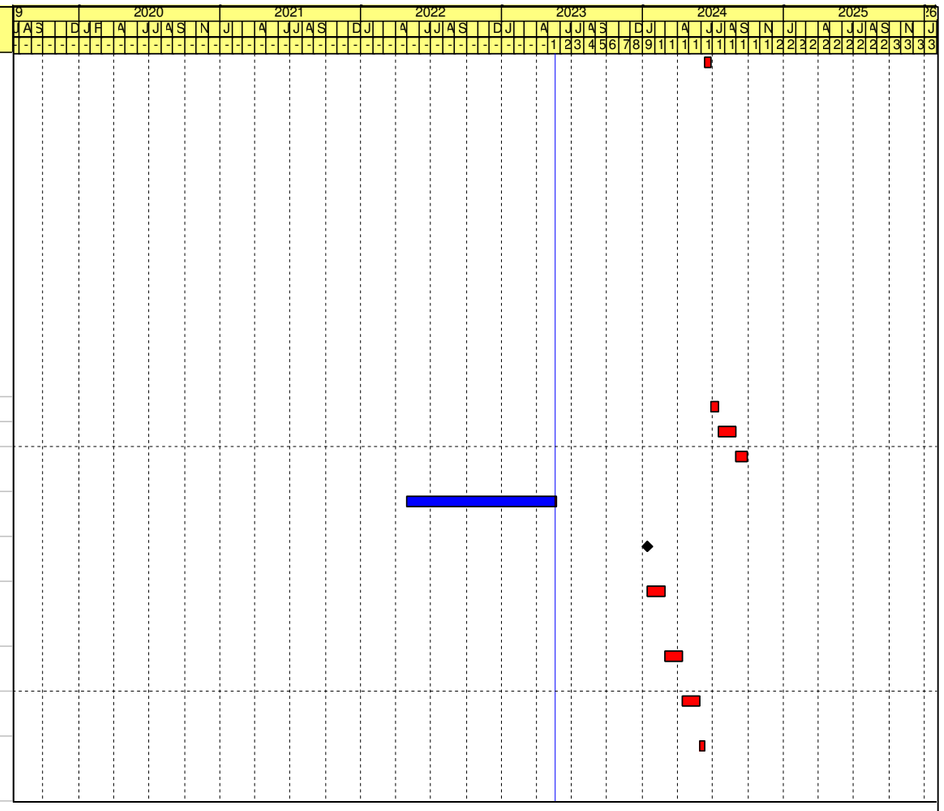
Remaining Work
Critical Activity
Milestone
Actual Progress

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 May 2023

Date	Revision	Checked	Approved
31-Jan-23	Rev.30	IM/LT	KM
28-Feb-23	Rev.31	IM/LT	KM
31-Mar-23	Rev.32	IM/LT	KM
30-Apr-23	Rev.33	IM/LT	KM
31-May-23	Rev.34	IM/LT	KM

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	Predecessors	Successors
S5S1220	Prepare & Submit FSI/314 & FSI/501	14	12-Jun-24	25-Jun-24	02-Jan-24	15-Jan-24	-162	S5WS2C1150, S5S1310, S5S1150, S5EXAC1100, S5EXAC1110, S5CHPC1080, S5CHPC1090, S5CHPC1210, S5CHPC1220, S5DIGC1280, S5DIGC1290, S5SHPT1010, S5SDBT1020, S5SDBT1150, S5SDBT1180, S5SDBT1130, S5MISC1010	S5S1230
S5S1230	FSD Review & Approval of FSI/314 & FSI/501	21	26-Jun-24	16-Jul-24	16-Jan-24	05-Feb-24	-162	S5S1220	S5S1240
S5S1240	F.S. Inspection, Defects Rectification & Re-inspection	45	17-Jul-24	30-Aug-24	06-Feb-24	21-Mar-24	-162	S5S1230	S5S1250
S5S1250	Issuance of Acceptance Letter	28	31-Aug-24	27-Sep-24	22-Mar-24	18-Apr-24	-162	S5S1240, S5S1140	SC51110, S5S1040
S5S1260	Submission & Approval of DG Application to FSD	180	29-Apr-22 A	21-May-23	05-Dec-22	05-Dec-22	-167		S5S1270, S5SDBC1770
S5S1270	Application of D.G. Licence	0	15-Jan-24		21-Mar-23		-300	S5SDBT1140, S5S1260	S5S1280
S5S1280	Apply for D.G. Inspection	45	15-Jan-24	28-Feb-24	21-Mar-23	04-May-23	-300	S5CHPC1150, S5FCDC1020, S5S1270	S5S1310, S5S1290
S5S1290	D.G. Inspection, Defects Rectification & Re-inspection (Ventilation Division)	45	29-Feb-24	13-Apr-24	05-May-23	18-Jun-23	-300	S5S1280	S5S1310, S5S1300
S5S1300	D.G. Inspection, Defects Rectification & Re-inspection (DG Division)	45	14-Apr-24	28-May-24	19-Jun-23	02-Aug-23	-300	S5S1290	S5S1310
S5S1310	Issue D.G. Licence	14	29-May-24	11-Jun-24	03-Aug-23	16-Aug-23	-300	S5S1290, S5S1300, S5S1280	S5S1220, S5T1100



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Remaining Work
Critical Activity
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Sidestream Treatment Facilities and E&M Works for Sludge Treatment Facilities
Revised Programme - as at 20 May 2023

Date	Revision	Checked	Approved
31-Jan-23	Rev.30	IM/LT	KM
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30-Apr-23	Rev.33	IM/LT	KM
31-May-23	Rev.34	IM/LT	KM

Contract No. DE/2018/04
Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1
- E&M Works for Sewage Treatment Facilities
3 Month Rolling Programme (From 01/05/2023 to 01/08/2023)

Updated on: **22-May-23**

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

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 01/05/2023 to 01/08/2023)

Updated on: **22-May-23**

Item	Major Activities & Submission in coming 3 months	Time					Progress (E&M contract)				Action	Remarks / Status
		Contract Planned Commencement Date	Anticipated / Actual Commencement Date	Contract Planned Finish Date	Anticipated / Actual Finish Date	% of time elapsed based on "updated date")	Unit	Total Quantity	Completed Quantity	Actual Progress %		
	KD3B: Preparation and Acceptance of subletting package for installation work (C9)	2/12/2019	15/12/2020	13/4/2020	1/3/2021	Task Completed				100%		
	KD3B: Tender invitation for installation work (C9)	2/12/2019	3/3/2021	13/4/2020	10/3/2021	Task Completed				100%		
	KD3B: Tender Award for installation work (C9)	2/12/2019	12/3/2021	13/4/2020	15/3/2021	Task Completed				100%		
	KD3B: Acceptance of tender award for installation work (C9)	2/12/2019	15/3/2021	13/4/2020	19/3/2021	Task Completed				100%		
	Submission and Acceptance of Drawing Submission	14/4/2020	5/8/2020	10/9/2020	11/1/2021	Task Completed				100%		
	Submission and Acceptance of P&M Submission	14/4/2020	5/8/2020	10/9/2020	30/6/2021	Task Completed						Formal resubmission of P&M for Rotating Bridge Scraper P&M-0024 (Rev.1) was submitted to AECOM on 24 June 2021 and is accepted by AECOM. P&M submission for Local Control Panel Rev.3 was submitted on 20 Mar 2021 and AECOM accepted on 26 Mar 2021.
	Submission and Acceptance of FAT Plan	1/12/2020	27/1/2021	15/12/2020	16/2/2021	Task Completed				100%		
	Submission and Acceptance of SAT Plan	1/3/2021	1/3/2021	1/4/2021	5/5/2021	Task Completed				100%		Bestwise submitted on 13 Apr 2021. AECOM accepted with comments on 5 May 2021.
	Submission and Acceptance of Design Submission (Support to DN700 Feed Pipe)	N/A	22/2/2021	N/A	13/5/2021	Task Completed						Advanced Calculation was provided on 17 Mar 2021 and revised on 18 Mar 2021. Bestwise proposed to use the existing support. Calculation was provided on 1 Apr 2021 via email. Dimension of support column was checked again on 14 Apr 2021. Proposal submitted on 30 Apr 2021. AECOM accepted with comments on 13 May 2021.
	Submission and Acceptance of Design Submission (Stainless steel support to FRP Cover of Effluent	N/A	24/2/2021	N/A	19/4/2021	Task Completed				100%		Advanced Calculation was provided on 17 Mar 2021 and revised on 18 Mar 2021. Bestwise formal submitted on 26 Mar 2021. AECOM accepted with comment on 19 Apr 2021.
	KD3B: Dismantle and Removal of E&M Equipment at PST No. 6	9/2/2021	21/12/2020	19/2/2021	15/1/2021	Task Completed				100%		
	Flow Diversion and drain out PST No.4	N/A	25/1/2021	N/A	26/3/2021	Task Completed				100%		
	KD3B: Dismantle and Removal of E&M Equipment at PST No. 4	9/2/2021	5/3/2021	19/2/2021	1/4/2021	Task Completed				100%		
	KD3B: Material Manufacturing (Clarifier)	12/9/2020	16/12/2020	12/12/2020	20/2/2021	Task Completed				100%		The clarifier would be manufactured in 2 batches (rotating bridge related and FRP launder cover). 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	24/2/2021	N/A	1/3/2021	Task Completed				100%		FAT Report submitted on 24 Feb 2021 and AECOM accepted subject to comment on 1 Mar 2021
	KD3B: Material Delivery (Clarifier)	13/12/2020	27/2/2021	18/1/2021	6/4/2021	Task Completed				100%		
	KD3B: Material Deliver to Site (Clarifier)	N/A	6/4/2021	N/A	8/4/2021	Task Completed				100%		
	KD3B: Material Manufacturing (DI pipes and fittings)	11/9/2020	26/1/2021	18/1/2021	15/3/2021	Task Completed				100%		Extracted from C9 package to C11 package to suit the installation programme
	KD3B: Material Delivery (DI pipes and fittings)	11/9/2020	16/3/2021	18/1/2021	24/3/2021	Task Completed				100%		
	KD3B: Material Delivery (FRP Cover)	N/A	26/3/2021	N/A	21/6/2021	Task Completed				100%		All the FRP covers were delivered to site.
	KD3B: Material Manufacturing (LCP)	11/9/2020	4/3/2021	18/1/2021	16/4/2021	Task Completed				100%		
	KD3B: Material Delivery (LCP)	11/9/2020	17/4/2021	18/1/2021	30/4/2021	Task Completed				100%		
	KD3B: Retrofitting Concrete Structure of PST No. 4	N/A	2/4/2021	N/A	22/4/2021	Task Completed				100%		
	KD3B: Installation of E&M Equipment at PST No. 4	27/2/2021	5/4/2021	10/5/2021	17/5/2021	Task Completed						
	KD3B: Testing and Comisssioning for PST No. 4	11/5/2021	19/4/2021	9/6/2021	26/7/2021	Task Completed						Wet test for PST 4 completed on 26 July 2021.
	Flow Diversion from PST No.6 to Temporary Filtrate Equalization Tank	N/A	19/5/2021	N/A	20/5/2021	Task Completed				100%		Filtrate feeding to TFES was resumed on 19/5/2021 with fine-tuned control.
	Removal of Accumulated Sludge Inside PST No. 6	N/A	19/5/2021	N/A	30/5/2021	Task Completed				100%		NCE-0229, this includes removal of floating scum/ sludge and clearance of blockage of drain pipe
	KD3B: Retrofitting Concrete Structure of PST No. 6	N/A	28/5/2021	N/A	24/6/2021	Task Completed				100%		
	KD3B: Mechanical Installation of E&M Equipment at PST No. 6	27/2/2021	31/5/2021	10/5/2021	21/7/2021	Task Completed				100%		This includes PST Influent feed pipe, center bearing & slip ring assembly, motor & gearbox assembly, rotating bridge sludge & scum scraper assembly, circular baffle diffuser box, v-notched weir plate, scum baffle plate, scum collection box and FRP cover.
	KD3B: Electrical Installation of E&M Equipment at PST No. 6	27/2/2021	9/6/2021	10/5/2021	21/7/2021	Task Completed				100%		This includes installation of LCP, cable laying & terminations.

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	KD3B: Testing and Comisssioning for PST No. 6	11/5/2021	22/6/2021	9/6/2021	20/8/2021	Task Completed				100%		Wet test (1st) completed on 20 Aug 2021 and wet test (2nd) completed on 3 Sep 2021.
KD3B: 6B.2.15 Operation Restoration of Existing Primary Sedimentation Tank (PST) No. 4 and 6	KD3B: System Commissioning for PST No. 4 & 6	N/A	22/6/2021	N/A	3/9/2021	Task Completed				100%		Wet test (2nd) for PST#6 completed on 3 Sep 2021 and pre-handover inspection arranged on 30 Aug 2021. Defect list (final) received on 17 Sep 2021 and defect rectification was completed. Site training/ demonstration shall be conducted by end Feb and PMI modification work shall be completed by end March.
	KD3B: 9 June 2021											
Section 1 of Works (outstanding works list)												
6B.2.12 Provision of New Replacement Filter Plates	Submission of onsite survey plan for acceptance	1/3/2020	25/3/2020	30/3/2020	21/4/2020	Task Completed				100%	-	Bestwise resubmitted onsite survey plan on 21 April 2020
	Acceptance of submission of onsite survey plan	1/3/2020	25/3/2020	30/3/2020	12/5/2020	Task Completed				100%	-	Survey plan acceptance received on 12 May 2020. Onsite discussion with ST1 was
	Submission of onsite survey report	21/5/2020	21/5/2020	29/5/2020	29/5/2020	Task Completed				100%		
	Acceptancce of onsite survey report	30/5/2020	30/5/2020	15/6/2020	15/6/2020	Task Completed				-		
	Preparation of procurement package (C11)	22/6/2020	22/6/2020	6/7/2020	14/7/2020	Task Completed				100%		
	Tender invitation (C11)	15/7/2020	15/7/2020	22/7/2020	24/7/2020	Task Completed				100%		
	Tender Award (C11)	23/7/2020	25/7/2020	29/7/2020	31/7/2020	Task Completed				100%		Revised survey report (second draft) was sent to AECOM on 21 Oct 2020. Technical
	Material Submission	21/8/2020	21/8/2020	28/8/2020	7/12/2020	Task Completed				100%		Material submission (Rev.1) resubmitted on 7 Dec 2020. AECOM accepted subject to comments on 24 Dec 2020. Material submission (Rev. 2) resubmitted on 12 Jan 2021. AECOM accepted subject to comment on 22 Jan 2021.
6B.2.12 Provision of New Replacement Filter Plates for Existing Membrane Filter Presses at Existing Sludge Press House	Material Delivery	1/12/2020	1/12/2020	8/8/2021	8/8/2021	Task Completed				-		"Filter Press Plates and Cloths" were handed over to DSD.
6B.2.12 Provision of Membrane Filter Press System at Existing Sludge Press House	Submission of onsite survey plan for acceptance	1/3/2020	25/3/2020	30/3/2020	Task to be deleted	Task to be deleted				-	-	PPMI No.5 was 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	1/3/2020	1/4/2020	30/3/2020	7/5/2020	Task Completed				100%	-	Bestwise resubmitted onsite survey plan on 7 May 2020
	Acceptance of submission of onsite survey plan	1/3/2020	1/4/2020	30/3/2020	23/5/2020	Task Completed				100%	-	AECOM accepted the onsite survey plan on 23 May 2020
6B.2.16 Temporary Filtrate Equalisation System (Sub-programme was provided by Bestwise)	Submission and Acceptance of ELS Design for Lifting Well	15/06/2020 -> 17/08/2020*	2/9/2020	30/07/2020 -> 30/11/2020*	9/2/2021	Task Completed				100%	Bestwise	- * = PMI014 - Revised Location for Construction of Temporary Filtrate Equalization System 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*	2/9/2020	30/07/2020 -> 30/11/2020*	15/1/2021	Task Completed				100%		* = PMI014 - Revised Location for Construction of Temporary Filtrate Equalization System 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**	2/9/2020	30/07/2020 -> 22/10/2020**	15/1/2021	Task Completed				100%		** = Change of material of temporary filtrate equalization tank from concrete to FRP on 07 Sep 2020. - Re-design work was proceeded and the planned start date was revised to 17 Aug 2020. - Bestwise submitted Rev.0 on 08 Jan 2020.
	Submission and Acceptance of Design of footing for FRP Filtrate Equalization Tank	15/06/2020 -> 07/09/2020**	2/9/2020	30/07/2020 -> 22/10/2020**	19/2/2021	Task Completed				100%		** = Change of material of temporary filtrate equalization tank from concrete to FRP on 07 Sep 2020. - Re-design work was proceeded and the planned start date was revised to 17 Aug 2020. - Design of Footing was submitted on 8 Feb 2021.
	Submission and Acceptance of Design of Formwork & Flasework Design for Construction of Lifting Well	15/06/2020 -> 17/08/2020*	2/9/2020	30/07/2020 -> 30/11/2020*	15/1/2021	Task Completed				100%		- * = PMI014 - Revised Location for Construction of Temporary Filtrate Equalization System reveiced on 17 Aug 2020. - Bestwise submitted Rev.0 on 12 Jan 2020.

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

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6B Overall plant process equipment sizing review	Submission of Contractor's Design Calculation for	1/6/2020	1/6/2020	30/6/2020	2/7/2020	Task Completed				-	Bestwise	Preliminary Draft submitted, meeting completed on 15 May 2020 with SRE and TPS. Initial
	Acceptance of submission for further detail design	14/6/2020	3/7/2020	30/6/2020	17/7/2020	Task Completed				-		
6B.2.1 Inlet Works	Submission of Contractor's Design for Inlet Works No. 1	6/9/2020	16/11/2020	14/5/2021	30/4/2023	102%				-	Bestwise	All finalized design calculations for Inlet Works no.1 shall be submitted by 20 Jan 2023.
	Submission of P&M Submission	6/9/2020	7/9/2020	14/5/2021	30/4/2023	102%						P&M0022 - Inlet Pumps (status: B) P&M0003 - Coarse Screens & Fine Screens (status: B) P&M0085 - Grit Traps (status: B) P&M0084 - Screw Compactor (status: B) P&M0042 - Screw Conveyors for Coarse Screens and Fine Screens (status: B) All P&M for Inlet Works no.1 shall be submitted by 20 Jan 2023.
	Submission of P&ID Drawing	6/9/2020	6/9/2020	14/5/2021	29/12/2020	Task Completed						PID (rev.B) submitted on 13 Nov 2020. AECOM accepted subject to comments on 29 Dec 2020.
	Submission of GA Drawing	6/9/2020	5/1/2021	14/5/2021	30/4/2023	103%						E&M GA submission DWG0082 resubmitted on 9 July 2021. AECOM commented on 19 Feb 2021. Bestwise reviewed GA in BIM with AECOM on 12 Jan 2022. Electrical GA DWG0095 resubmitted on 3 July 2021. AECOM commented on 21 Apr 2021. Bestwise reviewed GA in BIM with AECOM on 12 Jan 2022. All finalized drawings for Inlet Works no.1 shall be submitted by 30 June 2022 and BIM GA review meeting is scheduled on 5, 12, 19/5/2022.
	Submission of Electrical Drawing	6/9/2020	15/1/2021	14/5/2021	30/4/2023	103%						Electrical SLD submitted on 5 Feb 2021. AECOM commented on 20 Feb 2021. Bestwise to resubmit. All finalized drawings for Inlet Works no.1 shall be submitted by 20 Jan 2023.
	Acceptance of submission	15/5/2021	15/5/2021	29/5/2021	30/4/2023	103%				-		
	Submission of detailed design for electrical installation for Inlet Works No. 1 (CDS021)	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of detailed design for LV Switchboards for Inlet Works No. 1 (CDS025-1)	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of detailed design for electrical installation BS for Inlet Works No. 1 (CDS034-1)	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of civil work requirements for Inlet Works No. 1 up to +8.0 mPD (CDS080-1)	1/9/2020	1/9/2020	30/10/2020	30/10/2020	Task Completed						
	KD1A: Submission of civil requirement drawing for Inlet Works No. 1 up to +8.0 mPD (First Draft))	15/7/2020	15/7/2020	15/8/2020	17/9/2020	Task Completed	no.	3	3	100%		1st draft of drawing submitted on 17 September 2020
	KD1A: Submission of civil requirement drawing for Inlet Works No. 1 up to +8.0 mPD (Final)	28/8/2020	18/9/2020	5/11/2020	5/11/2020	Task Completed	no.	3	3	100%	Bestwise	Bestwise resubmitted (rev.A) on 27 Oct 2020.
	KD1A: Submission of electrical schematic drawings for Inlet Works No. 1 (First Draft)	15/7/2020	15/7/2020	15/8/2020	30/9/2020	Task Completed	no.	2	2	100%		1st draft of drawing submitted on 30 September 2020
	KD1A: Submission of electrical schematic drawings for Inlet Works No. 1 (Final)	7/9/2020	1/10/2020	5/11/2020	20/10/2020	Task Completed	no.	2	2	100%	Bestwise	Bestwise submitted on 20 Oct 2020
	KD1A: 6 November 2020											Notice of completion works was submitted on 17 Nov 2020
6B.2.2 Primary Sedimentation Tank No. 1-4	Submission of Contractor's Design for Primary Sedimentation Tanks No. 1-4	6/9/2020	28/12/2020	14/5/2021	31/5/2023	99%				-	Bestwise	PFD (rev.B) under DWG0004 submitted on 22 June 2021. Finalized design calculations for PST shall be submitted by 20 Jan 2023.
	Submission of P&M Submission	6/9/2020	26/11/2020	14/5/2021	31/5/2023	99%						P&M0058 - Lamella Plate Settler (status: B) P&M0097 - Scum Skimmer and Scum Collection Pipe (status: C) P&M0086 - Sludge Bottom Scraper (status: B) P&M0051 - Drain Pump (status: B) P&M0044 - Primary Sludge Pump (status: B) Finalized material submissions for PST shall be submitted by 20 Jan 2023.
	Submission of P&ID Drawing	6/9/2020	2/10/2020	14/5/2021	24/6/2021	Task Completed						PID under DWG0037 (rev.1) submitted on 24 June 2021 and is accepted by AECOM.

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	Submission of GA Drawing	6/9/2020	3/2/2021	14/5/2021	31/5/2023	99%						Mechanical GA was submitted on 19 Jun 2021. Electrical GA under DWG0103 (rev.1) was submitted on 6 Jul 2021 and is accepted by AECOM. Finalized drawings for PST shall be submitted by 30 Aug 2022.
	Submission of Electrical Drawing	6/9/2020	15/1/2021	14/5/2021	31/5/2023	99%						Electrical SLD submitted on 5 Feb 2021. AECOM commented on 20 Feb 2021. Bestwise to resubmit. Finalized drawings for PST shall be submitted by 20 Jan 2023.
	Acceptance of submission	15/5/2021	2/4/2021	29/5/2021	31/5/2023	99%				-		Refer to outstanding list under "Certificate of completion no.1 - section 1 of the works".
	Submission of detailed design for electrical installation	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of detailed design for LV Switchboards for Primary Sedimentation Tanks (CDS025-2)	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of detailed design for electrical installation	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of civil work requirements for Primary Sedimentation Tanks up to +8.0 mPD (CDS080-2)	1/9/2020	1/9/2020	30/10/2020	30/10/2020	Task Completed						
	KD1A: Submission of civil requirement drawing for Primary Sedimentation Tanks No. 1-4 up to +8.0 mPD	15/7/2020	15/7/2020	15/8/2020	30/9/2020	Task Completed	no.	4	4	100%		1st part of drafted drawing (2 nos.) was submitted on 23 Sept 2020. Remaining drawings (2 nos.) were submitted on 30 Sept 2020.
	KD1A: Submission of civil requirement drawing for Primary Sedimentation Tanks No. 1-4 up to +8.0 mPD	28/8/2020	1/10/2020	5/11/2020	5/11/2020	Task Completed	no.	4	4	100%	Bestwise	Bestwise resubmitted (Rev.A) on 27 Oct & 13 Nov 2020.
	KD1A: Submission of electrical schematic drawings for Primary Sedimentation Tanks No. 1-4 (First Draft)	15/7/2020	15/7/2020	15/8/2020	30/9/2020	Task Completed	no.	1	1	100%		1st draft of drawing submitted on 30 September 2020
	KD1A: Submission of electrical schematic drawings for Primary Sedimentation Tanks No. 1-4 (Final)	7/9/2020	1/10/2020	5/11/2020	20/10/2020	Task Completed	no.	1	1	100%	Bestwise	Bestwise submitted on 20 Oct 2020
	KD1A: 6 November 2020											Notice of completion works was submitted on 17 Nov 2020
6B.2.3 Chemical Storage and Dosing System	Submission of Contractor's Design for Chemical Dosing System (CDS006)	6/9/2020	7/1/2021	14/5/2021	29/10/2021	Task Completed				-	Bestwise	Design calculation (rev.0) of CHS1 and TCHS submitted on 2 Sep 2020 and 28 Aug 2020, AECOM commented on 24 Sep and 6 Oct 2020, Bestwise submitted CDS0060 on 15 Jul 2021 and CDS0044 on 19 Jul 2021. Finalized design calculation for chemical systems was submitted on 29 Oct 2021.
	Submission of P&M Submission	6/9/2020	6/9/2020	14/5/2021	30/10/2021	Task Completed						Finalized material submissions for chemical system was submitted on 30 Oct 2021.
	Submission of P&ID Drawing	6/9/2020	11/12/2020	14/5/2021	29/6/2021	Task Completed						PID resubmitted under DWG0053 (rev.1) on 28 Jun 2021, DWG0057 (rev.1) on 29 Jun 2021 and DWG0058 (rev.1) on 29 Jun 2021.
	Submission of GA Drawing	6/9/2020	8/2/2021	14/5/2021	31/5/2023	99%						Electrical GA drawings for CS1 under DWG0096 submitted on 10 April 2021. AECOM accepted subject to comments on 17 Apr 2021. Mechanical GA drawings for CS1 submitted on 1 April 2021. AECOM commented on 24 April 2021. Bestwise resubmitted DWG0093 (rev.1) on 30 Jun 2021 and is accepted by AECOM. Mechanical GA for Temp CS submitted on 12 Jun 2021. All finalized drawings for chemical systems shall be submitted by 30 June 2022 and BIM GA review meeting is scheduled on 17, 21, 28/4/2022.
	Submission of Electrical Drawing	6/9/2020	15/1/2021	14/5/2021	31/5/2023	99%						Electrical SLD submitted on 5 Feb 2021. AECOM commented on 20 Feb 2021. Bestwise to resubmit. All finalized drawings for chemical system shall be submitted by 20 Jan 2023.
	Acceptance of submission	15/5/2021	15/5/2021	29/5/2021	31/5/2023	99%				-		
	Submission of detailed design for electrical installations	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of detailed design for electrical installations	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of detailed design for electrical installations	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of detailed design for electrical installation	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	KD1A: Submission of civil requirement drawing for	15/7/2020	15/7/2020	15/8/2020	16/9/2020	Task Completed	no.	2	2	100%		1st draft of drawing submitted on 15 September for CHS1 and 16 September 2020 for
	KD1A: Submission of civil requirement drawing for	7/9/2020	17/9/2020	5/11/2020	5/11/2020	Task Completed	no.	2	2	100%		Bestwise resubmitted (Rev.A) on 5 Nov 2020.
	KD1A: Submission of electrical schematic drawings for	15/7/2020	15/7/2020	15/8/2020	15/9/2020	Task Completed				-		1st draft of drawing to be submitted by 16 September 2020
	KD1A: Submission of electrical schematic drawings for Chemical System No. 1 and No. 2 (Final)	7/9/2020	16/9/2020	5/11/2020	5/11/2020	Task Completed						
	KD1A: Submission of civil requirement drawing for Temporary Chemical System up to +8.0 mPD (First	15/7/2020	15/7/2020	15/8/2020	15/9/2020	Task Completed	no.	1	1	100%		1st draft of drawing submitted on 15 September 2020

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

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

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	Submission of GA Drawing of DOU No. 3A	6/9/2020	8/7/2020	14/5/2021	30/4/2023	102%				-	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	21/3/2021	26/2/2021	14/5/2021	31/5/2023	99%						Bestwise submitted on 17 Apr 2021. AECOM commented on 27 Apr 2021. Bestwise to resubmit. GA submitted on 24 Jun 2021 Finalized drawing shall be submitted by 20 Jan 2023.
	Acceptance of submission	15/5/2021	15/5/2021	29/5/2021	31/5/2023	99%						
	KD1A: Submission of civil requirement drawing for Deodorisation System , DOU No. 3A up to +8.0 mPD	15/7/2020	15/7/2020	15/8/2020	28/9/2020	Task Completed	no.	1	1	100%		1st draft of drawing was submitted on 28 September 2020
	KD1A: Submission of civil requirement drawing for	28/8/2020	29/9/2020	2/11/2020	5/11/2020	Task Completed	no.	1	1	100%	Bestwise	Bestwise resubmitted (rev.1) on 5 Nov 2020.
	Submission of Contractor's Design for Deodorisation System , DOU No. 3B (CDS0019 & CDS0049)	6/9/2020	6/9/2020	14/5/2021	10/12/2021	Task Completed						CDS0019: Design Calculation for Deodorisation System (status: B) CDS0049: Design Calculation on DOU3B - air extraction fan (status: B)
	Submission of P&ID Drawing of DOU No. 3B	6/9/2020	5/8/2020	14/5/2021	2/7/2021	Task Completed				-	Bestwise	Bestwise resubmitted rev.3 on 29 Mar 2021. AECOM accepted subject to comments on 13 Apr 2021.
	Submission of GA Drawing of DOU No. 3B	6/9/2020	6/9/2020	14/5/2021	31/5/2023	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	21/3/2021	22/2/2021	14/5/2021	31/5/2023	99%						GA submitted on 24 Jun 2021 Finalized drawing shall be submitted by 20 Jan 2023.
	Acceptance of submission	15/5/2021	15/5/2021	29/5/2021	31/5/2023	99%				-		
	Submission of detailed design for electrical installation	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of detailed design for LV Switchboards for	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of detailed design for electrical installation	6/9/2020	6/9/2020	14/5/2021	14/5/2021	Task Completed						
	Submission of civil work requirements for MFB up to	1/9/2020	1/9/2020	30/9/2020	30/9/2020	Task Completed						
	Submission of civil requirement drawing for MFB up to	28/8/2020	28/8/2020	2/11/2020	2/11/2020	Task Completed						
	KD1A: Submission of electrical schematic drawings for	15/7/2020	15/7/2020	15/8/2020	30/9/2020	Task Completed				-		1st draft of drawing to be submitted by 30 September 2020
	KD1A: Submission of electrical schematic drawings for	7/9/2020	1/10/2020	5/11/2020	5/11/2020	Task Completed						
	KD1A: 6 November 2020											Notice of completion works was submitted on 17 Nov 2020
04SC008 - Design, Supply and Installation of detailed design for lifting appliances	Acceptance of tender award (C9)	-	-	-	6/7/2020	Task Completed				100%	-	AECOM accepted tender report on 6 July 2020.
	Submission of detailed design for lifting appliances for Inlet Works No. 1 (CDS050-1)	6/9/2020	5/12/2020	6/9/2020	31/5/2023	99%						DWG 0055 (Rev.0) was submitted on 13 Mar 2021. AECOM commented on 20 Apr 2021. Bestwise to resubmit. Bestwise submitted P&M0025 on 15 June 2021. Finalized design shall be submitted by 20 Jan 2023.
	Submission of detailed design for lifting appliances for Primary Sedimentation Tanks (CDS050-2)	6/9/2020	5/12/2020	6/9/2020	31/5/2023	99%						DWG 0054 (Rev.0) was submitted on 18 Jan 2021. AECOM commented on 9 Mar 2021. Bestwise to resubmit. Finalized design shall be submitted by 20 Jan 2023.
	Submission of detailed design for lifting appliances for BR 2A and 2B (CDS050-3)	6/9/2020	5/12/2020	6/9/2020	31/5/2023	99%						DWG 0065 (Rev.0) was submitted on 18 Jan 2021. AECOM commented on 9 Mar 2021. Bestwise to resubmit. P&M-0026 (Rev.1) received status B. Finalized design calculation shall be submitted by 20 Jan 2023.
	Submission of detailed design for lifting appliances for MFB (CDS050-4)	6/9/2020	5/12/2020	6/9/2020	31/5/2023	99%						DWG 0066 (Rev.1) was submitted on 1 Mar 2021. AECOM commented on 5 Mar 2021. Bestwise to resubmit. P&M-0027 (Rev.1) received status B. Finalized design calculation shall be submitted by 20 Jan 2023.
	Submission of detailed design for lifting appliances for Temporary Filtration Tank (CDS050-5)	6/9/2020	5/12/2020	6/9/2020	21/5/2021	Task Completed						DWG 0051 (Rev.2) was resubmitted on 7 May 2021 and acceptance by AECOM subject to condition on 21 May 2021. Bestwise submitted P&M0021 on 21 June 2021.
Building Services System	Submission for MVAC system	N/A	10/12/2020	N/A	31/5/2023	99%						Design calculations and drawings for inlet works was submitted on 16 Dec 2020. AECOM commented on 15 Jan 2021 and 20 Jan 2021. Design calculations and drawings for PST was submitted on 30 Dec 2020. AECOM commented on 22 Jan 2021 and 26 Jan 2021. Design calculations and drawings for MFB2 was submitted on 29 Jan 2021. AECOM commented on 26 Mar 2021. Subletting package resubmitted by 18 Mar 2021. AECOM accepted on 19 Mar 2021. Finalized design shall be submitted by 20 Jan 2023.

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	Submission for Fire Services System	N/A	15/3/2021	N/A	31/5/2023	99%						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 20 Jan 2023.
	Submission for Plumbing and Drainage System	N/A	15/3/2021	N/A	31/5/2023	99%						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 20 Jan 2023.
	Submission for Electrical Services System	N/A	10/12/2020	N/A	31/5/2023	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 20 Jan 2023.
	Submission of ELV system	N/A	8/1/2021	N/A	31/5/2023	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 20 Jan 2023.
	Submission for PV system	N/A	15/3/2021	N/A	31/5/2023	99%						Tender package was submitted to AECOM. Finalized design shall be submitted by 20 Jan 2023.
SCADA System & PMS	Submission for SCADA system	N/A	11/2/2021	N/A	31/5/2023	99%						Revised SCADA structure was provided via email on 9 Apr 2021 and tender package is under preparation. Finalized design shall be submitted by 20 Jan 2023.
	Submission for PMS system	N/A	8/3/2021	N/A	31/5/2023	99%						Tender package to be resubmitted on 29 June 2021. Finalized design shall be submitted by 20 Jan 2023.
	Submission for CMMS & IDMS system	N/A	1/6/2021	N/A	31/5/2023	99%						Finalized design shall be submitted by 20 Jan 2023.
Section 2 of Works												
Street Fire Hydrant Pump Room	KD1A: Submission of civil requirement drawing for	15/7/2020	15/7/2020	15/8/2020	17/9/2020	Task Completed	no.	1	1	100%		1st draft of drawing submitted on 17 September 2020
	KD1A: Submission of civil requirement drawing for	28/8/2020	18/9/2020	2/11/2020	5/11/2020	Task Completed	no.	1	1	100%		Bestwise resubmitted (rev.1) on 5 Nov 2020.
	KD1A: Submission of electrical schematic drawings for	15/7/2020	15/7/2020	15/8/2020	30/9/2020	Task Completed						1st draft of drawing to be submitted by 30 September 2020
	KD1A: Submission of electrical schematic drawings for	7/9/2020	1/10/2020	5/11/2020	5/11/2020	Task Completed						
	KD1A: 6 November 2020											Notice of completion works was submitted on 17 Nov 2020
FS & Sprinkler Pump Room	KD1A: Submission of civil requirement drawing for FS	15/7/2020	15/7/2020	15/8/2020	17/9/2020	Task Completed	no.	1	1	100%		1st draft of drawing submitted on 17 September 2020
	KD1A: Submission of civil requirement drawing for FS	28/8/2020	18/9/2020	2/11/2020	5/11/2020	Task Completed	no.	1	1	100%		Bestwise resubmitted (rev.1) on 5 Nov 2020.
	KD1A: Submission of electrical schematic drawings for	15/7/2020	15/7/2020	15/8/2020	30/9/2020	Task Completed						
	KD1A: Submission of electrical schematic drawings for	7/9/2020	1/10/2020	5/11/2020	5/11/2020	Task Completed						
	KD1A: 6 November 2020											Notice of completion works was submitted on 17 Nov 2020
	Fire Services Installation Work	1/3/2023	16/3/2023	16/7/2023	31/7/2023							
Emergency Generator House	KD1A: Submission of civil requirement drawing for Emergency Generator House up to +8.0 mPD (First Draft)	15/7/2020	15/7/2020	15/8/2020	18/9/2020	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)	28/8/2020	19/9/2020	2/11/2020	5/11/2020	Task Completed	no.	1	1	100%		Bestwise resubmitted (rev.1) on 5 Nov 2020.
	KD1A: Submission of electrical schematic drawings for	15/7/2020	15/7/2020	15/8/2020	30/9/2020							
	KD1A: Submission of electrical schematic drawings for Street Fire Hydrant Pump Room (Final)	7/9/2020	1/10/2020	5/11/2020	5/11/2020							
	KD1A: 6 November 2020											Notice of completion works was submitted on 17 Nov 2020
DOU3A	Material Delivery	7/3/2023	7/3/2023	7/5/2023								
	Mechanical Installation for DOU3A	8/3/2023		6/7/2023								
	Testing & Commissioning											

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Lightning Protection System for DOU3A (underground)	Submission and Acceptance for Lightning Protection System Design	6/12/2021	6/12/2021	31/1/2022	31/1/2022	Task Completed						
	Material Delivery	7/2/2022	7/2/2022	28/2/2022	28/2/2022	Task Completed						
	Installation Work	31/3/2022	26/4/2022	5/5/2022	5/5/2022	Task Completed						
	Testing & Commissioning	7/1/2023	7/1/2023	31/1/2023								
Lightning Protection System for Inlet Works (underground)	Submission and Acceptance for Lightning Protection System Design	20/12/2021	20/12/2021	31/1/2022	31/1/2022							
	Material Delivery	15/12/2022	1/10/2022	31/3/2022	31/10/2022							
	Installation Work	15/3/2022	1/11/2022	30/10/2022	14/12/2022							
	Testing & Commissioning	1/11/2022	15/12/2022	15/11/2022	31/12/2022							
MFB No.2	Rail Beam Installation at Basement 2	12/5/2023	22/5/2023	11/7/2023	21/7/2023							
	MVAC Installation at Basement 2	8/5/2023	8/5/2023	7/7/2023	7/7/2023							
	Fire Services Installation at Basement 2	8/5/2023	8/5/2023	7/7/2023	7/7/2023							
	Plumbing Services Installation at Basement 2	8/5/2023	8/5/2023	7/7/2023	7/7/2023							
Section 3 of Works												
6B.2.12 Provision of New Replacement Filter Plates	Submission of onsite survey plan for acceptance	1/3/2020	25/3/2020	30/3/2020	21/4/2020	Task Completed				100%	-	Bestwise resubmitted onsite survey plan on 21 April 2020
	Acceptance of submission of onsite survey plan	1/3/2020	25/3/2020	30/3/2020	12/5/2020	Task Completed				100%	-	Survey plan acceptance received on 12 May 2020. Onsite discussion with ST1 was
	Submission of onsite survey report	21/5/2020	21/5/2020	29/5/2020	29/5/2020	Task Completed				100%		
	Acceptancce of onsite survey report	30/5/2020	30/5/2020	15/6/2020	15/6/2020	Task Completed				-		
	Preparation of procurement package (C11)	22/6/2020	22/6/2020	6/7/2020	14/7/2020	Task Completed				100%		
	Tender invitation (C11)	15/7/2020	15/7/2020	22/7/2020	24/7/2020	Task Completed				100%		
	Tender Award (C11)	23/7/2020	25/7/2020	29/7/2020	31/7/2020	Task Completed				100%		Revised survey report (second draft) was sent to AECOM on 21 Oct 2020. Technical
6B.2.12 Provision of New Replacement Filter Plates for Existing Membrane Filter Presses at Existing Sludge Press House	Material Submission	21/8/2020	21/8/2020	28/8/2020	7/12/2020	Task Completed				100%		Material submission (Rev.1) resubmitted on 7 Dec 2020. AECOM accepted subject to comments on 24 Dec 2020. Material submission (Rev. 2) resubmitted on 12 Jan 2021. AECOM accepted subject to comment on 22 Jan 2021.
6B.2.12 Provision of New Replacement Filter Plates for Existing Membrane Filter Presses at Existing Sludge Press House	Material Delivery	1/12/2020	1/12/2020	8/8/2021	13/7/2021	Task Completed				-		Handed over to DSD.
	Completion Date of Section 3: 22 September 2021											
Subcontracting												
	Submission of subletting package for acceptance	1/1/2020	6/3/2020	30/3/2020	6/3/2020	Task Completed				100%	-	
	Acceptance of subletting package	1/3/2020	21/3/2020	30/3/2020	21/3/2020	Task Completed				100%	-	
	Tender invitation	1/3/2020	24/3/2020	1/4/2020	30/3/2020	Task Completed				100%	-	
	Tender award	22/3/2020		14/4/2020	6/4/2020	Task Completed				100%	-	Bestwise submitted tender report on 6 April 2020
	Acceptance of tender award	-	-	-	15/4/2020	Task Completed				100%		AECOM accepted tender report on 15 April 2020
Construction of *Contractor*'s site accommodation in WA1-C	Design of MiC	15/4/2020	16/4/2020	1/6/2020	15/8/2020	Task Completed				100%		Revised layout drawings received from AluHouse on 28 May 2020. Comments provided to AluHouse on 2 June 2020.
	Submission of detailed design including foundation works, septic tank	1/7/2020	1/7/2020	14/7/2020	4/9/2020	Task Completed				100%		Design calculation of foundation work was submitted on 7 July 2020, comment received on 27 July 2020. Bestwise to resubmit.
	Site Clearence Work	15/7/2020	20/7/2020	31/7/2020	15/8/2020	Task Completed				100%		Tender invitation commenced on 29 May 2020 and tenders received on 4 June 2020. Tender
	Off-site fabrication of Septic tank	15/7/2020	20/7/2020	31/7/2020	31/7/2020	Task Completed				100%		Site clearence work started on 20 July 2020
	Submission of method statement with ICE certificate	1/8/2020	1/8/2020	7/8/2020	8/10/2020	Task Completed				100%		CV of ICE was submitted on 4 August 2020 and accepted on 25 August 2020
	Submission of design calculation with ICE certificate	1/8/2020	1/8/2020	7/8/2020	8/10/2020	Task Completed				100%		Design calculation of foundation work was submitted on 7 July 2020, comment received on
	Acceptance of method statement and design calculation	8/8/2020	9/10/2020	14/8/2020	16/10/2020	Task Completed				100%		Method Statement and Design Calculation was submitted on 8 Oct 2020.
	Submission of method statement with ICE certificate	1/8/2020	1/8/2020	7/8/2020	23/11/2020	Task Completed				100%		
	Submission of design calculation with ICE certificate	1/8/2020	1/8/2020	7/8/2020	23/11/2020	Task Completed				100%		
	Acceptance of method statement and design calculation	8/8/2020	24/11/2020	14/8/2020	27/11/2020	Task Completed				100%		
	Excavation work	17/8/2020	21/10/2020	18/8/2020	21/10/2020	Task Completed				100%		
	Installation of septic tank	19/8/2020	21/10/2020	20/8/2020	22/10/2020	Task Completed				100%		

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

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

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

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

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 01/05/2023 to 01/08/2023)

Updated on: **22-May-23**

Item	Major Activities & Submission in coming 3 months	Time					Progress (E&M contract)				Action	Remarks / Status
		Contract Planned Commencement Date	Anticipated / Actual Commencement Date	Contract Planned Finish Date	Anticipated / Actual Finish Date	% of time elapsed based on "updated date")	Unit	Total Quantity	Completed Quantity	Actual Progress %		
	Acceptance of marking scheme by the PM	28/5/2020	3/9/2020	28/9/2020	5/9/2020	Task Completed				100%		AECOM accepted on 5 Sep 2020 subject to conditions.
	Tender invitation	11/6/2020	14/9/2020	12/10/2020	5/10/2020	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	18/6/2020	6/10/2020	19/10/2020	2/11/2020	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	2/7/2020	3/11/2020	2/11/2020	24/11/2020	Task Completed				-		
	Submission of marking scheme for PM's acceptance (second draft)	14/5/2020	14/5/2020	14/9/2020	19/8/2020	Task Completed				100%		AECOM commented on 14 August 2020, Bestwise resubmitted on 19 Aug 2020
	Submission of marking scheme for PM's acceptance	14/5/2020	14/5/2020	14/9/2020	19/8/2020	Task Completed				100%		Bestwise resubmitted on 19 Aug 2020
	Acceptance of marking scheme by the PM	28/5/2020	20/8/2020	28/9/2020	1/9/2020	Task Completed				100%		AECOM accepeted on 1 Sep 2020
	Tender invitation	11/6/2020	25/9/2020	12/10/2020	29/10/2020	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	18/6/2020	30/10/2020	19/10/2020	2/12/2020	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	2/7/2020	21/11/2020	2/11/2020	12/12/2020	Task Completed				-		
Usage of WA2-A		-		21/2/2020	21/2/2020	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