


Drainage Services Department

**Agreement No. SPW 07/2019
Shek Wu Hui Effluent Polishing
Plant – Main Works Stage 1**

**Monthly EM&A Report
November 2020**

(Version 1)

Certified By



(Environmental Team Leader:

Mr. KS Lee)

REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

CINOTECH accepts no responsibility for changes made to this report by third parties

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14 December 2020

By E-mail and Fax (3922 9797)

AECOM Asia Company Limited
8/F., Grand Central Plaza, Tower 2,
138 Shatin Rural Committee Road
Sha Tin, New Territories, Hong Kong

Attention: Mr CHANG Ping Wah

Dear Mr CHANG,

**Re: Contract No. SPW 08/2019
Independent Environmental Checker for
Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1**

Monthly EM&A Report for November 2020

Reference is made to the Environmental Team's submission of Monthly EM&A Report for November 2020 (Version 1) certified by the ET Leader and provided to us via e-mail on 14 December 2020.

Please be informed that we have no adverse comments on the captioned submission. We write to verify the captioned submission in accordance with Condition 3.4 of FEP-02/474/2013.

Thank you for your attention. Please do not hesitate to contact us should you have any queries.

Yours sincerely,
For and on behalf of
Ramboll Hong Kong Limited



Manson Yeung
Independent Environmental Checker

c.c.

DSD
Cinotech

Attn.: Ms Konica Cheung
Attn.: Mr K. S. Lee

(By Fax: 3104 6420)
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TABLE OF CONTENTS

Page

EXECUTIVE SUMMARY	1
Introduction.....	1
Summary of Main Works Undertaken and Key Measures Implemented	1
Summary of Exceedances, Investigation and Follow-up.....	2
Complaint Handling, Prosecution and Public Engagement.....	2
Reporting Changes.....	2
Future Key Issues.....	3
1 INTRODUCTION.....	4
Background.....	4
Purpose of the Report.....	4
Project Organizations.....	4
Construction Activities undertaken during the Reporting Month	5
Summary of EM&A Requirements	6
Statuses of Environmental Licensing and Permitting	6
2 AIR QUALITY.....	8
Monitoring Requirement.....	8
Monitoring Locations.....	8
Monitoring Parameters and Frequency	8
Monitoring Equipment.....	8
Monitoring Methodology.....	9
Results and Observations.....	11
Comparison of EM&A Result with EIA Prediction	12
3 NOISE	13
Monitoring Requirements	13
Monitoring Locations.....	13
Monitoring Parameters, Frequency and Duration.....	13
Monitoring Equipment.....	13
Monitoring Methodology and QA/QC Procedure	14
Maintenance and Calibration	14
Results and Observations.....	14
Comparison of EM&A Result with EIA Prediction	15
4 ECOLOGY	16
Monitoring Requirements	16
Monitoring Locations.....	16
Monitoring Parameters, Frequency and Duration.....	17
Monitoring Methodology.....	17
Analytical Methodology	17
Results.....	18
Analysis.....	19
Observations	19
5 WATER QUALITY.....	21
Monitoring Requirement.....	21

6	WASTE MANAGEMENT	21
	Monitoring Requirement.....	21
	Waste Management Status.....	21
7	LANDSCAPE AND VISUAL	22
	Audit Requirement.....	22
8	ENVIRONMENTAL AUDIT	23
	Site Audits.....	23
	Implementation Status of Environmental Mitigation Measures	23
	Implementation Status of Event and Action Plans	26
9	ENVIRONMENTAL NON-CONFORMANCE	27
	Summary of Complaint, Warning, Notification of any Summons and Successful Prosecution.....	27
	Summary of Exceedance.....	27
10	FUTURE KEY ISSUES	28
	Monitoring Schedule.....	29
11	CONCLUSIONS AND RECOMMENDATIONS	30
	Conclusions.....	30
	Recommendations.....	30

LIST OF TABLES

Table I	Summary Table for Major Site Activities in the Reporting Month
Table II	Summary of Complaint/Summons/Prosecution in the Reporting Month
Table III	Summary Table for Site Activities in the next Reporting Period
Table 1.1	Key Project Contacts
Table 1.2	Summary Table for Major Site Activities in the Reporting Month
Table 1.3	Summary of Environmental License and Permit
Table 2.1	Air Quality Monitoring Locations
Table 2.2	Frequency and Parameters of Air Quality Monitoring
Table 2.3	Air Quality Monitoring Equipment
Table 2.4	Major Dust Source during Air Quality Monitoring
Table 2.5	Comparison of 1-hr TSP Monitoring Data with Predictions in EIA Report (As Approved in 2013)
Table 2.6	Comparison of 24-hr TSP Monitoring Data with Predictions in EIA Report (As Approved in 2013)
Table 3.1	Noise Monitoring Stations
Table 3.2	Frequency and Parameters of Noise Monitoring
Table 3.3	Noise Monitoring Equipment
Table 3.4	Other Noise Source during Noise Monitoring
Table 3.5	Baseline Noise Level and Noise Limit Level for Monitoring Stations
Table 3.6	Comparison of Noise Monitoring Data with Predictions in EIA Report (As Approved in 2013)
Table 4.1	Monitoring of Measures to Minimise Disturbance to Waterbirds on Ng Tung, Sheung Yue and Shek Sheung Rivers during Pre-Construction Phase
Table 4.2	Ecological Monitoring Stations

Table 4.3	Representative Waterbirds
Table 4.4	Total Bird Species and Abundance in the Reporting Month
Table 4.5	Abundance of Representative Waterbirds in the Reporting Month
Table 4.6	T-test Result for All Waterbirds in the Reporting Month
Table 4.7	T-test Result for Representative Waterbirds in the Reporting Month
Table 4.8	Observations during Ecological Monitoring in the Reporting Month
Table 8.1	Observations and Recommendations of Site Audit of Contract No. DC/2018/06
Table 8.2	Observations and Recommendations of Site Audit of Contract No. DC/2018/07
Table 8.3	Observations and Recommendations of Site Audit of Contract No. DE/2018/03
Table 8.4	Observations and Recommendations of Site Audit of Contract No. DE/2018/04
Table 10.1	Summary Table for Site Activities in the Next Reporting Period

LIST OF FIGURES

Figure 1.1	Layout Plan of the Project Site
Figure 1.2	Project Organisation for Environmental Monitoring and Audit
Figure 2	Locations of Air Quality Monitoring Stations
Figure 3	Locations of Construction Noise Monitoring Stations
Figure 4	Survey Location for Impact Ecological Monitoring

LIST OF APPENDICES

Appendix A	Action and Limit Levels
Appendix B	Environmental Monitoring Schedules
Appendix C	Copies of Calibration Certificates for Air Quality Monitoring
Appendix D	Weather Information
Appendix E	1-hour TSP Monitoring Results and Graphical Presentations
Appendix F	24-hour TSP Monitoring Results and Graphical Presentations
Appendix G	Copies of Calibration Certificates for Noise Monitoring
Appendix H	Noise Monitoring Results and Graphical Presentations
Appendix I	Ecological Monitoring Results and Analysis
Appendix J	Photo Records of Ecological Monitoring
Appendix K	Site Audit Summary
Appendix L	Waste Flow Table
Appendix M	Event and Action Plans
Appendix N	Environmental Mitigation Implementation Schedule (EMIS)
Appendix O	Summaries of Environmental Complaint, Warning, Summon and Notification of Successful Prosecution
Appendix P	Summary of Exceedance
Appendix Q	Tentative Construction Programme

EXECUTIVE SUMMARY

Introduction

1. This is the 11th EM&A Report prepared by the Environmental Team, Cinotech Consultants Ltd., for Agreement No. SPW 07/2019 “Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1”. This report summarized the monitoring results and audits findings of the EM&A programme under the issued further EP No. FEP-02/474/2013 and in accordance with the Updated EM&A Manual during the reporting month of November 2020.

Summary of Main Works Undertaken and Key Measures Implemented

2. The main works undertaken during the reporting period are as follows:

Table I Summary Table for Major Site Activities in the Reporting Month

Contract No.	Contract Title	Site Activities
DC/2018/06	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Civil Works for Sludge Treatment Facilities and 132kV Primary Substation	<ul style="list-style-type: none"> • ELS and excavation works • Sheet pile installation • RC works • Plate load test • Strut installation and blinding layer • Pipe jacking work • MiC office installation
DC/2018/07	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Civil Works for Sewage Treatment Facilities	<ul style="list-style-type: none"> • ELS and construction of inlet reception chamber • Trench excavation • Road and drainage works • Diversion of inlet works • Process pipe of CHR and CHS • Pre-drilling work and foundation work • Cable diversion works
DE/2018/03	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Sidestream Treatment Facilities and E&M Works for Sludge Treatment Facilities	<ul style="list-style-type: none"> • Erection of site office in WA1-B • Underground utilities detection
DE/2018/04	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - E&M Works for Sewage Treatment Facilities	<ul style="list-style-type: none"> • Construction of temporary filtrate equalisation tank

3. Implementation of the key mitigation measures during the reporting period are as follows:

Air Quality

- Stockpiles were covered by impervious sheets.
- Water spraying on haul road was done to minimize dust generation.

Water Quality

- Stagnant water was removed, pumped and collected in the sedimentation tank.

Summary of Exceedances, Investigation and Follow-up

4. Exceedance of Action/Limit levels during the reporting month (October 2020) and the investigation results and/or follow-up actions:

Air Quality Monitoring

- No Action/Limit Level exceedance for 1-hour TSP was recorded.
- No Action/Limit Level exceedance for 24-hour TSP was recorded.

Construction Noise Monitoring

- No Action/Limit Level exceedance for day time construction noise monitoring was recorded in the reporting month.

Ecological Monitoring

- No Action Level and no Limit Level exceedance was triggered.

Complaint Handling, Prosecution and Public Engagement

Table II Summary of Complaint/Summons/Prosecution in the Reporting Month

Event	Event Details		Follow-up/ Remedial Actions	Status/ Remarks
	Number	Brief Description		
Complaints Received	0	-	-	-
Notification of Summons and Prosecutions Received	0	-	-	-
Public Engagement Activities	0	-	-	-

Reporting Changes

5. There were no reporting changes during the reporting month.

Future Key Issues

6. The key works or activities will be anticipated in the next reporting period are as follows:

Table III Summary Table for Site Activities in the Next Reporting Period

Contract No.	Contract Title	Site Activities
DC/2018/06	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Civil Works for Sludge Treatment Facilities and 132kV Primary Substation	<ul style="list-style-type: none"> • ELS and excavation works • Sheet pile installation • RC works • Strut Installation and blinding layer • Pipe jacking work • MiC office installation
DC/2018/07	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Civil Works for Sewage Treatment Facilities	<ul style="list-style-type: none"> • ELS and construction of inlet reception chamber • Trench excavation • Road and drainage works • Diversion of inlet works • Process pipe of CHR & CHS • Pre-drilling work and foundation work • Cable diversion works • Demolition work of existing main facilities
DE/2018/03	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Sidestream Treatment Facilities and E&M Works for Sludge Treatment Facilities	<ul style="list-style-type: none"> • Ground investigation in Portion B-1 • Civil work in Portion B-1
DE/2018/04	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - E&M Works for Sewage Treatment Facilities	<ul style="list-style-type: none"> • Construction of temporary filtrate equalisation tank • Installation of temporary primary sludge thickener and its accessories • Dismantle and removal of E&M equipment of the existing primary sedimentation tank no. 4 and no. 6

1 INTRODUCTION

Background

- 1.1 The Further Expansion of Shek Wu Hui Effluent Polishing Plant (SWHEPP) is a designated Project (DP) under F.1 and F.2 of Part 1, Schedule 2 of Environmental Impact Assessment Ordinance (EIAO). The “North East New Territories New Development Areas” Environmental Impact Assessment (NENT NDAs EIA) Report (Registered No.: AEIAR-175/2013) covered the assessment for the Further Expansion of SWHSTW Phase 1A, 1B and 2, and the associated Environmental Monitoring and Audit (EM&A) Manual was approved on 18 October 2013.
- 1.2 The existing Shek Wu Hui Sewage Treatment Works (SWHSTW) is operated and maintained 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 year. In 2009, the expansion of SWHSTW was completed and its design capacity was 93,000m²/day at average dry weather flow (ADWF). After the Resource Allocation Exercise 2017, the existing SWHSTW is proposed to be upgraded from secondary to tertiary treatment level as the new SWHEPP at 3 stages: Main Works Stage 1, Stage 2 and Stage 3.
- 1.3 A Further Environmental Permit (EP) (Permit No. FEP-02/474/2013) was issued on 15 February 2018 to DSD as the Permit Holder to assume the responsibility for construction and operating the SWHEPP Project up to a capacity of 190,000m³/day. The updated Environmental Monitoring and Audit (EM&A) Manual was prepared in accordance with Condition 2.3 of the Further EP. The site layout plan for the Project is shown in **Figure 1.1**.
- 1.4 Cinotech Consultants Ltd. was designated as the Environmental Team (ET) to undertake the EM&A works for “Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1” (hereinafter called the “Project”).

Purpose of the Report

- 1.5 This is the 11th Monthly EM&A Report which summarises the impact monitoring results and audit findings for the EM&A programme during the reporting period in November 2020.

Project Organizations

- 1.6 Different Parties with different levels of involvement in the project organization include:
 - Permit Holder – Drainage Services Department (DSD)
 - Supervisor Representative – AECOM Asia Company Limited (AECOM)
 - Environmental Team (ET) – Cinotech Consultants Limited (Cinotech)
 - Independent Environmental Checker (IEC) – Ramboll Hong Kong Limited (Ramboll)
 - Contractors
 - Contract No.: DC/2018/06 - Kwan Lee - Chun Wo Joint Venture (KLCWJV)
 - Contract No.: DC/2018/07 - Kwan Lee - Chun Wo Joint Venture (KLCWJV)
 - Contract No.: DE/2018/03 - Jardine Engineering Corporation Limited (JEC)
 - Contract No.: DE/2018/04 - Bestwise Envirotech Limited (Bestwise)

1.7 The key contacts of the Project are shown in **Table 1.1**.

Table 1.1 Key Project Contacts

Party	Role	Contact Person	Phone No.
DSD	Permit Holder	Ms. Konica Cheung	2594 7463
AECOM	Supervisor Representative	Mr. Henry Tai	3792 0580
Cinotech	Environmental Team	Mr. KS Lee (ETL)	2151 2091
		Ms. Betty Choi	2151 2072
Ramboll	Independent Environmental Checker	Mr. Manson Yeung	3465 2888
KLCWJV	Contractor (DC/2018/06)	Ms. Ruby Hui	6218 6408
KLCWJV	Contractor (DC/2018/07)	Mr. Jimmy Cheng	9606 5916
JEC	Contractor (DE/2018/03)	Mr. Brendan Chan	2807 4264
Bestwise	Contractor (DE/2018/04)	Mr. Albus Cheung	9731 0831

1.8 The Organizational Structure for Environmental Management is shown in **Figure 1.2**.

Construction Activities undertaken during the Reporting Month

1.9 The major site activities undertaken in the reporting month included:

Table 1.2 Summary Table for Major Site Activities in the Reporting Month

Contract No.	Contract Title	Site Activities
DC/2018/06	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Civil Works for Sludge Treatment Facilities and 132kV Primary Substation	<ul style="list-style-type: none"> • ELS and excavation works • Sheet pile installation • RC works • Plate load test • Strut installation and blinding layer • Pipe jacking work • MiC office installation
DC/2018/07	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Civil Works for Sewage Treatment Facilities	<ul style="list-style-type: none"> • ELS and construction of inlet reception chamber • Trench excavation • Road and drainage works • Diversion of inlet works • Process pipe of CHR and CHS • Pre-drilling work and foundation work • Cable diversion works
DE/2018/03	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Sidestream Treatment Facilities and E&M Works for Sludge Treatment Facilities	<ul style="list-style-type: none"> • Erection of site office in WA1-B • Underground utilities detection

Contract No.	Contract Title	Site Activities
DE/2018/04	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - E&M Works for Sewage Treatment Facilities	<ul style="list-style-type: none"> Construction of temporary filtrate equalisation tank

Summary of EM&A Requirements

- 1.10 The EM&A programme requires construction noise monitoring, air quality monitoring, water quality monitoring, ecological monitoring and environmental site audit, etc. The EM&A requirements for each parameter are described in the following sections, including:
- All monitoring parameters;
 - Action and Limit levels for all environmental parameters;
 - Event Action Plans;
 - Environmental mitigation measures, as recommended in the Project EIA Report.
- 1.11 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in Section 8 of this report.
- 1.12 This report presents the monitoring results, observations, locations, equipment, period, methodology and QA/QC procedures of the monitoring parameters of the required environmental monitoring works and audit works for the Project in November 2020.

Statuses of Environmental Licensing and Permitting

- 1.13 All permits/licenses obtained for the Project are summarized in **Table 1.3**.

Table 1.3 Summary of Environmental License and Permit

Contract No.	Permit / License No.	Valid Period		Status
		From	To	
Environmental Permit (EP)				
All	FEP-02/474/2013	15 Feb 2018	N/A	Valid
Notification of Construction Works under Air Pollution Control Ordinance (APCO)				
DC/2018/06	449210 (Portion A & C)	23 Sep 2019	11 Mar 2024	Valid
DC/2018/06	449211 (WM1)	23 Sep 2019	11 Mar 2024	Valid
DC/2018/07	449210	23 Sep 2019	11 Mar 2024	Valid
DE/2018/03	460065 (Sidestream)	16 Sep 2020	28 Mar 2022	Valid
DE/2018/03	460585 (WA3)	5 Oct 2020	31 Dec 2020	Valid
DE/2018/04	460181	Notified EPD on 17 Sep 2020	30 Nov 2020	Valid
Billing Account for Construction Waste Disposal				
DC/2018/06	7035390	11 Oct 2019	N/A	Valid
DC/2018/07	7035985	9 Dec 2019	N/A	Valid
DE/2018/03	7035700	6 Nov 2019	N/A	Valid

Contract No.	Permit / License No.	Valid Period		Status
		From	To	
DE/2018/04	703621912	2 Jan 2020	N/A	Valid
Registration of Chemical Waste Producer				
DC/2018/06	5213-624-K3371-01	14 Nov 2019	N/A	Valid
DC/2018/07	5213-624-K3371-02	6 Jan 2020	N/A	Valid
DE/2018/03	5213-624-T3861-01	14 Apr 2020	N/A	Valid
DE/2018/04	5213-624-B2592-01	7 Jul 2020	N/A	Valid
Effluent Discharge License				
DC/2018/06	WT00035431-2019 (Portion C)	27 Jul 2020	31 Jan 2025	Valid
DC/2018/06	WT00035718-2020 (Portion A)	2 Apr 2020	30 Apr 2025	Valid
DC/2018/07	WT00035727-2020	1 Apr 2020	30 Apr 2025	Valid
Construction Noise Permit (Use of Powered Mechanical Equipment at Portion A, B and C)				
DC/2018/06 & DC/2018/07	GW-RN0753-20	30 Oct 2020	11 Apr 2021	Valid
Admission Ticket for Disposal of Special Waste				
DC/2018/07	15952	20 Oct 2020	5 Feb 2021	Valid

2 AIR QUALITY

Monitoring Requirement

- 2.1 According to the Updated EM&A Manual of SWHEPP, 1-hour and 24-hour Total Suspended Particulates (TSP) monitoring were conducted to monitor the air quality for this Project. For regular impact monitoring, a sampling frequency of at least once in every six days at all of the monitoring stations for 24-hour TSP monitoring. For 1-hour TSP monitoring, the sampling frequency of at least three times in every six days shall be undertaken when the highest dust impact occurs. **Appendix A** shows the established Action/Limit Levels for the environmental monitoring works.

Monitoring Locations

- 2.2 Four designated monitoring stations were selected for air quality monitoring programme. **Table 2.1** describes the air quality monitoring locations, which are also depicted in **Figure 2**.

Table 2.1 Air Quality Monitoring Locations

Monitoring Stations	Location	Location of Measurement
AM1 ⁽¹⁾	Wai Loi Tsuen	Ground Level
AM2 ⁽¹⁾	Fu Tei Au	Ground Level
AM1a ⁽²⁾	Site Boundary of the Shek Wu Hui STW (East)	Ground Level
AM2a ⁽²⁾	Site Boundary of the Shek Wu Hui STW (North)	Ground Level

Remarks: (1) For 1-hour TSP monitoring; (2) For 24-hour TSP monitoring

Monitoring Parameters and Frequency

- 2.3 **Table 2.2** summarizes the monitoring parameters, monitoring period and frequencies of impact air quality monitoring. The monitoring schedule is shown in **Appendix B**.

Table 2.2 Frequency and Parameters of Air Quality Monitoring

Monitoring Stations	Parameter	Period	Frequency
AM1 & AM2	1-hour TSP	0700 – 1900	3 times/day, once every 6 days
AM1a & AM2a	24-hour TSP	24 hours	Once every 6 days

Monitoring Equipment

- 2.4 High Volume Samplers (HVS) in compliance with the specification stipulated in the EM&A Manual, Section 2.2.2, were used to carry out 24-hour TSP monitoring. Direct reading dust meter were also used to measure 1-hour average TSP levels. The 1-hour sampling was determined by HVS to check the validity and accuracy of the results measured by direct reading method.
- 2.5 Wind data monitoring equipment was set on rooftop (about 4/F) of the SWHSTW control room building 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 sectors of 22.5 degrees each.

- 2.6 **Table 2.3** summarizes the equipment to be used for air quality monitoring. Copies of calibration certificates are attached in **Appendix C**.

Table 2.3 Air Quality Monitoring Equipment

Equipment	Model and Make	Quantity
1-hour TSP Dust Meter	Sibata Model No.: LD-5R	2
HVS Sampler	GMW Model: GS 2310	1
	TISCH Model: TE 5170	1
Calibrator	TISCH Model: TE-5025A	1
Wind Anemometer	Global Water Instrumentation WE800	1

Monitoring Methodology

1-hour TSP Monitoring

Measuring Procedures

- 2.7 The measuring procedures of the 1-hour dust meter are in accordance with the Manufacturer's Instruction Manual as follows:

(Sibata Model No.: LD-5R)

- The 1-hour dust meter is placed at least 1.3 meters above ground.
- Set POWER to "ON" and make sure that the battery level was not flash or in low level.
- Allow the instrument to stand for about 3 minutes and then the cap of the air sampling inlet has been released.
- Push the knob at MEASURE position.
- Set time/mode setting to [BG] by pushing the time setting switch. Then, start the background measurement by pushing the start/stop switch once. It will take 6 sec. to complete the background measurement.
- Push the time setting switch to change the time setting display to [MANUAL] at the bottom left of the liquid crystal display. Finally, push the start/stop switch to stop the measuring after 1 hour sampling.
- Information such as sampling date, time, count value and site condition were recorded during the monitoring period.

Maintenance/Calibration

- 2.8 The following maintenance/calibration is required for the 1-hour dust meter:

- Check and calibrate the meter by HVS to check the validity and accuracy of the results measured by direct reading method at 2-month intervals throughout all stages of the air quality monitoring.

24-hour TSP Monitoring

Instrumentation

- 2.9 High volume samplers (HVS) (TISCH Model: TE-5170) complete with appropriate sampling inlets was employed for 24-hour TSP monitoring. The sampler was composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complied with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50). Moreover, the HVS also met all the requirements in Section 2.2 of the Annex II Specification.
- 2.10 The positioning of the HVS samplers are as follows:
- A horizontal platform with appropriate support to secure the samplers against gusty wind shall be provided;
 - No two samplers shall be placed less than 2 meter apart;
 - The distance between the sampler and an obstacle, such as buildings, must be at least twice the height that the obstacle protrudes above the sampler;
 - A minimum of 2 metres of separation from walls, parapets and penthouses is required for rooftop samplers;
 - A minimum of 2 metres of separation from any supporting structure, measured horizontally is required;
 - No furnace or incinerator flue is nearby;
 - Airflow around the sampler is unrestricted;
 - The sampler is more than 20 metres from the dripline;
 - Any wire fence and gate, to protect the sampler, shall not cause any obstruction during monitoring;
 - Permission must be obtained to set up the samplers and to obtain access to the monitoring stations; and
 - A secured supply of electricity is needed to operate the samplers.

Operating/analytical procedures for the operation of HVS

- 2.11 Operating/analytical procedures for the air quality monitoring are highlighted as follows:
- Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 1.1 m³/min. and 1.4 m³/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.
 - For TSP sampling, fiberglass filters with a collection efficiency of > 99% for particles of 0.3µm diameter were used.
 - The power supply was checked to ensure the sampler worked properly. On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air monitoring station.
 - The filter holding frame was then removed by loosening the four nuts and a weighted and conditioned filter was carefully centered with the stamped number upwards, on a supporting screen.
 - The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.

- The shelter lid was closed and secured with the aluminum strip.
- The timer was then programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number).
- After sampling, the filter was removed and sent to the HOKLAS laboratory (Wellab Ltd.) for weighing. The elapsed time was also recorded.
- Before weighing, all filters were equilibrated in a conditioning environment for 24 hours. The conditioning environment temperature should be between 25°C and 30°C and not vary by more than $\pm 3^\circ\text{C}$; the relative humidity (RH) should be $< 50\%$ and not vary by more than $\pm 5\%$. A convenient working RH is 40%.

Maintenance/Calibration

2.12 The following maintenance/calibration is required for the HVS:

- The high volume motors and their accessories were properly maintained. Appropriate maintenance such as routine motor brushes replacement and electrical wiring checking were made to ensure that the equipment and necessary power supply are in good working condition.
- High volume samplers were calibrated at bi-monthly intervals using TE-5025A Calibration Kit throughout all stages of the air quality monitoring.

Results and Observations

2.13 Impact air quality monitoring was conducted at four monitoring stations as scheduled. The monitoring schedule is shown in **Appendix B**.

2.14 No Action/Limit Level exceedance was recorded for all 1-hour TSP monitoring in the reporting month.

2.15 No Action/Limit Level exceedance was recorded for all 24-hour TSP monitoring in the reporting month.

2.16 The air temperature, precipitation and the relative humidity data was obtained from daily extract of Ta Kwu Ling Station in Hong Kong Observatory Climate Information Service, where the wind speed and wind direction were recorded by the installed Wind Anemometer at rooftop (about 4/F) of the SWHSTW control room building. This weather information for the reporting month is summarized in **Appendix D**.

2.17 The monitoring data and graphical presentations of 1-hour and 24-hour TSP monitoring results are shown in **Appendix E** and **Appendix F** respectively.

2.18 According to our field observations, the major dust source identified at the designated air quality monitoring stations are as follows:

Table 2.4 Major Dust Source during Air Quality Monitoring

Monitoring Stations	Major Dust Source
AM1 - Wai Loi Tsuen	Road Traffic at Sheung Shui Tung Hing Road
AM2 - Fu Tei Au	N/A
AM1a - Site Boundary of the Shek Wu Hui STW (East)	Vehicle Movement within SWHSTW
AM2a - Site Boundary of the Shek Wu Hui STW (North)	N/A

Comparison of EM&A Result with EIA Prediction

2.19 The air monitoring data was compared with the predictions in the EIA Report (as approved in 2013) as summarised in **Tables 2.5** and **Table 2.6**.

Table 2.5 Comparison of 1-hr TSP Monitoring Data with Predictions in EIA Report (As Approved in 2013)

Monitoring Stations	ASR ID	Predicted 1-hr TSP Concentration in EIA Report (as Approved in 2013), dB(A), $\mu\text{g}/\text{m}^3$	Reporting Month (November 2020), $\mu\text{g}/\text{m}^3$
AM1 - Wai Loi Tsuen	N/A	N/A ⁽¹⁾	20.9 - 99.0
AM2 - Fu Tei Au	FLN-E28	255	22.8 - 99.0

Remarks:

(1) No 1-hr TSP concentration was predicted in EIA Report (As Approved in 2013).

Table 2.6 Comparison of 24-hr TSP Monitoring Data with Predictions in EIA Report (As Approved in 2013)

Monitoring Stations	Predicted 24-hr TSP Concentration in EIA Report (as approved in 2013), dB(A), $\mu\text{g}/\text{m}^3$	Reporting Month (November 2020), $\mu\text{g}/\text{m}^3$
AM1a - Site Boundary of the Shek Wu Hui STW (East)	N/A ⁽¹⁾	8.9 - 139.2
AM2a - Site Boundary of the Shek Wu Hui STW (North)	N/A ⁽¹⁾	36.6 - 115.8

Remarks:

(1) No 24-hr TSP concentration was predicted in EIA Report (as approved in 2013).

2.20 The 1-hour TSP concentration at AM2 in the reporting month was lower than the prediction in the EIA Report (As Approved in 2013). The 1-hour TSP concentrations at AM1 as well as 24-hour TSP concentrations at AM1a and AM2a were not predicted in the EIA Report (As Approved in 2013).

3 NOISE

Monitoring Requirements

- 3.1 According to the Updated EM&A Manual, construction noise monitoring was conducted to monitor the construction noise arising from the construction activities. The regular monitoring frequency for each monitoring station shall be on a weekly basis and conduct one set of measurements between 0700 and 1900 hours on normal weekdays. **Appendix A** shows the established Action and Limit Levels for the environmental monitoring works.

Monitoring Locations

- 3.2 Noise monitoring was conducted at three designated monitoring stations in the reporting period. **Table 3.1** and **Figure 3** show the locations of these stations.

Table 3.1 Noise Monitoring Stations

Monitoring Stations	Location	Location of Measurement
NM1	Wai Loi Tsuen	Ground Level
NM2	Fu Tei Au	Ground Level
NM3	Man Kok Village	Ground Level

Monitoring Parameters, Frequency and Duration

- 3.3 **Table 3.2** summarizes the monitoring parameters, frequency and total duration of monitoring. The noise monitoring schedule is shown in **Appendix B**.

Table 3.2 Frequency and Parameters of Noise Monitoring

Monitoring Stations	Time Period	Duration	Frequency	Parameter	Measurement
NM1	0700-1900 hrs on normal weekdays	30 minutes	Once per week	L ₁₀ (30 min.) dB(A)	Free Field
NM2				L ₉₀ (30 min.) dB(A)	Free Field
NM3				L _{eq} (30 min.) dB(A)	Free Field

Monitoring Equipment

- 3.4 Integrating Sound Level Meter was used for impact noise monitoring. The meters were Type 1 sound level meter capable of giving a continuous readout of the noise level readings including equivalent continuous sound pressure level (L_{eq}) and percentile sound pressure level (L_x) that also complied with International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1) specifications. **Table 3.3** summarizes the noise monitoring equipment being used. Copies of calibration certificates are attached in **Appendix G**.

Table 3.3 Noise Monitoring Equipment

Equipment	Model and Make	Quantity
Integrating Sound Level Meter	SVAN 957	2
	SVAN 979	1
Calibrator	ST-120	1
	SV30A	1

Monitoring Methodology and QA/QC Procedure

3.5 The monitoring procedures are as follows:

- The monitoring station was normally be at a point 1m from the exterior of the sensitive receivers building façade and be at a position 1.2m above the ground.
- For free field measurement, the meter was positioned away from any nearby reflective surfaces. All records for free field noise levels were adjusted with a correction of +3 dB(A).
- The battery condition was checked to ensure the correct functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
 - Frequency weighting: A
 - Time weighting: Fast
 - Time measurement: 30 minutes
- 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 re-calibration or repair of the equipment.
- The wind speed was frequently checked with the portable wind meter.
- At the end of the monitoring period, the L_{eq} , L_{90} and L_{10} were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- Noise monitoring would be cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s. Supplementary monitoring would be provided to ensure sufficient data would be obtained.

Maintenance and Calibration

- 3.6 The microphone head of the sound level meter and calibrator were cleaned with a soft cloth at quarterly intervals.
- 3.7 The sound level meter and calibrator were checked and calibrated at yearly intervals.
- 3.8 Immediately prior to and following each noise measurement the accuracy of the sound level meter was checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements were accepted as valid only if the calibration levels from before and after the noise measurement agree to within 1.0 dB.

Results and Observations

- 3.9 No Action/Limit Level exceedance was recorded for all construction noise monitoring in the reporting month.

3.10 Noise monitoring results and graphical presentations are shown in **Appendix H**.

3.11 The major noise sources identified at the noise monitoring stations are shown in **Table 3.4**.

Table 3.4 Other Noise Source Identified during Noise Monitoring

Monitoring Stations	Major Noise Source
NM1	Railway Noise and Road Traffic at Sheung Shui Tung Hing Road
NM2	N/A
NM3	Road Traffic at Po Wan Road

3.12 All the Construction Noise Levels (CNLs) reported in this report were adjusted with the corresponding baseline level (i.e. Measured Leq – Baseline Leq = CNL), in order to facilitate the interpretation of the noise exceedance. The baseline noise level and the Noise Limit Level at each designated noise monitoring station are presented in **Table 3.5**.

Table 3.5 Baseline Noise Level and Noise Limit Level for Monitoring Stations

Monitoring Stations	Baseline Noise Level, dB (A) (at 0700 – 1900 hrs on normal weekdays)	Noise Limit Level, dB (A) (at 0700 – 1900 hrs on normal weekdays)
NM1	63.4	75
NM2	58.0	
NM3	63.4	

Comparison of EM&A Result with EIA Prediction

3.13 The noise monitoring data was compared with the predictions in EIA Report (as approved in 2013) as summarised in **Table 3.6**.

Table 3.6 Comparison of Noise Monitoring Data with Predictions in EIA Report (As Approved in 2013)

Monitoring Stations	NSR ID	Predicted Mitigated Construction Noise Levels in EIA Report (as Approved in 2013), dB(A)	Reporting Month (November 2020), Leq (30min) dB(A)
NM1 - Wai Loi Tsuen	N/A	N/A ⁽¹⁾	54.3 – 57.6
NM2 - Fu Tei Au	N/A	N/A ⁽¹⁾	52.1 – 66.4
NM3 – Man Kok Village	FN-18	66-75	55.8 – 58.7

Remarks:

(1) No construction noise level was predicted in EIA Report (As Approved in 2013).

3.14 The results at NM3 were lower than the range of the predicted mitigated construction noise levels in the EIA Report (As Approved in 2013). Construction noise levels at NM1 and NM2 were not predicted in the EIA Report (As Approved in 2013).

4 ECOLOGY

Monitoring Requirements

- 4.1 According to the Updated EM&A Manual, waterbird species which use rivers near the Project Site were identified and recorded. The monitoring requirement in the EM&A Manual is shown in **Table 4.1**. **Appendix A** shows the established Action/Limit Levels for ecological monitoring works.

Table 4.1 Monitoring of Measures to Minimise Disturbance to Waterbirds on Ng Tung, Sheung Yue and Shek Sheung Rivers during Construction Phase

Phase	Methodology
Construction	Weekly transect at both high and low tides 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.

- 4.2 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 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** and summarized in **Table 4.2**. The photo of each transect is provided in **Appendix J**.

Table 4.2 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

- 4.4 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 B**.

Monitoring Methodology

- 4.5 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.
- 4.6 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.
- 4.7 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).
- 4.8 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

- 4.9 The number and species of waterbirds utilizing the rivers fluctuate every day naturally. Therefore, the survey data were collectively analysed 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 4.3**.

Table 4.3 Representative Waterbirds

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

- 4.10 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.
- 4.11 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.

Results

- 4.12 For this reporting month, the numbers of species and individuals recorded were provided in **Table 4.4**. The photo record of waterbirds can be found in **Appendix J**.

Table 4.4 Total Bird Species and Abundance in the Reporting Month

	Number of Species	Abundance
All Avifauna	47	712
Waterbirds	21	413

- 4.13 **Table 4.5** presents the abundance of representative species.

Table 4.5 Abundance of Representative Waterbirds in the Reporting Month

Species Name	Common Name	Chinese Name	Abundance
<i>Egretta garzetta</i>	Little Egret	小白鷺	75
<i>Ardea cinerea</i>	Grey Heron	蒼鷺	68
<i>Ardeola bacchus</i>	Chinese Pond Heron	池鷺	39
<i>Phalacrocorax carbo</i>	Great Cormorant	普通鷓鴣	42
<i>Ardea alba</i>	Great Egret	大白鷺	33
<i>Bubulcus coromandus</i>	Eastern Cattle Egret	牛背鷺	97

Analysis

4.14 The result of student t-tests for all waterbirds and representative waterbirds are compiled in **Table 4.6** and **4.7** respectively. Further details are provided in **Appendix I**.

Table 4.6 T-test Result for All Waterbirds in the Reporting Month

T-values of Data in Reporting Month			Confidence Level (Critical Value)	
			95% (-2.132)	99% (-3.747)
Abundance	Monthly	0.497	✓	✓
	Seasonal	2.821	✓	✓

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 4.7 T-test Result for Representative Waterbirds in the Reporting Month

Common Name of Representative Waterbird	T-value	Confidence Level (Critical Value)		T-value	Confidence Level (Critical Value)		Overall
	Monthly	95% (-2.132)	99% (-3.747)	Seasonal	95% (-2.132)	99% (-3.747)	
Little Egret	-0.335	✓	✓	0.120	✓	✓	✓
Grey Heron	-5.767	✗	✗	0.508	✓	✓	✓
Chinese Pond Heron	-2.209	✗	✓	-0.916	✓	✓	✓
Great Cormorant	-1.840	✓	✓	0.418	✓	✓	✓
Great Egret	-0.406	✓	✓	0.808	✓	✓	✓
Eastern Cattle Egret	2.691	✓	✓	2.146	✓	✓	✓

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.

4.15 No Action Level and limit level was triggered for ecological monitoring in the reporting month.

Observations

4.16 Waterbird behaviour observed during ecological monitoring are listed below:

- Flying
- Foraging
- Soaring
- Resting

4.17 The anthropogenic activities observed during ecological monitoring are listed in **Table 4.8**.

Table 4.8 Observations during Ecological Monitoring in the Reporting Month

Location	Observations	
	Project Related	Non-project Related
T1 (PC1, PC2)	Excavation and crane	Fishing, remote boating
T2 (PC3, PC4)	Excavation and crane	Fishing
PC5	N/A	N/A
T3 (PC6, PC7)	N/A	N/A

5 WATER QUALITY

Monitoring Requirement

- 5.1 According to the Updated EM&A Manual, no water monitoring is required before the commencement of outfall construction at Ng Tung River.
- 5.2 Site audits were carried out on a weekly basis to monitor and audit the timely implementation of water quality mitigation measures within the site boundaries of this Project. The summaries of site audits are attached in **Appendix K**.

6 WASTE MANAGEMENT

Monitoring Requirement

- 6.1 According to the Updated EM&A Manual, waste management would be the contractor's responsibility to ensure that all wastes produced during the construction works for the Project are handled, stored and disposed of in accordance with good waste management practices, EPD's regulations and requirements. No monitoring for waste management is required for the Project. An environmental management plan (EMP) should be prepared and submitted to the Supervisor for approval. The monitoring and auditing requirements of the EMP should be followed with regard to the management of C&D material.

Waste Management Status

- 6.2 Site audits were carried out on a weekly basis to monitor and audit to ensure that proper storage, transportation and disposal practices of waste materials generated during construction activities, such as construction and demolition (C&D) materials and general refuse are being implemented. The summaries of site audits are attached in **Appendix K**.
- 6.3 The amount of wastes generated by the major site activities of this Project during the reporting month is shown in **Appendix L**.

7 LANDSCAPE AND VISUAL

Audit Requirement

- 7.1 According to the Updated EM&A Manual, site audits would be undertaken during the construction phase of the Project to check that the proposed landscape and visual mitigation measures are properly implemented and maintained as per their intended objectives. Particularly audits would be carried out during site clearance when proposed tree felling and transplantation may occur. Site inspections would be undertaken at least once every two weeks during the construction period.
- 7.2 Site audits were carried out on a weekly basis to monitor and audit the timely implementation of landscape and visual mitigation measures within the site boundaries of this Project. The summaries of site audits are attached in **Appendix K**.

8 ENVIRONMENTAL AUDIT

Site Audits

- 8.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. The summaries of site audits are attached in **Appendix K**.
- 8.2 Site audits for Contract No. DC/2018/06 and DC/2018/07 were conducted on 5, 9, 17 & 24 November 2020 in the reporting month, whereas that for Contract No. DE/2018/03 and DE/2018/04 were conducted on 3, 10, 17 & 24 November 2020 in the reporting month. Joint site inspection with the representative of IEC was conducted on 17 November 2020. No non-compliance was observed during the site audit.

Implementation Status of Environmental Mitigation Measures

- 8.3 According to Environmental Permits, the approved EIA Report (Register No.: AEIAR-175/2013), and the Updated EM&A Manual of the Project, the mitigation measures detailed in the documents are recommended to be implemented during the construction phase. An Environmental Mitigation Implementation Schedule (EMIS) is provided in **Appendix N**.
- 8.4 The ET weekly site inspections were carried out during the reporting month and the observations and recommendations are summarized in **Tables 8.1 - 8.4**. Refer to **Appendix K** for the site inspection summary reports in the reporting month.

Table 8.1 Observations and Recommendations of Site Audit of Contract No. DC/2018/06

Parameters	Date	Observations and Recommendations	Follow-up
<i>Water Quality</i>	N/A	There was no observation in the reporting period.	N/A
<i>Air Quality</i>	N/A	There was no observation in the reporting period.	N/A
<i>Noise</i>	N/A	There was no observation in the reporting period.	N/A
<i>Waste / Chemical Management</i>	N/A	There was no observation in the reporting period.	N/A
<i>Ecology and Fisheries</i>	N/A	There was no observation in the reporting period.	N/A
<i>Visual and Landscape</i>	N/A	There was no observation in the reporting period.	N/A
<i>Permits /Licences</i>	N/A	There was no observation in the reporting period.	N/A

Table 8.2 Observations and Recommendations of Site Audit of Contract No. DC/2018/07

Parameters	Date	Observations and Recommendations	Follow-up
<i>Water Quality</i>	N/A	There was no observation in the reporting period.	N/A
<i>Air Quality</i>	N/A	There was no observation in the reporting period.	N/A
<i>Noise</i>	N/A	There was no observation in the reporting period.	N/A
<i>Waste / Chemical Management</i>	N/A	There was no observation in the reporting period.	N/A
<i>Ecology and Fisheries</i>	N/A	There was no observation in the reporting period.	N/A
<i>Visual and Landscape</i>	N/A	There was no observation in the reporting period.	N/A
<i>Permits /Licences</i>	N/A	There was no observation in the reporting period.	N/A

Table 8.3 Observations and Recommendations of Site Audit of Contract No. DE/2018/03

Parameters	Date	Observations and Recommendations	Follow-up
<i>Water Quality</i>	N/A	There was no observation in the reporting period.	N/A
<i>Air Quality</i>	N/A	There was no observation in the reporting period.	N/A
<i>Noise</i>	N/A	There was no observation in the reporting period.	N/A
<i>Waste / Chemical Management</i>	N/A	There was no observation in the reporting period.	N/A
<i>Ecology and Fisheries</i>	N/A	There was no observation in the reporting period.	N/A
<i>Visual and Landscape</i>	N/A	There was no observation in the reporting period.	N/A
<i>Permits /Licences</i>	N/A	There was no observation in the reporting period.	N/A

Table 8.4 Observations and Recommendations of Site Audit of Contract No. DE/2018/04

Parameters	Date	Observations and Recommendations	Follow-up
<i>Water Quality</i>	N/A	There was no observation in the reporting period.	N/A
<i>Air Quality</i>	N/A	There was no observation in the reporting period.	N/A
<i>Noise</i>	N/A	There was no observation in the reporting period.	N/A
<i>Waste / Chemical Management</i>	N/A	There was no observation in the reporting period.	N/A
<i>Ecology and Fisheries</i>	N/A	There was no observation in the reporting period.	N/A
<i>Visual and Landscape</i>	N/A	There was no observation in the reporting period.	N/A
<i>Permits /Licences</i>	N/A	There was no observation in the reporting period.	N/A

Implementation Status of Event and Action Plans

8.5 The Event and Action Plans for air quality, construction noise, ecological monitoring and landscape and visual are presented in **Appendix M**.

Air Quality Monitoring

- No Action/Limit Level exceedance for 1-hour TSP was recorded.
- No Action/Limit Level exceedance for 24-hour TSP was recorded.

Construction Noise Monitoring

- No documented complaint on construction noise was received; no Action Level exceedance for day time construction noise monitoring was recorded.
- No Limit Level exceedance for day time construction noise monitoring was recorded in the reporting month.

Ecological Monitoring

- No Action Level and no Limit Level was triggered.

Landscape and Visual Monitoring

- No non-conformity for landscape and visual was recorded.

9 ENVIRONMENTAL NON-CONFORMANCE

Summary of Complaint, Warning, Notification of any Summons and Successful Prosecution

- 9.1 No environmental complaints, warning, notifications of summons and successful prosecutions were received in the reporting month. The summary of environmental complaint, warning, summon and notification of successful prosecution for the Project is presented in **Appendix O**.

Summary of Exceedance

- 9.2 The summary of exceedance record in reporting month is shown in **Appendix P**.

10 FUTURE KEY ISSUES

10.1 Tentative construction programmes for the next three months are provided in **Appendix Q**.

10.2 Major site activities undertaken for the coming months are summarized in **Table 10.1**.

Table 10.1 Summary Table for Site Activities in the Next Reporting Period

Contract No.	Contract Title	Site Activities
DC/2018/06	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Civil Works for Sludge Treatment Facilities and 132kV Primary Substation	<ul style="list-style-type: none"> • ELS and excavation works • Sheet pile installation • RC works • Strut Installation and blinding layer • Pipe jacking work • MiC office installation
DC/2018/07	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Civil Works for Sewage Treatment Facilities	<ul style="list-style-type: none"> • ELS and construction of inlet reception chamber • Trench excavation • Road and drainage works • Diversion of inlet works • Process pipe of CHR & CHS • Pre-drilling work and foundation work • Cable diversion works • Demolition work of existing main facilities
DE/2018/03	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Sidestream Treatment Facilities and E&M Works for Sludge Treatment Facilities	<ul style="list-style-type: none"> • Ground investigation in Portion B-1 • Civil work in Portion B-1
DE/2018/04	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - E&M Works for Sewage Treatment Facilities	<ul style="list-style-type: none"> • Construction of temporary filtrate equalisation tank • Installation of temporary primary sludge thickener and its accessories • Dismantle and removal of E&M equipment of the existing primary sedimentation tank no. 4 and no. 6

10.3 Key environmental issues in the coming months include:

- Stockpile accumulation on-site;
- Water spraying for dust generating activities and on haul road;
- Wastewater and runoff discharge from site;
- No disposition of slurry at the existing Shek Wu Hui Sewage Treatment Works;
- Coverage of open manholes to avoid dirty runoff to drainage system;
- Noise from operation of the equipment, especially for excavation works and machinery onsite;
- Accumulation of general refuse and construction waste on-site;
- Proper storage of construction materials on-site; and
- Storage of chemicals/fuel and chemical waste/waste oil on-site.

Monitoring Schedule

10.4 The tentative environmental monitoring schedule for the next month is shown in **Appendix B**.

11 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

- 11.1 This is the 11th Monthly EM&A Report which presents the EM&A works undertaken during the reporting month in accordance with the Updated EM&A Manual and the requirement under EP.

Air Quality Monitoring

- 11.2 No Action/Limit Level exceedance was recorded for all 1-hour and 24-hour TSP monitoring in the reporting month.

Construction Noise Monitoring

- 11.3 No Action/Limit Level exceedance was recorded for all noise monitoring in the reporting month.

Ecology

- 11.4 No Action Level and no Limit Level exceedance was triggered for all ecological monitoring in the reporting month.

Site Audit

- 11.5 4 ET joint weekly environmental site inspections were conducted in the reporting month.

Complaint, Notification of Summons and Successful Prosecution

- 11.6 No environmental complaints, notifications of summons and successful prosecutions were received in the reporting month.

Recommendations

- 11.7 According to the environmental audit performed in the reporting month, the following recommendations were made:

Air Quality

- Regular water spraying on haul road and dry surfaces should be applied to minimize dust generation.
- Stockpiles should be covered by impervious materials.

Water Quality

- Stagnant water should be removed and pumped through the sedimentation tank.
- Muddy water should not be discharged into the surrounding rivers.
- No slurry should be disposed of at the existing Shek Wu Hui Sewage Treatment Works.

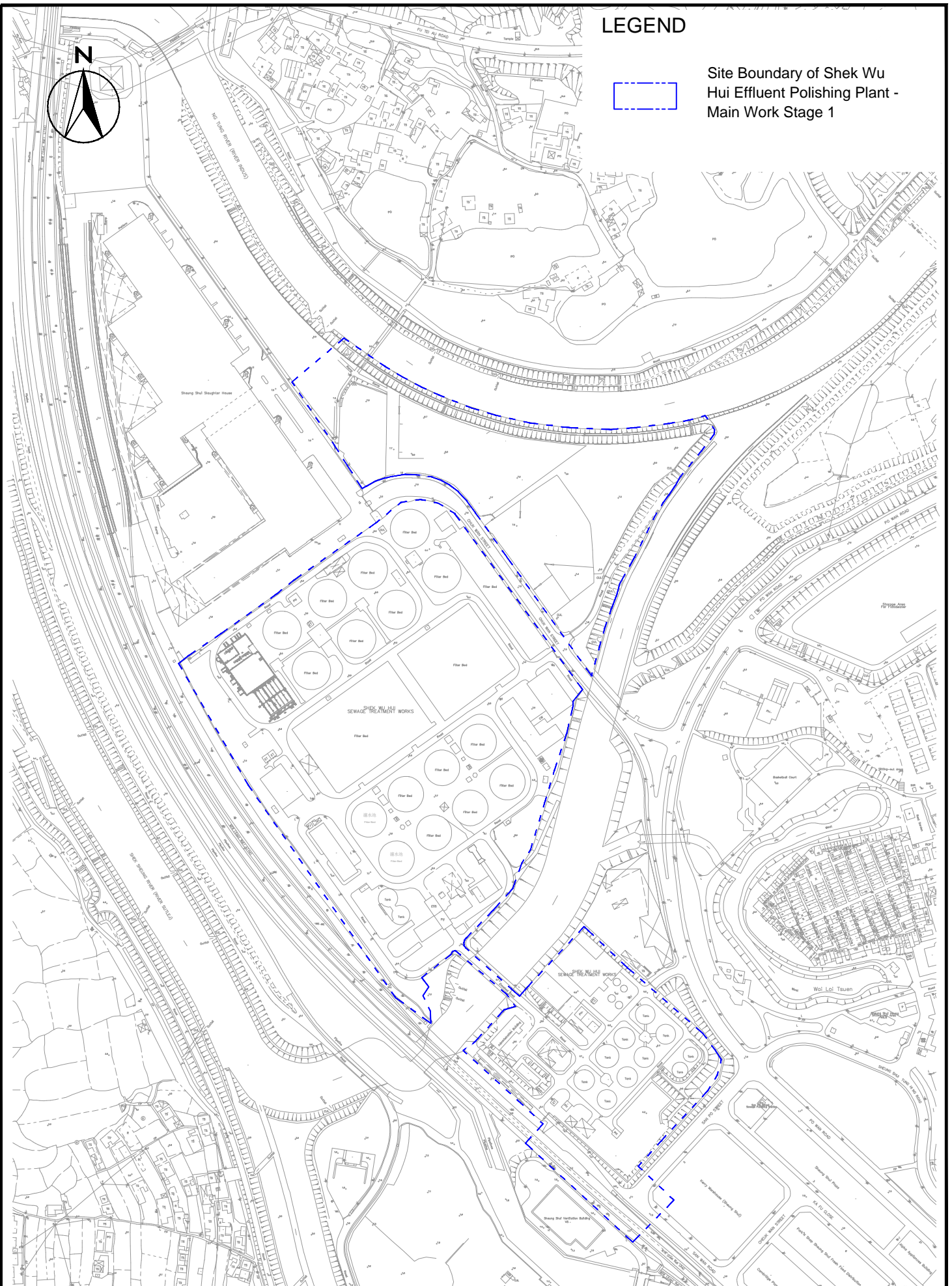
FIGURES



LEGEND



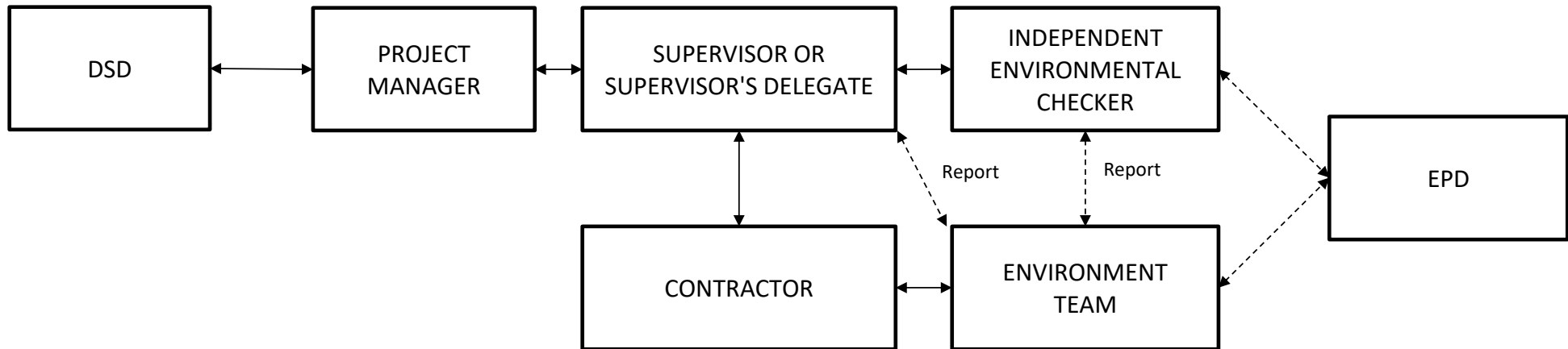
Site Boundary of Shek Wu Hui Effluent Polishing Plant - Main Work Stage 1



Agreement No. SPW07/2019
 Shek Wu Hui Effluent Polishing Plant -
 Main Works Stage 1

Site Layout

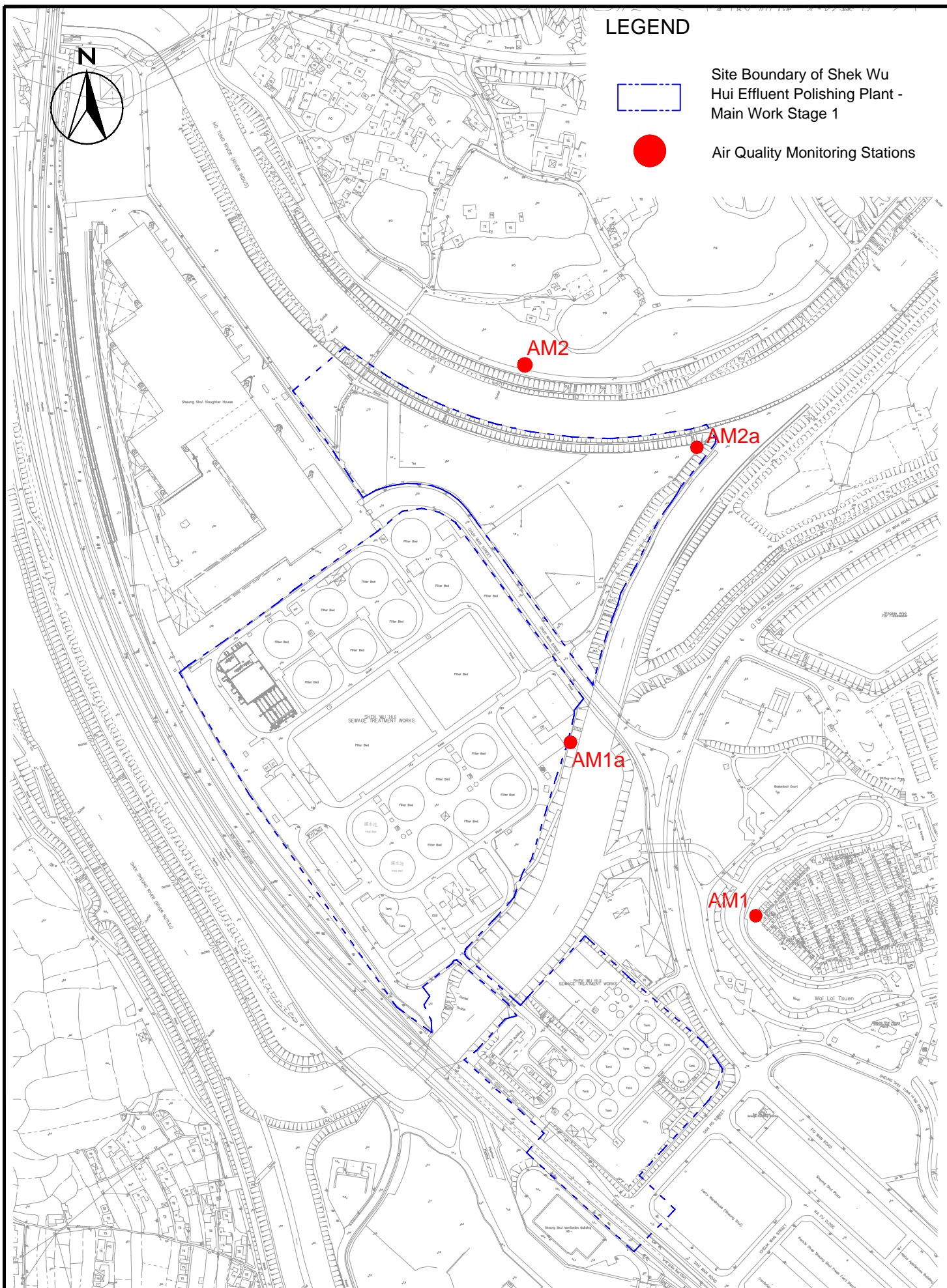
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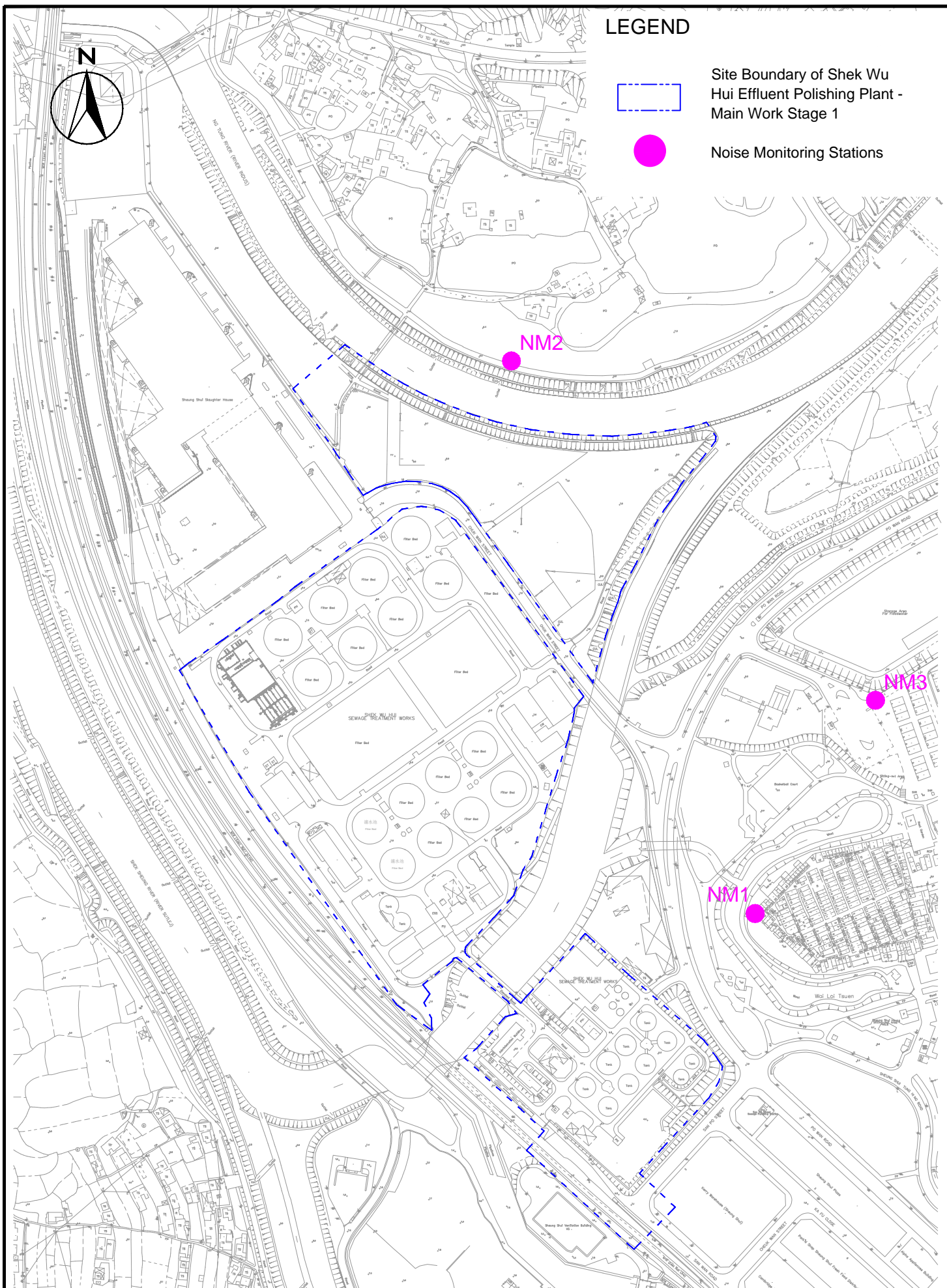
CINOTECH

Agreement No. SPW07/2019
 Shek Wu Hui Effluent Polishing Plant- Main Works Stage 1
Project Organisation For Environmental Monitoring and Audit

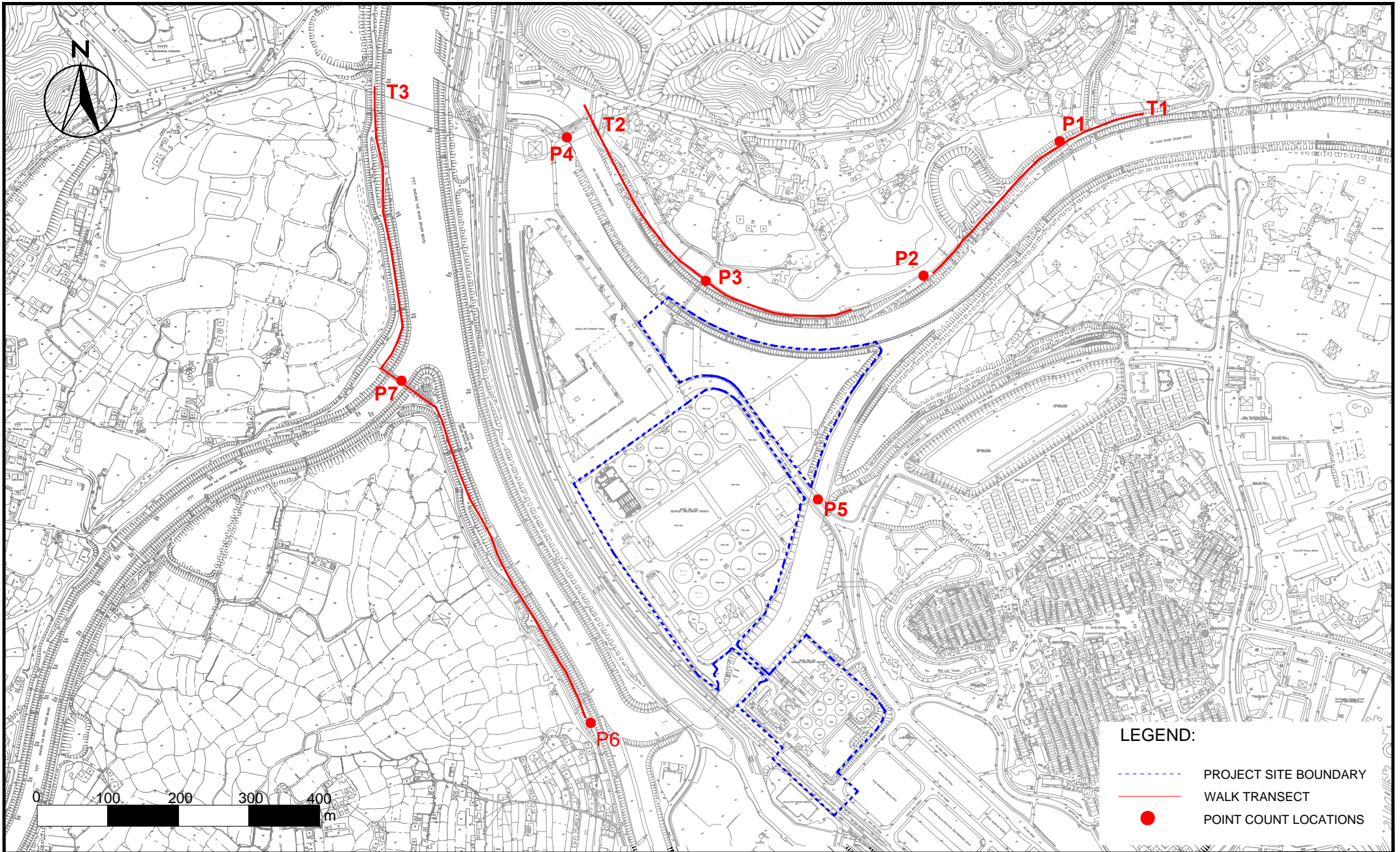
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JOB No.	MA19019	FIGURE NO.	3
		REV	-



LEGEND:

- - - - - PROJECT SITE BOUNDARY
- WALK TRANSECT
- POINT COUNT LOCATIONS



Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1
Survey Location for Impact Ecological Monitoring

SCALE	1:7000 @ A4	DATE	Jan 2020	
CHECK	BC	DRAWN	JM	
JOB No.	MA19019	FIGURE NO.	4	REV
				-

**APPENDIX A
ACTION AND LIMIT LEVELS**

Appendix A - Action and Limit Levels

Table A-1 Action and Limit Levels for 1-hour TSP

Location	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
AM1	320	500
AM2	322	

Table A-2 Action and Limit Levels for 24-hour TSP

Location	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
AM1a	189	260
AM2a	187	

Table A-3 Action and Limit Levels for Noise during Construction Period

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

*Remarks:

- 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 have to be followed.
- Reduce to 70 dB(A) for schools and 65 dB(A) during school examination periods.

Table A-4 Action and Limit Levels of Disturbance to 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 the 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 survey data.

**APPENDIX B
ENVIRONMENTAL MONITORING
SCHEDULES**

Agreement No. SPW 07/2019
Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1
Impact Air, Noise and Ecology Monitoring Schedule (November 2020)

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

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

Air Quality Monitoring Station

1-hr TSP

AM1 - Wai Loi Tsuen

AM2 - Fu Tei Au

24-hr TSP

AM1a - Site Boundary of the Shek Wu Hui STW (East)

AM2a - Site Boundary of the Shek Wu Hui STW (North)

Noise Monitoring Station

NM1 - Wai Loi Tsuen

NM2 - Fu Tei Au

NM3 - Man kok Village

Agreement No. SPW 07/2019
Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1
Tentative Impact Air, Noise and Ecology Monitoring Schedule (December 2020)

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

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

Air Quality Monitoring Station

1-hr TSP

AM1 - Wai Loi Tsuen

AM2 - Fu Tei Au

24-hr TSP

AM1a - Site Boundary of the Shek Wu Hui STW (East)

AM2a - Site Boundary of the Shek Wu Hui STW (North)

Noise Monitoring Station

NM1 - Wai Loi Tsuen

NM2 - Fu Tei Au

NM3 - Man kok Village

**APPENDIX C
COPIES OF CALIBRATION
CERTIFICATES FOR AIR QUALITY
MONITORING**

Certificate of Calibration

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler


Description: Digital Dust Indicator Date of Calibration 5-Oct-20
 Manufacturer: Sibata Scientific Technology LTD. Validity of Calibration Record 5-Dec-20
 Model No.: LD-5R
 Serial No.: 972778
 Equipment No.: SA-01-07 Sensitivity 0.001 mg/m3
 High Volume Sampler No.: A-01-01A Before Sensitivity Adjustment 735 CPM
 Tisch Calibration Orifice No.: 3607 After Sensitivity Adjustment 735 CPM

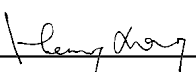
Calibration of 1 hr TSP		
Calibration Point	Laser Dust Monitor	HVS
	Mass Concentration ($\mu\text{g}/\text{m}^3$) X-axis	Mass concentration ($\mu\text{g}/\text{m}^3$) Y-axis
1	45.0	78.9
2	34.0	75.2
3	23.0	70.8
Average	34.0	75.0
By Linear Regression of Y on X Slope, mw = <u>0.3682</u> Intercept, bw = <u>62.4485</u> Correlation coefficient* = <u>0.9988</u>		
Set Correlation Factor		
Particulate Concentration by High Volume Sampler ($\mu\text{g}/\text{m}^3$)		75.0
Particulate Concentration by Dust Meter ($\mu\text{g}/\text{m}^3$)		34.0
Measuring time, (min)		60.0
Set Correlation Factor, SCF		
SCF = [K=High Volume Sampler / Dust Meter, ($\mu\text{g}/\text{m}^3$)]		<u>2.2</u>

In-house method in according to the instruction manual:

The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Those filter papers are weighted by HOKLAS laboratory (Wellab Litimed)

Calibrated by: 
 .Wong Shing Kwai

Approved by: 
 Henry Leung

Certificate of Calibration

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler


Description: Digital Dust Indicator Date of Calibration 5-Oct-20
 Manufacturer: Sibata Scientific Technology LTD. Validity of Calibration Record 5-Dec-20
 Model No.: LD-5R
 Serial No.: 972779
 Equipment No.: SA-01-08 Sensitivity 0.001 mg/m3
 High Volume Sampler No.: A-01-01A Before Sensitivity Adjustment 744 CPM
 Tisch Calibration Orifice No.: 3607 After Sensitivity Adjustment 744 CPM

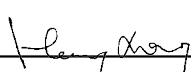
Calibration of 1 hr TSP		
Calibration Point	Laser Dust Monitor	HVS
	Mass Concentration ($\mu\text{g}/\text{m}^3$) X-axis	Mass concentration ($\mu\text{g}/\text{m}^3$) Y-axis
1	49.0	78.9
2	38.0	75.2
3	28.0	70.8
Average	38.3	75.0
By Linear Regression of Y on X Slope, mw = <u>0.3849</u> Intercept, bw = <u>60.2124</u> Correlation coefficient* = <u>0.9970</u>		
Set Correlation Factor		
Particulate Concentration by High Volume Sampler ($\mu\text{g}/\text{m}^3$)		75.0
Particulate Concentration by Dust Meter ($\mu\text{g}/\text{m}^3$)		38.3
Measuring time, (min)		60.0
Set Correlation Factor, SCF		
SCF = [K=High Volume Sampler / Dust Meter, ($\mu\text{g}/\text{m}^3$)]		<u>2.0</u>

In-house method in according to the instruction manual:

The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Those filter papers are weighted by HOKLAS laboratory (Wellab Litimed)

Calibrated by: 
 .Wong Shing Kwai

Approved by: 
 Henry Leung



Certificate of Calibration

Calibration Certification Information			
Cal. Date: January 17, 2020	Rootsmeter S/N: 438320	Ta: 295	°K
Operator: Jim Tisch		Pa: 744.2	mm Hg
Calibration Model #: TE-5025A	Calibrator S/N: 3746		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4340	3.2	2.00
2	3	4	1	1.0180	6.4	4.00
3	5	6	1	0.9080	7.9	5.00
4	7	8	1	0.8700	8.7	5.50
5	9	10	1	0.7150	12.6	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)	$\sqrt{\Delta H \left(\frac{Ta}{Pa} \right)}$ (y-axis)
0.9849	0.6868	1.4066	0.9957	0.6944	0.8904
0.9807	0.9633	1.9892	0.9914	0.9739	1.2592
0.9787	1.0779	2.2240	0.9894	1.0896	1.4078
0.9776	1.1237	2.3325	0.9883	1.1360	1.4765
0.9724	1.3601	2.8131	0.9831	1.3749	1.7808
QSTD	m=	2.09221	QA	m=	1.31010
	b=	-0.02779		b=	-0.01759
	r=	0.99994		r=	0.99994

Calculations	
Vstd= $\Delta Vol((Pa-\Delta P)/Pstd)(Tstd/Ta)$	Va= $\Delta Vol((Pa-\Delta P)/Pa)$
Qstd= $Vstd/\Delta Time$	Qa= $Va/\Delta Time$
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= $1/m \left(\left(\sqrt{\Delta H \left(\frac{Ta}{Pa} \right)} \right) - b \right)$

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

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET



File No. MA19019/17/0006

Project No. AM1a - Site boundary of the Shek Wu Hui STW (East)
 Date: 7-Sep-20 Next Due Date: 7-Nov-20 Operator: SK
 Equipment No.: A-01-17 Model No.: GS2310 Serial No. 3460

Ambient Condition			
Temperature, Ta (K)	<u>302.4</u>	Pressure, Pa (mmHg)	<u>755.4</u>

Orifice Transfer Standard Information					
Serial No.	<u>3746</u>	Slope, mc	<u>0.0592</u>	Intercept, bc	<u>-0.02740</u>
Last Calibration Date:	<u>17-Jan-20</u>	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			
Next Calibration Date:	<u>17-Jan-21</u>				

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	ΔH (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	ΔW (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	<u>12.8</u>	3.54	60.27	<u>9.2</u>	3.00
2	<u>10.1</u>	3.15	53.59	<u>6.9</u>	2.60
3	<u>8.0</u>	2.80	47.75	<u>5.5</u>	2.32
4	<u>5.2</u>	2.26	38.59	<u>3.2</u>	1.77
5	<u>2.6</u>	1.60	27.42	<u>1.8</u>	1.33

By Linear Regression of Y on X

Slope, mw = 0.0514 Intercept, bw = -0.1349
 Correlation coefficient* = 0.9969

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; W = $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ 4.39

Remarks: _____

Conducted by: SK Wong Signature: Date: 7 September 2020

Checked by: Henry Leung Signature: Date: 7 September 2020

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET



File No. MA19019/17/0007

Project No. AM1a - Site boundary of the Shek Wu Hui STW (East)
 Date: 6-Nov-20 Next Due Date: 6-Jan-21 Operator: SK
 Equipment No.: A-01-17 Model No.: GS2310 Serial No. 3460

Ambient Condition			
Temperature, Ta (K)	<u>297.7</u>	Pressure, Pa (mmHg)	<u>761.9</u>

Orifice Transfer Standard Information					
Serial No.	<u>3746</u>	Slope, mc	<u>0.0592</u>	Intercept, bc	<u>-0.02740</u>
Last Calibration Date:	<u>17-Jan-20</u>	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			
Next Calibration Date:	<u>17-Jan-21</u>				

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	ΔH (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	ΔW (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	<u>12.9</u>	3.60	61.24	<u>9.4</u>	3.07
2	<u>10.3</u>	3.21	54.77	<u>7.0</u>	2.65
3	<u>8.1</u>	2.85	48.62	<u>5.4</u>	2.33
4	<u>5.3</u>	2.31	39.42	<u>3.2</u>	1.79
5	<u>2.8</u>	1.68	28.78	<u>1.8</u>	1.34

By Linear Regression of Y on X

Slope, mw = 0.0533 Intercept, bw = -0.2455
 Correlation coefficient* = 0.9971

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; W = $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ 4.18

Remarks: _____

Conducted by: SK Wong Signature: Date: 06 November 2020

Checked by: Henry Leung Signature: Date: 06 November 2020

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET



File No. MA19019/24/0006

Project No. AM2a - Site Boundary of the Shek Wu Hui STW (North)
 Date: 7-Sep-20 Next Due Date: 7-Nov-20 Operator: SK
 Equipment No.: A-01-24 Model No.: TE 5170 Serial No. 1659

Ambient Condition			
Temperature, Ta (K)	302.4	Pressure, Pa (mmHg)	755.4

Orifice Transfer Standard Information					
Serial No.	3746	Slope, mc	0.0592	Intercept, bc	-0.02740
Last Calibration Date:	17-Jan-20	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			
Next Calibration Date:	17-Jan-21				

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	ΔH (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	ΔW (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	13.3	3.61	61.43	10.3	3.18
2	10.8	3.25	55.40	8.2	2.83
3	8.3	2.85	48.63	6.4	2.50
4	6.3	2.48	42.42	4.2	2.03
5	3.2	1.77	30.37	2.0	1.40

By Linear Regression of Y on X

Slope, mw = 0.0579 Intercept, bw = -0.3697
 Correlation coefficient* = 0.9982

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

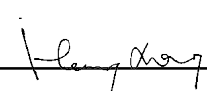
From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; W = $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ 4.59

Remarks: _____

Conducted by: SK Wong Signature:  Date: 7 September 2020

Checked by: Henry Leung Signature:  Date: 7 September 2020

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET



File No. MA19019/24/0007

Project No. AM2a - Site Boundary of the Shek Wu Hui STW (North)
 Date: 6-Nov-20 Next Due Date: 6-Jan-21 Operator: SK
 Equipment No.: A-01-24 Model No.: TE 5170 Serial No. 1659

Ambient Condition			
Temperature, Ta (K)	<u>297.7</u>	Pressure, Pa (mmHg)	<u>761.9</u>

Orifice Transfer Standard Information					
Serial No.	<u>3746</u>	Slope, mc	<u>0.0592</u>	Intercept, bc	<u>-0.02740</u>
Last Calibration Date:	<u>17-Jan-20</u>	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			
Next Calibration Date:	<u>17-Jan-21</u>				

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	ΔH (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	ΔW (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	<u>13.2</u>	3.64	61.94	<u>10.2</u>	3.20
2	<u>10.7</u>	3.28	55.81	<u>8.3</u>	2.89
3	<u>8.2</u>	2.87	48.92	<u>6.1</u>	2.47
4	<u>6.2</u>	2.49	42.60	<u>4.2</u>	2.05
5	<u>3.1</u>	1.76	30.26	<u>1.9</u>	1.38

By Linear Regression of Y on X

Slope, mw = 0.0583 Intercept, bw = -0.3921
 Correlation coefficient* = 0.9993

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; W = $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ 4.45

Remarks: _____

Conducted by: SK Wong Signature: Date: 06 November 2020

Checked by: Henry Leung Signature: Date: 06 November 2020

Certificate of Calibration - Wind Monitoring Station

Description: BM3 - Control Room at SWHSTW
 Manufacturer: Global Water Instrumentation
 Model No.: WE800 Weather Station
 Serial No.: 1517001963
 Equipment No.: SA-03-01
 Date of Calibration: 29-Oct-2020
 Next Due Date: 29-Apr-2021

1. Performance check of Wind Speed


Wind Speed, m/s		Difference D (m/s)
Wind Speed Reading (V1)	Anemometer Value (V1)	$D = V1 - V2$
0.0	0.0	0.0
1.5	1.5	0.0
2.0	2.1	-0.1
3.5	3.5	0.0

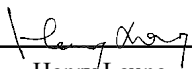
2. Performance check of Wind Direction

Wind Direction (°)		Difference D (°)
Wind Direction Reading (V1)	Marine Compass Value (V1)	$D = W1 - W2$
0	0	0.0
90	90	0.0
180	180	0.0
270	270	0.0

Test Specification:

1. Performance Wind Speed Test - The wind meter was on-site calibrated against the anemometer
2. Performance Wind Direction Test - The wind meter was on-site calibrated against the marine compass at four direction

Calibrated by: 
 - Wong Shing Kwai

Approved by: 
 Henry Leung

APPENDIX D
WEATHER INFORMATION

**APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD**

I. General Information from Hong Kong Observatory

Date	Mean Air Temperature (°C)	Mean Relative Humidity (%)	Precipitation (mm)
1-Nov-20	24.0	72	0
2-Nov-20	25.3	64	0
3-Nov-20	23.6	69	0.1
4-Nov-20	23.0	69	0.4
5-Nov-20	22.9	69	0
6-Nov-20	24.7	68	0
7-Nov-20	26.8	56	0
8-Nov-20	25.7	59	0
9-Nov-20	23.7	60	Trace
10-Nov-20	22.9	61	0
11-Nov-20	22.5	68	0
12-Nov-20	22.2	66	0
13-Nov-20	22.9	62	0.4
14-Nov-20	23.3	65	0
15-Nov-20	23.0	77	Trace
16-Nov-20	24.0	75	0
17-Nov-20	24.2	78	Trace
18-Nov-20	24.9	81	1
19-Nov-20	25.3	86	Trace
20-Nov-20	25.9	84	0
21-Nov-20	23.5	88	2
22-Nov-20	24.8	83	1.1
23-Nov-20	23.0	84	Trace
24-Nov-20	23.3	79	0
25-Nov-20	23.5	77	0
26-Nov-20	24.0	77	0
27-Nov-20	22.8	70	0
28-Nov-20	20.4	68	0
29-Nov-20	20.0	64	0
30-Nov-20	19.2	65	0.1

* The above information was extracted from the daily extract of Ta Kwu Ling Station in Hong Kong Observatory Climate Information Service.

**APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD**

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction	Wind Speed (m/s)
1-Nov-20	0:00	ESE	0.1
1-Nov-20	1:00	E	0.1
1-Nov-20	2:00	E	0.1
1-Nov-20	3:00	ENE	0.1
1-Nov-20	4:00	E	0.1
1-Nov-20	5:00	ENE	0.1
1-Nov-20	6:00	ENE	0.1
1-Nov-20	7:00	E	0.1
1-Nov-20	8:00	ENE	0.1
1-Nov-20	9:00	NNE	0.1
1-Nov-20	10:00	NNW	0.1
1-Nov-20	11:00	SE	0.3
1-Nov-20	12:00	SW	0.1
1-Nov-20	13:00	WNW	0.4
1-Nov-20	14:00	ENE	0.1
1-Nov-20	15:00	SE	0.1
1-Nov-20	16:00	SE	0.1
1-Nov-20	17:00	SE	0.1
1-Nov-20	18:00	ESE	0.1
1-Nov-20	19:00	E	0.1
1-Nov-20	20:00	E	0.1
1-Nov-20	21:00	SSE	0.1
1-Nov-20	22:00	E	0.1
1-Nov-20	23:00	ENE	0.1
2-Nov-20	0:00	ENE	0.1
2-Nov-20	1:00	ENE	0.1
2-Nov-20	2:00	E	0.1
2-Nov-20	3:00	NE	0.1
2-Nov-20	4:00	SW	0.1
2-Nov-20	5:00	SSW	0.1
2-Nov-20	6:00	ENE	0.1
2-Nov-20	7:00	ENE	0.1
2-Nov-20	8:00	ENE	1.8
2-Nov-20	9:00	NE	0.8
2-Nov-20	10:00	NE	0.5

**APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD**

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction	Wind Speed (m/s)
2-Nov-20	11:00	ENE	1.4
2-Nov-20	12:00	E	0.2
2-Nov-20	13:00	NE	0.7
2-Nov-20	14:00	NE	0.4
2-Nov-20	15:00	E	0.1
2-Nov-20	16:00	NE	0.1
2-Nov-20	17:00	N	0.3
2-Nov-20	18:00	NE	0.1
2-Nov-20	19:00	SSE	0.1
2-Nov-20	20:00	ENE	0.1
2-Nov-20	21:00	E	0.6
2-Nov-20	22:00	ENE	3.0
2-Nov-20	23:00	E	0.5
3-Nov-20	0:00	ENE	0.2
3-Nov-20	1:00	ENE	0.1
3-Nov-20	2:00	ENE	0.2
3-Nov-20	3:00	ENE	0.1
3-Nov-20	4:00	ENE	0.1
3-Nov-20	5:00	NE	0.1
3-Nov-20	6:00	NW	0.1
3-Nov-20	7:00	NW	0.1
3-Nov-20	8:00	ENE	1.4
3-Nov-20	9:00	NNE	1.7
3-Nov-20	10:00	NNE	0.2
3-Nov-20	11:00	ENE	0.5
3-Nov-20	12:00	NNE	1.6
3-Nov-20	13:00	ESE	0.1
3-Nov-20	14:00	ESE	0.1
3-Nov-20	15:00	E	0.1
3-Nov-20	16:00	E	0.1
3-Nov-20	17:00	NE	0.1
3-Nov-20	18:00	NE	0.1
3-Nov-20	19:00	ENE	0.2
3-Nov-20	20:00	NE	0.1
3-Nov-20	21:00	NE	0.1

**APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD**

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction	Wind Speed (m/s)
3-Nov-20	22:00	ENE	0.1
3-Nov-20	23:00	NE	0.1
4-Nov-20	0:00	E	0.1
4-Nov-20	1:00	ENE	0.1
4-Nov-20	2:00	ESE	0.1
4-Nov-20	3:00	E	0.1
4-Nov-20	4:00	E	0.1
4-Nov-20	5:00	E	0.1
4-Nov-20	6:00	ENE	0.1
4-Nov-20	7:00	NE	0.1
4-Nov-20	8:00	NE	0.2
4-Nov-20	9:00	NNW	0.1
4-Nov-20	10:00	E	0.2
4-Nov-20	11:00	WSW	0.1
4-Nov-20	12:00	E	0.2
4-Nov-20	13:00	S	0.1
4-Nov-20	14:00	ENE	0.1
4-Nov-20	15:00	SSW	0.3
4-Nov-20	16:00	SSE	0.1
4-Nov-20	17:00	E	0.1
4-Nov-20	18:00	SE	0.2
4-Nov-20	19:00	E	0.1
4-Nov-20	20:00	E	0.1
4-Nov-20	21:00	ENE	0.2
4-Nov-20	22:00	ESE	0.1
4-Nov-20	23:00	ESE	0.1
5-Nov-20	0:00	E	0.1
5-Nov-20	1:00	E	0.1
5-Nov-20	2:00	ESE	0.1
5-Nov-20	3:00	E	0.1
5-Nov-20	4:00	ENE	0.1
5-Nov-20	5:00	ENE	0.1
5-Nov-20	6:00	NE	0.1
5-Nov-20	7:00	ENE	0.1
5-Nov-20	8:00	NE	0.1

**APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD**

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction	Wind Speed (m/s)
5-Nov-20	9:00	E	0.1
5-Nov-20	10:00	E	0.4
5-Nov-20	11:00	ESE	0.2
5-Nov-20	12:00	SSE	0.4
5-Nov-20	13:00	NE	0.1
5-Nov-20	14:00	ENE	0.2
5-Nov-20	15:00	SE	0.1
5-Nov-20	16:00	ESE	0.1
5-Nov-20	17:00	ENE	0.1
5-Nov-20	18:00	NE	0.1
5-Nov-20	19:00	E	0.1
5-Nov-20	20:00	ESE	0.1
5-Nov-20	21:00	ENE	0.1
5-Nov-20	22:00	E	0.1
5-Nov-20	23:00	ENE	0.1
6-Nov-20	0:00	ENE	0.1
6-Nov-20	1:00	E	0.1
6-Nov-20	2:00	ENE	0.1
6-Nov-20	3:00	NE	0.1
6-Nov-20	4:00	ENE	0.1
6-Nov-20	5:00	ENE	0.1
6-Nov-20	6:00	ENE	0.1
6-Nov-20	7:00	SSW	0.1
6-Nov-20	8:00	SSW	0.1
6-Nov-20	9:00	WSW	0.1
6-Nov-20	10:00	ENE	0.2
6-Nov-20	11:00	NE	0.2
6-Nov-20	12:00	NNW	0.1
6-Nov-20	13:00	NNE	0.2
6-Nov-20	14:00	WNW	0.1
6-Nov-20	15:00	E	0.1
6-Nov-20	16:00	N	0.6
6-Nov-20	17:00	NNW	0.2
6-Nov-20	18:00	SW	0.1
6-Nov-20	19:00	WSW	0.1

**APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD**

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction	Wind Speed (m/s)
6-Nov-20	20:00	NNE	0.1
6-Nov-20	21:00	NE	0.1
6-Nov-20	22:00	E	0.1
6-Nov-20	23:00	SW	0.1
7-Nov-20	0:00	NE	0.1
7-Nov-20	1:00	ENE	0.1
7-Nov-20	2:00	NNE	0.1
7-Nov-20	3:00	ENE	0.1
7-Nov-20	4:00	ENE	0.1
7-Nov-20	5:00	E	0.2
7-Nov-20	6:00	ENE	0.4
7-Nov-20	7:00	E	0.1
7-Nov-20	8:00	NE	0.5
7-Nov-20	9:00	NNE	0.3
7-Nov-20	10:00	N	0.1
7-Nov-20	11:00	ENE	0.2
7-Nov-20	12:00	ENE	2.4
7-Nov-20	13:00	NE	0.2
7-Nov-20	14:00	ENE	0.7
7-Nov-20	15:00	NE	0.1
7-Nov-20	16:00	ESE	0.2
7-Nov-20	17:00	E	0.4
7-Nov-20	18:00	ENE	0.1
7-Nov-20	19:00	ENE	0.1
7-Nov-20	20:00	ENE	0.1
7-Nov-20	21:00	SE	0.1
7-Nov-20	22:00	ENE	0.1
7-Nov-20	23:00	ENE	0.2
8-Nov-20	0:00	E	0.1
8-Nov-20	1:00	ENE	0.1
8-Nov-20	2:00	ENE	0.1
8-Nov-20	3:00	E	0.1
8-Nov-20	4:00	E	0.1
8-Nov-20	5:00	NE	2.0
8-Nov-20	6:00	ENE	0.1

**APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD**

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction	Wind Speed (m/s)
8-Nov-20	7:00	E	0.2
8-Nov-20	8:00	ESE	0.2
8-Nov-20	9:00	E	1.4
8-Nov-20	10:00	NE	2.0
8-Nov-20	11:00	E	0.2
8-Nov-20	12:00	NE	0.1
8-Nov-20	13:00	ENE	0.2
8-Nov-20	14:00	E	0.1
8-Nov-20	15:00	NNE	0.6
8-Nov-20	16:00	ENE	0.1
8-Nov-20	17:00	ENE	0.4
8-Nov-20	18:00	E	0.1
8-Nov-20	19:00	ENE	0.2
8-Nov-20	20:00	SE	0.1
8-Nov-20	21:00	E	1.1
8-Nov-20	22:00	E	0.2
8-Nov-20	23:00	ENE	0.1
9-Nov-20	0:00	E	0.1
9-Nov-20	1:00	E	0.1
9-Nov-20	2:00	ENE	0.1
9-Nov-20	3:00	ENE	0.1
9-Nov-20	4:00	NNE	0.4
9-Nov-20	5:00	ENE	0.3
9-Nov-20	6:00	NE	0.1
9-Nov-20	7:00	ENE	0.1
9-Nov-20	8:00	ESE	0.7
9-Nov-20	9:00	NNE	0.2
9-Nov-20	10:00	NE	0.2
9-Nov-20	11:00	ENE	0.1
9-Nov-20	12:00	NE	1.5
9-Nov-20	13:00	E	0.5
9-Nov-20	14:00	NE	0.2
9-Nov-20	15:00	ENE	0.3
9-Nov-20	16:00	ENE	0.1
9-Nov-20	17:00	ENE	0.1

**APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD**

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction	Wind Speed (m/s)
9-Nov-20	18:00	ESE	0.1
9-Nov-20	19:00	ENE	0.1
9-Nov-20	20:00	ENE	0.1
9-Nov-20	21:00	NE	0.1
9-Nov-20	22:00	ESE	0.1
9-Nov-20	23:00	ENE	0.1
10-Nov-20	0:00	ENE	0.1
10-Nov-20	1:00	E	0.1
10-Nov-20	2:00	ENE	0.1
10-Nov-20	3:00	ENE	0.1
10-Nov-20	4:00	NE	0.5
10-Nov-20	5:00	ENE	1.1
10-Nov-20	6:00	ENE	0.4
10-Nov-20	7:00	NE	0.1
10-Nov-20	8:00	NE	0.3
10-Nov-20	9:00	NNE	0.2
10-Nov-20	10:00	NE	0.1
10-Nov-20	11:00	N	0.1
10-Nov-20	12:00	ESE	0.2
10-Nov-20	13:00	NNE	0.1
10-Nov-20	14:00	ENE	0.1
10-Nov-20	15:00	SSE	0.1
10-Nov-20	16:00	E	0.1
10-Nov-20	17:00	ENE	0.1
10-Nov-20	18:00	ENE	0.1
10-Nov-20	19:00	ENE	0.1
10-Nov-20	20:00	E	0.1
10-Nov-20	21:00	NE	0.1
10-Nov-20	22:00	ENE	0.1
10-Nov-20	23:00	E	0.1
11-Nov-20	0:00	NE	0.1
11-Nov-20	1:00	NNE	0.1
11-Nov-20	2:00	ENE	0.1
11-Nov-20	3:00	ENE	0.1
11-Nov-20	4:00	NE	0.1

**APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD**

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction	Wind Speed (m/s)
11-Nov-20	5:00	NNE	0.1
11-Nov-20	6:00	NE	0.1
11-Nov-20	7:00	NE	0.1
11-Nov-20	8:00	NNE	0.1
11-Nov-20	9:00	NE	0.2
11-Nov-20	10:00	NE	0.2
11-Nov-20	11:00	ENE	1.1
11-Nov-20	12:00	ENE	0.3
11-Nov-20	13:00	NNE	0.1
11-Nov-20	14:00	#N/A	0.4
11-Nov-20	15:00	S	0.1
11-Nov-20	16:00	E	0.1
11-Nov-20	17:00	NE	0.1
11-Nov-20	18:00	ESE	0.1
11-Nov-20	19:00	E	0.1
11-Nov-20	20:00	E	0.1
11-Nov-20	21:00	ENE	0.1
11-Nov-20	22:00	ENE	0.1
11-Nov-20	23:00	ENE	0.1
12-Nov-20	0:00	ENE	0.1
12-Nov-20	1:00	NNE	0.1
12-Nov-20	2:00	NNE	0.1
12-Nov-20	3:00	ENE	0.1
12-Nov-20	4:00	ENE	0.1
12-Nov-20	5:00	NNE	0.1
12-Nov-20	6:00	NE	0.1
12-Nov-20	7:00	NE	0.1
12-Nov-20	8:00	NE	0.1
12-Nov-20	9:00	E	0.3
12-Nov-20	10:00	N	0.2
12-Nov-20	11:00	NNW	0.6
12-Nov-20	12:00	NE	0.1
12-Nov-20	13:00	NE	0.2
12-Nov-20	14:00	ENE	0.3
12-Nov-20	15:00	ENE	0.1

**APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD**

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction	Wind Speed (m/s)
12-Nov-20	16:00	E	0.2
12-Nov-20	17:00	E	0.1
12-Nov-20	18:00	E	0.1
12-Nov-20	19:00	E	0.1
12-Nov-20	20:00	ENE	0.1
12-Nov-20	21:00	ENE	0.1
12-Nov-20	22:00	ENE	0.1
12-Nov-20	23:00	SE	0.1
13-Nov-20	0:00	SE	0.1
13-Nov-20	1:00	S	0.1
13-Nov-20	2:00	ENE	0.1
13-Nov-20	3:00	ENE	0.1
13-Nov-20	4:00	N	0.1
13-Nov-20	5:00	E	0.1
13-Nov-20	6:00	E	0.1
13-Nov-20	7:00	E	0.1
13-Nov-20	8:00	ENE	0.4
13-Nov-20	9:00	ESE	0.1
13-Nov-20	10:00	E	0.1
13-Nov-20	11:00	NNE	0.2
13-Nov-20	12:00	E	0.1
13-Nov-20	13:00	NE	0.6
13-Nov-20	14:00	NE	0.2
13-Nov-20	15:00	NNE	0.2
13-Nov-20	16:00	E	0.1
13-Nov-20	17:00	ESE	0.1
13-Nov-20	18:00	ESE	0.1
13-Nov-20	19:00	E	0.1
13-Nov-20	20:00	E	0.1
13-Nov-20	21:00	SE	0.1
13-Nov-20	22:00	ESE	0.1
13-Nov-20	23:00	E	0.1
14-Nov-20	0:00	E	0.1
14-Nov-20	1:00	E	0.1
14-Nov-20	2:00	NNE	0.1

**APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD**

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction	Wind Speed (m/s)
14-Nov-20	3:00	ENE	0.1
14-Nov-20	4:00	E	0.1
14-Nov-20	5:00	ENE	0.1
14-Nov-20	6:00	NE	0.1
14-Nov-20	7:00	ENE	0.1
14-Nov-20	8:00	E	0.1
14-Nov-20	9:00	ENE	0.1
14-Nov-20	10:00	ENE	0.8
14-Nov-20	11:00	NE	0.2
14-Nov-20	12:00	ENE	0.1
14-Nov-20	13:00	NE	0.1
14-Nov-20	14:00	NE	0.3
14-Nov-20	15:00	NE	0.1
14-Nov-20	16:00	ENE	0.1
14-Nov-20	17:00	NE	0.1
14-Nov-20	18:00	NE	0.4
14-Nov-20	19:00	NNE	0.8
14-Nov-20	20:00	NE	0.1
14-Nov-20	21:00	NNE	0.1
14-Nov-20	22:00	NNE	0.1
14-Nov-20	23:00	ENE	0.2
15-Nov-20	0:00	NNE	0.1
15-Nov-20	1:00	NE	0.1
15-Nov-20	2:00	SE	0.1
15-Nov-20	3:00	ENE	0.1
15-Nov-20	4:00	NE	0.1
15-Nov-20	5:00	NE	0.1
15-Nov-20	6:00	NE	0.1
15-Nov-20	7:00	NE	0.1
15-Nov-20	8:00	ENE	0.1
15-Nov-20	9:00	NE	0.2
15-Nov-20	10:00	NE	0.3
15-Nov-20	11:00	E	0.4
15-Nov-20	12:00	E	0.1
15-Nov-20	13:00	SE	0.1

**APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD**

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction	Wind Speed (m/s)
15-Nov-20	14:00	E	0.1
15-Nov-20	15:00	E	0.1
15-Nov-20	16:00	E	0.2
15-Nov-20	17:00	ESE	0.1
15-Nov-20	18:00	SSE	0.1
15-Nov-20	19:00	E	0.1
15-Nov-20	20:00	E	0.1
15-Nov-20	21:00	ENE	0.1
15-Nov-20	22:00	ENE	0.1
15-Nov-20	23:00	ENE	0.1
16-Nov-20	0:00	E	0.1
16-Nov-20	1:00	E	0.1
16-Nov-20	2:00	E	0.1
16-Nov-20	3:00	E	0.1
16-Nov-20	4:00	ENE	0.1
16-Nov-20	5:00	N	0.1
16-Nov-20	6:00	N	0.1
16-Nov-20	7:00	WSW	0.1
16-Nov-20	8:00	NE	0.1
16-Nov-20	9:00	NNE	0.2
16-Nov-20	10:00	ENE	0.1
16-Nov-20	11:00	ESE	0.1
16-Nov-20	12:00	ENE	0.1
16-Nov-20	13:00	ESE	0.1
16-Nov-20	14:00	SSW	0.2
16-Nov-20	15:00	W	0.1
16-Nov-20	16:00	W	0.1
16-Nov-20	17:00	E	0.1
16-Nov-20	18:00	SE	0.2
16-Nov-20	19:00	SSE	0.6
16-Nov-20	20:00	ESE	0.1
16-Nov-20	21:00	SW	0.1
16-Nov-20	22:00	SE	0.2
16-Nov-20	23:00	NNE	0.1
17-Nov-20	0:00	SE	0.1

**APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD**

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction	Wind Speed (m/s)
17-Nov-20	1:00	NE	0.1
17-Nov-20	2:00	E	0.1
17-Nov-20	3:00	SE	0.1
17-Nov-20	4:00	ENE	0.2
17-Nov-20	5:00	ENE	0.1
17-Nov-20	6:00	E	0.1
17-Nov-20	7:00	E	0.1
17-Nov-20	8:00	SE	0.1
17-Nov-20	9:00	E	0.1
17-Nov-20	10:00	E	0.1
17-Nov-20	11:00	E	0.1
17-Nov-20	12:00	ENE	0.1
17-Nov-20	13:00	SE	0.1
17-Nov-20	14:00	ENE	0.2
17-Nov-20	15:00	ESE	0.2
17-Nov-20	16:00	E	0.1
17-Nov-20	17:00	SSE	0.1
17-Nov-20	18:00	SW	0.1
17-Nov-20	19:00	SE	0.1
17-Nov-20	20:00	SE	0.1
17-Nov-20	21:00	ESE	0.1
17-Nov-20	22:00	ESE	0.1
17-Nov-20	23:00	E	0.3
18-Nov-20	0:00	E	0.1
18-Nov-20	1:00	ESE	0.1
18-Nov-20	2:00	ENE	0.2
18-Nov-20	3:00	SE	0.2
18-Nov-20	4:00	E	0.2
18-Nov-20	5:00	E	0.1
18-Nov-20	6:00	E	0.1
18-Nov-20	7:00	ENE	0.1
18-Nov-20	8:00	E	0.1
18-Nov-20	9:00	E	0.4
18-Nov-20	10:00	E	0.1
18-Nov-20	11:00	ENE	0.1

**APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD**

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction	Wind Speed (m/s)
18-Nov-20	12:00	SSE	0.4
18-Nov-20	13:00	SSW	0.6
18-Nov-20	14:00	ESE	0.1
18-Nov-20	15:00	SSE	0.3
18-Nov-20	16:00	NE	0.1
18-Nov-20	17:00	SE	0.1
18-Nov-20	18:00	ENE	0.1
18-Nov-20	19:00	E	0.1
18-Nov-20	20:00	ENE	0.1
18-Nov-20	21:00	NE	0.1
18-Nov-20	22:00	ESE	0.1
18-Nov-20	23:00	SSE	0.1
19-Nov-20	0:00	SE	0.1
19-Nov-20	1:00	E	0.1
19-Nov-20	2:00	E	0.1
19-Nov-20	3:00	E	0.1
19-Nov-20	4:00	E	0.1
19-Nov-20	5:00	E	0.1
19-Nov-20	6:00	E	0.1
19-Nov-20	7:00	ESE	0.1
19-Nov-20	8:00	ESE	0.1
19-Nov-20	9:00	E	0.1
19-Nov-20	10:00	ENE	0.1
19-Nov-20	11:00	E	0.1
19-Nov-20	12:00	E	0.1
19-Nov-20	13:00	SW	0.1
19-Nov-20	14:00	WSW	0.1
19-Nov-20	15:00	W	0.1
19-Nov-20	16:00	WSW	0.4
19-Nov-20	17:00	WSW	0.1
19-Nov-20	18:00	ESE	0.1
19-Nov-20	19:00	E	0.1
19-Nov-20	20:00	ESE	0.1
19-Nov-20	21:00	ENE	0.2
19-Nov-20	22:00	ESE	0.1

**APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD**

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction	Wind Speed (m/s)
19-Nov-20	23:00	E	0.1
20-Nov-20	0:00	E	0.1
20-Nov-20	1:00	NE	0.1
20-Nov-20	2:00	NE	0.1
20-Nov-20	3:00	E	0.1
20-Nov-20	4:00	ENE	0.1
20-Nov-20	5:00	E	0.1
20-Nov-20	6:00	ENE	0.1
20-Nov-20	7:00	E	0.1
20-Nov-20	8:00	NNE	0.1
20-Nov-20	9:00	NW	0.1
20-Nov-20	10:00	WNW	0.2
20-Nov-20	11:00	NNE	0.1
20-Nov-20	12:00	SE	0.1
20-Nov-20	13:00	ENE	0.1
20-Nov-20	14:00	ESE	0.2
20-Nov-20	15:00	E	0.1
20-Nov-20	16:00	SSW	0.1
20-Nov-20	17:00	E	0.1
20-Nov-20	18:00	SE	0.1
20-Nov-20	19:00	E	0.1
20-Nov-20	20:00	E	0.2
20-Nov-20	21:00	E	0.1
20-Nov-20	22:00	NE	0.1
20-Nov-20	23:00	ENE	0.1
21-Nov-20	0:00	E	0.1
21-Nov-20	1:00	E	0.1
21-Nov-20	2:00	ENE	0.2
21-Nov-20	3:00	SSE	0.3
21-Nov-20	4:00	SE	0.1
21-Nov-20	5:00	ESE	0.1
21-Nov-20	6:00	ESE	0.1
21-Nov-20	7:00	SE	0.1
21-Nov-20	8:00	SE	0.4
21-Nov-20	9:00	NNE	0.1

**APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD**

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction	Wind Speed (m/s)
21-Nov-20	10:00	ESE	0.1
21-Nov-20	11:00	SW	0.1
21-Nov-20	12:00	E	0.1
21-Nov-20	13:00	E	0.5
21-Nov-20	14:00	NE	0.1
21-Nov-20	15:00	SSE	0.5
21-Nov-20	16:00	S	0.1
21-Nov-20	17:00	NE	0.1
21-Nov-20	18:00	ENE	0.1
21-Nov-20	19:00	ESE	0.1
21-Nov-20	20:00	SE	0.1
21-Nov-20	21:00	E	0.1
21-Nov-20	22:00	SE	0.1
21-Nov-20	23:00	SE	0.1
22-Nov-20	0:00	ENE	0.2
22-Nov-20	1:00	ENE	0.1
22-Nov-20	2:00	NE	0.1
22-Nov-20	3:00	ENE	0.1
22-Nov-20	4:00	ESE	0.1
22-Nov-20	5:00	ENE	0.1
22-Nov-20	6:00	ENE	0.1
22-Nov-20	7:00	ESE	0.1
22-Nov-20	8:00	E	0.1
22-Nov-20	9:00	ESE	0.1
22-Nov-20	10:00	SE	0.1
22-Nov-20	11:00	ENE	0.1
22-Nov-20	12:00	ESE	0.1
22-Nov-20	13:00	NNW	0.1
22-Nov-20	14:00	ENE	0.1
22-Nov-20	15:00	E	0.1
22-Nov-20	16:00	ENE	0.1
22-Nov-20	17:00	E	0.1
22-Nov-20	18:00	ENE	0.1
22-Nov-20	19:00	ENE	0.1
22-Nov-20	20:00	E	0.1

**APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD**

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction	Wind Speed (m/s)
22-Nov-20	21:00	ENE	0.1
22-Nov-20	22:00	E	0.1
22-Nov-20	23:00	ENE	0.1
23-Nov-20	0:00	ENE	0.1
23-Nov-20	1:00	SE	0.1
23-Nov-20	2:00	E	0.1
23-Nov-20	3:00	ENE	0.1
23-Nov-20	4:00	E	0.1
23-Nov-20	5:00	E	0.1
23-Nov-20	6:00	ESE	0.1
23-Nov-20	7:00	E	0.2
23-Nov-20	8:00	SE	0.1
23-Nov-20	9:00	ENE	0.1
23-Nov-20	10:00	E	0.1
23-Nov-20	11:00	NE	0.1
23-Nov-20	12:00	E	0.1
23-Nov-20	13:00	E	0.1
23-Nov-20	14:00	E	0.1
23-Nov-20	15:00	ENE	0.1
23-Nov-20	16:00	E	0.1
23-Nov-20	17:00	ESE	0.1
23-Nov-20	18:00	E	0.1
23-Nov-20	19:00	E	0.1
23-Nov-20	20:00	E	0.1
23-Nov-20	21:00	ENE	0.1
23-Nov-20	22:00	ENE	0.1
23-Nov-20	23:00	NE	0.1
24-Nov-20	0:00	NNE	0.1
24-Nov-20	1:00	ENE	0.1
24-Nov-20	2:00	ENE	0.1
24-Nov-20	3:00	ENE	0.1
24-Nov-20	4:00	E	0.3
24-Nov-20	5:00	ENE	0.1
24-Nov-20	6:00	NNW	0.1
24-Nov-20	7:00	NNE	0.1

**APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD**

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction	Wind Speed (m/s)
24-Nov-20	8:00	WSW	0.1
24-Nov-20	9:00	SE	0.1
24-Nov-20	10:00	ENE	0.1
24-Nov-20	11:00	NNE	0.1
24-Nov-20	12:00	ENE	0.1
24-Nov-20	13:00	ENE	0.1
24-Nov-20	14:00	ENE	0.1
24-Nov-20	15:00	E	0.8
24-Nov-20	16:00	E	0.1
24-Nov-20	17:00	E	0.1
24-Nov-20	18:00	SSE	0.1
24-Nov-20	19:00	E	0.1
24-Nov-20	20:00	ENE	0.1
24-Nov-20	21:00	E	0.1
24-Nov-20	22:00	SE	0.1
24-Nov-20	23:00	E	0.1
25-Nov-20	0:00	E	0.1
25-Nov-20	1:00	ENE	0.1
25-Nov-20	2:00	ENE	0.1
25-Nov-20	3:00	ENE	0.1
25-Nov-20	4:00	NE	0.1
25-Nov-20	5:00	ENE	0.1
25-Nov-20	6:00	ENE	0.1
25-Nov-20	7:00	E	0.1
25-Nov-20	8:00	ENE	0.1
25-Nov-20	9:00	S	0.1
25-Nov-20	10:00	NE	0.6
25-Nov-20	11:00	NE	0.1
25-Nov-20	12:00	E	0.4
25-Nov-20	13:00	E	0.1
25-Nov-20	14:00	ENE	0.1
25-Nov-20	15:00	SSE	0.1
25-Nov-20	16:00	ENE	0.1
25-Nov-20	17:00	E	0.1
25-Nov-20	18:00	ESE	0.1

**APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD**

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction	Wind Speed (m/s)
25-Nov-20	19:00	E	0.1
25-Nov-20	20:00	SE	0.1
25-Nov-20	21:00	ESE	0.1
25-Nov-20	22:00	SE	0.1
25-Nov-20	23:00	SE	0.1
26-Nov-20	0:00	SE	0.1
26-Nov-20	1:00	E	0.1
26-Nov-20	2:00	E	0.1
26-Nov-20	3:00	ENE	0.1
26-Nov-20	4:00	E	0.1
26-Nov-20	5:00	ENE	0.1
26-Nov-20	6:00	NE	0.1
26-Nov-20	7:00	E	0.1
26-Nov-20	8:00	ENE	0.1
26-Nov-20	9:00	ENE	0.3
26-Nov-20	10:00	NNE	0.4
26-Nov-20	11:00	NE	0.1
26-Nov-20	12:00	NE	0.1
26-Nov-20	13:00	ENE	0.2
26-Nov-20	14:00	NW	0.1
26-Nov-20	15:00	SE	0.1
26-Nov-20	16:00	ENE	0.1
26-Nov-20	17:00	E	0.1
26-Nov-20	18:00	E	0.1
26-Nov-20	19:00	ENE	0.1
26-Nov-20	20:00	SE	0.1
26-Nov-20	21:00	ENE	0.1
26-Nov-20	22:00	ENE	0.1
26-Nov-20	23:00	E	0.1
27-Nov-20	0:00	E	0.1
27-Nov-20	1:00	ENE	0.1
27-Nov-20	2:00	NE	0.7
27-Nov-20	3:00	ENE	0.2
27-Nov-20	4:00	E	0.1
27-Nov-20	5:00	E	0.2

**APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD**

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction	Wind Speed (m/s)
27-Nov-20	6:00	NNE	1.6
27-Nov-20	7:00	WNW	0.1
27-Nov-20	8:00	ENE	0.1
27-Nov-20	9:00	NNE	0.1
27-Nov-20	10:00	ENE	0.1
27-Nov-20	11:00	NNE	0.1
27-Nov-20	12:00	E	0.5
27-Nov-20	13:00	ENE	0.2
27-Nov-20	14:00	ENE	0.1
27-Nov-20	15:00	E	0.1
27-Nov-20	16:00	NE	0.1
27-Nov-20	17:00	NE	0.1
27-Nov-20	18:00	NE	0.1
27-Nov-20	19:00	NNE	0.1
27-Nov-20	20:00	NE	0.1
27-Nov-20	21:00	ESE	0.2
27-Nov-20	22:00	E	1.1
27-Nov-20	23:00	E	1.9
28-Nov-20	0:00	NE	0.8
28-Nov-20	1:00	NNW	2.1
28-Nov-20	2:00	E	0.2
28-Nov-20	3:00	NE	0.2
28-Nov-20	4:00	E	0.1
28-Nov-20	5:00	ENE	0.2
28-Nov-20	6:00	NE	0.1
28-Nov-20	7:00	ENE	0.1
28-Nov-20	8:00	ENE	0.1
28-Nov-20	9:00	E	0.4
28-Nov-20	10:00	NNE	0.3
28-Nov-20	11:00	NE	0.1
28-Nov-20	12:00	N	0.1
28-Nov-20	13:00	NNE	0.1
28-Nov-20	14:00	ENE	0.2
28-Nov-20	15:00	NE	0.1
28-Nov-20	16:00	ENE	0.1

**APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD**

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction	Wind Speed (m/s)
28-Nov-20	17:00	NNE	0.1
28-Nov-20	18:00	E	0.1
28-Nov-20	19:00	ENE	0.1
28-Nov-20	20:00	NNE	0.8
28-Nov-20	21:00	NNE	0.2
28-Nov-20	22:00	N	0.1
28-Nov-20	23:00	NE	0.1
29-Nov-20	0:00	ESE	0.2
29-Nov-20	1:00	ENE	0.1
29-Nov-20	2:00	ENE	0.2
29-Nov-20	3:00	E	0.1
29-Nov-20	4:00	ENE	0.1
29-Nov-20	5:00	E	0.2
29-Nov-20	6:00	NE	0.2
29-Nov-20	7:00	NE	0.1
29-Nov-20	8:00	NNE	0.8
29-Nov-20	9:00	ENE	2.9
29-Nov-20	10:00	ENE	0.3
29-Nov-20	11:00	ENE	0.1
29-Nov-20	12:00	SE	1.2
29-Nov-20	13:00	E	0.1
29-Nov-20	14:00	NE	0.2
29-Nov-20	15:00	NE	0.4
29-Nov-20	16:00	E	0.4
29-Nov-20	17:00	ESE	0.1
29-Nov-20	18:00	ENE	0.1
29-Nov-20	19:00	E	0.1
29-Nov-20	20:00	NNE	0.8
29-Nov-20	21:00	NE	0.2
29-Nov-20	22:00	E	0.1
29-Nov-20	23:00	E	0.1
30-Nov-20	0:00	NE	0.1
30-Nov-20	1:00	NNE	0.1
30-Nov-20	2:00	NE	1.4
30-Nov-20	3:00	NNW	5.3

**APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD**

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction	Wind Speed (m/s)
30-Nov-20	4:00	NNE	0.2
30-Nov-20	5:00	NNE	0.9
30-Nov-20	6:00	ENE	0.2
30-Nov-20	7:00	E	0.8
30-Nov-20	8:00	NNE	0.1
30-Nov-20	9:00	ENE	2.0
30-Nov-20	10:00	SSE	0.3
30-Nov-20	11:00	NE	0.1
30-Nov-20	12:00	NNW	1.8
30-Nov-20	13:00	ENE	0.1
30-Nov-20	14:00	ENE	0.4
30-Nov-20	15:00	E	0.1
30-Nov-20	16:00	ESE	0.2
30-Nov-20	17:00	NE	0.1
30-Nov-20	18:00	NNE	0.1
30-Nov-20	19:00	NE	0.1
30-Nov-20	20:00	ENE	0.1
30-Nov-20	21:00	ENE	0.1
30-Nov-20	22:00	NNE	0.2
30-Nov-20	23:00	ENE	0.2

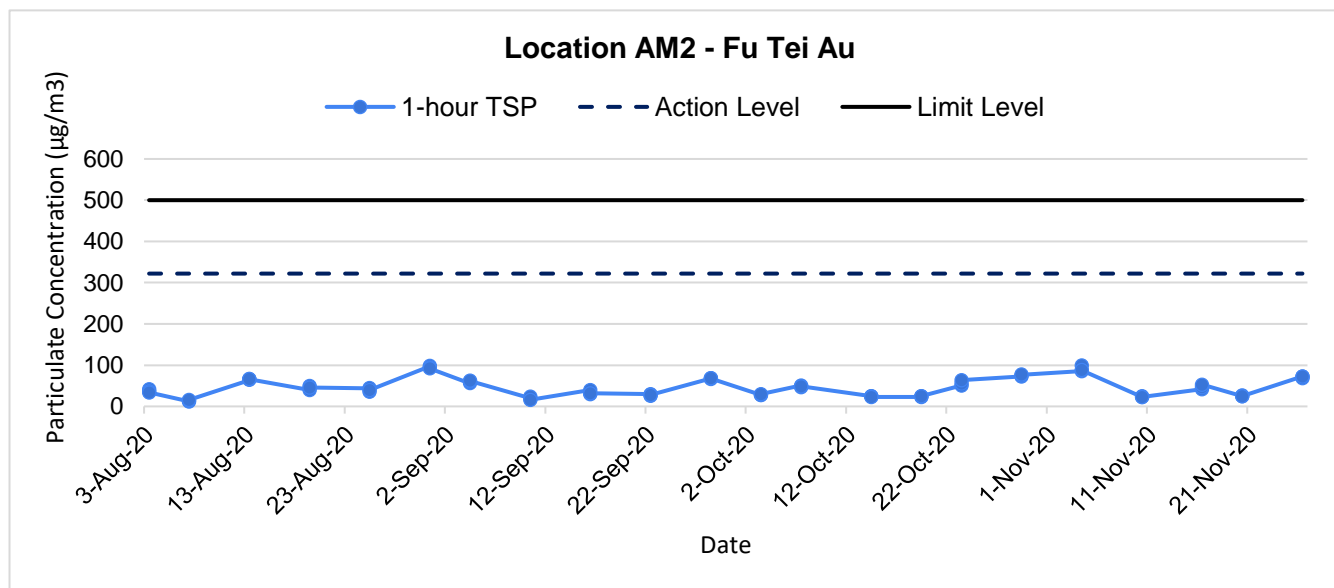
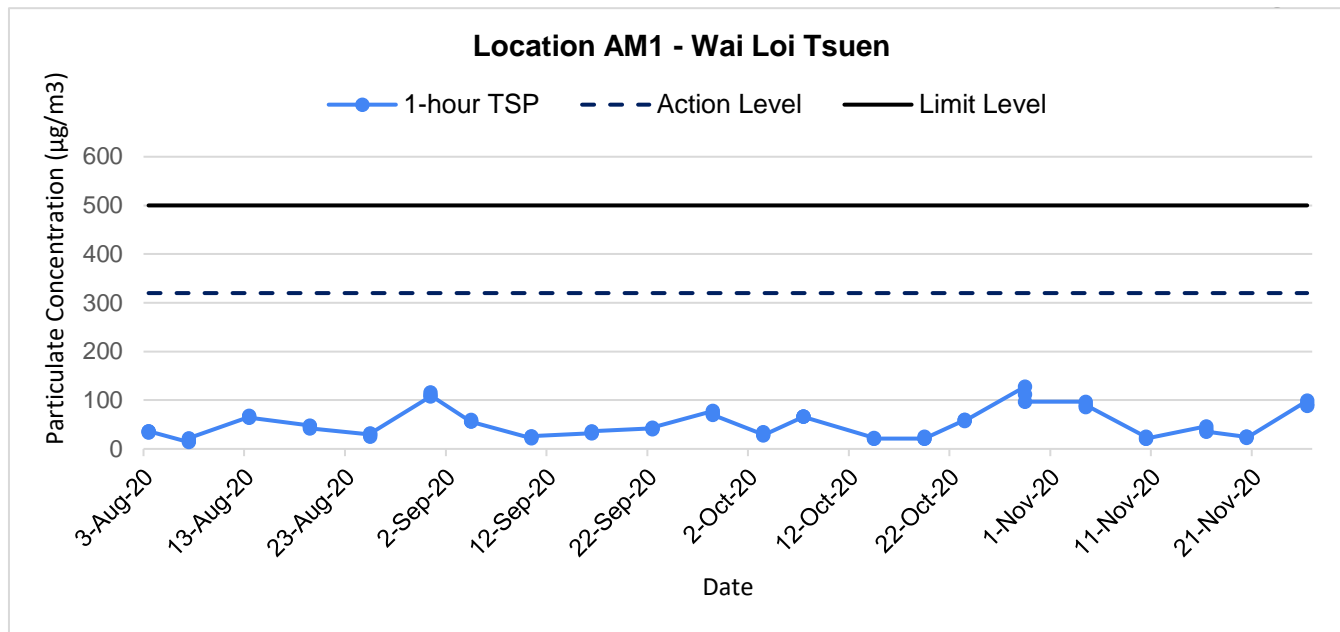
**APPENDIX E
1-HOUR TSP MONITORING RESULTS
AND GRAPHICAL PRESENTATIONS**

Appendix E - 1-hour TSP Monitoring Results

Location AM1 - Wai Loi Tsuen			
Date	Time	Weather	Particulate Concentration ($\mu\text{g}/\text{m}^3$)
4-Nov-20	13:40	Sunny	96.8
4-Nov-20	14:40	Sunny	85.8
4-Nov-20	15:40	Sunny	90.2
10-Nov-20	13:15	Cloudy	24.7
10-Nov-20	14:15	Cloudy	20.9
10-Nov-20	15:15	Cloudy	20.9
16-Nov-20	9:20	Sunny	46.2
16-Nov-20	10:20	Sunny	39.6
16-Nov-20	11:20	Sunny	35.2
20-Nov-20	9:15	Sunny	24.7
20-Nov-20	10:15	Sunny	24.7
20-Nov-20	11:15	Sunny	22.8
26-Nov-20	9:20	Sunny	99.0
26-Nov-20	10:20	Sunny	92.4
26-Nov-20	11:20	Sunny	88.0
		Average	54.1
		Maximum	99.0
		Minimum	20.9

Location AM2 - Fu Tei Au			
Date	Time	Weather	Particulate Concentration ($\mu\text{g}/\text{m}^3$)
4-Nov-20	9:30	Sunny	85.8
4-Nov-20	10:30	Sunny	99.0
4-Nov-20	11:30	Sunny	88.0
10-Nov-20	9:15	Cloudy	22.8
10-Nov-20	10:15	Cloudy	24.7
10-Nov-20	11:15	Cloudy	22.8
16-Nov-20	13:20	Sunny	41.8
16-Nov-20	14:20	Sunny	46.2
16-Nov-20	15:20	Sunny	52.8
20-Nov-20	13:00	Sunny	24.7
20-Nov-20	14:00	Sunny	26.6
20-Nov-20	15:00	Sunny	24.7
26-Nov-20	13:45	Sunny	72.6
26-Nov-20	14:45	Sunny	68.2
26-Nov-20	15:45	Sunny	72.6
		Average	51.6
		Maximum	99.0
		Minimum	22.8

1-hr TSP Concentration Levels



Title	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1	Date	Nov 2020	Project No.	MA19019	CINOTECH
	Graphical Presentation of 1-hour TSP Monitoring Results			Appendix	E	

**APPENDIX F
24-HOUR TSP MONITORING RESULTS
AND GRAPHICAL PRESENTATIONS**

Appendix F - 24-hour TSP Monitoring Results

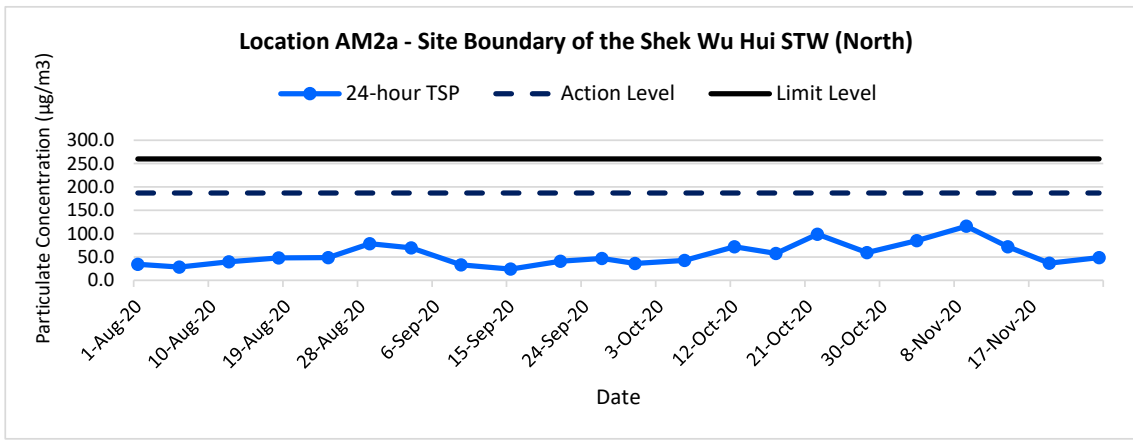
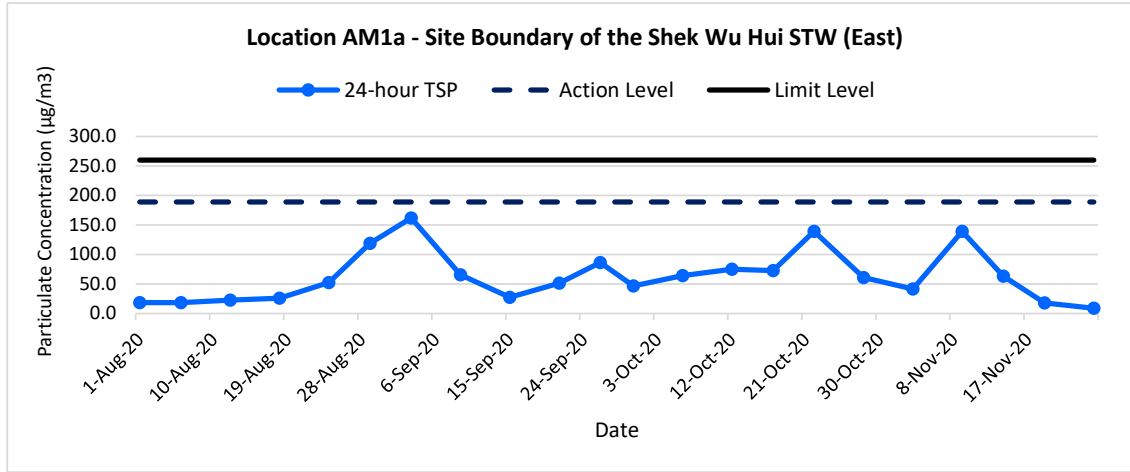
Location AM1a - Site Boundary of the Shek Wu Hui STW (East)

Start Date	Weather Condition	Air Temp. (K)	Atmospheric Pressure, Pa (mmHg)	Filter Weight (g)		Particulate weight (g)	Elapse Time		Sampling Time (hrs.)	Flow Rate (m ³ /min.)		Av. Flow (m ³ /min)	Total vol. (m ³)	Conc. (µg/m ³)
				Initial	Final		Initial	Final		Initial	Final			
3-Nov-20	Sunny	296.3	763.9	3.5001	3.5737	0.0736	9402.7	9426.7	24.0	1.23	1.23	1.23	1777.2	41.4
9-Nov-20	Cloudy	296.3	765.0	3.5133	3.7584	0.2451	9426.7	9450.7	24.0	1.22	1.22	1.22	1760.5	139.2
14-Nov-20	Sunny	296.2	764.8	3.2657	3.3775	0.1118	9450.7	9474.7	24.0	1.22	1.22	1.22	1760.7	63.5
19-Nov-20	Sunny	298.6	760.2	3.5370	3.5684	0.0314	9474.7	9498.7	24.0	1.22	1.21	1.21	1749.5	17.9
25-Nov-20	Sunny	296.8	765.3	3.2801	3.2958	0.0157	9498.7	9522.7	24.0	1.22	1.22	1.22	1759.7	8.9
													Min	8.9
													Max	139.2
													Average	54.2

Location AM2a - Site Boundary of the Shek Wu Hui STW (North)

Start Date	Weather Condition	Air Temp. (K)	Atmospheric Pressure, Pa (mmHg)	Filter Weight (g)		Particulate weight (g)	Elapse Time		Sampling Time (hrs.)	Flow Rate (m ³ /min.)		Av. Flow (m ³ /min)	Total vol. (m ³)	Conc. (µg/m ³)
				Initial	Final		Initial	Final		Initial	Final			
3-Nov-20	Sunny	296.3	763.9	3.5483	3.6998	0.1515	19596.7	19620.7	24.0	1.23	1.23	1.23	1776.4	85.3
9-Nov-20	Cloudy	296.3	765.0	3.5284	3.7319	0.2035	19620.7	19644.7	24.0	1.22	1.22	1.22	1757.7	115.8
14-Nov-20	Sunny	296.2	764.8	3.3343	3.4608	0.1265	19644.7	19668.7	24.0	1.22	1.22	1.22	1757.9	72.0
19-Nov-20	Sunny	298.6	760.2	3.5117	3.5756	0.0639	19668.7	19692.7	24.0	1.21	1.21	1.21	1747.3	36.6
25-Nov-20	Sunny	296.8	765.3	3.3043	3.3901	0.0858	19692.7	19716.7	24.0	1.22	1.22	1.22	1756.9	48.8
													Min	36.6
													Max	115.8
													Average	71.7

24-hr TSP Concentration Levels



Title Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1	Date Nov 2020	Project No. MA19019	
Graphical Presentation of 24-hour TSP Monitoring Results		Appendix F	

**APPENDIX G
COPIES OF CALIBRATION
CERTIFICATES FOR NOISE
MONITORING**



Calibration Certificate

0023000

Customer : Cinotech Consultants Limited RM 1710, Technology Park, 18 On Lai Street, Shatin, N.T. Hong Kong	Object 1 : SVAN957 SLM Serial No. /Ref. No. : 23852 / N-08-11 Object 2 : Microphone Serial No. /Ref. No. : 35989
Customer Code : SVEC09005	Manufacturer : Svantek
Date of calibration: 19/12/2019 Date of the recommended re-calibration: 19/12/2020	Certificate No.: 0023000 Handle by: E0002

Measuring results

Reference value	Indication value	Deviation	Allowed deviation	Object
94.0dB	93.4dB	-0.6dB	+/- 1.5dB	1
114.0dB	113.4dB	-0.6dB	+/- 1.5dB	1

Measuring equipment

index	Calibrator / Master	Traceability
1	Master Sound Meter, SVAN949,sn:8571	IEC61672
2	Sound Calibrator, SV30A sn:32580	IEC60942

Ambient conditions

Temperature (20...26)°C

Humidity (20...60)%RH

Measuring procedure

Calibrated by Type 1 Sound Calibrator with Master Sound Level Meter under 1kHz Frequency.

Uncertainty

+/- 0.2dB for probability not less than 95%.

Conformity

- 1.The resulted values were those obtained at the time of test and applies only to the item calibrated.
- 2.The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
- 3.The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
- 4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
- 5.The calibrations certificate may not be reproduced.

Measured value(s) **within** the allowable deviation.

Performed by

Calibration Technician

Approved by

Quality Manager



Calibration Certificate

0022999

Customer : Cinotech Consultants Limited RM 1710, Technology Park, 18 On Lai Street, Shatin, N.T. Hong Kong	Object 1 : SVAN957 SLM Serial No. /Ref. No. : 23851 / N-08-12 Object 2 : Microphone Serial No. /Ref. No. : 43676
Customer Code : SVEC09005	Manufacturer : Svantek
Date of calibration: 19/12/2019 Date of the recommended re-calibration: 19/12/2020	Certificate No.: 0022999 Handle by: E0002

Measuring results

Reference value	Indication value	Deviation	Allowed deviation	Object
94.0dB	94.0dB	0.0dB	+/- 1.5dB	1
114.0dB	114.0dB	0.0dB	+/- 1.5dB	1

Measuring equipment

index	Calibrator / Master	Traceability
1	Master Sound Meter, SVAN949,sn:8571	IEC61672
2	Sound Calibrator, SV30A sn:32580	IEC60942

Ambient conditions

Temperature (20...26)°C

Humidity (20...60)%RH

Measuring procedure

Calibrated by Type 1 Sound Calibrator with Master Sound Level Meter under 1kHz Frequency.

Uncertainty

+/- 0.2dB for probability not less than 95%.

Conformity

- 1.The resulted values were those obtained at the time of test and applies only to the item calibrated.
- 2.The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
- 3.The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
- 4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
- 5.The calibrations certificate may not be reproduced.

Measured value(s) **within** the allowable deviation.

Performed by

Calibration Technician

Approved by

Quality Manager



Calibration Certificate

0023155

Customer : Cinotech Consultants Limited RM 1710, Technology Park, 18 On Lai Street, Shatin, N.T. Hong Kong	Object 1 : SVAN979 SLM Serial No. /Ref. No. : 27189 / SN-01-01 Object 2 : Microphone Serial No. /Ref. No. : 25204
Customer Code : SVEC09005	Manufacturer : BSWAtech
Date of calibration: 08/01/2020 Date of the recommended re-calibration: 08/01/2021	Certificate No.: 0023155 Handle by: E0002

Measuring results

Reference value	Indication value	Deviation	Allowed deviation	Object
94.0dB	93.7dB	-0.3dB	+/- 1.5dB	1
114.0dB	113.6dB	-0.4dB	+/- 1.5dB	1

Measuring equipment

index	Calibrator / Master	Traceability
1	Master Sound Meter, SVAN949,sn:8571	IEC61672
2	Sound Calibrator, SV30A sn:32580	IEC60942

Ambient conditions

Temperature (20...26)°C

Humidity (20...60)%RH

Measuring procedure

Calibrated by Type 1 Sound Calibrator with Master Sound Level Meter under 1kHz Frequency.

Uncertainty

+/- 0.2dB for probability not less than 95%.

Conformity

- 1.The resulted values were those obtained at the time of test and applies only to the item calibrated.
- 2.The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
- 3.The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
- 4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
- 5.The calibrations certificate may not be reproduced.

Measured value(s) **within** the allowable deviation.

Performed by

Calibration Technician

Approved by

Quality Manager



Equipment no.: N-13-01

Calibration Certificate**0025247**

Customer : Cinotech Consultants Limited RM 1710, Technology Park, 18 On Lai Street, Shatin, N.T. Hong Kong	Object 1 : ST-120 sound calibrator Serial No. /Ref. No. : 181001608 Object 2 : Serial No. /Ref. No. :
Customer Code : SVEC09005	Manufacturer : Soundtek
Date of calibration: 05/11/2020 Date of the recommended re-calibration: 05/11/2021	Certificate No.: 0025247 Handle by: E0002

Measuring results

Reference value	Indication value	Deviation	Allowed deviation	Object
94.0dB	93.7dB	-0.3dB	+/- 0.3dB	1
114.0dB	113.6dB	-0.4dB	+/- 0.5dB	1

Measuring equipment

index	Calibrator / Master	Traceability
1	Master Sound Meter, SVAN949,sn:8571	IEC61672
2	Sound Calibrator, SV30A sn:32580	IEC60942

Ambient conditions

Temperature (20...26)°C Humidity (20...60)%RH

Measuring procedure

Calibrated by Type 1 Sound Level Meter and 1kHz Sound Source

Uncertainty

+/- 0.2dB for probability not less than 95%.

Conformity

- 1.The resulted values were those obtained at the time of test and applies only to the item calibrated.
- 2.The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
- 3.The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
- 4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
- 5.The calibrations certificate may not be reproduced.

Measured value(s) **within** the allowable deviation.

Performed by

Calibration Technician

Mr. K.L. Ng

Approved by

Quality Manager



Calibration Certificate

0023002

Customer : Cinotech Consultants Limited RM 1710, Technology Park, 18 On Lai Street, Shatin, N.T. Hong Kong	Object 1 : SV30A sound calibrator Serial No. /Ref. No. : 10965 / N-09-02 Object 2 : Serial No. /Ref. No. :
Customer Code : SVEC09005	Manufacturer : Svantek
Date of calibration: 19/12/2019 Date of the recommended re-calibration: 19/12/2020	Certificate No.: 0023002 Handle by: E0002

Measuring results

Reference value	Indication value	Deviation	Allowed deviation	Object
94.0dB	93.9dB	-0.1dB	+/- 0.3dB	1
114.0dB	114.2dB	+0.2dB	+/- 0.3dB	1

Measuring equipment

index	Calibrator / Master	Traceability
1	Master Sound Meter, SVAN949,sn:8571	IEC61672
2	Sound Calibrator, SV30A sn:32580	IEC60942

Ambient conditions

Temperature (20...26)°C

Humidity (20...60)%RH

Measuring procedure

Calibrated by Type 1 Sound Level Meter and 1kHz Sound Source .

Uncertainty

+/- 0.2 dB for probability not less than 95%.

Conformity

- 1.The resulted values were those obtained at the time of test and applies only to the item calibrated.
- 2.The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
- 3.The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
- 4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
- 5.The calibrations certificate may not be reproduced.

Measured value(s) **within** the allowable deviation.

Performed by

Calibration Technician

Approved by

Quality Manager

**APPENDIX H
NOISE MONITORING RESULTS AND
GRAPHICAL PRESENTATIONS**

Appendix H - Noise Monitoring Results

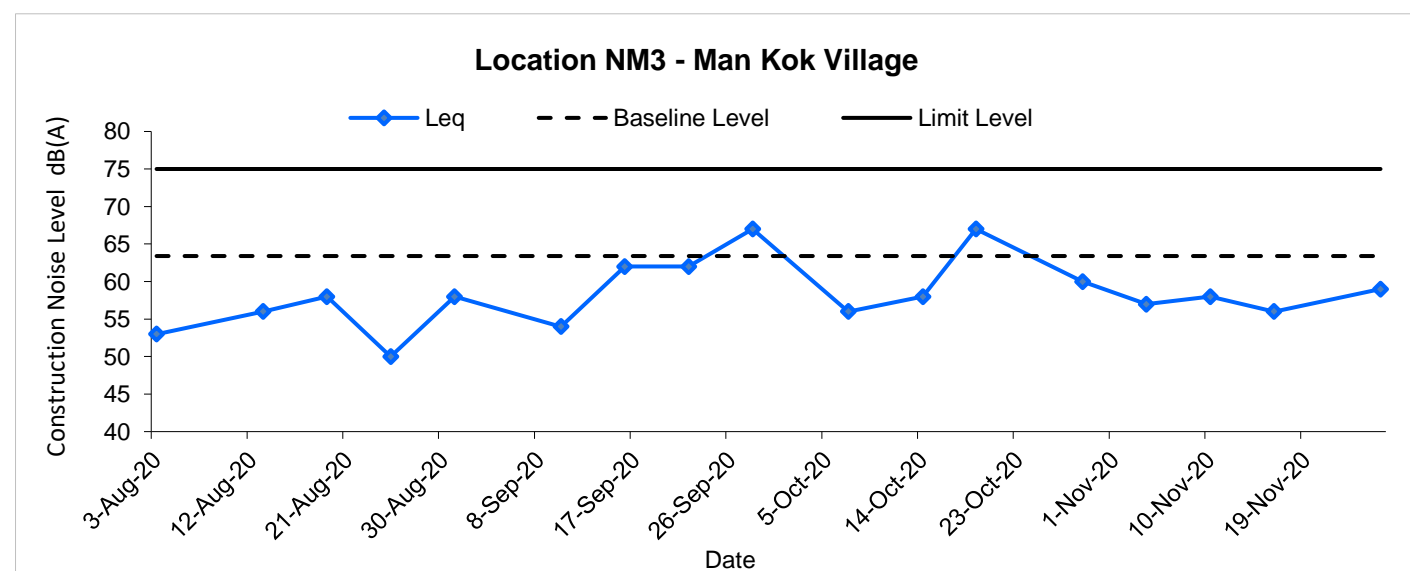
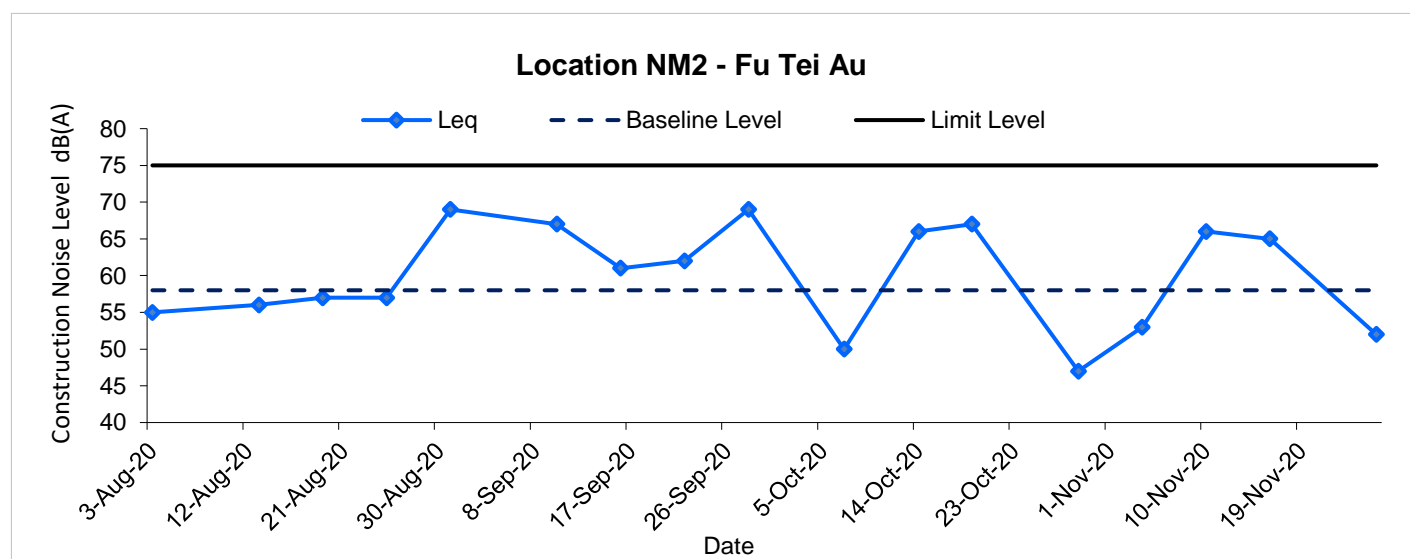
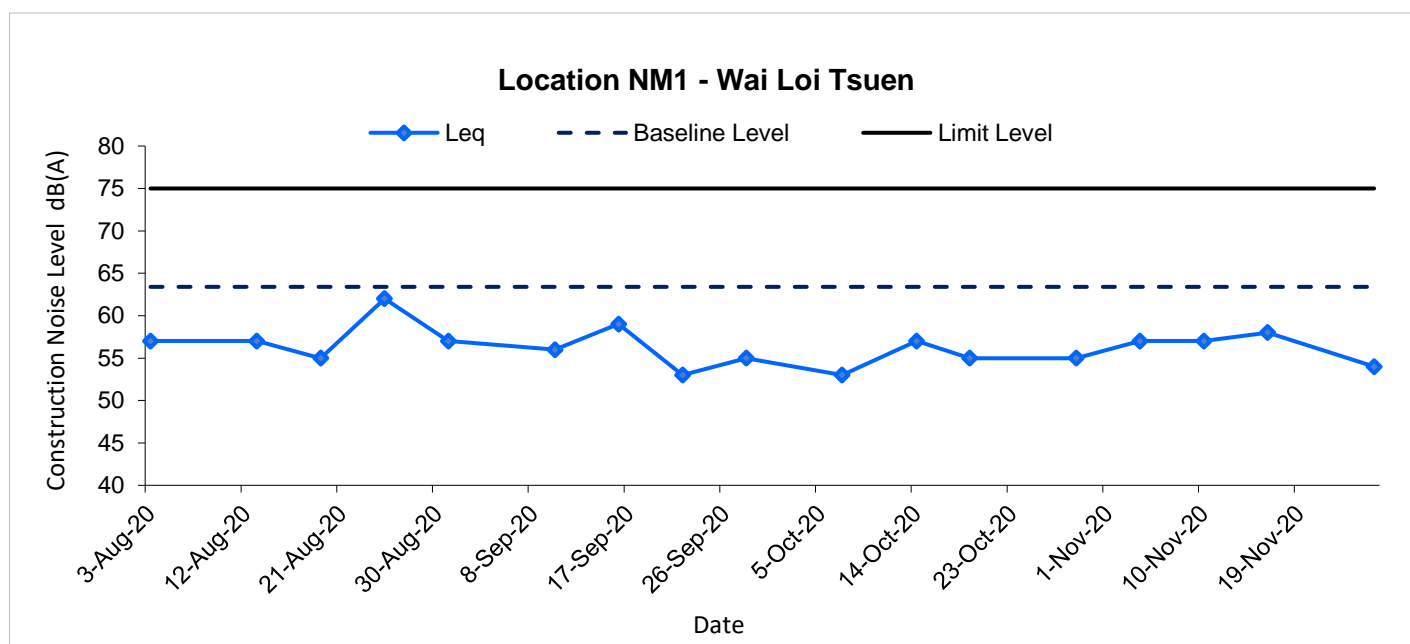
(0700-1900 hrs on Normal Weekdays)

Location NM1 - Wai Loi Tsuen							
Date	Time	Weather	Unit: dB (A) (30-min)				
			Measured Noise Level			Baseline Level	Construction Noise Level
			L _{eq}	L ₁₀	L ₉₀	L _{eq}	L _{eq}
4-Nov-20	13:45	Sunny	57.2	57.8	51.1	63.4	57.2 Measured ≤ Baseline
10-Nov-20	9:05	Cloudy	57.1	58.9	52.6	63.4	57.1 Measured ≤ Baseline
16-Nov-20	13:10	Sunny	57.6	58.6	51.2	63.4	57.6 Measured ≤ Baseline
26-Nov-20	13:15	Sunny	54.3	56.2	51.2	63.4	54.3 Measured ≤ Baseline

Location NM2 - Fu Tei Au							
Date	Time	Weather	Unit: dB (A) (30-min)				
			Measured Noise Level			Baseline Level	Construction Noise Level
			L _{eq}	L ₁₀	L ₉₀	L _{eq}	L _{eq}
4-Nov-20	15:05	Sunny	59.1	61.6	54.3	58.0	52.6
10-Nov-20	13:10	Cloudy	67.0	71.5	59.5	58.0	66.4
16-Nov-20	15:25	Sunny	66.0	67.6	57.5	58.0	65.3
26-Nov-20	15:30	Sunny	59.0	60.8	50.2	58.0	52.1

Location NM3 - Man Kok Village							
Date	Time	Weather	Unit: dB (A) (30-min)				
			Measured Noise Level			Baseline Level	Construction Noise Level
			L _{eq}	L ₁₀	L ₉₀	L _{eq}	L _{eq}
4-Nov-20	14:25	Sunny	56.7	59.7	47.4	63.4	56.7 Measured ≤ Baseline
10-Nov-20	10:00	Cloudy	64.5	66.0	61.2	63.4	58.0
16-Nov-20	14:00	Sunny	64.1	65.6	59.2	63.4	55.8
26-Nov-20	14:00	Sunny	58.7	61.4	49.7	63.4	58.7 Measured ≤ Baseline

Noise Levels



Title Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 Graphical Presentation of Construction Noise Monitoring Results	Date Nov 2020	Project No. MA19019	
	Appendix H		

**APPENDIX I
ECOLOGICAL MONITORING RESULTS
AND ANALYSIS**

MA19019 - Ecological Monitoring Result and Analysis

Table I: Recorded Bird Species and their Abundance in the Reporting Month

Scientific Name	Common Name	Chinese Name	Waterbird	Point Count Abundance	Transect Abundance
<i>Acridotheres cristatellus</i>	Crested Myna	八哥		105	+++++
<i>Actitis hypoleucos</i>	Common Sandpiper	磯鶺	*	9	+
<i>Alcedo atthis</i>	Common Kingfisher	普通翠鳥	*	0	+
<i>Ardea alba</i>	Great Egret	大白鷺	*	33	+++
<i>Ardea cinerea</i>	Grey Heron	蒼鷺	*	68	+++
<i>Ardeola bacchus</i>	Chinese Pond Heron	池鷺	*	39	+++
<i>Bubulcus coromandus</i>	Eastern Cattle Egret	牛背鷺	*	97	+++++
<i>Centropus sinensis</i>	Greater Coucal	褐翅鴉鵂		0	+
<i>Ceryle rudis</i>	Pied Kingfisher	斑魚狗	*	0	+
<i>Charadrius alexandrinus</i>	Kentish Plover	環頸鴉	*	4	+
<i>Charadrius dubius</i>	Little Ringed Plover	金眶鴉	*	0	+
<i>Copsychus saularis</i>	Magpie Robin	鷓鴣		2	+
<i>Corvus macrorhynchos</i>	Jungle Crow	大嘴烏鴉		6	+
<i>Corvus torquatus</i>	Collared Crow	白頸鴉	*	4	+
<i>Egretta garzetta</i>	Little Egret	小白鷺	*	75	++++
<i>Garrulax perspicillatus</i>	Masked Laughing Thrush	黑臉噪鶇		12	+
<i>Halcyon sylvensis</i>	White-throated Kingfisher	白胸翡翠	*	0	+
<i>Himantopus himantopus</i>	Black-winged Stilt	黑翅長腳鶺	*	30	+++
<i>Hirundo rustica</i>	Barn Swallow	家燕		0	+
<i>Lonchura punctulata</i>	Spotted Munia	斑文鳥		25	
<i>Lonchura striata</i>	White-rumped Munia	白腰文鳥		7	
<i>Milvus migrans</i>	Black Kite	黑鳶	*	3	+
<i>Motacilla alba</i>	White Wagtail	白鶺鴒		42	++
<i>Motacilla cinerea</i>	Grey Wagtail	灰鶺鴒		0	+
<i>Myophonus caeruleus</i>	Blue Whistling Thrush	紫嘯鶺		2	
<i>Orthotomus sutorius</i>	Common Tailorbird	長尾縫葉鶺		0	+
<i>Pandion haliaetus</i>	Osprey	魚鷹	*	0	+
<i>Parus cinereus</i>	Cinereous Tit	蒼背山雀		0	+
<i>Passer montanus</i>	Eurasian Tree Sparrow	樹麻雀		2	++
<i>Phalacrocorax carbo</i>	Great Cormorant	普通鸕鶺	*	42	+++
<i>Phoenicurus auroreus</i>	Daurian Redstart	北紅尾鶺		3	+
<i>Phylloscopus fuscatus</i>	Dusky Warbler	褐柳鶺		0	+
<i>Phylloscopus inornatus</i>	Yellow-browed Warbler	黃眉柳鶺		4	+
<i>Pica pica</i>	Magpie	喜鶺		5	+
<i>Prinia inornata</i>	Plain Prinia	純色鶺鶺		1	+
<i>Pycnonotus jocosus</i>	Crested bulbul	紅耳鶺		18	+
<i>Pycnonotus sinensis</i>	Chinese Bulbul	白頭鶺		7	+
<i>Recurvirostra avosetta</i>	Pied Avocet	反嘴鶺	*	2	+
<i>Saxicola stejnegeri</i>	Stejneger's Stonechat	黑喉石鶺		2	+
<i>Streptopelia chinensis</i>	Spotted Dove	珠頸斑鳩		35	++
<i>Sturnus nigricollis</i>	Black-necked Starling	黑領棕鳥		4	+
<i>Tachybaptus ruficollis</i>	Little Grebe	小鶺鶺	*	0	+
<i>Tringa glareola</i>	Wood Sandpiper	林鶺	*	1	
<i>Tringa nebularia</i>	Common Greenshank	青腳鶺	*	5	+
<i>Tringa ochropus</i>	Green Sandpiper	白腰草鶺	*	1	+
<i>Urocissa erythrorhyncha</i>	Red-billed Blue Magpie	紅咀藍鶺		11	+
<i>Zosterops japonicus</i>	Japanese White-eye	暗綠繡眼鳥		6	+
Total Point Count Abundance				712	
Total Waterbirds				413	

*For waterbird

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

Remarks: (1) 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, 2018). 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.

Agreement No. SPW 07/2019 Shek Wu Hui Effluent Polishing Plant - Main Work Stage 1		Project No. MA19019	CINOTECH
Monthly Data Analysis for Ecological Monitoring	Date November 2020	Appendix I	

MA19019 - Waterbird Ecological Monitoring Result

Monitoring Month Nov
 Season Winter

Table II : 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	5 Nov 2020	13:00	High	56	135	11
		8:00	Low	79		18
#2	9 Nov 2020	14:00	High	55	183	13
		8:00	Low	128		19
#3	20 Nov 2020	13:00	High	67	142	17
		8:00	Low	75		18
#4	23 Nov 2020	12:00	High	40	122	10
		8:00	Low	82		15
#5	30 Nov 2020	11:00	High	47	130	10
		7:00	Low	83		14
Overall Total					712	

Table III: Total Waterbird Abundance from Point Count						
Survey Information				Numbers of Waterbirds		
No.	Date	Time	Tide Level	Individuals Recorded	Total	
#1	5 Nov 2020	13:00	High	31	88	
		8:00	Low	57		
#2	9 Nov 2020	14:00	High	30	98	
		8:00	Low	68		
#3	20 Nov 2020	13:00	High	30	60	
		8:00	Low	30		
#4	23 Nov 2020	12:00	High	24	78	
		8:00	Low	54		
#5	30 Nov 2020	11:00	High	24	89	
		7:00	Low	65		
Overall Total					413	
Average					83	

Table IV: T-Test Analysis for All Waterbirds

Baseline Data
 Monthly Average Abundance (Nov) 79.00
 Seasonal Average Abundance (Winter) 62.15

T-test
 The following hypothesis was made and a one-tail t-test will be used to test the data collected from the monitoring:
 H₀ The data collected in the reporting month falls within the normal distribution when compared to the baseline monitoring data.
 H₁ The data collected does not falls within the normal distribution when compared to the baseline monitoring data.

If t-test value is smaller than the critical value, then rejects H₀.
 For the data in the reporting month, the critical values are:
 Crit. Value = -2.132 (95% Confidence Level)
 Crit. Value = -3.747 (99% Confidence Level)

T-values of Data in Reporting Month		Confidence Level		
		95%	99%	
Abundance	Monthly	0.497	✓	✓
	Season	2.821	✓	✓
Overall:			✓	✓

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.

Agreement No. SPW 07/2019		Project No. MA19019	CINOTECH
Shek Wu Hui Effluent Polishing Plant - Main Work Stage			
Monthly Data Analysis for Ecological Monitoring	Date November 2020	Appendix I	

MA19019 - Waterbird Ecological Monitoring Result

Monitoring Month Nov
Season Winter

Table V: Abundance of Representative Waterbirds from Point Count

Representative Species			Recorded Abundance						Baseline Data		
Species Name	Common Name	Chinese Name	5 Nov 2020	9 Nov 2020	20 Nov 2020	23 Nov 2020	30 Nov 2020	Total	Average	Avg (Nov)	Avg (Winter)
<i>Egretta garzetta</i>	Little Egret	小白鷺	10	25	8	17	15	75	15	16	15
<i>Ardea cinerea</i>	Grey Heron	蒼鷺	10	15	15	15	13	68	14	19	13
<i>Ardeola bacchus</i>	Chinese Pond Heron	池鷺	4	12	6	11	6	39	8	11	9
<i>Phalacrocorax carbo</i>	Great Cormorant	普通鸕鶿	1	14	12	14	1	42	8	14	7
<i>Ardea alba</i>	Great Egret	大白鷺	6	12	4	8	3	33	7	7	5
<i>Bubulcus coromandus</i>	Eastern Cattle Egret	牛背鷺	39	12	5	7	34	97	19	0	4

Table VI: T-test Analysis for Representative Waterbirds from Point Count

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

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

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

If t-test value for a specific representative is smaller than the critical value, then rejects H₀.

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

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

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

Representative Species			T-value	Confidence Level		T-value	Confidence Level		Overall
Species Name	Common Name	Chinese Name	Monthly	95%	99%	Seasonal	95%	99%	
<i>Egretta garzetta</i>	Little Egret	小白鷺	-0.335	✓	✓	0.120	✓	✓	✓
<i>Ardea cinerea</i>	Grey Heron	蒼鷺	-5.767	✗	✗	0.508	✓	✓	✓
<i>Ardeola bacchus</i>	Chinese Pond Heron	池鷺	-2.209	✗	✓	-0.916	✓	✓	✓
<i>Phalacrocorax carbo</i>	Great Cormorant	普通鸕鶿	-1.840	✓	✓	0.418	✓	✓	✓
<i>Ardea alba</i>	Great Egret	大白鷺	-0.406	✓	✓	0.808	✓	✓	✓
<i>Bubulcus coromandus</i>	Eastern Cattle Egret	牛背鷺	2.691	✓	✓	2.146	✓	✓	✓

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.

Agreement No. SPW 07/2019 Shek Wu Hui Effluent Polishing Plant - Main Work Stage 1		Project No. MA19019		CINOTECH
Monthly Data Analysis for Ecological Monitoring		Date November 2020	Appendix I	

**APPENDIX J
PHOTO RECORDS OF ECOLOGICAL
MONITORING**

Appendix J - Photo Records of Ecological Monitoring

Part A - Conditions of Rivers



Sheung Yue River (Taken on 30 Nov 20)



Ng Tung River (Taken on 23 Nov 20)



Shek Sheung River (Taken on 30 Nov 20)

Part B – Waterbird Species



Ardea alba (Taken on 23 Nov 20)



Ardea cinerea (Taken on 23 Nov 20)



Ardeola bacchus (Taken on 23 Nov 20)



Phalacrocorax carbo (Taken on 20 Nov 20)



Actitis hypoleucos (Taken on 20 Nov 20)



Tringa nebularia (Taken on 20 Nov 20)



Halcyon smyrnensis (Taken on 23 Nov 20)



Himantopus himantopus (Taken on 20 Nov 20)

Part C – Human Activities & Site Conditions



Remote boating (Taken on 23 Nov 20)



Fishing (Taken on 20 Nov 20)



Excavation & Crane (Project-related, taken on 23 Nov 20)

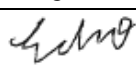

APPENDIX K
SITE AUDIT SUMMARY

Agreement No. SPW 07/2019
Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1
Contract No. DC/2018/06

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	201105
Date	5 November 2020 (Thursday)
Time	9:30 – 11:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<i>B. Water Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>C. Air Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>D. Noise</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>E. Waste / Chemical Management</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>F. Ecology and Fisheries</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>G. Landscape and Visual</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>H. Permits /Licences</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>I. Others</i>	
	No follow-up items from the previous site inspection (ref no.: 201027).	

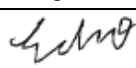

	Name	Signature	Date
Recorded by	Ms. Echo Hung		5 November 2020
Checked by	Mr. Eric Yan		6 November 2020

Agreement No. SPW 07/2019
Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1
Contract No. DC/2018/06

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	201109
Date	9 November 2020 (Monday)
Time	9:30 – 11:45

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<i>B. Water Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>C. Air Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>D. Noise</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>E. Waste / Chemical Management</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>F. Ecology and Fisheries</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>G. Landscape and Visual</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>H. Permits /Licences</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>I. Others</i>	
	No follow-up items from the previous site inspection (ref no.: 201105).	

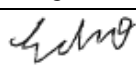

	Name	Signature	Date
Recorded by	Ms. Echo Hung		9 November 2020
Checked by	Mr. Eric Yan		10 November 2020

Agreement No. SPW 07/2019
Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1
Contract No. DC/2018/06

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	201117
Date	17 November 2020 (Tuesday)
Time	10:00 – 11:45

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<i>B. Water Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>C. Air Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>D. Noise</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>E. Waste / Chemical Management</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>F. Ecology and Fisheries</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>G. Landscape and Visual</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>H. Permits /Licences</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>I. Others</i>	
	No follow-up items from the previous site inspection (ref no.: 201109).	

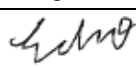

	Name	Signature	Date
Recorded by	Ms. Echo Hung		17 November 2020
Checked by	Mr. Eric Yan		18 November 2020

Agreement No. SPW 07/2019
Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1
Contract No. DC/2018/06

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	201124
Date	24 November 2020 (Tuesday)
Time	9:45 – 11:45

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<i>B. Water Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>C. Air Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>D. Noise</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>E. Waste / Chemical Management</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>F. Ecology and Fisheries</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>G. Landscape and Visual</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>H. Permits /Licences</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>I. Others</i>	
	No follow-up items from the previous site inspection (ref no.: 201117).	

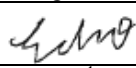

	Name	Signature	Date
Recorded by	Ms. Echo Hung		24 November 2020
Checked by	Mr. Eric Yan		25 November 2020

Agreement No. SPW 07/2019
Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1
Contract No. DC/2018/07

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	201105
Date	5 November 2020 (Thursday)
Time	9:30 – 11:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<i>B. Water Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>C. Air Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>D. Noise</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>E. Waste / Chemical Management</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>F. Ecology and Fisheries</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>G. Landscape and Visual</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>H. Permits /Licences</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>I. Others</i>	
	No follow-up items from the previous site inspection (ref no.: 201027).	

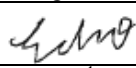

	Name	Signature	Date
Recorded by	Ms. Echo Hung		5 November 2020
Checked by	Mr. Eric Yan		6 November 2020

Agreement No. SPW 07/2019
Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1
Contract No. DC/2018/07

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	201109
Date	9 November 2020 (Monday)
Time	9:30 – 11:45

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<i>B. Water Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>C. Air Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>D. Noise</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>E. Waste / Chemical Management</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>F. Ecology and Fisheries</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>G. Landscape and Visual</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>H. Permits /Licences</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>I. Others</i>	
	No follow-up items from the previous site inspection (ref no.: 201105).	

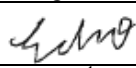

	Name	Signature	Date
Recorded by	Ms. Echo Hung		9 November 2020
Checked by	Mr. Eric Yan		10 November 2020

Agreement No. SPW 07/2019
Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1
Contract No. DC/2018/07

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	201117
Date	17 November 2020 (Tuesday)
Time	10:00 – 11:45

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<i>B. Water Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>C. Air Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>D. Noise</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>E. Waste / Chemical Management</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>F. Ecology and Fisheries</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>G. Landscape and Visual</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>H. Permits /Licences</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>I. Others</i>	
	No follow-up items from the previous site inspection (ref no.: 201109).	

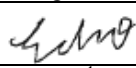

	Name	Signature	Date
Recorded by	Ms. Echo Hung		17 November 2020
Checked by	Mr. Eric Yan		18 November 2020

Agreement No. SPW 07/2019
Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1
Contract No. DC/2018/07

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	201124
Date	24 November 2020 (Tuesday)
Time	9:45 – 11:45

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<i>B. Water Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>C. Air Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>D. Noise</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>E. Waste / Chemical Management</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>F. Ecology and Fisheries</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>G. Landscape and Visual</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>H. Permits /Licences</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>I. Others</i>	
	No follow-up items from the previous site inspection (ref no.: 201117).	

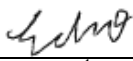

	Name	Signature	Date
Recorded by	Ms. Echo Hung		24 November 2020
Checked by	Mr. Eric Yan		25 November 2020

Agreement No. SPW 07/2019
Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1
Contract No. DE/2018/03

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	201103
Date	3 November 2020 (Tuesday)
Time	10:00 – 10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<i>B. Water Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>C. Air Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>D. Noise</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>E. Waste / Chemical Management</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>F. Ecology and Fisheries</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>G. Landscape and Visual</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>H. Permits /Licences</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>I. Others</i>	
	No follow-up items from the previous site inspection (ref no.: 201027).	

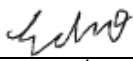

	Name	Signature	Date
Recorded by	Ms. Echo Hung		3 November 2020
Checked by	Mr. Eric Yan		4 November 2020

Agreement No. SPW 07/2019
Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1
Contract No. DE/2018/03

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	201110
Date	10 November 2020 (Tuesday)
Time	10:00 – 10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<i>B. Water Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>C. Air Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>D. Noise</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>E. Waste / Chemical Management</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>F. Ecology and Fisheries</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>G. Landscape and Visual</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>H. Permits /Licences</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>I. Others</i>	
	No follow-up items from the previous site inspection (ref no.: 201103).	

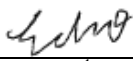

	Name	Signature	Date
Recorded by	Ms. Echo Hung		10 November 2020
Checked by	Mr. Eric Yan		11 November 2020

Agreement No. SPW 07/2019
Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1
Contract No. DE/2018/03

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	201117
Date	17 November 2020 (Tuesday)
Time	10:00 – 10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<i>B. Water Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>C. Air Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>D. Noise</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>E. Waste / Chemical Management</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>F. Ecology and Fisheries</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>G. Landscape and Visual</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>H. Permits /Licences</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>I. Others</i>	
	No follow-up items from the previous site inspection (ref no.: 201110).	

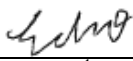

	Name	Signature	Date
Recorded by	Ms. Echo Hung		17 November 2020
Checked by	Mr. Eric Yan		18 November 2020

Agreement No. SPW 07/2019
Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1
Contract No. DE/2018/03

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	201124
Date	24 November 2020 (Tuesday)
Time	10:00 – 10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<i>B. Water Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>C. Air Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>D. Noise</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>E. Waste / Chemical Management</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>F. Ecology and Fisheries</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>G. Landscape and Visual</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>H. Permits /Licences</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>I. Others</i>	
	No follow-up items from the previous site inspection (ref no.: 201117).	

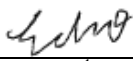

	Name	Signature	Date
Recorded by	Ms. Echo Hung		24 November 2020
Checked by	Mr. Eric Yan		25 November 2020

Agreement No. SPW 07/2019
Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1
Contract No. DE/2018/04

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	201103
Date	3 November 2020 (Tuesday)
Time	10:00 – 10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<i>B. Water Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>C. Air Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>D. Noise</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>E. Waste / Chemical Management</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>F. Ecology and Fisheries</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>G. Landscape and Visual</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>H. Permits /Licences</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>I. Others</i>	
	N/A	

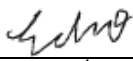

	Name	Signature	Date
Recorded by	Ms. Echo Hung		3 November 2020
Checked by	Mr. Eric Yan		4 November 2020

Agreement No. SPW 07/2019
Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1
Contract No. DE/2018/04

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	201110
Date	10 November 2020 (Tuesday)
Time	10:00 – 10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<i>B. Water Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>C. Air Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>D. Noise</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>E. Waste / Chemical Management</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>F. Ecology and Fisheries</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>G. Landscape and Visual</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>H. Permits /Licences</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>I. Others</i>	
	No follow-up items from the previous site inspection (ref no.: 201103).	

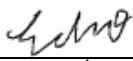

	Name	Signature	Date
Recorded by	Ms. Echo Hung		10 November 2020
Checked by	Mr. Eric Yan		11 November 2020

Agreement No. SPW 07/2019
Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1
Contract No. DE/2018/04

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	201117
Date	17 November 2020 (Tuesday)
Time	10:00 – 10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<i>B. Water Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>C. Air Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>D. Noise</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>E. Waste / Chemical Management</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>F. Ecology and Fisheries</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>G. Landscape and Visual</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>H. Permits /Licences</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>I. Others</i>	
	No follow-up items from the previous site inspection (ref no.: 201110).	

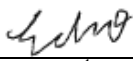

	Name	Signature	Date
Recorded by	Ms. Echo Hung		17 November 2020
Checked by	Mr. Eric Yan		18 November 2020

Agreement No. SPW 07/2019
Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1
Contract No. DE/2018/04

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	201124
Date	24 November 2020 (Tuesday)
Time	10:00 – 10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<i>B. Water Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>C. Air Quality</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>D. Noise</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>E. Waste / Chemical Management</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>F. Ecology and Fisheries</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>G. Landscape and Visual</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>H. Permits /Licences</i>	
	• No environmental deficiency was identified during the site inspection.	
	<i>I. Others</i>	
	No follow-up items from the previous site inspection (ref no.: 201117).	

	Name	Signature	Date
Recorded by	Ms. Echo Hung		24 November 2020
Checked by	Mr. Eric Yan		25 November 2020

**APPENDIX L
WASTE FLOW TABLE**

Monthly Summary Waste Flow Table for 2020 (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	Chemical Waste	Others, e.g. general refuse
	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³)
Jan	0.376	0.000	0.000	0.000	0.376	0.000	0.000	0.000	0.000	0.000	0.083
Feb	1.168	0.000	0.000	0.332	0.836	0.000	0.000	0.000	0.000	0.000	0.052
Mar	2.436	0.000	0.000	0.497	1.939	0.000	0.000	0.000	0.000	0.000	0.134
Apr	2.660	0.000	0.000	0.126	2.534	0.000	0.000	0.000	0.000	0.000	0.018
May	2.260	0.000	0.000	0.161	2.100	0.000	0.000	0.000	0.000	0.060	0.138
Jun	2.271	0.000	0.000	0.000	2.271	0.000	0.000	0.000	0.000	0.000	0.018
Sub-total	11.171	0.000	0.000	1.115	10.056	0.000	0.000	0.000	0.000	0.060	0.443
Jul	1.227	0.000	0.000	0.076	1.151	0.000	0.000	0.000	0.000	0.000	0.070
Aug	2.587	0.000	0.000	0.140	2.408	0.000	0.000	0.000	0.016	0.000	0.022
Sep	3.354	0.000	0.000	0.046	3.283	0.000	0.000	0.000	0.008	0.000	0.018
Oct	9.601	0.000	0.000	5.444	4.143	0.000	0.000	0.000	0.000	0.000	0.015
Nov	233.107	0.000	0.000	0.000	233.094	0.000	0.000	0.000	0.000	0.000	0.013
Dec											
Total	261.047	0.000	0.000	6.820	254.135	0.000	0.000	0.000	0.024	0.060	0.580

- 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 each truck of C&D wastes is 5m³
 4. The inert C&D materials except slurry and bentonite are disposed at Tuen Mun 38
 5. The slurry and bentonite are disposed at Tseung Kwun O 137
 6. The non-inert C&D wastes are disposed at NENT.
 7. Assume the density of metal is 7.850 kg/m³
 8. Assume the density of plastic is 941 kg/m³
 9. Assume the density of general refuse is 0.9 kg/l
 10. Density of waste oil is assumed to be 0.001 m³/l & 0.8 kg/l. Chemical waste includes waste oil.

Monthly Summary Waste Flow Table for 2020 (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	Chemical Waste	Others, e.g. general refuse
	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³)
Jan	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.006
Feb	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.005
Mar	0.143	0.000	0.000	0.000	0.143	0.000	0.00	0.000	0.000	0.000	0.000
Apr	0.121	0.000	0.000	0.000	0.121	0.000	31.23	0.000	0.000	0.000	0.003
May	0.372	0.000	0.000	0.000	0.372	0.000	19.71	0.000	0.000	0.000	0.005
Jun	0.227	0.000	0.000	0.000	0.227	0.000	151.78	0.000	0.000	0.000	0.009
Sub-total	0.862	0.000	0.000	0.000	0.862	0.000	202.72	0.000	0.000	0.000	0.028
Jul	0.180	0.000	0.000	0.056	0.124	0.076	92.86	0.000	0.000	9.600	0.006
Aug	0.847	0.000	0.000	0.000	0.847	0.104	115.29	0.000	0.016	0.000	0.010
Sep	0.455	0.000	0.000	0.000	0.455	0.000	0.000	0.000	0.008	0.000	0.009
Oct	1.507	0.000	0.000	0.000	1.507	0.039	0.000	0.000	0.000	0.000	0.041
Nov	1.820	0.000	0.000	0.000	1.820	0.000	0.00	0.000	0.000	0.000	0.005
Dec											
Total	5.670	0.000	0.000	0.056	5.614	0.219	410.87	0.000	0.024	9.600	0.099

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

Environmental Aspect Evaluation Form

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

Contract No.: DE/2018/03

Monthly Summary Waste Flow Table for 2020 (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	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0	0
Mar	0	0	0	0	0	0	0	0	0	0	0
Apr	0	0	0	0	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0	0	0	0	12.46 T
June	0	0	0	0	0	0	0	0	0	0	51.46 T
Sub-total	0	0	0	0	0	0	0	0	0	0	63.92 T
July	0	0	0	0	0	0	0	0	0	0	0
Aug	92.45 T	0	0	0	92.45 T	0	0	0	0	0	0
Sept	0	0	0	0	0	0	0	0	0	0	0
Oct	0	0	0	0	0	0	0	0	0	0	0
Nov	0	0	0	0	0	0	0	0	0	0	0
Dec											
Total	92.45 T	0	0	0	92.45 T	0	0	0	0	0	63.92 T

Environmental Aspect Evaluation Form

Forecast of Total Quantities of C&D Materials to be Generated from the Contract*										
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)
TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA

- Notes:
- (1) The performance targets are given in PS Clause 6A.27.8(14).
 - (2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
 - (3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material
 - (4) The *Contractor* shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the Works, together with a breakdown of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000 m³. (PS Clause 6.21.7(4)(b) refers)

Monthly Summary Waste Flow Table for 2020 (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	0	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0	0
Mar	0	0	0	0	0	0	0	0	0	0	0
Apr	0	0	0	0	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0	0	0	0	0
June	0	0	0	0	0	0	0	0	0	0	0
Sub-total	0	0	0	0	0	0	0	0	0	0	0
July	0	0	0	0	0	0	0	0	0	0	0
Aug	0	0	0	0	0	0	0	0	0	0	0
Sept	0	0	0	0	0	0	0	0	0	0	0
Oct	69.27	0	0	0	69.27	0	0	0	0	0	0
Nov	38.69	0	0	0	38.69	0	0	0	0	0	0
Dec											
Total	107.96	0	0	0	107.96	0	0	0	0	0	0

Forecast of Total Quantities of C&D Materials to be Generated from the Contract										
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 '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)
500	0	0.2	0	0.3	0	0	5	0	0	10

Notes:

- (1) The performance targets are given in PS Clause 6.21.8(14).
- (2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
- (3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material

APPENDIX M
EVENT AND ACTION PLANS

Appendix M - Event Action Plans

Table M-1 Event/Action Plan for Air Quality

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

Appendix M - Event Action Plans

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

Appendix M - Event Action Plans

Event	Action			
	ET	IEC	ER	Contractor
	<p>4. Increase monitoring frequency to daily;</p> <p>5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;</p> <p>6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken;</p> <p>7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results;</p> <p>8. If exceedance stops, cease additional monitoring.</p>	<p>necessary to assure their effectiveness and advise the ER accordingly;</p> <p>3. Supervise the implementation of remedial measures.</p>	<p>IEC, agree with the Contractor on the remedial measures to be implemented;</p> <p>4. Ensure remedial measures properly implemented;</p> <p>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.</p>	<p>3. Implement the agreed proposals;</p> <p>4. Resubmit proposals if problem still not under control;</p> <p>5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.</p>

Appendix M - Event Action Plans

Table M-2 Event/Action Plan for Construction Noise

Event	Action			
	ET	IEC	ER	Contractor
Action Level	<ol style="list-style-type: none"> 1. Notify IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures; 5. Increase monitoring frequency to check mitigation effectiveness. 	<ol style="list-style-type: none"> 1. Review the analysed results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented. 	<ol style="list-style-type: none"> 1. Submit noise mitigation proposals to IEC; 2. Implement noise mitigation proposals.
Limit Level	<ol style="list-style-type: none"> 1. Identify source; 2. Inform IEC, ER, EPD and Contractor; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of 	<ol style="list-style-type: none"> 1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals;

Appendix M - Event Action Plans

Event	Action			
	ET	IEC	ER	Contractor
	<p>Contractor's working procedures to determine possible mitigation to be implemented;</p> <p>6. Inform IEC, ER and EPD the causes and actions taken for the exceedances;</p> <p>7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results;</p> <p>8. If exceedance stops, cease additional monitoring.</p>	<p>3. Supervise the implementation of remedial measures.</p>	<p>4. Ensure remedial measures properly implemented;</p> <p>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.</p>	<p>4. Resubmit proposals if problem still not under control;</p> <p>5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.</p>

Appendix M - Event Action Plans

Table M-3 Event/Action Plan for Ecology

Action Level	Response	Limit Level	Response
<i>Construction Phase</i>			
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.

Appendix M - Event Action Plans

Table M-4 Event/Action Plan for Landscape and Visual

Event	Action			
	ET	IEC	ER	Contractor
Non-conformity on one occasion	<ol style="list-style-type: none"> 1. Inform the Contractor, IEC and ER; 2. Discuss remedial actions with IEC, ER and Contractor 3. Monitor remedial actions until rectification has been completed. 	<ol style="list-style-type: none"> 1. Check inspection report; 2. Check Contractor's working method; 3. Discuss with ET, ER and Contractor on possible remedial measures; 4. Advise ER on effectiveness of proposed remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of non-conformity in writing; 2. Review and agree on the remedial measures proposed by the Contractor; 3. Supervise implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Identify source and investigate the non-conformity; 2. Implement remedial measures; 3. Amend working methods agreed with ER as appropriate; 4. Rectify damage and undertake any necessary replacement.

Appendix M - Event Action Plans

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

**APPENDIX N
ENVIRONMENTAL MITIGATION
IMPLEMENTATION SCHEDULE (EMIS)**

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	Status
Air Quality Impact							
S2.3.1.3	<p>Dust suppression measures stipulated in the Air Pollution Control (Construction Dust) Regulation and good site practices:</p> <p>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;</p> <p>Any dusty material remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads;</p> <p>A stockpile of dusty material should not be extended beyond the pedestrian barriers, fencing or traffic cones;</p> <p>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;</p> <p>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;</p> <p>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.</p> <p>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;</p>	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) Regulation	^ ^ ^ ^ ^ ^ ^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
S2.3.1.3	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;	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) Regulation	^
	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;						N/A
	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;						N/A
	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;						N/A
	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						N/A
	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	Status
Noise Impact							
S3.2.1.1	Use of movable barrier, enclosure, acoustic mat and quiet plant. Use of wooden frames barrier with a small-cantilevered upper portion of superficial density not less than 14kg/m ² on a skid footing with 25mm thick internal sound absorptive lining.	To minimize construction noise impact arising from the Project at the affected noise sensitive receivers (NSRs)	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	EIAO-TM, Noise Control Ordinance (NCO)	^
S3.2.1.2	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.	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	Status
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 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	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;						^
	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;						^

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	Status
S4.2.1.4	Proper locations for discharge outlets of temporary wastewater treatment facilities well away from sensitive receivers should be identified;	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	^
	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;						N/A
	Stockpiling sites should be lined with impermeable sheeting and banded. 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.						N/A
	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						^

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	Status
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	<p>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.</p> <p>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</p>	Handling of site sewage	Contractors	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	EIAO-TM, WPCO, EIAO	^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
Waste Management							
S6.2.2.1	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	Contractor	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	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	Contractor	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	Status
6.2.4.1	Waste, such as soil, should be handled and stored well to ensure secure containment, thus minimizing the potential of pollution;	Minimize waste impacts arising from waste storage	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	WDO	^
	Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; and						^
	Different locations should be designated to stockpile each material to enhance reuse.						^
S6.2.4.2	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						^
	Disposal of waste should be done at licensed waste disposal facilities.						^
S6.2.5.2	Maintain temporary stockpiles and reuse excavated fill material for backfilling;	Minimize waste impacts from excavated and C&D materials	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						N/A
	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	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 from building demolition and new building construction	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	^

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	Status
S6.2.5.3	The use of wooden hoardings shall not be allowed. An alternative material, such as metal, aluminium or alloy etc, could be used.	Minimize waste impacts from building demolition and new building construction	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	^
	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	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 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	Status
Landscape and Visual							
S7.3.1.1	<p>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.</p> <p>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.</p>	Minimize the impact to the landscape and visual	Contractor	Work Sites	Prior to construction and construction phase		N/A
S7.3.2.1	<p>MM4 – Tree Protection & Preservation</p> <p>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.</p>	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	Status
S7.3.2.1	<p>MM5 - Tree Transplantation</p> <p>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.</p>	<p>Transplant Trees where suitable for transplantation</p>	<p>Designer / Contractor</p>	<p>Work Sites where possible. Otherwise consider offsite locations</p>	<p>Prior to construction, construction phase and operation phase</p>	<p>DEVB TC(W) No. 7/2015 and ETWB TCW No.2/2004</p> <p>HyD HQ/GN/13 Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation Maintenance Ambit</p>	<p>^</p>
S7.3.2.1	<p>MM6 - Slope Landscaping</p> <p>Site formation should be reduced as far as possible. Hydroseeding of modified slopes should be done as soon as grading works are completed to prevent erosion and subsequent loss of landscape resources and character. Woodland tree seedings and/or shrubs should be planted where slope gradient and site conditions allow.</p> <p>In addition, landscape planting should be provided for the retaining structures associated with modified slopes where conditions allow. All slope landscaping works should comply with GWO Publication No. 1/2011-Technical Guidelines on Landscape Treatment for Slopes.</p>	<p>To avoid substantial slope cutting and fill slopes.</p> <p>To prevent erosion and subsequent loss of landscape resources and character.</p> <p>To ensure man-made slopes are as visually amenable as possible.</p>	<p>Designer / Contractor</p>	<p>Work Sites</p>	<p>Prior to construction, construction phase and operation phase</p>	<p>GEO Publication (1999) - Use of Vegetation as Surface Protection on Slope; GEO Publication No. 1/2011-Technical Guidelines on Landscape Treatment for Slopes</p>	<p>N/A</p> <p>N/A</p>

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	Status
S7.3.2.1	MM7 - Compensatory Planting 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 <i>Melastoma malabathricum</i> , <i>Diospyros vaccinioides</i> , <i>Gardenia jasminoides</i> , <i>Ixora chinensis</i> , <i>Ligustrum sinense</i> , <i>Litsea rotundifolia</i> , <i>Melastoma dodecandrum</i> , <i>Atalantia buxifolia</i> , <i>Rhodymyrtus tomentosa</i> , <i>Rhaphiolepis indica</i> , and <i>Rhododendron simsii</i> 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	Status
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.	To screen undesirable views of the works site.	Designer	Work Sites	Construction phase		^
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		^

Remarks: EM&A Programme under FEP-02/474/2013	
^	Compliance of mitigation measure;
N/A	Not applicable at this stage;
N/A(1)	Not observed;
*	Recommendation was made during site audit but improved/rectified by the contractor;
#	Recommendation was made during site audit but not yet improved/rectified by the contractor;
X	Non-compliance of mitigation measure;
●	Non-compliance but rectified by the contractor.

**APPENDIX O
SUMMARIES OF ENVIRONMENTAL
COMPLAINT, WARNING, SUMMON
AND NOTIFICATION OF SUCCESSFUL
PROSECUTION**

Agreement No. SPW 07/2019
Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1

Appendix O – Summary of Environmental Complaint, Warning, Summon and Notification of Successful Prosecution

Reporting Month: November 2020

Log Ref.	Location	Received Date	Details of Complaint/Warning/Summon and Prosecution	Investigation/Mitigation Action	Status
1	Expansion Site of SWHSTP (Portion C)	18 March 2020	Muddy water was suspected to be discharged from the expansion site of SWHSTP to Shek Sheung River, manholes and foul drains nearby	<ul style="list-style-type: none"> • Employed suction truck and dump truck to clear the silt and mud at Shek Sheung River • Arranged to repair the wastewater treatment system • Installed additional sedimentation tanks and wastewater treatment system to increase the on-site treatment capacity • Clean the slurry sediment released from the outlet regularly by suction trucks • Avoid damage of underground drains and pipes caused by existing construction works • Avoid illegal discharge from the Site into foul drains and manholes 	Complaint Investigation Report was submitted in April 2020

Remarks: No environmental complaint/warning/summon and prosecution was received in the reporting period.

APPENDIX P
SUMMARY OF EXCEEDANCE

Agreement No. SPW 07/2019

Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1

Appendix P – Summary of Exceedance

Reporting Month: November 2020

(A) Exceedance Report for Air Quality
(NIL in the reporting month)

(B) Exceedance Report for Construction Noise
(NIL in the reporting month)

(C) Exceedance Report for Ecology
(NIL in the reporting month)

**APPENDIX Q
TENTATIVE CONSTRUCTION
PROGRAMME**

ID	KD	Task Name	Duration	Start	Finish	Actual Start	Actual Finish	Total Slack	Predecessors	Successors	% Complete	Time Risk Allowance	Number	1 October	1 September	1 August	1 July	1 June	1 May	1 April
													8/4	16/9	3/8	21/6	9/5	27/3	12/2	30/12
1		Contract Dates	1956 day	Mon 16/9/19	Wed 22/1/25	Mon 16/9/19	NA	0 days			36%		16/9							22/1
2		Starting Date	0 days	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days		4,5FS+181 days,6,7,8,9,11,12,10,15FS+	100%		16/9							
3		Access Date (cal. day)	180 days	Mon 16/9/19	Sat 14/3/20	Mon 16/9/19	Sat 14/3/20	0 days			100%		16/9	14/3						
4		Portion A-1	0 days	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2		100%		16/9							
5		Portion A-2	0 days	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2FS+181 days		100%		16/9							
6		Portion C-1A	0 days	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2		100%		16/9							
7		Portion C-1B	0 days	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2		100%		16/9							
8		Portion C-2A	0 days	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2		100%		16/9							
9		Portion C-2B	0 days	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2		100%		16/9							
10		Portion C-2C	0 days	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2		100%		16/9							
11		Portion C-2D	0 days	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2		100%		16/9							
12		Portion C-3	0 days	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2		100%		16/9							
13		Portion C-4	0 days	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2		100%		16/9							
14		Portion C-5	0 days	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2		100%		16/9							
15		Portion C-6	0 days	Sat 14/3/20	Sat 14/3/20	Sat 14/3/20	Sat 14/3/20	0 days	2FS+181 days	441,416	100%		16/9	14/3						
16		Works Area WA1	1 day	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2		100%		16/9							
17		Works Area WA2-A	1 day	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2		100%		16/9							
18		Key Date (cal. day)	840 days	Tue 17/9/19	Mon 3/1/22	Tue 17/9/19	NA	0 days			45%		17/9							
19		KD1A (525 days after starting date)	525 days	Tue 17/9/19	Mon 22/2/21	Tue 17/9/19	NA	0 days	2FS+1 day		63%									
20		KD2A (660 days after starting date)	660 days	Tue 17/9/19	Wed 7/7/21	Tue 17/9/19	NA	0 days	2FS+1 day		50%									
21		KD3A (740 days after starting date)	740 days	Tue 17/9/19	Sat 25/9/21	Tue 17/9/19	NA	0 days	2FS+1 day		42%									
22		KD3B (725 days after starting date)	725 days	Tue 17/9/19	Fri 10/9/21	Tue 17/9/19	NA	0 days	2FS+1 day		42%									
23		KD3C (750 days after starting date)	750 days	Tue 17/9/19	Tue 5/10/21	Tue 17/9/19	NA	0 days	2FS+1 day		41%									
24		KD3D (660 days after starting date)	660 days	Tue 17/9/19	Wed 7/7/21	Tue 17/9/19	NA	0 days	2FS+1 day		47%									
25		KD3E (840 days after starting date)	840 days	Tue 17/9/19	Mon 3/1/22	Tue 17/9/19	NA	0 days	2FS+1 day		37%									
26		Completion Date (cal. day)	1955 day	Tue 17/9/19	Wed 22/1/25	Tue 17/9/19	NA	0 days			29%		17/9							22/1
27		Section 1 of Works (675 days after starting date)	675 days	Tue 17/9/19	Thu 22/7/21	Tue 17/9/19	NA	0 days	2FS+1 day		82%									
28		Section 2 of Works (1,295 days after starting date)	1295 days	Tue 17/9/19	Mon 3/4/23	Tue 17/9/19	NA	0 days	2FS+1 day		25%									
29		Section 3 of Works (1,120 days after starting date)	1120 days	Tue 17/9/19	Mon 10/10/22	Tue 17/9/19	NA	0 days	2FS+1 day		28%									
30		Section 4 of Works (900 days after starting date)	900 days	Tue 17/9/19	Fri 4/3/22	Tue 17/9/19	NA	0 days	2FS+1 day		35%									
31		Section 5 of Works (1,590 days after starting date)	1590 days	Tue 17/9/19	Tue 23/1/24	Tue 17/9/19	NA	0 days	2FS+1 day	32,33	20%									
32		Defect Liability Period	365 days	Wed 24/1/24	Wed 22/1/25	NA	NA	0 days	31		0%									22/1
33		Soft Landscape Establishment Works	365 days	Wed 24/1/24	Wed 22/1/25	NA	NA	0 days	31		0%									22/1
34	*	Planned Completion - Key Date (cal. day)	286.5 day	Tue 15/6/21	Tue 29/3/22	NA	NA	-113 days			0%									
35	KD1A	KD1A (525 days after starting date)	0 days	Fri 30/7/21	Fri 30/7/21	NA	NA	-157.5 days	53FF		0%									
36	KD2A	KD2A (660 days after starting date)	0 days	Mon 7/2/22	Mon 7/2/22	NA	NA	-214.5 days	59FF		0%									
37	KD3A	KD3A (740 days after starting date)	0 days	Mon 17/1/22	Mon 17/1/22	NA	NA	-113.5 days	65FF		0%									
38	KD3B	KD3B (725 days after starting date)	0 days	Thu 30/12/21	Thu 30/12/21	NA	NA	-110.5 days	71FF		0%									
39	KD3C	KD3C (750 days after starting date)	0 days	Thu 30/12/21	Thu 30/12/21	NA	NA	-85.5 days	76FF		0%									
40	KD3D	KD3D (660 days after starting date)	0 days	Tue 15/6/21	Tue 15/6/21	NA	NA	22 days	81FF		0%									
41	KD3E	KD3E (840 days after starting date)	0 days	Tue 29/3/22	Tue 29/3/22	NA	NA	-84.5 days	86FF		0%									
42	*	Planned Completion - Section of the Works (cal. day)	1188 day	Fri 19/11/21	Wed 19/2/25	NA	NA	-119.5 days			0%									
43	SW1	Section 1 of Works (675 days after starting date)	0 days	Fri 19/11/21	Fri 19/11/21	NA	NA	-119.5 days	91FF		0%									
44	SW2	Section 2 of Works (1,295 days after starting date)	0 days	Wed 29/3/23	Wed 29/3/23	NA	NA	5.5 days	97FF		0%									
45	SW3	Section 3 of Works (1,120 days after starting date)	0 days	Sat 4/6/22	Sat 4/6/22	NA	NA	128.5 days	103FF		0%									
46	SW4	Section 4 of Works (900 days after starting date)	0 days	Tue 21/6/22	Tue 21/6/22	NA	NA	-108.5 days	109FF	484	0%									
47	SW5	Section 5 of Works (1,590 days after starting date)	0 days	Tue 20/2/24	Tue 20/2/24	NA	NA	-27.5 days	115FF,175FF	48,49	0%									
48		Defect Liability Period	365 days	Tue 20/2/24	Wed 19/2/25	NA	NA	0 days	47		0%									19/2
49		Soft Landscape Establishment Works	365 days	Tue 20/2/24	Wed 19/2/25	NA	NA	0 days	47		0%									19/2
50		Delaying Events Other than Change of Works Information	831.5 day	Mon 3/5/21	Tue 20/2/24	NA	NA	-127.5 days			0%									
51		Inclement Weather to KD1A	63.5 days	Fri 14/5/21	Fri 30/7/21	NA	NA	-127.5 days			0%									
52		Delay and Disruption of Works before Nov 2020	63.5 days	Fri 14/5/21	Fri 30/7/21	NA	NA	-127.5 days	56	53	0%									
53	KD1A	Delay and Disruption of Works for the month of Nov 2020	0 days	Fri 30/7/21	Fri 30/7/21	NA	NA	-127.5 days	52	35FF	0%									
54		Other Events affected to KD1A	10 days	Mon 3/5/21	Thu 13/5/21	NA	NA	-127.5 days			0%									
55		Unforeseen Social Activities in Hong Kong in November 2019 (NCE no. 0003)	6 days	Mon 3/5/21	Sat 8/5/21	NA	NA	-127.5 days	244,242,467,468,213,469	56	0%									
56		Special Arrangement for Work After CNY due to Spread of Novel Coronavirus (PMI no.005)	4 days	Mon 10/5/21	Thu 13/5/21	NA	NA	-127.5 days	55	52	0%									
57		Inclement Weather to KD2A	66.5 days	Mon 15/11/21	Mon 7/2/22	NA	NA	-174.5 days			0%									
58		Delay and Disruption of Works before Nov 2020	66.5 days	Mon 15/11/21	Mon 7/2/22	NA	NA	-174.5 days	62	59	0%									
59	KD2A	Delay and Disruption of Works for the month of Nov 2020	0 days	Mon 7/2/22	Mon 7/2/22	NA	NA	-174.5 days	58	36FF	0%									
60		Other Events affected to KD2A	10 days	Wed 3/11/21	Sat 13/11/21	NA	NA	-174.5 days			0%									
61		Unforeseen Social Activities in Hong Kong in November 2019 (NCE no. 0003)	6 days	Wed 3/11/21	Tue 9/11/21	NA	NA	-174.5 days	513,514,511,509,508,510,512	62	0%									
62		Special Arrangement for Work After CNY due to Spread of Novel Coronavirus (PMI no.005)	4 days	Wed 10/11/21	Sat 13/11/21	NA	NA	-174.5 days	61	58	0%									
63		Inclement Weather to KD3A	66.5 days	Thu 28/10/21	Mon 17/1/22	NA	NA	-91.5 days			0%									
64		Delay and Disruption of Works before Nov 2020	66.5 days	Thu 28/10/21	Mon 17/1/22	NA	NA	-91.5 days	68	65	0%									
65	KD3A	Delay and Disruption of Works for the month of Nov 2020	0 days	Mon 17/1/22	Mon 17/1/22	NA	NA	-91.5 days	64	37FF	0%									

ID	KD	Task Name	Duration	Start	Finish	Actual Start	Actual Finish	Total Slack	Predecessors	Successors	% Complete	Time Risk Allowance	Number	1 October	1 September	1 August	1 July	1 June	1 May	1 April								
													8/4	16/9	24/2	3/8	11/1	21/6	29/11	9/5	17/10	27/3	4/9	12/2	22/7	30/12	9/6	
71	KD3B	Delay and Disruption of Works for the month of Nov 2020	0 days	Thu 30/12/21	Thu 30/12/21		NA	-89.5 days	70	38FF	0%																	
72		Other Events affected to KD3B	4 days	Wed 6/10/21	Sat 9/10/21		NA	-89.5 days			0%																	
73		Special Arrangement for Work After CNY due to Spread of Novel Coronavirus (PMI no.005)	4 days	Wed 6/10/21	Sat 9/10/21		NA	-89.5 days	292,293	70	0%																	
74		Inclement Weather to KD3C	66.5 days	Mon 11/10/21	Thu 30/12/21		NA	-70.5 days			0%																	
75		Delay and Disruption of Works before Nov 2020	66.5 days	Mon 11/10/21	Thu 30/12/21		NA	-70.5 days	78	76	0%																	
76	KD3C	Delay and Disruption of Works for the month of Nov 2020	0 days	Thu 30/12/21	Thu 30/12/21		NA	-70.5 days	75	39FF	0%																	
77		Other Events affected to KD3C	4 days	Wed 6/10/21	Sat 9/10/21		NA	-70.5 days			0%																	
78		Special Arrangement for Work After CNY due to Spread of Novel Coronavirus (PMI no.005)	4 days	Wed 6/10/21	Sat 9/10/21		NA	-70.5 days	305,306	75	0%																	
79		Inclement Weather to KD3D	66.5 days	Tue 25/5/21	Thu 12/8/21		NA	0 days			0%																	
80		Delay and Disruption of Works before Nov 2020	0 days	Tue 25/5/21	Tue 25/5/21		NA	18 days	83	81	0%																	
81	KD3D	Delay and Disruption of Works for the month of Nov 2020	18 days	Tue 25/5/21	Tue 15/6/21		NA	18 days	80	40FF	0%																	
82		Other Events affected to KD3D	4 days	Thu 20/5/21	Mon 24/5/21		NA	18 days			0%																	
83		Special Arrangement for Work After CNY due to Spread of Novel Coronavirus (PMI no.005)	4 days	Thu 20/5/21	Mon 24/5/21		NA	18 days	333FF,334FF	80	0%																	
84		Inclement Weather to KD3E	66.5 days	Fri 7/1/22	Tue 29/3/22		NA	-69.5 days			0%																	
85		Delay and Disruption of Works before Nov 2020	66.5 days	Fri 7/1/22	Tue 29/3/22		NA	-69.5 days	88	86	0%																	
86	KD3E	Delay and Disruption of Works for the month of Nov 2020	0 days	Tue 29/3/22	Tue 29/3/22		NA	-69.5 days	85	41FF	0%																	
87		Other Events affected to KD3E	4 days	Mon 3/1/22	Thu 6/1/22		NA	-69.5 days			0%																	
88		Special Arrangement for Work After CNY due to Spread of Novel Coronavirus (PMI no.005)	4 days	Mon 3/1/22	Thu 6/1/22		NA	-69.5 days	353,347,391,396,411,401,406,386,85		0%																	
89		Inclement Weather to Section 1 of the Works	66.5 days	Tue 31/8/21	Fri 19/11/21		NA	-99.5 days			0%																	
90		Delay and Disruption of Works before Nov 2020	66.5 days	Tue 31/8/21	Fri 19/11/21		NA	-99.5 days	94	91	0%																	
91	SW1	Delay and Disruption of Works for the month of Nov 2020	0 days	Fri 19/11/21	Fri 19/11/21		NA	-99.5 days	90	43FF	0%																	
92		Other Events affected to Section 1 of the Works	10 days	Thu 19/8/21	Mon 30/8/21		NA	-99.5 days			0%																	
93		Unforeseen Social Activities in Hong Kong in November 2019 (NCE no. 0003)	6 days	Thu 19/8/21	Wed 25/8/21		NA	-99.5 days	246,245,438	94	0%																	
94		Special Arrangement for Work After CNY due to Spread of Novel Coronavirus (PMI no.005)	4 days	Thu 26/8/21	Mon 30/8/21		NA	-99.5 days	93	90	0%																	
95		Inclement Weather to Section 2 of the Works	66.5 days	Sat 7/1/23	Wed 29/3/23		NA	4.5 days			0%																	
96		Delay and Disruption of Works before Nov 2020	66.5 days	Sat 7/1/23	Wed 29/3/23		NA	4.5 days	100	97	0%																	
97	SW2	Delay and Disruption of Works for the month of Nov 2020	0 days	Wed 29/3/23	Wed 29/3/23		NA	4.5 days	96	44FF	0%																	
98		Other Events affected to Section 2 of the Works	10 days	Fri 23/12/22	Fri 6/1/23		NA	4.5 days			0%																	
99		Unforeseen Social Activities in Hong Kong in November 2019 (NCE no. 0003)	6 days	Fri 23/12/22	Sat 31/12/22		NA	4.5 days	516,531,517,519,530	100	0%																	
100		Special Arrangement for Work After CNY due to Spread of Novel Coronavirus (PMI no.005)	4 days	Tue 3/1/23	Fri 6/1/23		NA	4.5 days	99	96	0%																	
101		Inclement Weather to Section 3 of the Works	66.5 days	Fri 11/3/22	Sat 4/6/22		NA	105.5 days			0%																	
102		Delay and Disruption of Works before Nov 2020	66.5 days	Fri 11/3/22	Sat 4/6/22		NA	105.5 days	106	103	0%																	
103	SW3	Delay and Disruption of Works for the month of Nov 2020	0 days	Sat 4/6/22	Sat 4/6/22		NA	105.5 days	102	45FF	0%																	
104		Other Events affected to Section 3 of the Works	10 days	Mon 28/2/22	Thu 10/3/22		NA	105.5 days			0%																	
105		Unforeseen Social Activities in Hong Kong in November 2019 (NCE no. 0003)	6 days	Mon 28/2/22	Sat 5/3/22		NA	105.5 days	307,308,335,336,275,274,273,294,106		0%																	
106		Special Arrangement for Work After CNY due to Spread of Novel Coronavirus (PMI no.005)	4 days	Mon 7/3/22	Thu 10/3/22		NA	105.5 days	105	102	0%																	
107		Inclement Weather to Section 4 of the Works	66.5 days	Mon 28/3/22	Tue 21/6/22		NA	-85.5 days			0%																	
108		Delay and Disruption of Works before Nov 2020	66.5 days	Mon 28/3/22	Tue 21/6/22		NA	-85.5 days	112	109	0%																	
109	SW4	Delay and Disruption of Works for the month of Nov 2020	0 days	Tue 21/6/22	Tue 21/6/22		NA	-85.5 days	108	46FF	0%																	
110		Other Events affected to Section 4 of the Works	10 days	Wed 16/3/22	Sat 26/3/22		NA	-85.5 days			0%																	
111		Unforeseen Social Activities in Hong Kong in November 2019 (NCE no. 0003)	6 days	Wed 16/3/22	Tue 22/3/22		NA	-85.5 days	372,377,474,471,472,473,470,475,112		0%																	
112		Special Arrangement for Work After CNY due to Spread of Novel Coronavirus (PMI no.005)	4 days	Wed 23/3/22	Sat 26/3/22		NA	-85.5 days	111	108	0%																	
113		Inclement Weather to Section 5 of the Works	66.5 days	Tue 28/11/23	Tue 20/2/24		NA	-20.5 days			0%																	
114		Delay and Disruption of Works before Nov 2020	66.5 days	Tue 28/11/23	Tue 20/2/24		NA	-20.5 days	118	115	0%																	
115	SW5	Delay and Disruption of Works for the month of Nov 2020	0 days	Tue 20/2/24	Tue 20/2/24		NA	-20.5 days	114	47FF	0%																	
116		Other Events affected to Section 5 of the Works	10 days	Thu 16/11/23	Mon 27/11/23		NA	-20.5 days			0%																	
117		Unforeseen Social Activities in Hong Kong in November 2019 (NCE no. 0003)	6 days	Thu 16/11/23	Wed 22/11/23		NA	-20.5 days	479,477,478,480,481,483,247,276,118		0%																	
118		Special Arrangement for Work After CNY due to Spread of Novel Coronavirus (PMI no.005)	4 days	Thu 23/11/23	Mon 27/11/23		NA	-20.5 days	117	114	0%																	
119		Submissions (cal. day)	1590 day	Mon 16/9/19	Mon 22/1/24	Mon 16/9/19	NA	1 day			68%		16/9															
120		Subletting Package	1418 day	Mon 16/9/19	Thu 3/8/23	Mon 16/9/19	NA	104 days			68%		16/9															
121		Prepare & Submit Subletting Procedures	1 day	Mon 16/9/19	Mon 16/9/19		Mon 16/9/19	0 days	2	122	100%		16/9	16/9														
122		PM Review & Accept Subletting Procedures	21 days	Mon 16/9/19	Mon 7/10/19		Mon 16/9/19	0 days	121	124,126,123,125,133,139,134,129,138,1	100%		16/9	7/10														
123		Subletting for Preliminary Works (Instrumentation Monitoring etc.)	30 days	Mon 7/10/19	Wed 6/11/19																							

ID	KD	Task Name	Duration	Start	Finish	Actual Start	Actual Finish	Total Slack	Predecessors	Successors	% Complete	Time Risk Allowance	number	1 October	1 September	1 August	1 July	1 June	1 May	1 April								
													8/4	16/9	24/2	3/8	11/1	21/6	29/11	9/5	17/10	27/3	4/9	12/2	22/7	30/12	9/6	
129		Subletting for Independent Checking Engineer (NCE no.3)	27 days	Wed 30/10/19	Mon 25/11/19	Wed 30/10/19	Mon 25/11/19	0 days	122	231,260,270,287,304,318,329,498,210	100%		30/10	25/11														
130		Subletting for Sheetpile and ELS Works	58 days	Wed 8/1/20	Fri 20/3/20	Wed 8/1/20	Fri 20/3/20	0 days	128	231,260,270,287,304,318,329,346	100%		8/1	20/3														
131		Subletting for R.C Works	60 days	Mon 1/6/20	Thu 30/7/20	NA	NA	-12.5 days	128	288,305,319,502,376,352,359,365,371,38	0%		1/6	30/7														
132		Subletting for External Waterproofing	60 days	Mon 6/7/20	Thu 3/9/20	NA	NA	-80.5 days	2	235,238,241,261,320,359	0%		6/7	3/9														
133		Subletting for ABWF & BS Works	60 days	Mon 4/1/21	Thu 4/3/21	NA	NA	-70.5 days	122	246,275,295,308,320,336,354,360,366,37	0%																	
134		Subletting for External Works including pipeworks and road works for UV System no.1 (Diversion)	12 days	Thu 20/2/20	Mon 2/3/20	Thu 20/2/20	Mon 2/3/20	0 days	122	434,135	100%		20/2	2/3														
135		Subletting for Drainage and Pipe works at UV System no.1	22 days	Wed 15/4/20	Wed 6/5/20	Wed 15/4/20	Wed 6/5/20	0 days	134		100%		15/4	6/5														
136		Subletting for Pipeworks, Utilities, and Roadworks	22 days	Wed 15/4/20	Wed 6/5/20	Wed 15/4/20	Wed 6/5/20	0 days	128	474,471,472,473,470	100%		15/4	6/5														
137		Subletting for trenchless construction	7 days	Wed 22/4/20	Tue 28/4/20	Wed 22/4/20	Tue 28/4/20	0 days	122	441	100%		22/4	28/4														
138		Subletting for Traffic Management Consultant	43 days	Thu 9/1/20	Thu 20/2/20	Thu 9/1/20	Thu 20/2/20	0 days	122	151	100%		9/1	20/2														
139		Subletting for Hard Landscape and Soft Landscape	60 days	Mon 5/6/23	Thu 3/8/23	NA	NA	104 days	122	485	0%																	
140		Statutory Submission, Submission & Approval	1590 day	Mon 16/9/19	Mon 22/1/24	Mon 16/9/19	NA	1 day			62%		16/9															
141		Prepare and Submit Subcontractor Management Plan (SMP)	1 day	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2	252	100%		16/9	16/9														
142		Prepare and Submit Interface Management Plan	60 days	Mon 16/9/19	Thu 6/8/20	Mon 16/9/19	NA	0 days	2	252	90%		16/9															
143		Prepare, submit & approve the layout plan of the Temporary Site accommodation	51 days	Fri 20/9/19	Thu 6/8/20	Fri 20/9/19	NA	43.4 days	2	213	90%		20/9															
144		Prepare, submit & accept the ELS design for deep excavation	207 days	Thu 24/10/19	Sun 21/6/20	Thu 24/10/19	Sun 21/6/20	0 days	128	231,260,270,287,304,318,329,346	100%		24/10															
145		Prepare, submit & accept the Method Statement for Drainage Diversion Works	57 days	Tue 21/4/20	Tue 16/6/20	Tue 21/4/20	Tue 16/6/20	0 days	2	146,434	100%																	
146		PM approve the Method Statement for Drainage Diversion Works	13 days	Wed 17/6/20	Mon 29/6/20	Wed 17/6/20	Mon 29/6/20	0 days	145	434	100%																	
147		TTA Management	348 days	Mon 16/9/19	Fri 28/8/20	Mon 16/9/19	NA	223.5 days			85%		16/9															
148		Excavation Permit Application for San Wan Road (Portion A)	288 days	Mon 16/9/19	Mon 29/6/20	Mon 16/9/19	NA	283.5 days		520	99%		16/9															
149		Excavation Permit Application for Chuk Wan Street (Portion C)	284 days	Mon 7/10/19	Thu 16/7/20	Mon 7/10/19	NA	0 days	2FS+21 days		80%		7/10															
150		Prepare TTA Plan, submit & approve for footpath for Stage 1 - Drainage Diversion	67 days	Mon 16/9/19	Thu 21/11/19	Mon 16/9/19	Thu 21/11/19	0 days	2	434	100%		16/9															
151		Prepare TTA Plan, submit & approve for carriageway at San Wan Road for CLP 13kV substation	45 days	Wed 15/7/20	Fri 28/8/20	Wed 15/7/20	NA	223.5 days	138	522	0%																	
152		Environmental Aspect Submissions	332 days	Mon 16/9/19	Wed 12/8/20	Mon 16/9/19	NA	0 days	2		98%		16/9															
153		Notification to EPD for Works Commencement	1 day	Wed 18/9/19	Wed 18/9/19	Wed 18/9/19	Wed 18/9/19	0 days	2	252	100%		18/9	18/9														
154		Apply & approve for Registration as a Chemical Waste Producer	1 day	Wed 18/9/19	Wed 18/9/19	Wed 18/9/19	Wed 18/9/19	0 days	2	252	100%		18/9	18/9														
155		Apply & approve for a Billing Account for Disposal of Construction Waste	1 day	Wed 18/9/19	Wed 18/9/19	Wed 18/9/19	Wed 18/9/19	0 days	2	252	100%		18/9	18/9														
156		Apply & approve for Effluent Discharge Licence	21 days	Thu 9/1/20	Mon 3/8/20	Thu 9/1/20	NA	0 days	2	252	90%																	
157		Prepare & submit of Project Layout Plan & O-Chart for EP	1 day	Fri 20/9/19	Fri 20/9/19	Fri 20/9/19	Fri 20/9/19	0 days	2	252	100%		20/9	20/9														
158		Prepare & submit Construction Noise Permits	121 days	Mon 16/9/19	Tue 14/1/20	Mon 16/9/19	Tue 14/1/20	0 days	2	159	100%		16/9															
159		Approval of Construction Noise Permits	60 days	Tue 14/1/20	Wed 12/8/20	Wed 14/1/20	NA	0 days	158	252	80%		16/9															
160		Prepare, submit Site Management Plan for Trip Ticket System	9 days	Mon 16/9/19	Tue 24/9/19	Mon 16/9/19	Tue 24/9/19	0 days	2	252	100%		16/9															
161		Approval of Site Management Plan for Trip Ticket System	249 days	Tue 24/9/19	Fri 29/5/20	Tue 24/9/19	Fri 29/5/20	0 days	2	252	100%		24/9															
162		Prepare & submit approve Waste Management Plan	9 days	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2	163	100%		16/9															
163		Approval of Waste Management Plan	119 days	Tue 24/9/19	Tue 21/1/20	Tue 24/9/19	Tue 21/1/20	0 days	162	252	100%		24/9															
164		Prepare & submit Environmental Management Plan	15 days	Mon 16/9/19	Mon 30/9/19	Mon 16/9/19	Mon 30/9/19	0 days	2	165	100%		16/9															
165		Approval of Environmental Management Plan	37 days	Mon 30/9/19	Wed 6/11/19	Mon 30/9/19	Wed 6/11/19	0 days	164	252	100%		16/9															
166		Prepare & submit for Temporary Drainage and Management Plan	201 days	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Fri 3/4/20	0 days	2	167	100%		16/9															
167		Approval of Temporary Drainage and Management Plan	30 days	Fri 20/12/19	Mon 3/8/20	Fri 20/12/19	NA	0 days	166	434	90%		20/12															
168		Prepare, submit & approve for the FSD submissions for CLP 132kV Substation	90 days	Sat 20/11/21	Thu 17/2/22	NA	NA	0 days			0%																	
169		Prepare and submit arrangement and schedule to FSD	30 days	Sat 20/11/21	Sun 19/12/21	NA	NA	0 days		170	0%																	
170		FSD approve the arrangement and schedule	60 days	Mon 20/12/21	Thu 17/2/22	NA	NA	0 days	169		0%																	
171		Trees Related Submissions	1590 day	Mon 16/9/19	Mon 22/1/24	Mon 16/9/19	NA	1 day			36%		16/9															
172		Initial Tree survey and report submission	194 days	Fri 4/10/19	Tue 14/4/20	Fri 4/10/19	Tue 14/4/20	0 days	2	210	100%		4/10															
173		Prepare and submit and approve the Method Statement of Erection of the protective fencing	26 days	Mon 16/9/19	Fri 11/10/19	Mon 16/9/19	Fri 11/10/19	0 days	2	210	100%		16/9															
174		Prepare and submit and approve the Method Statement of Tree felling, Preservation, Pruning works & Transplanting	74 days	Fri 11/10/19	Mon 23/12/19	Fri 11/10/19	Mon 23/12/19	0 days	2	210,251	100%		11/10															
175		Submit Yearly Tree Risk Assessment and Inspection Report	1590 days	Mon 16/9/19	Mon 22/1/24	Mon 16/9/19	NA	1 day	2	47FF	20%		16/9															
176		Others	1119.5 days	Fri 20/9/19	Thu 13/10/22	Fri 20/9/19	NA	0 days			64%		20/9															
177		Approval for Lighting Removal at Portion C-1A of the Site from Hyd	114 days	Thu 26/9/19	Fri 17/1/20	Thu 26/9/19	Fri 17/1/20	0 days	2	223	100%		26/9															
178		Prepare, submit & approve for commencement of Works near MTRCL protection zone at Sun Wan Road from MTRCL	43 days	Fri 20/9/19	Fri 1/11/19	Fri 20/9/19	Fri 1/11/19	0 days	2	493	100%		20/9															
179		Prepare, submit & approve for commencement Works along the riverbank by																										

ID	KD	Task Name	Duration	Start	Finish	Actual Start	Actual Finish	Total Slack	Predecessors	Successors	% Complete	Time Risk Allowance	Number	1 October	1 September	1 August	1 July	1 June	1 May	1 April
													8/4	16/9	3/8	21/6	9/5	27/3	12/2	30/12
264		Construction of Digesters Tank no.4 & external waterproofing works	70 days	Wed 31/3/21	Tue 8/6/21		NA	-117.5 days	263SS+40 days	265	0%									
265		Water Test	20 days	Wed 9/6/21	Sat 3/7/21		NA	-91.5 days	261,264,263,262	266	0%									
266		Apply Internal Anti-corrosion Protective Lining	28 days	Mon 5/7/21	Thu 5/8/21		NA	-91.5 days	265	267	0%									
267	KD3A	Construction of Roof Slab	58 days	Fri 6/8/21	Fri 15/10/21		NA	-91.5 days	266	272,67	0%									
268		Construction of Distribution Chamber	168 days	Mon 18/1/21	Fri 13/8/21		NA	-40.5 days			0%									
269	SP	Sheet Pile Installation	45 days	Mon 18/1/21	Sat 13/3/21		NA	-40.5 days	258	270	0%									
270		ELS Works (incl. Strut (3-layers) Installation & Excavation)	45 days	Mon 15/3/21	Tue 11/5/21		NA	-40.5 days	144,130,269,129,260	271,380	0%	10								
271	KD3A	Construction of Distribution Chamber	78 days	Wed 12/5/21	Fri 13/8/21		NA	-40.5 days	270,263	275,272,274,273,67	0%	10								
272	KD3A	Allow access to Contarctor DE/2018/03 for E&M Installation	0 days	Fri 15/10/21	Fri 15/10/21		NA	-91.5 days	271,267	67	0%									
273		Drainage System (within Bldg/ Structure) Installation	90 days	Sat 14/8/21	Tue 30/11/21		NA	175.5 days	271	105	0%									
274		FRP Walkway & Miscellaneous Installation	90 days	Sat 14/8/21	Tue 30/11/21		NA	175.5 days	271	105	0%									
275	SW3	ABWF Works & BS Works, incl. External Lining	90 days	Sat 14/8/21	Tue 30/11/21		NA	175.5 days	271,207,133	276,105	0%									
276	SW5	Surrounding Site formation works and road works	180 days	Wed 1/12/21	Sun 29/5/22		NA	509.5 days	275	117	0%									
277	*	Sludge Dewatering Building	782 days	Tue 26/11/19	Wed 20/7/22	Tue 26/11/19	NA	373.5 days			32%		26/11							
278		Site Clearance & Site Set Up	6 days	Tue 26/11/19	Mon 2/12/19	Tue 26/11/19	Mon 2/12/19	0 days	2	279	100%		26/11							
279		Predrilling Works (39no.4rig, 3days/drillhole/rig)(additional length NCE no.10)	20 days	Thu 28/11/19	Fri 20/12/19	Thu 28/11/19	Fri 20/12/19	0 days	126,278	281,280	100%		28/11							
280		Additional Predrilling Works (11no.)	8 days	Mon 23/12/19	Mon 30/12/19	Mon 23/12/19	Mon 30/12/19	0 days	279	281	100%		23/12							
281		Installation of Monitoring Points	4 days	Fri 10/1/20	Tue 14/1/20	Fri 10/1/20	Tue 14/1/20	0 days	279,280	286,282	100%		10/1							
282		Sheet Pile Installation- stage1 (NCE NO. 18A, 22 & 25, PMI no.005)	52 days	Wed 15/1/20	Fri 6/3/20	Wed 15/1/20	Fri 6/3/20	0 days	281	286,284,283	100%		15/1							
283		Setting up plant for pre-bored socked H-pile Installation	5 days	Sat 7/3/20	Thu 12/3/20	Sat 7/3/20	Thu 12/3/20	0 days	282	284,414SS-14 days	100%		7/3							
284		Pre-bored Socketed H-Pile Installation (202 Nos, 4 Rig, 3days/rig/pile) (NCE no. 18A, 25, 27 & 32)	67 days	Fri 13/3/20	Fri 5/6/20	Fri 13/3/20	Fri 5/6/20	0 days	127,283,282	314,285	100%	6	13/3							
285		Pile Loading Test	20 days	Tue 30/6/20	Thu 23/7/20	Tue 30/6/20	Thu 23/7/20	0 days	284	287	100%		30/6							
286		Sheet Pile Installation- stage2 (NCE no. 10, 14) (NCE no. 32 & 41)	90 days	Sat 6/6/20	Mon 21/9/20	Sat 6/6/20	Mon 21/9/20	0 days	281,282	416,287	100%		6/6							
287		ELS Works (incl. Strut (3-layers) Installation & Excavation (25,000 cu.m))	60 days	Tue 22/9/20	Thu 3/12/20	Tue 22/9/20	NA	-89.5 days	144,130,285,129,286	288,289,470,471,472,474,473	46%	10	22/9							
288		R.C. Structure	246 days	Fri 4/12/20	Tue 5/10/21		NA	-89.5 days	204,205,206,131,287,203	295,294	0%	10	4/12							
289		Basement Consturction & external waterproofing works	70 days	Fri 4/12/20	Tue 2/3/21		NA	-89.5 days	287	290	0%		4/12							
290		Ground Floor Construction @ +7.55mpD	72 days	Wed 3/3/21	Tue 1/6/21		NA	-89.5 days	289	291	0%		3/3							
291		1/F Construction @ +15.3m mPD	72 days	Wed 2/6/21	Thu 26/8/21		NA	-89.5 days	290	292	0%		2/6							
292	KD3B	Roof Construction @ +25.65mPD	32 days	Fri 27/8/21	Tue 5/10/21		NA	-89.5 days	291	394,293,73	0%		27/8							
293	KD3B	Allow access to Contarctor DE/2018/03 for E&M Installation	0 days	Tue 5/10/21	Tue 5/10/21		NA	-89.5 days	292	73	0%		5/10							
294		Allow access to Contarctor DE/2018/03 for E&M Installation	90 days	Wed 6/10/21	Sat 22/1/22		NA	132.5 days	288	105	0%		6/10							
295	SW5	ABWF Works & BS Works	89 days	Wed 6/10/21	Fri 21/1/22		NA	133.5 days	288,207,133	296,105	0%		6/10							
296	SW5	Surrounding Site formation works and road works	180 days	Sat 22/1/22	Wed 20/7/22		NA	457.5 days	295	117	0%		22/1							
297	*	Combined Heat Power Building	770 days	Tue 10/12/19	Wed 20/7/22	Tue 10/12/19	NA	373.5 days			14%		10/12							
298		Site Clearance & Site Set Up	6 days	Tue 10/12/19	Mon 16/12/19	Tue 10/12/19	Mon 16/12/19	0 days	2,299SF		100%		10/12							
299		Predrilling Works (15no. 2rig, 3days/drillhole/rig) (NCE no. 10)	15 days	Tue 10/12/19	Sat 28/12/19	Tue 10/12/19	Sat 28/12/19	0 days	126FS+28 days	300,298SF	100%		10/12							
300		Installation of Monitoring Points	4 days	Fri 3/1/20	Tue 7/1/20	Fri 3/1/20	Tue 7/1/20	0 days	299	302	100%		3/1							
301		Setting up plant for pre-bored socked H-pile Installation (NCE no. 10)	6 days	Wed 8/1/20	Tue 14/1/20	Wed 8/1/20	Tue 14/1/20	0 days		302	100%		8/1							
302		Pre-bored Socketed H-Pile Installation (50 Nos, 2 Rig 3days/rig/pile) (NCE no. 18A, 22, 25, PMI no.005)	77 days	Wed 15/1/20	Tue 21/4/20	Wed 15/1/20	Tue 21/4/20	0 days	127,300,301,496	303	100%	6	15/1							
303		Pile Loading Test	4 days	Wed 29/7/20	Sat 1/8/20	Wed 29/7/20	Sat 1/8/20	0 days	302	304	100%		29/7							
304		Excavation for Pile Cap (2,060 cu.m)	85 days	Mon 3/8/20	Thu 12/11/20		NA	-70.5 days	144,130,303,129	305	0%	10	3/8							
305	KD3C	R.C. Structure	263 days	Fri 13/11/20	Mon 4/10/21		NA	-70.5 days	204,205,206,131,304,203	307,308,306,384,78	0%	10	13/11							
306	KD3C	Allow access to Contarctor DE/2018/03 for E&M Installation	1 day	Tue 5/10/21	Tue 5/10/21		NA	-70.5 days	305	78	0%		5/10							
307		Drainage System (within Bldg/ Structure) Installation	60 days	Tue 5/10/21	Tue 14/12/21		NA	163.5 days	305	105	0%		5/10							
308	SW3	ABWF Works & BS Works & Apply Internal Anti-corrosion Protective Lining	90 days	Tue 5/10/21	Fri 21/1/22		NA	133.5 days	305,207,133	309,105	0%		5/10							
309	SW5	Surrounding Site formation works and road works	180 days	Sat 22/1/22	Wed 20/7/22		NA	457.5 days	308	117	0%		22/1							
310	*	Sewage Pumping Station	778 days	Fri 15/11/19	Tue 5/7/22	Fri 15/11/19	NA	386.5 days			14%		15/11							
311		Site Clearance & Site Set Up	14 days	Fri 15/11/19	Sat 30/11/19	Fri 15/11/19	Sat 30/11/19	0 days	2	312	100%		15/11							
312		Predrilling Works (4no.1rig, 3days/drillhole/rig)	0 days	Mon 2/12/19	Mon 30/12/19	Mon 2/12/19	Mon 30/12/19	0 days	126FS+14 days,311	313	100%		2/12							
313		Installation of Monitoring Points	4 days	Fri 17/4/20	Tue 21/4/20	Fri 17/4/20	Tue 21/4/20	0 days	312		100%		17/4							
314		Setting up plant for pre-bored socked H-pile Installation	5 days	Tue 21/4/20	Sun 26/4/20	Tue 21/4/20	Sun 26/4/20	0 days	284	315	100%		21/4							
315		Pre-bored Socketed H-Pile Installation (22 Nos, 1 Rig, 3days/rig/pile)	27 days	Mon 27/4/20	Fri 29/5/20	Mon 27/4/20	Fri 29/5/20	0 days	127,314	316	100%	6	27/4							
316		Pile Loading Test	11 days	Sat 27/6/20	Fri 10/7/20	Sat 27/6/20	Fri 10/7/20	0 days	315,328FS+5 days	318,229FS+5 days,317	100%		27/6							
317		Sheet Pile Installation	30 days	Tue 1/9/20	Wed 7/10/20	Tue 1/9/20	Wed 7/10/20	0 days	316,258FS+8 days	318	100%		1/9							
318		ELS Works (incl. Strut (3-layers) Installation & Excavation (1,440 cu.m))	80 days	Thu 8/10/20	Wed 13/1/21		NA	16.5 days	144,130,316,129,317	319	0%	10	8/10							
319	KD3E	R.C. Structure & waterproofing works	200 days	Thu 14/1/21	Thu 16/9/21		NA	16.5 days	204,205,206,131,347,318,203	320,88	0%	10	14/1							
320	SW3	ABWF Works & BS Works & Apply Internal Anti-corrosion Protective Lining	90 days	Fri 17/9/21	Thu 6/1/22		NA	146.5 days	207,133,319,132	321,105	0%		17/9							
321	SW5	Surrounding Site formation works and road works	180 days	Fri 7/1/22	Tue 5/7/22		NA	472.5 days	320	117	0%		7/1							
322	*	Workshop No. 2	650 days	Tue 24/12/19	Mon 7/3/22	Tue 24/12/19	NA	481.5 days			15%		24/12							
323		Site Clearance & Site Set Up	3 days	Tue 24/12/19	Sat 28/12/19	Tue 24/12/19	Sat 28/12/19	0 days	2	324	100%		24/12							
324		Predrilling Works (10no.1rig, 3days/drillhole/rig) (NCE no. 10)	8 days	Thu 2/1/20	Fri 10/1/20	Thu 2/1/20	Fri 10/1/20	0 days	126,323	325	100%		2/1							
325		Installation of Monitoring Points	4 days	Tue 25/2/20	Fri 28/2/20	Tue 25/2/20	Fri 28/2/20													

ID	KD	Task Name	Duration	Start	Finish	Actual Start	Actual Finish	Total Slack	Predecessors	Successors	% Complete	Time Risk Allowance	Number	1 October	1 September	1 August	1 July	1 June	1 May	1 April										
													8/4	16/9	24/2	3/8	11/1	21/6	29/11	9/5	17/10	27/3	4/9	12/2	22/7	30/12	9/6			
337	SW5	Surrounding Site formation works and road works	180 days	Thu 9/9/21	Mon 7/3/22	NA	NA	592.5 days	336	117	0%																			
338	*	Thermal Hydrolysis Pretreatment	456 days	Thu 19/12/19	Thu 8/7/21	Thu 19/12/19	NA	679.5 days			26%		19/12																	
339		Site Clearance & Site Set Up	18 days	Thu 19/12/19	Sat 11/1/20	Thu 19/12/19	Sat 11/1/20	0 days	2	340,341	100%		19/12	11/1																
340		Pre-drilling Works (3no.1rig, 3days/drillhole/rig) (NCE no. 10)	1 day	Fri 10/1/20	Mon 13/1/20	Fri 10/1/20	Mon 13/1/20	0 days	126FS+24 days,339	342	100%		10/1	13/1																
341		Additional Pre-drilling Works (4no.) (NCE no. 12)	1 day	Fri 10/1/20	Mon 13/1/20	Fri 10/1/20	Mon 13/1/20	0 days	339	342	100%		10/1	13/1																
342		Installation of Monitoring Points	6 days	Fri 1/5/20	Fri 8/5/20	Fri 1/5/20	Fri 8/5/20	0 days	340,341	344	100%		1/5	8/5																
343		Setting up plant for pre-bored socked H-pile Installation	5 days	Tue 12/5/20	Sat 16/5/20	Tue 12/5/20	Sat 16/5/20	0 days		344	100%		12/5	16/5																
344		Pre-bored Socketed H-Pile Installation (15 Nos, 1 Rig, 3days/rig/pile)	0 days	Mon 18/5/20	Sat 20/6/20	Mon 18/5/20	Sat 20/6/20	0 days	127,342,343,327	345	100%	6	18/5	20/6																
345		Pile Loading Test	25 days	Mon 27/7/20	Fri 11/9/20	Mon 27/7/20	Fri 11/9/20	0 days	344,229FS+5 days	346,257SS+10 days	100%		27/7	11/9																
346		Excavation for Pile Cap (160 cu.m)	20 days	Thu 29/10/20	Fri 20/11/20	Thu 29/10/20	Fri 20/11/20	0 days	144,130,345,329	347	100%		29/10	20/11																
347	KD3E	R.C. Plinth	40 days	Sat 21/11/20	Sat 9/1/21	NA	NA	19.5 days	346	319,348,88	0%		21/11	9/1																
348	SW5	Surrounding Site formation works and road works	180 days	Sun 10/1/21	Thu 8/7/21	NA	NA	834.5 days	347	117	0%		10/1	8/7																
349	*	Ferric Chloride Dosing Facilities	374 days	Tue 25/5/21	Thu 25/8/22	NA	NA	-69.5 days			0%		25/5	25/8																
350		Excavation for Raft Footing (105 cu.m)	34 days	Tue 25/5/21	Mon 5/7/21	NA	NA	-69.5 days	2	351	0%		25/5	5/7																
351		Plate Load Test	18 days	Tue 6/7/21	Mon 26/7/21	NA	NA	-69.5 days	350	352	0%		6/7	26/7																
352		R.C. Structure	66 days	Tue 27/7/21	Wed 13/10/21	NA	NA	-69.5 days	351,131,203	353	0% 5		27/7	13/10																
353	KD3E	Steel Roof Structure (On-site Fabrication)	65 days	Fri 15/10/21	Fri 31/12/21	NA	NA	-69.5 days	352	354,88	0%		15/10	31/12																
354	SW3	ABWF Works & BS Works	45 days	Mon 3/1/22	Sat 26/2/22	NA	NA	105.5 days	353,207,133	355,105	0%		3/1	26/2																
355	SW5	Surrounding Site formation works and road works	180 days	Sun 27/2/22	Thu 25/8/22	NA	NA	421.5 days	354	117	0%		27/2	25/8																
356	*	Fire Hydrant and Booster Pump Room	329 days	Mon 19/7/21	Thu 25/8/22	NA	NA	-19.5 days			0%		19/7	25/8																
357		Excavation for Raft Footing (160 cu.m)	10 days	Mon 19/7/21	Thu 29/7/21	NA	NA	-19.5 days	2,363	358,404	0%		19/7	29/7																
358		Plate Load Test	18 days	Fri 30/7/21	Thu 19/8/21	NA	NA	-19.5 days	357	359	0%		30/7	19/8																
359	KD3E	R.C. Structure & waterproofing works	60 days	Thu 21/10/21	Fri 31/12/21	NA	NA	-69.5 days	358,131,365,203,132	360,88	0% 5		21/10	31/12																
360	SW3	ABWF Works & BS Works	45 days	Mon 3/1/22	Sat 26/2/22	NA	NA	105.5 days	359,207,133	361,105	0%		3/1	26/2																
361	SW5	Surrounding Site formation works and road works	180 days	Sun 27/2/22	Thu 25/8/22	NA	NA	421.5 days	360	117	0%		27/2	25/8																
362	*	Transformer and Switchroom	324 days	Thu 6/5/21	Thu 9/6/22	NA	NA	-29.5 days			0%		6/5	9/6																
363		Excavation for Raft Footing (310 cu.m)	20 days	Thu 6/5/21	Sat 29/5/21	NA	NA	-29.5 days	2,389	364,357	0%		6/5	29/5																
364		Plate Load Test	18 days	Mon 31/5/21	Mon 21/6/21	NA	NA	-29.5 days	363	365	0%		31/5	21/6																
365	KD3E	R.C. Structure	60 days	Mon 9/8/21	Wed 20/10/21	NA	NA	-69.5 days	364,131,391,203	366,359,88	0% 5		9/8	20/10																
366	SW3	ABWF Works & BS Works	45 days	Thu 21/10/21	Sat 11/12/21	NA	NA	165.5 days	365,207,133	367,105	0%		21/10	11/12																
367	SW5	Surrounding Site formation works and road works	180 days	Sun 12/12/21	Thu 9/6/22	NA	NA	498.5 days	366	117	0%		12/12	9/6																
368	*	Water Meter Cabinet	217 days	Tue 3/8/21	Wed 27/4/22	NA	NA	-40.5 days			0%		3/8	27/4																
369		Excavation for Raft Footing (6 cu.m)	10 days	Tue 3/8/21	Fri 13/8/21	NA	NA	-40.5 days	2	370	0%		3/8	13/8																
370		Plate Load Test	18 days	Sat 14/8/21	Fri 3/9/21	NA	NA	-40.5 days	369	371	0%		14/8	3/9																
371		R.C. Structure	30 days	Sat 4/9/21	Mon 11/10/21	NA	NA	-40.5 days	370,131,203	372,375	0% 3		4/9	11/10																
372	SW4	ABWF Works & BS Works	15 days	Tue 12/10/21	Fri 29/10/21	NA	NA	25.5 days	371,207,133	373,111	0%		12/10	29/10																
373	SW5	Surrounding Site formation works and road works	180 days	Sat 30/10/21	Wed 27/4/22	NA	NA	541.5 days	372	117	0%		30/10	27/4																
374	*	Guard House	224 days	Tue 12/10/21	Sun 17/7/22	NA	NA	-40.5 days			0%		12/10	17/7																
375		Excavation to Formation	21 days	Tue 12/10/21	Fri 5/11/21	NA	NA	-40.5 days	2,371	376	0%		12/10	5/11																
376		R.C. Structure	30 days	Sat 6/11/21	Fri 10/12/21	NA	NA	-40.5 days	131,375,203	377	0% 3		6/11	10/12																
377	SW4	ABWF Works & BS Works	30 days	Sat 11/12/21	Tue 18/1/22	NA	NA	-40.5 days	376,207,133	378,111	0%		11/12	18/1																
378	SW5	Surrounding Site formation works and road works	180 days	Wed 19/1/22	Sun 17/7/22	NA	NA	460.5 days	377	117	0%		19/1	17/7																
379	*	Coolers Pumping Station	245 days	Wed 12/5/21	Mon 7/3/22	NA	NA	-31.5 days			0%		12/5	7/3																
380		Excavation for Raft Footing (185 cu.m)	40 days	Wed 12/5/21	Tue 29/6/21	NA	NA	-31.5 days	2,270	381,399	0%		12/5	29/6																
381	SW4	R.C. Structure	60 days	Wed 30/6/21	Wed 8/9/21	NA	NA	-31.5 days	380,131,203	401,382,88	0% 5		30/6	8/9																
382	SW5	Surrounding Site formation works and road works	180 days	Thu 9/9/21	Mon 7/3/22	NA	NA	592.5 days	381	117	0%		9/9	7/3																
383	*	Waste Gas Burner	195 days	Tue 5/10/21	Sat 4/6/22	NA	NA	-69.5 days			0%		5/10	4/6																
384		Excavation for Raft Footing (75cu.m)	15 days	Tue 5/10/21	Fri 22/10/21	NA	NA	-69.5 days	2,305	385,409	0%		5/10	22/10																
385		Plate Load Test	18 days	Sat 23/10/21	Fri 12/11/21	NA	NA	-69.5 days	384	386	0%		23/10	12/11																
386	KD3E	R.C. Plinth	20 days	Sat 13/11/21	Mon 6/12/21	NA	NA	-69.5 days	385,1																					

ID	KD	Task Name	Duration	Start	Finish	Actual Start	Actual Finish	Total Slack	Predecessors	Successors	% Complete	Time Risk Allowance	Number	1 October	1 September	1 August	1 July	1 June	1 May	1 April									
													8/4	16/9	24/2	3/8	11/1	21/6	29/11	9/5	17/10	27/3	4/9	12/2	22/7	30/12	9/6		
471	SW4	Stormdrain Pipeworks & testing works	350 days	Fri 4/12/20	Fri 11/2/22		NA	-58.5 days	136,287,329,187	111	0%																		
472	SW4	Sewerage Pipeworks, manhole, protective lining & testing works	350 days	Fri 4/12/20	Fri 11/2/22		NA	-58.5 days	136,287,329,193	111	0%																		
473	SW4	Watermain Pipeworks & testing works	350 days	Fri 4/12/20	Fri 11/2/22		NA	-58.5 days	136,287,329,190,193	111	0%																		
474	SW4	Cable & Other Underground Utility Pipeworks	350 days	Fri 4/12/20	Fri 11/2/22		NA	-58.5 days	136,287,329	111	0%																		
475	SW4	Pipe Bridge No.1	175 days	Mon 2/8/21	Thu 3/3/22		NA	-75.5 days	2	111	0%																		
476	*	Remaining Works & Landscape Works	1261 day	Sat 8/8/20	Sat 16/11/24		NA	-20.5 days			0%																		
477	SW5	Irrigation System	970 days	Sat 8/8/20	Wed 15/11/23		NA	-20.5 days	2FS+265 days	117	0%																		
478	SW5	Hard Landscape Works	970 days	Sat 8/8/20	Wed 15/11/23		NA	-20.5 days	2FS+265 days	117	0%																		
479	SW5	Soft Landscape Works	970 days	Sat 8/8/20	Wed 15/11/23		NA	-20.5 days	2FS+265 days	485,117	0%																		
480		Outfall for Effluent Pipes	124 days	Tue 1/11/22	Fri 31/3/23		NA	0 days	179	117	0%																		
481		Slope Formation Works near Outfall	124 days	Tue 1/11/22	Fri 31/3/23		NA	0 days	179	117	0%																		
482		Removal of invasive trees along River Embankment (NCE no. 37)	90 days	Tue 14/3/23	Thu 6/7/23		NA	0 days	179FS+124 days	483	0%																		
483	SW5	Retaining Wall along River Embankment, street furniture & road works	90 days	Thu 6/7/23	Sat 21/10/23		NA	0 days	179,482	117	0%																		
484	SW5	Remaining Site formation works, road works and boundary fence wall	250 days	Tue 21/6/22	Sun 26/2/23		NA	237 days	46	117	0%																		
485		Establishment Works (365 Calendar Days)	291 days	Thu 16/11/23	Sat 16/11/24		NA	0 days	479,139		0%																		
486	*	Construction of Portion A of the Site	911 days	Wed 27/11/19	Thu 22/12/22		NA	4.5 days			22%																		
487	*	CLP 132kV Substation	911 days	Wed 27/11/19	Thu 22/12/22		NA	4.5 days			22%																		
488		Internal Works	752 days	Wed 27/11/19	Wed 15/6/22		NA	163.5 days			30%																		
489		Site Clearance & Site Set Up	4 days	Tue 10/12/19	Fri 13/12/19		Tue 10/12/19	0 days	2	490	100%																		
490		Additional Tree Felling Works (NCE no.29)	4 days	Fri 20/12/19	Mon 23/12/19		Fri 20/12/19	0 days	489	492	100%																		
491		Trial Pit Excavation & UU Detection Works	0 days	Mon 2/12/19	Thu 12/12/19		Mon 2/12/19	0 days	2	493	100%																		
492		Additional Demolition of existing warehouse structure (NCE no.002)	28 days	Wed 27/11/19	Tue 31/12/19		Wed 27/11/19	0 days	490	493	100%																		
493		Predrilling Works (11no., 1rig, 3days/drillhole/rig) (NCE no. 10)	11 days	Sat 4/1/20	Thu 16/1/20		Sat 4/1/20	0 days	126,491,178,492	494	100%																		
494		Installation of Monitoring Points	4 days	Thu 16/1/20	Mon 20/1/20		Thu 16/1/20	0 days	493	495	100%																		
495		Setting up plant for pre-bored socketed H-pile Installation (PMI no.005, NCE no. 0022)	5 days	Tue 25/2/20	Sat 29/2/20		Tue 25/2/20	0 days	494	496	100%																		
496		Pre-bored Socketed H-Pile Installation (41 Nos, 2 Rig, 3days/rig/pile) (NCE no. 18A, 19, 25 & 27))	61 days	Mon 2/3/20	Mon 18/5/20		Mon 2/3/20	0 days	127,495	497,302,499	100%	6																	
497		Pile Load Test	22 days	Tue 19/5/20	Fri 12/6/20		Tue 19/5/20	0 days	496	498,328FS+5 days,500	100%																		
498		Sheetpile Installation (NCE no. 10, 23, 36)	18 days	Fri 3/7/20	Thu 23/7/20		Fri 3/7/20	0 days	497,129	503,501	100%	6																	
499		CHP Cable Diversion Works (NCE no.23, 36, 32 & 41))	101 days	Fri 29/5/20	Fri 25/9/20		Fri 29/5/20	0 days	496	501	100%																		
500		Watermain diversion and relocation of water meter (NCE no. 15, 36)	60 days	Mon 29/6/20	Mon 7/9/20		Mon 29/6/20	0 days	497	501	100%																		
501		Excavation Works (NCE no.16)	50 days	Sat 26/9/20	Thu 26/11/20		Sat 26/9/20	-109.5 days	498,499,500	502	70%																		
502		R.C. Structure (880 sq.m)	215 days	Fri 27/11/20	Fri 20/8/21		Fri 27/11/20	-150 days	204,205,206,131,203,501		28%	10																	
503		Installation of earthmat	7 days	Fri 27/11/20	Fri 4/12/20		Fri 4/12/20	0 days	204,205,206,131,203,498	504	100%																		
504		Basement	58 days	Sat 5/12/20	Wed 17/2/21		Sat 5/12/20	-174.5 days	503	505	92%																		
505		Ground Floor	60 days	Thu 18/2/21	Tue 4/5/21		NA	-174.5 days	504	506	0%																		
506		First Floor	50 days	Wed 5/5/21	Mon 5/7/21		NA	-174.5 days	505	507	0%																		
507		Roof Floor (461sq.m)	40 days	Tue 6/7/21	Fri 20/8/21		NA	-174.5 days	506	508,513,509,514FS+48 days,511,510,51;	0%																		
508		ABWF Works	60 days	Sat 21/8/21	Tue 2/11/21		NA	-174.5 days	507,207,133	61	0%																		
509		BS Works	60 days	Sat 21/8/21	Tue 2/11/21		NA	-174.5 days	507,133	61	0%																		
510		Backfilling reinstatement & road works	60 days	Sat 21/8/21	Tue 2/11/21		NA	-174.5 days	507	61	0%																		
511		Installation of telephone line/ direct link for FSD Inspection	60 days	Sat 21/8/21	Tue 2/11/21		NA	-174.5 days	507	61	0%																		
512		Building Services Installation Works (incl. Fire Services, Plumbing, Drainage, etc.) & FSD Inspection	60 days	Sat 21/8/21	Tue 2/11/21		NA	-174.5 days	507	61	0%																		
513	KD2A	Architectural Works	60 days	Sat 21/8/21	Tue 2/11/21		NA	-174.5 days	507	515,516,61	0%																		
514	KD2A	Prehandover to CLP	12 days	Wed 20/10/21	Tue 2/11/21		NA	-174.5 days	507FS+48 days	61	0%																		
515		Handover to CLP for Electrical System Installation	30 days	Wed 3/11/21	Tue 7/12/21		NA	68.5 days	513	518,517	0%																		
516		E&M Installation, Testing & Commissioning by CLP	180 days	Wed 3/11/21	Wed 15/6/22		NA	163.5 days	513	99	0%																		
517		Testing & Commissioning of the E&M Works	90 days	Wed 8/12/21	Tue 29/3/22		NA	223.5 days	515	99	0%																		
518		ABWF Works - External Finishing	90 days	Wed 8/12/21	Tue 29/3/22		NA	68.5 days	515,207,133	519	0%																		
519	SW2	Inspection and Handover to CLP	30 days	Wed 30/3/22	Tue 10/5/22		NA	68.5 days	518	531,99	0%																		
520		External Works	513 days	Thu 1/4/21	Thu 22/12/22		NA	3.5 days	148		0%																		
521		Road Widening Works (NCE no. 20)	388 days	Thu 1/4/21	Tue 26/7/22		NA	3.5 days			0%																		
522		Trial Pit Excavation & UU Detection Works	7 days	Thu 1/4/21	Tue 13/4/21		NA	3.5 days	151	523	0%																		
523		Diversion of existing UU (i.e. 3no. Street light)	60 days	Wed 14/4/21	Fri 25/6/21		NA	3.5 days	522	524	0%																		
524		Temporary Site Access	30 days	Sat																									

Contract No. DC/2018/07 Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1														Revised Works Programme (Status Date: 31/10/2020) [Delay of the works due to some, but not all of, NCE/CE/EWN are shown in this programme]																							
ID	Activity ID	Key Date	Task Name	Baseline Duration	Baseline Start	Baseline Finish	Duration	Start	Finish	Actual Start	Actual Finish	Predecessors	Successors	Total Slack	Risk Allowance	% Complete	Individual Critical Path	19	2nd Half	1st Half	2020	2nd Half	1st Half	2021	2nd Half	1st Half	2022	2nd Half	1st Half	2023	2nd Half	1st Half	2024	2nd Half	1st Half	20	
149	SUBS-1180		Subletting for structural works for Primary Sedimentation Tanks	48 days	Thu 12/12/19	Tue 28/1/20	48 days	Thu 3/12/20	Tue 19/1/21	NA	NA	NA 147	326	633 days		0%																					
150	SUBS-1190		Subletting for structural works for Bioreactors	48 days	Thu 12/12/19	Tue 28/1/20	48 days	Thu 3/12/20	Tue 19/1/21	NA	NA	NA 147	343	462 days		0%																					
151	SUBS-1200		Subletting for structural works for Membrane Facilities Building	48 days	Thu 12/12/19	Tue 28/1/20	48 days	Thu 3/12/20	Tue 19/1/21	NA	NA	NA 147	373	131 days		0%																					
152	SUBS-1210		Subletting for structural works for SAS pumping house and ancillary structures	48 days	Thu 12/12/19	Tue 28/1/20	48 days	Thu 3/12/20	Tue 19/1/21	NA	NA	NA 147	399,153	61 days		0%																					
153	SUBS-1220		Subletting for ABWF works	48 days	Thu 12/12/19	Tue 28/1/20	48 days	Wed 20/1/21	Mon 8/3/21	NA	NA	NA 152	314,328,348,379,401,412,418,425	,628 days		0%																					
154	SUBS-1230		Subletting for Process Pipeworks, Utilities and Roadworks	48 days	Thu 12/12/19	Tue 28/1/20	48 days	Fri 22/5/20	Sun 18/10/20	Fri 22/5/20	Sun 18/10/20	133	451,460,465,466,467,468,469	0 days		100%																					
155	SUBS-1240		Subletting for Landscape Hardworks and Softworks	48 days	Thu 12/12/19	Tue 28/1/20	48 days	Tue 9/3/21	Sun 25/4/21	NA	NA	NA 153	473,474,475	628 days		0%																					
156	SUBS-1250		Subletting for Trial dewatering works and installation of additional stop logs at BR2 canon channel due to malfunctioned of existing penstock at FST no. 5 and 7 (EWN 055)	0 days	NA	NA	15 days	Tue 15/9/20	Tue 29/9/20	Tue 15/9/20	Tue 29/9/20		333	0 days		100%																					
157	SUBS-1260		Subletting for Diversion of Power supply for existing Slaughter House pump station (CE 034)	0 days	NA	NA	14 days	Mon 21/9/20	Sun 4/10/20	Mon 21/9/20	Sun 4/10/20		385	0 days		100%																					
158	SUBS-1270		Subletting for Decommission of existing power and signal systems in leachate Pump station switch room (PMI 039)	0 days	NA	NA	14 days	Mon 21/9/20	Sun 4/10/20	Mon 21/9/20	Sun 4/10/20		386	0 days		100%																					
159	SUBS-1280		Subletting for Diversion of Existing DN250 Leachate Raising Main (PPMI 025)	0 days	NA	NA	31 days	Mon 21/9/20	Wed 21/10/20	Mon 21/9/20	Wed 21/10/20		387	0 days		100%																					
160	SUBS-1290		Subletting for Construction of Cable trough for CLP 11kV Cable Diversion (PPMI 041)	0 days	NA	NA	31 days	Mon 21/9/20	Wed 21/10/20	Mon 21/9/20	Wed 21/10/20		388	0 days		100%																					
161	SUBS-1300		Subletting for Demolition of Existing Pillar box and its concrete plinth (CE 030)	0 days	NA	NA	31 days	Mon 21/9/20	Wed 21/10/20	Mon 21/9/20	Wed 21/10/20		389	0 days		100%																					
162	SUBS-1310		Subletting for Excavation to locate existing underground cable near SAS Pump Station (PPMI 038)	0 days	NA	NA	31 days	Mon 21/9/20	Wed 21/10/20	Mon 21/9/20	Wed 21/10/20		390	0 days		100%																					
163	SUBS-1320		Subletting for Diversion of pumping system sewerage (PPMI 083)	0 days	NA	NA	31 days	Mon 21/9/20	Wed 21/10/20	Mon 21/9/20	Wed 21/10/20		393	0 days		100%																					
164	SUBA-1000		Statutory Submission, Submission and Approval	1564 days	Mon 18/11/19	Wed 28/2/24	1956 days	Mon 18/11/19	Wed 26/3/25	Mon 18/11/19	NA	NA	30 days	42%																							
165	SUBA-1010		Liaison with operator of SWHSTW and obtain their consent of associated method statement of major activities	0 days	NA	NA	1584 days	Mon 18/11/19	Wed 26/3/25	Mon 18/11/19	NA 2	59FF	26 days	18%																							
166	SUBA-1020		Prepare and submit Subcontractor Management Plan (SMP)	24 days	Mon 18/11/19	Wed 11/12/19	24 days	Mon 18/11/19	Wed 11/12/19	Mon 18/11/19	Wed 11/12/19		134,137,136	0 days		100%																					
167	SUBA-1030		Prepare and submit Interface Management Plan	36 days	Mon 18/11/19	Mon 23/12/19	36 days	Mon 18/11/19	Mon 23/12/19	Mon 18/11/19	Mon 23/12/19			0 days		100%																					
168	SUBA-1040		Prepare and submit the TTA plans inside Treatment Plant for UU diversion and buildings construction	24 days	Mon 18/11/19	Wed 11/12/19	24 days	Mon 18/11/19	Wed 11/12/19	Mon 18/11/19	Wed 11/12/19		207	0 days		100%																					
169	SUBA-1050		Prepare and submit method statement for UU diversion for Inlet Works No.1	12 days	Mon 18/11/19	Fri 29/11/19	12 days	Mon 18/11/19	Fri 29/11/19	Mon 18/11/19	Fri 29/11/19		170	0 days		100%																					
170	SUBA-1060		PM review and accept the method statement	12 days	Sat 30/11/19	Wed 11/12/19	0 days	Sat 30/11/19	Wed 11/12/19	Sat 30/11/19	Wed 11/12/19	169	219,220	0 days		100%																					
171	SUBA-1070		Prepare and submit combine underground services drawing for PM's review the alignment	24 days	Thu 26/12/19	Sat 18/1/20	23 days	Thu 26/12/19	Sat 18/1/20	Thu 26/12/19	Sat 18/1/20	137		0 days		100%																					
172	SUBA-1080		Prepare and submit method statement for demolition existing structures	24 days	Mon 18/11/19	Wed 11/12/19	66 days	Mon 18/11/19	Wed 22/1/20	Mon 18/11/19	Wed 22/1/20		352,320,334,403,281,457	0 days		100%																					
173	SUBA-1090		Prepare and submit method statement for structural works for buildings	24 days	Mon 18/11/19	Wed 11/12/19	197 days	Mon 18/11/19	Mon 1/6/20	Mon 18/11/19	Mon 1/6/20			0 days		100%																					
174	SUBA-1100		Prepare and submit method statements to MTRC regarding the works within railing protection boundary	36 days	Mon 18/11/19	Mon 23/12/19	92 days	Sat 1/2/20	Mon 25/5/20	Sat 1/2/20	Mon 25/5/20		320,334,403,457,281	0 days		100%																					
175	SUBA-1110		Prepare and submit & approve Safety Management Plan	24 days	Mon 18/11/19	Wed 11/12/19	3 days	Mon 18/11/19	Wed 20/11/19	Mon 18/11/19	Wed 20/11/19			0 days		100%																					
176	SUBA-1120		Prepare and submit Excavation and lateral support (ELS) proposal	24 days	Mon 10/2/20	Wed 4/3/20	128 days	Mon 10/2/20	Tue 16/6/20	Mon 10/2/20	Tue 16/6/20			0 days		100%																					
177	SUBA-1130		Prepare and submit Dewatering proposal for basement construction	24 days	Mon 10/2/20	Wed 4/3/20	165 days	Mon 10/2/20	Thu 23/7/20	Mon 10/2/20	Thu 23/7/20			0 days		100%																					
178	SUBA-1140		Prepare and submit Pre-construction condition survey of existing structures/ services	24 days	Wed 5/2/20	Fri 28/2/20	0 days	Mon 18/11/19	Fri 6/3/20	Mon 18/11/19	Fri 6/3/20	204		0 days		100%																					
179	SUBA-1150		Prepare and submit Settlement and movement monitoring proposal of existing structures/ services	24 days	Wed 5/2/20	Fri 28/2/20	110 days	Mon 18/11/19	Fri 6/3/20	Mon 18/11/19	Fri 6/3/20	204		0 days		100%																					
180	SUBA-1160		Prepare and submit design of structure elements of the temporary activated carbon deodorization unit	60 days	Fri 17/1/20	Mon 16/3/20	60 days	Mon 18/11/19	Mon 16/3/20	Mon 18/11/19	Mon 16/3/20	2F5S-60 days		0 days		100%																					
181	SUBA-1170		Prepare of RSE and structural design for alternation and additional (A&A) works at Membrane Facilities Building No.1	180 days	Mon 18/10/21	Fri 15/4/22	180 days	Mon 18/10/21	Fri 15/4/22	NA	NA		458	660 days		0%																					
182	SUBA-1180		Prepare of RSE and structural design for alternation and additional (A&A) works at Main Power House	44 days	Wed 15/7/20	Thu 3/9/20	60 days	Mon 6/7/20	Thu 3/9/20	Mon 6/7/20	Thu 3/9/20		457	0 days		100%																					
183	SUBE-1000		Environmental Aspect Submissions	45 days	Mon 18/11/19	Wed 1/1/20	81 days	Mon 18/11/19	Thu 6/2/20	Mon 18/11/19	Thu 6/2/20	NA	0 days	100%																							
184	SUBE-1010		Prepare, submit & approve Site Management Plan for Trip Tricket System	45 days	Mon 18/11/19	Wed 1/1/20	66 days	Mon 18/11/19	Wed 22/1/20	Mon 18/11/19	Wed 22/1/20			0 days		100%																					
185	SUBE-1020		Prepare, submit & approve Waste Management Plan	45 days	Mon 18/11/19	Wed 1/1/20	81 days	Mon 18/11/19	Thu 6/2/20	Mon 18/11/19	Thu 6/2/20			0 days		100%																					
186	SUBE-1030		Prepare, submit & approve Environmental Management Plan	45 days	Mon 18/11/19	Wed 1/1/20	66 days	Mon 18/11/19	Wed 22/1/20	Mon 18/11/19	Wed 22/1/20			0 days		100%																					
187	SUBP-1000		Procurement	731 days	Mon 18/11/19	Wed 17/11/21	648 days	Mon 18/11/19	Thu 26/8/21	Mon 18/11/19	NA	1088 days	81%																								
188	SUBP-1010		Prepare and submit the Procurement Procedure	12 days	Mon 18/11/19	Fri 29/11/19	2 days	Mon 18/11/19	Tue 19/11/19	Mon 18/11/19	Tue 19/11/19		189	0 days		100%																					

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222	CW-1310		Construction of concrete plinth	0 days	NA	NA	24 days	Wed 11/3/20	Wed 8/4/20	Wed 11/3/20	Wed 8/4/20/219	223		0 days		100%																						
223	CW-1320		Installation of Deodorizer	0 days	NA	NA	40 days	Thu 9/4/20	Sat 30/5/20	Thu 9/4/20	Sat 30/5/20/222	224		0 days		100%																						
224	CW-1330		Testing & commissioning	0 days	NA	NA	15 days	Mon 1/6/20	Wed 17/6/20	Mon 1/6/20	Wed 17/6/20/223	225FS-1 day		0 days		100%																						
225	CW-1340		Demolishment of the existing carbon deodorization unit	0 days	NA	NA	20 days	Mon 17/6/20	Sat 11/7/20	Wed 17/6/20	Sat 11/7/20/224FS-1 day			0 days		100%																						
226	CW-1400		Diversion of Inlet Trunk Sewer (approx. 40m 1800mm dia concrete pipe, 4 deep manholes and Inlet Reception Chamber)	146 days	Thu 6/2/20	Mon 3/8/20	393 days	Tue 18/2/20	Wed 16/6/21	Tue 18/2/20	NA			0 days		69%																						
227	CW-1405		Joint Initial Survey arrangement with MTRCL (NCE)	0 days	NA	NA	92 days	Tue 18/2/20	Wed 10/6/20	Tue 18/2/20	Wed 10/6/20	228		0 days		100%																						
228	CW-1410		Remedial Works for uncharted sludge pipe leakage (CE 030)	0 days	NA	NA	1 day	Sat 14/3/20	Sat 14/3/20	Sat 14/3/20	Sat 14/3/20/227	229		0 days		100%																						
229	CW-1420		Diversion of uncharted DN250 sludge pipe (CE 030)	0 days	NA	NA	32 days	Sat 14/3/20	Fri 24/4/20	Sat 14/3/20	Fri 24/4/20/228	235,230,231		0 days		100%																						
230	CW-1421		Diversion of uncharted 2' water pipe (CE 24)	0 days	NA	NA	9 days	Wed 15/4/20	Fri 24/4/20	Wed 15/4/20	Fri 24/4/20/229	235		0 days		100%																						
231	CW-1422		Additional Underground Utility Scanning for existing sludge pipe (CE 032)	0 days	NA	NA	1 day	Sat 18/4/20	Sat 18/4/20	Sat 18/4/20	Sat 18/4/20/229	232,233		0 days		100%																						
232	CW-1423		HV Cable Diversion for Inlet Works (PMI 84)	0 days	NA	NA	60 days	Mon 20/4/20	Thu 2/7/20	Mon 20/4/20	Thu 2/7/20/231			0 days		100%																						
233	CW-1424		Diversion of Existing Sludge Rising Main and Sewerage System (PMI 081)	0 days	NA	NA	0 days	Sat 18/4/20	Sat 18/4/20	Sat 18/4/20	Sat 18/4/20/231			0 days		100%																						
234	CW-1425		Demolition of Deodorization System and Facilities between Existing Primary Sludge Thickeners and Primary Sludge Pump Pit (PMI 037)	0 days	NA	NA	1 day	Fri 28/8/20	Fri 28/8/20	Fri 28/8/20	Fri 28/8/20			0 days		100%																						
235	CW-1430		Removal of concrete surround and uncharted sludge pipe (CE 030)	0 days	NA	NA	20 days	Fri 24/4/20	Tue 19/5/20	Fri 24/4/20	Tue 19/5/20/229,230	236		0 days		100%																						
236	CW-1440		Remedial works for uncharted pipe and unforeseen water seepage (NCE 0021)	0 days	NA	NA	10 days	Fri 8/5/20	Tue 19/5/20	Fri 8/5/20	Tue 19/5/20/235	237,238		0 days		100%																						
237	CW-1450		Trench Excavation for 1800mm dia pipeline and manholes	146 days	Thu 6/2/20	Mon 3/8/20	132 days	Wed 20/5/20	Sat 24/10/20	Wed 20/5/20	Sat 24/10/20/220,236			0 days		100%																						
238	CW-1451		Sheetpile installation (on hold due to identification of uncharted obstruction) (EWN 0045)	0 days	NA	NA	26 days	Wed 20/5/20	Thu 18/6/20	Wed 20/5/20	Thu 18/6/20/236	239		0 days		100%																						
239	CW-1456		Trench Excavation for 1800mm dia pipeline and manholes	45 days	Thu 6/2/20	Sat 28/3/20	22 days	Thu 18/6/20	Wed 15/7/20	Thu 18/6/20	Wed 15/7/20/238	240		0 days		100%																						
240	CW-1452		Identification of uncharted concrete surround and pipes near MHA01 (EWN 0045)	0 days	NA	NA	29 days	Thu 16/7/20	Tue 18/8/20	Thu 16/7/20	Tue 18/8/20/239	243		0 days		100%																						
241	CW-1455		Removal of existing DSD drawlps near IRC & exposure of CLP cables with installation of additional temporary support (EWN 0051)	0 days	NA	NA	26 days	Thu 16/7/20	Fri 14/8/20	Thu 16/7/20	Fri 14/8/20			0 days		100%																						
242	CW-1453		Removal of uncharted concrete surround and pipes near MHA01 (EWN 0045) and Sheetpile installation	0 days	NA	NA	10 days	Fri 7/8/20	Tue 18/8/20	Fri 7/8/20	Tue 18/8/20	243		0 days		100%																						
243	CW-1454		Removal of top 500mm soil and replace with rockfill at MHA01, MHA02, IRC, trench MHA01 to MHA02 (NCE 0073 & 78)	0 days	NA	NA	16 days	Wed 12/8/20	Sat 5/9/20	Wed 12/8/20	Sat 5/9/20/242,240	244		0 days		100%																						
244	CW-1461		Replacement of Grade 200 Rockfill below Proposed Manhole MHA02 at Inlet Works No. 1 (NCE 0072, PMI 079, CE 079)	0 days	NA	NA	40 days	Sun 6/9/20	Sat 24/10/20	Sun 6/9/20	Sat 24/10/20/243	245		0 days		100%																						
245	CW-1460		Construct MH MHA01, MHA02, MHA03, MHA04 and Inlet Reception Chamber (NCE 0022)	65 days	Mon 30/3/20	Fri 19/6/20	88 days	Tue 27/10/20	Tue 9/2/21	Tue 27/10/20	NA 244	246,271		-260 days		6%																						
246	CW-1470		Lay 1800mm dia concrete pipe (NCE for additional concrete bedding)	24 days	Sat 20/6/20	Mon 20/7/20	88 days	Wed 10/2/21	Tue 1/6/21	NA	NA 245	247		-260 days		0%																						
247	CW-1480	KD1B	Connection to existing Inlet Chamber	12 days	Tue 21/7/20	Mon 3/8/20	12 days	Wed 2/6/21	Wed 16/6/21	NA	NA 246	43FF,293		-260 days		0%																						
248	CW-1500		Diversion of Leachate Rising Main, Sludge Pipes and Tank Drain	150 days	Thu 6/2/20	Fri 7/8/20	459 days	Tue 26/11/19	Wed 16/6/21	Tue 26/11/19	NA			0 days		57%																						
249	CW-1520	KD1B	Diversion of Tank Drain MHD8.5 (approx. 70m CHES1 & CHES2)	150 days	Thu 6/2/20	Fri 7/8/20	63 days	Sat 19/9/20	Fri 4/12/20	Sat 19/9/20	NA 269	43FF,293		-106 days		54%																						
250	CW-1510		Diversion of Tank Drain MHD9.5 to MHA04 (approx. 70m 675mm dia concrete pipe, 24m DN250 DI leachate rising main, 90m CHES1&S2 DN250 CI)	150 days	Thu 6/2/20	Fri 7/8/20	459 days	Tue 26/11/19	Wed 16/6/21	Tue 26/11/19	NA 220			0 days		56%																						
251			Joint Initial Survey arrangement with MTRCL (NCE)	0 days	NA	NA	158 days	Tue 26/11/19	Wed 10/6/20	Tue 26/11/19	Wed 10/6/20			0 days		100%																						
252			Site Clearance & inspection pit excavation under conforming alignments	0 days	NA	NA	36 days	Fri 12/6/20	Sat 25/7/20	Fri 12/6/20	Sat 25/7/20			0 days		100%																						
253	CW-1511		Tank Drain Diversion near MTRCL track	0 days	NA	NA	79 days	Thu 11/6/20	Sat 12/9/20	Thu 11/6/20	Sat 12/9/20			0 days		100%																						
254	CW-1511a		Excavation of trial pit near MHD9.5 (TP45 & 47) (CE 040)	0 days	NA	NA	12 days	Mon 27/7/20	Sat 8/8/20	Mon 27/7/20	Sat 8/8/20	255		0 days		100%																						
255	CW-1511b		Relocation of Proposed Manhole MHD9.5 and MHA04 (PMI 051)	0 days	NA	NA	30 days	Mon 10/8/20	Sat 12/9/20	Mon 10/8/20	Sat 12/9/20/254	256		0 days		100%																						
256	CW-1511c		Uncharted cables found near MTRC track and identification(EWN 044)	0 days	NA	NA	1 day	Thu 18/6/20	Thu 18/6/20	Thu 18/6/20	Thu 18/6/20/255	257		0 days		100%																						
257	CW-1511d		Excavation of trial pit near MHD8.5	0 days	NA	NA	5 days	Fri 19/6/20	Wed 24/6/20	Fri 19/6/20	Wed 24/6/20/256	258		0 days		100%																						
258	CW-1511e		Lower the ground surface, opening and additional trial pit (TP38) (EWN 046)	0 days	NA	NA	60 days	Thu 11/6/20	Fri 21/8/20	Thu 11/6/20	Fri 21/8/20/257	259		0 days		100%																						
259	CW-1511f		Excavation of Trial Pits near Manhole MHA04 and MH09 (PMI 040)	0 days	NA	NA	60 days	Thu 11/6/20	Fri 21/8/20	Thu 11/6/20	Fri 21/8/20/258	260		0 days		100%																						
260	CW-1511h		Awaiting for AECOM instruction for alignment confirmation for sludge pipe, tank drain & drainage works (CE 051)	0 days	NA	NA	12 days	Mon 10/8/20	Sat 22/8/20	Mon 10/8/20	Sat 22/8/20/259	261		0 days		100%																						
261			Additional Special manhole for tank drain (NCE)	0 days	NA	NA	35 days	Mon 24/8/20	Mon 5/10/20	Mon 24/8/20	Mon 5/10/20/260	262,263		0 days																								

Contract No. DC/2018/07 Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1															Revised Works Programme (Status Date: 31/10/2020) (Delay of the works due to some, but not all of, NCE/CE/EWN are shown in this programme)																	
ID	Activity ID	Key Date	Task Name	Baseline Duration	Baseline Start	Baseline Finish	Duration	Start	Finish	Actual Start	Actual Finish	Predecessors	Successors	Total Slack	Risk Allowance	% Complete	Individual Critical Path	19	2nd Half	1st Half	2nd Half	1st Half	2nd Half	1st Half	2nd Half	1st Half	2nd Half	1st Half	2nd Half	1st Half	20	
293	CW-3100		Predrilling (32hrs, 3rigs, 2.5days/drillhole/rig)	40 days	Mon 4/1/21	Mon 22/2/21	27 days	Thu 17/6/21	Mon 19/7/21		NA	NA 242,249,263,270,271	294	-260 days	1	0%																
294	CW-3200		Pre-bored H piles (167nos, 2rigs, 2days/pile/rig)	133 days	Tue 23/2/21	Wed 4/8/21	145 days	Tue 20/7/21	Tue 11/1/22		NA	NA 144,293	295SS+110 days,297,296	-260 days	5	0%																
295	CW-3300		Sheetpile Installation (3,840sq.m, 1rigs, 50sqm/rig/day)	80 days	Tue 23/3/21	Wed 30/6/21	80 days	Mon 29/11/21	Tue 8/3/22		NA	NA 294SS+110 days,145	297	-260 days		0%																
296	CW-3400		Pile Load Test	26 days	Thu 5/8/21	Fri 3/9/21	21 days	Wed 12/1/22	Thu 8/2/22		NA	NA 294	297,298,299,302	-236 days		0%																
297	CW-3500		ELS works (strutting 4 layers, excavate soil 7445cu.m)	77 days	Sat 4/9/21	Mon 4/12/21	120 days	Wed 9/3/22	Thu 4/8/22		NA	NA 295,294,146,296		-260 days	5	0%																
298	CW-3510		Phase C (Grid A1 to G3) - Excavation to -3.3mPD and blinding	77 days	Fri 4/6/21	Mon 6/12/21	120 days	Wed 9/3/22	Thu 4/8/22		NA	NA 296		807 days		0%																
299	CW-3520		Phase B (Grid A1 to G3) - Excavation to -7.5mPD and blinding	77 days	Fri 4/6/21	Mon 6/12/21	120 days	Wed 9/3/22	Thu 4/8/22		NA	NA 296	306,310	-260 days		0%																
300	CW-3600		R.C. Structure works	296 days	Thu 5/8/21	Thu 4/8/22	404 days	Wed 9/2/22	Wed 21/6/23		NA	NA 148,192,193,196,194		-260 days	5	0%																
301	CW-3610		Phase A (Grid G3 to L7)	105 days	Thu 5/8/21	Wed 8/12/21	105 days	Wed 9/2/22	Fri 16/9/22		NA			-36 days		0%																
302	CW-3611		Rebar fix and formwork and concreting for the pile cap (G/F)	40 days	Thu 5/8/21	Mon 20/9/21	70 days	Wed 9/2/22	Fri 6/5/22		NA	NA 296	303	-36 days		0%																
303	CW-3612		Rebar fix and formwork and concreting upto +13.45mPD (1/F)	25 days	Tue 21/9/21	Fri 22/10/21	55 days	Sat 7/5/22	Wed 13/7/22		NA	NA 302	304	-36 days		0%																
304	CW-3613		Rebar fix and formwork and concreting upto +25.80mPD (R/F)	40 days	Sat 23/10/21	Thu 8/12/21	55 days	Thu 14/7/22	Fri 16/9/22		NA	NA 303	44FF	-36 days		0%																
305	CW-3620		Phase B (Grid A1 to G3) (621 sqm)	193 days	Tue 7/12/21	Thu 4/8/22	260 days	Fri 5/8/22	Wed 21/6/23		NA			-260 days		0%																
306	CW-3621		Rebar fix and formwork and concreting for the Inlet Works structure upto Ground Level	54 days	Tue 7/12/21	Mon 14/2/22	100 days	Fri 5/8/22	Fri 21/2/22		NA	NA 299	307	-260 days		0%																
307	CW-3622		Apply waterproofing membrane and backfilling	14 days	Tue 15/2/22	Wed 2/3/22	28 days	Sat 3/12/22	Sat 7/1/23		NA	NA 306,191	308	-260 days		0%																
308	CW-3623		Rebar fix and formwork and concreting for the Inlet Works structure upto Roof Level	105 days	Thu 3/3/22	Thu 4/8/22	132 days	Mon 9/1/23	Wed 21/6/23		NA	NA 307	313,314,44FF	-260 days		0%																
309	CW-3630		Phase C (G1 to L3) (662 sqm)	260 days	Thu 16/9/21	Thu 4/8/22	260 days	Fri 5/8/22	Wed 21/6/23		NA			-260 days		0%																
310	CW-3631		Rebar fix and formwork and concreting for the Inlet Works structure upto Ground Level	54 days	Tue 7/12/21	Mon 14/2/22	100 days	Fri 5/8/22	Fri 21/2/22		NA	NA 299	311	-260 days		0%																
311	CW-3632		Apply waterproofing membrane and backfilling	14 days	Tue 15/2/22	Wed 2/3/22	28 days	Sat 3/12/22	Sat 7/1/23		NA	NA 310,191	312	-260 days		0%																
312	CW-3633	KD1C	Rebar fix and formwork and concreting for the Inlet Works structure upto Roof Level	105 days	Thu 3/3/22	Thu 4/8/22	132 days	Mon 9/1/23	Wed 21/6/23		NA	NA 311	314,44FF,313	-260 days		0%																
313	CW-3700	KD1C	Allow access to Contractor DE/2018/04 for E&M installation and T&C works	0 days	Thu 4/8/22	Thu 4/8/22	0 days	Wed 21/6/23	Wed 21/6/23		NA	NA 312,308	44FF	-260 days		0%																
314	CW-3800	SW1	ABWF works + BS works	90 days	Fri 5/8/22	Mon 21/11/22	150 days	Fri 23/6/23	Tue 19/12/23		NA	NA 312,195,153,308	56FF	397 days		0%																
315	CW-3900	SW2	Process Pipe CHE chainage 0-20 & CHF chainage 0-20	0 days	NA	NA	180 days	Wed 2/9/20	Tue 13/4/21	Wed 2/9/20	NA	NA 279SS	57FF	1196 days		27%																
316	CPS-0000	*	Primary Sedimentation Tanks, B-3	1115 days	Mon 18/11/19	Wed 23/8/23	1270 days	Mon 18/11/19	Fri 1/3/24	Mon 18/11/19	NA 8			340 days		21%																
317	CPS-1000		Operation of the existing Primary sedimentation Tanks	615 days	Mon 18/11/19	Sat 24/7/21	615 days	Mon 18/11/19	Sat 24/7/21	Mon 18/11/19	NA 2		318	-25 days		57%																
318	CPS-1100		Identification of existing cables near Primary Sedimentation Tank (PMI 88, CE 88)	0 days	NA	NA	60 days	Mon 26/7/21	Tue 5/10/21		NA	NA 317	319	-21 days		0%																
319	CPS-1200		Reinstatement and re-commissioning of existing Primary Sedimentation Tank No. 4 and 6 (by others)	0 days	NA	NA	30 days	Wed 6/10/21	Wed 10/11/21		NA	NA 318	320	-50 days		0%																
320	CPS-2000		Demolition of existing primary sedimentation tanks no. 1 & 2	45 days	Mon 13/12/21	Wed 9/2/22	40 days	Thu 11/11/21	Wed 29/12/21		NA	NA 134,172,174,319	321	-50 days		0%																
321	CPS-3000		Predrilling (88hrs, 3rigs, 3days/drillhole/rig)	38 days	Thu 10/2/22	Fri 25/3/22	68 days	Thu 30/12/21	Wed 23/3/22		NA	NA 320,139,394	322	-50 days	1	0%																
322	CPS-4000		Pre-bored H piles (205nos, 4rigs, 2days/pile/rig)	102 days	Sat 26/3/22	Mon 1/8/22	115 days	Thu 24/3/22	Sat 13/8/22		NA	NA 321,144,395	323FS-40 days,325,324	-50 days	5	0%																
323	CPS-5000		Sheetpile Installation (FSP-II, 3360sq.m, 1rigs, 50sqm/rig/day)	85 days	Wed 25/5/22	Fri 2/9/22	70 days	Tue 28/6/22	Mon 19/9/22		NA	NA 322FS-40 days,145	325	-50 days		0%																
324	CPS-6000		Pile Load Test	26 days	Tue 2/8/22	Wed 31/8/22	21 days	Mon 15/8/22	Wed 7/9/22		NA	NA 322	325	-41 days		0%																
325	CPS-7000		ELS works (20000cu.m soil with 2 layers walling / strutting)	45 days	Sat 3/9/22	Fri 28/10/22	70 days	Tue 20/9/22	Mon 12/12/22		NA	NA 322,147,324,323,140	326	-50 days	3	0%																
326	CPS-8000	KD1D	R.C. Structure works	92 days	Sat 29/10/22	Mon 20/2/23	104 days	Tue 13/12/22	Mon 24/4/23		NA	NA 325,149	327,328,45FF,329,330	-50 days	3	0%																
327	CPS-9000	KD1D	Allow access to Contractor DE/2018/04 for E&M installation and T&C works	0 days	Mon 20/2/23	Mon 20/2/23	0 days	Mon 20/4/23	Mon 24/4/23		NA	NA 326	45FF	-50 days		0%																
328	CPS-10000	SW1	ABWF works + BS works	150 days	Tue 21/2/23	Wed 23/8/23	170 days	Tue 25/4/23	Thu 16/11/23		NA	NA 326,195,153	56FF	425 days		0%																
329	CPS-11000	SW1	Flowmeter Chamber no.1	60 days	Tue 21/2/23	Sat 6/5/23	60 days	Tue 25/4/23	Fri 7/7/23		NA	NA 326	56FF	535 days		0%																
330	CPS-12000	SW3	Process Pipe CHG chainage 0-50, CHH chainage 0-80, CHI chainage 0-95 & CHJ chainage 0-40	0 days	NA	NA	255 days	Tue 25/4/23	Fri 1/3/24		NA	NA 326	58FF	340 days		0%																
331	CBR-0000	*	Bioreactors No.2A & 2B, B-4	1106 days	Mon 18/11/19	Sat 12/8/23	1577 days	Mon 18/11/19	Tue 18/3/25	Mon 18/11/19	NA 9			33 days		17%																
332	CBR-1000		Operation of 2no. Existing 8000m air mains over bioreactor no.2	360 days	Mon 18/11/19	Wed 11/11/20	360 days	Mon 18/11/19	Wed 11/11/20	Mon 18/11/19	NA 2	336FF		90 days		99%																
333	CBR-2000		Trial dewatering works and installation of additional stop logs at BR2 common channel due to malfunctioned of existing penstock at FST no. 5 and 7 (EWN 055)	0 days	NA	NA	33 days	Thu 1/10/20	Wed 11/11/20	Thu 1/10/20	NA 156	334		4 days		99%																
334	CBR-5000		Demolition of existing bioreactor no.2	60 days	Wed 3/2/21	Tue 20/4/21	50 days	Thu 12/11/20	Tue 12/1/21	Thu 12/11/20	NA 134,172,174,333	335		0 days		8%																
335	CBR-3000		Temporary Diversion of drainage, sewage, air mains before termination	0 days	NA	NA	90 days	Wed 13/1/21	Wed 5/5/21		NA	NA 334	336SS	-66 days		0%																
336	CBR-4000		Diversion of rising main, drainage pipes, and foam collection & surplus activated sludge pipes	0 days	NA	NA	90 days	Wed 13/1/21	Wed 5/5/21		NA	NA 332FF,335SS	337FF	-66 days		0%																
337	CBR-5000		Take Down E&M Equipment in Bioreactor BR2 and Return to DSD (CE095)	0 days	NA	NA	30 days	Sat 27/3/21	Wed 5/5/21		NA	NA 336FF	338	-66 days		0%																

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ID	Activity ID	Key Date	Task Name	Baseline Duration	Baseline Start	Baseline Finish	Duration	Start	Finish	Actual Start	Actual Finish	Predecessors	Successors	Total Slack	Risk Allowance	% Complete	Individual Critical Path	19	2nd Half	1st Half	2020	2nd Half	1st Half	2021	2nd Half	1st Half	2022	2nd Half	1st Half	2023	2nd Half	1st Half	2024	2nd Half	1st Half	20	
456	CAA-1500		Re-alignment of DN800 Temporary Air Main (CHTA) and Provision of FRP Staircases (PM064, CE064)	0 days	NA	NA	185 days	Wed 11/1/20	Mon 28/6/21		NA	NA 452,453,454		-135 days		0%																					
457	CAA-2000	KD11	B7-A Alternation works for existing Power House	122 days	Fri 4/9/20	Sat 30/1/21	122 days	Fri 4/9/20	Sat 30/1/21	Fri 4/9/20		NA 13FS-1 day,134,172,174,182,50FF,446		0 days		39%																					
458	CAA-3000	SW3	Alternation works for existing Membrane Facilities Building No.1	360 days	Mon 1/2/21	Fri 22/4/22	360 days	Tue 19/4/22	Thu 6/7/23		NA	NA 14FS-1 day,181	58FF	536 days		0%																					
459	CUU-0000	*	External Underground Service, Utilities, Road/Drain	1091 days	Mon 24/2/20	Sat 28/10/23	1041 days	Mon 27/4/20	Sat 28/10/23	Mon 27/4/20		NA 16		441 days		7%																					
460	CUU-1000	KD2A	Process Pipes CHR and CHS (approx. 93m twin DN900 D.I.)	325 days	Mon 24/2/20	Sat 27/3/21	272 days	Mon 27/4/20	Wed 4/8/21	Mon 27/4/20		NA 190,154	469SS+48 days,467SS+48 days,46-103.8 days			18%																					
461	CUU-1000a		Special Treatment for Removing the Existing Abandoned DN1800 By-pass Pipe and the Concrete Mass in Conflict with the Proposed Sheetpile wall for trenching work of Process Pipeline CHR and CHS (NCE 029)	0 days	NA	NA	54 days	Sat 30/5/20	Mon 3/8/20	Sat 30/5/20	Mon 3/8/20			0 days		100%																					
462	CUU-1000b		Trenchless work for Process Pipes CHR and CHS (approx. 7m twin DN900 D.I.) (PPMI 040)	0 days	NA	NA	60 days	Mon 24/5/21	Wed 4/8/21		NA	NA 463,460FF		1103.2 days		0%																					
463	CUU-1001		Removal of Abandoned DN1800 Concrete Pipe and Concrete Mass near Existing UV Disinfection Channel at CHR & CHS Process Pipe Works Area (CE 033)	0 days	NA	NA	43 days	Thu 2/7/20	Thu 20/8/20	Thu 2/7/20	Thu 20/8/20		462	0 days		100%																					
464	CUU-1002		Grouting for Sheung Shui Slaughter House Boundary Walls along CHR & CHS Pipes Works Area (PPMI 064)	0 days	NA	NA	20 days	Fri 23/10/20	Mon 16/11/20	Fri 23/10/20		NA		0 days		84%																					
465	CUU-2000	SW2	Process Pipes, including CHT, CHX, CHY, CHPS1&2, CHS S1&2, CHDO 1&2, CHPSW 1-8, CHTPS, CHPT1&2, CHTFT 1&2, CHTE, CHTD, Foam Collection & Surplus activated sludge rising main pipe	550 days	Mon 29/6/20	Fri 6/5/22	457 days	Mon 19/10/20	Fri 6/5/22	Mon 19/10/20		NA 190,460SS+48 days,154	57FF,470				2%																				
466	CUU-3000	SW2	Drainage	550 days	Mon 29/6/20	Fri 6/5/22	457 days	Mon 19/10/20	Fri 6/5/22	Mon 19/10/20		NA 190,460SS+48 days,154	57FF,470		5		2%																				
467	CUU-4000	SW2	Sewerage	550 days	Mon 29/6/20	Fri 6/5/22	457 days	Mon 19/10/20	Fri 6/5/22	Mon 19/10/20		NA 460SS+48 days,190,154	57FF,470		5		2%																				
468	CUU-5000	SW2	Waterworks	550 days	Mon 29/6/20	Fri 6/5/22	542 days	Mon 19/10/20	Wed 17/8/22	Mon 19/10/20		NA 460SS+48 days,190,154	472FS+2 days,57FF		5		2%																				
469	CUU-6000	SW2	Cable Ducts	550 days	Mon 29/6/20	Fri 6/5/22	457 days	Mon 19/10/20	Fri 6/5/22	Mon 19/10/20		NA 460SS+48 days,190,154	470,57FF		5		2%																				
470	CUU-7000	KD3A	Roadworks	540 days	Fri 31/12/21	Sat 28/10/23	440 days	Sat 7/5/22	Sat 28/10/23		NA	NA 469,466,467,465	54FF		5		0%																				
471	CLW-0000	*	Landscaping Works	854 days	Wed 11/5/22	Thu 27/3/25	794 days	Sat 20/8/22	Fri 25/4/25	NA	NA 16			0 days		0%																					
472	CLW-1000	SW3	Irrigation System	120 days	Wed 11/5/22	Fri 30/9/22	120 days	Sat 20/8/22	Fri 13/1/23		NA	NA 468FS+2 days,190	473,58FF			0%																					
473	CLW-2000	SW3	Hard Landscaping Works	220 days	Mon 3/10/22	Mon 3/7/23	185 days	Sat 14/1/23	Wed 30/8/23		NA	NA 472,155	474,58FF		5		0%																				
474	CLW-3000	SW3	Soft Landscaping Works	220 days	Tue 4/7/23	Tue 26/3/24	185 days	Thu 31/8/23	Thu 25/4/24		NA	NA 473,155	475,58FF		5		0%																				
475	CLW-4000	DLP	Establishment Works (365 days)	294 days	Wed 27/3/24	Thu 27/3/25	365 days	Fri 26/4/24	Fri 25/4/25		NA	NA 474,155	58FF,60FF		5		0%																				

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float
AS155200	Phase 1 Commissioning Tests	60	22-Aug-23	20-Oct-23	24-Aug-23	22-Oct-23	2
AS155220a	Submission & Acceptance of Phase 1 Commissioning Tests Report	14	21-Oct-23	03-Nov-23	23-Oct-23	05-Nov-23	2
AS155240a	Phase 1 Post Commissioning	14	04-Nov-23	17-Nov-23	06-Nov-23	19-Nov-23	2
AS155260a	Submission & Acceptance of Phase 1 Post Commissioning Report	14	18-Nov-23	01-Dec-23	20-Nov-23	03-Dec-23	2
AS155300	Phase 2 Commissioning Tests	45	04-Dec-23	17-Jan-24	04-Dec-23	17-Jan-24	0
AS155320a	Acceptance of Phase 2 Commissioning Tests Results	7	18-Jan-24	24-Jan-24	18-Jan-24	24-Jan-24	0
AS155340a	Phase 3 Commissioning Tests	30	25-Jan-24	23-Feb-24	25-Jan-24	23-Feb-24	0
AS155360a	Submission & Acceptance of Phase 3 Commissioning Report	15	24-Feb-24	09-Mar-24	24-Feb-24	09-Mar-24	0

Section 4 - Complete Construction & T&C for UV System No.1 & EP Station No. 1

Major Plant & Materials Fabrication & Delivery

AS103300	Procurement & PO for Pipeworks & Associated Valves	90	25-Apr-20	23-Jul-20	28-Aug-20	25-Nov-20	125
AS103320	Procurement & PO for Elec. Materials	90	18-Jul-20	15-Oct-20	28-Aug-20	25-Nov-20	41
AS103400	Procurement & PO for FS System (S20)	60	09-Jul-20	06-Sep-20	31-Aug-20	29-Oct-20	53
AS104100	Fabrication of UV Disinfection System (S10)	240	09-Aug-20	05-Apr-21	03-Dec-20	30-Jul-21	116
AS104105c	FAT for UV Disinfection System (S10)	14	23-Mar-21	05-Apr-21	17-Jul-21	30-Jul-21	116
AS104110c	Delivery of UV Disinfection System (S10)	60	06-Apr-21	04-Jun-21	31-Jul-21	28-Sep-21	116
AS104120	Fabrication & Delivery of Lift-up Pumps (S11)	300	09-Aug-20	04-Jun-21	27-Sep-20	23-Jul-21	49
AS104140	Fabrication & Delivery of Transfer Pumps (S13)	300	09-Aug-20	04-Jun-21	12-Nov-20	07-Sep-21	95
AS104160	Fabrication & Delivery of FRP Cover (S11)	240	09-Aug-20	05-Apr-21	01-Feb-21	28-Sep-21	176
AS104180	Fabrication & Delivery of EOT Cranes (2T & 5T) (S19)	240	09-Aug-20	05-Apr-21	27-Sep-20	24-May-21	49
AS104200	Fabrication & Delivery of Stoplogs (S21)	300	09-Aug-20	04-Jun-21	01-Mar-21	25-Dec-21	204
AS104220	Fabrication & Delivery of Penstocks (S21)	300	09-Aug-20	04-Jun-21	01-Mar-21	25-Dec-21	204
AS104300	Fabrication & Delivery of Pipeworks & Associated Valves	240	09-Aug-20	05-Apr-21	26-Nov-20	23-Jul-21	109
AS104320	Fabrication & Delivery of Elec. Materials	180	16-Oct-20	13-Apr-21	26-Nov-20	24-May-21	41
AS104400	Fabrication & Delivery of FS System (S20)	360	07-Sep-20	01-Sep-21	30-Oct-20	24-Oct-21	53

E&M Installation

AS105100	Provision of Temporary Power for UV System No.1 & Effluent Transfer Pumping Station	180	25-May-21	20-Nov-21	31-Jul-21	26-Jan-22	67
AS106100	Mobilisation	30	25-Apr-21	24-May-21	25-Apr-21	24-May-21	0
AS106120	E&M Installation of EOT Cranes (5T)	60	25-May-21	23-Jul-21	25-May-21	23-Jul-21	0
AS106140	E&M Installation of EOT Cranes (2T)	60	08-Jun-21	06-Aug-21	10-Jul-21	07-Sep-21	32
AS106160	E&M Installation of Lift-up Pumps & Associated Pipeworks / Valves	75	24-Jul-21	06-Oct-21	24-Jul-21	06-Oct-21	0
AS106180	E&M Installation of Transfer Pumps & Associated Pipeworks / Valves	75	08-Sep-21	21-Nov-21	08-Sep-21	21-Nov-21	0
AS106200	E&M Installation of Penstocks & Stoplogs	30	22-Nov-21	21-Dec-21	26-Dec-21	24-Jan-22	34
AS106210	E&M Installation of UV System	120	29-Sep-21	26-Jan-22	29-Sep-21	26-Jan-22	0
AS106220	FS Installation - Conduits, Trunking, & Pipeworks	90	24-Jul-21	21-Oct-21	27-Jul-21	24-Oct-21	3
AS106240	FS Installation - Cable Laying, Termination, Associated Fitting & Field Devices	45	22-Oct-21	05-Dec-21	25-Oct-21	08-Dec-21	3
AS106260	BS Fitting Installation - Conduits, Trunking, & Ductworks	120	24-Jul-21	20-Nov-21	21-Sep-21	18-Jan-22	59
AS106280	BS Fitting Installation - Cable Laying, Termination, Associated Fitting & Field Devices	60	28-Nov-21	26-Jan-22	12-Jan-22	12-Mar-22	45
AS106320	Installation of CCTV System	45	23-Oct-21	06-Dec-21	28-Dec-21	10-Feb-22	66

Statutory Submission / Inspection (FSD)

AS107100	Prepare & Submit FSI/314 & FSI/501	7	29-Nov-21	05-Dec-21	02-Dec-21	08-Dec-21	3
AS107110a	FSD Review & Approval of FSI/314 & FSI/501	21	06-Dec-21	26-Dec-21	09-Dec-21	29-Dec-21	3
AS107200	F.S. Inspection, Defects Rectification & Re-inspection	45	27-Dec-21	09-Feb-22	30-Dec-21	12-Feb-22	3
AS107300	Issuance of Acceptance Letter	28	10-Feb-22	09-Mar-22	13-Feb-22	12-Mar-22	3

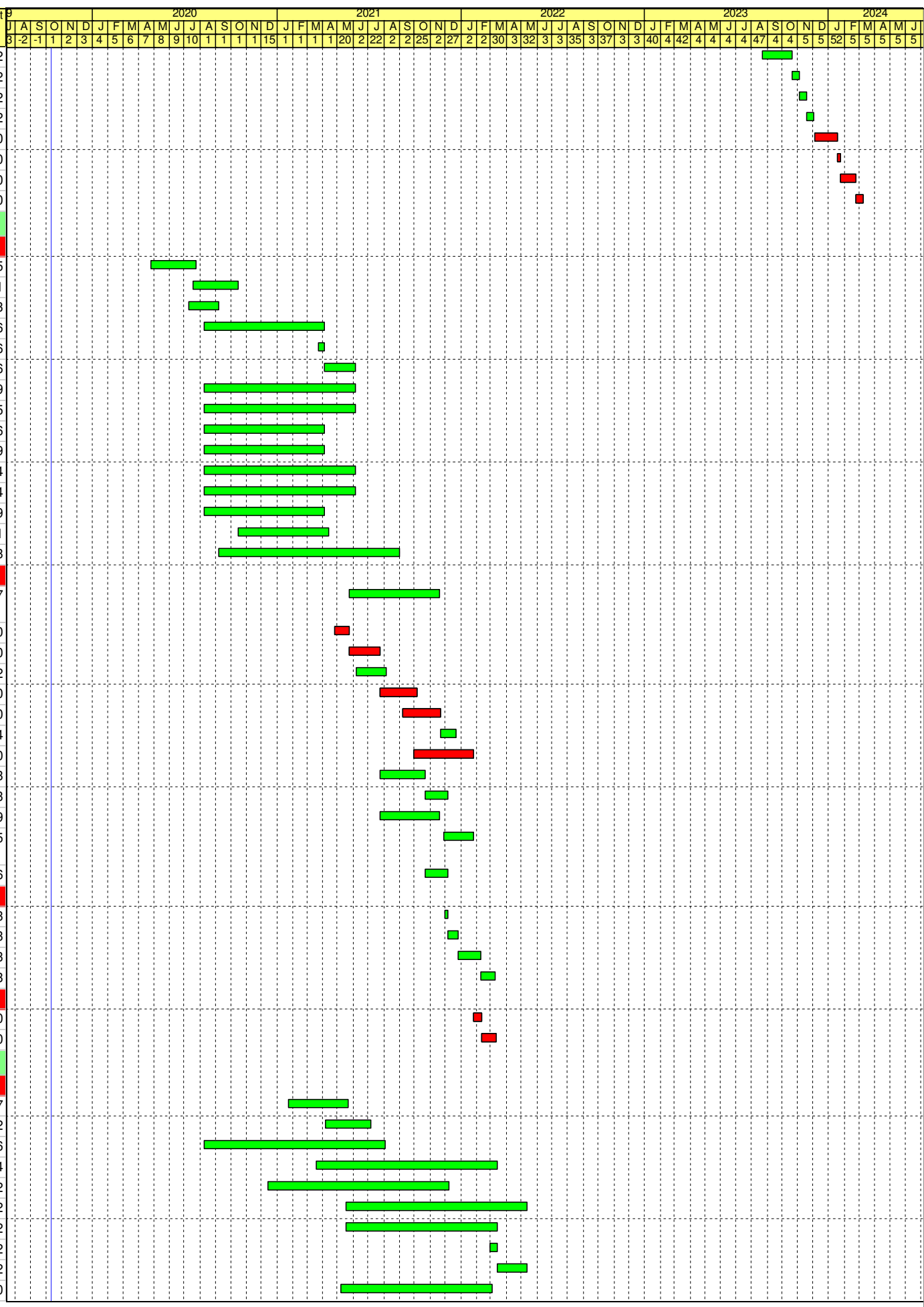
Testing & Commissioning

AS107400	SAT for UV System No. 1 & Effluent Transfer Pumping Station No. 1	15	27-Jan-22	10-Feb-22	27-Jan-22	10-Feb-22	0
AS107500	System Commissioning Tests	30	11-Feb-22	12-Mar-22	11-Feb-22	12-Mar-22	0

Section 5 - Complete all remaining Works (incl. T&C)

Fabrication, FAT & Delivery of Major Plant & Materials

AS023290	Procurement & PO for Pipeworks & Associated Valves	120	23-Jan-21	22-May-21	09-Feb-21	08-Jun-21	17
AS023620	Procurement & PO for Elec. Materials	90	08-Apr-21	06-Jul-21	10-Apr-21	08-Jul-21	2
AS104240	Fabrication & Delivery of Transformers -UV (Tx 07 & 08) (S17)	360	09-Aug-20	03-Aug-21	08-Nov-21	02-Nov-22	456
AS104260	Fabrication & Delivery of LVSB -UV (S17)	360	19-Mar-21	13-Mar-22	07-Jan-22	01-Jan-23	294
AS104280	Fabrication & Delivery of Control & Monitoring System -UV (S18)	360	14-Dec-20	08-Dec-21	10-Apr-22	04-Apr-23	482
AS501100	Fabrication & Delivery of Sludge Screening System (S2)	360	18-May-21	12-May-22	26-Nov-21	20-Nov-22	192
AS501120	Fabrication of Sludge Thickening System (S3)	300	18-May-21	13-Mar-22	29-Jun-21	24-Apr-22	42
AS501125c	FAT for Sludge Thickening System (S3)	14	28-Feb-22	13-Mar-22	11-Apr-22	24-Apr-22	42
AS501130c	Delivery of Sludge Thickening System (S3)	60	14-Mar-22	12-May-22	25-Apr-22	23-Jun-22	42
AS501140	Fabrication & Delivery of Sludge Digestion System (S5)	300	08-May-21	03-Mar-22	17-Jul-21	12-May-22	70



■ Remaining Work
■ Critical Activity
◆ Milestone

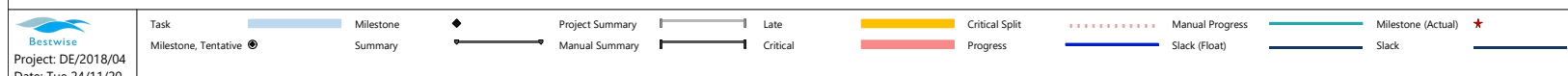


File Name: DE/2018/03 R3-1
 Layout: DE1803 (R3) - WBS
 TASK filter: All Activities
 Page 9 of 13

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
Master Programme

Date	Revision	Checked	Approved
24-Oct-19	Rev.0	AI	KM
10-Feb-20	Rev.1	AI	KM
21-Apr-20	Rev.2	AI	KM
09-Jun-20	Rev.3	LT	KM

ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Float Time	Predecessors	Successors	Resource Names	Timeline																							
											Half 2, 2019	2020			2021			2022			2023			2024			2025			Half 2,				
1	1	1	DE/2018/04 - Contract Master Programme	1990 days	Mon 02/12/1	Tue 13/05/25	0 days				Gantt chart showing project schedule from 02/12/2019 to 14/05/2025. Key milestones include WA1-C (29/02), WA2-C (29/02), LW (25/11), PST (14/04), BR (23/02), MFS (20/03), Chemical (19/05), UU (18/04), KD1A (30/10), KD1B (01/06), KD3A (22/07), KD3B (07/06), and various section completion dates.																							
2	2	1.1	Starting Date	0 days	Mon 02/12/1	Mon 02/12/15	0 days		3SS+1625 edays,62:																									
3	3	1.2	Completion Date	0 days	Tue 14/05/24	Tue 14/05/24	0 days		25S+1625 edays,3:4																									
4	4	1.3	Defect Dates with respect to Completion Date	365 days	Tue 14/05/24	Tue 13/05/25	0 days	3																										
5	5	2	Access Dates	1599 days	Mon 02/12/1	Thu 18/04/24	0 days																											
6	6	WA1-C	Access Date for Works Area WA1-C	90 days	Mon 02/12/1	Sat 29/02/20	0 days																											
7	7	WA2-C	Access Date for Works Area WA2-C	90 days	Mon 02/12/1	Sat 29/02/20	0 days																											
8	8	IW	Access Date for Portion B-2, Inlet Works No. 1	150 edays	Tue 28/06/22	Fri 25/11/22	0 edays																											
9	9	PST	Access Date for Portion B-3, PST No. 1~4	90 edays	Sat 14/01/23	Fri 14/04/23	0 edays																											
10	10	PST No. 4 ~ 6	Access Date for Portion B-3A, Existing PST No. 4 and No. 6	0 days	Mon 02/12/1	Mon 02/12/15	0 days																											
11	11	Temp Filtrate	Access Date for Portion B-3B, Temporary Filtrate Lifting Well and Eq. Tank	0 days	Mon 02/12/1	Mon 02/12/15	0 days																											
12	12	BR	Access Date for Portion B-4, BR 2A & 2B	90 edays	Fri 25/11/22	Thu 23/02/23	0 edays																											
13	13	MFS	Access Date for Portion B-5A, MFB No. 2 below 1st floor level	90 edays	Mon 20/12/25	Sun 20/03/22	0 edays																											
14	14	MFS	Access Date for Portion B-5B, MFB No. 2 remaining portion	90 edays	Thu 19/05/22	Wed 17/08/22	0 edays																											
15	15	Chemical	Access Date for Portion B-7 & 7B, Chemical Dosing, Concrete Plinth for DOs, Chemical Sys 1 & 2	150 edays	Mon 20/12/2	Thu 19/05/22	0 edays																											
16	16	Genrest	Access Date for Portion B-7A & 7B, area for modification of existing emergency generator elect	0 edays	Mon 02/12/1	Mon 02/12/15	0 edays																											
17	17	UU	Access Date for Portion B-9B, underground pipework	60 edays	Sun 18/02/24	Thu 18/04/24	0 edays																											
18	18	SAS	Access Date for B-10, existing sludge thickening building	0 edays	Mon 02/12/1	Mon 02/12/15	0 edays																											
19	19	3	Key Dates	555 days	Mon 02/12/1	Wed 09/06/21	0 days																											
20	20	Key Date, KD1A	KD1A - Submission of civil and dimensional requirement drawings, electrical schematic drawing	340 edays	Mon 02/12/1	Fri 06/11/20	0 edays	31FF																										
21	21	Key Date, KD1B	KD1B - Submission of remaining civil and dimensional requirement drawings, electrical schema	550 edays	Mon 02/12/1	Fri 04/06/21	0 edays	32FF																										
22	22	Key Date, KD3A	KD3A - Completion of E&M Installation works of existing power house in Portions B-7A and B-7	240 edays	Mon 02/12/1	Wed 29/07/20	0 edays	33FF																										
23	23	Key Date, KD3B	KD3B - Completion of all work for reprovision of the existing Primary Sedimentation Tanks No.	555 edays	Mon 02/12/1	Wed 09/06/21	0 edays	34FF																										
24	24	4	Sectional Completion Dates	1625 days	Mon 02/12/1	Tue 14/05/24	0 days																											
25	25	Section 1	Section 1 - Completion of the design of E&M Works for all works as defined in WL_GP Cl. 10.1(a)	600 edays	Mon 02/12/1	Sat 24/07/21	0 edays	35FF																										
26	26	Section 2	Section 2 - Completion of all works for Inlet Works, PST No. 1~4, BR No. 2A & 2B, MFB No. 2, te	1600 edays	Mon 02/12/1	Fri 19/04/24	0 edays	36FF																										
27	27	Section 3	Section 3 - Completion of all works for retrofitting of the existing PST...etc (660 days after starti	660 edays	Mon 02/12/1	Wed 22/09/21	0 edays	37FF																										
28	28	Section 4	Section 4 - Completion of Work for remainder of the works (1625 days after starting date)	1625 edays	Mon 02/12/1	Tue 14/05/24	0 edays	38FF																										
29	29	5	DE/2018/04 - the Contractor's Programme (w/ Defects Date of Planned Completion Date)	1977 days	Mon 02/12/1	Wed 30/04/21	0 days																											
30	30	Main	Starting Date	0 days	Mon 02/12/1	Mon 02/12/15	0 days		623,197SS+30 edays:																									
31	31	KD1A	Planned Key Date Completion Date - KD1A	0 days	Fri 30/10/20	Fri 30/10/20	7 days	20FF																										
32	32	KD1B	Planned Key Date Completion Date - KD1B	0 days	Tue 01/06/21	Tue 01/06/21	3 days	21FF																										
33	33	KD3A	Planned Key Date Completion Date - KD3A	0 days	Wed 22/07/20	Wed 22/07/20	7 days	22FF																										
34	34	KD3B	Planned Key Date Completion Date - KD3B	0 days	Mon 07/06/21	Mon 07/06/21	2 days	23FF																										
35	35	Section 1, Main	Planned Sectional Completion Date - Section 1	0 days	Mon 12/07/20	Mon 12/07/21	11 days	25FF																										
36	36	Section 2, Main	Planned Sectional Completion Date - Section 2	0 days	Mon 01/04/20	Mon 01/04/24	18 days	26FF																										
37	37	Section 3, Main	Planned Sectional Completion Date - Section 3	0 days	Wed 01/09/20	Wed 01/09/21	21 days	27FF																										
38	38	Section 4, Main	Planned Sectional Completion Date - Section 4	0 days	Wed 01/05/20	Wed 01/05/24	13 days	28FF																										
39	39	IW, PST, BR, MFS, LA, PV, CCTV, C	Planned Completion Date	0 days	Wed 01/05/20	Wed 01/05/24	12 days	1271,1272,1273,1:3																										
40	40		Defect Dates with respect to planned completion date	365 days	Wed 01/05/20	Wed 30/04/25	0 days																											
41	41	5.12	Part A: Procurement and Delivery of Major Plant and Materials	706 days	Fri 01/05/20	Wed 06/04/21	525 days																											
42	42	5.12.1	Planned Completion Date for Procurement of major plant and materials	0 days	Thu 03/06/21	Thu 03/06/21	0 days	30SS+550 days																										
43	43	IW, PST, BR, MFS, EQT013	General - stoplogs and penstocks, C11, EQT013	120 days	Wed 01/07/20	Wed 28/10/20	0 days																											
44	44	IW, PST, BR, MFS, EQT013	Submission for acceptance of purchasing package	60 days	Wed 01/07/20	Sat 29/08/20	0 days		45																									
45	45	IW, PST, BR, MFS, EQT013	Invitation of quotations for purchasing package	30 days	Sun 30/08/20	Mon 28/09/20	0 days	44	46																									
46	46	IW, PST, BR, MFS, EQT013	Acceptance of conforming quotation (Completed)	30 days	Tue 29/09/20	Wed 28/10/20	0 days	45	248																									
47	47	IW, PST, MFS, EQT035-1	General - Instrumentations except use at BR, C11, EQT035-1	460 days	Sat 02/01/21	Wed 06/04/21	525 days																											
48	48	IW, PST, MFS, EQT035-1	Submission for acceptance of purchasing package	60 days	Sat 02/01/21	Tue 02/03/21	0 days		49																									
49	49	IW, PST, MFS, EQT035-1	Invitation of quotations for purchasing package	30 days	Wed 03/03/21	Thu 01/04/21	0 days	48	50																									
50	50	IW, PST, MFS, EQT035-1	Acceptance of conforming quotation	30 days	Fri 02/04/21	Sat 01/05/21	0 days	49	51																									
51	51	IW, PST, MFS, EQT035-1	Manufacturing and Factory Acceptance Test of Plant	280 days	Sun 02/05/21	Sat 05/02/22	0 days	50	52																									
52	52	IW, PST, MFS, EQT035-1	Shipping and Delivery of Plant	60 days	Sun 06/02/21	Wed 06/04/22	125 days	51	330,460,742																									
53	53	PST, BR, MFS, Chamber, EQT036	General - pipework and valves, C11, ref. EQT036	120 days	Mon 02/11/20	Mon 01/03/21	6 days																											
54	54	IW, PST, BR, MFS, Chamber, EQT	Submission for acceptance of purchasing package	60 days	Mon 02/11/20	Thu 31/12/20	0 days		55																									
55	55	IW, PST, BR, MFS, Chamber, EQT	Invitation of quotations for purchasing package	30 days	Fri 01/01/21	Sat 30/01/21	0 days	54	56																									
56	56	IW, PST, BR, MFS, Chamber, EQT	Acceptance of conforming quotation	30 days	Sun 31/01/21	Mon 01/03/21	0 days	55	248,294,523,646,64																									
57	57	PST, BR, MFS, EQT042	General - electric actuators, C11, ref. EQT042	72 days	Wed 02/12/20	Thu 11/02/21	24 days																											

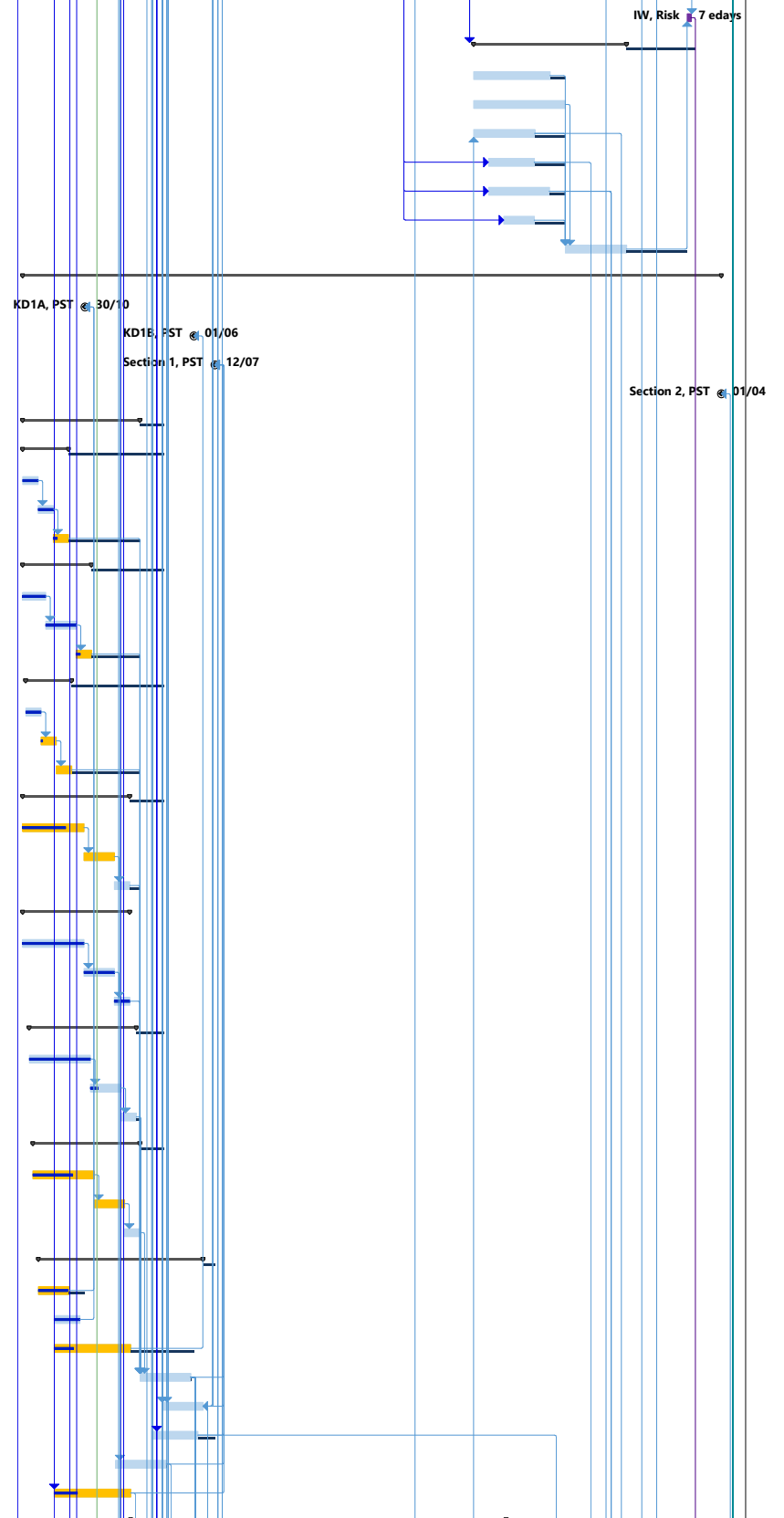


ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Float Time	Predecessors	Successors	Resource Names	2019		2020		2021		2022		2023		2024		2025	
											Half 2	Half 1	Half 2	Half 1	Half 2	Half 1	Half 2	Half 1	Half 2	Half 1	Half 2	Half 1	Half 2	
115	115 Mech	5.13.6.1	Submission for acceptance of subcontract works package	120 days	Tue 01/06/21	Tue 28/09/21	0 days		116															
116	116 Mech	5.13.6.2	Invitation of tender for subcontract works	75 days	Wed 29/09/20	Sun 12/12/21	0 days	115	117															
117	117 Mech	5.13.6.3	Acceptance of conforming tender	30 days	Mon 13/12/20	Tue 11/01/22	19 days	116	118FF															
118	118 Mech	5.13.6.4	Sub-contract work commencement date	1 day	Sun 30/01/22	Sun 30/01/22	0 days	117FF																
119	119 Elec	5.13.7	General - Electrical Installations	244 days	Tue 01/06/21	Sun 30/01/22	0 days																	
120	120 Elec	5.13.7.1	Submission for acceptance of subcontract works package	120 edays	Tue 01/06/21	Wed 29/09/21	0 edays		121															
121	121 Elec	5.13.7.2	Invitation of tender for subcontract works	75 edays	Wed 29/09/20	Mon 13/12/21	0 edays	120	122															
122	122 Elec	5.13.7.3	Acceptance of conforming tender	30 edays	Mon 13/12/20	Wed 12/01/22	18.38 edays	121	123FF															
123	123 Elec	5.13.7.4	Sub-contract work commencement date	1 day	Sun 30/01/22	Sun 30/01/22	0 days	122FF																
124	124 SCADA, CMMS, PMS, IDMS	5.13.8	General - Facility Computerized Systems (SCADA, CMMS, PMS, IDMS)	130 days	Tue 01/09/20	Sat 09/01/21	35 days																	
125	125 SCADA	5.13.8.1	Submission for acceptance of subcontract works package	60 edays	Tue 01/09/20	Sat 31/10/20	0 edays		126															
126	126 SCADA	5.13.8.2	Invitation of tender for subcontract works	30 edays	Sat 31/10/20	Mon 30/11/20	0 edays	125	127															
127	127 SCADA	5.13.8.3	Acceptance of conforming tender	30 edays	Mon 30/11/20	Wed 30/12/20	10 edays	126	128															
128	128 SCADA	5.13.8.4	Sub-contract work commencement date	0 days	Sat 09/01/21	Sat 09/01/21	0 days	127	185															
129	129 BS	5.13.9	General - Building Services Installations	130 days	Mon 02/11/20	Fri 12/03/21	3 days																	
130	130 BS	5.13.9.1	Submission for acceptance of subcontract works package	60 edays	Mon 02/11/20	Fri 01/01/21	0 edays		131															
131	131 BS	5.13.9.2	Invitation of tender for subcontract works	30 edays	Fri 01/01/21	Sun 31/01/21	0 edays	130	132															
132	132 BS	5.13.9.3	Acceptance of conforming tender	30 edays	Sun 31/01/21	Tue 02/03/21	10 edays	131	133FF															
133	133 BS	5.13.9.4	Sub-contract work commencement date	0 days	Fri 12/03/21	Fri 12/03/21	0 days	132FF	250,396,525,649,79															
134	134 MVAC	5.13.10	General - Mechanical Ventilation and Air Conditioning Installation	130 days	Mon 02/11/20	Fri 12/03/21	0 days																	
135	135 MVAC	5.13.10.1	Submission for acceptance of subcontract works package	60 days	Mon 02/11/20	Thu 31/12/20	0 days		136															
136	136 MVAC	5.13.10.2	Invitation of tender for subcontract works	30 edays	Thu 31/12/20	Sat 30/01/21	0.63 edays	135	137															
137	137 MVAC	5.13.10.3	Acceptance of conforming tender	30 days	Sun 31/01/21	Mon 01/03/21	10 days	136	138FF															
138	138 MVAC	5.13.10.4	Sub-contract work commencement date	0 days	Fri 12/03/21	Fri 12/03/21	0 days	137FF																
139	139 Genset	5.13.11	General - Emergency Power Generator Set (04SC006)	146 days	Wed 01/07/20	Mon 23/11/20	0 days																	
140	140 Genset	5.13.11.1	Submission for acceptance of subcontract works package	60 edays	Wed 01/07/20	Sun 30/08/20	0 edays		141															
141	141 Genset	5.13.11.2	Invitation of tender for subcontract works	30 edays	Sun 30/08/20	Tue 29/09/20	0 edays	140	142															
142	142 Genset	5.13.11.3	Acceptance of conforming tender	30 edays	Tue 29/09/20	Thu 29/10/20	0 edays	141	143FF															
143	143 Genset	5.13.11.4	Sub-contract work commencement date (Completed)	24 days	Sat 31/10/20	Mon 23/11/20	0 days	142FF																
144	144 Pb	5.13.12	General - Plumbing Installation	189 days	Wed 01/07/20	Tue 05/01/21	0 days																	
145	145 Pb	5.13.12.1	Submission for acceptance of subcontract works package	30 edays	Wed 01/07/20	Fri 31/07/20	0 edays		146															
146	146 Pb	5.13.12.2	Invitation of tender for subcontract works	75 edays	Fri 31/07/20	Wed 14/10/20	0 edays	145	147															
147	147	5.13.12.3	Retender of subcontract works	14 days	Mon 23/11/20	Sun 06/12/20	0 days	146	148															
148	148 Pb	5.13.12.4	Acceptance of conforming tender	30 edays	Sun 06/12/20	Tue 05/01/21	0 edays	147	149FF															
149	149 Pb	5.13.12.5	Sub-contract work commencement date (Extended)	0 days	Tue 05/01/21	Tue 05/01/21	0 days	148FF	1225															
150	150 FSI	5.13.13	General - Fire Services Installation	152 days	Sat 01/08/20	Thu 31/12/20	14 days																	
151	151 FSI	5.13.13.1	Submission for acceptance of subcontract works package	60 days	Sat 01/08/20	Tue 29/09/20	0 days		152															
152	152 FSI	5.13.13.2	Invitation of tender for subcontract works	30 days	Wed 30/09/20	Thu 29/10/20	0 days	151	153															
153	153 FSI	5.13.13.3	Acceptance of conforming tender	30 days	Fri 30/10/20	Sat 28/11/20	32 days	152	154FF															
154	154 FSI	5.13.13.4	Sub-contract work commencement date	0 days	Thu 31/12/20	Thu 31/12/20	0 days	153FF	1176															
155	155 Earth	5.13.14	General - Lightning Protection System and Main Earthing System	151 days	Tue 01/09/20	Sat 30/01/21	0 days																	
156	156 Earth	5.13.14.1	Submission for acceptance of subcontract works package	60 edays	Tue 01/09/20	Sat 31/10/20	0 edays		157															
157	157 Earth	5.13.14.2	Invitation of tender for subcontract works	30 edays	Sat 31/10/20	Mon 30/11/20	0 edays	156	158															
158	158 Earth	5.13.14.3	Acceptance of conforming tender	30 edays	Mon 30/11/20	Wed 30/12/20	31 edays	157	159FF															
159	159 Earth	5.13.14.4	Sub-contract work commencement date	0 days	Sat 30/01/21	Sat 30/01/21	0 days	158FF																
160	160 CCTV	5.13.15	General - CCTV Installation	183 days	Thu 01/07/20	Fri 31/12/21	0 days																	
161	161 CCTV	5.13.15.1	Submission for acceptance of subcontract works package	60 edays	Thu 01/07/20	Mon 30/08/21	0 edays		162															
162	162 CCTV	5.13.15.2	Invitation of tender for subcontract works	30 edays	Mon 30/08/20	Wed 29/09/21	0 edays	161	163															
163	163 CCTV	5.13.15.3	Acceptance of conforming tender	30 edays	Wed 29/09/20	Fri 29/10/21	63 edays	162	164FF															
164	164 CCTV	5.13.15.4	Sub-contract work commencement date	0 days	Fri 31/12/21	Fri 31/12/21	0 days	163FF																
165	165 Civil	5.13.16	General - Civil Construction Work for underground pipework	40 days	Wed 01/07/20	Mon 10/08/20	0 days																	
166	166 Civil	5.13.16.1	Submission for acceptance of subcontract works package	14 days	Wed 01/07/20	Tue 14/07/20	0 days		167															
167	167 Civil	5.13.16.2	Invitation of tender for subcontract works	14 days	Wed 15/07/20	Tue 28/07/20	0 days	166	168															
168	168 Civil	5.13.16.3	Acceptance of conforming tender	7 days	Wed 29/07/20	Tue 04/08/20	0 days	167	169FF															
169	169 Civil	5.13.16.4	Sub-contract work commencement date	0 days	Mon 10/08/20	Mon 10/08/20	0 days	168FF																
170	170 Temp Filtrate	5.13.17	General - Civil Construction Work for Temp. Filtrate Eq. System	40 days	Wed 01/07/20	Mon 10/08/20	0 days																	
171	171 Temp Filtrate	5.13.17.1	Submission for acceptance of subcontract works package	14 days	Wed 01/07/20	Tue 14/07/20	0 days		172															

Task Milestone Project Summary Late Critical Split Manual Progress Milestone (Actual) +
Milestone, Tentative Summary Manual Summary Critical Progress Slack (Float) Slack

ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Float Time	Predecessors	Successors	Resource Names	2019		2020		2021		2022		2023		2024		2025	
											Half 2, 2019	Half 1, 2020	Half 2, 2020	Half 1, 2021	Half 2, 2021	Half 1, 2022	Half 2, 2022	Half 1, 2023	Half 2, 2023	Half 1, 2024	Half 2, 2024	Half 1, 2025	Half 2, 2025	
229	229 IW, EQT003	5.17.5.4.1	Submission for acceptance of purchasing package	45 days	Wed 01/07/20	Fri 14/08/20	0 days		230															
230	230 IW, EQT003	5.17.5.4.2	Invitation of quotations for purchasing package	30 days	Sat 15/08/20	Sun 13/09/20	0 days	229	231															
231	231 IW, EQT003	5.17.5.4.3	Acceptance of conforming quotation (Completed)	30 days	Mon 14/09/20	Tue 13/10/20	0 days	230	248															
232	232 IW, EQT004	5.17.5.5	Inlet Works - grit removal system, C11, ref. EQT004	90 days	Wed 01/07/20	Mon 28/09/20	0 days																	
233	233 IW, EQT004	5.17.5.5.1	Submission for acceptance of purchasing package	30 days	Wed 01/07/20	Thu 30/07/20	0 days		234															
234	234 IW, EQT004	5.17.5.5.2	Invitation of quotations for purchasing package	30 days	Fri 31/07/20	Sat 29/08/20	0 days	233	235															
235	235 IW, EQT004	5.17.5.5.3	Acceptance of conforming quotation (Completed)	30 days	Sun 30/08/20	Mon 28/09/20	0 days	234	248															
236	236 IW, EQT005	5.17.5.6	Inlet Works - grit classifiers, C11, ref. EQT005	90 days	Wed 01/07/20	Mon 28/09/20	0 days																	
237	237 IW	5.17.5.6.1	Submission for acceptance of purchasing package	30 days	Wed 01/07/20	Thu 30/07/20	0 days		238															
238	238 IW	5.17.5.6.2	Invitation of quotations for purchasing package	30 days	Fri 31/07/20	Sat 29/08/20	0 days	237	239															
239	239 IW	5.17.5.6.3	Acceptance of conforming quotation	30 days	Sun 30/08/20	Mon 28/09/20	0 days	238	248															
240	240 IW, EQT046	5.17.5.7	Inlet Works - Fixed Bar Screen, C11, ref. EQT046	208 days	Fri 26/06/20	Tue 19/01/21	47 days																	
241	241 IW, EQT046	5.17.5.7.1	Submission for acceptance of purchasing package	14 days	Fri 26/06/20	Thu 09/07/20	0 days		242															
242	242 IW, EQT046	5.17.5.7.2	Invitation of quotations for purchasing package	14 days	Fri 10/07/20	Thu 23/07/20	0 days	241	243															
243	243 IW, EQT046	5.17.5.7.3	Acceptance of conforming quotation (Extended)	180 days	Fri 24/07/20	Tue 19/01/21	41 days	242	248															
244	244 IW, KD1A, KD1B, Section 1	5.17.6	Design Submissions for IW	360 days	Wed 15/07/20	Sat 10/07/21	3 days																	
245	245 IW, KD1A, Elec	5.17.6.1	Electrical schematic drawings for Inlet Works No. 1	90 days	Wed 15/07/20	Mon 12/10/20	18 days		211FF															
246	246 IW, KD1A, CW,	5.17.6.2	CDS080-1 - Civil and dimensional requirements drawings for Inlet Works No. 1 up to +8.0 r	45 days	Tue 01/09/20	Thu 15/10/20	0 days		211FF															
247	247 IW, KD1B, CW	5.17.6.3	CDS081-1 - Civil and dimensional requirements drawings for Inlet Works No. 1	210 days	Fri 28/08/20	Thu 25/03/21	68 days		212FF															
248	248 IW, Section 1, Mech	5.17.6.4	CDS002 - Detailed Design for Inlet Works No. 1	120 edays	Mon 01/03/21	Tue 29/06/21	0.63 edays	56,223,227,219,23256,278,260,263,26																
249	249 IW, Section 1, Elec, SCADA	5.17.6.5	CDS021 - Detailed Design for Electrical Installations for Inlet Works No. 1	90 edays	Thu 01/04/21	Wed 30/06/21	0 edays	72,78,82,86,90,18:73,295,287,298,213																
250	250 IW, Section 1, BS	5.17.6.6	CDS034-1 - Detailed Design for Electrical Installations BS at Inlet Works No. 1	120 edays	Fri 12/03/21	Sat 10/07/21	2.38 edays	133	348,213FF															
251	251 IW, Section 1, LVSB	5.17.6.7	CDS025-1 - Detailed Design for LV Switchboards for Inlet Works No. 1	180 edays	Tue 29/12/20	Sun 27/06/21	12.63 edays	68	287,213FF															
252	252 IW, Section 1, HVSB, EQT031	5.17.6.8	CDS026-1 - Detailed Design for HV Switchboards for Inlet Works No. 1	180 edays	Sat 26/12/20	Thu 24/06/21	0.63 edays	64	291,213FF															
253	253 IW, Section 1, LA	5.17.6.9	CDS050-1 - Detailed Design for Lifting Appliances - Inlet Works No. 1	180 edays	Tue 01/09/20	Sun 28/02/21	0 edays	113	284,213FF															
254	254 IW	5.17.7	Manufacturing and Delivery of Plant & Materials	762 days	Sun 28/02/21	Fri 31/03/23	235 days																	
255	255 IW, EQT006	5.17.7.1	Inlet Pumps, EQT006	400 days	Wed 30/06/20	Wed 03/08/21	440 days																	
256	256 IW, EQT006	5.17.7.1.1	Manufacturing of Inlet Pumps, EQT006	240 days	Wed 30/06/20	Thu 24/02/22	0 days	248	257															
257	257 IW, EQT006, FAT	5.17.7.1.2	Factory Acceptance Test of Plant (to be witnessed by PM)	60 days	Fri 25/02/22	Mon 25/04/22	40 days	256	258															
258	258 IW, EQT006	5.17.7.1.3	Shipping and Delivery of Plant to site	60 days	Sun 05/06/22	Wed 03/08/22	374 days	257,305SS-60 eday	323															
259	259 IW, EQT052	5.17.7.2	Mechanical Raked Bar Screen, EQT052	300 days	Sun 05/06/22	Fri 31/03/23	0 days	305SS-60 edays	319															
260	260 IW, EQT052	5.17.7.2.1	Manufacturing and Factory Acceptance Test of Plant	240 days	Sun 05/06/22	Mon 30/01/23	0 days	248	261															
261	261 IW, EQT052	5.17.7.2.2	Shipping and Delivery of Plant to site	60 days	Tue 31/01/23	Fri 31/03/23	0 days	260,305SS-60 eday	321,324															
262	262 IW, EQT053	5.17.7.3	Screening Conveyors and Diverters, EQT053	400 days	Wed 30/06/20	Wed 03/08/21	445 days																	
263	263 IW, EQT053	5.17.7.3.1	Manufacturing and Factory Acceptance Test of Plant	240 days	Wed 30/06/20	Thu 24/02/22	100 days	248	264															
264	264 IW, EQT053	5.17.7.3.2	Shipping and Delivery of Plant to site	60 days	Sun 05/06/22	Wed 03/08/22	330 days	263,305SS-60 eday	322															
265	265 IW, EQT003	5.17.7.4	Screening Screw Type Compactors, EQT003	400 days	Wed 30/06/20	Wed 03/08/21	240 days		319															
266	266 IW, EQT003	5.17.7.4.1	Manufacturing and Factory Acceptance Test of Plant	240 days	Wed 30/06/20	Thu 24/02/22	100 days	248	267															
267	267 IW, EQT003	5.17.7.4.2	Shipping and Delivery of Plant to site	60 days	Sun 05/06/22	Wed 03/08/22	360 days	266,305SS-60 eday	327															
268	268 IW, EQT004	5.17.7.5	Grit Removal System, EQT004	400 days	Wed 30/06/20	Wed 03/08/21	461 days																	
269	269 IW, EQT004	5.17.7.5.1	Manufacturing and Factory Acceptance Test of Plant	240 days	Wed 30/06/20	Thu 24/02/22	100 days	248	270															
270	270 IW, EQT004	5.17.7.5.2	Shipping and Delivery of Plant to site	60 days	Sun 05/06/22	Wed 03/08/22	395 days	269,305SS-60 eday	325															
271	271 IW, EQT005	5.17.7.6	Grit Classifiers, EQT005	400 days	Wed 30/06/20	Wed 03/08/21	475 days																	
272	272 IW, EQT005	5.17.7.6.1	Manufacturing and Factory Acceptance Test of Plant	240 days	Wed 30/06/20	Thu 24/02/22	100 days	248	273															
273	273 IW, EQT005	5.17.7.6.2	Shipping and Delivery of Plant to site	60 days	Sun 05/06/22	Wed 03/08/22	409 days	272,305SS-60 eday	326															
274	274 IW, EQT036	5.17.7.7	DI Pipework, EQT036	400 days	Wed 30/06/20	Wed 03/08/21	376 days																	
275	275 IW, EQT036	5.17.7.7.1	Manufacturing and Factory Acceptance Test of Plant	240 days	Wed 30/06/20	Thu 24/02/22	100 days	248	276															
276	276 IW, EQT036	5.17.7.7.2	Shipping and Delivery of Plant to site	60 days	Sun 05/06/22	Wed 03/08/22	360 days	275,305SS-60 eday	328															
277	277 IW, EQT013	5.17.7.8	Stoplogs and Penstocks, EQT013	400 days	Wed 30/06/20	Wed 03/08/21	256 days																	
278	278 IW, EQT013	5.17.7.8.1	Manufacturing and Factory Acceptance Test of Plant	300 days	Wed 30/06/20	Mon 25/04/22	40 days	248	279															
279	279 IW, EQT004	5.17.7.8.2	Shipping and Delivery of Plant to site	60 days	Sun 05/06/22	Wed 03/08/22	240 days	278,305SS-60 eday	319															
280	280 IW, EQT036	5.17.7.9	Valves, EQT036	400 days	Wed 30/06/20	Wed 03/08/21	376 days																	
281	281 IW, EQT036	5.17.7.9.1	Manufacturing and Factory Acceptance Test of Plant	240 days	Wed 30/06/20	Thu 24/02/22	100 days	248	282															
282	282 IW, EQT036	5.17.7.9.2	Shipping and Delivery of Plant to site	60 days	Sun 05/06/22	Wed 03/08/22	360 days	281,305SS-60 eday	328															
283	283 IW, LA	5.17.7.10	Lifting Appliances	507 days	Sun 28/02/21	Tue 19/07/22	231 days																	
284	284 IW, LA	5.17.7.10.1	Manufacturing and Factory Acceptance Test of Plant	240 days	Sun 28/02/21	Mon 25/10/21	222 days	253	285															
285	285 IW, LA	5.17.7.10.2	Shipping and Delivery of Plant to site	45 days	Sun 05/06/22	Tue 19/0																		

ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Float Time	Predecessors	Successors	Resource Names	2019		2020		2021		2022		2023		2024		2025	
											Half 2, 2019	Half 1, 2020	Half 2, 2020	Half 1, 2021	Half 2, 2021	Half 1, 2022	Half 2, 2022	Half 1, 2023	Half 2, 2023	Half 1, 2024	Half 2, 2024	Half 1, 2025	Half 2, 2025	
343	343 IW, SCADA	5.17.8.3.5.1	Configuration of PLC System, IW	45 days	Fri 17/03/23	Sun 30/04/23	0 days	339	344	PLC - A x 1 man														
344	344 IW, SCADA	5.17.8.3.5.2	Site Acceptance Test for PLC System at Inlet Works No. 1	60 days	Mon 01/05/23	Thu 29/06/23	121 days	343	345,1262															
345	345 IW, SCADA	5.17.8.3.6	Site Acceptance Test for E&M Equip & Instrumentations calibration, IW	30 days	Mon 27/11/22	Tue 26/12/23	0 days	318,333,340,470,5346																
346	346 IW, SCADA	5.17.8.3.7	System Commissioning for E&M Equip at Inlet Works No. 1	30 edays	Tue 26/12/23	Thu 25/01/24	0 edays	345	347															
347	347 IW, Risk	5.17.8.3.8	Risk Allowances for completion of Processing Plant at Inlet Works No. 1	7 edays	Thu 25/01/24	Thu 01/02/24	0.63 edays	346,355	1258															
348	348 BS, IW	5.17.8.3.9	Building Services Installations for Inlet Works No. 1	300 days	Sat 03/12/22	Thu 28/09/23	135 days	305FS+120 days,2!																
349	349 BS, IW, MVAC	5.17.8.3.9.1	Mechanical Ventilation and Air Conditioning System, IW	150 days	Sat 03/12/22	Mon 01/05/23	30 days		355	MVAC - B x 4~6 men														
350	350 BS, IW	5.17.8.3.9.2	Lighting and Power Distribution System, IW	180 days	Sat 03/12/22	Wed 31/05/23	0 days		355	BS - A x 4~6 men														
351	351 BS, IW, Pb	5.17.8.3.9.3	Plumbing Installation, IW	120 days	Sat 03/12/22	Sat 01/04/23	60 days	1229	1231,355	Pb - A x 4~6 men														
352	352 BS, IW, CCTV	5.17.8.3.9.4	CCTV Installation (5 indoor +5 outdoor Cameras), IW	90 days	Sun 01/01/23	Fri 31/03/23	61 days	305SS+150 days	355,1261	BS - B x 4~6 men														
353	353 BS, IW, FSI	5.17.8.3.9.5	Fire Services Installation, IW	120 days	Sun 01/01/23	Sun 30/04/23	31 days	305SS+150 days	1182,1194,1195,351	FS - A x 4~6 men														
354	354 BS,IW,Earth	5.17.8.3.9.6	Earthing and Lightning Protection System, IW	60 days	Tue 31/01/23	Fri 31/03/23	61 days	305SS+180 days	355	BS - C x 2~4 men														
355	355 BS, IW	5.17.8.3.9.7	Testing and Commissioning of Building Services Installations, IW	120 days	Thu 01/06/23	Thu 28/09/23	119 days	349,350,351,352,3347		BS - C x 2~4 men														
356	356 PST	5.18	Primary Sedimentation Tanks No. 1 ~ 4, Portion B-3 (PS 6B2.2)	1371 days	Wed 01/07/23	Mon 01/04/24	0 days																	
357	357 KD1A, PST	5.18.1	Planned Key Date Completion Date - KD1A, PST No. 1~4	0 days	Fri 30/10/20	Fri 30/10/20	0 days	391FF,392FF																
358	358 KD1B, PST	5.18.2	Planned Key Date Completion Date - KD1B, PST No. 1~4	1 day	Tue 01/06/21	Tue 01/06/21	0 days	393FF																
359	359 Section 1, PST	5.18.3	Planned Sectional Completion Date - Section 1, PST No. 1~4	0 days	Mon 12/07/20	Mon 12/07/21	0 days	396FF,395FF,394FF																
360	360 Section 2, PST	5.18.4	Planned Sectional Completion Date - Section 2, PST No. 1~4	0 days	Mon 01/04/20	Mon 01/04/24	0 days	484FF																
361	361 PST	5.18.5	Selection of Suppliers for major plant and materials for PST No. 1~4	230 days	Wed 01/07/20	Mon 15/02/21	47 days																	
362	362 PST, EQT014	5.18.5.1	PST - lamella plate settlers, C11, ref. EQT014	90 days	Wed 01/07/20	Mon 28/09/20	187 days																	
363	363 PST, EQT014	5.18.5.1.1	Submission for acceptance of purchasing package	30 days	Wed 01/07/20	Thu 30/07/20	0 days		364															
364	364 PST, EQT014	5.18.5.1.2	Invitation of quotations for purchasing package	30 days	Fri 31/07/20	Sat 29/08/20	0 days	363	365															
365	365 PST, EQT014	5.18.5.1.3	Acceptance of conforming quotation	30 days	Sun 30/08/20	Mon 28/09/20	140 days	364	394															
366	366 PST, EQT014	5.18.5.2	PST - reciprocating type bottom scrapers, C11, ref. EQT014	135 days	Wed 01/07/20	Thu 12/11/20	142 days																	
367	367 PST, EQT014	5.18.5.2.1	Submission for acceptance of purchasing package	45 days	Wed 01/07/20	Fri 14/08/20	0 days		368															
368	368 PST, EQT014	5.18.5.2.2	Invitation of quotations for purchasing package	60 days	Sat 15/08/20	Tue 13/10/20	0 days	367	369															
369	369 PST, EQT014	5.18.5.2.3	Acceptance of conforming quotation	30 days	Wed 14/10/20	Thu 12/11/20	95 days	368	394															
370	370 PST, EQT015	5.18.5.3	PST - surface scum skimmers, C11, ref. EQT015	90 days	Tue 07/07/20	Wed 04/10/20	181 days																	
371	371 PST, EQT015	5.18.5.3.1	Submission for acceptance of purchasing package	30 days	Tue 07/07/20	Wed 05/08/20	0 days		372															
372	372 PST, EQT015	5.18.5.3.2	Invitation of quotations for purchasing package	30 days	Thu 06/08/20	Fri 04/09/20	0 days	371	373															
373	373 PST, EQT015	5.18.5.3.3	Acceptance of conforming quotation	30 days	Sat 05/09/20	Sun 04/10/20	134 days	372	394															
374	374 PST, EQT015	5.18.5.4	PST - scum collector pipes, C11, ref. EQT015	210 days	Wed 01/07/20	Tue 26/01/21	67 days																	
375	375 PST, EQT015	5.18.5.4.1	Submission for acceptance of purchasing package	120 days	Wed 01/07/20	Wed 28/10/20	0 days		376															
376	376 PST, EQT015	5.18.5.4.2	Invitation of quotations for purchasing package	60 days	Thu 29/10/20	Sun 27/12/20	0 days	375	377															
377	377 PST, EQT015	5.18.5.4.3	Acceptance of conforming quotation	30 days	Mon 28/12/20	Tue 26/01/21	20 days	376	394															
378	378 PST, EQT016	5.18.5.5	PST - piston type primary sludge pumps, C11, ref. EQT016	210 days	Wed 01/07/20	Tue 26/01/21	0 days																	
379	379 PST, EQT016	5.18.5.5.1	Submission for acceptance of purchasing package	120 days	Wed 01/07/20	Wed 28/10/20	0 days		380															
380	380 PST, EQT016	5.18.5.5.2	Invitation of quotations for purchasing package	60 days	Thu 29/10/20	Sun 27/12/20	0 days	379	381															
381	381 PST, EQT016	5.18.5.5.3	Acceptance of conforming quotation (Completed)	30 days	Mon 28/12/20	Tue 26/01/21	0 days	380	394															
382	382 PST, EQT007	5.18.5.6	PST - drain pumps, C11, ref. EQT007	210 days	Tue 14/07/20	Mon 08/02/21	54 days																	
383	383 PST, EQT007	5.18.5.6.1	Submission for acceptance of purchasing package	120 days	Tue 14/07/20	Tue 10/11/20	0 days		384															
384	384 PST, EQT007	5.18.5.6.2	Invitation of quotations for purchasing package	60 days	Wed 11/11/20	Sat 09/01/21	0 days	383	385															
385	385 PST, EQT007	5.18.5.6.3	Acceptance of conforming quotation	30 days	Sun 10/01/21	Mon 08/02/21	7 days	384	394															
386	386 PST, EQT018	5.18.5.7	PST - air blowers, C11, ref. EQT018	210 days	Tue 21/07/20	Mon 15/02/21	47 days																	
387	387 PST, EQT018	5.18.5.7.1	Submission for acceptance of purchasing package	120 days	Tue 21/07/20	Tue 17/11/20	0 days		388															
388	388 PST, EQT018	5.18.5.7.2	Invitation of quotations for purchasing package	60 days	Wed 18/11/20	Sat 16/01/21	0 days	387	389															
389	389 PST, EQT018	5.18.5.7.3	Acceptance of conforming quotation	30 days	Sun 17/01/21	Mon 15/02/21	0 days	388	394															
390	390 PST, KD1A, KD1B, Section 1	5.18.6	Design Submissions for PST No. 1~4	323 days	Sat 01/08/20	Sat 19/06/21	23 days																	
391	391 PST, KD1A, Elec, KD1A	5.18.6.1	Electrical schematic drawings for PST No. 1~4	60 days	Sat 01/08/20	Tue 29/09/20	31 days		357FF															
392	392 PST, KD1A, CW	5.18.6.2	CDS080-2 - Civil and dimensional requirements drawings for PST No. 1~4 up to +8.0 mPD	50 days	Tue 01/09/20	Tue 20/10/20	0 days		357FF															
393	393 PST, KD1B, CW	5.18.6.3	CDS081-2 - Civil and dimensional requirements drawings for PST No. 1~4	150 days	Tue 01/09/20	Thu 28/01/21	124 days		358FF															
394	394 PST, Section 1, Mech	5.18.6.4	CDS003 - Detailed Design for Primary Sedimentation Tanks No. 1~4	100 edays	Mon 15/02/20	Wed 26/05/21	0.63 edays	365,369,373,377,3401,404,407,410,41																
395	395 PST, Section 1, Elec, SCADA	5.18.6.5	CDS022 - Detailed Design for Electrical Installations for PST No. 1~4	80 edays	Wed 31/03/20	Sat 19/06/21	0.63 edays	72,82,90,185FF	73,435,359FF															
396	396 PST, Section 1, BS	5.18.6.6	CDS034-2 - Detailed Design for Electrical Installations BS at PST No. 1~4	90 edays	Fri 12/03/21	Thu 10/06/21	32.38 edays	133	477,359FF															
397	397 PST, Section 1, LVSB	5.18.6.7	CDS025-2 - Detailed Design for LV Switchboards for PST No. 1~4	100 edays	Tue 29/12/20	Thu 08/04/21	0.63 edays	68	431,359FF															
398	398 PST, Section 1, LA	5.18.6.8	CDS050-2 - Detailed Design for Lifting Appliances - PST No. 1~4	150 edays	Tue 01/09/20	Fri 29/01/21	0 edays	113	428,359FF															
399	399	5.18.7	Manufacturing and Delivery of Plant & Materials	737 days	Fri 29/01/21	Sat 04/02/23	296 days																	



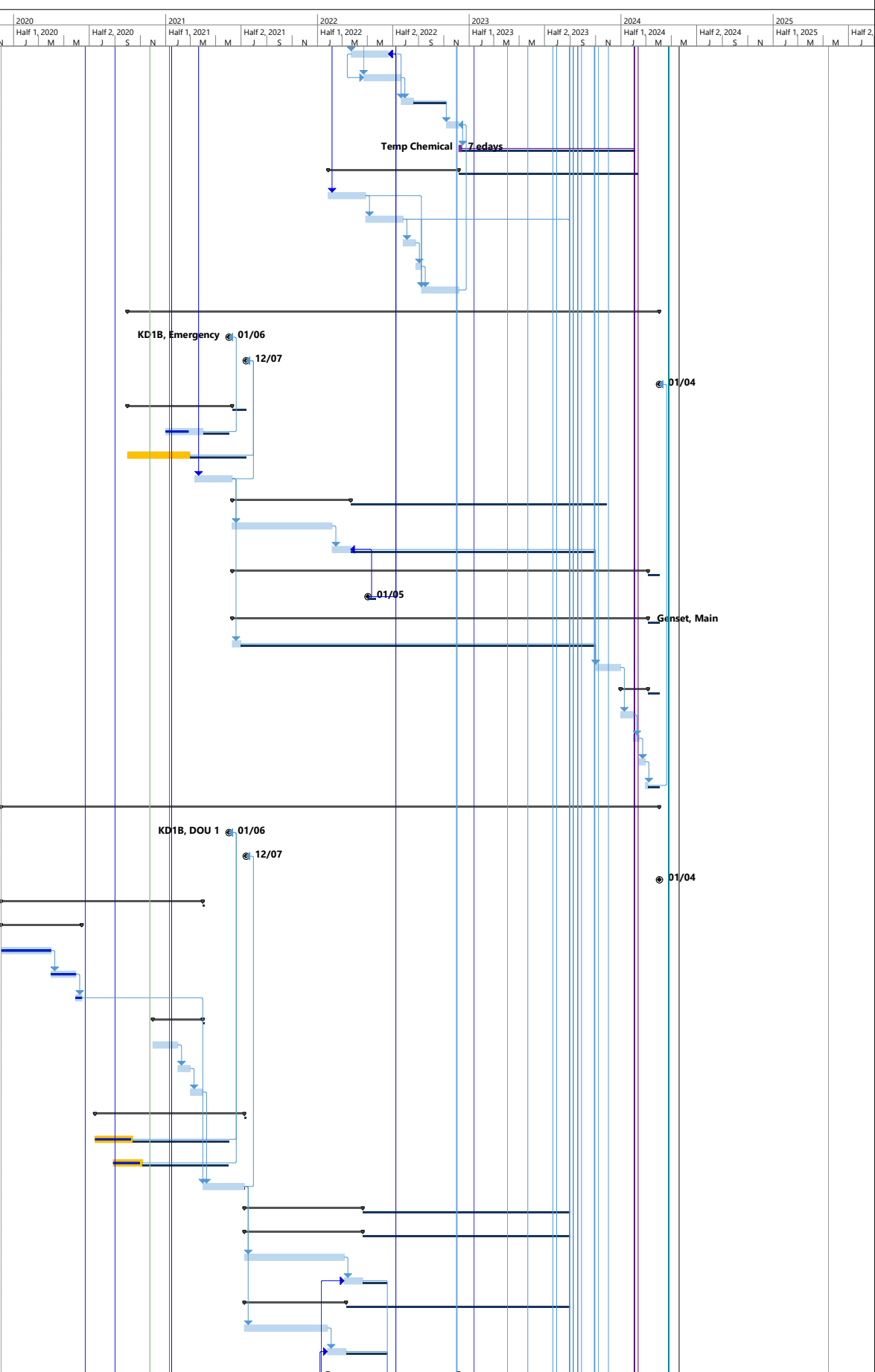
ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Float Time	Predecessors	Successors	Resource Names	2019		2020		2021		2022		2023		2024		2025	
											Half 2, 2019	Half 1, 2020	Half 2, 2020	Half 1, 2021	Half 2, 2021	Half 1, 2022	Half 2, 2022	Half 1, 2023	Half 2, 2023	Half 1, 2024	Half 2, 2024	Half 1, 2025	Half 2, 2025	
400	400 PST, EQT014	5.18.7.1	Lamella Plate Settlers, EQT014	619 days	Thu 27/05/21	Sat 04/02/23	236 days																	
401	401 PST, EQT014	5.18.7.1.1	Manufacturing and Factory Acceptance Test of Plant	300 days	Thu 27/05/21	Tue 22/03/22	274 days	394	402															
402	402 PST, EQT014	5.18.7.1.2	Shipping and Delivery of Plant to site	45 days	Thu 22/12/22	Sat 04/02/23	143 days	401,439SS-60 eday	453															
403	403 PST, EQT014	5.18.7.2	Reciprocating Type Bottom Scrappers, EQT014	619 days	Thu 27/05/21	Sat 04/02/23	206 days																	
404	404 PST, EQT014	5.18.7.2.1	Manufacturing and Factory Acceptance Test of Plant	300 days	Thu 27/05/21	Tue 22/03/22	274 days	394	405															
405	405 PST, EQT014	5.18.7.2.2	Shipping and Delivery of Plant to site	45 days	Thu 22/12/22	Sat 04/02/23	16 days	404,439SS-60 eday	454															
406	406 PST, EQT015	5.18.7.3	Surface Scum Skimmers, EQT015	619 days	Thu 27/05/21	Sat 04/02/23	296 days																	
407	407 PST, EQT015	5.18.7.3.1	Manufacturing and Factory Acceptance Test of Plant	300 days	Thu 27/05/21	Tue 22/03/22	274 days	394	408															
408	408 PST, EQT015	5.18.7.3.2	Shipping and Delivery of Plant to site	45 days	Thu 22/12/22	Sat 04/02/23	203 days	407,439SS-60 eday	455															
409	409 PST, EQT015	5.18.7.4	Surface Scum Collection Pipes, EQT015	619 days	Thu 27/05/21	Sat 04/02/23	296 days																	
410	410 PST, EQT015	5.18.7.4.1	Manufacturing and Factory Acceptance Test of Plant	300 days	Thu 27/05/21	Tue 22/03/22	274 days	394	411															
411	411 PST, EQT015	5.18.7.4.2	Shipping and Delivery of Plant to site	45 days	Thu 22/12/22	Sat 04/02/23	203 days	410,439SS-60 eday	456															
412	412 PST, EQT016	5.18.7.5	Piston Type Primary Sludge Pumps, EQT016	619 days	Thu 27/05/21	Sat 04/02/23	176 days																	
413	413 PST, EQT016	5.18.7.5.1	Manufacturing and Factory Acceptance Test of Plant	300 days	Thu 27/05/21	Tue 22/03/22	274 days	394	414															
414	414 PST, EQT016	5.18.7.5.2	Shipping and Delivery of Plant to site	45 days	Thu 22/12/22	Sat 04/02/23	106 days	413,439SS-60 eday	457															
415	415 PST, EQT007	5.18.7.6	Drain Pumps, EQT007	619 days	Thu 27/05/21	Sat 04/02/23	206 days																	
416	416 PST, EQT007	5.18.7.6.1	Manufacturing and Factory Acceptance Test of Plant	300 days	Thu 27/05/21	Tue 22/03/22	274 days	394	417															
417	417 PST, EQT007	5.18.7.6.2	Shipping and Delivery of Plant to site	45 days	Thu 22/12/22	Sat 04/02/23	136 days	416,439SS-60 eday	458															
418	418 PST, EQT018	5.18.7.7	Air Blower, EQT018	619 days	Thu 27/05/21	Sat 04/02/23	236 days																	
419	419 PST, EQT018	5.18.7.7.1	Manufacturing and Factory Acceptance Test of Plant	300 days	Thu 27/05/21	Tue 22/03/22	274 days	394	420															
420	420 PST, EQT018	5.18.7.7.2	Shipping and Delivery of Plant to site	45 days	Thu 22/12/22	Sat 04/02/23	166 days	419,439SS-60 eday	459															
421	421 PST, EQT013	5.18.7.8	Stoplogs and Penstocks, EQT013	619 days	Thu 27/05/21	Sat 04/02/23	56 days																	
422	422 PST, EQT013	5.18.7.8.1	Manufacturing and Factory Acceptance Test of Plant	240 days	Thu 27/05/21	Fri 21/01/22	334 days	394	423															
423	423 PST, EQT013	5.18.7.8.2	Shipping and Delivery of Plant to site	45 days	Thu 22/12/22	Sat 04/02/23	16 days	439SS-60 edays	424,451															
424	424 PST, EQT036	5.18.7.9	Valves, EQT036	619 days	Thu 27/05/21	Sat 04/02/23	86 days																	
425	425 PST, EQT036	5.18.7.9.1	Manufacturing and Factory Acceptance Test of Plant	240 days	Thu 27/05/21	Fri 21/01/22	334 days	394	426															
426	426 PST, EQT036	5.18.7.9.2	Shipping and Delivery of Plant to site	45 days	Thu 22/12/22	Sat 04/02/23	16 days	425,439SS-60 eday	452															
427	427 PST, LA	5.18.7.10	Lifting Appliances	737 days	Fri 29/01/21	Sat 04/02/23	109 days																	
428	428 PST, LA	5.18.7.10.1	Manufacturing and Factory Acceptance Test of Plant	210 days	Fri 29/01/21	Thu 26/08/21	482 days	398	429															
429	429 PST, LA	5.18.7.10.2	Shipping and Delivery of Plant to site	45 days	Thu 22/12/22	Sat 04/02/23	16 days	428,439SS-60 eday	442															
430	430 PST, LVSB	5.18.7.11	LV Switchboards	667 days	Fri 09/04/21	Sat 04/02/23	71 days																	
431	431 PST, LVSB	5.18.7.11.1	PST - Manufacturing of Plant	300 days	Fri 09/04/21	Wed 02/02/22	0 days	397	432															
432	432 PST, FAT, LVSB	5.18.7.11.2	PST - Factory Acceptance Test of Plant (to be witnessed by PM)	90 days	Thu 03/02/22	Tue 03/05/22	232 days	431	433															
433	433 PST, LVSB	5.18.7.11.3	PST - Shipping and Delivery of Plant to site	45 days	Thu 22/12/22	Sat 04/02/23	16 days	432,439SS-60 eday	464															
434	434	5.18.7.12	PLC System	595 days	Sun 20/06/21	Sat 04/02/23	71 days																	
435	435 PST, SCADA	5.18.7.12.1	Manufacturing of Plant, PLC for PST	300 days	Sun 20/06/21	Fri 15/04/22	0 days	395	436															
436	436 PST, SCADA, FAT	5.18.7.12.2	Factory Acceptance Test of Plant, PLC for PST (To be witnessed by PM)	60 days	Sat 16/04/22	Tue 14/06/22	190 days	435	437															
437	437 PST, SCADA	5.18.7.12.3	Shipping and Delivery of Plant to site	45 days	Thu 22/12/22	Sat 04/02/23	16 days	436,439SS-60 eday	465															
438	438 PST, Section 2	5.18.8	Site Installation Work	325 days	Mon 20/02/21	Wed 10/01/24	0 days																	
439	439 PST, LA, BS, Others	5.18.8.1	Tentative Civil Handover Date, Portion B-3, PST No. 1~4	1 day	Mon 20/02/21	Mon 20/02/21	0 days		442,477FS+90 days,															
440	440 PST No. 1~4, Main	5.18.8.2	Commencement of E&M Installation at PST No. 1~4	324 days	Tue 21/02/21	Wed 10/01/24	0 days	439	403															
441	441 PST No. 1~4	5.18.8.2.1	Provision of Temporary Water Supply, Electricity Supply, Lighting Welfare facilities etc.,	30 days	Tue 21/02/21	Wed 22/03/23	0 days	439																
442	442 LA, PST	5.18.8.2.2	Installation of Lifting Appliances at PST No. 1~4	127 days	Tue 21/02/21	Tue 27/06/23	93 days	439,429																
443	443 LA, PST	5.18.8.2.2.1	Basement EOT Crane LA-02-01 SWL 10t	30 days	Tue 21/02/21	Wed 22/03/23	0 days		444,445,449	LA - A x 4~6 men														
444	444 LA, PST	5.18.8.2.2.2	Coping Level EOT Crane LA-02-02 SWL 5t	30 days	Thu 23/03/21	Fri 21/04/23	60 days	443	449	LA - A x 4~6 men														
445	445 LA, PST	5.18.8.2.2.3	Coping Level EOT Crane LA-02-03 SWL 5t	30 days	Thu 23/03/21	Fri 21/04/23	0 days	443	446,447,449	LA - B x 4~6 men														
446	446 LA, PST	5.18.8.2.2.4	Coping Level EOT Crane LA-02-04 SWL 5t	30 days	Sat 22/04/21	Sun 21/05/23	30 days	445	449	LA - A x 4~6 men														
447	447 LA, PST	5.18.8.2.2.5	Coping Level EOT Crane LA-02-05 SWL 5t	30 days	Sat 22/04/21	Sun 21/05/23	0 days	445	448,449	LA - B x 4~6 men														
448	448 LA, PST	5.18.8.2.2.6	Coping Level EOT Crane LA-02-06 SWL 2t	30 days	Mon 22/05/21	Tue 20/06/23	0 days	447	449	LA - A x 4~6 men														
449	449 LA, PST	5.18.8.2.2.7	T&C, Loading Test for Lifting Appliances at PST No. 1~4	7 days	Wed 21/06/21	Tue 27/06/23	0 days	443,444,445,446,4453		LA - A x 4~6 men														
450	450 PST, Mech	5.18.8.2.3	Mechanical Installations at PST No. 1~4	272 days	Tue 21/02/21	Sun 19/11/23	0 days		474															
451	451 PST, Mech, EQT013	5.18.8.2.3.1	Installation of penstocks and stoplogs (Penstock 18nos, Stoplogs 14 nos), EQT013	90 days	Tue 21/02/21	Sun 21/05/23	0 days	423	457,462	ME - E x 4~6 men														
452	452 PST, Mech, EQT036	5.18.8.2.3.2	Installation of pipework and valves, EQT036	240 days	Tue 21/02/21	Wed 18/10/23	70 days	426		ME - B x 4~6 men														
453	453 PST, Mech, EQT014	5.18.8.2.3.3	Installation of lamella plate settlers (x4), EQT014	60 days	Wed 28/06/21	Sat 26/08/23	0 days	454,449,402	455,456	ME - A x 4~6 men														
454	454 PST, Mech, EQT014	5.18.8.2.3.4	Installation of reciprocating type bottom scrapers (x4), EQT014	30 days	Tue 21/02/21	Wed 22/03/23	97 days	405	453	ME - A x 4~6 men														
455	455 PST, Mech, EQT015	5.18.8.2.3.5	Installation of surface scum skimmers (x1), EQT015	30 days	Sun 27/08/21	Mon 25/09/23	93 days	453,408		ME - A x 4~6 men														

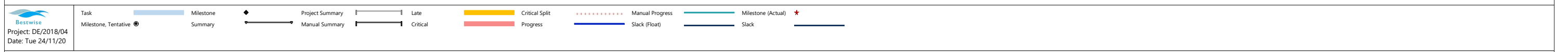
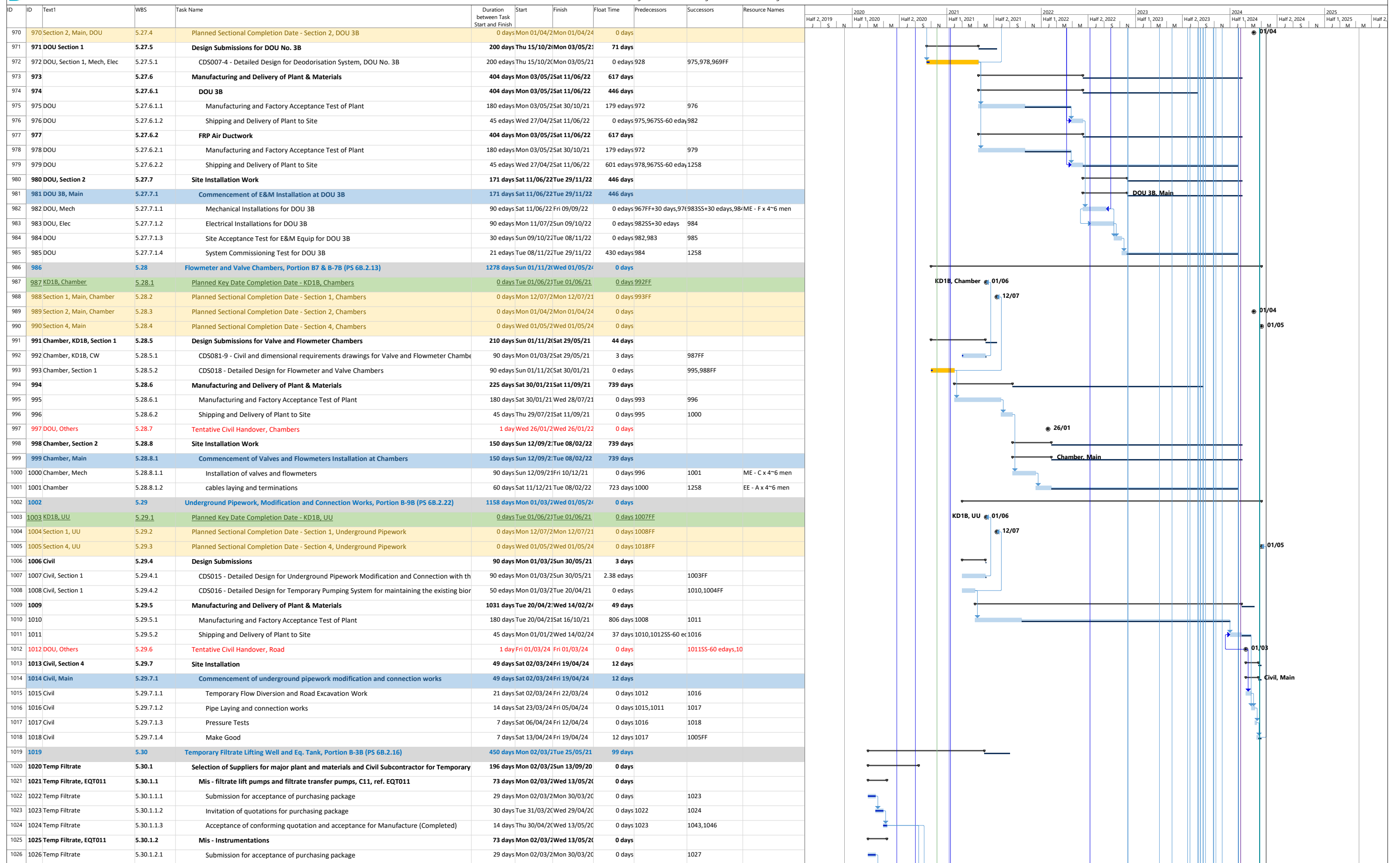
ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Float Time	Predecessors	Successors	Resource Names	2019		2020		2021		2022		2023		2024		2025		
											Half 2, 2019	Half 1, 2020	Half 2, 2020	Half 1, 2021	Half 2, 2021	Half 1, 2022	Half 2, 2022	Half 1, 2023	Half 2, 2023	Half 1, 2024	Half 2, 2024	Half 1, 2025	Half 2, 2025		
628	628 MFS, EQT010	5.20.5.7.2	Invitation of quotations for purchasing package	60 days	Wed 30/12/20	Sat 27/02/21	0 days	627	629																
629	629 MFS, EQT010	5.20.5.7.3	Acceptance of conforming quotation	30 days	Sun 28/02/21	Mon 29/03/21	14 days	628	646																
630	630 MFS, EQT009	5.20.5.8	MFS - membrane tank drain pumps, C11, ref. EQT009	180 days	Tue 15/09/20	Sat 13/03/21	41 days																		
631	631 MFS, EQT009	5.20.5.8.1	Submission for acceptance of purchasing package	90 days	Tue 15/09/20	Sun 13/12/20	0 days																		
632	632 MFS, EQT009	5.20.5.8.2	Invitation of quotations for purchasing package	60 days	Mon 14/12/20	Thu 11/02/21	0 days																		
633	633 MFS, EQT009	5.20.5.8.3	Acceptance of conforming quotation	30 days	Fri 12/02/21	Sat 13/03/21	30 days																		
634	634 MFS, EQT030	5.20.5.9	Plant Service Water System - booster pumps, C11, ref. EQT030	180 days	Thu 15/10/20	Mon 12/04/21	11 days																		
635	635 MFS, EQT030	5.20.5.9.1	Submission for acceptance of purchasing package	90 days	Thu 15/10/20	Tue 12/01/21	0 days																		
636	636 MFS, EQT030	5.20.5.9.2	Invitation of quotations for purchasing package	60 days	Wed 13/01/21	Sat 13/03/21	0 days																		
637	637 MFS, EQT030	5.20.5.9.3	Acceptance of conforming quotation	30 days	Sun 14/03/21	Mon 12/04/21	0 days																		
638	638 MFS, EQT030	5.20.5.10	Plant Service Water System - hydro-pneumatic pressure tanks, C11, ref. EQT030	120 days	Thu 01/10/20	Thu 28/01/21	85 days																		
639	639 MFS, EQT030	5.20.5.10.1	Submission for acceptance of purchasing package	60 days	Thu 01/10/20	Sun 29/11/20	0 days																		
640	640 MFS, EQT030	5.20.5.10.2	Invitation of quotations for purchasing package	30 days	Mon 30/11/20	Tue 29/12/20	0 days																		
641	641 MFS, EQT030	5.20.5.10.3	Acceptance of conforming quotation	30 days	Wed 30/12/20	Thu 28/01/21	74 days																		
642	642 MFS, KD1A, KD1B, Section 1	5.20.6	Design Submissions for MFB No. 2	323 days	Fri 21/08/20	Fri 09/07/21	3 days																		
643	643 MFS, KD1A, Elec, KD1A	5.20.6.1	Electrical schematic drawings for MFB No. 2	60 days	Fri 21/08/20	Mon 19/10/20	11 days																		
644	644 MFS, KD1A, CW	5.20.6.2	CDS080-4 - Civil and dimensional requirements drawings for MFB no. 2 up to +8.0 mPD	30 days	Tue 01/09/20	Wed 30/09/20	0 days																		
645	645 MFS, KD1B, CW	5.20.6.3	CDS081-4 - Civil and dimensional requirements drawings for MFB No. 2	210 days	Fri 28/08/20	Thu 25/03/21	68 days																		
646	646 MFS, Section 1, Mech	5.20.6.4	CDS005 - Detailed Design for Membrane Filtration System, Pumps and Membrane Module	80 edays	Mon 12/04/20	Thu 01/07/21	0.63 edays	605,613,629,633,655,659,662,665,67																	
647	647 MFS, Section 1, Elec, SCADA	5.20.6.5	CDS024 - Detailed Design for Electrical Installations for MFB No. 2	100 edays	Wed 31/03/20	Fri 09/07/21	0.63 edays	72,82,78,86,90,187,73,694,700,599FF																	
648	648 MFS, Section 1, Mech	5.20.6.6	CDS008 - Detailed Design for Membrane Filtration System, Air Blowers, Dosing Systems etc	100 edays	Mon 01/03/20	Wed 09/06/21	0.63 edays	609,617,621,625,5,668,671,599FF																	
649	649 MFS, Section 1, BS	5.20.6.7	CDS034-4 - Detailed Design for Electrical Installations BS at MFB No. 2	100 edays	Fri 12/03/21	Sun 20/06/21	22.38 edays	133	763,599FF																
650	650 MFS, Section 1, LVSB	5.20.6.8	CDS025-4 - Detailed Design for LV Switchboards for Membrane Filtration System	180 edays	Tue 29/12/20	Sun 27/06/21	0.63 edays	68	686,599FF																
651	651 MFS, Section 1, HVSB, EQT031	5.20.6.9	CDS026-2 - Detailed Design for HV Switchboards for MFB No. 2	180 edays	Sat 26/12/20	Thu 24/06/21	0.63 edays	64	599FF,690																
652	652 MFS, Section 1, LA	5.20.6.10	CDS050-4 - Detailed Design for Lifting Appliances - MFB No. 2	150 edays	Thu 15/10/20	Sun 14/03/21	0 edays	113	680,599FF																
653	653	5.20.7	Manufacturing and Delivery of Plant & Materials	495 days	Sun 14/03/21	Thu 21/07/22	248 days																		
654	654	5.20.7.1	Hollow Fibre Membrane Modules, EQT023	385 days	Fri 02/07/21	Thu 21/07/22	138 days																		
655	655 MFS, EQT023	5.20.7.1.1	MFS - Manufacturing of Plant	300 days	Fri 02/07/21	Wed 27/04/22	0 days	646	656																
656	656 MFS, EQT023	5.20.7.1.2	MFS - Factory Acceptance Test of Plant (to be witnessed by PM)	40 days	Thu 28/04/22	Mon 06/06/22	0 days	655	657																
657	657 MFS, EQT023	5.20.7.1.3	MFS - Shipping and Delivery of Plant to site	45 days	Tue 07/06/22	Thu 21/07/22	0 days	656	715																
658	658	5.20.7.2	Air Scour Blowers, EQT040	343 days	Fri 02/07/21	Thu 09/06/22	290 days																		
659	659 MFS, EQT013	5.20.7.2.1	Manufacturing and Factory Acceptance Test of Plant	240 days	Fri 02/07/21	Sat 26/02/22	58 days	646	660																
660	660 MFS, EQT013	5.20.7.2.2	Shipping and Delivery of Plant to site	45 days	Tue 26/04/22	Thu 09/06/22	0 days	659,727SS-60 eday,716																	
661	661 MFS, EQT024	5.20.7.3	Permeate Pump, EQT024	285 days	Fri 02/07/21	Tue 12/04/22	438 days																		
662	662 MFS, EQT024	5.20.7.3.1	Manufacturing and Factory Acceptance Test of Plant	240 days	Fri 02/07/21	Sat 26/02/22	0 days	646	663																
663	663 MFS, EQT024	5.20.7.3.2	Shipping and Delivery of Plant to site	45 days	Sun 27/02/22	Tue 12/04/22	148 days	662	717																
664	664 MFS, EQT029	5.20.7.4	Compressed Air System, EQT029	343 days	Fri 02/07/21	Thu 09/06/22	290 days																		
665	665 MFS, EQT029	5.20.7.4.1	Manufacturing and Factory Acceptance Test of Plant	210 days	Fri 02/07/21	Thu 27/01/22	88 days	646	666																
666	666 MFS, EQT029	5.20.7.4.2	Shipping and Delivery of Plant to site	45 days	Tue 26/04/22	Thu 09/06/22	0 days	665,727SS-60 eday,716																	
667	667 Chem, EQT025	5.20.7.5	Chemical Storage Tanks, EQT025	225 days	Thu 10/06/21	Thu 20/01/22	350 days																		
668	668 Chem, EQT025	5.20.7.5.1	Manufacturing and Factory Acceptance Test of Plant	180 days	Thu 10/06/21	Mon 06/12/21	0 days	648	669																
669	669 Chem, EQT025	5.20.7.5.2	Shipping and Delivery of Plant to site	45 days	Tue 07/12/21	Thu 20/01/22	51 days	668	721																
670	670 Chemical, EQT026	5.20.7.6	Chemical Dosing Pumps, EQT026	225 days	Thu 10/06/21	Thu 20/01/22	350 days																		
671	671 Chemical, EQT026	5.20.7.6.1	Manufacturing and Factory Acceptance Test of Plant	180 days	Thu 10/06/21	Mon 06/12/21	0 days	648	672																
672	672 Chemical, EQT026	5.20.7.6.2	Shipping and Delivery of Plant to site	45 days	Tue 07/12/21	Thu 20/01/22	51 days	671	722																
673	673 MFS, EQT013	5.20.7.7	Stoplogs and Penstocks, EQT013	343 days	Fri 02/07/21	Thu 09/06/22	290 days																		
674	674 MFS, EQT013	5.20.7.7.1	Manufacturing and Factory Acceptance Test of Plant	240 days	Fri 02/07/21	Sat 26/02/22	58 days	646	675																
675	675 MFS, EQT013	5.20.7.7.2	Shipping and Delivery of Plant to site	45 days	Tue 26/04/22	Thu 09/06/22	0 days	674,727SS-60 eday,714																	
676	676 MFS, EQT036	5.20.7.8	Valves, EQT036	285 days	Fri 02/07/21	Tue 12/04/22	528 days																		
677	677 MFS, EQT036	5.20.7.8.1	Manufacturing and Factory Acceptance Test of Plant	240 days	Fri 02/07/21	Sat 26/02/22	0 days	646	678																
678	678 MFS, EQT036	5.20.7.8.2	Shipping and Delivery of Plant to site	45 days	Sun 27/02/22	Tue 12/04/22	238 days	677	720																
679	679 MFS, LA	5.20.7.9	Lifting Appliances	303 days	Sun 14/03/21	Mon 10/01/22	264 days																		
680	680 MFS, LA	5.20.7.9.1	Manufacturing and Factory Acceptance Test of Plant	210 days	Sun 14/03/21	Sat 09/10/21	48 days	652	681																
681	681 MFS, LA	5.20.7.9.2	Shipping and Delivery of Plant to site	45 days	Sat 27/11/21	Mon 10/01/22	16 days	680,704SS-60 eday,707,730																	
682	682 MFS, LVSB	5.20.7.10	LV Switchboards	405 days	Sat 29/05/21	Thu 07/07/22	232 days																		
683	683 BR,MFS, LVSB	5.20.7.10.1	BR - Manufacturing of Plant	240 days	Sat 29/05/21	Sun 23/01/22	0 days	526	684																
684	684 BR, FAT, LVSB	5.20.7.10.2	BR - Factory Acceptance Test of Plant (to be witnessed by PM)	90 days	Mon 24/01/22	Sat 23/04/22	0 days	683	685				</												

ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Float Time	Predecessors	Successors	Resource Names	2019		2020		2021		2022		2023		2024		2025	
											Half 2, 2019	Half 1, 2020	Half 2, 2020	Half 1, 2021	Half 2, 2021	Half 1, 2022	Half 2, 2022	Half 1, 2023	Half 2, 2023	Half 1, 2024	Half 2, 2024	Half 1, 2025	Half 2, 2025	
685	685 BR,MFS, LVSB	5.20.7.10.3	BR - Shipping and Delivery of Plant to site	45 days	Sun 24/04/22	Tue 07/06/22	108 days	684	745															
686	686 MFS, LVSB	5.20.7.10.4	MFS - Manufacturing of Plant	240 days	Mon 28/06/22	Tue 22/02/22	0 days	650	687															
687	687 MFS, FAT, LVSB	5.20.7.10.5	MFS - Factory Acceptance Test of Plant (to be witnessed by PM)	90 days	Wed 23/02/22	Mon 23/05/22	0 days	686	688															
688	688 MFS, LVSB	5.20.7.10.6	MFS - Shipping and Delivery of Plant to site	45 days	Tue 24/05/22	Thu 07/07/22	78 days	687,727SS-60	eday,746															
689	689 MFS, HVSB, EQT031	5.20.7.11	HV Switchboards, EQT031	350 days	Fri 25/06/21	Thu 09/06/22	290 days																	
690	690 MFS, HVSB, EQT031	5.20.7.11.1	MFS - Manufacturing of Plant	180 days	Fri 25/06/21	Tue 21/12/21	0 days	651	691															
691	691 MFS, HVSB, EQT031	5.20.7.11.2	MFS - Factory Acceptance Test of Plant (to be witnessed by PM)	90 days	Wed 22/12/21	Mon 21/03/22	35 days	690	692															
692	692 MFS, HVSB, EQT031	5.20.7.11.3	MFS - Shipping and Delivery of Plant to site	45 days	Tue 26/04/22	Thu 09/06/22	106 days	691,727SS-60	eday,749															
693	693 MFS, EQT032	5.20.7.12	11kv/380V Stepdown Power Transformers, EQT032	285 days	Sat 10/07/21	Wed 20/04/22	565 days																	
694	694 MFS, EQT032	5.20.7.12.1	MFS - Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 10/07/21	Sun 06/03/22	0 days	647	695															
695	695 MFS, EQT032	5.20.7.12.2	MFS - Shipping and Delivery of Plant to site	45 days	Mon 07/03/22	Wed 20/04/22	156 days	694	750															
696	696 BR, SCADA	5.20.7.13	PLC System	285 days	Sat 10/07/21	Wed 20/04/22	310 days																	
697	697 BR, SCADA	5.20.7.13.1	Manufacturing of Plant, PLC for BR2A & B	210 days	Sat 10/07/21	Fri 04/02/22	0 days	524	698															
698	698 BR SCADA, FAT	5.20.7.13.2	Factory Acceptance Test of Plant, PLC for BR2A & B (To be witnessed by PM)	30 days	Sat 05/02/22	Sun 06/03/22	0 days	697	699															
699	699 BR, SCADA	5.20.7.13.3	Shipping and Delivery of Plant to site	45 days	Mon 07/03/22	Wed 20/04/22	156 days	698	747															
700	700 MFB, SCADA	5.20.7.13.4	Manufacturing of Plant, PLC for MFB2	210 days	Sat 10/07/21	Fri 04/02/22	0 days	647	701															
701	701 MFB, SCADA, FAT	5.20.7.13.5	Factory Acceptance Test of Plant, PLC for MFB2 (To be witnessed by PM)	30 days	Sat 05/02/22	Sun 06/03/22	0 days	700	702															
702	702 MFB, SCADA	5.20.7.13.6	Shipping and Delivery of Plant to site	45 days	Mon 07/03/22	Wed 20/04/22	156 days	701	748															
703	703 MFS, Section 2	5.20.8	Site Installation Work	661 days	Wed 26/01/22	Fri 17/11/23	0 days																	
704	704 MFS, LA, BS, Others	5.20.8.1	Tentative Civil Handover Date, Portion B-5A, MFB No. 2 below 1st floor level	1 day	Wed 26/01/22	Wed 26/01/22	0 days		707,713FS+45	eday;														
705	705 MFS, Main	5.20.8.2	Commencement of E&M Installation at MFB No. 2 Lower Part	404 days	Thu 27/01/22	Mon 06/03/22	0 days	704																
706	706 MFS	5.20.8.2.1	Provision of Temporary Water Supply, Electricity Supply, Lighting, Welfare facilities etc.,	7 days	Thu 27/01/22	Wed 02/02/22	0 days	704																
707	707 MFS, LA	5.20.8.2.2	Installation of Lifting Appliances at MFB No. 2	66 days	Thu 27/01/22	Sat 02/04/22	248 days	704,681																
708	708 MFS, LA	5.20.8.2.2.1	B2 EOT Crane LA-04-01 SWL 5t	45 days	Thu 27/01/22	Sat 12/03/22	0 days		710,711,712															
709	709 MFS, LA	5.20.8.2.2.2	B2 EOT Crane LA-04-02 SWL 5t	30 days	Thu 27/01/22	Fri 25/02/22	15 days		710,711,712															
710	710 MFS, LA	5.20.8.2.2.3	B2 MR LA-04-03 SWL 5t	14 days	Sun 13/03/22	Sat 26/03/22	0 days	708,709	712															
711	711 MFS, LA	5.20.8.2.2.4	B1 MR LA-04-04 SWL 3t	14 days	Sun 13/03/22	Sat 26/03/22	0 days	708,709	712															
712	712 MFS, LA	5.20.8.2.2.5	T&C, Loading Test for Lifting Appliances	7 days	Sun 27/03/22	Sat 02/04/22	110 days	708,709,710,711	715															
713	713 MFS, Mech	5.20.8.2.3	Mechanical Installations for E&M Equip. at MFB No. 2 Lower Part	359 days	Sun 13/03/22	Mon 06/03/22	0 days	704FS+45	edays	725SS														
714	714 MFS, Mech, EQT013	5.20.8.2.3.1	Installation of penstocks and stoplogs (Penstocks 18nos, Stoplogs 11nos), EQT013	90 days	Fri 10/06/22	Wed 07/09/22	0 days	675	724	ME - E x 4~6 men														
715	715 MFS, Mech, EQT023	5.20.8.2.3.2	Installation of hollow fibre membrane modules (x9), EQT023	90 days	Fri 22/07/22	Wed 19/10/22	138 days	657,712		ME - A x 4~6 men														
716	716 MFS, Mech, EQT040	5.20.8.2.3.3	Installation of air scour blowers (x3), EQT040	90 days	Fri 10/06/22	Wed 07/09/22	0 days	660,666	720,717,718	ME - B x 4~6 men														
717	717 MFS, Mech, EQT024	5.20.8.2.3.4	Installation of permeate pumps (x10), EQT024	90 days	Thu 08/09/22	Tue 06/12/22	0 days	716,663	720	ME - A x 4~6 men														
718	718 MFS, Mech, EQT010	5.20.8.2.3.5	Installation of return activated sludge pumps (x5), EQT010	90 days	Thu 08/09/22	Tue 06/12/22	0 days	716	720	ME - B x 4~6 men														
719	719 MFS, Mech, EQT009	5.20.8.2.3.6	Installation of membrane tank drain pumps (x2), EQT009	45 days	Sun 13/03/22	Tue 26/04/22	224 days		720	ME - C x 4~6 men														
720	720 MFS, Mech, EQT036	5.20.8.2.3.7	Installation of pipework and valves, EQT036	90 days	Wed 07/12/21	Mon 06/03/22	0 days	716,717,718,719,6724FF		ME - C x 4~6 men														
721	721 MFS, Mech, EQT025	5.20.8.2.3.8	Installation of chemical storage tank, EQT025	60 days	Sun 13/03/22	Wed 11/05/22	299 days	669		ME - D x 2~4 men														
722	722 MFS, Mech, EQT026	5.20.8.2.3.9	Installation of chemical dosing pumps, EQT026	60 days	Sun 13/03/22	Wed 11/05/22	299 days	672		ME - D x 2~4 men														
723	723 MFS, Mech	5.20.8.2.3.10	Installation of plant service water system	90 days	Sun 13/03/22	Fri 10/06/22	269 days			ME - C x 4~6 men														
724	724 MFS, Mech	5.20.8.2.3.11	Site Acceptance Tests - mechanical aspects including alignment and levels checks, lea	180 days	Thu 08/09/22	Mon 06/03/22	177 days	714,720FF	760	ME - D x 2~4 men														
725	725 MFS, Elec	5.20.8.2.4	Electrical Installations for E&M Equip. at MFB No. 2 Lower Part	150 days	Sun 13/03/22	Tue 09/08/22	319 days	713SS																
726	726 MFS, Elec	5.20.8.2.4.1	Installation of cable trays and cable containments	150 days	Sun 13/03/22	Tue 09/08/22	45 days		751															
727	727 MFS, LA, BS, Others	5.20.8.3	Tentative Civil Handover Date, Portion B-5B, MFB No. 2 remaining portion	1 day	Sat 25/06/22	Sat 25/06/22	0 days		730,739FS+45	eday;														
728	728 MFS, Main	5.20.8.4	Commencement of E&M Installation at MFB No. 2 Upper Part	510 days	Sun 26/06/22	Fri 17/11/23	0 days	727																
729	729 MFS	5.20.8.4.1	Provision of Temporary Water Supply, Electricity Supply, Lighting, Welfare facilities etc.,	7 days	Sun 26/06/22	Sat 02/07/22	0 days	727																
730	730 MFS, LA	5.20.8.4.2	Installation of Lifting Appliances at MFB No. 2	142 days	Sun 26/06/22	Mon 14/11/22	122 days	727,681																
731	731 MFS, LA	5.20.8.4.2.1	GF EOT Crane LA-04-05 SWL 5t	45 days	Sun 26/06/22	Tue 09/08/22	0 days		733,734,738	LA - A x 4~6 men														
732	732 MFS, LA	5.20.8.4.2.2	GF Gantry Crane LA-04-06 SWL 6t	45 days	Sun 26/06/22	Tue 09/08/22	0 days		733,734,738	LA - B x 4~6 men														
733	733 MFS, LA	5.20.8.4.2.3	1F EOT Crane LA-04-07 SWL 15t	45 days	Wed 10/08/22	Fri 23/09/22	0 days	731,732	735,736,737,738	LA - A x 4~6 men														
734	734 MFS, LA	5.20.8.4.2.4	1F EOT Crane LA-04-08 SWL 15t	45 days	Wed 10/08/22	Fri 23/09/22	0 days	731,732	735,736,737,738	LA - B x 4~6 men														
735	735 MFS, LA	5.20.8.4.2.5	RF EOT Crane LA-04-09 SWL 2t	45 days	Sat 24/09/22	Mon 07/11/22	0 days	733,734	738	LA - A x 4~6 men														
736	736 MFS, LA	5.20.8.4.2.6	RF Retractable MR LA-04-10 SWL 2t	45 days	Sat 24/09/22	Mon 07/11/22	0 days	733,734	738	LA - B x 4~6 men														
737	737 MFS, LA	5.20.8.4.2.7	Mobile A-frame LA-04-11 SWL 2t	7 days	Sat 24/09/22	Fri 30/09/22	38 days	733,734	738	LA - C x 4~6 men														
738	738 MFS, LA	5.20.8.4.2.8	T&C, Loading Test for Lifting Appliances	7 days	Tue 08/11/22	Mon 14/11/22	0 days	731,732,733,734,740		LA - A x 4~6 men														
739	739 MFS, Mech	5.20.8.4.3	Mechanical Installations for E&M Equip. at MFB No. 2 Upper Part	377 days	Wed 10/08																			

ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Float Time	Predecessors	Successors	Resource Names	2019		2020		2021		2022		2023		2024		2025		
											Half 2, 2019	Half 1, 2020	Half 2, 2020	Half 1, 2021	Half 2, 2021	Half 1, 2022	Half 2, 2022	Half 1, 2023	Half 2, 2023	Half 1, 2024	Half 2, 2024	Half 1, 2025	Half 2, 2025		
742	742 MFS, Mech, EQT035-1	5.20.8.4.3.3	Installation of instrumentations, EQT035-1	60 days	Wed 10/08/22	Sat 08/10/22	439 days 52			ME - D x 2~4 men															
743	743 MFS, Mech	5.20.8.4.3.4	Site Acceptance Tests - mechanical aspects including alignment and levels checks, lea	180 days	Thu 23/02/23	Mon 21/08/23	122 days 740			ME - D x 2~4 men															
744	744 MFS, Elec	5.20.8.4.4	Electrical Installations for E&M Equip. at MFB No. 2 Upper Part	341 days	Sat 24/09/22	Wed 30/08/23	0 days 73955+45 edays 760																		
745	745 MFS, Elec	5.20.8.4.4.1	Installation of LV Switchboards, BR2	90 days	Sat 24/09/22	Thu 22/12/22	0 days 685			LV - B x 4~6 men															
746	746 MFS, Elec	5.20.8.4.4.2	Installation of LV Switchboards, MFB No. 2	90 days	Sat 24/09/22	Thu 22/12/22	0 days 688			LV - A x 4~6 men															
747	747 MFS, Elec, SCADA	5.20.8.4.4.3	Installation of PLC Panels, BR2	90 days	Sat 24/09/22	Thu 22/12/22	0 days 699			752,756															
748	748 MFS, Elec, SCADA	5.20.8.4.4.4	Installation of PLC Panels, MFB No. 2	90 days	Sat 24/09/22	Thu 22/12/22	364 days 702			PLC - B x 1 man															
749	749 MFS, Elec, HVSB, EQT031	5.20.8.4.4.5	Installation of HV Switchboards, MFB No. 2	60 days	Sat 24/09/22	Tue 22/11/22	30 days 692			752															
750	750 MFS, Elec, EQT032	5.20.8.4.4.6	Installation of transformer, MFB No. 2, EQT032	45 days	Sat 24/09/22	Mon 07/11/22	409 days 695																		
751	751 MFS, Elec	5.20.8.4.4.7	Installation of cable trays and cable containments	180 days	Sat 24/09/22	Wed 22/03/23	274 days 726																		
752	752 MFS, Elec, SCADA	5.20.8.4.4.8	Cables laying and terminations	150 days	Fri 23/12/22	Sun 21/05/23	0 days 745,746,747,749			757,754															
753	753 MFS, Elec	5.20.8.4.4.9	Energisation of LV Switchboards, MFB	1 day	Wed 30/08/22	Wed 30/08/23	113 days																		
754	754 MFS, Elec	5.20.8.4.4.10	Site Acceptance Tests - Electrical aspects including voltage and current tests, equipme	60 days	Mon 22/05/23	Thu 20/07/23	41 days 752			760															
755	755 MFS, SCADA	5.20.8.4.5	SCADA Systems, BR No. 1 & No. 2, MFB No. 2	152 days	Mon 22/05/23	Fri 20/10/23	92 days																		
756	756 MFS, SCADA	5.20.8.4.5.1	Configuration of PLC System for BR No. 1 & No. 2	30 days	Thu 31/08/23	Fri 29/09/23	0 days 747,583			758															
757	757 MFS, SCADA	5.20.8.4.5.2	Configuration of PLC System for MFB No. 2	30 days	Mon 22/05/23	Tue 20/06/23	0 days 752			759															
758	758 MFS, SCADA	5.20.8.4.5.3	Site Acceptance Test for PLC System at BR No. 1 and No. 2	21 days	Sat 30/09/23	Fri 20/10/23	0 days 756			761,587,1262															
759	759 MFS, SCADA	5.20.8.4.5.4	Site Acceptance Test for PLC System at MFB No. 2	21 days	Wed 21/06/23	Tue 11/07/23	101 days 757			761,1262															
760	760 MFS,SCADA	5.20.8.4.6	Site Acceptance Test for E&M Equip at MFB No. 2	30 edays	Wed 30/08/22	Fri 29/09/23	21.63 edays 739,744,754,724			761															
761	761 MFS,SCADA	5.20.8.4.7	System Commissioning for E&M Equip at MFB No. 2	21 days	Sat 21/10/23	Fri 10/11/23	0 days 758,760,770,759,7762																		
762	762 MFS, Risk	5.20.8.4.8	Risk Allowances for Completion of Processing Plant at MFB No. 2	7 edays	Fri 10/11/23	Fri 17/11/23	76.63 edays 761			1258															
763	763 MFS	5.20.8.4.9	Building Services Installations for MFB No. 2	330 days	Wed 23/11/22	Wed 18/10/23	94 days 727F5+150 edays,4																		
764	764 BS, MFS, MVAC	5.20.8.4.9.1	Mechanical Ventilation and Air Conditioning System, MFB No. 2	120 days	Wed 23/11/22	Wed 22/03/23	90 days			770															
765	765 BS, MFS	5.20.8.4.9.2	Lighting and Power Distribution System, MFB No. 2	210 days	Wed 23/11/22	Tue 20/06/23	0 days			770															
766	766 BS, MFS, Pb	5.20.8.4.9.3	Plumbing Installation, MFB No. 2	180 days	Wed 23/11/22	Sun 21/05/23	30 days 1229			1231,770															
767	767 BS, MFS, CCTV	5.20.8.4.9.4	CCTV Installation (10 indoor + 3 outdoor Cameras), MFB No. 2	90 days	Wed 23/11/22	Mon 20/02/23	120 days 727F5+120 days			770,1261															
768	768 BS, MFS, FSI	5.20.8.4.9.5	Fire Services Installation, MFB No. 2	120 days	Wed 23/11/22	Wed 22/03/23	90 days			1182,1194,1195,771F5															
769	769 BS, MFS, Earth	5.20.8.4.9.6	Earthing and Lightning Protection System, MFB No. 2	60 days	Wed 23/11/22	Sat 21/01/23	293 days			761FF															
770	770 BS, MFS	5.20.8.4.9.7	Testing and Commissioning of Building Services Installations, MFB No. 2	120 days	Wed 21/06/23	Wed 18/10/23	2 days 764,765,766,767,761																		
771	771	5.21	Chemical System No. 1 and No. 2, Portion B-7 & B-7B (PS 6B.2.3)	1351 days	Tue 21/07/21	Mon 01/04/24	0 days																		
772	772 KD1B, Chemical	5.21.1	Planned Key Date Completion Date - KD1B, Chem Sys No. 1 & 2	0 days	Tue 01/06/21	Tue 01/06/21	0 days 789FF,790FF																		
773	773 Section 1, Main, Chem	5.21.2	Planned Sectional Completion Date - Section 1, Chem Sys No. 1 & 2	0 days	Mon 12/07/21	Mon 12/07/21	0 days 791FF,792FF,793FF																		
774	774 Section 2, Main, Chem	5.21.3	Planned Sectional Completion Date - Section 2, Chem Sys No. 1 & 2	0 days	Mon 01/04/21	Mon 01/04/24	0 days 820FF																		
775	775	5.21.4	Selection of Suppliers for major plant and materials for Chemical Systems	240 days	Thu 01/10/21	Fri 28/05/21	0 days																		
776	776 Chemical, EQT025	5.21.4.1	Chemical Storage and Dosing - chemical storage tanks, C11, ref. EQT025	240 days	Thu 01/10/21	Fri 28/05/21	0 days																		
777	777 Chemical, EQT025	5.21.4.1.1	Submission for acceptance of purchasing package	60 days	Thu 01/10/21	Sun 29/11/20	0 days			778															
778	778 Chemical, EQT025	5.21.4.1.2	Invitation of quotations for purchasing package	30 days	Mon 30/11/21	Tue 29/12/20	0 days 777			779															
779	779 Chemical, EQT025	5.21.4.1.3	Acceptance of conforming quotation	30 days	Wed 30/12/21	Thu 28/01/21	30 days 778			791															
780	780 Chemical, EQT027	5.21.4.2	Chemical Storage and Dosing - chemical dosing pumps, C11, ref. EQT027	150 days	Thu 01/10/21	Sat 27/02/21	45 days																		
781	781 Chemical, EQT027	5.21.4.2.1	Submission for acceptance of purchasing package	60 days	Thu 01/10/21	Sun 29/11/20	0 days			782															
782	782 Chemical, EQT027	5.21.4.2.2	Invitation of quotations for purchasing package	60 days	Mon 30/11/21	Thu 28/01/21	0 days 781			783															
783	783 Chemical, EQT027	5.21.4.2.3	Acceptance of conforming quotation	30 days	Fri 29/01/21	Sat 27/02/21	0 days 782			791,792,793															
784	784 Chemical, EQT026	5.21.4.3	Chemical Storage and Dosing - transfer pumps, C11, ref. EQT026	120 days	Thu 01/10/21	Thu 28/01/21	75 days																		
785	785 Chemical, EQT026	5.21.4.3.1	Submission for acceptance of purchasing package	60 days	Thu 01/10/21	Sun 29/11/20	0 days			786															
786	786 Chemical, EQT026	5.21.4.3.2	Invitation of quotations for purchasing package	30 days	Mon 30/11/21	Tue 29/12/20	0 days 785			787															
787	787 Chemical, EQT026	5.21.4.3.3	Acceptance of conforming quotation	30 days	Wed 30/12/21	Thu 28/01/21	30 days 786			791															
788	788 Chemical, , KD1A, KD1B, Section	5.21.5	Design Submissions for Chemical System No. 1 and No. 2	324 days	Tue 21/07/21	Thu 10/06/21	33 days																		
789	789 Chemical, Elec, KD1A	5.21.5.1	Electrical schematic drawings for Chemical Systems No. 1 and No. 2	60 days	Tue 21/07/21	Fri 18/09/20	256 days			772FF															
790	790 Chemical, KD1B, CW	5.21.5.2	CDS081-5 - Civil and dimensional requirements drawings for Chemical Systems	70 days	Fri 28/08/20	Thu 05/11/20	0 days			772FF															
791	791 Chemical, Section 1, Mech	5.21.5.3	CDS006 - Detailed Design for Chemical Dosing System	90 edays	Sat 27/02/21	Fri 28/05/21	0.63 edays 779,783,787			797,800,803,773FF															
792	792 Chemical, Section 1, Elec	5.21.5.4	CDS027 - Detailed Design for Electrical Installations for Chemical System No. 1	90 edays	Sat 27/02/21	Fri 28/05/21	45 edays 783			810,773FF															
793	793 Chemical, Section 1, Elec	5.21.5.5	CDS028 - Detailed Design for Electrical Installations for Chemical System No. 2	90 edays	Sat 27/02/21	Fri 28/05/21	45 edays 783			810,773FF															
794	794 Chemical, Section 1, BS	5.21.5.6	CDS034-5 - Detailed Design for Electrical Installations BS at Chemical Systems	90 edays	Fri 12/03/21	Thu 10/06/21	32.38 edays 133			810,773FF															
795	795 Chemical	5.21.6	Manufacturing and Delivery of Plant & Materials	225 days	Sat 29/05/21	Sat 08/01/22	493 days																		
796	796 Chemical, EQT025	5.21.6.1	Chemical Storage Tanks, EQT025	225 days	Sat 29/05/21	Sat 08/01/22	493 days																		
797	797 Chemical, EQT025	5.21.6.1.1	Manufacturing and Factory Acceptance Test of Plant	180 days	Sat 29/05/21	Wed 24/11/21	0 days 791			798															
798	798 Chemical, EQT025	5.21.6.1.2	Shipping and Delivery of Plant to site	45 days	Thu 25/11/																				

ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Float Time	Predecessors	Successors	Resource Names	2019		2020		2021		2022		2023		2024		2025	
											Half 2	Half 1	Half 2	Half 1	Half 2	Half 1	Half 2	Half 1	Half 2	Half 1	Half 2	Half 1	Half 2	
856	856 Temp Chemical, Mech	5.22.7.3.1	Mechanical Installations for E&M Equip. for Chemical Dosing System	90 edays	Tue 22/03/22	Mon 20/06/22	0 edays	854FF+50 days,12:857SS+30 edays,856ME - D x 2~4 men																
857	857 Temp Chemical, Elec	5.22.7.3.2	Electrical Installations for E&M Equip. for Chemical Dosing System	90 edays	Thu 21/04/22	Tue 20/07/22	0 edays	856SS+30 edays,84858																
858	858 Temp Chemical	5.22.7.3.3	Site Acceptance Test for E&M Equip for Chemical Dosing System	30 edays	Wed 20/07/22	Fri 19/08/22	79 edays	856,857	859															
859	859 Temp Chemical	5.22.7.3.4	System Commissioning for E&M Equip for Chemical Dosing System	30 edays	Sun 06/11/22	Tue 06/12/22	0 edays	858,866FF	860															
860	860 Temp Chemical	5.22.7.3.5	Risk Allowances for Completion of Processing Plant at Chemical Dosing System	7 edays	Tue 06/12/22	Tue 13/12/22	415.63 edays	859	1258															
861	861 Temp Chemical	5.22.7.3.6	Building Services Installations at Temp. Chemical Dosing System areas	314 days	Thu 27/01/22	Tue 06/12/22	431 days																	
862	862 Temp Chemical, BS	5.22.7.3.6.1	Lighting and Power Distribution System, Temp. Chem	90 days	Thu 27/01/22	Tue 26/04/22	0 days	853	866,863	BS - A x 4~6 men														
863	863 Temp Chemical, FSI	5.22.7.3.6.2	Fire Services Installation, DG Stores, Temp. Chem	90 days	Wed 27/04/22	Mon 25/07/22	0 days	862	1194,1195,866,864	FS - A x 4~6 men														
864	864 Temp Chemical, Earth	5.22.7.3.6.3	Lightning Protection System, Temp. Chem	30 days	Tue 26/07/22	Wed 24/08/22	0 days	863	865															
865	865 Temp, Chemical, MVAC	5.22.7.3.6.4	Mechanical Ventilation System, Temp. Chem	14 days	Thu 25/08/22	Wed 07/09/22	0 days	864	866	MVAC - A x 4~6 men														
866	866 Temp Chemical, BS	5.22.7.3.6.5	Testing and Commissioning of Building Services Installations, Temp. Chem	90 days	Thu 08/09/22	Tue 06/12/22	0 days	862,863,865	859FF	BS - C x 2~4 men														
867	867	5.23	Emergency Generator House, Portion B7 & B-7B (PS 6B.6.6)	1279 days	Thu 01/10/21	Mon 01/04/24	0 days																	
868	868 KD1B, Emergency	5.23.1	Planned Key Date Completion Date - KD1B, Emergency Generator House	0 days	Tue 01/06/21	Tue 01/06/21	0 days	872FF																
869	869 Section 1, Main	5.23.2	Planned Sectional Completion Date - Section 1, Emergency Generator House	0 days	Mon 12/07/21	Mon 12/07/21	0 days	873FF,874FF																
870	870 Section 2, Main	5.23.3	Planned Sectional Completion Date - Section 2, Emergency Generator House	0 days	Mon 01/04/22	Mon 01/04/24	0 days	887FF																
871	871 Genset, KD1B, Section 1	5.23.4	Design Submissions for Emergency Generator Set	252 days	Thu 01/10/21	Thu 10/06/21	33 days																	
872	872 Genset, KD1B	5.23.4.1	CDS081-10 - Civil and dimensional requirements drawings for Emergency Generator House	90 days	Fri 01/01/21	Wed 31/03/21	62 days		868FF															
873	873 Genset, Section 1	5.23.4.2	CDS061 - Detailed Design for Emergency Generator Set	150 edays	Thu 01/10/21	Sun 28/02/21	134.38 edays		869FF															
874	874 Genset, Section 1	5.23.4.3	CDS034-6 - Detailed Design for Electrical Installations BS at Emergency Generator House, F	90 edays	Fri 12/03/21	Thu 10/06/21	0 edays	133	876,881,869FF															
875	875	5.23.5	Manufacturing and Delivery of Plant & Materials	285 days	Thu 10/06/21	Mon 21/03/21	616 days																	
876	876	5.23.5.1	Manufacturing and Factory Acceptance Test of Plant	240 days	Thu 10/06/21	Fri 04/02/22	0 days	874	877															
877	877	5.23.5.2	Shipping and Delivery of Plant to Site	45 days	Sat 05/02/22	Mon 21/03/22	589 days	876,879FF-60 edays	882															
878	878 Genset, Section 2	5.23.6	Site Installation Work	1000 days	Thu 10/06/21	Tue 05/03/24	27 days																	
879	879 Genset, Others	5.23.6.1	Tentative Civil Handover Date, Emergency Generator House	1 day	Sun 01/05/22	Sun 01/05/22	19 days		856FF+50 days,8771															
880	880 Genset, Main	5.23.6.2	Commencement of E&M Installation at Emergency Generator House	1000 days	Thu 10/06/21	Tue 05/03/24	27 days																	
881	881 Genset	5.23.6.2.1	Application for EPD's Approval for Installation of Diesel Engine Generator	21 days	Thu 10/06/21	Wed 30/06/21	853 days	874	882															
882	882 Genset	5.23.6.2.2	Installation and SAT of Emergency Power Generator and associated work, GH	60 days	Wed 01/11/22	Sat 30/12/23	0 days	881,877	884	GS - A x 4 men														
883	883 Genset, BS	5.23.6.2.3	Building Services Installation at Emergency Generator House	66 days	Sun 31/12/21	Tue 05/03/24	27 days																	
884	884 Genset, FSI	5.23.6.2.3.1	Fire Services Installation, GH	30 days	Sun 31/12/21	Mon 29/01/24	0 days	882	885	FS - A x 4~6 men														
885	885 Genset, MVAC	5.23.6.2.3.2	Mechanical Ventilation System, GH	14 days	Tue 30/01/24	Mon 12/02/24	0 days	884	886	MVAC - A x 4~6 men														
886	886 Genset, Earth	5.23.6.2.3.3	Lightning Protection System, GH	15 days	Tue 13/02/24	Tue 27/02/24	0 days	885	887															
887	887 Genset, BS	5.23.6.2.3.4	Testing and Commissioning of Building Services Installation, GH	7 days	Wed 28/02/24	Tue 05/03/24	27 days	886	870FF	BS - A x 4~6 men														
888	888	5.24	Deodorization System, DOU 1, Portion B7 & B-7B (PS 6B.2.6)	1583 days	Mon 02/12/21	Mon 01/04/24	0 days																	
889	889 KD1B, DOU 1	5.24.1	Planned Key Date Completion Date - KD1B, DOU 1	0 days	Tue 01/06/21	Tue 01/06/21	0 days	902FF,903FF																
890	890 Section 1, Main, DOU	5.24.2	Planned Sectional Completion Date - Section 1, DOU 1	0 days	Mon 12/07/21	Mon 12/07/21	0 days	904FF																
891	891 Section 2, Main, DOU	5.24.3	Planned Sectional Completion Date - Section 2, DOU 1	0 days	Mon 01/04/22	Mon 01/04/24	0 days																	
892	892	5.24.4	Selection of Plant and Materials	485 days	Mon 02/12/21	Tue 30/03/21	4 days																	
893	893 DOU, EQT001	5.24.4.1	DOU - biotrickling filter (DOU No. 1), C11, ref. EQT001	194 days	Mon 02/12/21	Fri 12/06/20	0 days																	
894	894 DOU, EQT001	5.24.4.1.1	Submission for acceptance of purchasing package	120 days	Mon 02/12/21	Mon 30/03/20	0 days		895															
895	895 DOU, EQT001	5.24.4.1.2	Invitation of quotations for purchasing package	60 days	Tue 31/03/20	Fri 29/05/20	0 days	894	896															
896	896 DOU, EQT001	5.24.4.1.3	Acceptance of conforming quotation (Completed)	14 days	Sat 30/05/20	Fri 12/06/20	0 days	895	904															
897	897 DOU, EQT047	5.24.4.2	DOU - FRP air ductwork, C11, EQT047	120 days	Tue 01/12/21	Tue 30/03/21	4 days																	
898	898 DOU, EQT047	5.24.4.2.1	Submission for acceptance of purchasing package	60 days	Tue 01/12/21	Fri 29/01/21	0 days		899															
899	899 DOU, EQT047	5.24.4.2.2	Invitation of quotations for purchasing package	30 days	Sat 30/01/21	Sun 28/02/21	0 days	898	900															
900	900 DOU, EQT047	5.24.4.2.3	Acceptance of conforming quotation	30 days	Mon 01/03/22	Tue 30/03/21	0 days	899	904															
901	901 DOU, KD1A, KD1B, Section 1	5.24.5	Design Submissions for DOU No. 1	359 days	Wed 15/07/21	Thu 08/07/21	4 days																	
902	902 DOU, KD1A	5.24.5.1	Electrical schematic drawings for Deodorisation Systems	90 days	Wed 15/07/21	Mon 12/10/20	232 days		889FF															
903	903 DOU, KD1B, CW	5.24.5.2	CDS081-7 - Civil and dimensional requirements drawings for DOU No. 1	70 days	Fri 28/08/20	Thu 05/11/20	208 days		889FF															
904	904 DOU, Section 1, Mech, Elec	5.24.5.3	CDS007-1 - Detailed Design for Deodorisation System, DOU No. 1	100 edays	Tue 30/03/21	Thu 08/07/21	0.63 edays	896,900	907,910,890FF															
905	905	5.24.6	Manufacturing and Delivery of Plant & Materials	285 days	Fri 09/07/21	Tue 19/04/22	498 days																	
906	906 DOU	5.24.6.1	DOU 1	285 days	Fri 09/07/21	Tue 19/04/22	498 days																	
907	907 DOU	5.24.6.1.1	Manufacturing and Factory Acceptance Test of Plant	240 days	Fri 09/07/21	Sat 05/03/22	0 days	904	908															
908	908 DOU	5.24.6.1.2	Shipping and Delivery of Plant to site	45 days	Sun 06/03/22	Tue 19/04/22	59 days	907,913SS-60 edays	916															
909	909 DOU	5.24.6.2	FRP Air Ductwork	245 days	Fri 09/07/21	Thu 10/03/22	538 days																	
910	910 DOU	5.24.6.2.1	Manufacturing and Factory Acceptance Test of Plant	200 days	Fri 09/07/21	Mon 24/01/22	0 days	904	911															
911	911 DOU	5.24.6.2.2	Shipping and Delivery of Plant to Site	45 days	Tue 25/01/22	Thu 10/03/22	99 days	910,913SS-60 edays	916															
912	912 DOU, Section 2	5.24.7	Site Installation Work	314 days	Wed 26/01/22	Mon 05/12/21	439 days																	





ID	ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Float Time	Predecessors	Successors	Resource Names	2019		2020		2021		2022		2023		2024		2025	
												Half 2, 2019	Half 1, 2020	Half 2, 2020	Half 1, 2021	Half 2, 2021	Half 1, 2022	Half 2, 2022	Half 1, 2023	Half 2, 2023	Half 1, 2024	Half 2, 2024	Half 1, 2025	Half 2, 2025	
1027	1027	Temp Filtrate	5.30.1.2.2	Invitation of quotations for purchasing package	30 days	Tue 31/03/20	Wed 29/04/20	0 days	1026	1028															
1028	1028	Temp Filtrate	5.30.1.2.3	Acceptance of conforming quotation and acceptance for Manufacture (Completed)	14 days	Thu 30/04/20	Wed 13/05/20	0 days	1027	1043,1049															
1029	1029	Temp Filtrate, EQT011	5.30.1.3	Mis - Pipework (To be provided by Mechanical Sub-Contractor)	42 days	Mon 03/08/20	Sun 13/09/20	0 days																	
1030	1030	Temp Filtrate	5.30.1.3.1	Submission for acceptance of purchasing package	7 days	Mon 03/08/20	Sun 09/08/20	0 days		1031															
1031	1031	Temp Filtrate	5.30.1.3.2	Invitation of quotations for purchasing package	14 days	Mon 10/08/20	Sun 23/08/20	0 days	1030	1032															
1032	1032	Temp Filtrate	5.30.1.3.3	Acceptance of conforming quotation and acceptance for Manufacture	21 days	Mon 24/08/20	Sun 13/09/20	0 days	1031	1043,1052															
1033	1033	Temp Filtrate, EQT011	5.30.1.4	Mis - Valve (To be provided by Mechanical Sub-Contractor)	42 days	Mon 03/08/20	Sun 13/09/20	0 days																	
1034	1034	Temp Filtrate	5.30.1.4.1	Submission for acceptance of purchasing package	7 days	Mon 03/08/20	Sun 09/08/20	0 days		1035															
1035	1035	Temp Filtrate	5.30.1.4.2	Invitation of quotations for purchasing package	14 days	Mon 10/08/20	Sun 23/08/20	0 days	1034	1036															
1036	1036	Temp Filtrate	5.30.1.4.3	Acceptance of conforming quotation and acceptance for Manufacture	21 days	Mon 24/08/20	Sun 13/09/20	0 days	1035	1043,1055															
1037	1037	Temp Filtrate, EQT011	5.30.1.5	Civil Work Subletting Package (Repeated WBS 5.13.17)	19 days	Tue 14/07/20	Sat 01/08/20	0 days																	
1038	1038	Temp Filtrate	5.30.1.5.1	Submission for acceptance of subletting package	3 days	Tue 14/07/20	Thu 16/07/20	0 days		1039															
1039	1039	Temp Filtrate	5.30.1.5.2	Invitation of tender for subletting package	14 days	Fri 17/07/20	Thu 30/07/20	0 days	1038	1040															
1040	1040	Temp Filtrate	5.30.1.5.3	Acceptance of conforming quotation and acceptance for Manufacture	2 days	Fri 31/07/20	Sat 01/08/20	0 days	1039	1046,1049,1052,1055															
1041	1041	Temp Filtrate, KD3B	5.30.2	Design Submissions for Temporary Filtrate Lifting Well and Eq. Tank	34 days	Tue 01/09/20	Sun 04/10/20	199 days																	
1042	1042	Temp Filtrate, Section 3, LA	5.30.2.1	CDS050-5 - Detailed Design for Lifting Appliances - Temp. Filtrate Eq. System, Existing Slud	30 edays	Tue 01/09/20	Thu 01/10/20	163 edays	113	1071															
1043	1043	Temp Filtrate, Section 3	5.30.2.2	Design submission for E&M Installation works for temp. filtrate eq. system	21 days	Mon 14/09/20	Sun 04/10/20	0 days	1024,1028,1032,1035,1045,1051,1048,1052																
1044	1044	Temp Filtrate	5.30.3	Manufacturing and Delivery of Plant & Materials	165 days	Mon 05/10/20	Thu 18/03/21	16 days																	
1045	1045	Temp Filtrate	5.30.3.1	Filtrate Lift Pumps and Filtrate Transfer Pump, EQT011	165 days	Mon 05/10/20	Thu 18/03/21	16 days	1043																
1046	1046	Temp Filtrate	5.30.3.1.1	Manufacturing and Factory Acceptance Test of Plant	120 days	Mon 05/10/20	Mon 01/02/21	0 days	1040,1024	1047															
1047	1047	Temp Filtrate	5.30.3.1.2	Shipping and Delivery of Plant to site	45 days	Tue 02/02/21	Thu 18/03/21	14 days	1046	1076															
1048	1048	Temp Filtrate	5.30.3.2	Instrumentations	165 days	Mon 05/10/20	Thu 18/03/21	16 days	1043																
1049	1049	Temp Filtrate	5.30.3.2.1	Manufacturing and Factory Acceptance Test of Plant	120 days	Mon 05/10/20	Mon 01/02/21	0 days	1040,1028	1050															
1050	1050	Temp Filtrate	5.30.3.2.2	Shipping and Delivery of Plant to site	45 days	Tue 02/02/21	Thu 18/03/21	0 days	1049	1077															
1051	1051	Temp Filtrate	5.30.3.3	Pipework	165 days	Mon 05/10/20	Thu 18/03/21	2 days	1043																
1052	1052	Temp Filtrate	5.30.3.3.1	Manufacturing and Factory Acceptance Test of Plant	120 days	Mon 05/10/20	Mon 01/02/21	0 days	1040,1032	1053															
1053	1053	Temp Filtrate	5.30.3.3.2	Shipping and Delivery of Plant to site	45 days	Tue 02/02/21	Thu 18/03/21	0 days	1052	1075															
1054	1054	Temp Filtrate	5.30.3.4	Valve	165 days	Mon 05/10/20	Thu 18/03/21	2 days	1043																
1055	1055	Temp Filtrate	5.30.3.4.1	Manufacturing and Factory Acceptance Test of Plant	120 days	Mon 05/10/20	Mon 01/02/21	0 days	1040,1036	1056															
1056	1056	Temp Filtrate	5.30.3.4.2	Shipping and Delivery of Plant to site	45 days	Tue 02/02/21	Thu 18/03/21	0 days	1055	1075															
1057	1057	Temp Filtrate, Section 3	5.30.4	Site Installation Work	297 days	Sat 01/08/20	Tue 25/05/21	99 days																	
1058	1058	Temp Filtrate, Main	5.30.4.1	Commencement of Civil Construction and E&M Installation at Temp. Filtrate Lifting Well	297 days	Sat 01/08/20	Tue 25/05/21	99 days																	
1059	1059	Temp Filtrate	5.30.4.1.1	Civil Construction Work	297 days	Sat 01/08/20	Tue 25/05/21	99 days																	
1060	1060	Temp Filtrate	5.30.4.1.1.1	Civil on-site survey and report submission for acceptance	5 edays	Sat 01/08/20	Thu 06/08/20	0 edays	1040	1061,1062															
1061	1061	Temp Filtrate	5.30.4.1.1.2	Civil structural design and drawing submission for acceptance	30 days	Fri 07/08/20	Sat 05/09/20	0 days	1060	1063															
1062	1062	Temp Filtrate	5.30.4.1.1.3	Site Clearance, UU diversion and construction of U-channel	21 days	Fri 07/08/20	Thu 27/08/20	9 days	1060	1063															
1063	1063	Temp Filtrate	5.30.4.1.1.4	ELS (Sheeting and Excavation)	60 days	Sun 06/09/20	Wed 04/11/20	0 days	1062,1061	1064															
1064	1064	Temp Filtrate	5.30.4.1.1.5	Grouting Works	60 days	Thu 05/11/20	Sun 03/01/21	0 days	1063	1065															
1065	1065	Temp Filtrate	5.30.4.1.1.6	RC structure works including cast-in items	60 days	Mon 04/01/21	Thu 04/03/21	0 days	1064	1074,1071,1066															
1066	1066	Temp Filtrate	5.30.4.1.1.7	Removal Formwork and Flasework	8 days	Fri 05/03/21	Fri 12/03/21	0 days	1065	1071,1072,1075,1076															
1067	1067	Temp Filtrate	5.30.4.1.1.8	Waterproofing	14 days	Sat 13/03/21	Fri 26/03/21	0 days	1066	1068															
1068	1068	Temp Filtrate	5.30.4.1.1.9	Other architectural works and finishing works	60 days	Sat 27/03/21	Tue 25/05/21	99 days	1067	1085FF															
1069	1069	Temp Filtrate	5.30.4.1.2	E&M Installation Work	34 days	Sat 13/03/21	Thu 15/04/21	8 days																	
1070	1070	Temp Filtrate	5.30.4.1.2.1	Installation of Lifting Appliances at Temporary Filtrate Lifting Well and Eq. Tank	10 days	Sat 13/03/21	Mon 22/03/21	40 days																	
1071	1071	Temp Filtrate, LA	5.30.4.1.2.1.1	GF MR LA-09-01 SWL 1t	7 days	Sat 13/03/21	Fri 19/03/21	0 days	1065,1042,1066	1073	LA - A x 4~6 men														
1072	1072	Temp Filtrate, LA	5.30.4.1.2.1.2	GF MR LA-09-02 SWL 1t	7 days	Sat 13/03/21	Fri 19/03/21	0 days	1066	1073	LA - A x 4~6 men														
1073	1073	Temp Filtrate, LA	5.30.4.1.2.1.3	Site Acceptance test and loading test of LA	3 days	Sat 20/03/21	Mon 22/03/21	40 days	1071,1072	1108FF	LA - A x 4~6 men														
1074	1074	Temp Filtrate, Mech	5.30.4.1.2.2	Mechanical Installations for Temp. Filtrate Lifting Well and Eq. Tank	21 days	Fri 19/03/21	Thu 08/04/21	2 days	1065	1078FS-30 days															
1075	1075	Temp Filtrate, Mech, EQT036	5.30.4.1.2.2.1	Installation of pipework, chemical pipework and valves, EQT036	14 days	Fri 19/03/21	Thu 01/04/21	0 days	1066,1053,1056	1076	ME - A x 4~6 men														
1076	1076	Temp Filtrate, Mech	5.30.4.1.2.2.2	Installation of pumps	7 days	Fri 02/04/21	Thu 08/04/21	0 days	1075,1047	1080	ME - A x 4~6 men														
1077	1077	Temp Filtrate, Mech, EQT035-3	5.30.4.1.2.2.3	Installation of instrumentations, EQT035-3	7 days	Fri 19/03/21	Thu 25/03/21	14 days	1066,1050	1080	ME - A x 4~6 men														
1078	1078	Temp Filtrate	5.30.4.1.2.3	Electrical Installations for Temp. Filtrate Lifting Well and Eq. Tank	34 days	Sat 13/03/21	Thu 15/04/21	2 days	1074FS-30 days																
1079	1079	Temp Filtrate, Elec	5.30.4.1.2.3.1	Installation of cable trays and cable containments	21 days	Sat 13/03/21	Fri 02/04/21	6 days	1066	1080															
1080	1080	Temp Filtrate, Elec	5.30.4.1.2.3.2	Cables laying and terminations	7 days	Fri 09/04/21	Thu 15/04/21	0 days	1079,1076,1077	1081															
1081	1081	Temp Filtrate	5.30.4.1.3	Site Acceptance Test for E&M Equip at Filtrate Lifting Well and Eq. Tank	7 days	Fri 16/04/21	Thu 22/04/21																		

ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Float Time	Predecessors	Successors	Resource Names	2019		2020		2021		2022		2023		2024		2025	
											Half 2, 2019	Half 1, 2020	Half 2, 2020	Half 1, 2021	Half 2, 2021	Half 1, 2022	Half 2, 2022	Half 1, 2023	Half 2, 2023	Half 1, 2024	Half 2, 2024	Half 1, 2025	Half 2, 2025	
1198	1198 FS, others	5.35.1.1	Tentative Civil Handover Date, FS Sprinkler Pump Room	1 day	Wed 26/01/22	Wed 26/01/22	0 days		1199,1204															
1199	1199 Fire, Pump Room, Main	5.35.1.2	Commencement of E&M Installation at FS & Sprinkler Pump Room	420 days	Wed 26/01/22	Tue 22/03/23	313 days	1198																
1200	1200 Fire	5.35.1.2.1	Mechanical Installations for FS & Sprinkler Pumps	90 edays	Wed 26/01/22	Tue 26/04/22	0 edays		1201															
1201	1201 Fire	5.35.1.2.2	Electrical Installations for FS & Sprinkler Pumps	90 edays	Tue 26/04/22	Mon 25/07/22	0.63 edays	1200	1202,1205,1206,121															
1202	1202 Fire	5.35.1.2.3	Site Acceptance Test for FS & Sprinkler Pumps	45 days	Tue 26/07/22	Thu 08/09/22	0 days	1201	1203															
1203	1203 Fire	5.35.1.2.4	System Commissioning for FS & Sprinkler Pumps	45 days	Fri 09/09/22	Sun 23/10/22	404 days	1202	1186															
1204	1204 Fire	5.35.1.2.5	Building Services Installations at FS & Sprinkler Pump Room	240 days	Tue 26/07/22	Wed 22/03/23	313 days	1198																
1205	1205 Fire	5.35.1.2.5.1	Lighting and Power Distribution System, Chem 1&2	120 days	Tue 26/07/22	Tue 22/11/22	0 days	1201	1208															
1206	1206 Fire	5.35.1.2.5.2	Lightning Protection System, FS & Sprinkler Pump Room	30 days	Tue 26/07/22	Wed 24/08/22	90 days	1201	1208															
1207	1207 Fire	5.35.1.2.5.3	Mechanical Ventilation System, FS & Sprinkler PR	14 days	Tue 26/07/22	Mon 08/08/22	106 days	1201	1208															
1208	1208 Fire	5.35.1.2.5.4	Testing and Commissioning of Building Services Installations, FS & Sprinkler PR	120 days	Wed 23/11/22	Wed 22/03/23	268 days	1205,1206,1207	1186FF															
1209	1209 Fire, FH Pump Room	5.36	Fire Hydrant and Booster Pumping Room, Portion B7 & B-7B (PS 6B.6.9)	465 days	Wed 26/01/22	Fri 05/05/23	269 days																	
1210	1210 FS, Section 2	5.36.1	Site Installation Work	465 days	Wed 26/01/22	Fri 05/05/23	269 days																	
1211	1211 Fire, FH Pump Room, others	5.36.1.1	Tentative Civil Handover Date, Fire Hydrant and Booster Pumping Room	1 day	Wed 26/01/22	Wed 26/01/22	0 days		856FF+50 days,1211															
1212	1212 Fire, FH Pump Room, Main	5.36.1.2	Commencement of E&M Installation at Street FH Pump Room	464 days	Wed 26/01/22	Fri 05/05/23	269 days																	
1213	1213 Fire	5.36.1.2.1	Mechanical Installations for Street FH Pumps	90 edays	Wed 26/01/22	Tue 26/04/22	0 edays	1211	1214															
1214	1214 Fire	5.36.1.2.2	Electrical Installations for Street FH Pump	90 edays	Tue 26/04/22	Mon 25/07/22	0.63 edays	1213	1215,1218															
1215	1215 Fire	5.36.1.2.3	Site Acceptance Test for Street FH Pump	45 days	Tue 26/07/22	Thu 08/09/22	0 days	1214	1216															
1216	1216 Fire	5.36.1.2.4	System Commissioning for Street FH Pumps	45 days	Fri 09/09/22	Sun 23/10/22	418 days	1215	1186FF															
1217	1217 Fire	5.36.1.2.5	Building Services Installations at Street FH Pump Room	284 days	Tue 26/07/22	Fri 05/05/23	269 days																	
1218	1218 Fire	5.36.1.2.5.1	Lighting and Power Distribution System, Street FH PR	120 days	Tue 26/07/22	Tue 22/11/22	0 days	1214	1221,1219															
1219	1219 Fire	5.36.1.2.5.2	Lightning Protection System, Street FH PR	30 days	Wed 23/11/22	Thu 22/12/22	0 days	1218	1220,1221															
1220	1220 Fire, MVAC	5.36.1.2.5.3	Mechanical Ventilation System, Street FH PR	14 days	Fri 23/12/22	Thu 05/01/23	0 days	1219	1221	MVAC - A x 4~6 men														
1221	1221 Fire	5.36.1.2.5.4	Testing and Commissioning of Building Services Installations, FH PR	120 days	Fri 06/01/23	Fri 05/05/23	224 days	1218,1219,1220	1186FF															
1222	1222	5.37	Plumbing Installation (PS 6B.6.8)	1091 days	Tue 05/01/22	Tue 02/01/24	0 days																	
1223	1223 Section 1, Main, Pb	5.37.1	Planned Sectional Completion Date - Section 1, Plumbing	0 days	Thu 01/07/21	Thu 01/07/21	0 days	1225FF																
1224	1224 Pb, KD1A, KD1B, Section 1	5.37.2	Design Submissions for Plumbing	240 days	Tue 05/01/22	Thu 02/09/21	0 days																	
1225	1225 Pb, Section 1	5.37.2.1	CDS033 - Detailed Design for Plumbing System	240 edays	Tue 05/01/21	Thu 02/09/21	0 edays	149	1228,1223FF															
1226	1226 Pb, Section 2	5.37.3	Site Installation Work	851 days	Fri 03/09/21	Tue 02/01/24	0 days																	
1227	1227 Pb, Main	5.37.3.1	Commencement of Plumbing Installation	851 days	Fri 03/09/21	Tue 02/01/24	0 days																	
1228	1228 Pb	5.37.3.1.1	Submission of detail design for acceptance	90 days	Fri 03/09/21	Wed 01/12/21	0 days	1225	1229	Pb - A x 4~6 men														
1229	1229 Pb	5.37.3.1.2	Submission of WWO542 for WSD's approval	355 days	Thu 02/12/21	Mon 21/11/22	1 day	1228	351,480,591,766	Pb - B x 4~6 men														
1230	1230 Pb, others	5.37.3.1.3	Connection of External Pumping System (By others)	0 days	Fri 15/09/23	Fri 15/09/23	4 days		1231															
1231	1231 Pb	5.37.3.1.4	Submission of WWO46 for WSD's Inspection	45 days	Tue 19/09/23	Thu 02/11/23	0 days	1230,351,480,591,1232																
1232	1232 Pb	5.37.3.1.5	Obtain WWO46 Part V	45 days	Fri 03/11/23	Sun 17/12/23	15 days	1231	1233															
1233	1233 Pb, Others	5.37.3.1.6	Tentative Date for connection of external water pipework (by others)	0 days	Tue 02/01/24	Tue 02/01/24	0 days	1232																
1234	1234 PV	5.38	Photovoltaic Power System (PS 6B.6.11)	1128 days	Mon 01/03/22	Mon 01/04/24	0 days																	
1235	1235 Section 1, Main, BR	5.38.1	Planned Sectional Completion Date - Section 1, BR 2A & 2B	0 days	Mon 12/07/22	Mon 12/07/21	0 days	1245FF																
1236	1236 Section 2, Main, BR	5.38.2	Planned Sectional Completion Date - Section 2, BR 2A & 2B	0 days	Mon 01/04/22	Mon 01/04/24	0 days	1253FF																
1237	1237 PV, EQT041	5.38.3	Selection of Suppliers for major plant and materials for BR 2A & 2B	73 days	Mon 01/03/22	Wed 12/05/21	12 days																	
1238	1238 PV, EQT041	5.38.3.1	PV System (EQT041)	73 days	Mon 01/03/22	Wed 12/05/21	12 days																	
1239	1239 PV, EQT041	5.38.3.1.1	Submission for acceptance of purchasing package	30 days	Mon 01/03/22	Tue 30/03/21	0 days		1240															
1240	1240 PV, EQT041	5.38.3.1.2	Invitation of quotations for purchasing package	21 days	Wed 31/03/22	Tue 20/04/21	0 days	1239	1241															
1241	1241 PV, EQT041	5.38.3.1.3	Acceptance of conforming quotation	21 days	Wed 21/04/22	Tue 11/05/21	0 days	1240	1242															
1242	1242 PV, EQT041	5.38.3.1.4	Commencement of Design Work	1 day	Wed 12/05/22	Wed 12/05/21	0 days	1241	1244															
1243	1243	5.38.4	Design Submissions	49 days	Wed 12/05/22	Wed 30/06/21	12 days																	
1244	1244 BR, Section 1, PV, EQT041	5.38.4.1	CDS060 - Detailed Design for PV System	45 edays	Wed 12/05/22	Sat 26/06/21	0.63 edays	1242	1245															
1245	1245 BR, PV, EQT041	5.38.4.2	Complete the CLP's Electronic Application Form and Upload Required Documents	4 days	Sun 27/06/22	Wed 30/06/21	0 days	1244	1235FF,1247															
1246	1246 BR, PV, EQT041	5.38.5	Material ordering and delivery to site	715 days	Thu 01/07/22	Thu 15/06/23	111 days																	
1247	1247 BR, EQT041	5.38.5.1	Manufacturing and Factory Acceptance Test of Plant	150 days	Thu 01/07/22	Sat 27/11/21	520 days	1245	1248															
1248	1248 BR, EQT041	5.38.5.2	Shipping and Delivery of Plant to site	45 days	Tue 02/05/23	Thu 15/06/23	0 days	1247,1250SS+120	1251															
1249	1249 BR, Section 2	5.38.6	Site Installation Work	345 days	Mon 02/01/22	Tue 12/12/23	0 days																	
1250	1250 BR, LA, BS, Others	5.38.6.1	Tentative Civil Handover Date, Portion B-4, BR2A & 2B	1 day	Mon 02/01/22	Mon 02/01/23	0 days		1248SS+120 edays															
1251	1251	5.38.6.2	Commencement of Site Installation Work	90 days	Fri 16/06/23	Wed 13/09/23	0 days	1248	1252	PV - A x 4~6 men														
1252	1252 BR, PV, EQT041	5.38.6.3	Technical Assessment, System Test and Installation	60 days	Thu 14/09/23	Sun 12/11/23	0 days	1251	1253	PV - A x 4~6 men														
1253	1253 BR, PV, EQT041	5.38.6.4	CLP's smart meter installation and Final on-grid test with CLP	30 days	Mon 13/11/22	Tue 12/12/23	111 days	1252	1236FF															
1254	1254 Test, Main	5.39	Plant Commissioning	286 days	Fri 21/07/23	Wed 01/05/24	0 days		39FF															

ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Float Time	Predecessors	Successors	Resource Names	2019		2020		2021		2022		2023		2024		2025	
											Half 2, 2019	Half 1, 2020	Half 2, 2020	Half 1, 2021	Half 2, 2021	Half 1, 2022	Half 2, 2022	Half 1, 2023	Half 2, 2023	Half 1, 2024	Half 2, 2024	Half 1, 2025	Half 2, 2025	
1255	1255 Section 4, Main	5.39.1	Planned Sectional Completion Date - Section 4, Plant Commissioning	0 days	Wed 01/05/20	Wed 01/05/24	0 days																	
1256	1256	5.39.2	Design Submission for Treatment Process Plant Testing & Commissioning	90 days	Wed 01/11/20	Mon 29/01/24	105 days																	
1257	1257 Test	5.39.2.1	Document Submission and Resubmission for T&C procedures	90 days	Wed 01/11/20	Mon 29/01/24	105 days	1258FF-120 days																
1258	1258 Test, Main	5.39.3	System Commissioning Tests of the E&M systems at IW, PST, BR 2A&2B, MFB No. 2, Chemicals	7 days	Fri 02/02/24	Thu 08/02/24	0 days	919,955,965,985,31259,1257FF-120 days																
1259	1259 Test, Main	5.39.4	MBR System Process Startup	30 days	Fri 09/02/24	Sat 09/03/24	0 days	1258	1260															
1260	1260 Test, Main	5.39.5	Plant Commissioning	35 days	Sun 10/03/24	Sat 13/04/24	0 days	1259	1263															
1261	1261 CCTV	5.39.6	Overall commissioning of CCTV system	30 days	Fri 21/07/23	Sat 19/08/23	238 days	352,481,592,767	1263															
1262	1262 SCADA	5.39.7	Overall commissioning of Facility Computerized Systems (SCADA, CMMS, PMS, IDMS)	28 days	Sun 29/10/23	Sat 25/11/23	140 days	344,473,758,759	1263															
1263	1263 Others, Main	5.39.8	Overall Plant Commissioning and DSD pre-handover inspections	14 days	Sun 14/04/24	Sat 27/04/24	16 days	1260,1261,1262																
1264	1264	5.40	CE No. 009 - Provision of an Additional Primary Sludge Thickening System	140 days	Tue 14/07/20	Mon 30/11/24	0 days																	
1265	1265	5.40.1	Detail Design Submission and Approval	77 days	Tue 14/07/20	Mon 28/09/20	18 days		1267															
1266	1266	5.40.2	Subletting, Procurement, Manufacturing and Delivery	120 days	Fri 31/07/20	Fri 27/11/20	0 days																	
1267	1267	5.40.3	Site Installation	40 days	Sat 17/10/20	Wed 25/11/20	0 days	1265	1268															
1268	1268	5.40.4	Testing and Commissioning	5 days	Thu 26/11/20	Mon 30/11/20	0 days	1267	1269FF															
1269	1269	5.40.5	Planned Completion Date	1 day	Mon 30/11/20	Mon 30/11/20	0 days	1268FF																
1270	1270	6	Beam Plus Submissions	1450 days	Fri 01/05/20	Fri 19/04/24	0 days																	
1271	1271	6.1	SA10 - Environmental Management Plan	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1272	1272	6.2	SA11 - Air Pollution During Construction	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1273	1273	6.3	SA12 - Noise During Construction	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1274	1274	6.4	SA14 - Noise from Building Equipment	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1275	1275	6.5	SA15 - Light Pollution	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1276	1276	6.6	MAP1 - Timber used for Temporary Works	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1277	1277	6.7	MAP2 - Use of Non-CFC Based Refrigerants	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1278	1278	6.8	MAP3 - Waste Management Plan	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1279	1279	6.9	MA2 - Modular and Standardized Design	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1280	1280	6.10	MA8 - Ozone Depleting Substances	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1281	1281	6.11	MA11 - Construction Waste Reduction	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1282	1282	6.12	EUP1 - Minimum Energy Performance	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1283	1283	6.13	EU1 - Reduction of CO2 Emissions	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1284	1284	6.14	EU2 - Peak Electricity Demand Reduction	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1285	1285	6.15	EU6 - Renewable Energy Systems	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1286	1286	6.16	EU9 - Energy Efficient Appliances	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1287	1287	6.17	EU10 - Testing and Commissioning	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1288	1288	6.18	EU11 - Operation and Maintenance	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1289	1289	6.19	EU12 - Meter and Monitoring	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1290	1290	6.20	WUP1 - Water Quality Survey	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1291	1291	6.21	WUP2 - Minimum Water Saving Performance	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1292	1292	6.22	WU1 / WU6 - Annual Water Use / Effluent Discharge to Foul Sewers	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1293	1293	6.23	IEQP1 - Minimum Ventilation Performance	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1294	1294	6.24	IEQ1 - Security	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1295	1295	6.25	IEQ2 - Plumbing and Drainage	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1296	1296	6.26	IEQ3 - Biological Contamination	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1297	1297	6.27	IEQ5 - Construction IAQ Management	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1298	1298	6.28	IEQ6 / IEQ7 - IAQ	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1299	1299	6.29	IEQ9 - Increased Ventilation	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1300	1300	6.30	IEQ11 - Localised Ventilation	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1301	1301	6.31	IEQ12 - Ventilation in Common Areas	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1302	1302	6.32	IEQ13 - Thermal Comfort in Air - Conditioned Premises	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1303	1303	6.33	IEQ16 / IEQ17 - Interior Lighting in Normally Occupied Area / Interior Lighting in Areas not Normally Occupied	1450 days	Fri 01/05/20	Fri 19/04/24	12 days		39															
1304	1304	7	Summary of compensation events notified	126 days?	Wed 22/04/20	Tue 25/08/20	0 days?																	
1305	1305	7.1	Compensation Event (CE) No. 001, Special Arrangement in Reducing the Risk of the Spread of Novel Coronavirus	1 day	Tue 25/08/20	Tue 25/08/20	0 days																	
1306	1306	7.2	Compensation Event (CE) No. 002, the Contractor's Site Accommodation by Modular Integrated Construction	1 day	Mon 08/06/20	Mon 08/06/20	0 days																	
1307	1307	7.3	Compensation Event (CE) No. 003, Designated Area for the Contractor's Site Accommodation in Works Area	1 day	Wed 22/04/20	Wed 22/04/20	0 days																	
1308	1308	7.4	Compensation Event (CE) No. 005, Designated Area for the Contractor's Storage Area in Works Area	1 day	Wed 22/04/20	Wed 22/04/20	0 days																	
1309	1309	7.5	Compensation Event (CE) No. 007, Employment of Temporary Staff under Anti-Epidemic Fund	1 day	Fri 10/07/20	Fri 10/07/20	0 days																	
1310	1310	7.6	Compensation Event (CE) No. 009, Provision of an Additional Primary Sludge Thickening System and Delivery	1 day	Tue 14/07/20	Tue 14/07/20	0 days																	
1311	1311	7.7	Compensation Event (CE) No. 011, Dismantling, relocating, disconnecting and re-installing of the existing	1 day?	Fri 17/07/20	Fri 17/07/20	0 days?																	

