Our Ref.: PL-202206009

Environmental Protection Department
Environmental Assessment Division
Regional Assessment Group
Lantau South, Lamma, Cheung Chau & Tsing Yi Section (5)
27th floor, Southorn Centre, 130 Hennessy Road,
Wan Chai, Hong Kong

Attention: Ms. Flora NG

14 June 2022

Dear Flora,

Contract No. DC/2019/07
Outlaying Islands Sewerage Stage 2 – Upgrading of Cheung Chau Sewage Treatment and Disposal Facilities
Monthly EM&A Report for May 2022

According to Condition 4.4 under Environmental Permit No.: EP-488/2014/A, on behalf of the Drainage Services Department (the Permit Holder), we are pleased to submit herewith the May 2022 Monthly EM&A Report (Rev. 2), which is certified by the Environmental Team Leader (Acuity Sustainability Consulting Limited) and verified by the Independent Environmental Checker (Mott Macdonald Hong Kong Limited) for your record.

Should you have any queries, please do not hesitate to contact the Permit Holder's Engineer Mr. Ng Chi Kin, Bill at 2594 7264.

Yours faithfully,

Kevin W.M. Li
Environmental Team Leader
c.c.

DSD	Attn: Mr. Bill Ng	1 hard copy (by hand)
Atkins	Attn: Mr. Dennis Cheung	1 hard copy (by hand)
Build King	Attn: Mr. Alvin Lei	1 hard copy (by hand)
Mott MacDonald (IEC)	Attn: Ms. Liz Lo	1 e copy (by email)

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MOTT MACDONALD

Atkins China Limited
Chief Resident Engineer's Office
No. 17 Cheung Chau Sai Tai Road
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Hong Kong

Attn: Ir. Tony C.W. Chik – Chief Resident Engineer

Your Reference

Our Reference
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T424122/L027

Mott MacDonald
3/F Manulife Tower
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Contract No. CM 04/2021

Independent Environmental Checker for Environmental Monitoring Works for Upgrading of Cheung Chau Sewage Treatment and Disposal Facilities

Environmental Permit No. EP-488/2014/A

Monthly EM&A Report for May 2022 (Rev. 2)

13 June 2022
By Email

Dear Sir,

I refer to the Monthly EM&A Report for May 2022 (Rev. 2) under the captioned Project, which was certified on 13 June 2022 by the Environmental Team Leader appointed under Condition 2.1 of Environmental Permit No. EP-488/2014/A (hereafter referred to as "EP").

I hereby verify the abovementioned submission in accordance with EP Conditions 1.9 and 4.4.

Should you have any queries regarding the captioned or require any further information, please contact the undersigned at 2828 5751.

Yours faithfully
for MOTT MACDONALD HONG KONG LIMITED

Liz Lo
Independent Environmental Checker
T +852 2828 5751
Liz.Lo@mottmac.com

Encl.

c.c.	DSD	Ir. Ng Chi Kin, Bill	By Email
	Atkins China Limited	Ir. Dennis Cheung / Ir. Winnie Choi	By Email
	Acuity Sustainability Consulting Limited	Mr. Kevin Li	By Email
	Build King Civil Engineering Limited	Mr. Alvin Lei / Mr. Lawrence Lam	By Email

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Drainage Services Department

The Government of the Hong Kong Special Administrative Region

Contract No. DC/2019/07

Environmental Monitoring Works for Upgrading of Cheung Chau Sewage Collection, Treatment and Disposal Facilities

10th Monthly Environmental Monitoring and Audit Report – May 2022

Document No.

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	Prepared by:	Reviewed by:	Certified by:
Name	Jack CHOW	Tandy TSE	Kevin LI
Position	Environmental Team Member	Environmental Team Member	Environmental Team Leader
Signature			
Date:	07/06/2022	13/06/2022	13/06/2022

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REVISION HISTORY

REV.	DESCRIPTION OF MODIFICATION	DATE
0	First Issue for Comments	9 June 2022
1	Updated according to IEC's comments	13 June 2022
2	Updated according to IEC's further comment	13 June 2022

CONTENTS

EXECUTIVE SUMMARY

A.1 Pursuant to the Environmental Impact Assessment Ordinance (EIAO), the Director of Environmental Protection (DEP) granted the Environmental Permit (No. EP-488/2014/A) to DSD for the Project.

A.2 Upon the requirement of the Environmental Permit (EP), the Monthly EM&A Monitoring Report shall be submitted to the DEP within 10 working days after the end of the reporting month. The submissions shall be verified by the Independent Environmental Checker (IEC) and complied with the requirements set out in the Environmental Monitoring and Audit (EM&A) Manual before submission to the DEP as stipulated in Condition 4.4 of the EP.

A.3 The commencement date of the Project was 6 August 2021. Impact environmental monitoring of 24-hour TSP, 1-hour TSP and noise was conducted as stipulated in Condition 4.2 of the EP. This is the 8th Monthly EM&A Report for the Project summarizing the monitoring results and audit findings of the EM&A programme at selected locations at and around Cheung Chau during the reporting period from 1 May to 31 May 2022.

A.4 Key activities carried out in this reporting period for the Project included the followings:

- Trial pit and ground investigation
- Smart sewage monitoring
- Pre-bored Works for Sheet Piles Installation for Subsequent ELS at CCSTW
- Repair Works for Existing Sludge Ramp
- Leakage Detection of the Existing Manholes/Chambers
- Abandonment Works for the 900mm Diameter Pipe Connecting to Manhole Reference SMH7003180 at Upstream and COH7000000 at Downstream
- Excavation and Lateral Support (ELS) at CCSTW
- Point Cloud Survey for the existing geometric and architechural feature in Cheung Chau
- Sewage Diversion for Penstock Replacement at PSSPS
- Compression Loading Test
- ADMS Monitoring in CCSTW

A.5 The major environmental impacts brought by the above construction works include:

- Construction dust and noise generation from construction works and piling works
- Wastewater generated from construction activities
- Waste generation from the construction activities

A.6 The key environmental mitigation measures implemented for the Project in this reporting period associated with the above construction works include:

- Dust suppression by regular wetting and water spraying for construction works
- Reduction of noise from equipment and machinery on-site
- Mitigation measures preventing seepage of muddy water
- Sorting and storage of general refuse and construction waste

A.7 Five (5) sessions of air monitoring were carried out at all designated monitoring locations. No exceedance of Action or Limit Level was recorded.

A.8 Five (5) sessions of noise monitoring were carried out at all designated monitoring locations. No exceedance of Action or Limit Level was recorded.

A.9 Results of the monitoring for air quality and airborne noise are given in **Table A** and **Table B** as follows:

Table A – Monitoring Results (Dust)

Location	Dust in μg/m³			
	Average		Range	
	TSP-1hr	TSP-24hr	TSP-1hr	TSP-24hr
A1a	57	35	48 - 66	19 – 55
A2a	69	44	58 - 78	28 - 51

Table B – Monitoring Results (Noise)

Location	Noise in dB(A)	
	Average	Range
	$L_{eq\ (30\ min)}$ (7:00-19:00)	$L_{eq\ (30\ min)}$ (7:00-19:00)
N2a	69.2	66.0 – 71.3
N3a	65.4	58.8 – 71.4

s: +3 dB(A) free-field corrections have been made to N3a.

A.10 According to Section 4.3.3 of the EM&A Manual, Site inspection shall be carried out by the ET and attentions shall be paid to the mitigation measures recommended for water pollution control. Weekly site inspections were carried out and no non-compliance was spotted during the reporting month.

A.11 Waste management mitigation measures were properly implemented in the reporting period.

A.12 For cultural heritage impact, as this Project does not involve proposed sewers works, according to Section 6.1.5 of the EM&A Manual, no EM&A requirement is considered necessary during the construction and operational phase of upgrading of Cheung Chau STW and Pak She SPS.

A.13 The recommended landscape and visual mitigation measures were properly implemented in the reporting period.

A.14 Weekly site inspection of the construction work by ET were carried out on 03, 10, 17, 23 and 31 May 2022.

A.15 No environmental complaint was received during the reporting period.

A.16 No notification of summons or prosecution was received in the reporting period.

A.17 A map of the construction site and monitoring locations are shown in **Appendix A**.

A.18 The summary of permit / licences for this Project is presented in **Table C** below:

Table C – Summary of Permit / Licences

Nature	Number	Issue Date	Expiry Date
Environmental Permit	EP-488/2014/A	13/05/2021	N/A
Notification pursuant to Air Pollution Control (Construction Dust) Regulation	462303	26/11/2020	N/A
Waste Disposal Billing Account	7039094	7/12/2020	N/A
Waste Disposal (Vessel) Billing Account	7040870	28/03/2022	10/07/2022
Chemical Waste Producer	5213-920-B2500-05	31/12/2020	N/A
Effluent Discharge Licence under Water Pollution Control Ordinance	WT00038597-2021	20/08/2021	31/08/2026

1. INTRODUCTION

1.1. BACKGROUND

1.1.1. Drainage Services Department (DSD) has contracted Build King Civil Engineering Limited (BK) to carry out the Outlying Islands Sewerage Stage 2 – Upgrading of Cheung Chau Sewage Collection, Treatment and Disposal Facilities under Contract No. DC/2019/07.

1.1.2. Acuity Sustainability Consulting Limited (ASCL) is commissioned by BK to undertake the Environmental Team (ET) services as required and/or implied, both explicitly and implicitly, in the Environmental Permit (EP), Environmental Impact Assessment Report (EIA Report) (Register No. AEIAR-181/2013) and Environmental Monitoring and Audit Manual (EM&A Manual) for the Project; and to carry out the Environmental Monitoring and Audit (EM&A) programme in fulfillment of the EIA Report's EM&A requirements under Agreement No. CE 15/2010 (DS).

1.2. PROJECT DESCRIPTION

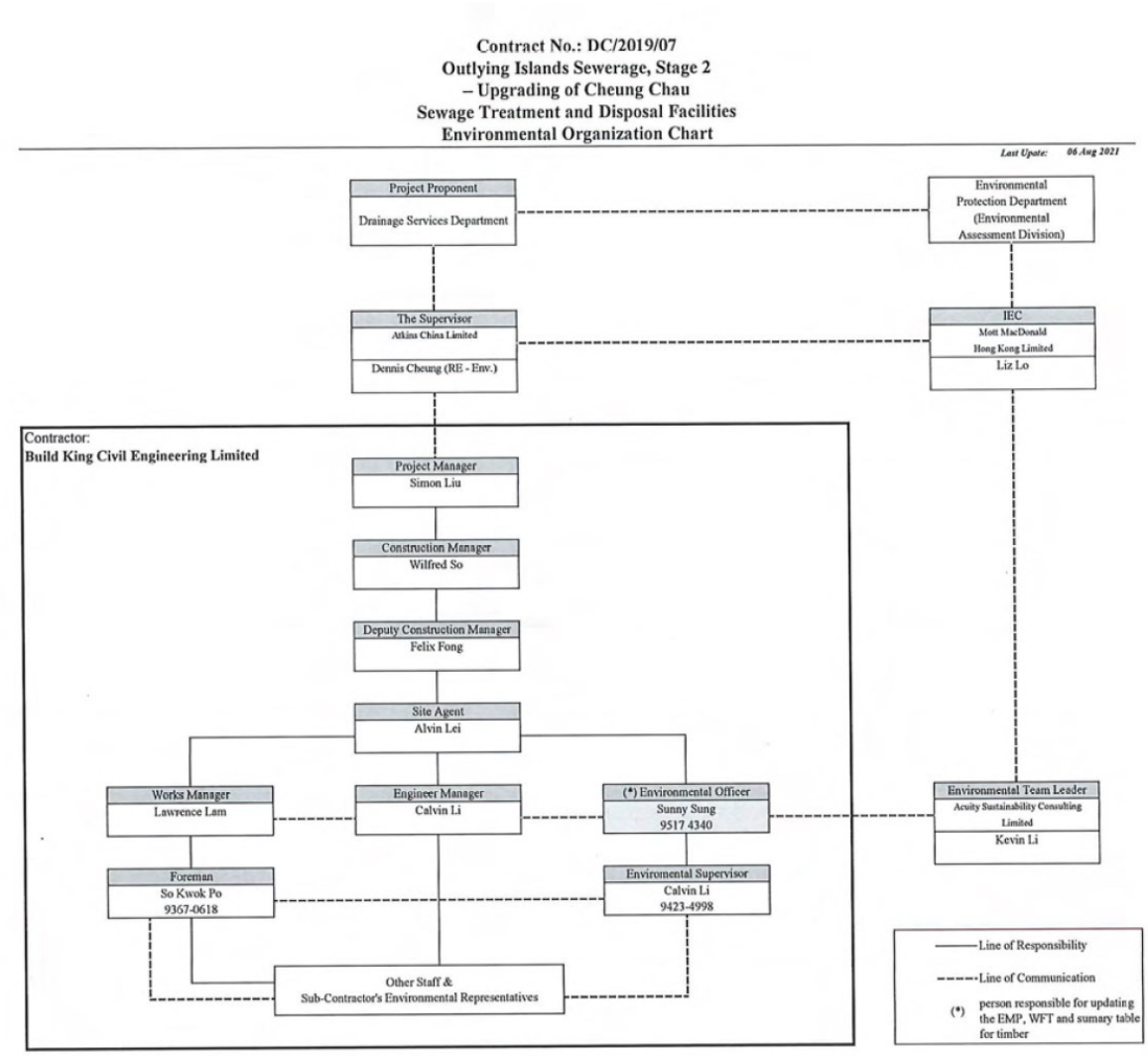
1.2.1. The purpose of the Project is to upgrade the sewerage collection, treatment and disposal facilities in Cheung Chau in order to cater for the projected ultimate population and planned developments in Cheung Chau to meet the increased demand and to achieve more stringent effluent quality standards. The key elements of the proposed works for the Project will include as follows:

- Expansion of the sewage treatment capacity and upgrading of the treatment level of the existing Cheung Chau Sewage Treatment Works (Cheung Chau STW) to secondary treatment level; and
- Expansion of the pumping capacity of the existing Pak She Sewage Pumping Station (Pak She SPS).

1.3. PROJECT ORGANISATION STRUCTURE

1.3.1. The Project organization structure is presented in **Figure 1.1**.

Figure 1.1 Project Organization Structure



Party	Role	Contact Person	Phone No.
Drainage Services Department HKSAR (DSD)	Project Proponent	C.K. NG	2594 7264
Supervisor / Supervisor's Representative (Atkins China Limited)	Resident Engineer	Dennis Cheung	2675 3910
Environmental Team (Acuity Sustainability Consulting Limited)	Environmental Team Leader	Kevin Li	2698 6833
Independent Environmental Checker (Mott Macdonald Hong Kong Limited)	Independent Environmental Checker	Liz Lo	2828 5751
Contractor (Build King Construction Limited)	Site Agent Environmental Officer	Alvin Lei Sunny Sung	6123 8136 9517 4340

1.4. SUMMARY OF CONSTRUCTION WORKS

1.4.1. Details of the major construction activities undertaken in this and the next reporting periods are shown as below. The construction programme is presented in **Appendix B**.

Key activities carried out in this reporting period for the Project included the followings:

- Trial pit and ground investigation
- Smart sewage monitoring
- Pre-bored Works for Sheet Piles Installation for Subsequent ELS at CCSTW
- Repair Works for Existing Sludge Ramp
- Leakage Detection of the Existing Manholes/Chambers
- Abandonment Works for the 900mm Diameter Pipe Connecting to Manhole Reference SMH7003180 at Upstream and COH7000000 at Downstream
- Excavation and Lateral Support (ELS) at CCSTW
- Point Cloud Survey for the existing geometric and architechural feature in Cheung Chau
- Sewage Diversion for Penstock Replacement at PSSPS
- Compression Loading Test
- ADMS Monitoring in CCSTW

Key activities carried out in the next reporting period for the Project included the followings:

- Trial pit and ground investigation
- Smart sewage monitoring
- Pre-bored Works for Sheet Piles Installation for Subsequent ELS at CCSTW
- Repair Works for Existing Sludge Ramp
- Leakage Detection of the Existing Manholes/Chambers
- Abandonment Works for the 900mm Diameter Pipe Connecting to Manhole Reference SMH7003180 at Upstream and COH7000000 at Downstream
- Excavation and Lateral Support (ELS) at CCSTW
- Point Cloud Survey for the existing geometric and architechural feature in Cheung Chau
- Sewage Diversion for Penstock Replacement at PSSPS
- Compression Loading Test
- ADMS Monitoring in CCSTW

1.5. PURPOSE OF THE REPORT

1.5.1. According to the EM&A Manual for the Project, monitoring for air quality and noise should be conducted throughout the construction period of the Project.

1.5.2. The EM&A requirements for environmental monitoring are set out in the EM&A Manual. Environmental aspect of construction noise and air quality were identified as the key issues requiring implementation of monitoring programme during the construction phase of the Project.

1.5.3. This report is summarizing the monitoring results and audit findings of the EM&A programme during the reporting period from 1 May to 31 May 2022.

2. AIR QUALITY

2.1. AIR QUALITY PARAMETERS

2.1.1. The air quality parameters to be monitored includes:

- 24-hour TSP;
- 1-hour TSP; and

2.2. MONITORING CRITERIA

2.2.1. Dust monitoring was carried out at the designated monitoring location at least once in every six-days to obtain 24-hour TSP samples. One-hour TSP sampling shall also be done at least 3 times in every six-days while the highest dust impact occurs.

2.2.2. Before commencing the impact monitoring, the ET Leader shall inform the IEC of the impact monitoring programme such that the IEC can conduct on-site audit to ensure accuracy of the impact monitoring results.

2.2.3. In case of non-compliance with the air quality criteria, additional monitoring as specified in the Action Plan shall be conducted within 24 hours after the result is obtained. This additional monitoring shall be continued until the excessive dust emission or the deterioration in air quality is rectified.

2.3. MONITORING REQUIREMENTS AND EQUIPMENT

2.3.1. 1-hour and 24-hour TSP levels were measured to indicate the impacts of construction dust on air quality. The 24-hour TSP levels shall be measured by following the standard high volume sampling method as set out in the Title 40 of the United States Code of Federal Regulations, Chapter 1 (Part 50), Appendix B.

2.3.2. High volume samplers (HVSs) in compliance with the following specifications shall be used for carrying out the 1-hour and 24-hour TSP monitoring:

(i) 0.6 – 1.7 m^3 per minute adjustable flow range;

(ii) equipped with a timing / control device with +/- 5 minutes accuracy for 24 hours operation;

(iii) installed with elapsed-time meter with +/- 2 minutes accuracy for 24 hours operation;

(iv) capable of providing a minimum exposed area of 406 cm^2;

(v) flow control accuracy: +/- 2.5% deviation over 24-hour sampling period;

(vi) equipped with a shelter to protect the filter and sampler;

(vii) incorporated with an electronic mass flow rate controller or other equivalent devices;

(viii) equipped with a flow recorder for continuous monitoring;

(ix) provided with a peaked roof inlet;

(x) incorporated with a manometer;

(xi) able to hold and seal the filter paper to the sampler housing at horizontal position;

(xii) easily changeable filter; and

(xiii) capable of operating continuously for a 24-hour period.

2.3.3. The ET is responsible for provision of the monitoring equipment. They shall ensure that sufficient number of HVSs with an appropriate calibration kit is available for carrying out the impact monitoring, and ad hoc monitoring. The HVSs shall be equipped with an electronic mass flow controller and be calibrated against a traceable standard at regular intervals. All the equipment, calibration kit, filter papers, etc., shall be clearly labelled.

2.3.4. Initial calibration of dust monitoring equipment shall be conducted upon installation and thereafter at bi-monthly intervals. The transfer standard shall be traceable to the internationally recognised primary standard and be calibrated annually. The concerned parties such as ER shall properly document the calibration data for future reference. All the data shall be converted into standard temperature and pressure condition.

2.3.5. If the ET proposes to use a direct reading dust meter to measure 1-hour TSP levels, he shall submit sufficient information to the ER to prove that the instrument is capable of achieving a comparable result to the HVS. The instrument shall also be calibrated regularly, and the 1-hour sampling shall be determined periodically by the HVS to check the validity and accuracy of the results measured by direct reading method.

Laboratory Measurement / Analysis

2.3.6. A clean laboratory with constant temperature and humidity control, and equipped with necessary measuring and conditioning instruments to handle the dust samples collected, shall be available for sample analysis, and equipment calibration and maintenance. The laboratory shall be HOKLAS accredited.

2.3.7. Filter paper of size 8" x 10" shall be labelled before sampling. It shall be a clean filter paper with no pinholes, and shall be conditioned in a humidity-controlled chamber for over 24-hours and be pre-weighed before use for the sampling

2.3.8. After sampling, the filter paper loaded with dust shall be kept in a clean and tightly sealed plastic bag. The filter paper shall then be returned to the laboratory for reconditioning in the humidity-controlled chamber followed by accurate weighing by an electronic balance with readout down to 0.1 mg. The balance shall be regularly calibrated against a traceable standard.

2.3.9. 1-hour TSP levels and 24-hour TSP had been measured with direct reading dust meters and High Volume Samplers respectively. The details of equipment used for monitoring are listed in **Table 2.1**, and the calibration certificates are presented in **Appendix C**.

Table 2.1 Equipment Used for Air Quality Monitoring

Equipment	Model	Serial Number
Portable dust meter – 1-hour TSP	SIBATA Digital Dust Indicator (Model: LD-5R)	851819 992821
High Volume Samplers – 24-hour TSP	Tisch TE-5170X High Volume Air Sampler	1048
		1085
Calibrator Kit	Tisch TE-5028A Calibration Kit	3702

2.4. MONITORING LOCATIONS

2.4.1. The ET agreed with the ER and the IEC on the position of the HVS for the installation of the monitoring equipment. When positioning the samplers, the following points were noted:

(i) a horizontal platform with appropriate support to secure the samplers against gusty wind shall be provided;

(ii) no two samplers shall be placed less than 2 meters apart;

(iii) 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;

(iv) a minimum of 2 meters of separation from walls, parapets and penthouses is required for rooftop samplers;

(v) a minimum of 2 meters separation from any supporting structure, measured horizontally is required;

(vi) no furnace or incinerator flue is nearby;

(vii) airflow around the sampler is unrestricted;

(viii) the sampler is more than 20 meters from the dripline;

(ix) any wire fence and gate, to protect the sampler, shall not cause any obstruction during monitoring

(x) permission must be obtained to set up the samplers and to obtain access to the monitoring stations; and

(xi) a secured supply of electricity is needed to operate the samplers.

2.4.2. The proposed dust monitoring station is presented in **Table 2.2** and the respective locations are shown in Figure 2.1 of the EM&A Manual.

Table 2.2 Proposed Dust Monitoring Stations

ID No.	Location	Nature of Use	Remarks
A1	Cheung King House, Cheung Kwai Estate	Residential	Specified in the EM&A Manual but proposed to change location
A1a	The admin building inside the construction site	Institutional	Proposed alternative location to replace A1
A2	Cheung Chau Slaughter House	Slaughter house	Specified in the EM&A Manual but proposed to change location
A2a	The existing outfall pumping station inside the construction site	Institutional	Proposed alternative location to replace A2

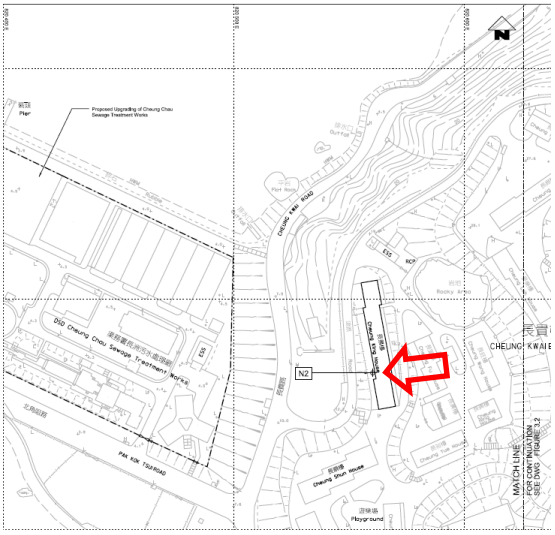
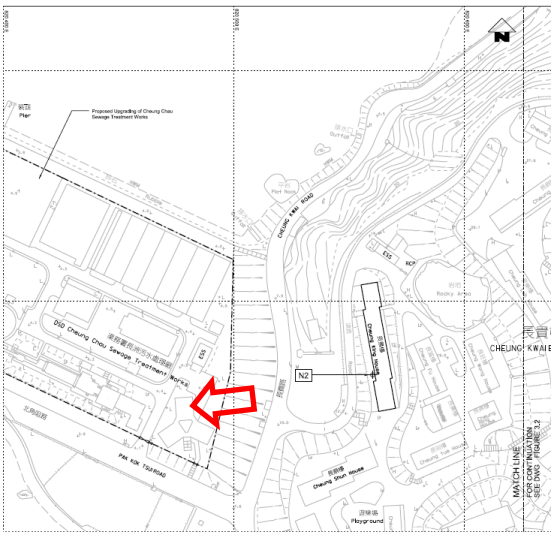
2.4.3. As secured electricity supply was not able to be provided at Monitoring Station A1, Monitoring Station A1a was then proposed, The proposed Monitoring Station A1a is the Admin Building inside the construction site. It is located at a similar direction as A1 from the construction site, but much closer to any major dust emission source than A1.

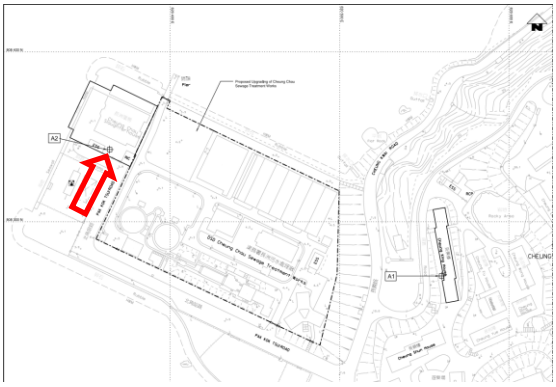
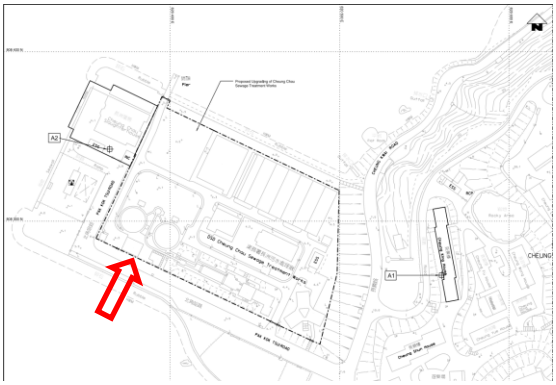
2.4.4. Monitoring Station A2 is now abandoned, only limited access can be granted and power supply cannot be guaranteed which may not feasible to be a monitoring location. An alternative location A2a, which is the existing outfall pumping station Building inside the

construction site. Location A2a is about 30 meter away from the Cheung Chau slaughter house and closer to the dust emission source.

2.4.5. The proposed alternative monitoring locations meet the guidelines and requirements specified in Section 2.4.1 and 2.4.2 of the EM&A Manual. **Table 2.3** shows the photographs of the air monitoring locations.

Table 2.3 Photo of Proposed HVS Position at Dust Monitoring Stations

ID	HVS Postion	Direction of Photo
A1		
The proposed Monitoring Station A1a is the Admin Building inside the construction site. It is located at a similar direction as A1 from the construction site, but much closer to any major dust emission source than A1.		
A1a		

ID	HVS Postion	Direction of Photo
A2		
Because Monitoring Station A2 is now abandoned, only limited access can be granted and power supply cannot be guarunteed which may not feasible to be a monitoring location.		
A2a		

2.5. Results and Analysis

2.5.1. The 1-hour TSP and 24-hour TSP measurement data are shown in Appendix D and summarized in **Table 2.4** and **Table 2.5** respectively .

Table 2.4 Summary of 1-hour TSP Monitoring Results

Monitoring Location	Average(µg/m3)	Range(µg/m3)
A1a	57	48 – 66
A2a	69	58 - 78

Table 2.5 Summary of 24-hour TSP Monitoring Results

Monitoring Location	Average(µg/m3)	Range(µg/m3)
A1a	35	19 - 55
A2a	44	28 - 51

2.6. Environmental Quality Performance Limits

2.6.1. The baseline monitoring results formed the basis for determining the air quality criteria for the impact monitoring. The ET shall compare the impact monitoring results with air quality criteria set up for 24-hour TSP and 1-hour TSP. **Table 2.6** shows the air quality criteria, namely Action and Limit levels to be used.

Table 2.6 Action / Limit Levels for Air Quality

Parameters	Action Level	Limit Level
1-hour TSP Level in µg/m³	For baseline level ≤ 200 µg/m³ AL = (BL * 1.3 + LL)/2 For baseline level > 200 µg/m³ AL = LL	260 µg/m³
24-hour TSP Level in µg/m³	For baseline level ≤ 384 µg/m³ AL = (BL * 1.3 + LL)/2 For baseline level > 384 µg/m³ AL = LL	500 µg/m³

2.6.2. The derived Action/Limit Levels are presented in **Table 2.7**.

Table 2.7 Derived Action / Limit Levels for Air Quality

Parameters	Monitoring Location	Action Level µg/m³	Limit Level µg/m³
1-hour TSP Level in µg/m³	A1a	151	260
	A2a	154	
24-hour TSP Level in µg/m³	A1a	270	500
	A2a	271	

2.7. Event and Action Plan

2.7.1. Should non-compliance of the air quality criteria occur, actions in accordance with the Action Plan in **Table 2.8** shall be carried out.

Table 2.8 Event and Action Plan for Air Quality (Construction Dust)

EVENT	ACTION PLAN FOR CONSTRUCTION DUST			
	ET	IEC	ER	CONTRACTOR
	ACTION LEVEL			
Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC and ER; 3. Repeat measurement to confirm finding; and 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; and 2. Check Contractor's working method.	1. Notify Contractor.	1. Rectify any unacceptable practice; and 2. Amend working methods if appropriate.
Exceedance for two or more consecutive samples	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, arrange meeting with IEC and ER; and 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ET on the effectiveness of the proposed remedial measures; and 5. Supervise implementation of remedial measures	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; and 3. Ensure remedial measures properly implemented.	1. Submit proposals for remedial to IEC within 3 working days of notification; 2. Implement the agreed proposals; and 3. Amend proposal if appropriate.

3. NOISE

3.1. MONITORING CRITERIA

3.1.1. Impact monitoring was conducted once a week between 07:00-19:00 hours on normal weekdays.

3.1.2. **Table 3.1** summarizes the monitoring parameters, frequency and duration of the noise monitoring.

Table 3.1 Noise Monitoring Parameters, Time, Frequency and Duration

Time	Duration	Interval	Parameters
Daytime: 0700-1900 hrs	Daily for at least 14 consecutive days	Continuously in $L_{eq\ 5min}$/$L_{eq\ 30min}$ (average of 6 consecutive $L_{eq\ 5min}$)	$L_{eq\ 5min}$, $L_{eq\ 30min}$, L_{10} & L_{90}

3.2. MONITORING REQUIREMENTS AND EQUIPMENT

3.2.1. Sound level meters and calibrators shall comply with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specification as referred to in the Technical Memorandum (TM) issued under the Noise Control Ordinance.

3.2.2. Sound level meters were calibrated using a portable calibrator prior to and following each noise measurement. Where the difference between the calibration levels is greater than 1.0 dB(A), the measurement shall be repeated. Calibrated hand-held anemometers were supplied for the measurement of wind speeds during noise monitoring periods.

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

3.2.4. The details of equipment used for impact monitoring are listed in **Table 3.2**, and the calibration certificates are presented in Appendix E.

Table 3.2 Equipment Used for Noise Monitoring

Equipment	Model	Serial Number
Sound Level Meter	Scarlet ST-11D	820259
Sound Level Meter	Scarlet ST-11D	820250
Acoustic Calibrator	Svantek SV 33B	83042

3.3. MONITORING LOCATION

3.3.1. According to the environmental findings detailed in the EIA report, the designated locations for the construction noise monitoring are listed in **Table 3.3** and shown in Figure 3.1 – 3.8 of the EM&A Manual.

Table 3.3 Noise Monitoring Stations for Noise Monitoring

ID No.	Location	Nature of Uses	Remarks	Façade/Free-field
N2	Cheung King House, Cheung Kwai Estate	Residential	Specified in the EM&A Manual but proposed to change location	Façade
N2a	Admin Building inside the Construction Site	Institutional	Proposed alternative location to replace N2	Façade
N3	No. 1A Pak She Second Lane	Residential	Specified in the EM&A Manual but proposed to change location	Free-field
N3a	Cheung Chau Fire Station	Fire Station	Proposed alternative location to replace N3	Free-field

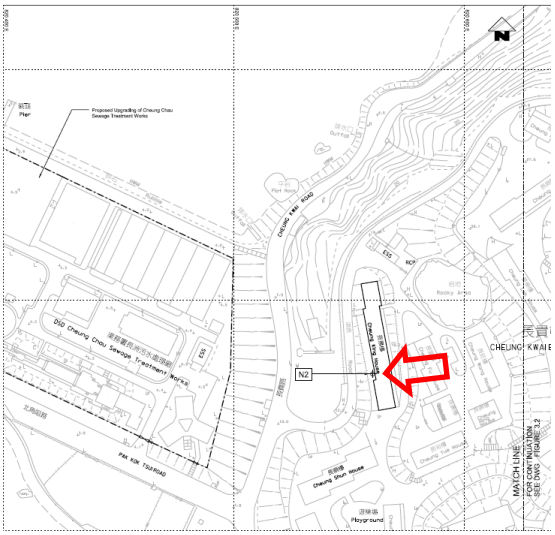
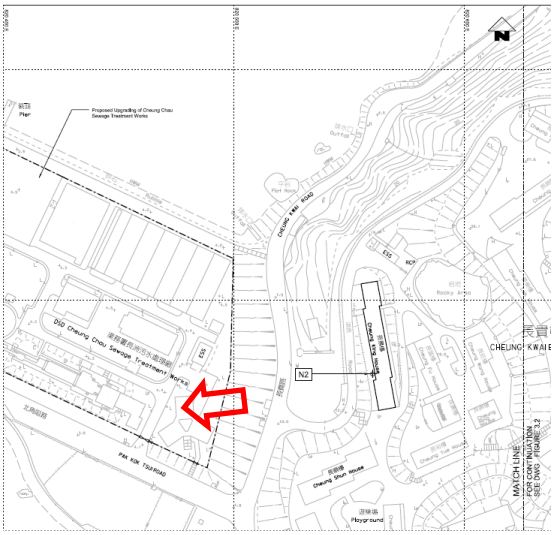
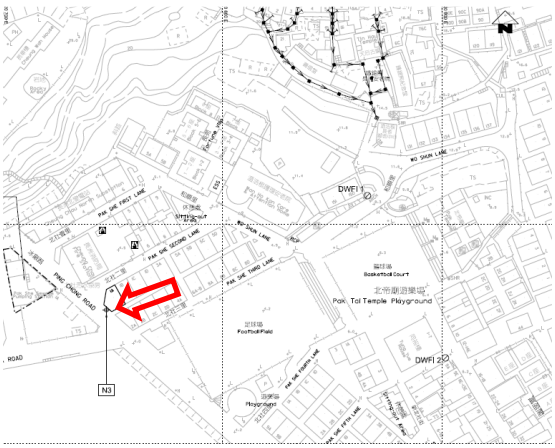
3.3.2. For this Contract, only N2 and N3 need to be monitored since all the other monitoring stations specified in the EM&A Manual are for sewers works but this Contract does not include sewers works.

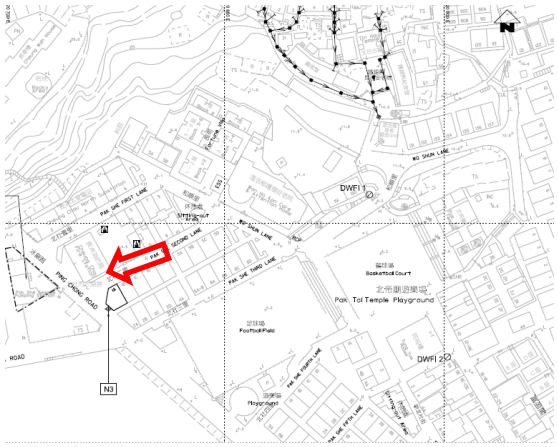
3.3.3. The proposed Monitoring Station N2a is the Admin Building inside the construction site. It is located at a similar direction as N2 from the construction site, but much closer to any major noise emission source than N2.

3.3.4. According to Figure 3.3 of the EM&A Manual, Location N3 is placed in front of a restaurant on Ping Chong Road. It may pose potential danger to pedestrians, cyclists, drivers and the equipment. A proposed monitoring location N3a, which is about 5 m away from the original monitoring location. N3a is at the corner of the Cheung Chau Fire Station. This location is more safe and meets the guidelines and requirements specified in Secion 3.4.1 and 3.4.2 of the EM&A Manual.

3.3.5. The monitoring locations should normally be made at a point 1m from the exterior of the NSRs building façade and be at a position 1.2m above the ground. **Table 3.4** showed photographs and indications of the proposed position of sound level meters to be placed for the baseline and impact monitoring.

Table 3.4 Photo of Proposed Sound Level Meter Position at Noise Monitoring Stations

ID	Sound Level Meter Postion	Direction of Photo
N2		
The proposed Monitoring Station N2a is the Admin Building inside the construction site. It is located at a similar direction as N2 from the construction site, but much closer to any major noise emission source than N2.		
N2a		
N3		
According to Figure 3.3 of the EM&A Manual, Location N3 is placed in front of a restaurant on Ping Chong Road. It may pose potential danger to pedestrians, cyclists, drivers and the equipment.		

ID	Sound Level Meter Postion	Direction of Photo
N3a		

3.4. Results and Analysis

3.4.1. The noise monitoring was carried out in Febraury 2021. The measurement data are shown in Appendix F and summarized in **Tables 3.5**.

Table 3.5 Summary of Noise Monitoring Results

Monitoring Location	Time Period	Average[dB(A))	Range[dB(A))
N2a	Daytime (0700-1900)	69.2	66.0 – 71.3
N3a	Daytime (0700-1900)	65.4	58.8 – 71.4

s: +3 dB(A) free-field corrections have been made to the data of N3a.

3.5. Environmental Quality Performance Limits

3.5.1. The Action and Limit levels for construction noise are shown in **Table 3.6**. All NSRs identified in the Project are classified with an Area Sensitivity Rating (ASR) A in accordance with the Technical Memorandum on Noise from Construction Work Other Than Percussive Piling.

Table 3.6 Action / Limit Levels for Construction Noise

Time Period	Action	Limit
07:00-19:00 hours on normal weekdays;	When one or more documented complaints are received	75dB(A)

3.6. Event and Action Plan

3.6.1. Should non-compliance of the air quality criteria occur, actions in accordance with the Action Plan in **Table 3.7** shall be carried out.

Table 3.7 Event and Action Plan for Construction Noise

Event	ET	IEC	ER	CONTRACTOR
Action Level	1. Notify ER, IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the IEC and contractor and formulate remedial measures; and 5. Increase monitoring frequency to check the effectiveness of mitigation measures.	1. Review the investigation results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; and 3. Advise the ER on the effectiveness of the proposed remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; and 4. Supervise the implementation of remedial measures.	1. Submit noise mitigation proposals to IEC and ER; and 2. Implement noise mitigation proposals.
Limit Level	1. Notify IEC, ER, EPD & Contractor; 2. Identify source and investigate the cause of exceedance; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Discuss with the IEC, Contractor and ER on remedial measures required; 7. Assess the effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; and 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst ET, ER and Contractor on the potential remedial actions; and 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the EIC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures; and 5. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC and ER within 3 working days of notification; 3. Implement the agreed proposals; 4. Submit further proposal if problem still not under control; and 5. Stop the relevant portion of works as determined by ER, until the exceedance is abated.

4. WATER QUALITY

4.1. As suggested in Section 4.3 of the EM&A Manual, regular site audit was carried out to ensure that the recommended mitigation measures were properly implemented during the construction phase of upgrading of Cheung Chau STW and Pak She SPS. Site audit included site inspections and compliance audits were conducted in the reporting period.

4.2. Site inspection was carried out by the ET on 03, 10, 17, 23 and 31 May 2022. No major deficiency was observed and the implementation of recommended for water pollution control was considered satisfactory.

4.3. Compliance audits were undertaken that a valid discharge license was issued by EPD on 20 August 2021. The Contractor was reminded to make sure any effluent discharge from construction activities of the Project site should meet the requirements stipulated in the discharge license and monitoring of the treated effluent quality from the Works Areas should be carried out in accordance with the Water Pollution Control Ordinance license that is under the ambit of the relevant regional EPD office .

4.4. According to the Specific Conditions B2 in Part B of the discharge licence issued under WPCO, a sample of discharge was taken on 14 April 2022 for testing. The analytical report had been submitted to EPD on 5 May 2022. The quality of the discharge compliance with the requirements of the discharge licence.

5. WASTE MANAGEMENT

5.1. The waste generated from this Project includes inert construction and demolition (C&D) materials, and non-inert C&D materials. Non-inert C&D materials are made up of general refuse, vegetative wastes and recyclable wastes such as plastics and paper/cardboard packaging waste. Steel materials generated from the project are also grouped into non-inert C&D materials as the materials were not disposed of with other inert C&D materials. With reference to relevant handling records and trip tickets of this Project, the quantities of different types of waste generated in the reporting month are presented in **Table 5.1**.

Contract No: DC/2019/07

Outlying Islands Sewerage Stage 2 – Upgrading of Cheung Chau Sewage Treatment and Disposal Facilities

Name of Department : Drainage Services Department

Contract No./ Work Order No. : DC/2019/07
Project Title: Outlying Islands Sewerage Stage 2 – Upgrading of Cheung Chau Sewage Treatment and Disposal Facilities
Contractor: Build King Civil Engineering Limited
Trip Ticket Account (Main Account): 7039094
Trip Ticket Account (Vessel Account): 7040870

Table 5.1: Monthly Summary Waste Flow Table for 2022 (in Weight)

(All quantities shall be rounded off to 3 decimal places)

updated on: 08-Jun-2022

Month	Actual Quantities of Inert C&D Materials Generated / Imported (in '000 kg)						Actual Quantities of Other C&D Materials / Wastes Generated				
	Total Quantities Generated [a+b+c+d+e+f+g+h+i]	Broken Concrete (including rock for recycling into aggregates) (a)	Reused in the Contract (b)	Reused in Other Projects (c)	Disposed as Public Fill (d)	Imported C&D Material	Metal (e) (in '000kg)	Paper/ Cardboard Packaging (f) (in '000kg)	Plastic (g) (bottles/containers, plastic sheets/ foams from package material) (in '000kg)	Chemical Waste (h) (in '000kg)	Others (i) (e.g. General Refuse etc.) (in '000kg)
Jan-2022	42.0400	0.0000	0.0000	0.0000	40.5200	0.0000	0.0000	0.0000	0.0000	0.0000	1.5200
Feb-2022	1.3800	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.3800
Mar-2022	2736.9100	0.0000	0.0000	0.0000	2735.9500	0.0000	0.0000	0.0000	0.0000	0.0000	0.9600
Apr-2022	1357.0800	0.0000	0.0000	0.0000	1353.9000	0.0000	0.0000	0.0000	0.0000	0.0000	3.1800
May-2022	1888.2200	0.0000	0.0000	0.0000	1885.0000	0.0000	0.0000	0.0000	0.0000	0.0000	3.2200
Jun-2022											
Half-year total	6025.6300	0.0000	0.0000	0.0000	6015.3700	0.0000	0.0000	0.0000	0.0000	0.0000	10.2600
Jul-2022											
Aug-2022											
Sep-2022											
Oct-2022											
Nov-2022											
Dec-2022											
Yearly Total	6025.6300	0.0000	0.0000	0.0000	6015.3700	0.0000	0.0000	0.0000	0.0000	0.0000	10.2600

(All quantities shall be rounded off to 3 decimal places)

Year	Actual Quantities of Inert C&D Materials Generated / Imported (in '000 kg)						Actual Quantities of Other C&D Materials / Wastes Generated				
	Total Quantities Generated [a+b+c+d+e+f+g+h+i]	Broken Concrete (including rock for recycling into aggregates) (a)	Reused in the Contract (b)	Reused in Other Projects (c)	Disposed as Public Fill (d)	Imported C&D Material	Metal (in '000kg)	Paper/ Cardboard Packaging (in '000kg)	Plastic (bottles/containers, plastic sheets/ foams from package material) (in '000kg)	Chemical Waste (in '000kg)	Others (e.g. General Refuse etc.) (in '000kg)
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2021	858.3600	0.0000	0.0000	0.0000	786.3000	0.0000	0.0000	0.0000	0.0000	0.0000	72.0600
2022	6025.6300	0.0000	0.0000	0.0000	6015.3700	0.0000	0.0000	0.0000	0.0000	0.0000	10.2600
2023	0.0000										
2024	0.0000										
2025	0.0000										
2026	0.0000										
Total	6883.9900	0.0000	0.0000	0.0000	6801.6700	0.0000	0.0000	0.0000	0.0000	0.0000	82.3200

Remark:

1) Density of C&D material to be 2 metric ton/m3
2) Density of General Refuse to be 1.6 metric ton/m3
3) Density of Chemical Waste to be 0.88 metric ton/m3

Notes:

(1) *The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Sites.*
(2) *Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.*
(3) *The summary table shall be submitted to the Project Manager monthly together with the Waste Flow Table for review and monitoring in accordance with the PS Clause 25.20(8)*

6. LANDSCAPE & VISUAL

6.1. The EIA Report has recommended landscape and visual mitigation measures to be undertaken during construction and operational phases of the upgrading of Cheung Chau STW under this Project. The implementation and maintenance of landscape mitigation measures were checked to ensure that they are fully realised and that potential conflicts between the proposed landscape measures and any other project works and without compromise to the intention of the mitigation measures.

6.2. Regular audits were carried out to ensure all the recommended landscape and visual mitigation measures were effectively implemented.

6.3. The EM&A Manual proposed mitigation measures were checked on a regular basis to ensure compliance with the intended aims of the EIA.

7. SITE INSPECTION AUDIT

7.1. Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures under the Contract. In the reporting period, site inspections were carried out on 03, 10, 17, 23 and 31 May 2022. A joint site inspection with IEC was carried out on 23 May 2022.

7.2. Environmental deficiencies were observed during weekly site inspection. Key observations during the site inspections and during the reporting period are summarized in **Table 7.1**.

Table 7.1 Site Observations

Date	Environmental Observations	Follow-up Status	Reminders
03 May 2022	NIL	NA	NIL
10 May 2022	NIL	NA	NIL
17 May 2022	NIL	NA	NIL
23 May 2022	NIL	NA	Contractor is reminded to cover all stockpiles after work.
31 May 2022	NIL	NA	NIL

7.3. According to the EIA Study Report, Environmental Permit, contract documents and EM&A Manual, the mitigation measures detailed in the documents should be implemented as much as practical during the reporting period. An updated Implementation Status of Environmental Mitigation Measures (EMIS) is provided in **Appendix G**.

8. CONCLUSION

8.1. This is the 10th Monthly EM&A Report for the Project which summarizes the key findings of the programme during the reporting period from 1 May to 31 May 2022, in accordance with the EM&A Manual and the requirement under EP-488/2014/A.

8.2. Five (5) sessions of air and five (5) sessions of noise monitoring were carried out at the monitoring locations sited at Cheung Chau in the reporting month.

8.3. Site audits were conducted as mitigation measures recommended for water pollution control and landscape and visual impact monitoring in the reporting period. Proper mitigation measures were implemented.

8.4. Weekly environmental site inspections were conducted during the reporting period. Only minor deficiencies were observed during site inspections. The environmental performance of the project was therefore considered satisfactory.

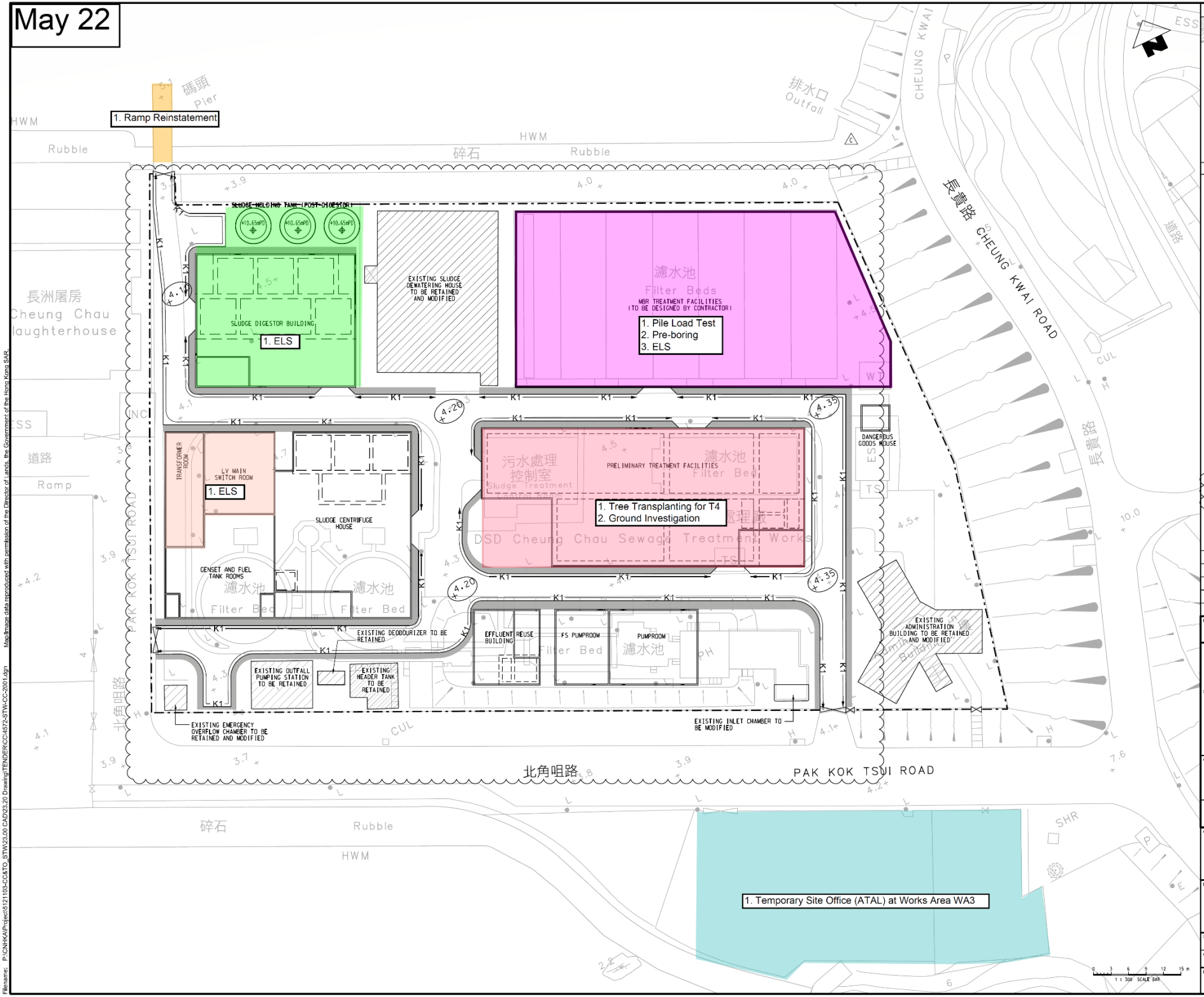
8.5. No exceedance of Action or Limit Level was recorded in the reporting period.

8.6. No environmental complaint was received in the reporting period.

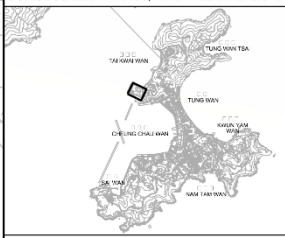
8.7. No notification of summons or prosecution was received during the reporting period.

APPENDIX A
Location Plan and Noise and Dust Monitoring Stations

May 22



DO NOT SCALE DRAWINGS, VERIFY ALL DIMENSIONS ON SITE



KEY PLAN SCALE : N.T.S.

NOTES:

1. FOR GENERAL NOTES AND LEGENDS, REFER TO DRAWING NO. 4572-STW-CC-2000.
2. BOUNDARY AND SECURITY FENCE, REFER TO DRAWING NOS. 4572-STW-CC-5045 AND 5046.
3. ALL ROAD SHALL BE IN CONCRETE PAVEMENT. FOR DETAILS OF CONCRETE PAVEMENT, REFER TO HIGHWAYS DEPARTMENT STANDARD DRAWING H1102. THE THICKNESS OF CONCRETE SLAB SHALL BE 220MM. THE THICKNESS OF GRANULAR SUB-BASE SHALL BE 225MM IF CALIFORNIA BEARING RATIO (CBR) VALUE IS LARGER OR EQUAL TO 5%. CAPPING LAYER, GRANULAR FILL MATERIAL IN ACCORDANCE WITH SECTION 6 OF THE GENERAL SPECIFICATION FOR CIVIL ENGINEERING WORKS, IS REQUIRED AND THE THICKNESS OF THE GRANULAR SUB-BASE SHALL BE ADJUSTED IF CBR VALUE IS SMALLER THAN 5% ACCORDING TO THE HIGHWAYS DEPARTMENT GUIDANCE NOTES ON PAVEMENT DESIGN FOR CARRIAGEWAY CONSTRUCTION.
4. ALL FOOTWAY SHALL BE CONCRETE FOOTWAY. EXTENT OF FOOTWAY SHALL BE READ IN CONJUNCTION WITH DRAWINGS 4572-STW-CC-5000 AND 5800 SERIES. FOR DETAILS OF CONCRETE FOOTWAY, REFER TO HIGHWAYS DEPARTMENT STANDARD DRAWING H1104.
5. KERB SHALL BE TYPE K1. FOR DETAILS OF KERB TYPE K1, REFER TO HIGHWAYS DEPARTMENT STANDARD DRAWING H1118.

LEGEND:

- BOUNDARY OF CHEUNG CHAU SEWAGE TREATMENT WORKS
- ACCESS GATE
- EXISTING STRUCTURE TO BE RETAINED
- 4.35 PROPOSED GROUND LEVEL
- FOOTWAY
- K1 KERB TYPE K1

Rev.	Date	Description	By	Chkd	Appd
C	07/20	TENDER ADDENDUM NO. 5	WYWC	DSJS	XY
B	06/20	TENDER ADDENDUM NO. 4	WYWC	DSJS	XY
A	08/20	TENDER ADDENDUM NO. 3	WYWC	DSJS	XY
-	03/20	ISSUE FOR TENDER	WYWC	DSJS	XY

Drawing Status: TENDER

Suitability: -

Supported By: ATKINS, Member of the SNC-Lavalin Group; wsp; A.LEAD architects ltd.

Client: 渠務署 Drainage Services Department

顧問工程管理部 Consultants Management Division

Contract Title: CONTRACT NO. DC/2019/07 OUTLYING ISLANDS SEWERAGE STAGE 2 - UPGRADING OF CHEUNG CHAU SEWAGE TREATMENT AND DISPOSAL FACILITIES

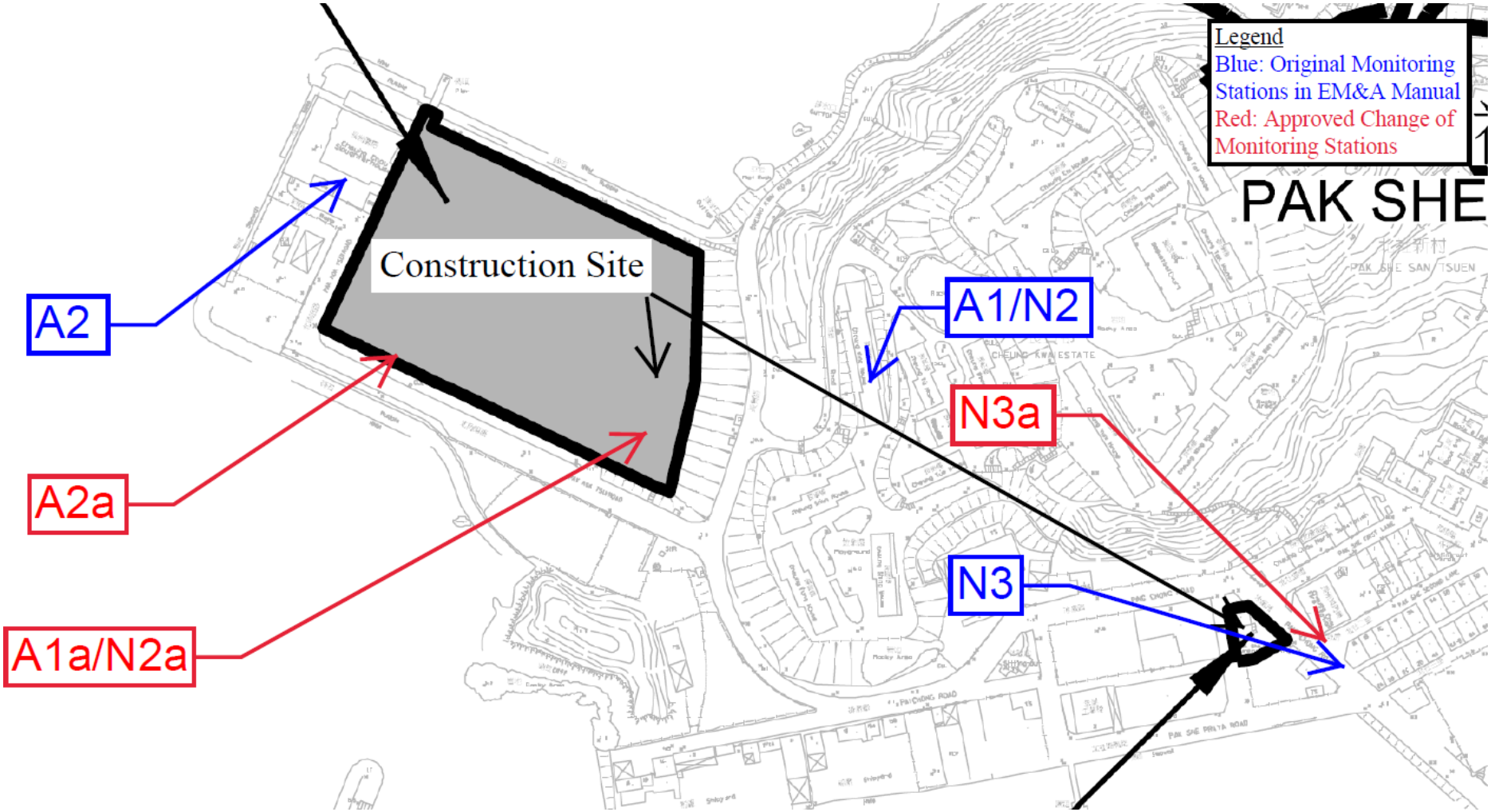
Drawing Title: UPGRADING OF CHEUNG CHAU STW GENERAL LAYOUT

Scale	Designed	Drawn	Checked	Authorised
1 : 300	WYWC	AC	DSJS	XY
Original Size	Date	Date	Date	Date
A1	MAR 2020	MAR 2020	MAR 2020	MAR 2020

Drawing Number: 4572-STW-CC-2001

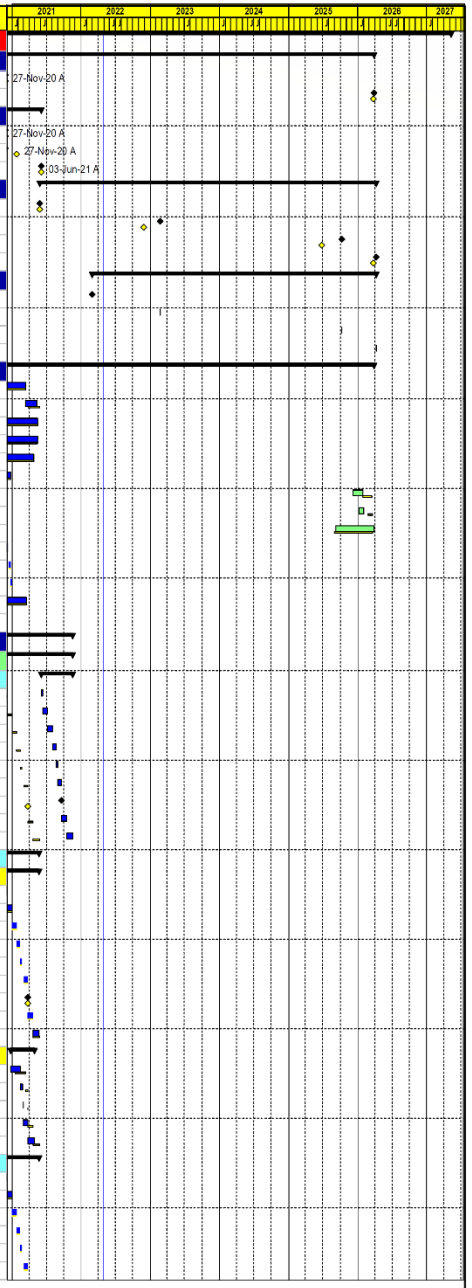
Revision: C

User name: CHEUR306 Date:7/12/2020 Time: 10:56:28 PM
Filename: P:\CNHK\Projects\121103-CC&TO_STW\23.00 CAD\23.20 Drawing\TENDER\CC\4572-STW-CC-2001.dgn



APPENDIX B
Construction Programme

Activity ID	Activity Name	Ori. Dur (d)	TRA (d)	Time Elapsed %	Actual Workdone %	Actual Start	Actual Finish	Early Start	Early Finish	Late Start	Late Finish	Early Start (Rev. 12)	Early Finish (Rev. 12)	Amended Activities	Total Float
OUTLYING ISLANDS SEWERAGE STAGE2 - UPGRADING OF CHEUNG CHAU SEWAGE TREATMENT AND DISPOSAL F				22.05%		27-Nov-20		27-Nov-20 A	08-May-27	30-Apr-22	08-May-27	27-Nov-20	10-Feb-27		0
KEY DATES				100%		27-Nov-20		27-Nov-20 A	30-Mar-26	30-Mar-26	30-Mar-26	27-Nov-20	23-Mar-26		0
DC.KD.1010	Contract Starting Date	0	0	100%	100%	27-Nov-20		27-Nov-20 A				27-Nov-20			
DC.KD.1020	Contract Completion Date	0	0	0%	0%				30-Mar-26*		30-Mar-26		23-Mar-26		0
ACCESS DATES				100%		27-Nov-20	03-Jun-21	27-Nov-20 A	03-Jun-21 A			27-Nov-20	03-Jun-21		
DC.KD.1030	Portion A, B, C, D, E, F and Works Area WA1	0	0	100%	100%	27-Nov-20		27-Nov-20 A				27-Nov-20			
DC.KD.1030a	Works Area WA2	0	0	100%	100%	27-Nov-20		27-Nov-20 A				25-Jan-21			
DC.KD.1040	Works Area WA3	0	0	100%	100%	03-Jun-21		03-Jun-21 A				03-Jun-21			
PLANNED COMPLETION DATES				35.68%		29-May-21		29-May-21 A	10-Apr-26	22-Feb-23	10-Apr-26	29-May-21	23-Mar-26		0
DC.KD.1050	Planned Completion of Section 1	0	0	100%	100%		29-May-21		29-May-21 A				29-May-21	*	
DC.KD.1060	Planned Completion of Section 2	0	0	0%	0%				22-Feb-23*		22-Feb-23		28-Nov-22	*	0
DC.KD.1070	Planned Completion of Section 3	0	0	0%	0%				08-Oct-25*		08-Oct-25		23-Jun-25	*	0
DC.KD.1080	Planned Completion of Section 4	0	0	0%	0%				10-Apr-26*		10-Apr-26		23-Mar-26	*	0
CONTRACT SECTIONAL COMPLETION DATES				23.9%		28-Feb-22		28-Feb-22 A	10-Apr-26	03-Dec-22	30-Mar-26				-10
DC.KD.1230	Contract Sectional Completion Date of Section 1			100%	100%		28-Feb-22		28-Feb-22 A						
DC.KD.1250	Contract Sectional Completion Date of Section 2			0%	0%			22-Feb-23	22-Feb-23*	03-Dec-22	03-Dec-22			*	-84
DC.KD.1260	Contract Sectional Completion Date of Section 3			0%	0%			08-Oct-25	08-Oct-25*	28-Jun-25	28-Jun-25			*	-84
DC.KD.1270	Contract Sectional Completion Date of Section 4			0%	0%			10-Apr-26	10-Apr-26*	30-Mar-26	30-Mar-26			*	-7
DESIGN SUBMISSION, PERMIT				70.06%		27-Nov-20		27-Nov-20 A	27-Mar-26	09-Aug-25	10-Apr-26	27-Nov-20	20-Mar-26		14
DC.KD.1090	Prepare/submission of Temporary Drainage and Sewerage Management Plan to the Supervisor, DSD/HK&I and DSD/LDD	106	0	100%	100%	27-Nov-20	12-Mar-21	27-Nov-20 A	12-Mar-21 A			27-Nov-20	12-Mar-21		
DC.KD.1100	Consultation/approval of Temporary Drainage and Sewerage Management Plan by the Supervisor, DSD/HK&I and DSD/LDD	60	0	100%	100%	13-Mar-21	11-May-21	13-Mar-21 A	11-May-21 A			31-Mar-21	29-May-21		
DC.KD.1110	Application/approval of MDN & seeking Marine Dept's approval for loading/unloading at passage area near WA2 and PSSPS	170	0	100%	100%	27-Nov-20	15-May-21	27-Nov-20 A	15-May-21 A			27-Nov-20	15-May-21		
DC.KD.1120	Application/approval of TTMS and CNP for night works by relevant authorities	170	0	100%	100%	27-Nov-20	15-May-21	27-Nov-20 A	15-May-21 A			27-Nov-20	15-May-21		
DC.KD.1130	Application/approval of permits or other statutory submissions by relevant authorittes/parties	150	0	100%	100%	27-Nov-20	25-Apr-21	27-Nov-20 A	25-Apr-21 A			27-Nov-20	25-Apr-21		
DC.KD.1140	BIM Execution Plan	30	0	100%	100%	27-Nov-20	26-Dec-20	27-Nov-20 A	26-Dec-20 A			27-Nov-20	26-Dec-20		
DC.KD.1150	Preparation and submission of BIM's CoBie/Asset data deliverables	50	0	0%	0%			08-Dec-25	26-Jan-26	20-Feb-26	10-Apr-26	28-Jan-26	18-Mar-26		74
DC.KD.1160	Preparation and submission of fully coordinated as-built BIM model	25	0	0%	0%			07-Jan-26	31-Jan-26	17-Mar-26	10-Apr-26	23-Feb-26	19-Mar-26		69
DC.KD.1170	Preparation and submission of proposal of COBie/Asset information requirements	200	0	0%	0%			09-Sep-25	27-Mar-26	23-Sep-25	10-Apr-26	02-Sep-25	20-Mar-26		14
DC.KD.1180	Preparation and submission of Draft Safety Plan	14	0	100%	100%	27-Nov-20	10-Dec-20	27-Nov-20 A	10-Dec-20 A			27-Nov-20	10-Dec-20		
DC.KD.1190	Obtain comments on Draft Safety Plan	14	0	100%	100%	11-Dec-20	24-Dec-20	11-Dec-20 A	24-Dec-20 A			11-Dec-20	24-Dec-20		
DC.KD.1200	Preparation and Submission of Safety Plan	7	0	100%	100%	25-Dec-20	31-Dec-20	25-Dec-20 A	31-Dec-20 A			25-Dec-20	31-Dec-20		
DC.KD.1210	Preparation and Submission of Tree Survey Report	111	0	100%	100%	27-Nov-20	17-Mar-21	27-Nov-20 A	17-Mar-21 A			27-Nov-20	17-Mar-21		
DC.KD.1220	Obtain Discharge License by Client	1	0	0%	0%			22-Aug-24	22-Aug-24	09-Aug-25	09-Aug-25	19-Aug-24	19-Aug-24	*	352
SECTION 1				100%		27-Nov-20	18-Nov-21	27-Nov-20 A	18-Nov-21 A			27-Nov-20	29-May-21		
TECHNICAL PROPOSAL for ECI Stage 2				100%		27-Nov-20	18-Nov-21	27-Nov-20 A	18-Nov-21 A			27-Nov-20	27-May-21		
Technical Proposal for Preliminary Treatment System at CCSTW				100%		03-Jun-21	18-Nov-21	03-Jun-21 A	18-Nov-21 A			27-Nov-20	27-May-21		
DC.S1.1010	Preparation and approval of content page	10	0	100%	100%	03-Jun-21	12-Jun-21	03-Jun-21 A	12-Jun-21 A			27-Nov-20	06-Dec-20		
DC.S1.1020	Preparation of design report including design intention and list of design parameters / assumptions	25	0	100%	100%	13-Jun-21	07-Jul-21	13-Jun-21 A	07-Jul-21 A			07-Dec-20	31-Dec-20		
DC.S1.1030	Preparation of process calculation and equipment sizing	25	0	100%	100%	08-Jul-21	01-Aug-21	08-Jul-21 A	01-Aug-21 A			01-Jan-21	25-Jan-21		
DC.S1.1040	Preparation of general layout and equipment location plan	20	0	100%	100%	02-Aug-21	21-Aug-21	02-Aug-21 A	21-Aug-21 A			26-Jan-21	14-Feb-21		
DC.S1.1050	Preparation of control philosophy	9	0	100%	100%	22-Aug-21	30-Aug-21	22-Aug-21 A	30-Aug-21 A			15-Feb-21	23-Feb-21		
DC.S1.1060	Preparation of remaining content of technical prosposal	19	0	100%	100%	31-Aug-21	18-Sep-21	31-Aug-21 A	18-Sep-21 A			07-Mar-21	25-Mar-21		
DC.S1.1070	Draft Submission	0	0	100%	100%		18-Sep-21		18-Sep-21 A				25-Mar-21		
DC.S1.1080	Draft Submission Comment and Approval	27	0	100%	100%	19-Sep-21	15-Oct-21	19-Sep-21 A	15-Oct-21 A			27-Mar-21	22-Apr-21		
DC.S1.1090	Final Submission	34	0	100%	100%	16-Oct-21	18-Nov-21	16-Oct-21 A	18-Nov-21 A			24-Apr-21	27-May-21		
Technical Proposal for MBR System and MBR Building at CCSTW				100%		27-Nov-20	25-May-21	27-Nov-20 A	25-May-21 A			27-Nov-20	27-May-21		
E&M Submission				100%		27-Nov-20	25-May-21	27-Nov-20 A	25-May-21 A			27-Nov-20	27-May-21		
DC.S1.1110	Preparation and approval of content page	10	0	100%	100%	27-Nov-20	06-Dec-20	27-Nov-20 A	06-Dec-20 A			27-Nov-20	06-Dec-20		
DC.S1.1120	Preparation of design report including design intention and list of design parameters / assumptions	25	0	100%	100%	07-Dec-20	31-Dec-20	07-Dec-20 A	31-Dec-20 A			07-Dec-20	31-Dec-20		
DC.S1.1130	Preparation of process calculation and equipment sizing	25	0	100%	100%	01-Jan-21	25-Jan-21	01-Jan-21 A	25-Jan-21 A			01-Jan-21	25-Jan-21		
DC.S1.1140	Preparation of general layout and equipment location plan	20	0	100%	100%	26-Jan-21	14-Feb-21	26-Jan-21 A	14-Feb-21 A			26-Jan-21	14-Feb-21		
DC.S1.1150	Preparation of control philosophy	9	0	100%	100%	15-Feb-21	23-Feb-21	15-Feb-21 A	23-Feb-21 A			15-Feb-21	23-Feb-21		
DC.S1.1160	Preparation of remaining content of technical prosposal	19	0	100%	100%	07-Mar-21	25-Mar-21	07-Mar-21 A	25-Mar-21 A			07-Mar-21	25-Mar-21		
DC.S1.1170	Draft Submission	0	0	100%	100%		25-Mar-21		25-Mar-21 A				25-Mar-21		
DC.S1.1180	Draft Submission Comment and Approval	27	0	100%	100%	26-Mar-21	21-Apr-21	26-Mar-21 A	21-Apr-21 A			27-Mar-21	22-Apr-21		
DC.S1.1190	Final Submission	34	0	100%	100%	22-Apr-21	25-May-21	22-Apr-21 A	25-May-21 A			24-Apr-21	27-May-21		
Civil and Structural Submission				100%		23-Dec-20	29-Apr-21	23-Dec-20 A	29-Apr-21 A			18-Jan-21	27-May-21		
DC.S1.1680	Preparation of Design Report	54	0	100%	100%	23-Dec-20	14-Feb-21	23-Dec-20 A	14-Feb-21 A			18-Jan-21	12-Mar-21		
DC.S1.1690	Preparation of BIM Modeling	13	0	100%	100%	15-Feb-21	27-Feb-21	15-Feb-21 A	27-Feb-21 A			13-Mar-21	25-Mar-21		
DC.S1.1700	Submission of Draft Technical Proposal	0	0	100%	100%	28-Feb-21	28-Feb-21	28-Feb-21 A	28-Feb-21 A			25-Mar-21	25-Mar-21		
DC.S1.1710	Draft Submission Comment and Approval	27	0	100%	100%	28-Feb-21	26-Mar-21	28-Feb-21 A	26-Mar-21 A			27-Mar-21	22-Apr-21		
DC.S1.1720	Final Submission (With ICE Certificate)	34	0	100%	100%	27-Mar-21	29-Apr-21	27-Mar-21 A	29-Apr-21 A			24-Apr-21	27-May-21		
Technical Proposal for Sludge Treatment System at CCSTW				100%		27-Nov-20	25-May-21	27-Nov-20 A	25-May-21 A			27-Nov-20	27-May-21		
DC.S1.1210	Preparation and approval of content page	10	0	100%	100%	27-Nov-20	06-Dec-20	27-Nov-20 A	06-Dec-20 A			27-Nov-20	06-Dec-20		
DC.S1.1220	Preparation of design report including design intention and list of design parameters / assumptions	25	0	100%	100%	07-Dec-20	31-Dec-20	07-Dec-20 A	31-Dec-20 A			07-Dec-20	31-Dec-20		
DC.S1.1230	Preparation of process calculation and equipment sizing	25	0	100%	100%	01-Jan-21	25-Jan-21	01-Jan-21 A	25-Jan-21 A			01-Jan-21	25-Jan-21		
DC.S1.1240	Preparation of general layout and equipment location plan	20	0	100%	100%	26-Jan-21	14-Feb-21	26-Jan-21 A	14-Feb-21 A			26-Jan-21	14-Feb-21		
DC.S1.1250	Preparation of control philosophy	9	0	100%	100%	15-Feb-21	23-Feb-21	15-Feb-21 A	23-Feb-21 A			15-Feb-21	23-Feb-21		
DC.S1.1260	Preparation of remaining content of technical prosposal	19	0	100%	100%	07-Mar-21	25-Mar-21	07-Mar-21 A	25-Mar-21 A			07-Mar-21	25-Mar-21		



Primary Baseline
Actual Work
Remaining Work
Critical Remaining Work
Baseline Milestone

DC/2019/07 OUTLYING ISLANDS SEWERAGE STAGE2 - UPGRADING OF CHEUNG CHAU SEWAGE TREATMENT AND DISPOSAL FACILITIES

REVISED PROGRAMME - REV. 14 (30 April 2022)

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31-Jan-22	Rev.12	JL	AL
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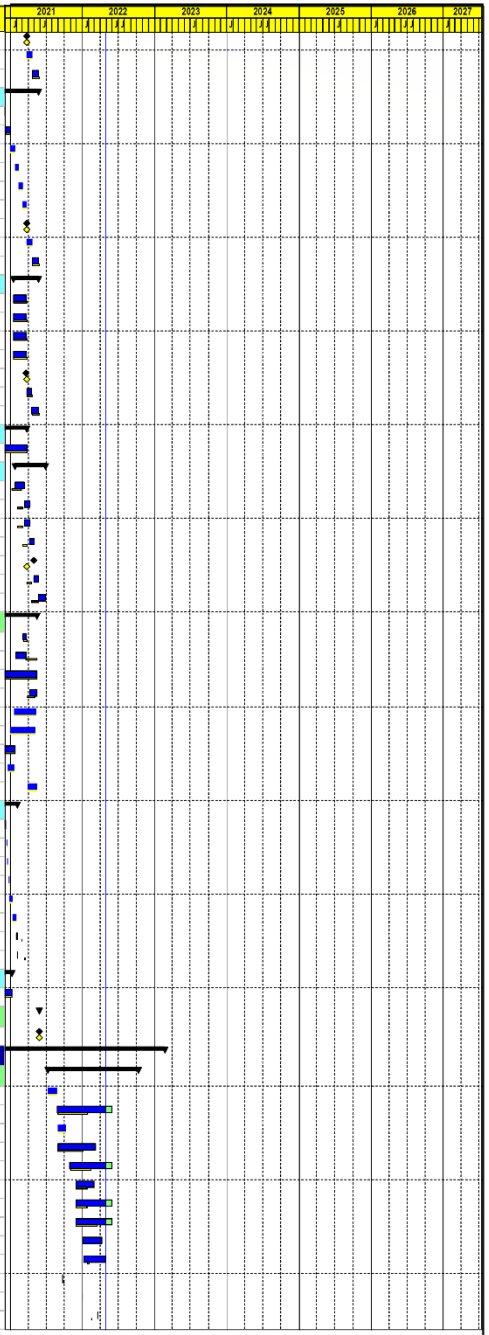
30-Apr-22	Rev.14	JL	AL

Activity ID	Activity Name	Orl. Dur (d)	TRA (d)	Time Elapsed %	Actual Workdone %	Actual Start	Actual Finish	Early Start	Early Finish	Late Start	Late Finish	Early Start (Rev. 12)	Early Finish (Rev. 12)	Amended Activities	Total Float
DC.S1.1270	Draft Submission	0	0	100%	100%		25-Mar-21		25-Mar-21 A				25-Mar-21		
DC.S1.1280	Draft Submission Comment and Approval	27	0	100%	100%	26-Mar-21	21-Apr-21	26-Mar-21 A	21-Apr-21 A			27-Mar-21	22-Apr-21		
DC.S1.1290	Final Submission	34	0	100%	100%	22-Apr-21	25-May-21	22-Apr-21 A	25-May-21 A			24-Apr-21	27-May-21		
Technical Proposal for Electrical Works at CCSTW				100%		27-Nov-20	25-May-21	27-Nov-20 A	25-May-21 A			27-Nov-20	27-May-21		
DC.S1.1310	Preparation and approval of content page	10	0	100%	100%	27-Nov-20	06-Dec-20	27-Nov-20 A	06-Dec-20 A			27-Nov-20	06-Dec-20		
DC.S1.1320	Preparation of design report including design intention and list of design parameters / assumptions	25	0	100%	100%	07-Dec-20	31-Dec-20	07-Dec-20 A	31-Dec-20 A			07-Dec-20	31-Dec-20		
DC.S1.1330	Preparation of process calculation and equipment sizing	25	0	100%	100%	01-Jan-21	25-Jan-21	01-Jan-21 A	25-Jan-21 A			01-Jan-21	25-Jan-21		
DC.S1.1340	Preparation of general layout and equipment location plan	20	0	100%	100%	26-Jan-21	14-Feb-21	26-Jan-21 A	14-Feb-21 A			26-Jan-21	14-Feb-21		
DC.S1.1350	Preparation of control philosophy	20	0	100%	100%	15-Feb-21	06-Mar-21	15-Feb-21 A	06-Mar-21 A			15-Feb-21	06-Mar-21		
DC.S1.1360	Preparation of remaining content of technical prosposal	19	0	100%	100%	07-Mar-21	25-Mar-21	07-Mar-21 A	25-Mar-21 A			07-Mar-21	25-Mar-21		
DC.S1.1370	Draft Submission	0	0	100%	100%		25-Mar-21		25-Mar-21 A				26-Mar-21		
DC.S1.1380	Draft Submission Comment and Approval	27	0	100%	100%	26-Mar-21	21-Apr-21	26-Mar-21 A	21-Apr-21 A			27-Mar-21	22-Apr-21		
DC.S1.1390	Final Submission	34	0	100%	100%	22-Apr-21	25-May-21	22-Apr-21 A	25-May-21 A			24-Apr-21	27-May-21		
Technical Proposal for Temp. Works Design for the 1st 3months of ECI S2				100%		16-Jan-21	23-May-21	16-Jan-21 A	23-May-21 A			18-Jan-21	27-May-21		
DC.S1.1410a	Preparation and approval of Technical Prosposal for ELS Design of Sludge Digester Bulding	67	0	100%	100%	16-Jan-21	23-Mar-21	16-Jan-21 A	23-Mar-21 A			18-Jan-21	25-Mar-21		
DC.S1.1410b	Preparation and approval of Technical Proposal for ELS Design of LV Main Switch Rm, Transformer Rm & WAS Storage Tanks	67	0	100%	100%	16-Jan-21	23-Mar-21	16-Jan-21 A	23-Mar-21 A			18-Jan-21	25-Mar-21		
DC.S1.1410c	Preparation and approval of Technical Proposal for ELS Design of MBR Treatment Facilities	67	0	100%	100%	16-Jan-21	23-Mar-21	16-Jan-21 A	23-Mar-21 A			18-Jan-21	25-Mar-21		
DC.S1.1410d	Preparation and approval of Technical Proposal for ELS of 750mm diameter emergency bypass diversion at PSSPS	67	0	100%	100%	16-Jan-21	23-Mar-21	16-Jan-21 A	23-Mar-21 A			18-Jan-21	25-Mar-21		
DC.S1.1420	Draft Submission	0	0	100%	100%		23-Mar-21		23-Mar-21 A				25-Mar-21		
DC.S1.1430	Draft Submission Comment and Approval	27	0	100%	100%	24-Mar-21	19-Apr-21	24-Mar-21 A	19-Apr-21 A			27-Mar-21	22-Apr-21		
DC.S1.1440	Final Submission	34	0	100%	100%	20-Apr-21	23-May-21	20-Apr-21 A	23-May-21 A			24-Apr-21	27-May-21		
Technical Proposal for Accommodation for the Project Manager's,Supervisor's & Contractor's Co-Office				100%		27-Nov-20	25-Mar-21	27-Nov-20 A	25-Mar-21 A			27-Nov-20	25-Mar-21		
DC.S1.1460	ECI Stage 1 - Technical proposal for accommodation for the Project Manager's,Supervisor's & Contractor's co-office	119	0	100%	100%	27-Nov-20	25-Mar-21	27-Nov-20 A	25-Mar-21 A			27-Nov-20	25-Mar-21		
Technical Proposal for DfMA including application of prefabrication and MiC				100%		26-Jan-21	29-Jun-21	26-Jan-21 A	29-Jun-21 A			11-Jan-21	25-May-21		
DC.S1.1480	Preparation and approval of content page	46	0	100%	100%	26-Jan-21	12-Mar-21	26-Jan-21 A	12-Mar-21 A			11-Jan-21	25-Feb-21		
DC.S1.1490	Preparation of design memorandum for Civil DfMA	30	0	100%	100%	13-Mar-21	11-Apr-21	13-Mar-21 A	11-Apr-21 A			05-Feb-21	06-Mar-21		
DC.S1.1500	Preparation of design memorandum for E&M DfMA	30	0	100%	100%	13-Mar-21	11-Apr-21	13-Mar-21 A	11-Apr-21 A			05-Feb-21	06-Mar-21		
DC.S1.1530	Preparation of remaining content of technical prosposal	19	0	100%	100%	12-Apr-21	30-Apr-21	12-Apr-21 A	30-Apr-21 A			07-Mar-21	25-Mar-21		
DC.S1.1540	Draft Submission	0	0	100%	100%		30-Apr-21		30-Apr-21 A				25-Mar-21		
DC.S1.1550	Draft Submission Comment and Approval	24	0	100%	100%	01-May-21	24-May-21	01-May-21 A	24-May-21 A			27-Mar-21	19-Apr-21		
DC.S1.1560	Final Submission	36	0	100%	100%	25-May-21	29-Jun-21	25-May-21 A	29-Jun-21 A			20-Apr-21	25-May-21		
SITE PREPARATION WORKS				100%		27-Nov-20	15-May-21	27-Nov-20 A	15-May-21 A			27-Nov-20	15-May-21		
DC.S1.1580a	Design of MiC Co-Office	15	0	100%	100%	06-Mar-21	23-Mar-21	06-Mar-21 A	23-Mar-21 A			09-Mar-21	25-Mar-21		
DC.S1.1580b	Fabrication of MiC Co-Office	44	0	100%	100%	28-Jan-21	23-Mar-21	28-Jan-21 A	23-Mar-21 A			22-Mar-21	15-May-21		
DC.S1.1590	Site clearance, set up site hoarding, provision of temporary fence, and erection of project signboard	164	6	100%	100%	27-Nov-20	15-May-21	27-Nov-20 A	15-May-21 A			27-Nov-20	15-May-21		
DC.S1.1600	Structural Condition Survey	34	2	100%	100%	10-Apr-21	15-May-21	10-Apr-21 A	15-May-21 A			31-Mar-21	05-May-21		
DC.S1.1630	Ground Investigation (45 nos, 3 rig, 2team) with relevant subletting and site setup	82	6	100%	100%	20-Jan-21	10-May-21	20-Jan-21 A	10-May-21 A			20-Jan-21	10-May-21		
DC.S1.1640	Setup of monitoring and instrumentation system	119	8	100%	100%	02-Jan-21	08-May-21	02-Jan-21 A	08-May-21 A			02-Jan-21	08-May-21		
DC.S1.1660	Initial site survey record	56	4	100%	100%	27-Nov-20	25-Jan-21	27-Nov-20 A	25-Jan-21 A			27-Nov-20	25-Jan-21		
DC.S1.1670	Conduct UU detection and issuance of UU detection report	28	2	100%	100%	21-Dec-20	19-Jan-21	21-Dec-20 A	19-Jan-21 A			21-Dec-20	19-Jan-21		
DC.S1.1671a	Installation of Piezometer PS1 to PS3	46	0	100%	100%	31-Mar-21	15-May-21	31-Mar-21 A	15-May-21 A			31-Mar-21	15-May-21		
Raw Sewerage Sampling Survey				100%		27-Nov-20	06-Feb-21	27-Nov-20 A	06-Feb-21 A			27-Nov-20	16-Mar-21		
DC.S1.1610a	Conduct Initial Reconnaissance Visit	13	1	100%	100%	27-Nov-20	10-Dec-20	27-Nov-20 A	10-Dec-20 A			27-Nov-20	10-Dec-20		
DC.S1.1610b	Submit Report of Initial Reconnaissance Visit	5	0	100%	100%	11-Dec-20	15-Dec-20	11-Dec-20 A	15-Dec-20 A			11-Dec-20	15-Dec-20		
DC.S1.1610c	Approval of Report of Initial Reconnaissance Visit	7	0	100%	100%	16-Dec-20	22-Dec-20	16-Dec-20 A	22-Dec-20 A			16-Dec-20	22-Dec-20		
DC.S1.1610d	Preparation work for Raw Sewage Sampling	7	0	100%	100%	23-Dec-20	29-Dec-20	23-Dec-20 A	29-Dec-20 A			23-Dec-20	29-Dec-20		
DC.S1.1610e	Conduct Raw Sewage Sampling	14	0	100%	100%	30-Dec-20	12-Jan-21	30-Dec-20 A	12-Jan-21 A			30-Dec-20	12-Jan-21		
DC.S1.1610f	Submission of Survey Report	21	0	100%	100%	13-Jan-21	02-Feb-21	13-Jan-21 A	02-Feb-21 A			13-Jan-21	02-Feb-21		
DC.S1.1610g	Comment and Approval of Survey Report	2	0	100%	100%	03-Feb-21	04-Feb-21	03-Feb-21 A	04-Feb-21 A			01-Mar-21	02-Mar-21		
DC.S1.1610h	Submission of Final Survey Report	2	0	100%	100%	05-Feb-21	06-Feb-21	05-Feb-21 A	06-Feb-21 A			15-Mar-21	16-Mar-21		
Smart Sewerage Monitoring System				100%		27-Nov-20	10-Jan-21	27-Nov-20 A	10-Jan-21 A			27-Nov-20	10-Jan-21		
DC.S1.1620a	Carry out site investigation and submit Reconnaisance Survery Report	42	3	100%	100%	27-Nov-20	10-Jan-21	27-Nov-20 A	10-Jan-21 A			27-Nov-20	10-Jan-21		
COMPLETION OF SECTION 1				0%		29-May-21	29-May-21	29-May-21 A	29-May-21 A			29-May-21	29-May-21		
DC.S1.1650	Completion of Section 1 (Working Days)	0	0	100%	100%		29-May-21		29-May-21 A				29-May-21		
SECTION 2 - Upgrading the existing Pak She Sewage Pumping Station (PSSPS)				63.45%		27-Nov-20		27-Nov-20 A	22-Feb-23	30-Apr-22	22-Feb-23	29-Jun-21	28-Nov-22		0
PROCUREMENT, FABRICATION and DELIVERY of MAJOR E&M EQUIPMENT				75.99%		12-Jul-21		12-Jul-21 A	10-Oct-22	30-Apr-22	01-Feb-23	12-Jul-21	20-Jul-22		114
DC.S2.1005a	Tendering of Subcontrator	45	0	100%	100%	12-Jul-21	25-Aug-21	12-Jul-21 A	25-Aug-21 A			12-Jul-21	25-Aug-21		
DC.S2.1005b	Equipment Submission and Approval (Other equipment)	277	0	80%	80%	26-Aug-21		26-Aug-21 A	29-May-22	28-May-22	26-Jun-22	31-Aug-21	27-Jan-22	*	28
DC.S2.1005c	Equipment Submission and Approval (Screw Pumps)	40	0	100%	100%	31-Aug-21	09-Oct-21	31-Aug-21 A	09-Oct-21 A			31-Aug-21	09-Oct-21		
DC.S2.1005d	Equipment Submission and Approval (Penstocks)	189	0	100%	100%	31-Aug-21	08-Mar-22	31-Aug-21 A	08-Mar-22 A			31-Aug-21	02-Jan-22		
DC.S2.1005e	Equipment Submission and Approval (DOU)	211	0	71.43%	50%	31-Oct-21		31-Oct-21 A	29-May-22	08-Jun-22	07-Jul-22	31-Oct-21	12-Feb-22	*	39
DC.S2.1005f	Equipment Submission and Approval (VSD)	91	0	100%	100%	30-Nov-21	01-Mar-22	30-Nov-21 A	01-Mar-22 A			30-Nov-21	25-Jan-22		
DC.S2.1005g	Equipment Submission and Approval (Flowmeter)	181	0	47.37%	50%	30-Nov-21		30-Nov-21 A	29-May-22	12-Aug-22	10-Sep-22	30-Nov-21	25-Jan-22	*	104
DC.S2.1005h	Equipment Submission and Approval (FRP Cover of Screw Pump)	181	0	71.7%	50%	30-Nov-21		30-Nov-21 A	29-May-22	12-Aug-22	10-Sep-22	30-Nov-21	15-Mar-22	*	104
DC.S2.1005i	Equipment Submission and Approval (LVSB)	127	0	100%	100%	03-Jan-22	11-Apr-22	03-Jan-22 A	11-Apr-22 A					*	
DC.S2.1010a	Procurement (Other equipment)	35	0	100%	100%	08-Jan-22	30-Apr-22	08-Jan-22 A	30-Apr-22 A			28-Jan-22	03-Feb-22	*	
DC.S2.1010a10	Procurement (Screw Pumps)	7	0	100%	100%	24-Sep-21	24-Sep-21	24-Sep-21 A	24-Sep-21 A			24-Sep-21	30-Sep-21		
DC.S2.1010a20	Procurement (Penstocks)	2	0	100%	100%	03-Jan-22	04-Jan-22	03-Jan-22 A	04-Jan-22 A			03-Jan-22	04-Jan-22		
DC.S2.1010a30	Procurement (DOU)	2	0	100%	100%	20-Mar-22	21-Mar-22	20-Mar-22 A	21-Mar-22 A			15-Feb-22	16-Feb-22	*	



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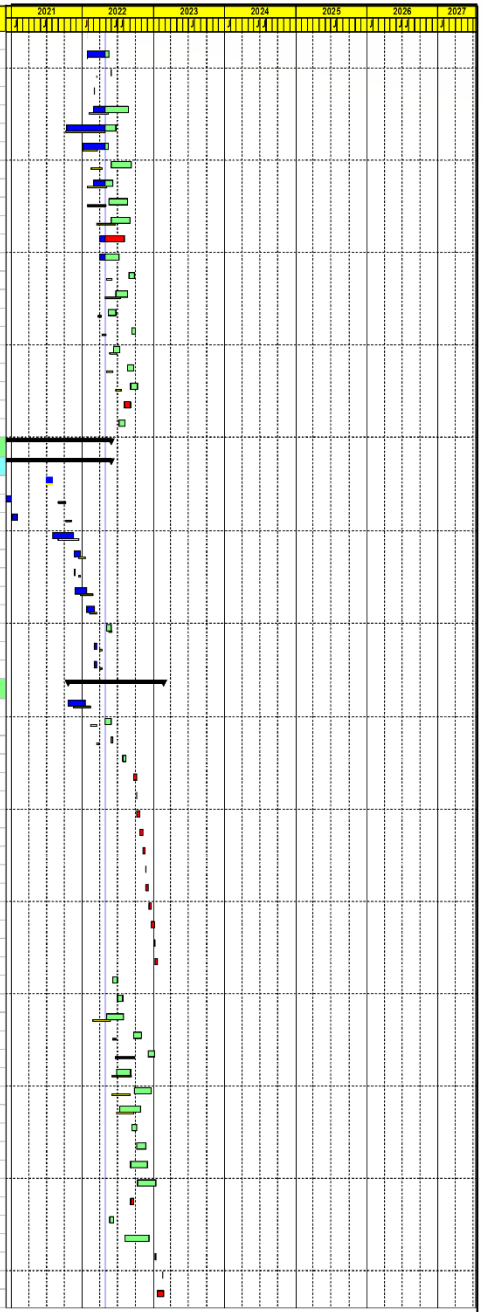
Activity ID	Activity Name	Orl. Dur (d)	TRA (d)	Time Elapsed %	Actual Workdone %	Actual Start	Actual Finish	Early Start	Early Finish	Late Start	Late Finish	Early Start (Rev. 12)	Early Finish (Rev. 12)	Amended Activities	Total Float
DC.S2.1010a40	Procurement (VSD)	1	0	100%	100%	26-Jan-22	26-Jan-22	26-Jan-22 A	26-Jan-22 A			26-Jan-22	26-Jan-22		
DC.S2.1010a50	Procurement (Flowmeter)	126	0	0%	100%	26-Jan-22		26-Jan-22 A	19-May-22	23-Jul-22	11-Aug-22	26-Jan-22	26-Jan-22	*	84
DC.S2.1010a60	Procurement (FRP Cover of Screw Pump)	1	0	0%	0%			30-May-22	30-May-22	21-Sep-22	21-Sep-22	16-Mar-22	16-Mar-22	*	114
DC.S2.1010a70	Procurement (LVSB)	1	0	100%	100%	05-Mar-22	05-Mar-22	05-Mar-22 A	05-Mar-22 A					*	
DC.S2.1010b	Fabrication (Other equipment)	180	0	33.89%	30%	28-Feb-22		28-Feb-22 A	26-Aug-22	31-May-22	26-Sep-22	04-Feb-22	14-May-22	*	31
DC.S2.1010b10	Fabrication (Screw Pumps)	253	0	73.5%	85%	12-Oct-21		12-Oct-21 A	21-Jun-22	30-May-22	21-Jul-22	10-Oct-21	27-Apr-22	*	30
DC.S2.1010b20	Fabrication (Penstocks)	131	0	81.18%	81%	05-Jan-22		05-Jan-22 A	15-May-22	07-Jun-22	22-Jun-22	05-Jan-22	21-Mar-22	*	38
DC.S2.1010b30	Fabrication (DOU)	105	0	0%	0%			30-May-22	11-Sep-22	21-Aug-22	03-Dec-22	17-Feb-22	12-Apr-22	*	83
DC.S2.1010b40	Fabrication (VSD)	101	0	60.4%	50%	28-Feb-22		28-Feb-22 A	08-Jun-22	24-Jul-22	01-Sep-22	27-Jan-22	07-May-22	*	85
DC.S2.1010b50	Fabrication (Flowmeter)	95	0	0%	0%			20-May-22	22-Aug-22	12-Aug-22	14-Nov-22	27-Jan-22	01-May-22	*	84
DC.S2.1010b60	Fabrication (FRP Cover of Screw Pump)	96	0	0%	0%			31-May-22	03-Sep-22	22-Sep-22	26-Dec-22	17-Mar-22	20-Jun-22	*	114
DC.S2.1010b70	Fabrication (LVSB)	128	0	0%	15%	01-Apr-22		01-Apr-22 A	06-Aug-22	30-Apr-22	06-Aug-22			*	0
DC.S2.1010b80	Fabrication (PLC)	90	0	22%	15%	01-Apr-22		01-Apr-22 A	09-Jul-22	18-Jul-22	26-Sep-22			*	80
DC.S2.1010c	Delivery (Other equipment)	30	0	0%	0%			27-Aug-22	25-Sep-22	27-Sep-22	26-Oct-22	05-May-22	03-Jun-22	*	31
DC.S2.1010c10	Delivery (Screw Pump)	61	0	0%	0%			22-Jun-22	21-Aug-22	22-Jul-22	20-Sep-22	28-Apr-22	16-Jul-22	*	30
DC.S2.1010c20	Delivery (Penstocks)	37	0	0%	0%			16-May-22	21-Jun-22	23-Jun-22	29-Jul-22	22-Mar-22	10-Apr-22	*	38
DC.S2.1010c30	Delivery (DOU)	17	0	0%	0%			12-Sep-22	28-Sep-22	04-Dec-22	20-Dec-22	13-Apr-22	02-May-22	*	83
DC.S2.1010c40	Delivery (VSD)	34	0	0%	0%			09-Jun-22	12-Jul-22	02-Sep-22	05-Oct-22	23-May-22	25-Jun-22	*	85
DC.S2.1010c50	Delivery (Flowmeter)	30	0	0%	0%			23-Aug-22	21-Sep-22	15-Nov-22	14-Dec-22	07-May-22	05-Jun-22	*	84
DC.S2.1010c60	Delivery (FRP Cover of Screw Pump)	37	0	0%	0%			04-Sep-22	10-Oct-22	27-Dec-22	01-Feb-23	21-Jun-22	20-Jul-22	*	114
DC.S2.1010c70	Delivery (LVSB)	30	0	0%	0%			07-Aug-22	05-Sep-22	07-Aug-22	05-Sep-22			*	0
DC.S2.1010c80	Delivery (PLC)	30	0	0%	0%			09-Jul-22	08-Aug-22	27-Sep-22	26-Oct-22			*	80
CIVIL AND STRUCTURAL WORKS				95.1%		27-Nov-20		27-Nov-20 A	31-May-22	18-Nov-22	14-Dec-22	29-Jun-21	04-Jun-22		197
Modification of emergency by-pass				95.1%		27-Nov-20		27-Nov-20 A	31-May-22	18-Nov-22	14-Dec-22	29-Jun-21	04-Jun-22		197
DC.S2.1020	Expose and install protect/support system for existing underground utilities and services (HGC, CLP,etc)	28	2	100%	100%	29-Jun-21	03-Aug-21	29-Jun-21 A	03-Aug-21 A			29-Jun-21	03-Aug-21		
DC.S2.1021	Delivery of percast concrete pipe and manhole fittings	38	0	100%	100%	27-Nov-20	03-Jan-21	27-Nov-20 A	03-Jan-21 A			31-Aug-21	07-Oct-21		
DC.S2.1022	Samples testing for percast concrete pipe and manhole fittings	30	0	100%	100%	04-Jan-21	02-Feb-21	04-Jan-21 A	02-Feb-21 A			08-Oct-21	06-Nov-21		
DC.S2.1030	Installation of ELS for TTA Stage 1 and construction of 750 dia. emergency bypass and 3 manholes (BPMH01,02&04)	80	10	100%	100%	04-Aug-21	19-Nov-21	04-Aug-21 A	19-Nov-21 A			31-Aug-21	16-Dec-21		
DC.S2.1031	Backfilling, Removal of Temporary Supports and Reinstatement of Footpath at Ping Chong Road	30	3	100%	100%	20-Nov-21	21-Dec-21	20-Nov-21 A	21-Dec-21 A			17-Dec-21	17-Jan-22		
DC.S2.1040	Implementation of TTA Stage 2 to enclose works area of manhole BPMH03	6	0	100%	100%	20-Nov-21	26-Nov-21	20-Nov-21 A	26-Nov-21 A			17-Dec-21	23-Dec-21		
DC.S2.1050	Installation of ELS and construction of 750 dia. emergency bypass for connection to manhole BPMH03	40	7	100%	100%	27-Nov-21	24-Jan-22	27-Nov-21 A	24-Jan-22 A			24-Dec-21	23-Feb-22		
DC.S2.1070	Backfilling, Removal of Temporary Supports and reinstatement of existing road at Ping Chong Road	28	2	100%	100%	25-Jan-22	03-Mar-22	25-Jan-22 A	03-Mar-22 A			08-Feb-22	15-Mar-22		
DC.S2.1080	Pipe CCTV survey, application manhole protective coat, capping and sealing of existing bypass and final connection works	21	1	0%	0%			05-May-22*	31-May-22	18-Nov-22	14-Dec-22	18-May-22	04-Jun-22	*	163
DC.S2.1150	Submission of as-constructed records after completion of permanent reinstatement of the footpath	14	0	100%	100%	04-Mar-22	17-Mar-22	04-Mar-22 A	17-Mar-22 A			31-Mar-22	13-Apr-22		
DC.S2.1160	Submission of as-constructed point cloud records after laying of the 750mm diameter precast concrete pipes	14	0	100%	100%	04-Mar-22	17-Mar-22	04-Mar-22 A	17-Mar-22 A			31-Mar-22	13-Apr-22		
E&M WORKS				39.1%		20-Oct-21		20-Oct-21 A	22-Feb-23	14-Jul-22	22-Feb-23	16-Nov-21	24-Sep-22		0
DC.S2.1085a	Perparation and Submission of TTA Drawings for Pump Replacement Works	191	0	100%	100%	20-Oct-21	17-Jan-22	20-Oct-21 A	17-Jan-22 A			16-Nov-21	13-Feb-22	*	
DC.S2.1085b	Obtain Approval of TTA Drawing from relevant parties	30	0	3.33%	0%	29-Apr-22		29-Apr-22 A	28-May-22	15-Dec-22	12-Jan-23	14-Feb-22	15-Mar-22	*	229
DC.S2.1085c	Implementation of TTA for Pump Replacement Works	11	0	0%	0%			29-May-22	08-Jun-22	13-Jan-23	23-Jan-23	16-Mar-22	26-Mar-22	*	229
DC.S2.1090a	Removal of Existing Penstock No.3 and Screw Pump No. 3 and Civil Works for New Installation	12	0	0%	0%			30-Jul-22	12-Aug-22	06-Sep-22	20-Sep-22			*	32
DC.S2.1090b	Installation of New Screw Pump No.3 and Penstock No.3	13	0	0%	0%			21-Sep-22	06-Oct-22	21-Sep-22	06-Oct-22			*	0
DC.S2.1090c	Screeding for the screw pump trough for Screw Pump No.3	2	0	0%	0%			07-Oct-22	08-Oct-22	07-Oct-22	08-Oct-22			*	0
DC.S2.1090d	Site Acceptance Test & T& C for Screw Pump No.3 and Penstock No.3	14	0	0%	0%			09-Oct-22	22-Oct-22	10-Oct-22	23-Oct-22			*	1
DC.S2.1091a	Removal of Existing Penstock No.2 and Screw Pump No. 2 and Civil Works for New Installation	13	0	0%	0%			24-Oct-22	07-Nov-22	24-Oct-22	07-Nov-22			*	0
DC.S2.1091b	Installation of New Screw Pump No.2 and Penstock No.3	12	0	0%	0%			08-Nov-22	21-Nov-22	08-Nov-22	21-Nov-22			*	0
DC.S2.1091c	Screeding for the screw pump trough for Screw Pump No.2	2	0	0%	0%			22-Nov-22	23-Nov-22	22-Nov-22	23-Nov-22			*	0
DC.S2.1091d	Site Acceptance Test & T& C for Screw Pump No.2 and Penstock No.2	14	0	0%	0%			24-Nov-22	07-Dec-22	24-Nov-22	07-Dec-22			*	0
DC.S2.1092a	Removal of Existing Penstock No.1 and Screw Pump No.1 and Civil Works for New Installation	12	0	0%	0%			08-Dec-22	21-Dec-22	08-Dec-22	21-Dec-22			*	0
DC.S2.1092b	Installation of New Screw Pump No.1 and Penstock No.1	12	0	0%	0%			22-Dec-22	06-Jan-23	22-Dec-22	06-Jan-23			*	0
DC.S2.1092c	Screeding for the screw pump trough for Screw Pump No.1	2	0	0%	0%			07-Jan-23	09-Jan-23	07-Jan-23	09-Jan-23			*	0
DC.S2.1092d	Site Acceptance Test & T& C for Screw Pump No.1 and Penstock No.1	14	0	0%	0%			10-Jan-23	23-Jan-23	10-Jan-23	23-Jan-23			*	0
DC.S2.1100a	Removal of Existing Main Inlet Penstock and Civil Works for New Installation	21	0	0%	0%			06-Jun-22	29-Jun-22	14-Jul-22	06-Aug-22			*	32
DC.S2.1100b	Replacement of Main Inlet Penstock with Site Acceptance Test & T & C	24	1	0%	0%			30-Jun-22	29-Jul-22	08-Aug-22	05-Sep-22			*	32
DC.S2.1110	Application/approval of TTA for replacement of the discharge flowmeter	90	0	0%	0%			05-May-22	02-Aug-22	16-Sep-22	14-Dec-22	24-Feb-22	24-May-22	*	134
DC.S2.1120	Replacement of the discharge EM flowmeter and modification of associated pipework	29	2	0%	0%			22-Sep-22	29-Oct-22	15-Dec-22	21-Jan-23	06-Jun-22	21-Jun-22	*	69
DC.S2.1130	Installation of Deodorization Unit 6 and associated FRP ductowork	24	2	0%	0%			06-Dec-22	06-Jan-23	21-Dec-22	21-Jan-23	18-Jun-22	24-Sep-22	*	13
DC.S2.1140	Replacement of Existing Portable Emergency Generator Set by Mobille Emergency Generator Set	56	4	0%	0%			28-Jun-22	06-Sep-22	02-Aug-22	13-Oct-22	04-Jun-22	09-Sep-22	*	29
DC.S2.1141	Replacement of Existing LV Switchboard by New LV Switchboard, PLC Panel and UPS	70	2	0%	0%			26-Sep-22	21-Dec-22	27-Oct-22	21-Jan-23	04-Jun-22	01-Sep-22	*	25
DC.S2.1142	Installation of Screw Pump Starters and Variable Speed Drivers	85	5	0%	0%			13-Jul-22	28-Oct-22	08-Oct-22	21-Jan-23	26-Jun-22	23-Sep-22	*	70
DC.S2.1143	Replacement of Existing Wall Mounted MCB Boards and Miscellaneous Panel in the Screw Pump House	20	1	0%	0%			12-Sep-22	07-Oct-22	09-Nov-22	03-Dec-22			*	48
DC.S2.1144	Diversion & Modification of Electrical System for Existing Equipment	38	2	0%	0%			08-Oct-22	23-Nov-22	05-Dec-22	21-Jan-23			*	48
DC.S2.1145	Cable Installation for Penstock, Screw Pump, DOU	66	4	0%	0%			07-Sep-22	01-Dec-22	14-Oct-22	06-Jan-23			*	29
DC.S2.1146	Installation of FRP cover of screw pump	76	2	0%	0%			12-Oct-22	13-Jan-23	20-Oct-22	21-Jan-23			*	7
DC.S2.1152	Installation of MCPs and related cable termination	12	0	0%	0%			06-Sep-22	20-Sep-22	06-Sep-22	20-Sep-22				0
DC.S2.1160b05	Submission of Draft O&M manual	21	0	0%	0%			22-May-22	11-Jun-22	06-Aug-22	26-Aug-22			*	76
DC.S2.1160b10	Submission of Final O&M manual	120	0	0%	0%			11-Aug-22	08-Dec-22	26-Oct-22	22-Feb-23			*	76
DC.S2.1160b20	O&M Training to DSD/ST2	5	0	0%	0%			09-Jan-23	13-Jan-23	18-Feb-23	22-Feb-23			*	40
DC.S2.1160b30	Handover Inspection with DSD/ST2	1	0	0%	0%			20-Feb-23	20-Feb-23	22-Feb-23	22-Feb-23			*	2
DC.S2.1160b40	Final T&C of Section 2	30	0	0%	0%			24-Jan-23	22-Feb-23	24-Jan-23	22-Feb-23			*	0



Primary Baseline
Actual Work
Remaining Work
Critical Remaining Work
Baseline Milestone

DC/2019/07 OUTLYING ISLANDS SEWERAGE STAGE2 - UPGRADING OF CHEUNG CHAU SEWAGE TREATMENT AND DISPOSAL FACILITIES

REVISED PROGRAMME - REV. 14 (30 April 2022)

Date	Revision	Chec...	Approved
31-Jan-22	Rev.12	JL	AL
28-Feb-22	Rev.13	JL	AL
30-Apr-22	Rev.14	JL	AL

Activity ID	Activity Name	Ori. Dur (d)	TRA (d)	Time Elapsed %	Actual Workdone %	Actual Start	Actual Finish	Early Start	Early Finish	Late Start	Late Finish	Early Start (Rev. 12)	Early Finish (Rev. 12)	Amended Activities	Total Float
COMPLETION OF SECTION 2				0%				22-Feb-23	22-Feb-23	22-Feb-23	22-Feb-23	28-Nov-22	28-Nov-22		0
DC.S2.1170	Completion of Section 2 (Working Days)	0	0	0%	0%				22-Feb-23		22-Feb-23		28-Nov-22	*	0
SECTION 3				29.21%		27-Nov-20		27-Nov-20 A	08-Oct-25	30-Apr-22	08-Oct-25	27-Nov-20	22-Aug-25		0
PHASE 1 - Construction of MBR, Sludge Disgestor Building, Transformer Room				36.42%		27-Nov-20		27-Nov-20 A	21-Oct-24	30-Apr-22	08-Oct-25	27-Nov-20	15-Jul-24		352
DC.S3.1001	Baseline Mointoring for Air and Noise	21	0	100%	100%	21-Jun-21	11-Jul-21	21-Jun-21 A	11-Jul-21 A			21-Jun-21	11-Jul-21		
Acceptance of Technical Proposal				100%		29-May-21	15-Jun-21	29-May-21 A	15-Jun-21 A			29-Mar-21	15-Jun-21		
DC.S1.1100	Acceptance of Technical Proposal of Preliminary Treatment System at CCSTW	14	0	100%	100%	01-Jun-21	14-Jun-21	01-Jun-21 A	14-Jun-21 A			01-Jun-21	14-Jun-21		
DC.S1.1200															
DC.S1.1205															
DC.S1.1300															
DC.S1.1400															
DC.S1.1450															
DC.S1.1470															
DC.S1.1570															
Installation of MiC															
DC.S1.1580c															
DC.S1.1580d															
Tranplanting Worl															
DC.S3.1010a															
DC.S3.1010b															
DC.S3.1020															
Smart Sewage Mc															
DC.S1.1620b10															
DC.S1.1620c10															
DC.S1.1620d10															
DC.S1.1620e10															
CDS for Optimizat															
DC.S3.1050															
DC.S3.1060															
Construction of M															
Procurement, Fabric															
DC.S3.1075a															
DC.S3.1075b															
DC.S3.1080a															
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Design Submission															
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DC.S3.1230															
DC.S3.1240															
DC.S3.1260															
DC.S3.1270															
E&M Works															
DC.S3.1210															
DC.S3.1220a															
DC.S3.1220b															
DC.S3.1230b															
Internal Ar chitectura															
DC.S3.1200															
Construction of S															
Procurement, Fabric															
DC.S3.1235a															
DC.S3.1235b															

Activity ID	Activity Name	Ori. Dur (d)	TRA (d)	Time Elapsed %	Actual Workdone %	Actual Start	Actual Finish	Early Start	Early Finish	Late Start	Late Finish	Early Start (Rev 12)	Early Finish (Rev. 12)	Amended Activities	Total Float
Procurement				100%		31-Jan-22	31-Jan-22	31-Jan-22 A	31-Jan-22 A			31-Jan-22	31-Jan-22		
DC.S3.1240a1	Sludge Digester Feed Pump and Digested Sludge Pump	1	0	100%	100%	31-Jan-22	31-Jan-22	31-Jan-22 A	31-Jan-22 A			31-Jan-22	31-Jan-22		
DC.S3.1240a10	Sludge Digester Air Blower	1	0	100%	100%	31-Jan-22	31-Jan-22	31-Jan-22 A	31-Jan-22 A			31-Jan-22	31-Jan-22		
DC.S3.1240a11	Air Diffuser for Sludge Digester	1	0	100%	100%	31-Jan-22	31-Jan-22	31-Jan-22 A	31-Jan-22 A			31-Jan-22	31-Jan-22		
DC.S3.1240a2	Submersible Mixer for Digested Sludge Holding Tank	1	0	100%	100%	31-Jan-22	31-Jan-22	31-Jan-22 A	31-Jan-22 A			31-Jan-22	31-Jan-22		
DC.S3.1240a3	Deodorization Unit 4	1	0	100%	100%	31-Jan-22	31-Jan-22	31-Jan-22 A	31-Jan-22 A			31-Jan-22	31-Jan-22		
DC.S3.1240a4	LV Switchboards, Motor Control Centers and Associated Components	1	0	100%	100%	31-Jan-22	31-Jan-22	31-Jan-22 A	31-Jan-22 A			31-Jan-22	31-Jan-22		
DC.S3.1240a5	Variable Speed Drive (VSD)	1	0	100%	100%	31-Jan-22	31-Jan-22	31-Jan-22 A	31-Jan-22 A			31-Jan-22	31-Jan-22		
DC.S3.1240a6	Cable	1	0	100%	100%	31-Jan-22	31-Jan-22	31-Jan-22 A	31-Jan-22 A			31-Jan-22	31-Jan-22		
DC.S3.1240a7	Pipe Work/Valve	1	0	100%	100%	31-Jan-22	31-Jan-22	31-Jan-22 A	31-Jan-22 A			31-Jan-22	31-Jan-22		
DC.S3.1240a8	instrument	1	0	100%	100%	31-Jan-22	31-Jan-22	31-Jan-22 A	31-Jan-22 A			31-Jan-22	31-Jan-22		
DC.S3.1240a9	Lifting Appliance	1	0	100%	100%	31-Jan-22	31-Jan-22	31-Jan-22 A	31-Jan-22 A			31-Jan-22	31-Jan-22		
Fabrication				42.5%		01-Feb-22		01-Feb-22 A	29-Jun-22	24-Jul-22	15-Nov-22	01-Feb-22	16-May-22		140
DC.S3.1240b1	Sludge Digester Feed Pump and Digested Sludge Pump	117	0	56.4%	56%	01-Feb-22		01-Feb-22 A	08-Jun-22	10-Sep-22	19-Oct-22	01-Feb-22	01-May-22	*	134
DC.S3.1240b10	Sludge Digester Air Blower	132	0	55.7%	55%	01-Feb-22		01-Feb-22 A	15-Jun-22	30-Sep-22	15-Nov-22	01-Feb-22	16-May-22	*	153
DC.S3.1240b11	Air Diffuser for Sludge Digester	167	0	52.7%	52%	01-Feb-22		01-Feb-22 A	11-Jun-22	22-Sep-22	03-Nov-22	01-Feb-22	01-May-22	*	145
DC.S3.1240b2	Submersible Mixer for Digested Sludge Holding Tank	117	0	75.2%	75%	01-Feb-22		01-Feb-22 A	22-May-22	27-Sep-22	19-Oct-22	01-Feb-22	01-May-22		151
DC.S3.1240b3	Deodorization Unit 4	207	0	42.5%	42%	01-Feb-22		01-Feb-22 A	20-Jun-22	28-Jul-22	17-Sep-22	01-Feb-22	01-May-22	*	89
DC.S3.1240b4	LV Switchboards, Motor Control Centers and Associated Components	247	0	35.6%	35%	01-Feb-22		01-Feb-22 A	26-Jun-22	10-Aug-22	06-Oct-22	01-Feb-22	01-May-22	*	102
DC.S3.1240b5	Variable Speed Drive (VSD)	117	0	67.7%	67%	01-Feb-22		01-Feb-22 A	24-May-22	07-Sep-22	01-Oct-22	01-Feb-22	16-Apr-22	*	131
DC.S3.1240b6	Cable	132	0	66.6%	66%	01-Feb-22		01-Feb-22 A	04-Jun-22	18-Aug-22	22-Sep-22	01-Feb-22	16-May-22	*	111
DC.S3.1240b7	Pipe Work/Valve	207	0	42.5%	42%	01-Feb-22		01-Feb-22 A	20-Jun-22	02-Aug-22	22-Sep-22	01-Feb-22	01-May-22	*	94
DC.S3.1240b8	instrument	207	0	42.5%	42%	01-Feb-22		01-Feb-22 A	29-Jun-22	24-Jul-22	22-Sep-22	01-Feb-22	16-May-22	*	86
DC.S3.1240b9	Lifting Appliance	237	0	37.1%	37%	01-Feb-22		01-Feb-22 A	25-Jun-22	28-Jul-22	22-Sep-22	01-Feb-22	01-May-22	*	89
Delivery				0%				22-May-22	28-Aug-22	18-Sep-22	18-Dec-22	17-Apr-22	15-Jul-22		113
DC.S3.1240c1	Sludge Digester Feed Pump and Digested Sludge Pump	33	0	0%	0%			08-Jun-22*	11-Jul-22	20-Oct-22	21-Nov-22	02-May-22	30-Jun-22	*	134
DC.S3.1240c10	Sludge Digester Air Blower	33	0	0%	0%			15-Jun-22	18-Jul-22	16-Nov-22	18-Dec-22	17-May-22	15-Jul-22	*	153
DC.S3.1240c11	Air Diffuser for Sludge Digester	45	0	0%	0%			11-Jun-22	26-Jul-22	04-Nov-22	18-Dec-22	02-May-22	30-Jun-22	*	145
DC.S3.1240c2	Submersible Mixer for Digested Sludge Holding Tank	33	0	0%	0%			22-May-22	24-Jun-22	20-Oct-22	21-Nov-22	02-May-22	30-Jun-22	*	151
DC.S3.1240c3	Deodorization Unit 4	80	0	0%	0%			20-Jun-22	24-Aug-22	18-Sep-22	21-Nov-22	02-May-22	30-Jun-22	*	89
DC.S3.1240c4	LV Switchboards, Motor Control Centers and Associated Components	56	0	0%	0%			26-Jun-22	21-Aug-22	07-Oct-22	01-Dec-22	02-May-22	30-Jun-22	*	102
DC.S3.1240c5	Variable Speed Drive (VSD)	44	0	0%	0%			24-May-22	07-Jul-22	02-Oct-22	14-Nov-22	17-Apr-22	30-May-22	*	131
DC.S3.1240c6	Cable	80	0	0%	0%			04-Jun-22	03-Aug-22	23-Sep-22	21-Nov-22	17-May-22	15-Jul-22	*	111
DC.S3.1240c7	Pipe Work/Valve	80	0	0%	0%			20-Jun-22	19-Aug-22	23-Sep-22	21-Nov-22	02-May-22	30-Jun-22	*	94
DC.S3.1240c8	instrument	80	0	0%	0%			29-Jun-22	28-Aug-22	23-Sep-22	21-Nov-22	17-May-22	15-Jul-22	*	86
DC.S3.1240c9	Lifting Appliance	80	0	0%	0%			25-Jun-22	24-Aug-22	23-Sep-22	21-Nov-22	02-May-22	30-Jun-22	*	89
Civil & Structural Works				82.66%		31-May-21		31-May-21 A	14-Nov-22	30-Apr-22	14-Nov-22	31-May-21	09-Sep-22		0
DC.S3.1250	Site Percavation Works for Piling (including removal of existing Sludge Tank)	38	4	100%	100%	31-May-21	17-Jul-21	31-May-21 A	17-Jul-21 A			31-May-21	17-Jul-21		
DC.S3.1260a	Subletting of Supply and Installation of E.S	29	0	100%	100%	01-Aug-21	29-Aug-21	01-Aug-21 A	29-Aug-21 A			01-Aug-21	29-Aug-21		
DC.S3.1260a10	Preliminary Pile and Pile Load Test	45	3	100%	100%	12-Jul-21	06-Sep-21	12-Jul-21 A	06-Sep-21 A			12-Jul-21	06-Sep-21		
DC.S3.1260b	Piling works for pre-cored socket H-piles (37 nos. dia610, 11sem)	79	4	100%	100%	23-Jul-21	01-Nov-21	23-Jul-21 A	01-Nov-21 A			23-Jul-21	26-Oct-21	*	
DC.S3.1290a	Pre-boring for installation of sheet piles	122	2	100%	100%	01-Nov-21	31-Mar-22	01-Nov-21 A	31-Mar-22 A			01-Nov-21	28-Feb-22	*	
DC.S3.1290b	installatio of sheet piles(FSP/V-)	25	2	77.78%	81.4%	01-Apr-22		01-Apr-22 A	07-May-22	30-Apr-22	07-May-22			*	0
DC.S3.1300	Excavation for basement of Sludge Digestor Building (3425m3 exca. 1 team)	38	2	0%	0%			10-May-22	25-Jun-22	10-May-22	25-Jun-22	28-Feb-22	06-Apr-22	*	0
DC.S3.1310a	Subletting of Rebar Fixing	139	0	100%	100%	25-Nov-21	20-May-22	25-Nov-21 A	20-May-22 A			25-Nov-21	19-Jan-22	*	
DC.S3.1310b	Subletting of Formworks, Concretor and Miscellaneous Works	139	0	100%	100%	25-Nov-21	20-May-22	25-Nov-21 A	20-May-22 A			25-Nov-21	19-Jan-22	*	
DC.S3.1310c	Construction of RC substructures of sludge digestor building (Grid 2-4)	57	2	0%	0%			27-Jun-22	03-Sep-22	27-Jun-22	03-Sep-22	07-Apr-22	26-May-22	*	0
DC.S3.1320	Backfilling to ground level and removal of ELS (Grids 2-4)	5	1	0%	0%			05-Sep-22	12-Sep-22	05-Sep-22	12-Sep-22	27-May-22	02-Jun-22	*	0
DC.S3.1330	installation of ELS and excavation for pile cap of Sludge Holding Tanks (523m3 exca, 1team)	9	1	0%	0%			13-Aug-22	24-Aug-22	13-Aug-22	24-Aug-22	04-Jun-22	21-Jun-22	*	0
DC.S3.1340	Construction of RC structure of Sludge Holding Tanks (below ground, 228m3)	22	2	0%	0%			25-Aug-22	22-Sep-22	25-Aug-22	22-Sep-22	22-Jun-22	20-Jul-22	*	0
DC.S3.1350	Backfilling to ground level and removal of ELS (Sludge Holding Tank)	5	1	0%	0%			23-Sep-22	29-Sep-22	23-Sep-22	29-Sep-22	21-Jul-22	27-Jul-22	*	0
DC.S3.1351	Construction of RC superstructure (Sludge Holding Tank)	35	2	0%	0%			30-Sep-22	14-Nov-22	30-Sep-22	14-Nov-22	28-Jul-22	09-Sep-22	*	0
DC.S3.1360	Construction of RC Structure (Grids 1-4) (above ground, 856m3)	35	2	0%	0%			30-Sep-22	14-Nov-22	30-Sep-22	14-Nov-22	28-Jul-22	09-Sep-22	*	0
DC.S3.1390	installation of ELS and excavation for substructures of Sludge Digestor Building (Grids 1-2) (523m3 exca., 1team)	9	1	0%	0%			13-Aug-22	24-Aug-22	13-Aug-22	24-Aug-22	04-Jun-22	21-Jun-22	*	0
DC.S3.1400	Construction of RC substructure of sludge digestor building (Grid 1-2)	22	2	0%	0%			25-Aug-22	22-Sep-22	25-Aug-22	22-Sep-22	22-Jun-22	20-Jul-22	*	0
DC.S3.1410	Backfilling to ground level and removal of ELS (Grids 1-2)	5	1	0%	0%			23-Sep-22	29-Sep-22	23-Sep-22	29-Sep-22	21-Jul-22	27-Jul-22	*	0
E&M Works				0%				15-Nov-22	08-Mar-23	15-Nov-22	08-Mar-23	12-Oct-22	02-Jan-23		0
DC.S3.1360a	installation of Submersible Mixer, Air Blower, Air Diffuser, Feed Pump, DOU	58	0	0%	0%			15-Nov-22	21-Jan-23	15-Nov-22	21-Jan-23			*	0
DC.S3.1360b	installation of Cable Containment & Conduit	25	0	0%	0%			15-Nov-22	14-Dec-22	29-Nov-22	28-Dec-22			*	11
DC.S3.1360c	installation of BS Equipment, Cable, Instrument, PLC Panel	43	0	0%	0%			01-Dec-22	21-Jan-23	14-Dec-22	06-Feb-23			*	11
DC.S3.1360a	SCADA System Site Acceptance Test (Phase 1 Sludge Digestor Building Construction)	30	0	0%	0%			15-Dec-22	13-Jan-23	08-Jan-23	06-Feb-23	12-Oct-22	10-Nov-22	*	24
DC.S3.1360b	SCADA System Commissioning Test (Phase 1 Sludge Digestor Building Construction)	30	0	0%	0%			14-Jan-23	12-Feb-23	07-Feb-23	06-Mar-23	11-Nov-22	10-Dec-22	*	24
DC.S3.1400b	System Commissioning Test (Interim Testing)	30	0	0%	0%			07-Feb-23	08-Mar-23	07-Feb-23	08-Mar-23	04-Dec-22	02-Jan-23	*	0
Internal Ar chitectural Works				0%				15-Nov-22	04-Mar-23	07-Feb-23	29-May-23	12-Sep-22	29-Dec-22		67
DC.S3.1370	Architectural Works (Internal)	84	8	0%	0%			15-Nov-22	04-Mar-23	07-Feb-23	29-May-23	12-Sep-22	29-Dec-22	*	67
Construction of LV Main Switch Room, Transformer Room				49.26%		12-Jul-21		12-Jul-21 A	08-Mar-23	30-Apr-22	08-Mar-23	12-Jul-21	31-Dec-22		0
Procurement, Fabrication and Delivery of Major E&M Equipment				59.35%		12-Jul-21		12-Jul-21 A	15-Nov-22	03-May-22	16-Nov-22	12-Jul-21	27-Jun-22		3
DC.S3.1405a	Tendering of Subcontractor	45	0	100%	100%	12-Jul-21	25-Aug-21	12-Jul-21 A	25-Aug-21 A			12-Jul-21	25-Aug-21		
DC.S3.1405b	Equipment Submission and Approval	140	0	100%	100%	10-Sep-21	18-Dec-21	10-Sep-21 A	18-Dec-21 A			31-Oct-21	07-Feb-22	*	
DC.S3.1410a	Procurement	30	0	100%	100%	14-Feb-22	14-Feb-22	14-Feb-22 A	14-Feb-22 A			08-Feb-22	09-Mar-22	*	

Primary Baseline
Actual Work
Remaining Work
Critical Remaining Work
Baseline Milestone

DC/2019/07 OUTLYING ISLANDS SEWERAGE STAGE2 - UPGRADING OF CHEUNG CHAU SEWAGE TREATMENT AND DISPOSAL FACILITIES

REVISED PROGRAMME - REV. 14 (30 April 2022)

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Date	Revision	Chec...	Approved
31-Jan-22	Rev.12	JL	AL
28-Feb-22	Rev.13	JL	AL
30-Apr-22	Rev.14	JL	AL

Primary Baseline
Actual Work
Remaining Work
Critical Remaining Work
Baseline Milestone

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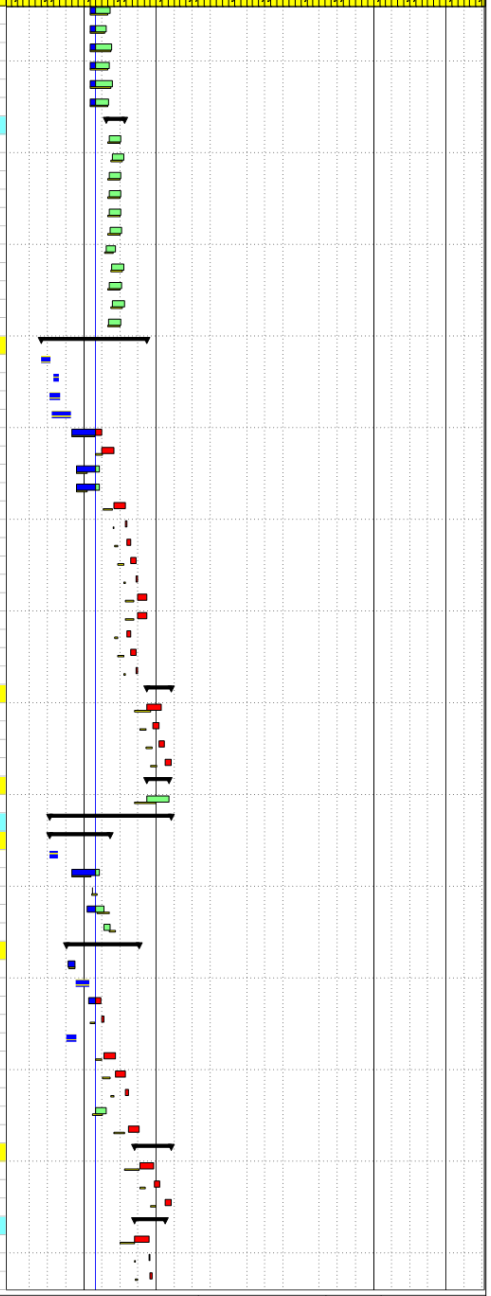
Revision	Chec...	Approved
Rev.12	JL	AL
Rev.13	JL	AL
Rev.14	JL	AL

Activity ID	Activity Name	Ori. Dur (d)	TRA (d)	Time Elapsed %	Actual Workdone %	Actual Start	Actual Finish	Early Start	Early Finish	Late Start	Late Finish	Early Start (Rev. 12)	Early Finish (Rev. 12)	Total Float	Amended Activities
DC.S3.1240b4	LV Switchboards, Motor Control Centers and Associated Components	137	0	19%	19%	01-Feb-22		01-Feb-22 A	11-May-22	19-Jul-22	29-Sep-22	01-Feb-22	01-May-22	101	*
DC.S3.1240b5	Variable Speed Drive (VSD)	107	0	25%	25%	01-Feb-22		01-Feb-22 A	25-Apr-22	20-Aug-22	15-Oct-22	01-Feb-22	16-Apr-22	134	*
DC.S3.1240b6	Cable	127	0	21%	21%	01-Feb-22		01-Feb-22 A	21-May-22	16-Jul-22	06-Oct-22	01-Feb-22	16-May-22	98	*
DC.S3.1240b7	Pipe Work/Valve	127	0	21%	21%	01-Feb-22		01-Feb-22 A	10-May-22	27-Jul-22	06-Oct-22	01-Feb-22	01-May-22	110	*
DC.S3.1240b8	Instrument	147	0	18%	18%	01-Feb-22		01-Feb-22 A	25-May-22	12-Jul-22	06-Oct-22	01-Feb-22	16-May-22	95	*
DC.S3.1240b9	Lifting Appliance	110	0	25%	25%	01-Feb-22		01-Feb-22 A	06-May-22	31-Jul-22	06-Oct-22	01-Feb-22	01-May-22	114	*
Delivery				0%				25-Apr-22	24-Jul-22	30-Sep-22	01-Jan-23	17-Apr-22	15-Jul-22	122	
DC.S3.1240c1	Sludge Digester Feed Pump and Digested Sludge Pump	60	0	0%	0%			08-May-22*	07-Jul-22	07-Oct-22	05-Dec-22	02-May-22	30-Jun-22	112	*
DC.S3.1240c10	Sludge Digester Air Blower	60	0	0%	0%			23-May-22	21-Jul-22	03-Nov-22	01-Jan-23	17-May-22	15-Jul-22	124	*
DC.S3.1240c11	Air Diffuser for Sludge Digester	60	0	0%	0%			08-May-22	07-Jul-22	03-Nov-22	01-Jan-23	02-May-22	30-Jun-22	139	*
DC.S3.1240c2	Submersible Mixer for Digested Sludge Holding Tank	60	0	0%	0%			08-May-22	07-Jul-22	07-Oct-22	05-Dec-22	02-May-22	30-Jun-22	112	*
DC.S3.1240c3	Deodorization Unit 4	60	0	0%	0%			08-May-22	07-Jul-22	07-Oct-22	05-Dec-22	02-May-22	30-Jun-22	112	*
DC.S3.1240c4	LV Switchboards, Motor Control Centers and Associated Components	60	0	0%	0%			11-May-22	10-Jul-22	30-Sep-22	28-Nov-22	02-May-22	30-Jun-22	101	*
DC.S3.1240c5	Variable Speed Drive (VSD)	44	0	0%	0%			25-Apr-22	08-Jun-22	16-Oct-22	28-Nov-22	17-Apr-22	30-May-22	134	*
DC.S3.1240c6	Cable	60	0	0%	0%			21-May-22	20-Jul-22	07-Oct-22	05-Dec-22	17-May-22	15-Jul-22	98	*
DC.S3.1240c7	Pipe Work/Valve	60	0	0%	0%			10-May-22	09-Jul-22	07-Oct-22	05-Dec-22	02-May-22	30-Jun-22	110	*
DC.S3.1240c8	Instrument	60	0	0%	0%			25-May-22	24-Jul-22	07-Oct-22	05-Dec-22	17-May-22	15-Jul-22	95	*
DC.S3.1240c9	Lifting Appliance	60	0	0%	0%			06-May-22	05-Jul-22	07-Oct-22	05-Dec-22	02-May-22	30-Jun-22	114	*
Civil & Structural Works				51.24%		31-May-21		31-May-21 A	14-Nov-22	12-Mar-22	28-Nov-22	31-May-21	09-Sep-22	-26	
DC.S3.1250	Site Perparation Works for Piling (including removal of existing Sludge Tank)	36	4	100%	100%	31-May-21	17-Jul-21	31-May-21 A	17-Jul-21 A			31-May-21	17-Jul-21		
DC.S3.1280a	Subletting of Supply and Installation of ELS	89	0	100%	100%	01-Aug-21	29-Aug-21	01-Aug-21 A	29-Aug-21 A			01-Aug-21	29-Aug-21		
DC.S3.1280a10	Preliminary Pile and Pile Load Test	45	4	100%	100%	12-Jul-21	06-Sep-21	12-Jul-21 A	06-Sep-21 A			12-Jul-21	06-Sep-21		
DC.S3.1280b	Piling works for pre-bored socket H-piles (37 nos, dia610, 1team)	73	8	100%	100%	23-Jul-21	28-Oct-21	23-Jul-21 A	28-Oct-21 A			23-Jul-21	28-Oct-21		
DC.S3.1290a	Perparation Works and Installation of sheet piles (FSP VL)	123	2	70%	63%	01-Nov-21		01-Nov-21 A	01-Apr-22	12-Mar-22	19-Apr-22	01-Nov-21	26-Feb-22	-22	*
DC.S3.1300	Excavation for basement of Sludge Disgestor Building (3425m3 exca, 1team)	41	4	0%	0%			01-Apr-22	31-May-22	20-Apr-22	14-Jun-22	28-Feb-22	06-Apr-22	-22	
DC.S3.1310a	Subletting of Rebar Fixing	45	0	63%	63%	25-Nov-21		25-Nov-21 A	18-Mar-22	25-May-22	14-Jun-22	25-Nov-21	19-Jan-22	35	
DC.S3.1310b	Subletting of Formworks, Concretor and Miscellaneous Works	45	0	63%	63%	25-Nov-21		25-Nov-21 A	18-Mar-22	25-May-22	14-Jun-22	25-Nov-21	19-Jan-22	35	
DC.S3.1310c	Construction of RC substructures of sludge digestor building (Grid 2-4)	47	2	0%	0%			31-May-22	29-Jul-22	15-Jun-22	11-Aug-22	07-Apr-22	26-May-22	-22	
DC.S3.1320	Backfilling to ground level and removal of ELS (Gride 2-4)	5	1	0%	0%			29-Jul-22	05-Aug-22	12-Aug-22	18-Aug-22	27-May-22	02-Jun-22	-22	
DC.S3.1330	Installation of ELS and excavation for pile cap of Sludge Holding Tanks (523m3 exca, 1team)	14	1	0%	0%			05-Aug-22	23-Aug-22	19-Aug-22	05-Sep-22	04-Jun-22	21-Jun-22	-22	
DC.S3.1340	Construction of RC structure of Sludge Holding Tanks (below ground, 226m3)	22	2	0%	0%			23-Aug-22	21-Sep-22	06-Sep-22	06-Oct-22	22-Jun-22	20-Jul-22	-22	
DC.S3.1350	Backfilling to ground level and removal of ELS (Sludge Holding Tank)	5	1	0%	0%			21-Sep-22	28-Sep-22	07-Oct-22	13-Oct-22	21-Jul-22	27-Jul-22	-22	
DC.S3.1351	Construction of RC superstructure (Sludge Holding Tank)	36	2	0%	0%			28-Sep-22	14-Nov-22	14-Oct-22	28-Nov-22	28-Jul-22	09-Sep-22	-22	
DC.S3.1360	Construction of RC Structure (Gride 1-4) (above ground, 856m3)	36	2	0%	0%			28-Sep-22	14-Nov-22	14-Oct-22	28-Nov-22	28-Jul-22	09-Sep-22	-22	
DC.S3.1390	Installation of ELS and excavation for substructures of Sludge Digestor Building (Gride 1-2) (523m3 exca, 1team)	14	1	0%	0%			05-Aug-22	23-Aug-22	19-Aug-22	05-Sep-22	04-Jun-22	21-Jun-22	-22	
DC.S3.1400	Construction of RC substructure of sludge digestor building (Grid 1-2)	22	2	0%	0%			23-Aug-22	21-Sep-22	06-Sep-22	06-Oct-22	22-Jun-22	20-Jul-22	-22	
DC.S3.1410	Backfilling to ground level and removal of ELS (Gride 1-2)	5	1	0%	0%			21-Sep-22	28-Sep-22	07-Oct-22	13-Oct-22	21-Jul-22	27-Jul-22	-22	
E&M Works				0%				14-Nov-22	16-Mar-23	29-Nov-22	24-Mar-23	12-Sep-22	02-Jan-23	-35	
DC.S3.1380	E&M,LVSB and BS Installation (Mixers, Air blowers, DO system and etc.)	56	0	0%	0%			14-Nov-22	25-Jan-23	29-Nov-22	07-Feb-23	12-Sep-22	03-Dec-22	-22	
DC.S3.1390a	SCADA System Site Acceptance Test (Phase 1 Sludge Digestor Building Construction)	30	0	0%	0%			14-Dec-22	13-Jan-23	24-Jan-23	22-Feb-23	12-Oct-22	10-Nov-22	-3	
DC.S3.1390b	SCADA System Commissioning Test (Phase 1 Sludge Digestor Building Construction)	30	0	0%	0%			13-Jan-23	12-Feb-23	23-Feb-23	24-Mar-23	11-Nov-22	10-Dec-22	-3	
DC.S3.1400b	System Commissioning Test (Interim Testing)	30	0	0%	0%			15-Feb-23	16-Mar-23	23-Feb-23	24-Mar-23	04-Dec-22	02-Jan-23	-35	
Internal Architectural Works				0%				14-Nov-22	06-Mar-23	23-Feb-23	14-Jun-23	12-Sep-22	29-Dec-22	46	
DC.S3.1370	Architectural Works (Internal)	84	6	0%	0%			14-Nov-22	06-Mar-23	23-Feb-23	14-Jun-23	12-Sep-22	29-Dec-22	46	
Construction of LV Main Swtich Room, Transformer Room				37.68%		12-Jul-21		12-Jul-21 A	16-Mar-23	08-Mar-22	24-Mar-23	12-Jul-21	31-Dec-22	-35	
Procurement, Fabrication and Delivery of Major E&M Equipment				75.49%		12-Jul-21		12-Jul-21 A	13-May-22	16-Mar-22	07-Nov-22	12-Jul-21	07-Jun-22	137	
DC.S3.1405a	Tendering of Subcontrator	45	0	100%	100%	12-Jul-21	25-Aug-21	12-Jul-21 A	25-Aug-21 A			12-Jul-21	25-Aug-21		
DC.S3.1405b	Equipment Submission and Approval	140	0	80%	80%	31-Oct-21		31-Oct-21 A	19-Mar-22	16-Mar-22	04-Apr-22	31-Oct-21	07-Feb-22	16	
DC.S3.1410a	Procurement	30	0	100%	100%	14-Feb-22	14-Feb-22	14-Feb-22 A	14-Feb-22 A			08-Feb-22	09-Mar-22		
DC.S3.1410b	Fabrication	86	0	25%	25%	18-Jan-22		18-Jan-22 A	13-Apr-22	25-Aug-22	08-Oct-22	10-Mar-22	08-May-22	137	
DC.S3.1410c	Delivery	45	0	0%	0%			14-Apr-22	13-May-22	09-Oct-22	07-Nov-22	09-May-22	07-Jun-22	137	
Civil & Structural Works				39.73%		04-Oct-21		04-Oct-21 A	08-Oct-22	08-Mar-22	15-Oct-22	04-Oct-21	26-Jul-22	-36	
DC.S3.1420	Piling works for pre-bored socket H-piles (17 nos, dia610) (1team)	24	5	100%	100%	15-Oct-21	18-Nov-21	15-Oct-21 A	18-Nov-21 A			15-Oct-21	18-Nov-21		
DC.S3.1430	Pre-bording of sheet piles & installation of pipe pile wall	56	2	100%	100%	19-Nov-21	29-Jan-22	19-Nov-21 A	29-Jan-22 A			19-Nov-21	29-Jan-22		*
DC.S3.1431	Grouting Curtain Works	63	2	40%	30%	24-Jan-22		24-Jan-22 A	29-Mar-22	08-Mar-22	06-Apr-22			-33	*
DC.S3.1450	Installation of Sheet Piles	8	2	0%	0%			30-Mar-22	11-Apr-22	07-Apr-22	21-Apr-22	31-Jan-22	26-Feb-22	-28	*
DC.S3.1460a	Subletting of Earthworks	45	0	100%	100%	04-Oct-21	25-Nov-21	04-Oct-21 A	25-Nov-21 A			04-Oct-21	25-Nov-21		
DC.S3.1460b	Installation of ELS and excavation for basement of LV Main Switch Room and Transformer Room	43	2	0%	0%			12-Apr-22	09-Jun-22	22-Apr-22	16-Jun-22	28-Feb-22	02-Apr-22	-28	
DC.S3.1470	Construction of RC structure (below ground)	28	2	0%	0%			10-Jun-22	27-Jul-22	17-Jun-22	03-Aug-22	04-Apr-22	14-May-22	-28	
DC.S3.1480	Removal of formworks, falseworks, backfilling/mass filling and removal of ELS	13	1	0%	0%			28-Jul-22	12-Aug-22	04-Aug-22	19-Aug-22	16-May-22	31-May-22	-28	
DC.S3.1490a	Subletting of Finishing Works	45	0	0%	0%			28-Feb-22*	25-Apr-22	28-Jun-22	19-Aug-22	12-Feb-22	06-Apr-22	62	
DC.S3.1490b	Construction of RC Structure above ground	42	4	0%	0%			13-Aug-22	08-Oct-22	20-Aug-22	15-Oct-22	01-Jun-22	26-Jul-22	-28	
E&M Works				0%				14-Sep-22	16-Mar-23	21-Sep-22	24-Mar-23	04-Jul-22	31-Dec-22	-35	
DC.S3.1500	Installation of E&M,LVSB and BS equipments	58	3	0%	0%			10-Oct-22	20-Dec-22	08-Nov-22	20-Jan-23	27-Jul-22	08-Oct-22	-8	
DC.S3.1510	Site Acceptance Test	30	0	0%	0%			21-Dec-22	19-Jan-23	24-Jan-23	22-Feb-23	09-Oct-22	07-Nov-22	-9	
DC.S3.1520	System Commissioning Test (Interim and Final Testing)	30	0	0%	0%			15-Feb-23	16-Mar-23	23-Feb-23	24-Mar-23	02-Dec-22	31-Dec-22	-35	
E&M Works at Transformer Room				0%				14-Sep-22	14-Feb-23	21-Sep-22	22-Feb-23	04-Jul-22	01-Dec-22	-35	
DC.S3.1530a	Installation of BS equipment at CLP Transformer Room	58	2	0%	0%			14-Sep-22	24-Nov-22	21-Sep-22	02-Dec-22	04-Jul-22	12-Sep-22	-28	
DC.S3.1530b	Site Acceptance Test	4	0	0%	0%			25-Nov-22	28-Nov-22	03-Dec-22	06-Dec-22	13-Sep-22	16-Sep-22	-33	
DC.S3.1530c	CLP Inspection and Defect Rectification	12	0	0%	0%			29-Nov-22	12-Dec-22	07-Dec-22	20-Dec-22	17-Sep-22	30-Sep-22	-27	



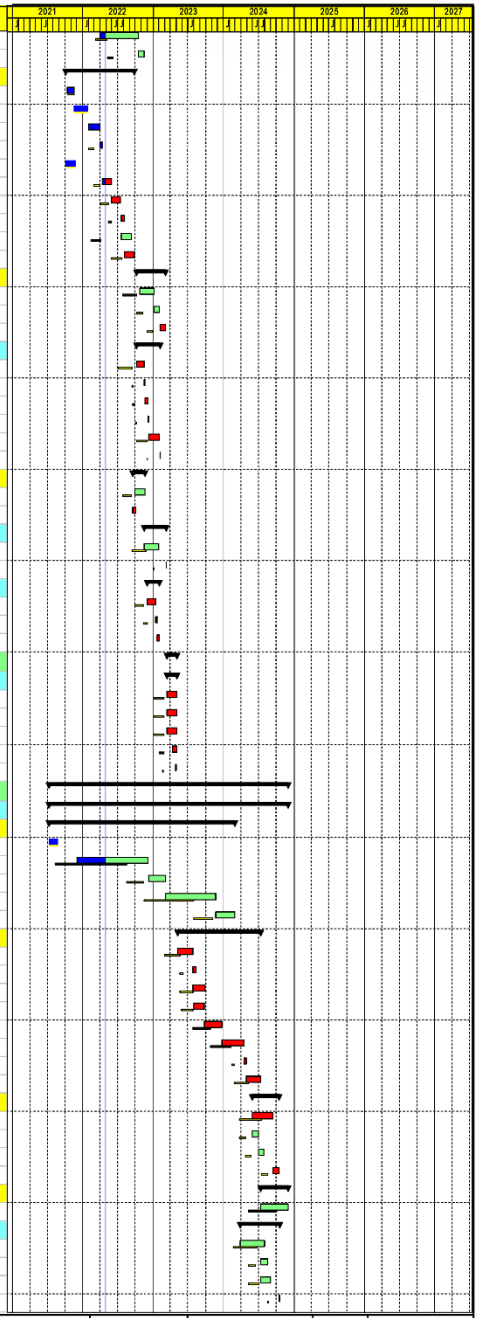
Primary Baseline
Actual Work
Remaining Work
Critical Remaining Work
Baseline Milestone

DC/2019/07 OUTLYING ISLANDS SEWERAGE STAGE2 - UPGRADING OF CHEUNG CHAU SEWAGE TREATMENT AND DISPOSAL FACILITIES

REVISED PROGRAMME - REV. 13 (28 FEBRUARY 2022)

Date	Revision	Chec...	Approved
31-Dec-21	Rev.11	JL	AL
31-Jan-22	Rev.12	JL	AL
28-Feb-22	Rev.13	JL	AL

Activity ID	Activity Name	Orl. Dur (d)	TRA (d)	Time Elapsed %	Actual Workdone %	Actual Start	Actual Finish	Early Start	Early Finish	Late Start	Late Finish	Early Start (Rev. 12)	Early Finish (Rev. 12)	Amended Activities	Total Float
DC.S3.1410b	Fabrication	199	0	0%	100%	01-Apr-22		01-Apr-22 A	16-Oct-22	03-May-22	19-Oct-22	10-Mar-22	08-May-22	*	3
DC.S3.1410c	Delivery	30	0	0%	0%			17-Oct-22	15-Nov-22	20-Oct-22	18-Nov-22	09-May-22	07-Jun-22	*	3
Civil & Structural Works				57.94%		04-Oct-21		04-Oct-21 A	27-Sep-22	30-Apr-22	27-Sep-22	04-Oct-21	26-Jul-22		0
DC.S3.1420	Piling works for pre-bored socket H-piles (17 nos, dia610) (1team)	24	5	100%	100%	15-Oct-21	18-Nov-21	15-Oct-21 A	18-Nov-21 A			15-Oct-21	18-Nov-21		
DC.S3.1430	Pre-bording of sheet piles & installation of pipe pile wall	56	2	100%	100%	19-Nov-21	29-Jan-22	19-Nov-21 A	29-Jan-22 A			19-Nov-21	29-Jan-22		
DC.S3.1431	Grouting Curtain Works	51	2	100%	100%	31-Jan-22	01-Apr-22	31-Jan-22 A	01-Apr-22 A					*	
DC.S3.1450	Installation of Sheet Piles	8	2	100%	100%	30-Mar-22	11-Apr-22	30-Mar-22 A	11-Apr-22 A			31-Jan-22	26-Feb-22	*	
DC.S3.1460a	Subletting of Earthworks	45	0	100%	100%	04-Oct-21	25-Nov-21	04-Oct-21 A	25-Nov-21 A			04-Oct-21	25-Nov-21		
DC.S3.1460b	Installation of ELS and excavation for basement of LV Main Switch Room and Transformer Room	35	2	35.14%	0%	12-Apr-22		12-Apr-22 A	30-May-22	30-Apr-22	30-May-22	28-Feb-22	02-Apr-22	*	0
DC.S3.1470	Construction of RC structure (below ground)	38	2	0%	0%			31-May-22	18-Jul-22	31-May-22	18-Jul-22	04-Apr-22	14-May-22	*	0
DC.S3.1480	Removal of formworks, falseworks, backfilling/mass filling and removal of ELS	13	1	0%	0%			19-Jul-22	03-Aug-22	19-Jul-22	03-Aug-22	16-May-22	31-May-22	*	0
DC.S3.1490a	Subletting of Finishing Works	45	0	0%	0%			19-Jul-22*	08-Sep-22	27-Jul-22	17-Sep-22	12-Feb-22	06-Apr-22	*	7
DC.S3.1490b	Construction of RC Structure above ground	42	4	0%	0%			04-Aug-22	27-Sep-22	04-Aug-22	27-Sep-22	01-Jun-22	26-Jul-22	*	0
E&M Works				0%				06-Oct-22	08-Mar-23	06-Oct-22	08-Mar-23	04-Jul-22	31-Dec-22		0
DC.S3.1500	Installation of E&M,LVSB and BS equipments	58	3	0%	0%			24-Oct-22	05-Jan-23	26-Oct-22	07-Jan-23	27-Jul-22	08-Oct-22	*	2
DC.S3.1510	Site Acceptance Test	30	0	0%	0%			06-Jan-23	04-Feb-23	08-Jan-23	06-Feb-23	09-Oct-22	07-Nov-22	*	2
DC.S3.1520	System Commissioning Test (Interim and Final Testing)	30	0	0%	0%			07-Feb-23	08-Mar-23	07-Feb-23	08-Mar-23	02-Dec-22	31-Dec-22	*	0
E&M Works at Transformer Room				0%				06-Oct-22	06-Feb-23	06-Oct-22	06-Feb-23	04-Jul-22	01-Dec-22		0
DC.S3.1530a	Installation of BS equipment at CLP Transformer Room	34	2	0%	0%			06-Oct-22	16-Nov-22	06-Oct-22	16-Nov-22	04-Jul-22	12-Sep-22	*	0
DC.S3.1530b	Site Acceptance Test	4	0	0%	0%			17-Nov-22	20-Nov-22	17-Nov-22	20-Nov-22	13-Sep-22	16-Sep-22	*	0
DC.S3.1530c	CLP Inspection and Defect Rectification	12	0	0%	0%			21-Nov-22	05-Dec-22	21-Nov-22	05-Dec-22	17-Sep-22	30-Sep-22	*	0
DC.S3.1530d	CLP Re-inspection and Minor Defect Rectification	4	0	0%	0%			06-Dec-22	09-Dec-22	06-Dec-22	09-Dec-22	03-Oct-22	07-Oct-22	*	0
DC.S3.1530e	Handover to CLP for CLP's Works	45	3	0%	0%			10-Dec-22	04-Feb-23	10-Dec-22	04-Feb-23	08-Oct-22	30-Nov-22	*	0
DC.S3.1530f	Engerizing	1	0	0%	0%			06-Feb-23	06-Feb-23	06-Feb-23	06-Feb-23	01-Dec-22	01-Dec-22	*	0
Internal Architectural Works				0%				19-Sep-22	21-Nov-22	19-Sep-22	07-Jan-23	27-Jul-22	09-Sep-22		38
DC.S3.1550	Architectural Works (Internal)	40	5	0%	0%			28-Sep-22	21-Nov-22	14-Nov-22	07-Jan-23	27-Jul-22	09-Sep-22	*	38
DC.S3.1560	Architectural Works for CLP Transformer Room (Internal)	12	1	0%	0%			19-Sep-22	05-Oct-22	19-Sep-22	05-Oct-22			*	0
Temporary Flow Diversion				0%				15-Nov-22	11-Mar-23	24-Dec-22	11-Mar-23	12-Sep-22	05-Jan-23		0
DC.S3.1540	Temp/Premanent Pipe Construction from existing primary treatment system to permanent SDB & existing SDH	56	4	0%	0%			15-Nov-22	28-Jan-23	24-Dec-22	08-Mar-23	12-Sep-22	22-Nov-22	*	33
DC.S3.1550b	Temporary Flow Diversion to isolate existing aerobic sludge digestor and relevant buildings	2	1	0%	0%			09-Mar-23	11-Mar-23	09-Mar-23	11-Mar-23	03-Jan-23	05-Jan-23	*	0
Construction of Underground Utilities and ELA for FSD Inspection (TOP1)				0%				03-Dec-22	04-Feb-23	03-Dec-22	05-Feb-23	29-Sep-22	03-Dec-22		1
DC.S3.1600	Construction of Drainage and Sewerage System, Fire Services, Electrical & Plumping Undergound Utilities	32	2	0%	0%			03-Dec-22	13-Jan-23	03-Dec-22	13-Jan-23	29-Sep-22	12-Nov-22	*	0
DC.S3.1610	Road Reinstatement (for FSD Inspection TOP1)	6	1	0%	0%			14-Jan-23	21-Jan-23	14-Jan-23	21-Jan-23	13-Nov-22	03-Dec-22	*	0
DC.S3.1620	FSD Inspection for CCSTW (TOP1)	14	0	0%	0%			22-Jan-23	04-Feb-23	23-Jan-23	05-Feb-23			*	1
PHASE 2 - Site Clearance at the area of Proposed Preliminay Treatment Facilities				0%				13-Mar-23	05-May-23	13-Mar-23	09-May-23	06-Jan-23	27-Feb-23		4
Demolition works				0%				13-Mar-23	05-May-23	13-Mar-23	09-May-23	06-Jan-23	27-Feb-23		4
DC.S3.2010	Demolition of existing Aerobic Sludge Digestor	42	0	0%	0%			13-Mar-23	05-May-23	13-Mar-23	05-May-23	06-Jan-23	27-Feb-23	*	0
DC.S3.2020	Demolition of existing Blower and Pump House	42	0	0%	0%			13-Mar-23	05-May-23	13-Mar-23	05-May-23	06-Jan-23	27-Feb-23	*	0
DC.S3.2030	Demolition of existing Genset Room	42	0	0%	0%			13-Mar-23	05-May-23	13-Mar-23	05-May-23	06-Jan-23	27-Feb-23	*	0
DC.S3.2031	Ground Investigation (6 nos, 1 rig, 1 team)	18	2	0%	0%			12-Apr-23	05-May-23	12-Apr-23	05-May-23	04-Feb-23	27-Feb-23	*	0
DC.S3.2040	Disconnecting data link of removed existing equipment from the existing SCADA system	7	0	0%	0%			25-Apr-23	01-May-23	03-May-23	09-May-23	17-Feb-23	23-Feb-23	*	8
PHASE 3 - Construction of Preliminary Treatment Facilities				23.53%		12-Jul-21		12-Jul-21 A	03-Dec-24	29-Jul-22	16-Apr-25	12-Jul-21	02-Oct-24		134
Construction of Preliminary Treatment Facilities				23.53%		12-Jul-21		12-Jul-21 A	03-Dec-24	29-Jul-22	16-Apr-25	12-Jul-21	02-Oct-24		134
Procurement, Fabrication and Delivery of Major E&M Equipment				30.29%		12-Jul-21		12-Jul-21 A	01-Mar-24	29-Jul-22	30-May-24	12-Jul-21	08-Nov-23		90
DC.S3.3005a	Tendering of Subcontrator	45	0	100%	100%	12-Jul-21	25-Aug-21	12-Jul-21 A	25-Aug-21 A			12-Jul-21	25-Aug-21		
DC.S3.3005b	Equipment Submission and Approval	370	0	40%	23%	03-Dec-21		03-Dec-21 A	07-Dec-22	29-Jul-22	07-Mar-23	11-Aug-21	15-Aug-22	*	90
DC.S3.3010a	Procurement	90	0	0%	0%			08-Dec-22	07-Mar-23	08-Mar-23	05-Jun-23	16-Aug-22	13-Nov-22	*	90
DC.S3.3010b	Fabrication	260	0	0%	0%			08-Mar-23	22-Nov-23	06-Jun-23	20-Feb-24	14-Nov-22	31-Jul-23	*	90
DC.S3.3010c	Delivery	100	0	0%	0%			23-Nov-23	01-Mar-24	21-Feb-24	30-May-24	01-Aug-23	08-Nov-23	*	90
Civil & Structural Works				0%				10-May-23	12-Jul-24	10-May-23	12-Jul-24	03-Mar-23	09-May-24		0
DC.S3.3020	Piling works for pre-bored socket H-piles (30 nos, dia.610 x 21m, 1 teams)	54	9	0%	0%			10-May-23	25-Jul-23	10-May-23	25-Jul-23	03-Mar-23	20-May-23	*	0
DC.S3.3040	Pile Loading Test of Compression Pile	12	2	0%	0%			26-Jul-23	10-Aug-23	26-Jul-23	10-Aug-23	22-May-23	07-Jun-23	*	0
DC.S3.3050	Installation of pipe pile wall of ELS (226 nos, dia610 x 16m, 2 teams)	45	9	0%	0%			26-Jul-23	26-Sep-23	26-Jul-23	26-Sep-23	22-May-23	26-Jul-23	*	0
DC.S3.3060	Grout Curtain Works	45	2	0%	0%			31-Jul-23	22-Sep-23	31-Jul-23	22-Sep-23	27-May-23	25-Jul-23	*	0
DC.S3.3070	Excavation for basement of Preliminary Treatment Facilities (13835m3 exca, 2 teams)	69	6	0%	0%			23-Sep-23	22-Dec-23	23-Sep-23	22-Dec-23	26-Jul-23	24-Oct-23	*	0
DC.S3.3080	Construction of RC structure (below ground, 5534m3)	84	6	0%	0%			23-Dec-23	17-Apr-24	23-Dec-23	17-Apr-24	25-Oct-23	09-Feb-24	*	0
DC.S3.3090	Removal of formworks, falseworks, application of waterproofing, backfilling and removal of ELS	9	1	0%	0%			18-Apr-24	29-Apr-24	18-Apr-24	29-Apr-24	14-Feb-24	23-Feb-24	*	0
DC.S3.3100	Construction of RC Structure (above ground, 1208m3)	56	4	0%	0%			30-Apr-24	12-Jul-24	30-Apr-24	12-Jul-24	24-Feb-24	09-May-24	*	0
E&M Works				0%				31-May-24	14-Oct-24	31-May-24	14-Oct-24	25-Mar-24	15-Aug-24		0
DC.S3.3120	Installation (Mixers, Inlet Pumps and assoicated pipeworks and screens, Grit removal system, DO systems and etc.)	84	6	0%	0%			31-May-24	14-Sep-24	31-May-24	14-Sep-24	25-Mar-24	16-Jul-24	*	0
DC.S3.3130a	SCADA System Site Acceptance Test (Phase 3 PTF Construction)	30	0	0%	0%			31-May-24	29-Jun-24	16-Aug-24	14-Sep-24	25-Mar-24	23-Apr-24	*	77
DC.S3.3130b	SCADA System Commissioning Test (Phase 3 PTF Construction)	30	0	0%	0%			30-Jun-24	29-Jul-24	15-Sep-24	14-Oct-24	24-Apr-24	23-May-24	*	77
DC.S3.3140b	System Commissioning Test (Interim Testing)	30	0	0%	0%			15-Sep-24	14-Oct-24	15-Sep-24	14-Oct-24	17-Jul-24	15-Aug-24	*	0
Internal Architectural Works				0%				13-Jul-24	03-Dec-24	21-Nov-24	16-Apr-25	10-May-24	02-Oct-24		109
DC.S3.3110	Architectural Works (Internal)	112	8	0%	0%			13-Jul-24	03-Dec-24	21-Nov-24	16-Apr-25	10-May-24	02-Oct-24	*	109
Temporary Flow Diversion				0%				27-Mar-24	17-Oct-24	19-Jun-24	17-Oct-24	20-Feb-24	19-Aug-24		0
DC.S3.1550a	Installation of Temporary Sludge Thickening System	92	8	0%	0%			27-Mar-24	30-Jul-24	19-Jun-24	17-Oct-24	20-Feb-24	22-Jun-24	*	65
DC.S3.3150	Temporary WAS Pipe Construction from MBR to Sludge Digestor Building with temp pre-thickening system	28	2	0%	0%			13-Jul-24	16-Aug-24	06-Sep-24	14-Oct-24	10-May-24	15-Jun-24	*	47
DC.S3.3160	Temporary sewerage pipe from existing manhole FMH7000149 to manhole FMH21 to isolate Inlet Chamber	42	3	0%	0%			13-Jul-24	03-Sep-24	20-Aug-24	14-Oct-24	10-May-24	04-Jul-24	*	32
DC.S3.3170	Temporary Flow Diversion to isolate existing preliminary treatment system	2	1	0%	0%			15-Oct-24	17-Oct-24	15-Oct-24	17-Oct-24	16-Aug-24	19-Aug-24	*	0



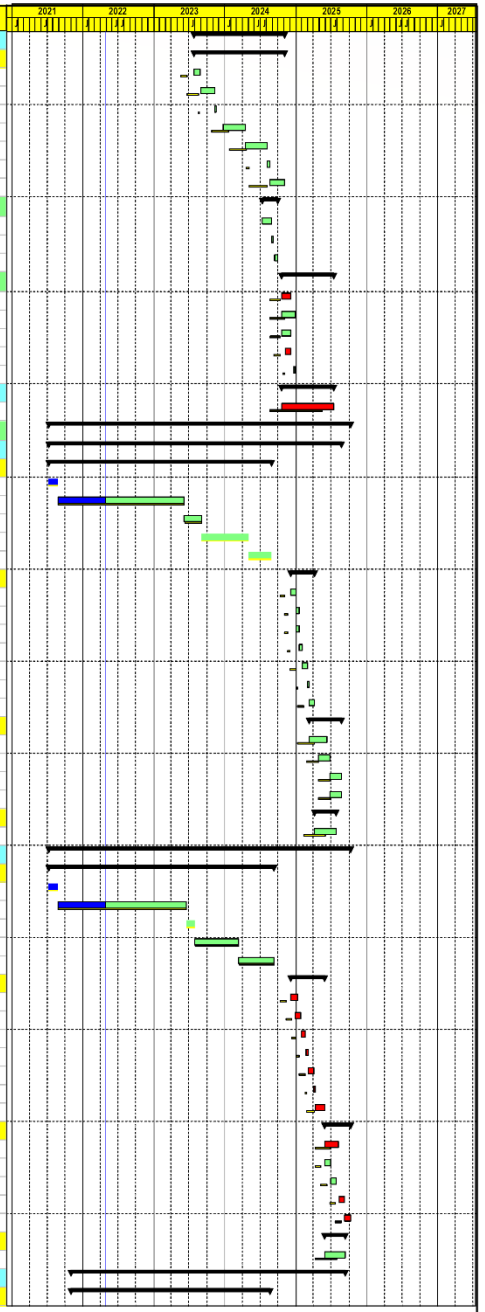
Primary Baseline
Actual Work
Remaining Work
Critical Remaining Work
Baseline Milestone

DC/2019/07 OUTLYING ISLANDS SEWERAGE STAGE2 - UPGRADING OF CHEUNG CHAU SEWAGE TREATMENT AND DISPOSAL FACILITIES

REVISED PROGRAMME - REV. 14 (30 April 2022)

Date	Revision	Chec...	Approved
31-Jan-22	Rev.12	JL	AL
28-Feb-22	Rev.13	JL	AL
30-Apr-22	Rev.14	JL	AL

Activity ID	Activity Name	Ori. Dur (d)	TRA (d)	Time Elapsed %	Actual Workdone %	Actual Start	Actual Finish	Early Start	Early Finish	Late Start	Late Finish	Early Start (Rev. 12)	Early Finish (Rev. 12)	Amended Activities	Total Float
Construction of WAS Storage Tank of Sludge Centrifuge House				0%				26-Jul-23	02-Nov-24	04-Oct-23	06-Dec-24	21-May-23	03-Aug-24		29
Civil & Structural Works				0%				26-Jul-23	02-Nov-24	04-Oct-23	06-Dec-24	21-May-23	03-Aug-24		29
DC.S3.3190	Piling works for pre-bored socket H-piles (14 nos, dia.610 x 14m, 1 teams)	26	4	0%	0%			26-Jul-23	29-Aug-23	04-Oct-23	08-Nov-23	21-May-23	19-Jun-23	*	58
DC.S3.3200	Installation of sheet piles and Proof Drill	56	4	0%	0%			30-Aug-23	10-Nov-23	09-Nov-23	20-Jan-24	20-Jun-23	18-Aug-23	*	58
DC.S3.3201	Pile Loading Test of Tension Pile	6	1	0%	0%			11-Nov-23	18-Nov-23	22-Jan-24	29-Jan-24	19-Aug-23	25-Aug-23	*	58
DC.S3.3210	Excavation and installation of ELS for WAS Storage Tank	84	6	0%	0%			23-Dec-23	17-Apr-24	30-Jan-24	23-May-24	25-Oct-23	22-Jan-24	*	29
DC.S3.3220	Construction of RC Structure (below ground)	84	6	0%	0%			18-Apr-24	05-Aug-24	24-May-24	07-Sep-24	23-Jan-24	21-Apr-24	*	29
DC.S3.3230	Removal of formworks, falseworks, application of waterproofing, backfilling and removal of ELS	12	2	0%	0%			06-Aug-24	21-Aug-24	09-Sep-24	25-Sep-24	22-Apr-24	05-May-24	*	29
DC.S3.3240	Construction of RC Structure (above ground)	54	6	0%	0%			22-Aug-24	02-Nov-24	26-Sep-24	06-Dec-24	06-May-24	03-Aug-24	*	29
Construction of Underground Utilities and EVA for FSD Inspection (TOP2)				0%				13-Jul-24	28-Sep-24	08-Aug-24	17-Oct-24				19
DC.S3.3250	Construction underground utilities for MBR Treatment Facilities and Perliminary Treatment Facilities	38	2	0%	0%			13-Jul-24	28-Aug-24	08-Aug-24	24-Sep-24			*	22
DC.S3.3260	Road Reinstatement for FSD Inspection (TOP2)	6	1	0%	0%			29-Aug-24	05-Sep-24	25-Sep-24	03-Oct-24			*	22
DC.S3.3270	FSD Inspection for CCSTW (TOP2)	14	0	0%	0%			15-Sep-24	28-Sep-24	04-Oct-24	17-Oct-24			*	19
PHASE 4 - Demolition of existing Preliminary Treatment System				0%				18-Oct-24	14-Jul-25	18-Oct-24	14-Jul-25	20-Aug-24	16-May-25		0
DC.S3.4010	Demolition of existing inlet pumping station, preliminary treatment facilities & primary sediment tank	40	3	0%	0%			18-Oct-24	06-Dec-24	18-Oct-24	06-Dec-24	20-Aug-24	10-Oct-24	*	0
DC.S3.4020	Modification of Inlet Chamber	56	4	0%	0%			18-Oct-24	28-Dec-24	26-Nov-24	10-Feb-25	22-Aug-24	02-Nov-24	*	33
DC.S3.4030	Demolition of existing Transformer House	39	3	0%	0%			18-Oct-24	05-Dec-24	05-Nov-24	23-Dec-24	20-Aug-24	09-Oct-24	*	15
DC.S3.4031	Ground Investigation (7 nos, 1 rig, 1 team)	22	2	0%	0%			09-Nov-24	06-Dec-24	09-Nov-24	06-Dec-24	11-Sep-24	10-Oct-24	*	0
DC.S3.4040	Disconnecting data link of removed existing equipment from the existing SCADA systm (Phase 4 Demolition Existing PTS)	4	3	0%	0%			22-Dec-24	28-Dec-24	04-Feb-25	10-Feb-25	27-Oct-24	02-Nov-24	*	44
E&M Works - 30-month performance verification (At least 9 months before End of S3)				0%				18-Oct-24	14-Jul-25	18-Oct-24	14-Jul-25	20-Aug-24	16-May-25		0
DC.S3.3180	30-month performance verification (At least 9 months before End of S3)	270	0	0%	0%			18-Oct-24	14-Jul-25	18-Oct-24	14-Jul-25	20-Aug-24	16-May-25	*	0
PHASE 5 - Construction of Remaining Buildings				18.84%		12-Jul-21		12-Jul-21 A	08-Oct-25	07-Jun-22	08-Oct-25	12-Jul-21	22-Aug-25		0
Construction of Effluent Reuse Building				19.43%		12-Jul-21		12-Jul-21 A	22-Aug-25	16-Dec-22	01-Oct-25	12-Jul-21	24-Jun-25		40
Procurement, Fabrication and Delivery of Major E&M Equipment				25.5%		12-Jul-21		12-Jul-21 A	29-Aug-24	16-Dec-22	16-Apr-25	12-Jul-21	30-Aug-24		230
DC.S3.5125a	Tendering of Subcontrator	45	0	100%	100%	12-Jul-21	25-Aug-21	12-Jul-21 A	25-Aug-21 A			12-Jul-21	25-Aug-21		
DC.S3.5125b	Equipment Submission and Approval	650	0	38%	28%	26-Aug-21		26-Aug-21 A	06-Jun-23	16-Dec-22	22-Jan-24	27-Aug-21	07-Jun-23	*	230
DC.S3.5130a	Procurement	90	0	0%	0%			07-Jun-23	04-Sep-23	23-Jan-24	21-Apr-24	08-Jun-23	05-Sep-23	*	230
DC.S3.5130b	Fabrication	240	0	0%	0%			05-Sep-23	01-May-24	22-Apr-24	17-Dec-24	06-Sep-23	02-May-24	*	230
DC.S3.5130c	Delivery	120	0	0%	0%			02-May-24	29-Aug-24	18-Dec-24	16-Apr-25	03-May-24	30-Aug-24	*	230
Civil & Structural Works				0%				07-Dec-24	07-Apr-25	17-Jan-25	19-May-25	12-Oct-24	10-Feb-25		32
DC.S3.5140a	Installation of pipe pile wall of ELS (55 nos, dia323 x 8m, 1 team)	12	8	0%	0%			07-Dec-24	02-Jan-25	17-Jan-25	12-Feb-25	12-Oct-24	04-Nov-24	*	32
DC.S3.5140b	Proof Drill	7	5	0%	0%			03-Jan-25	16-Jan-25	13-Feb-25	26-Feb-25	05-Nov-24	18-Nov-24	*	32
DC.S3.5150	Grout Curtain Works	11	1	0%	0%			03-Jan-25	16-Jan-25	13-Feb-25	26-Feb-25	05-Nov-24	18-Nov-24	*	32
DC.S3.5160	Installation of ELS and Excavation for basement(970m3 exca, 1team)	11	1	0%	0%			17-Jan-25	03-Feb-25	27-Feb-25	12-Mar-25	19-Nov-24	02-Dec-24	*	32
DC.S3.5170	Construction of RC structure (below ground, 437m3)	22	2	0%	0%			04-Feb-25	03-Mar-25	13-Mar-25	09-Apr-25	03-Dec-24	02-Jan-25	*	32
DC.S3.5180	Removal of formworks, falseworks, application of waterproofing, backfilling and removal of ELS	5	1	0%	0%			04-Mar-25	10-Mar-25	10-Apr-25	16-Apr-25	03-Jan-25	09-Jan-25	*	32
DC.S3.5190	Construction of RC Structure (above ground, 213m3)	22	2	0%	0%			11-Mar-25	07-Apr-25	17-Apr-25	19-May-25	10-Jan-25	10-Feb-25	*	32
E&M Works				0%				11-Mar-25	22-Aug-25	17-Apr-25	01-Oct-25	10-Jan-25	24-Jun-25		40
DC.S3.5210	E&M,LVSB and BS Installation (UV system, Chemical tanks and dosing system and etc.)	67	5	0%	0%			11-Mar-25	07-Jun-25	17-Apr-25	16-Jul-25	10-Jan-25	07-Apr-25	*	32
DC.S3.5220a	SCADA System Site Acceptance Test (Phase 5 Effluent Reuse Construction)	60	0	0%	0%			25-Apr-25	23-Jun-25	04-Jun-25	02-Aug-25	25-Feb-25	25-Apr-25	*	40
DC.S3.5220b	SCADA System Commissioning Test (Phase 5 Effluent Reuse Construction)	60	0	0%	0%			24-Jun-25	22-Aug-25	03-Aug-25	01-Oct-25	26-Apr-25	24-Jun-25	*	40
DC.S3.5230b	System Commissioning Test (Interim Testing)	60	0	0%	0%			24-Jun-25	22-Aug-25	03-Aug-25	01-Oct-25	26-Apr-25	24-Jun-25	*	40
Internal Architectural Works				0%				08-Apr-25	28-Jul-25	17-Jun-25	30-Sep-25	11-Feb-25	30-May-25		55
DC.S3.5200	Architectural Works (Internal)	84	6	0%	0%			08-Apr-25	28-Jul-25	17-Jun-25	30-Sep-25	11-Feb-25	30-May-25	*	55
Construction of Sludge Centrifuge Building & Genset and Fuel Tank Rooms				18.84%		12-Jul-21		12-Jul-21 A	08-Oct-25	17-Jan-23	08-Oct-25	12-Jul-21	22-Aug-25		0
Procurement, Fabrication and Delivery of Major E&M Equipment				25.28%		12-Jul-21		12-Jul-21 A	08-Sep-24	17-Jan-23	28-May-25	12-Jul-21	09-Sep-24		262
DC.S3.5005a	Tendering of Subcontrator	45	0	100%	100%	12-Jul-21	25-Aug-21	12-Jul-21 A	25-Aug-21 A			12-Jul-21	25-Aug-21		
DC.S3.5005b	Equipment Submission and Approval	660	0	37.42%	28%	26-Aug-21		26-Aug-21 A	16-Jun-23	17-Jan-23	04-Mar-24	27-Aug-21	17-Jun-23	*	262
DC.S3.5010a	Procurement	45	0	0%	0%			17-Jun-23	31-Jul-23	05-Mar-24	18-Apr-24	18-Jun-23	01-Aug-23	*	262
DC.S3.5010b	Fabrication	225	0	0%	0%			01-Aug-23	12-Mar-24	19-Apr-24	29-Nov-24	02-Aug-23	13-Mar-24	*	262
DC.S3.5010c	Delivery	180	0	0%	0%			13-Mar-24	08-Sep-24	30-Nov-24	28-May-25	14-Mar-24	09-Sep-24	*	262
Civil & Structural Works				0%				07-Dec-24	28-May-25	07-Dec-24	28-May-25	12-Oct-24	08-Apr-25		0
DC.S3.5020a	Piling works for pre-bored socket H-piles (24 nos, dia610 x 15m, 1team)	23	4	0%	0%			07-Dec-24	10-Jan-25	07-Dec-24	10-Jan-25	12-Oct-24	12-Nov-24	*	0
DC.S3.5030	Installation of pipe pile wall of ELS (80 nos, dia323 x 6m, 1 teams)	18	6	0%	0%			30-Dec-24	27-Jan-25	30-Dec-24	27-Jan-25	13-Nov-24	10-Dec-24	*	0
DC.S3.5040	Grout Curtain Works	16	2	0%	0%			28-Jan-25	20-Feb-25	28-Jan-25	20-Feb-25	11-Dec-24	03-Jan-25	*	0
DC.S3.5050	Excavation for pumping tank (130m3 exca, 1team)	11	1	0%	0%			21-Feb-25	06-Mar-25	21-Feb-25	06-Mar-25	04-Jan-25	17-Jan-25	*	0
DC.S3.5060	Construction of RC structure (below ground, 887 m3)	22	2	0%	0%			07-Mar-25	03-Apr-25	07-Mar-25	03-Apr-25	18-Jan-25	18-Feb-25	*	0
DC.S3.5070	Removal of formworks, falseworks, application of waterproofing, backfilling and removal of ELS	5	2	0%	0%			04-Apr-25	11-Apr-25	04-Apr-25	11-Apr-25	19-Feb-25	25-Feb-25	*	0
DC.S3.5080	Construction of RC Structure (above ground, 1310 m3)	34	2	0%	0%			12-Apr-25	28-May-25	12-Apr-25	28-May-25	26-Feb-25	08-Apr-25	*	0
E&M Works				0%				29-May-25	08-Oct-25	29-May-25	08-Oct-25	09-Apr-25	22-Aug-25		0
DC.S3.5100	E&M,LVSB and BS Installation (centrifuges and its auxillary equipment and Polymer preparation system)	56	5	0%	0%			29-May-25	09-Aug-25	29-May-25	09-Aug-25	09-Apr-25	23-Jun-25	*	0
DC.S3.5110a	SCADA System Site Acceptance Test (Phase 5 Sludge Centrifuge Construction)	30	0	0%	0%			29-May-25	27-Jun-25	11-Jul-25	09-Aug-25	09-Apr-25	08-May-25	*	43
DC.S3.5110b	SCADA System Commissioning Test (Phase 5 Sludge Centrifuge Construction)	30	0	0%	0%			28-Jun-25	27-Jul-25	10-Aug-25	08-Sep-25	09-May-25	07-Jun-25	*	43
DC.S3.5120b	System Commissioning Test (Interim Testing)	30	0	0%	0%			10-Aug-25	08-Sep-25	10-Aug-25	08-Sep-25	24-Jun-25	23-Jul-25	*	0
DC.S3.5120c	Final System Commissioning Test	30	0	0%	0%			09-Sep-25	08-Oct-25	09-Sep-25	08-Oct-25	24-Jul-25	22-Aug-25	*	0
Internal Architectural Works				0%				29-May-25	12-Sep-25	23-Jun-25	08-Oct-25	09-Apr-25	29-Jul-25		20
DC.S3.5090	Architectural Works (Internal)	84	6	0%	0%			29-May-25	12-Sep-25	23-Jun-25	08-Oct-25	09-Apr-25	29-Jul-25	*	20
Construction of FS Pumproom and Pumproom				12.76%		01-Nov-21		01-Nov-21 A	11-Sep-25	02-Jan-23	01-Oct-25	01-Nov-21	12-Jul-25		20
Procurement, Fabrication and Delivery of Major E&M Equipment				17.56%		01-Nov-21		01-Nov-21 A	21-Aug-24	02-Jan-23	25-Apr-25	01-Nov-21	21-Aug-24		247



Primary Baseline
Actual Work
Remaining Work
Critical Remaining Work
Baseline Milestone

DC/2019/07 OUTLYING ISLANDS SEWERAGE STAGE2 - UPGRADING OF CHEUNG CHAU SEWAGE TREATMENT AND DISPOSAL FACILITIES

REVISED PROGRAMME - REV. 14 (30 April 2022)

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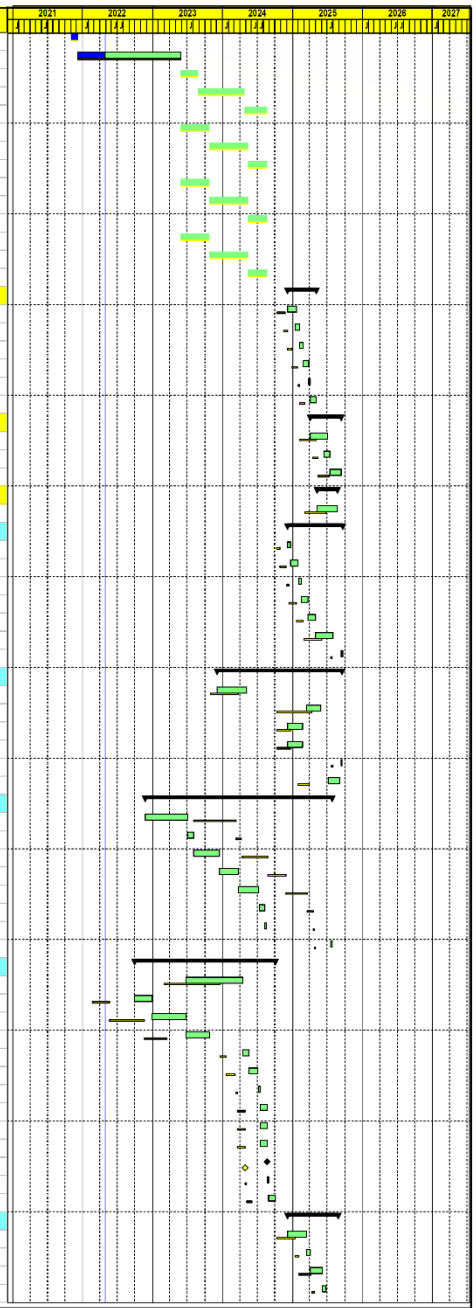
Date	Revision	Chec...	Approved
31-Jan-22	Rev.12	JL	AL
28-Feb-22	Rev.13	JL	AL
30-Apr-22	Rev.14	JL	AL

Activity ID	Activity Name	Ori. Dur (d)	TRA (d)	Time Elapsed %	Actual Workdone %	Actual Start	Actual Finish	Early Start	Early Finish	Late Start	Late Finish	Early Start (Rev. 12)	Early Finish (Rev. 12)	Amended Activities	Total Float
DC.S3.5235a	Tendering of Subcontrator for Fire Services	37	0	100%	100%	01-Nov-21	07-Dec-21	01-Nov-21 A	07-Dec-21 A			01-Nov-21	07-Dec-21		
DC.S3.5235b	Equipment Submission and Approval	566	0	26.58%	10%	08-Dec-21		08-Dec-21 A	29-May-23	02-Jan-23	31-Jan-24	08-Dec-21	29-May-23		247
DC.S3.5240a	Procurement of EL Equipment	90	0	0%	0%			30-May-23	27-Aug-23	01-Feb-24	30-Apr-24	30-May-23	27-Aug-23		247
DC.S3.5240b	Fabrication of EL Equipment	240	0	0%	0%			28-Aug-23	23-Apr-24	01-May-24	26-Dec-24	28-Aug-23	23-Apr-24		247
DC.S3.5240c	Delivery of EL Equipment	120	0	0%	0%			24-Apr-24	21-Aug-24	27-Dec-24	25-Apr-25	24-Apr-24	21-Aug-24		247
DC.S3.5240d	Procurement of FS pumps	150	0	0%	0%			30-May-23	26-Oct-23	01-Feb-24	29-Jun-24	30-May-23	26-Oct-23		247
DC.S3.5240e	Fabrication of FS pumps	200	0	0%	0%			27-Oct-23	13-May-24	30-Jun-24	15-Jan-25	27-Oct-23	13-May-24		247
DC.S3.5240f	Delivery of FS pumps	100	0	0%	0%			14-May-24	21-Aug-24	16-Jan-25	25-Apr-25	14-May-24	21-Aug-24		247
DC.S3.5240g	Procurement of FRP water tanks	150	0	0%	0%			30-May-23	26-Oct-23	01-Feb-24	29-Jun-24	30-May-23	26-Oct-23		247
DC.S3.5240h	Fabrication of FRP water tanks	200	0	0%	0%			27-Oct-23	13-May-24	30-Jun-24	15-Jan-25	27-Oct-23	13-May-24		247
DC.S3.5240i	Delivery of FRP water tanks	100	0	0%	0%			14-May-24	21-Aug-24	16-Jan-25	25-Apr-25	14-May-24	21-Aug-24		247
DC.S3.5240j	Procurement of pumps	150	0	0%	0%			30-May-23	26-Oct-23	01-Feb-24	29-Jun-24	30-May-23	26-Oct-23		247
DC.S3.5240k	Fabrication of pumps	200	0	0%	0%			27-Oct-23	13-May-24	30-Jun-24	15-Jan-25	27-Oct-23	13-May-24		247
DC.S3.5240l	Delivery of pumps	100	0	0%	0%			14-May-24	21-Aug-24	16-Jan-25	25-Apr-25	14-May-24	21-Aug-24		247
Civil & Structural Works				0%				07-Dec-24	06-May-25	28-Dec-24	24-May-25	12-Oct-24	06-Mar-25		16
DC.S3.5250	Installation of pipe pile wall of ELS (62 nos, dia323 x 12m, 1team) and Sheetpile (56nos FSPIII sheetpile x6m)	30	6	0%	0%			07-Dec-24	21-Jan-25	28-Dec-24	12-Feb-25	12-Oct-24	22-Nov-24	*	16
DC.S3.5260	Grout Curtain Works	16	2	0%	0%			14-Jan-25	06-Feb-25	05-Feb-25	25-Feb-25	15-Nov-24	05-Dec-24	*	16
DC.S3.5270	Installation of ELS and excavation for basement (940m3 exca, 1team)	16	2	0%	0%			07-Feb-25	27-Feb-25	26-Feb-25	18-Mar-25	06-Dec-24	28-Dec-24	*	16
DC.S3.5280	Construction of RC structure (below ground, 512m3)	22	2	0%	0%			28-Feb-25	27-Mar-25	19-Mar-25	15-Apr-25	30-Dec-24	27-Jan-25	*	16
DC.S3.5290	Removal of formworks, falseworks, application of waterproofing, backfilling and removal of ELS	5	1	0%	0%			28-Mar-25	03-Apr-25	16-Apr-25	25-Apr-25	28-Jan-25	06-Feb-25	*	16
DC.S3.5300	Construction of RC Structure (above ground, 326m3)	22	2	0%	0%			04-Apr-25	06-May-25	26-Apr-25	24-May-25	07-Feb-25	06-Mar-25	*	16
E&M Works				0%				04-Apr-25	11-Sep-25	26-Apr-25	01-Oct-25	07-Feb-25	12-Jul-25		20
DC.S3.5320	E&M,LVSB and BS Installation (pumps and associated pipe works)	67	5	0%	0%			04-Apr-25	03-Jul-25	26-Apr-25	22-Jul-25	07-Feb-25	06-May-25	*	16
DC.S3.5330	Site Acceptance Test	30	0	0%	0%			14-Jun-25	13-Jul-25	04-Jul-25	02-Aug-25	14-Apr-25	13-May-25	*	20
DC.S3.5340b	System Commissioning Test (Final Testing)	60	0	0%	0%			14-Jul-25	11-Sep-25	03-Aug-25	01-Oct-25	14-May-25	12-Jul-25	*	20
Internal Architectural Works				0%				07-May-25	21-Aug-25	17-Jun-25	30-Sep-25	07-Mar-25	25-Jun-25		34
DC.S3.5310	Architectural Works (Internal)	84	6	0%	0%			07-May-25	21-Aug-25	17-Jun-25	30-Sep-25	07-Mar-25	25-Jun-25	*	34
Construction of Dangerous Goods House				0%				07-Dec-24	21-Sep-25	24-Dec-24	08-Oct-25	12-Oct-24	27-Jul-25		17
DC.S3.5350	Installation of ELS and excavation for basement(48nos FSPIII x 9m, 70m3 exca, 1team)	11	1	0%	0%			07-Dec-24	20-Dec-24	24-Dec-24	09-Jan-25	12-Oct-24	25-Oct-24	*	14
DC.S3.5360	Construction of RC structure (below ground, 34m3)	28	2	0%	0%			21-Dec-24	28-Jan-25	10-Jan-25	17-Feb-25	26-Oct-24	29-Nov-24	*	14
DC.S3.5370	Backfilling to ground level and removal of ELS	11	1	0%	0%			01-Feb-25	14-Feb-25	18-Feb-25	03-Mar-25	30-Nov-24	13-Dec-24	*	14
DC.S3.5380	Construction of RC Structure (above ground, 21m3)	28	2	0%	0%			15-Feb-25	21-Mar-25	04-Mar-25	07-Apr-25	14-Dec-24	21-Jan-25	*	14
DC.S3.5390	Architectural Works (Internal)	28	2	0%	0%			22-Mar-25	29-Apr-25	08-Apr-25	16-May-25	22-Jan-25	28-Feb-25	*	14
DC.S3.5400a	E&M Installation and testing	69	6	0%	0%			30-Apr-25	29-Jul-25	17-May-25	14-Aug-25	01-Mar-25	02-Jun-25	*	14
DC.S3.5400b	DG inspection by FSD	10	0	0%	0%			12-Sep-25	21-Sep-25	29-Sep-25	08-Oct-25	18-Jul-25	27-Jul-25	*	17
Roadworks & Underground Utilities (Permanent pipeworks, Sewerage System, Road Drainage System)				0%				08-Dec-23	17-Sep-25	22-May-24	08-Oct-25	31-Oct-23	29-Jul-25		21
DC.S3.5410	Main access between MBR & PTF	112	8	0%	0%			06-Dec-23	06-May-24	22-May-24	14-Oct-24	31-Oct-23	25-Mar-24	*	132
DC.S3.5420	Main access between PTF, Effluent Reuse Building, FS Pumproom and Pumproom	55	5	0%	0%			15-Mar-25	28-May-25	07-Apr-25	20-Jun-25	12-Oct-24	11-Apr-25	*	19
DC.S3.5430	Main access between Administration Building & Inlet Chamber	58	2	0%	0%			07-Dec-24	21-Feb-25	23-Jul-25	30-Sep-25	12-Oct-24	20-Dec-24	*	183
DC.S3.5440	Main access between Sludge Centrifuge Building & Sludge Digestor Building	58	2	0%	0%			07-Dec-24	21-Feb-25	23-Jul-25	30-Sep-25	12-Oct-24	20-Dec-24	*	183
DC.S3.5450	Permanent Flow Diversion	4	1	0%	0%			12-Sep-25	17-Sep-25	02-Oct-25	08-Oct-25	24-Jul-25	29-Jul-25	*	16
DC.S3.5470	Construction of EVA and Signage	58	2	0%	0%			05-Jul-25	02-Sep-25	27-Jul-25	24-Sep-25	29-Jan-25	29-Mar-25	*	22
Sludge Dewatering House				0%				22-Nov-22	25-Jul-25	10-Jan-23	08-Oct-25	04-Aug-23	02-May-25		75
DC.S3.5460	A&A works of Sludge Dewatering House	168	12	0%	0%			22-Nov-22	04-Jul-23	10-Jan-23	18-Aug-23	04-Aug-23	11-Mar-24	*	39
DC.S3.5470a	Procurement	30	0	0%	0%			05-Jul-23	03-Aug-23	19-Aug-23	17-Sep-23	12-Mar-24	10-Apr-24	*	45
DC.S3.5470b	Fabrication	135	0	0%	0%			04-Aug-23	16-Dec-23	18-Sep-23	30-Jan-24	11-Apr-24	23-Aug-24	*	45
DC.S3.5470c1	Delivery	97	0	0%	0%			17-Dec-23	22-Mar-24	31-Jan-24	06-May-24	24-Aug-24	28-Nov-24	*	45
DC.S3.5470c2	Installation of E&M, MCC & BS Equipment	110	0	0%	0%			23-Mar-24	10-Jul-24	07-May-24	24-Aug-24	29-Nov-24	16-Mar-25	*	45
DC.S3.5480a1	Testing and commissioning	30	0	0%	0%			11-Jul-24	09-Aug-24	18-Sep-24	17-Oct-24	19-Mar-25	17-Apr-25	*	69
DC.S3.5480a2	Decommissioning of Existing E&M Equipment and MCC	7	0	0%	0%			10-Aug-24	16-Aug-24	24-Sep-25	30-Sep-25	18-Apr-25	24-Apr-25	*	410
DC.S3.5480a3	Installation of MCC for FS Pump Room and Cabling Works	8	0	0%	0%			18-Jul-25	25-Jul-25	01-Oct-25	08-Oct-25	25-Apr-25	02-May-25	*	75
Administration Building				0%				30-Sep-22	04-Oct-24	13-Oct-22	17-Oct-24	22-Feb-22	03-Jun-24		13
DC.S3.5490	A&A works of Administration Building	224	16	0%	0%			27-Jun-23	17-Apr-24	10-Jul-23	29-Apr-24	03-Mar-23	20-Dec-23	*	10
DC.S3.5500a	Procurement of EL Equipment	90	0	0%	0%			30-Sep-22*	28-Dec-22	13-Oct-22	10-Jan-23	22-Feb-22	22-May-22	*	13
DC.S3.5500b	Fabrication of EL Equipment	180	0	0%	0%			29-Dec-22	26-Jun-23	11-Jan-23	09-Jul-23	23-May-22	18-Nov-22	*	13
DC.S3.5500c	Delivery of EL Equipment	120	0	0%	0%			27-Jun-23	24-Oct-23	10-Jul-23	06-Nov-23	19-Nov-22	18-Mar-23	*	13
DC.S3.5500d	Procurement of Sanitary Fitments	30	0	0%	0%			18-Apr-24	17-May-24	30-Apr-24	29-May-24	21-Dec-23	19-Jan-24	*	12
DC.S3.5500e	Fabrication of Sanitary Fitments	50	0	0%	0%			18-May-24	06-Jul-24	30-May-24	18-Jul-24	20-Jan-24	09-Mar-24	*	12
DC.S3.5500f	Delivery of Sanitary Fitments	10	0	0%	0%			07-Jul-24	16-Jul-24	19-Jul-24	28-Jul-24	10-Mar-24	19-Mar-24	*	12
DC.S3.5500g1	BS Installation	28	2	0%	0%			17-Jul-24	20-Aug-24	29-Jul-24	31-Aug-24	20-Mar-24	27-Apr-24	*	10
DC.S3.5500g2	Electrical Installation	28	2	0%	0%			17-Jul-24	20-Aug-24	29-Jul-24	31-Aug-24	20-Mar-24	27-Apr-24	*	10
DC.S3.5500g3	Control and SCADA Installation	28	2	0%	0%			17-Jul-24	20-Aug-24	29-Jul-24	31-Aug-24	20-Mar-24	27-Apr-24	*	10
DC.S3.5500h	Completion of all the works in the new control room	0	0	0%	0%				20-Aug-24		01-Sep-24		27-Apr-24	*	12
DC.S3.5510a	Relocation of existing SCADA equipment from existing control room to new control room	7	0	0%	0%			21-Aug-24*	28-Aug-24	02-Sep-24	09-Sep-24	28-Apr-24	04-May-24	*	10
DC.S3.5510b	Vacating the existing control room and A&A Works	30	0	0%	0%			29-Aug-24	04-Oct-24	10-Sep-24	17-Oct-24	05-May-24	03-Jun-24	*	10
A&A of existing outfall pumping station and header tank				0%				07-Dec-24	25-Aug-25	20-Jan-25	08-Oct-25	12-Oct-24	27-Jun-25		44
DC.S3.5520	A&A works of existing outfall pumping station and header tank	73	5	0%	0%			07-Dec-24	14-Mar-25	20-Jan-25	26-Apr-25	12-Oct-24	14-Jan-25	*	34
DC.S3.5530a	Procurement	20	0	0%	0%			15-Mar-25	03-Apr-25	28-Apr-25	17-May-25	15-Jan-25	03-Feb-25	*	44
DC.S3.5530b	Fabrication	64	0	0%	0%			04-Apr-25	06-Jun-25	18-May-25	20-Jul-25	04-Feb-25	08-Apr-25	*	44
DC.S3.5530c	Delivery and Installation	20	0	0%	0%			07-Jun-25	26-Jun-25	21-Jul-25	09-Aug-25	09-Apr-25	28-Apr-25	*	44



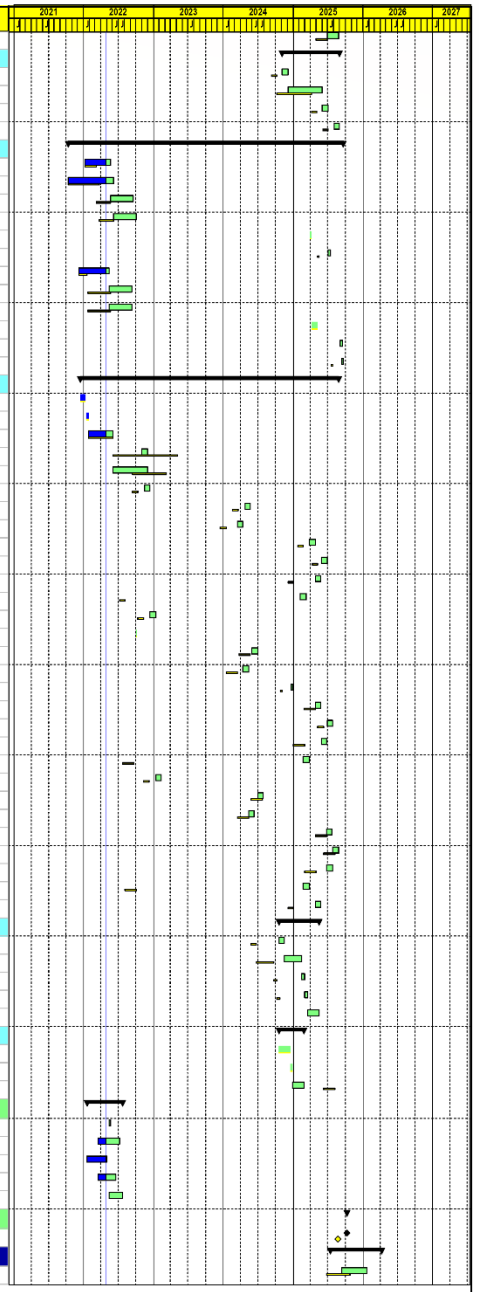
Primary Baseline
Actual Work
Remaining Work
Critical Remaining Work
Baseline Milestone

DC/2019/07 OUTLYING ISLANDS SEWERAGE STAGE2 - UPGRADING OF CHEUNG CHAU SEWAGE TREATMENT AND DISPOSAL FACILITIES

REVISED PROGRAMME - REV. 14 (30 April 2022)

Date	Revision	Chec...	Approved
31-Jan-22	Rev.12	JL	AL
28-Feb-22	Rev.13	JL	AL
30-Apr-22	Rev.14	JL	AL

Activity ID	Activity Name	Orl. Dur (d)	TRA (d)	Time Elapsed %	Actual Workdone %	Actual Start	Actual Finish	Early Start	Early Finish	Late Start	Late Finish	Early Start (Rev. 12)	Early Finish (Rev. 12)	Amended Activities	Total Float
DC.S3.5540	Testing and commissioning	60	0	0%	0%			27-Jun-25	25-Aug-25	10-Aug-25	08-Oct-25	29-Apr-25	27-Jun-25	*	44
Modification of Emergency overflow chamber				0%				05-Nov-24	31-Aug-25	13-Dec-24	08-Oct-25	08-Sep-24	04-Jul-25		38
DC.S3.5550a	Procurement of E&M Equipment	30	0	0%	0%			05-Nov-24	04-Dec-24	13-Dec-24	11-Jan-25	08-Sep-24	07-Oct-24	*	38
DC.S3.5550b	Fabrication of E&M Equipment	180	0	0%	0%			05-Dec-24	02-Jun-25	12-Jan-25	10-Jul-25	08-Oct-24	05-Apr-25	*	38
DC.S3.5550c	Delivery and Installation of E&M Equipment	30	0	0%	0%			03-Jun-25	02-Jul-25	11-Jul-25	09-Aug-25	08-Apr-25	05-May-25	*	38
DC.S3.5550d	Testing and Commissioning	30	0	0%	0%			02-Aug-25	31-Aug-25	09-Sep-25	08-Oct-25	05-Jun-25	04-Jul-25	*	38
E&M Submission and inspection for permanent water supply, power supply and fire services works				13.76%		14-Oct-21		14-Oct-21 A	21-Sep-25	11-Jun-22	08-Oct-25	14-Oct-21	27-Jul-25		17
DC.S3.5560	Preparation and approval of WWO 542 submission (FS system)	172	0	65%	65%	07-Jan-22		07-Jan-22 A	20-May-22	27-Jun-22	17-Jul-22	07-Jan-22	07-Mar-22	*	58
DC.S3.5570	Preparation and approval of WWO 542 submission (Plumbing system)	257	0	77%	77%	14-Oct-21		14-Oct-21 A	05-Jun-22	11-Jun-22	17-Jul-22	14-Oct-21	22-Mar-22	*	42
DC.S3.5580	Preparation and approval of WWO 46 submission (FS system)	120	0	0%	0%			21-May-22	17-Sep-22	18-Jul-22	14-Nov-22	08-Mar-22	21-May-22	*	58
DC.S3.5590	Preparation and approval of WWO 46 submission (Plumbing system)	120	0	0%	0%			05-Jun-22	03-Oct-22	18-Jul-22	14-Nov-22	23-Mar-22	05-Jun-22	*	42
DC.S3.5600	WSD Inspection (FS system)	10	0	0%	0%			29-Mar-25*	07-Apr-25	16-Aug-25	25-Aug-25	29-Mar-25	07-Apr-25	*	140
DC.S3.5610	WSD Inspection (Plumbing system)	10	0	0%	0%			04-Jul-25	13-Jul-25	19-Sep-25	28-Sep-25	07-May-25	16-May-25	*	77
DC.S3.5630	Preparation and approval of GBP submission for CCSTW (with Phasing Plan)	202	0	70.8%	50%	08-Dec-21		08-Dec-21 A	13-May-22	04-Jul-22	17-Jul-22	08-Dec-21	21-Jan-22	*	66
DC.S3.5640	Preparation and approval of DG submission (Upon GBP submission)	120	0	0%	0%			13-May-22	10-Sep-22	18-Jul-22	14-Nov-22	22-Jan-22	21-May-22	*	66
DC.S3.5650	Preparation and approval of FSI314 for VAC (Upon GBP submission)	120	0	0%	0%			13-May-22	10-Sep-22	18-Jul-22	14-Nov-22	22-Jan-22	21-May-22	*	66
DC.S3.5680	Submission of Form 314, 501 and 501a for CCSTW	30	0	0%	0%			08-Apr-25*	07-May-25	26-Aug-25	24-Sep-25	08-Apr-25	07-May-25	*	140
DC.S3.5692	FSD Inspection of CCSTW (Final Inspection)	14	0	0%	0%			03-Sep-25	16-Sep-25	25-Sep-25	08-Oct-25			*	22
DC.S3.5700	DG Inspection by FSD	10	0	0%	0%			12-Sep-25	21-Sep-25	29-Sep-25	08-Oct-25	18-Jul-25	27-Jul-25	*	17
SCADA System				10.07%		15-Dec-21		15-Dec-21 A	26-Aug-25	07-Jun-22	08-Oct-25	15-Dec-21	06-Aug-25		43
DC.S3.5705	SCADA Equipment Submission and Approval	30	0	100%	100%	15-Dec-21	13-Jan-22	15-Dec-21 A	13-Jan-22 A			15-Dec-21	13-Jan-22		
DC.S3.5710	Procurement	15	0	100%	100%	14-Jan-22	28-Jan-22	14-Jan-22 A	28-Jan-22 A			14-Jan-22	28-Jan-22		
DC.S3.5720	Fabrication	126	0	72.22%	72%	29-Jan-22		29-Jan-22 A	03-Jun-22	07-Jun-22	11-Jul-22	29-Jan-22	03-Jun-22		38
DC.S3.5730	Delivery	30	0	0%	0%			01-Nov-22	30-Nov-22	09-Dec-22	07-Jan-23	04-Jun-22	09-May-23	*	38
DC.S3.5770	Preparation and cable Installation works by communication company	180	0	0%	0%			04-Jun-22	30-Nov-22	12-Jul-22	07-Jan-23	12-Sep-22	10-Mar-23	*	38
DC.S3.5775b1	SCADA equipment installation (Phase 1 Sludge Digestor Building Construction)	30	0	0%	0%			15-Nov-22	14-Dec-22	09-Dec-22	07-Jan-23	12-Sep-22	11-Oct-22	*	24
DC.S3.5775b2	SCADA equipment installation (Phase 3 PTF Construction)	30	0	0%	0%			24-Apr-24	23-May-24	16-Jul-24	14-Aug-24	19-Feb-24	19-Mar-24	*	83
DC.S3.5775b3	SCADA equipment installation (Phase 1 MBR Construction)	30	0	0%	0%			15-Mar-24	13-Apr-24	17-Jun-24	16-Jul-24	17-Dec-23	15-Jan-24	*	94
DC.S3.5775b4	SCADA equipment installation (Phase 5 Effluent Reuse Construction)	30	0	0%	0%			27-Mar-25	25-Apr-25	04-Jul-25	02-Aug-25	26-Jan-25	24-Feb-25	*	99
DC.S3.5775b5	SCADA equipment installation (Phase 5 Sludge Centrifuge Construction)	30	0	0%	0%			29-May-25	27-Jun-25	11-Jun-25	10-Jul-25	09-Apr-25	08-May-25	*	13
DC.S3.5775b6	SCADA equipment installation (Phase 5 Sludge Dewatering System)	30	0	0%	0%			27-Apr-25	26-May-25	11-Jun-25	10-Jul-25	04-Dec-24	02-Jan-25	*	45
DC.S3.5775b7	SCADA equipment installation (Section 2 at PSSPS)	30	0	0%	0%			08-Feb-25	09-Mar-25	24-Aug-25	22-Sep-25	07-Jul-22	06-Aug-22	*	197
DC.S3.5775c1	SCADA System Site Acceptance Test (Phase 1 Sludge Digestor Building Construction)	30	0	0%	0%			15-Dec-22	13-Jan-23	08-Jan-23	06-Feb-23	12-Oct-22	10-Nov-22	*	24
DC.S3.5775c2	Disconnecting data link of removed existing equipment from the existing SCADA system (Phase 2 Site Clearance at PTF Area)	7	0	0%	0%			03-Oct-22	09-Oct-22	29-Apr-23	05-May-23	03-Oct-22	09-Oct-22		208
DC.S3.5775c3	SCADA System Site Acceptance Test (Phase 3 PTF Construction)	30	0	0%	0%			31-May-24	29-Jun-24	16-Aug-24	14-Sep-24	25-Mar-24	23-May-24	*	77
DC.S3.5775c4	SCADA System Site Acceptance Test (Phase 1 MBR Construction)	30	0	0%	0%			14-Apr-24	13-May-24	17-Jul-24	15-Aug-24	16-Jan-24	15-Mar-24	*	94
DC.S3.5775c5	Disconnecting data link of removed existing equipment from the existing SCADA system (Phase 4 Demolition of existing PTF)	7	0	0%	0%			22-Dec-24	28-Dec-24	04-Feb-25	10-Feb-25	27-Oct-24	02-Nov-24	*	44
DC.S3.5775c6	SCADA System Site Acceptance Test (Phase 5 Effluent Reuse Construction)	30	0	0%	0%			26-Apr-25	25-May-25	03-Aug-25	01-Sep-25	25-Feb-25	25-Apr-25	*	99
DC.S3.5775c7	SCADA System Site Acceptance Test (Phase 5 Sludge Centrifuge Construction)	30	0	0%	0%			28-Jun-25	27-Jul-25	11-Jul-25	09-Aug-25	09-May-25	07-Jun-25	*	13
DC.S3.5775c8	SCADA System Site Acceptance Test (Phase 5 Sludge Dewatering System)	30	0	0%	0%			27-May-25	25-Jun-25	11-Jul-25	09-Aug-25	03-Jan-25	03-Mar-25	*	45
DC.S3.5775c9	SCADA System Site Acceptance Test (Section 2 at PSSPS)	30	0	0%	0%			24-Feb-25	25-Mar-25	09-Sep-25	08-Oct-25	23-Jul-22	20-Sep-22	*	197
DC.S3.5775d1	SCADA System Commissioning Test (Phase 1 Sludge Digestor Building Construction)	30	0	0%	0%			14-Jan-23	12-Feb-23	07-Feb-23	08-Mar-23	11-Nov-22	10-Dec-22	*	24
DC.S3.5775d2	SCADA System Commissioning Test (Phase 3 PTF Construction)	30	0	0%	0%			30-Jun-24	29-Jul-24	15-Sep-24	14-Oct-24	24-May-24	22-Jul-24	*	77
DC.S3.5775d3	SCADA System Commissioning Test (Phase 1 MBR Construction)	30	0	0%	0%			14-May-24	12-Jun-24	11-Jul-25	09-Aug-25	16-Mar-24	14-May-24	*	423
DC.S3.5775d4	SCADA System Commissioning Test (Phase 5 Effluent Reuse Construction)	30	0	0%	0%			24-Jun-25	23-Jul-25	02-Sep-25	01-Oct-25	26-Apr-25	24-Jun-25	*	70
DC.S3.5775d5	SCADA System Commissioning Test (Phase 5 Sludge Centrifuge Construction)	30	0	0%	0%			28-Jul-25	26-Aug-25	10-Aug-25	08-Sep-25	08-Jun-25	06-Aug-25	*	13
DC.S3.5775d6	SCADA System Commissioning Test (Phase 5 Sludge Dewatering System)	30	0	0%	0%			26-Jun-25	25-Jul-25	10-Aug-25	08-Sep-25	04-Mar-25	02-May-25	*	45
DC.S3.5775d7	SCADA System Commissioning Test (Section 2 at PSSPS)	30	0	0%	0%			24-Feb-25	25-Mar-25	09-Sep-25	08-Oct-25	06-Aug-22	04-Oct-22	*	197
DC.S3.5780	SCADA equipment installation at SHWSTW	30	0	0%	0%			27-Apr-25	26-May-25	11-Jun-25	10-Jul-25	04-Dec-24	02-Jan-25	*	45
ELV System (CCTV, ACS, Intercom, Radio)				0%				18-Oct-24	15-May-25	11-Feb-25	08-Sep-25	25-May-24	21-Oct-24		116
DC.S3.5735	Equipment Submission and Approval	30	0	0%	0%			18-Oct-24*	16-Nov-24	11-Feb-25	12-Mar-25	25-May-24	23-Jun-24	*	116
DC.S3.5740	Procurement	90	0	0%	0%			17-Nov-24	14-Feb-25	13-Mar-25	10-Jun-25	24-Jun-24	21-Sep-24	*	116
DC.S3.5750	Fabrication	15	0	0%	0%			15-Feb-25	01-Mar-25	11-Jun-25	25-Jun-25	22-Sep-24	06-Oct-24	*	116
DC.S3.5760	Delivery	15	0	0%	0%			02-Mar-25	16-Mar-25	26-Jun-25	10-Jul-25	07-Oct-24	21-Oct-24	*	116
DC.S3.5790	E&M Installation Works	60	0	0%	0%			17-Mar-25	15-May-25	11-Jul-25	08-Sep-25			*	116
O & M Manual & Training				0%				18-Oct-24	28-Feb-25	03-Mar-25	14-Jul-25	18-Oct-24	06-Aug-25		136
DC.S3.5765a	Submission of draft O&M Manual	60	0	0%	0%			18-Oct-24*	16-Dec-24	03-Mar-25	01-May-25	18-Oct-24	16-Dec-24		136
DC.S3.5765b	Training to Client's Staffs	14	0	0%	0%			17-Dec-24	30-Dec-24	02-May-25	15-May-25	17-Dec-24	30-Dec-24		136
DC.S3.5765c	Submission of interim O&M Manual	60	0	0%	0%			31-Dec-24	28-Feb-25*	16-May-25	14-Jul-25	08-Jun-25	06-Aug-25	*	136
OTHER WORKS DUE TO CEs				53.29%		18-Jan-22		18-Jan-22 A	26-Jul-22	15-Jun-22	21-Sep-22				48
DC.S3.6010	CE-015, Abandonement Works for Existing 900mm Diameter Pipe Connection to Manhole SHM7003180 and COH7000000	6	1	0%	0%			13-May-22*	20-May-22*	23-Jun-22	30-Jun-22			*	34
DC.S3.6020	CE-024, Pilot Trial Leak Detection for Existing Manholes in Cheung Chau	86	4	37.78%	0%	17-Mar-22		17-Mar-22 A	08-Jul-22*	27-Jun-22	31-Aug-22			*	46
DC.S3.6030	CE-033, Repair Works of Existing Sludge Ramp	146	6	47%	47%	18-Jan-22		18-Jan-22 A	04-May-22	19-Sep-22	21-Sep-22			*	116
DC.S3.6040	CE-044, Point Cloud Survey at Cheung Chau	72	3	48%	75%	15-Mar-22		15-Mar-22 A	17-Jun-22*	15-Jun-22	30-Jul-22			*	36
DC.S3.6050	CE-050, Underground Utilities Survey and Water Intrusion Identification in Cheung Chau	58	2	0%	0%			16-May-22*	26-Jul-22*	22-Jun-22	31-Aug-22			*	31
COMPLETION OF SECTION 3				0%				08-Oct-25	08-Oct-25	08-Oct-25	08-Oct-25	22-Aug-25	22-Aug-25		0
DC.S3.6000	Completion of Section 3 (Working Days)	0	0	0%	0%				08-Oct-25		08-Oct-25		22-Aug-25	*	0
SECTION 4				0%				15-Jul-25	10-Apr-26	15-Jul-25	10-Apr-26	17-May-25	10-Feb-26		0
DC.S4.1010	The remaining architectural and landscaping works at roof floor and external face	97	7	0%	0%			13-Sep-25	19-Jan-26	01-Dec-25	10-Apr-26	24-Jun-25	25-Oct-25	*	64



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DC/2019/07 OUTLYING ISLANDS SEWERAGE STAGE2 - UPGRADING OF CHEUNG CHAU SEWAGE TREATMENT AND DISPOSAL FACILITIES

REVISED PROGRAMME - REV. 14 (30 April 2022)

Date	Revision	Chec...	Approved
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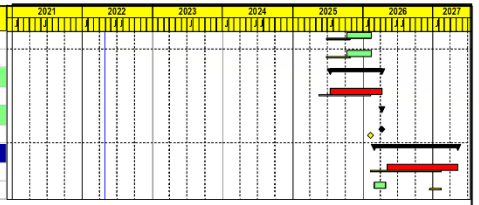
30-Apr-22	Rev.14	JL	AL

Activity ID	Activity Name	Ori. Dur (d)	TRA (d)	Time Elapsed %	Actual Workdone %	Actual Start	Actual Finish	Early Start	Early Finish	Late Start	Late Finish	Early Start (Rev. 12)	Early Finish (Rev. 12)	Amended Activities	Total Float
DC.S4.1020	The site-wide landscaping works	97	7	0%	0%			09-Oct-25	11-Feb-26	01-Dec-25	10-Apr-26	24-Jun-25	25-Oct-25	*	44
DC.S4.1030	Constuction of permanent boundary fences	97	7	0%	0%			09-Oct-25	11-Feb-26	01-Dec-25	10-Apr-26	24-Jun-25	25-Oct-25	*	44
30-month Performance Verification (At least 18 months End of S4)				0%				15-Jul-25	10-Apr-26	15-Jul-25	10-Apr-26	17-May-25	10-Feb-26		0
DC.S4.1040	30-month performance verification (At least 18 months before End of S4)	270	0	0%	0%			15-Jul-25	10-Apr-26	15-Jul-25	10-Apr-26	17-May-25	10-Feb-26	*	0
Completion of Section 4 (Working Day)				0%				10-Apr-26	10-Apr-26	10-Apr-26	10-Apr-26	10-Feb-26	10-Feb-26		0
DC.S4.1050	Completion of Section 4 (Working Days)	0	0	0%	0%				10-Apr-26		10-Apr-26		10-Feb-26	*	0
30-month performance verification (remaining 12 months after S4)				0%				01-Mar-26	08-May-27	09-May-26	08-May-27	11-Feb-26	10-Feb-27		0
DC.PV.1010	30-month performance vertification (remaining 12 months after S4)	365	0	0%	0%			09-May-26	08-May-27*	09-May-26	08-May-27	11-Feb-26	10-Feb-27	*	0
DC.S3.5765d10	Submission of final O&M Manual	60	0	0%	0%			01-Mar-26	29-Apr-26	10-Mar-27	08-May-27	13-Dec-26	10-Feb-27	*	374



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APPENDIX C
Calibration Certificates
(Air Monitoring)

ACUITY SUSTAINABILITY CONSULTING LIMITED
Website: www.acuityhk.com
Unit C, 11/F, Ford Glory Plaza, Nos. 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon.
Tel. : (852) 2698 6833
Fax.: (852) 2698 9383

Sibata LD-5R K-Factor Verification Test by Total Suspended Particulates HVS Test Report

Verification Test Date:	27-Jun-21	to	1-Jul-21
Next Verification Test Date:	1-Jul-22		
Unit-under-Test- Model No.	Sibata LD-5R		
Unit-under-Test Serial No.	851819		
Our Report Refrence No.	RPT-21-HVS-0006		

Standard Equipment Information			
Verification Equipment Type		Tisch's TSP HVS	Tish HVS Calibrator
Standard Equipment Model No.		TE-5170X	TE-5028
Equipment serial no.	MFC	1049	1050
Last Calibration Date		17-Jun-21	24-Sep-20
Next Calibration Date		17-Aug-21	24-Sep-21

Verification Test No.	Date	Time			K-Factor	Counts/ Minute (R)	Total Counts (TC)	TSP Sample ID No.	Dust Concentration (ug/m3), (C)
		Start-time	End-time	Elapsed Time (in min)	K-Factor (K=C/R)	x-axis			y axis
1	27/6/2021	1254.37	1257.37	180.00	0.00118	28.33	5100	R210872/1	33.33
2	27/6/2021	1258.44	1261.44	180.00	0.00105	56.33	10140	R210872/2	59.26
3	27/6/2021	1262.31	1265.31	180.00	0.00127	7.67	1380	R210872/3	9.72
4	1/7/2021	1265.84	1268.84	180.00	0.00098	74.67	13440	R210887/1	73.15
5	1/7/2021	1269.10	1272.10	180.00	0.00095	14.67	2640	R210887/2	13.89
6	1/7/2021	1272.50	1275.50	180.00	0.00093	26.00	4680	R210887/3	24.07
					0.00106				

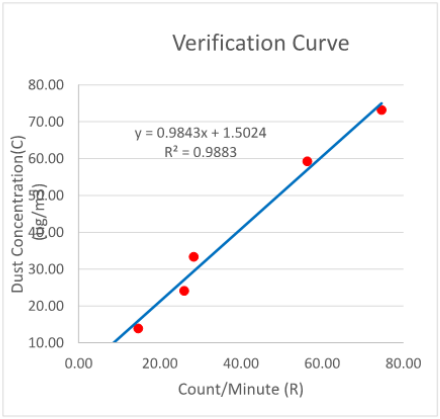
K-Factor to be inputted in LD-5R (corrected 1 decimal point): 1.1

By Linear Regression of y on x:

slope, mh= 0.9843
intercept,ch= 1.5024
*Correlation Coefficient,R= 0.9941

Verification Test Result: Strong Correlation, Results were accepted.

* If the Correlation Coefficient, R is <0.5. Checking and Re-verification are required.



Verified By: _____ Date: 20-07-2021
Technical Manager

ACUITY SUSTAINABILITY CONSULTING LIMITED
Website: www.acuityhk.com
Unit C, 11/F, Ford Glory Plaza, Nos. 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon.
Tel. : (852) 2698 6836
Fax.: (852) 2698 9586

Sibata LD-5R K-Factor Verification Test by Total Suspended Particulates HVS Test Report

Verification Test Date:	12-Sep-21	to	19-Sep-21
Next Verification Test Date:	20-Sep-22		
Unit-under-Test- Model No.	Sibata LD-5R		
Unit-under-Test Serial No.	992821		
Our Report Refrence No.	RPT-21-HVS-0012		

Standard Equipment Information			
Verification Equipment Type		Tisch's TSP HVS	Tish HVS Calibrator
Standard Equipment Model No.		TE-5170X	TE-5028
Equipment serial no.	MFC	1049	1050
Last Calibration Date		4-Sep-21	24-Sep-20
Next Calibration Date		4-Nov-21	24-Sep-21

Verification Test No.	Date	Time			K-Factor	Counts/ Minute (R)	Total Counts (TC)	TSP Sample ID No.	Dust Concentration (ug/m3), (C)
		Start-time	End-time	Elapsed Time (in min)	K-Factor (K=C/R)	x-axis			y axis
1	12/9/2021	4012.12	4014.84	163.20	0.00115	85.67	13981	R211363/1	98
2	12/9/2021	4014.84	4018.16	199.20	0.00125	93.00	18526	R211363/2	116
3	12/9/2021	4018.16	4021.16	180.00	0.00101	89.00	16020	R211363/3	89
4	19/9/2021	4046.44	4049.65	192.60	0.00040	63.67	12262	R211364/1	26
5	19/9/2021	4049.65	4052.95	198.00	0.00041	65.33	12936	R211364/2	27
6	19/9/2021	4052.95	4055.56	156.60	0.00066	59.33	9291.6	R211364/3	39
					0.00081				

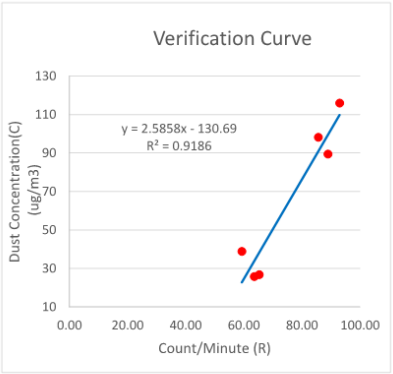
K-Factor to be inputted in LD-5R (corrected 1 decimal point): 0.8

By Linear Regression of y on x:

slope, mh= 2.5858
intercept,ch= -130.6851
*Correlation Coefficient,R= 0.9584

Verification Test Result: Strong Correlation, Results were accepted.

* If the Correlation Coefficient, R is <0.5. Checking and Re-verification are required.



Verified By: _____ Date: 09-10-2021
Technical Manager

TISCH Environmental

RECALIBRATION DUE DATE:
August 3, 2022

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	August 3, 2021	Rootsmeter S/N: 438320	Ta: 295	°K
Operator:	Jim Tisch		Pa: 750.57	mm Hg
Calibration Model #:	TE-5028A	Calibrator S/N: 3702		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (In H2O)
1	1	2	1	1.3170	4.1	1.50
2	3	4	1	1.0350	6.7	2.50
3	5	6	1	0.9420	8.0	3.00
4	7	8	1	0.8650	9.3	3.50
5	9	10	1	0.6540	16.2	6.00

Data Tabulation					
Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
0.9922	0.7534	1.2233	0.9945	0.7552	0.7678
0.9887	0.9553	1.5793	0.9911	0.9576	0.9913
0.9870	1.0478	1.7300	0.9893	1.0503	1.0859
0.9853	1.1390	1.8686	0.9876	1.1417	1.1729
0.9761	1.4925	2.4466	0.9784	1.4960	1.5356
QSTD	m=	1.64554	QA	m=	1.03041
	b=	-0.00368		b=	-0.00231
	r=	0.99975		r=	0.99975

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

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

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

Tisch Environmental, Inc.
145 South Miami Avenue
Village of Cleves, OH 45002
www.tisch-env.com
TOLL FREE: (877)263-7610
FAX: (513)467-9009

InnoTech Instrumentation Co. Ltd.
創 新 科 儀 有 限 公 司

HIVOL SAMPLER CALIBRATION DATA SHEET (TSP)

Site Information

Location:	The admin building inside the construction site	Site ID:	A1a	Date:	06-Apr-2022
Serial No:	1048	Model:	TE-5170X	Operator:	Kelvin Lau

Ambient Condition

Corrected Pressure (mm Hg):	763.3	Temperature (deg K):	295.5

Calibration Orifice

Model:	TE-5028A	Slope:	1.03041
Serial No.:	3702	Intercept:	-0.00231
Calibration Due Date:	3-Aug-22	Corr. Coeff:	0.99975

Calibration Data

Plate or Test #	In,H2O (in)	Qa, X-Axis (m3/min)	I, CFM (chart)	IC, Y-Axis (corrected)
1	1.24	1.090	34.9	35.17
2	1.92	1.356	40.8	41.08
3	2.30	1.485	43.8	44.12
4	2.67	1.598	46.0	46.25
5	3.16	1.739	49.5	49.87

Sampler Calibtation Relationship (Qa on x-axis, IC on y-axis)

m= 22.4524 b= 10.6576 Corr. Coeff= 0.9995

Sampler set point(SSP) 38 CFM

Calculations

Qstd = 1/m[Sqrt(H2O(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart response
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pa = actual pressure during calibration (mm Hg)
Tstd = 298 deg K
Pstd = 760 mm Hg
For subsequent calculation of sampler flow:
(1.21*m+b)/[Sqrt(298/Tav)(Pav/760)]

m = sampler slope
b = sampler intercept
I = chart response
Tav = average temperature
Pav = average pressure

Checked by: Date: 06-Apr-2022

InnoTech Instrumentation Co. Ltd.
創 新 科 儀 有 限 公 司

HIVOL SAMPLER CALIBRATION DATA SHEET (TSP)

Site Information

Location:	The existing outfall pumping station inside the construction site	Site ID:	A2a	Date:	06-Apr-2022
Serial No:	1085	Model:	TE-5170X	Operator:	Kelvin Lau

Ambient Condition

Corrected Pressure (mm Hg):	763.3	Temperature (deg K):	295.5

Calibration Orifice

Model:	TE-5028A	Slope:	1.03041
Serial No.:	3702	Intercept:	-0.00231
Calibration Due Date:	3-Aug-22	Corr. Coeff:	0.99975

Calibration Data

Plate or Test #	In,H2O (in)	Qa, X-Axis (m3/min)	I, CFM (chart)	IC, Y-Axis (corrected)
1	1.21	1.077	35.5	35.71
2	1.55	1.220	38.4	38.63
3	2.01	1.387	41.4	41.64
4	2.29	1.480	42.7	43.00
5	3.38	1.797	48.1	48.44

Sampler Calibtation Relationship (Qa on x-axis, IC on y-axis)

m= 17.4881 b= 17.1318 Corr. Coeff= 0.9991

Sampler set point(SSP) 38 CFM

Calculations

Qstd = 1/m[Sqrt(H2O(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart response
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pa = actual pressure during calibration (mm Hg)
Tstd = 298 deg K
Pstd = 760 mm Hg
For subsequent calculation of sampler flow:
(1.21*m+b)/[Sqrt(298/Tav)(Pav/760)]

m = sampler slope
b = sampler intercept
I = chart response
Tav = average temperature
Pav = average pressure

Checked by: Date: 06-Apr-2022

APPENDIX D
Monitoring Data (Air)

Location:	A1a
Monitoring Period:	May 2022
Parameter :	TSP 1-hour
Major Dust Source	Construction activities and daily operation of the sewerage treatment plant
Other Factors	NA

Date	**Weather**	**Start Time**	**1st Hour (µg/m³)**	**2nd Hour (µg/m³)**	**3rd Hour (µg/m³)**
03/05/2022	Sunny	14:29	55	60	53
10/05/2022	Cloudy	13:38	48	58	56
16/05/2022	Sunny	13:24	53	59	61
23/05/2022	Sunny	13:19	62	63	66
30/05/2022	Cloudy	13:21	54	51	50
		Average	57		
		Range	48 - 66		

Location: A2a

Monitoring Period: May 2022

Parameter : TSP 1-hour

Major Dust Source Construction activities and daily operation of the sewerage treatment plant

Other Factors NA

Date	**Weather**	**Start Time**	**1st Hour ($\mu g/m^3$)**	**2nd Hour ($\mu g/m^3$)**	**3rd Hour ($\mu g/m^3$)**
03/05/2022	Sunny	15:21	67	68	61
10/05/2022	Cloudy	13:50	75	78	71
16/05/2022	Sunny	13:35	77	72	69
23/05/2022	Sunny	13:36	71	69	72
30/05/2022	Cloudy	13:45	64	63	58
		Average	69		
		Range	58 - 78		

Figure D.1 Measured 1-Hour TSP at the admin building inside the construction site (A1a)

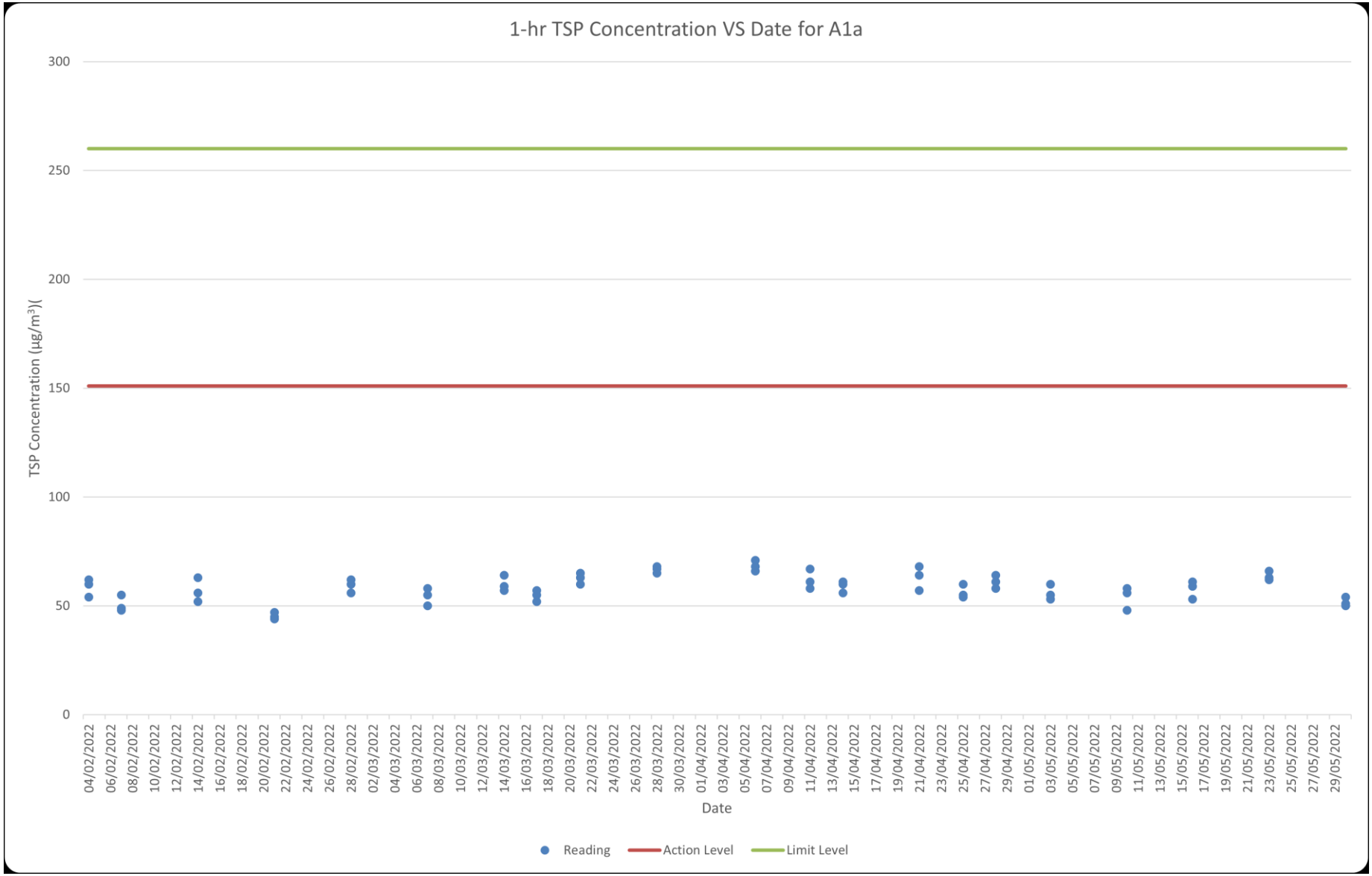
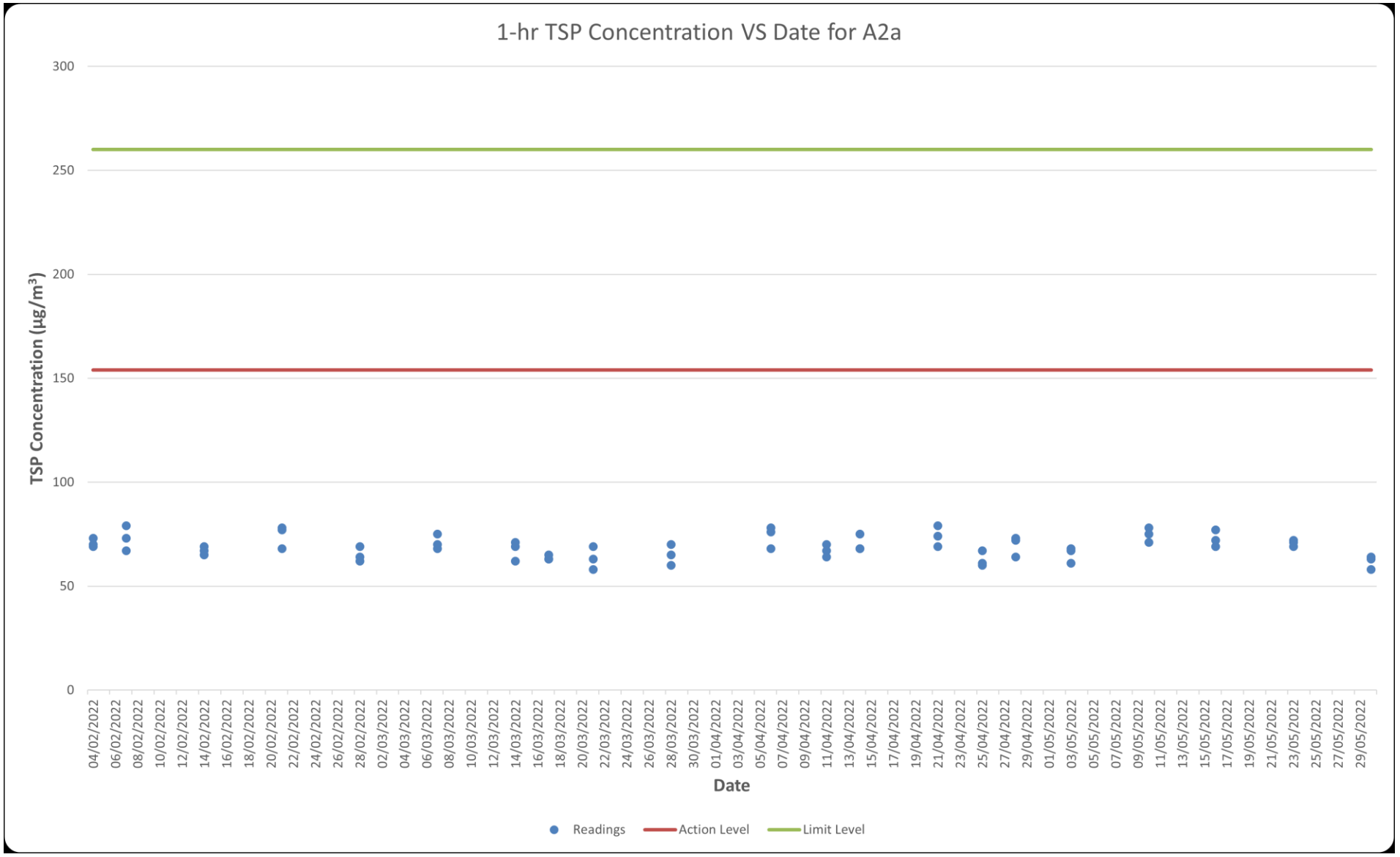


Figure D.2 Measured 1-Hour TSP at the existing outfall pumping station inside the construction site (A2a)



Location: A1a

Parameter : TSP 24-hour
Major dust source Construction activities and daily operation of the sewerage treatment plant
Other Factors NA

Start Date	Avg Air Temp	Avg Atmospheric Pressure	Weather Condition	Elapse Time		Sampling Time	Flow Rate	Standard Air Volume	Filter Weight (g)		Particulate weight	Conc.
	(°C)	(mm Hg)		Initial (min)	Final (min)	Actual (min)	(m^3/min)	(m^3)	Initial	Final	(g)	(µg/m^3)
03/05/2022	23.5	1015.1	Sunny	190800	192263	1463	1.18	1727	2.7642	2.8366	0.0724	42
10/05/2022	25.4	1008.8	Cloudy	192263	193716	1453	1.21	1757	2.7483	2.7825	0.0342	19
16/05/2022	21.2	1013.0	Sunny	193716	195171	1455	1.18	1722	2.7535	2.8478	0.0943	55
23/05/2022	24.2	1008.4	Sunny	195171	196627	1456	1.17	1700	2.7595	2.8190	0.0595	35
30/05/2022	28.7	1006.4	Cloudy	196627	198079	1452	1.11	1609	2.7685	2.8073	0.0388	24
											Average:	35
											Range:	19 - 55

Location:	A2a
Parameter :	TSP 24-hour
Major Site Activities	Construction activities and daily operation of the sewerage treatment plant
Major dust source	Routine operation of the Sewage Treatment Plant
Other Factors	NA

Start Date	**Avg Air Temp**	**Avg Atmospheric Pressure**	**Weather Condition**	**Elapse Time**		**Sampling Time**	**Flow Rate**	**Standard Air Volume**	**Filter Weight (g)**		**Particulate weight**	**Conc.**
	(°C)	**(mm Hg)**		**Initial (min)**	**Final (min)**	**Actual (min)**	**(m^3/min)**	**(m^3)**	**Initial**	**Final**	**(g)**	**(μg/m^3)**
03/05/2022	23.5	1015.1	Sunny	403220	404723	1503	1.20	1808	2.7654	2.8516	0.0862	48
10/05/2022	25.4	1008.8	Cloudy	404723	406213	1490	1.13	1677	2.7412	2.8274	0.0862	51
16/05/2022	21.2	1013.0	Sunny	406213	407689	1476	1.15	1696	2.7632	2.8486	0.0854	50
23/05/2022	24.2	1008.4	Sunny	407689	409203	1514	1.13	1709	2.7657	2.8377	0.0720	42
30/05/2022	28.7	1006.4	Cloudy	409203	410677	1474	1.11	1634	2.7698	2.8148	0.0450	28
											Average:	44
											Range:	28 - 51

Figure D.3 Measured 24-Hour TSP at the admin building inside the construction site (A1a)

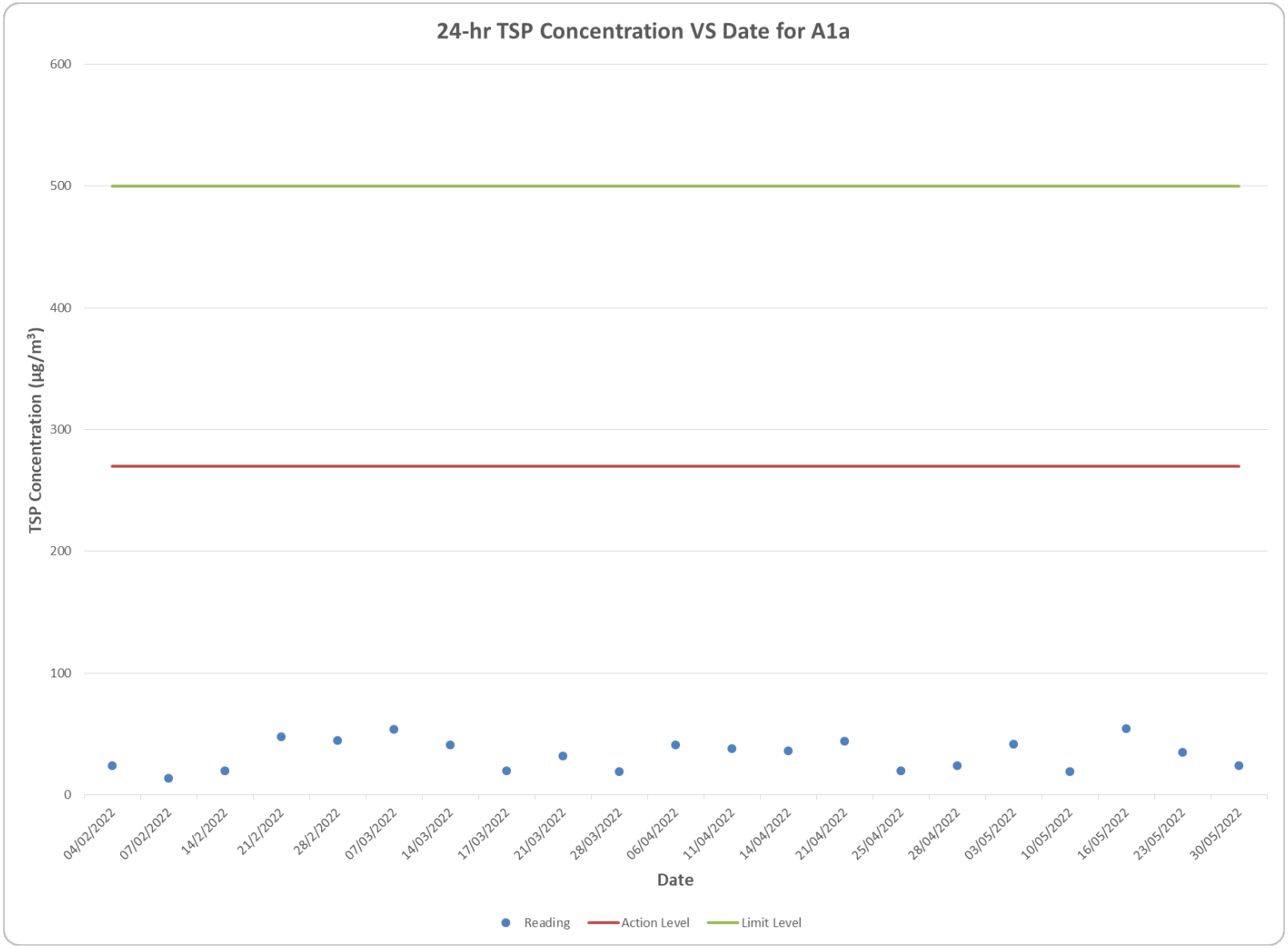
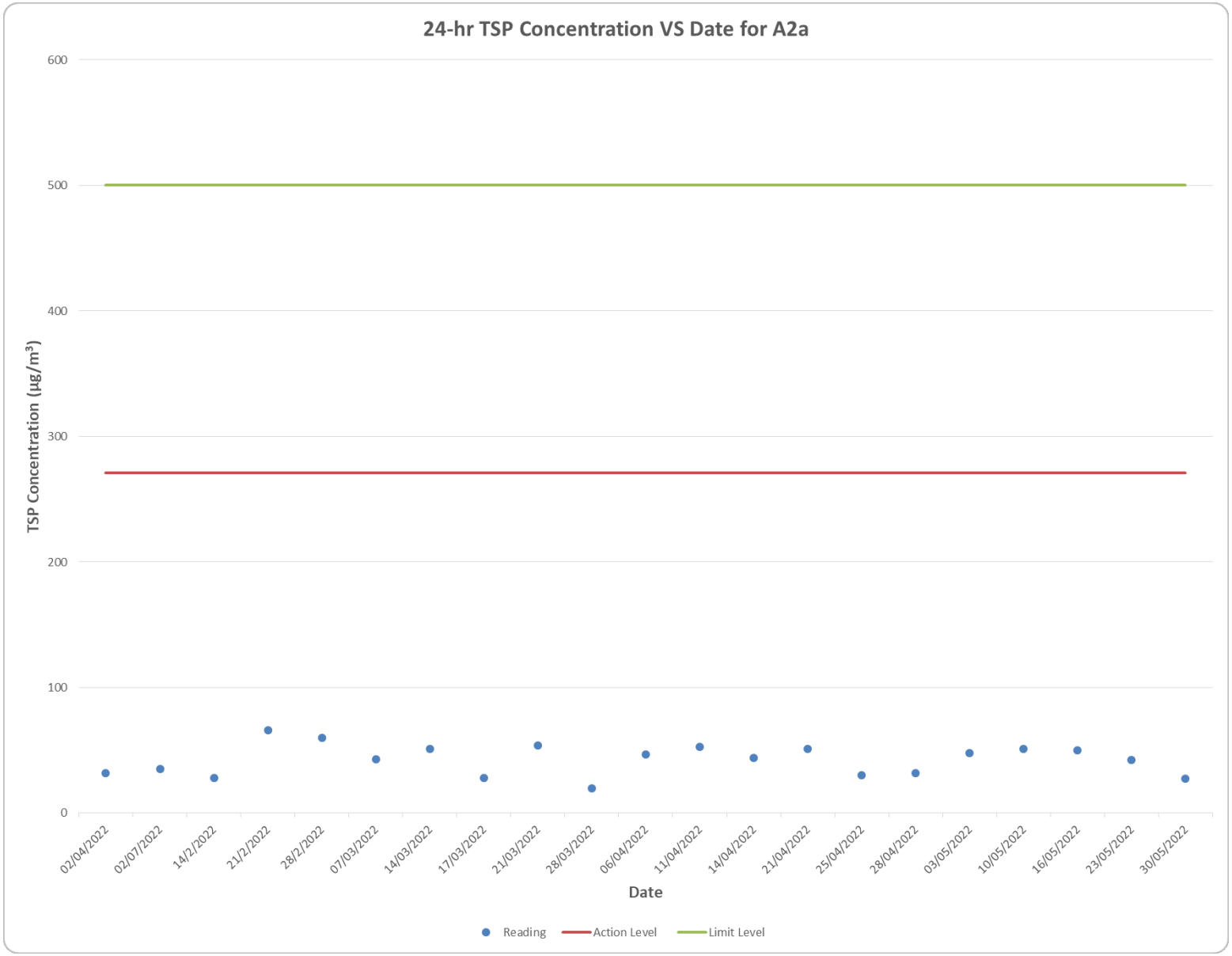


Figure D.4 Measured 24-Hour TSP at the existing outfall pumping station inside the construction site (A2a)



APPENDIX E
Calibration Certificates (Noise)

SCARLET | TECH

CERTIFICATE OF CALIBRATION

NO. 20210924246

Name of Product:	Sound Level Meter
Model:	ST-11D
Serial Number:	820259
Specification:	Class 1
Conclusion:	Pass
Date of calibration:	2021-10-12
Due Date:	2022-10-11

Calibrated by:

SCARLET TECH CO., LTD. SCARLET | TECH 星旭科技有限公司

I. This report certifies that all calibration equipment used in the test is traceable with the internal ISO9001 procedures and meets all specification given in the Manual(s) or respectively surpass then, and applies only to the unit identified above.
II. This certificate is produced with advanced equipment & procedures which permit comprehensive quality assurance verification of all data supplied herein.
III. This certificate of calibration shall not be reproduced except in full, without written permission of the Scarlet Tech Co Ltd Taiwan.

1. Preliminary inspection: OK

2. Type & serial No. of Microphone: AWA14425-14994

3. Adjustments to indicated sound levels:

Type of Calibrator B&K 4231

Sound Pressure Level 94.0 dB

Equivalent Free-field Sound Level (reference environment conditions) 93.8 dB

4. Measuring up limit: 140 dBA

5. Frequency weightings (Acoustic signal tests for Z weighting, other electric signal tests.)

Nominal frequency /Hz	Frequency weighting / dB			Nominal frequency /Hz	Frequency weighting / dB		
	A	C	Z		A	C	Z
10	-71.2	-14.8	-0.7	1000	0.0	-0.1	-0.2
20	-50.2	-6.2	-0.2	2000	1.2	-0.2	0.2
31.5	-39.4	-2.9	0.0	4000	1.0	-0.9	0.3
63	-26.3	-0.9	0.4	8000	-1.0	-3.2	-0.7
125	-16.0	-0.3	0.1	12500	-5.9	-7.9	-1.3
250	-8.6	-0.1	0.2	16000	-11.8	-13.8	-1.0
500	-3.2	-0.1	0.2	20000	-23.9	-25.9	-1.2

6. Self-generated noise

Microphone replaced by electrical input signal device

11.5 dB(A)	17.7 dB(C)	23.6 dB(Z)

7. F&S Weighting

Rate of the F weighting decrease（dB/s）	35.2
Rate of the S weighting decrease（dB/s）	4.4
Deviation of F&S	0.0

8. Level Linearity (A-weighting at frequency 1 kHz)

Reference sound level 90.0 dB

Max error at 10dB steps upper reference sound level -0.1 dB

Max error at 1dB steps within 5dB of the upper limit linear operating range 0.0 dB

Max error at 10dB steps below reference sound level 0.1 dB

Max error at 1dB steps within 5dB upper the lower limit linear operating range 0.1 dB

9. Tone burst response（A Weighting）：

Single Toneburst duration /ms	Toneburst response /dB			
	L_{AFmax}-L_A	L_{ASmax}-L_A	L_{AE}-L_A	L_{Aeq}-L_A
500	0.0	-4.0	-2.9	-7.0
200	-1.0	-7.4	-6.9	-7.0
50	-18.1	-26.9	-26.9	-7.0
10	-27.0	/	-36.0	-7.0

10. Peak C sound level （500Hz）：

Cycle	One cycle	nominal value	Positive half	nominal value	Negative half	nominal value
LCpeak-LC(dB)	3.5	3.5	2.3	2.4	2.3	2.4

11. Overload indication： Pass

12. Statistical analysis function

Sweep signal maximum indicated sound level: 112.8 dB

Sweep amplitude: 40 dB

Scan cycle time: 60 S; Measurement period: 180 S.

Items	Measured value/dB	Theoretical calculated value/dB	Error/dB
LAeq,T	103.2	103.2	0.0

L5	110.8	110.8	0.0
L10	108.8	108.8	0.0
L50	92.9	92.8	0.1
L90	76.9	76.8	0.1
L95	75.0	74.8	0.2

Uncertainty of measurement results: 0.4 dB (k=2)

Environment conditions:

Air temperature: 29 °C
Relative humidity: 72 %
Static pressure: 100.9 kPa

References:

IEC 61672-3 Sound Level Meters Part 3: Periodic tests

SCARLET | TECH

CERTIFICATE OF CALIBRATION

NO. 20210924239

Name of Product:	Sound Level Meter
Model:	ST-11D
Serial Number:	820250
Specification:	Class 1
Conclusion:	Pass
Date of calibration:	2021-10-12
Due Date:	2022-10-11

Calibrated by:

SCARLET TECH CO., LTD. SCARLET | TECH 星威科技有限公司

I. This report certifies that all calibration equipment used in the test is traceable with the internal ISO9001 procedures and meets all specification given in the Manual(s) or respectively surpass then, and applies only to the unit identified above.
II. This certificate is produced with advanced equipment & procedures which permit comprehensive quality assurance verification of all data supplied herein.
III. This certificate of calibration shall not be reproduced except in full, without written permission of the Scarlet Tech Co Ltd Taiwan.

1. Preliminary inspection: OK

2. Type & serial No. of Microphone: AWA14425-14994

3. Adjustments to indicated sound levels:

Type of Calibrator B&K 4231

Sound Pressure Level 94.0 dB

Equivalent Free-field Sound Level (reference environment conditions) 93.8 dB

4. Measuring up limit: 140 dBA

5. Frequency weightings (Acoustic signal tests for Z weighting, other electric signal tests.)

Nominal frequency /Hz	Frequency weighting / dB			Nominal frequency /Hz	Frequency weighting / dB		
	A	C	Z		A	C	Z
10	-71.2	-14.8	-0.7	1000	0.0	-0.1	-0.2
20	-50.2	-6.2	-0.2	2000	1.2	-0.2	0.2
31.5	-39.4	-2.9	0.0	4000	1.0	-0.9	0.3
63	-26.3	-0.9	0.4	8000	-1.0	-3.2	-0.7
125	-16.0	-0.3	0.1	12500	-5.9	-7.9	-1.3
250	-8.6	-0.1	0.2	16000	-11.8	-13.8	-1.0
500	-3.2	-0.1	0.2	20000	-23.9	-25.9	-1.2

6. Self-generated noise

Microphone replaced by electrical input signal device

11.5 dB(A)	17.7 dB(C)	23.6 dB(Z)

7. F&S Weighting

Rate of the F weighting decrease（dB/s）	35.2
Rate of the S weighting decrease（dB/s）	4.4
Deviation of F&S	0.0

8. Level Linearity (A-weighting at frequency 1 kHz)

Reference sound level 90.0 dB

Max error at 10dB steps upper reference sound level -0.1 dB

Max error at 1dB steps within 5dB of the upper limit linear operating range 0.0 dB

Max error at 10dB steps below reference sound level 0.1 dB

Max error at 1dB steps within 5dB upper the lower limit linear operating range 0.1 dB

9. Tone burst response（A Weighting）：

Single Toneburst duration /ms	Toneburst response /dB			
	L_{AFmax}-L_A	L_{ASmax}-L_A	L_{AE}-L_A	L_{Aeq1}-L_A
500	0.0	-4.0	-2.9	-7.0
200	-1.0	-7.4	-6.9	-7.0
50	-18.1	-26.9	-26.9	-7.0
10	-27.0	/	-36.0	-7.0

10. Peak C sound level （500Hz）：

Cycle	One cycle	nominal value	Positive half	nominal value	Negative half	nominal value
LCpeak-LC(dB)	3.5	3.5	2.3	2.4	2.3	2.4

11. Overload indication： Pass

12. Statistical analysis function

Sweep signal maximum indicated sound level: 112.8 dB

Sweep amplitude: 40 dB

Scan cycle time: 60 S; Measurement period: 180 S.

Items	Measured value/dB	Theoretical calculated value/dB	Error/dB
LAeq,T	103.2	103.2	0.0

L5	110.8	110.8	0.0
L10	108.8	108.8	0.0
L50	92.9	92.8	0.1
L90	76.9	76.8	0.1
L95	75.0	74.8	0.2

Uncertainty of measurement results: 0.4 dB (k=2)

Environment conditions:

Air temperature: 29 °C
Relative humidity: 72 %
Static pressure: 100.9 kPa

References:

IEC 61672-3 Sound Level Meters Part 3: Periodic tests

MAXLAB

CALIBRATION CERTIFICATE

Certificate Information

Date of Issue	27-Apr-2022	**Certificate Number**	MLCN220926S

Customer Information

Company Name	Acuity Sustainability Consulting Limited
Address	Unit C, 11/F., Ford Glory Plaza, Nos. 37-39 Wing Hing Street, Cheung Sha Wan, Kowloon, HK

Equipment-under-Test (EUT)

Description	Sound Calibrator
Manufacturer	Svantek
Model Number	SV 33B
Serial Number	83042
Equipment Number	--

Calibration Particular

Date of Calibration	27-Apr-2022		
Calibration Equipment	4231(MLTE008) / AV200063 / 23-Jun-23 1357(MLTE190) / MLEC21/05/02 / 26-May-22		
Calibration Procedure	MLCG00, MLCG15		
Calibration Conditions	Laboratory	Temperature	23 °C ± 5 °C
		Relative Humidity	55% ± 25%
	EUT	Stabilizing Time	Over 3 hours
		Warm-up Time	Not applicable
		Power Supply	Internal battery
Calibration Results	Calibration data were detailed in the continuation pages. All calibration results were within EUT specification.		

Approved By & Date

K.O. Lo 27-Apr-2022

Statements

* Calibration equipment used for this calibration are traceable to national / international standards.
* The results on this Calibration Certificate only relate to the values measured at the time of the calibration and the uncertainties quoted will not include allowance for the EUT long term drift, variation with environmental changes, vibration and shock during transportation, overloading, mishandling, misuse, and the capacity of any other laboratory to repeat the measurement.
* MaxLab Calibration Centre Limited shall not be liable for any loss or damage resulting from the use of the EUT.
* The copy of this Certificate is owned by MaxLab Calibration Centre Limited. No part of this Certificate may be reproduced without the prior written approval of MaxLab Calibration Centre Limited.

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萬儀校正中心有限公司
MaxLab Calibration Centre Limited
香港新界葵涌華星街 16-18 號保盈工業大廈 9 樓 B 室
Unit B, 9/F., Boldwin Industrial Bldg., 16-18 Wah Sing Street, Kwai Chung, N.T., Hong Kong Tel: (852) 2116 1380 Fax: (852) 2264 6480 Email: info@maxlab.com.hk

MAXLAB

Certificate No. MLCN220926S

Calibration Data

EUT Setting	Standard Reading	EUT Error	Calibration Uncertainty	EUT Specification
114 dB	114.0 dB	0.0 dB	0.15 dB	± 0.3 dB

- END -

Calibrated By : Dan
Date : 27-Apr-22

Checked By : K.O. Lo
Date : 27-Apr-22

Page 2 of 2

萬儀校正中心有限公司
MaxLab Calibration Centre Limited
香港新界葵涌華星街 16-18 號保盈工業大廈 9 樓 B 室
Unit B, 9/F., Boldwin Industrial Bldg., 16-18 Wah Sing Street, Kwai Chung, N.T., Hong Kong Tel: (852) 2116 1380 Fax: (852) 2264 6480 Email: info@maxlab.com.hk

APPENDIX F
Monitoring Data (Noise)

Location: N2a

Monitoring Period: May 2022

Parameter : Noise

Major Noise Source: Construction activities and daily operation of the sewerage treatment plant

Other Factors NA

Date	**Weather**	**Start Time**	**L_{eq}**	**L_{10}**	**L_{90}**
04/05/2022	Sunny	14:30	71.3	72.3	70.1
11/05/2022	Cloudy	13:55	67.4	69.2	65.4
17/05/2022	Sunny	13:39	70.4	71.2	69.5
24/05/2022	Sunny	13:35	66.0	67.2	64.8
31/05/2022	Cloudy	13:33	70.7	71.2	69.9
		Average	69.2		
		Range	66.0 – 71.3		

Location: N3a

Monitoring Period: May 2022

Parameter : Noise

Major Noise Source: Construction activities and daily operation of the sewerage treatment plant

Other Factors NA

Date	Weather	Start Time	L_{eq}	L_{10}	L_{90}
04/05/2022	Sunny	13:35	71.4	74.4	57.8
11/05/2022	Cloudy	13:01	69.5	71.3	67.0
17/05/2022	Sunny	12:50	58.8	60.7	56.1
24/05/2022	Sunny	12:45	61.7	65.0	55.8
31/05/2022	Cloudy	12:49	65.6	68.1	60.1
		Average	65.4		
		Range	58.8 – 71.4		

Remarks: +3 dB(A) free-field corrections have been made to N3a.

Figure F.1 Measured daytime (0700-1900) noise level at the admin building inside the construction site (N2a)

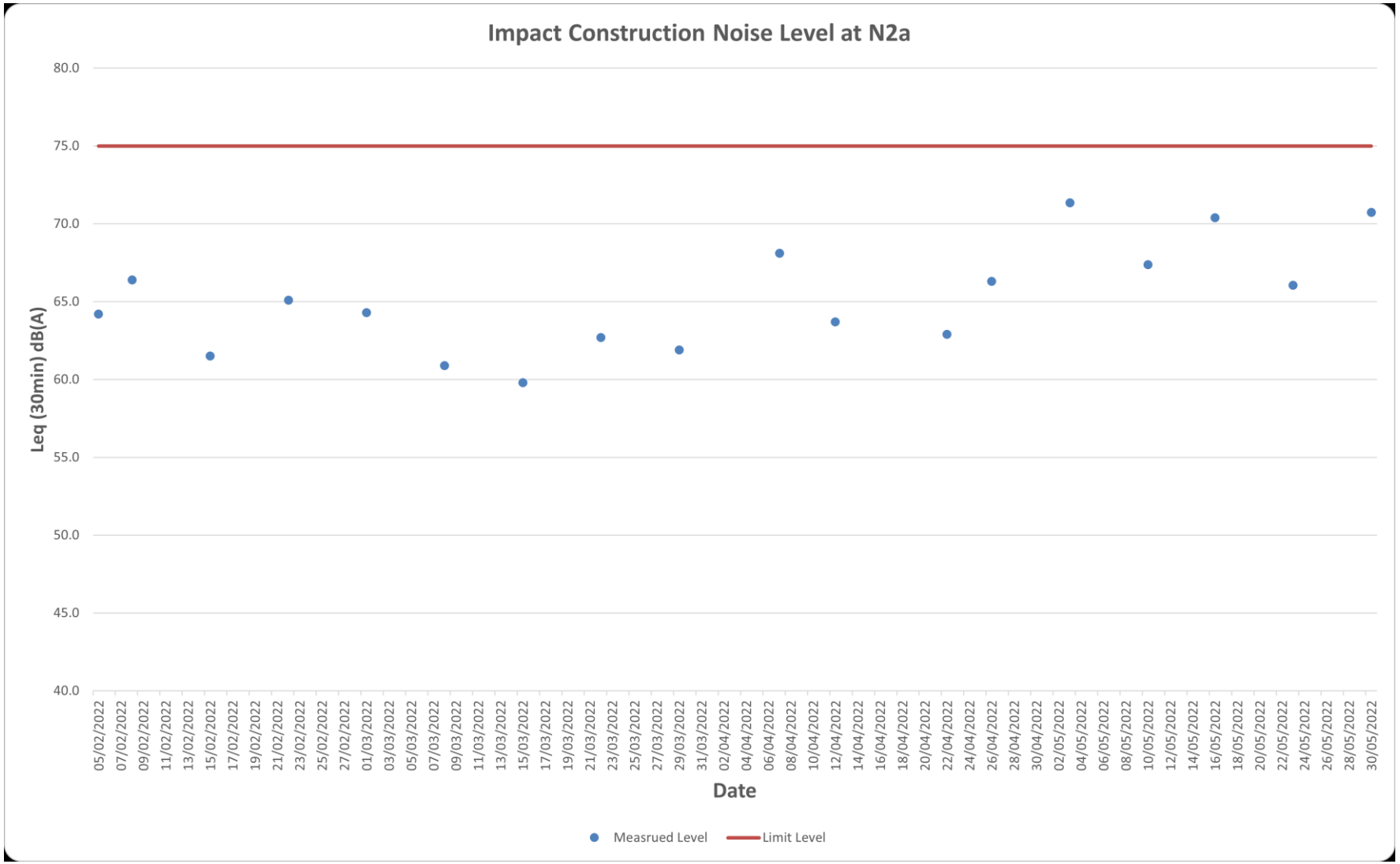
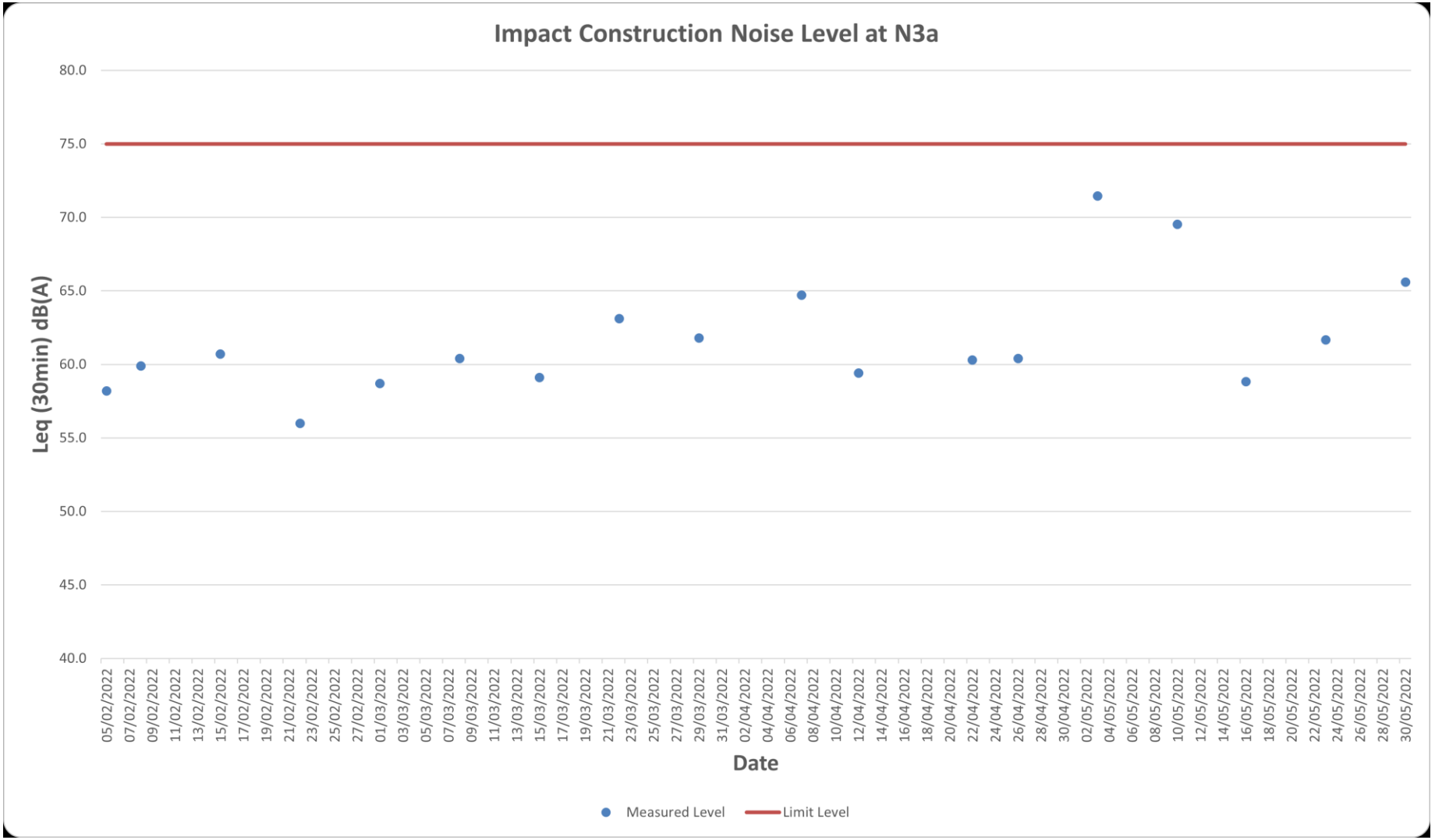


Figure F.2 Measured daytime (0700-1900) noise level at Cheung Chau Fire Station (N3a)



s: +3 dB(A) free-field corrections have been made to the data in the graph.

APPENDIX G
Implementation Schedule

EIA Ref.	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Who to implement the measures?	Location / Timing of implementation of Measures			What requirements or standards for the measures to achieve?
				D	C	O	
Construction Phase (Upgrading Works of Cheung Chau STW and Pak She SPS (DP Component))							
S.3.5.5	Appropriate dust control measures should be implemented during the construction stage in accordance with the requirements in the Air Pollution Control (Construction Dust) Regulation. Dust control techniques should be considered to control dust to a level not exceeding the AQOs as well as the 1-hour TSP guideline level of 500 µg/m³. These measures include, but are not limited to, the following: • Adoption of good site practices; • Avoid practices likely to raise dust level; • Frequent cleaning and damping down of stockpiles and dusty areas of the site; • Covering the exposed areas with tarpaulin; • Reducing drop height during material handling; • Provision of wheel-washing facilities for site vehicles leaving the site; • Regular plant maintenance to minimize exhaust emission; and • Sweep up dust and debris at the end of each shift.	Air Quality (fugitive dust) Control during Construction Phase	Contractors		√		Annex 4 and Annex 12 of EIAO -TM, Air Pollution Control (Construction Dust) Regulation
S.3.10.1	All the dust control measures as recommended in the Air Pollution Control (Construction Dust) Regulation, where applicable, should be implemented. Typical dust control measures include:	Air Quality (fugitive dust) Control during Construction Phase	Contractors		√		Annex 4 and Annex 12 of EIAO -TM, Air Pollution Control (Construction Dust) Regulation

EIA Ref.	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Who to implement the measures?	Location / Timing of implementation of Measures			What requirements or standards for the measures to achieve?
				D	C	O	
S.3.10.1	Watering every 1.5 hours on active works areas and paved haul roads to reduce dust emissions by 90.9% (e.g. watering intensity at 0.5 litres/m^2. Actual application shall depend on the site condition and weather conditions).	Air Quality (fugitive dust) Control during Construction Phase	Contractors		√		EIA, Annex 4 and Annex 12 of EIAO -TM, Air Pollution Control (Construction Dust) Regulation
S.3.10.1	Watering every hour on unpaved areas and stockpiles of dusty materials (if no tarpaulin is provided) to reduce dust emissions by 90% (e.g. watering intensity at 1.5 litre/m^2 during the first hour, subsequent application at 0.2 litre/m^2. Actual application shall depend on the site condition and weather conditions).	Air Quality (fugitive dust) Control during Construction Phase	Contractors		√		EIA, Annex 4 and Annex 12 of EIAO -TM, Air Pollution Control (Construction Dust) Regulation
S.3.10.1	Use of regular watering, with complete coverage, to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather	Air Quality (fugitive dust) Control during Construction Phase	Contractors		√		Annex 4 and Annex 12 of EIAO -TM, Air Pollution Control (Construction Dust) Regulation
S.3.10.1	Use of frequent watering for particularly dusty construction areas and areas close to ASRs	Air Quality (fugitive dust) Control during Construction Phase	Contractors		√		Annex 4 and Annex 12 of EIAO -TM, Air Pollution Control (Construction Dust) Regulation
S.3.10.1	Vehicle washing facilities should be provided at every vehicle exit point	Air Quality (fugitive dust) Control during Construction Phase	Contractors		√		Annex 4 and Annex 12 of EIAO -TM, Air Pollution Control (Construction Dust) Regulation

EIA Ref.	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Who to implement the measures?	Location / Timing of implementation of Measures			What requirements or standards for the measures to achieve?
				D	C	O	
S.3.10.1	Where a site boundary adjoins a road, streets or other areas accessible to the public, hoarding of not less than 2.4 m high from ground level should be provided along the entire length except for a site entrance or exit	Air Quality (fugitive dust) Control during Construction Phase	Contractors		√		Annex 4 and Annex 12 of EIAO -TM, Air Pollution Control (Construction Dust) Regulation
S.3.10.1	Stockpiles of imported material kept on site shall be contained within hoarding, dampened and/or covered during dry and windy weather	Air Quality (fugitive dust) Control during Construction Phase	Contractors		√		Annex 4 and Annex 12 of EIAO -TM, Air Pollution Control (Construction Dust) Regulation
S.3.10.1	Material stockpiled alongside trenches should be covered with tarpaulins	Air Quality (fugitive dust) Control during Construction Phase	Contractors		√		Annex 4 and Annex 12 of EIAO -TM, Air Pollution Control (Construction Dust) Regulation
S.3.10.1	Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs	Air Quality (fugitive dust) Control during Construction Phase	Contractors		√		Annex 4 and Annex 12 of EIAO -TM, Air Pollution Control (Construction Dust) Regulation

EIA Ref.	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Who to implement the measures?	Location / Timing of implementation of Measures			What requirements or standards for the measures to achieve?
				D	C	O	
S.3.10.1	Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or spayed with water to maintain the entire surface wet during the non-working hours	Air Quality (fugitive dust) Control during Construction Phase	Contractors		√		Annex 4 and Annex 12 of EIAO -TM, Air Pollution Control (Construction Dust) Regulation
S.3.10.1	All dusty materials shall be sprayed with water prior to any loading, unloading or transfer operation so as to keep the dusty materials wet	Air Quality (fugitive dust) Control during Construction Phase	Contractors		√		Annex 4 and Annex 12 of EIAO -TM, Air Pollution Control (Construction Dust) Regulation
S.3.10.1	Water sprays shall be used during the delivery and handling of sands aggregates and the like	Air Quality (fugitive dust) Control during Construction Phase	Contractors		√		Annex 4 and Annex 12 of EIAO -TM, Air Pollution Control (Construction Dust) Regulation
S.3.10.1	All demolished items that may emit dust particles should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides within a day of demolition	Air Quality (fugitive dust) Control during Construction Phase	Contractors		√		Annex 4 and Annex 12 of EIAO -TM, Air Pollution Control (Construction Dust) Regulation

EIA Ref.	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Who to implement the measures?	Location / Timing of implementation of Measures			What requirements or standards for the measures to achieve?
				D	C	O	
S.3.10.1	Good site practices for concrete batching plant Every stock of more than 20 bags of cement or dry pulverized fuel ash(PFA) should be cover entirely by impervious sheeting or placed in an area sheltered on the top and the sides. Cement or dry PFA delivered in bulk should stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed. Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with effective fabric filter or equivalent air pollution control system (Maximum TSP emission factor of Silos and Mising Tower: 50mg/m^3)	Air Quality (fugitive dust) Control during Construction Phase	Contractors		√		Annex 4 and Annex 12 of EIAO -TM, Air Pollution Control (Construction Dust) Regulation Best Practical Means for Cement Works (Concrete Batching Plant) BPM 3/2(93)

EIA Ref.	Recommended Environmental Protection Measures / Mitigation Measures	Objectives of the recommended measures & main concerns to address	Who to implement the measures?	Location / Timing of implementation of Measures	What requirements or standards for the measures to achieve?
Construction Phase (Upgrading Works of Cheung Chau STW and Pak She SPS (DP Component))					
S.4.4.12	Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	Noise control during construction	Contractors	At all construction areas of the site during the entire construction period	EIA, Contractual requirements
S.4.4.12	Machines and plant that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	Noise control during construction	Contractors	At all construction areas of the site during the entire construction period	EIA, Contractual requirements
S.4.4.12	Plant known to emit noise strongly in one direction should, where possible, be orientated to direct noise away from the NSRs.	Noise control during construction	Contractors	At all construction areas of the site during the entire construction period	EIA, Contractual requirements
S.4.4.12	Mobile plant should be sited as far away from NSRs as possible.	Noise control during construction	Contractors	At all construction areas of the site during the entire construction period	EIA, Contractual requirements
S.4.4.12	Material stockpiles and other structures should be effectively utilized, where practicable, to screen noise from on-site construction activities.	Noise control during construction	Contractors	At all construction areas of the site during the entire construction period	EIA, Contractual requirements

EIA Ref.	Recommended Environmental Protection Measures / Mitigation Measures	Objectives of the recommended measures & main concerns to address	Who to implement the measures?	Location / Timing of implementation of Measures	What requirements or standards for the measures to achieve?
S.4.4.13	Use of quiet plant (PME): • Generator • Poker, vibratory, hand-held • Breaker, excavator mounted (hydraulic) • Excavator • Tracked Mobile Crane • Vibratory Compactor • Dumper • Air compressor • Concrete Pump • Pilling Rig	Noise control during construction	Contractors	At all construction areas of the site during the entire construction period	EIA, Contractual requirements
S.4.4.14	Temporary site hoardings of 2.4 m high are recommended for the works at the Pak She SPS. The hoardings will be erected along the works boundary facing the NSRs. The PME involved in the works would be screened by the erected site hoardings. Without direct line of sight from the affected NSRs, a noise reduction of 10 dB(A) could be achieved provided that the hoardings have no openings or gaps and have a surface mass of at least 7 kg/m^2. Nonetheless, a -5 dB(A) screening correction for site hoardings has been applied as a more conservative approach.	Noise control during construction	Contractors	At Pak She SPS during the entire construction period	EIA
S.4.4.23	For NSRs which would be affected by more than one Works Types, good scheduling works is recommended to minimize the cumulative construction noise impacts due to different Works Types.	Noise control during construction	Contractors	Construction areas near the specified locations during the construction period	EIA, Contractual requirements

EIA Ref.	Recommended Environmental Protection Measures / Mitigation Measures	Objectives of the recommended measures & main concerns to address	Who to implement the measures?	Location / Timing of implementation of Measures	What requirements or standards for the measures to achieve?
S.4.4.29	In order to prevent potential cumulative construction noise impacts to NSRs, the works at Tai Kwai Wan San Tsuen are recommended to be scheduled to avoid concurrent works at the areas near Tai Kwai Wan of the Improvement of Fresh Water Supply to Cheung Chau project.	Noise control during construction	DSD and Contractors	Construction areas near the specified locations during the construction period	EIA, Contractual requirements
S.4.4.30	The contractor shall liaise with "Replacement and Rehabilitation of Water Mains Stage 4, Mains on Hong Kong and Islands – Investigation, Design and Construction"" contractors so as to avoid undertaking works concurrently with the works when they are in the close proximity as far as practicable.	Noise control during construction	DSD and Contractors	Construction areas near the specified locations during the construction period	EIA, Contractual requirements
S.4.4.31	The contractor shall liaise with Improvement to Existing Roads and Drains in Cheung Chau Old Town, Remaining Engineering Works Stage 3 works contractors so as to avoid undertaking works concurrently with the works when they are in the close proximity as far as practicable.	Noise control during construction	DSD and Contractors	Construction areas near the specified locations during the construction period	EIA, Contractual requirements

EIA Ref.	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Who to implement the measures?	When to implement the measures?			What requirements or standards for the measures to achieve?
				D	C	O	
Construction Phase (Upgrading Works of Cheung Chau STW and Pak She SPS (DP Component) and Sewers Works (non-DP Component))							
S.5.7.1	Practices outlined in ProPECC PN 1/94 Construction Site Drainage are recommended, as highlighted below: • Perimeter channels are to be installed in works areas to intercept runoff at the site boundary prior to the commencement of any earthworks. Surface runoff should be discharged into storm drains via sand/ silt removal facilities with an adequate capacity; • Works programme should be designed to minimize works areas to reduce soil exposure and site runoff; • Silt removal facilities, channels and manholes should be maintained and cleaned regularly to ensure their proper functions; • Works programme should be carefully planned to minimize the scale of soil excavation during the rainy season; • Earthworks surfaces should be well compacted and subsequent permanent works or surface protection measures should be carried out immediately; • All vehicles should be washed before they leave the construction site to avoid earth, mud, and debris being carried off from the site. Wash-water should be treated to remove sand and silt at least on a weekly basis to ensure the continued efficiency of the washing facility;	Water Quality Control	Contractors		√		• WPCO; • TM –Effluent Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Water

EIA Ref.	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Who to implement the measures?	When to implement the measures?			What requirements or standards for the measures to achieve?
				D	C	O	
(cont…)	• Open stockpiles of construction materials on site should be covered with tarpaulin or similar fabric materials during storms; • For sections of pipes that need to be laid underneath water courses with the open cut method, site works should be carried out during the dry season with a temporary drainage diversion; and; • Any construction works along Hak Pai Road immediately by the Kwun Yam beach and Cheung Chau Tung Wan beach should be avoided during the swimming season.	Water Quality Control	Contractors		√		• WPCO; • TM –Effluent Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Water
S.5.7.2 and S.5.7.3	Mitigations Measures for General Construction Activities: • Good site practices should be adopted to regularly clean the construction sites to avoid rubbish, debris and litter from entering to nearby water bodies; and • Good construction and site management practices should be implemented to ensure that litter, fuels, and solvents would not enter the public drainage systems.	Water Quality Control	Contractors		√		• WPCO; • TM –Effluent Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Water

EIA Ref.	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Who to implement the measures?	When to implement the measures?			What requirements or standards for the measures to achieve?
				D	C	O	
S.5.7.4	Domestic sewage generated by workforce would be collected and discharged to the STW for proper treatment. Portable toilets should be provided by the Contractor, where necessary, to handle sewage from the workforce. The Contractor should also be responsible for waste disposal.	Water Quality Control	Contractors		√		• WPCO; • TM –Effluent Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Water
S.5.7.5 and S.5.7.6	Mitigations Measures for Spillage of Chemicals: • Registration to EPD as a Chemical Waste Producer if chemical wastes are generated and need to be disposed of; • Illegal disposal of chemicals should be strictly prohibited; and • Oils and fuels should only be used and stored in the designated area which has polluting prevention facilities.	Water Quality Control	Contractors		√		• WPCO; • TM –Effluent Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Water

EIA Ref.	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Who to implement the measures?	When to implement the measures?			What requirements or standards for the measures to achieve?
				D	C	O	
Construction Phase (Upgrading Works of Cheung Chau STW and Pak She SPS (DP Component) and Sewers Works (non-DP Component))							
S.6.6.1	The Contractor shall prepare a Waste Management Plan in accordance with the requirements set out in the ETWB TCW No. 19/2005, Waste Management on Construction Site, for the ER's approval. The WMP shall include monthly and yearly Waste Flow Tables that indicate the amounts of waste generated, recycled and disposed of (including final disposal site).	Waste management during construction	Contractors		√		ETWB TCW No. 19/2005, Waste Management on Construction Sites
S.6.6.1	The Contractor's waste management practices and effectiveness shall be audited by the Engineer's Representative on regular basis.	Waste management during construction	DSD		√		Waste Disposal Ordinance
S.6.6.1	The Contractor shall provide training for site staff concept of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling.	Waste management during construction	Contractors		√		Waste Disposal Ordinance
S.6.6.1	Sufficient waste disposal points and regular collection of waste shall be provided.	Waste management during construction	Contractors		√		Waste Disposal Ordinance
S.6.6.1	Trucks with covering for the open-box bed and enclosed container shall be used to minimise windblown litter and dust during transportation of waste.	Waste management during construction	Contractors		√		Waste Disposal Ordinance
S.6.6.1	Regular cleaning and maintenance programme for drainage systems, pumps and oil interceptors.	Waste management during construction	Contractors		√		Waste Disposal Ordinance

EIA Ref.	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Who to implement the measures?	When to implement the measures?			What requirements or standards for the measures to achieve?
				D	C	O	
S.6.6.1	Separation of chemical wastes for special handling and appropriate treatment at a Chemical Waste Treatment Facility (CWTF).	Waste management during construction	Contractors		√		Waste Disposal (Chemical Waste) (General) Regulation
S.6.6.1	Encourage collection of aluminium cans, paper and plastic bottles by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the workforce.	Waste management during construction	Contractors		√		Waste Disposal Ordinance
S.6.6.1	Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal.	Waste management during construction	Contractors		√		Waste Disposal Ordinance
S.6.6.1	A recording system for the amount of wastes generated, recycled and disposed (including disposal sites) should be proposed.	Waste management during construction	Contractors		√		Waste Disposal Ordinance
S.6.6.1	Plan and stock construction materials to minimise amount of waste generated and avoid unnecessary generation of waste.	Waste management during construction	Contractors		√		Waste Disposal Ordinance
S.6.6.2	Alternatives C&D materials such as steel frameworks and plastic fencing can be considered to increase the chances for reuse.	Waste management during construction	Contractors		√		Waste Disposal Ordinance
S.6.6.3	In order to minimise the potential environmental impacts resulting from collection and transportation of C&D materials for off-site disposal, the excavated materials comprising fill materials should be reused on-site as backfilling materials as far as practicable.	Waste management during construction	Contractors		√		Waste Disposal Ordinance

EIA Ref.	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Who to implement the measures?	When to implement the measures?			What requirements or standards for the measures to achieve?
				D	C	O	
S.6.6.4	C&D waste, such as wood, plastic, steel and other metals should be reused or recycled and, as a last resort, disposed of to landfill sites. A suitable area should be designated within the site for temporary stockpiling of C&D materials and to facilitate the sorting process. In order to monitor the disposal of C&D materials at the designated public fill reception facility and landfill and to control fly-tipping, a trip ticket system should be included. Reference can be made to Development Bureau Technical Circular (Works) (TC(W)) No. 6/2010 for details.	Waste management during construction	Contractors		√		Development Bureau Technical Circular (Works) (TC(W)) No. 6/2010, Waste Disposal Ordinance
S.6.6.5	The C&D materials to be disposed of at public filling reception facilities shall be only materials consist of brick, concrete, cement plaster, soil and inert building debris. The materials shall be free from plastics, chemical waste, industrial metals and other materials that are considered unsuitable at the facility.	Waste management during construction	Contractors		√		Waste Disposal Ordinance
S.6.6.6	General refuse should be stored in enclosed bins or compaction units separate from C&D materials. A reputable waste collector should be employed by the contractor to remove general refuse from the site regularly, separately from C&D materials. An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light materials. In addition, a sufficient number of enclosed bins shall be provided on site for containment of general refuse to prevent visual impacts and nuisance to the sensitive surrounding.	Waste management during construction	Contractors		√		Waste Disposal Ordinance

EIA Ref.	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Who to implement the measures?	When to implement the measures?			What requirements or standards for the measures to achieve?
				D	C	O	
S.6.6.7	For the disposal of chemical wastes produced at the construction site, the Contractor is required to register with the EPD as a Chemical Waste Producer and to follow the requirements stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used. Appropriate labels should be securely attached on each chemical waste container indicating the chemical characteristics of the chemical waste, such as explosives, flammable oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall also use a licensed waste collector engaged to transport and dispose of the chemical wastes in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	Waste management during construction	Contractors		√		Waste Disposal (Chemical Waste) (General) Regulation
S.6.6.8	Chemical toilets to be provided on-site shall be regularly cleaned and the night-soil collected and transported by a licensed contractor to a Government Sewage Treatment Works facility for disposal.	Waste management during construction	Contractors		√		Waste Disposal Ordinance

EIA Ref.	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Who to implement the measures?	When to implement the measures?			What requirements or standards for the measures to achieve?
				D	C	O	
Construction Phase (Upgrading Works of Cheung Chau STW (DP Component))							
Table 11.8	Visual Screen/Hoarding Decorative hoarding or boundary fence for construction sites shall be considered, and designed to be compatible to the surroundings.	To minimise the potential visual impacts	Contractors		√		N/A

EIA Ref.	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Who to implement the measures?	When to implement the measures?			What requirements or standards for the measures to achieve?
				D	C	O	
Table 11.8	Protection to Existing Trees within Works Areas All existing trees which are not in direct conflict with the proposed works will be retained. The existing trees proposed to be retained shall be properly maintained and protected by means of fencing to prevent vehicular or pedestrian intrusion that may potentially damage tree canopies, trunks and root zones. Detailed tree protection specifications shall be allowed and included in the Contract Specification, which specifying the tree protection requirement, submission and approval system, and tree monitoring system. For trees with high preservation value, individual tree assessments and continuous tree monitoring reports shall be provided by a certified Arborist, Landscape Architect or related professional during construction. All retained trees shall be recorded photographically at the commencement of contract. Root pruning to the retained trees should be prohibited. Retained trees should be well-preserved by setting up a tree protection zone throughout the construction period for protecting the retained trees from damages. To maximize protection to existing trees and ground vegetation, construction contracts may designate "No-intrusion Zone" to various areas within the site boundary with rigid and durable fencing for each individual no-intrusion zone. The contractor should close monitor and restrict the site working staff not to enter the "no-intrusion zone", even for non-direct construction activities and storage of equipment.	Landscape mitigation measures	DSD and Contractors	√	√		EIA, Annex 10 and Annex 18 of EIAO-TM

EIA Ref.	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Who to implement the measures?	When to implement the measures?			What requirements or standards for the measures to achieve?
				D	C	O	
Table 11.8	Tree Transplanting Existing trees to be affected shall be directly transplanted to the proposed tree receiving sites, or to temporary tree nurseries alternatively. Temporary tree nurseries may be set up for the transplanted tree and proposed trees at an early stage to allow small trees to grow during the construction stage. By the time when planting area becomes available, trees have been mature and required minimal pruning and suffer much less damage during transplanting. The construction programme should also allow sufficient time for root pruning and root ball preparation prior to transplanting, if necessary, and transplanting operations to be carried out in planting season. Tree pruning such as topping, lion tailing would be prohibited as far as possible. Also, frequent keep watering would be necessary for transplanting trees. The proposed tree preservation measures during construction would be carried out and approved by the competent persons.	Landscape mitigation measures	DSD and Contractors	√	√		EIA, Annex 10 and Annex 18 of EIAO-TM
Table 11.8	Construction Light Security floodlight for construction areas shall be controlled, such as equipped with adjustable shield, frosted diffusers and reflective covers, at night to avoid excessive glare to the nearby areas and residents. Other security measures shall also be considered to minimize the visual impacts by construction light.	To reduce the night-time glare effect to the surrounding environs.	Contractors		√		EIA, Annex 10 and Annex 18 of EIAO-TM

EIA Ref.	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Who to implement the measures?	When to implement the measures?			What requirements or standards for the measures to achieve?
				D	C	O	
Table 11.8	Dust and Erosion Control for Exposed Soil Excavation works and demolition of existing building blocks shall be well planned with precautions to suppress dust. Exposed soil shall be covered or watered often. Areas that are expected to be left with bare soul for a long period of time after excavation shall be properly covered with suitable protective fabric. Suitable drainage shall be provided around construction sites to avoid discharge of contaminants and sediments into sensitive water-based habitats.	To minimise the disturbance to existing landscape resources and minimise the impacts on the visual amenity of the area	Contractors		√		EIA, Annex 10 and Annex 18 of EIAO-TM
Table 11.8	Reinstatement of Works Areas The affected works areas shall be properly reinstated to the satisfaction of relevant government departments.	Landscape mitigation measures	Contractors		√		EIA, Annex 10 and Annex 18 of EIAO-TM

APPENDIX H
Summary of All Complaints Received, Notification of Summons and Successful Prosecutions

Statistical Summary of Environmental Complaints

Reporting Period	Environmental Complaint Statistics		
	Frequency	Nature	Follow-up Actions
1 May 2022 - 31 May 2022	0	N/A	N/A
Cumulative	0	N/A	N/A

Statistical Summary of Environmental Summons

Reporting Period	Environmental Summons Statistics		
	Frequency	Nature	Follow-up Actions
1 May 2022 - 31 May 2022	0	N/A	N/A
Cumulative	0	N/A	N/A

Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Nature	Follow-up Actions
1 May 2022 - 31 May 2022	0	N/A	N/A
Cumulative	0	N/A	N/A

APPENDIX I
EM&A Monitoring Schedules in the Reporting Period and the Next Reporting Period (Tentative)

Impact Monitoring Schedule for Upgrading of Cheung Chau Sewage Collection, Treatment and Disposal Facilities						
May-22						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
		24-hour TSP monitoring for A1a & A2a 1-hour TSP monitoring for A1a & A2a	Daytime Noise monitoring for N2a & N3a			
8	9	10	11	12	13	14
		24-hour TSP monitoring for A1a & A2a 1-hour TSP monitoring for A1a & A2a	Daytime Noise monitoring for N2a & N3a			
15	16	17	18	19	20	21
	24-hour TSP monitoring for A1a & A2a 1-hour TSP monitoring for A1a & A2a	Daytime Noise monitoring for N2a & N3a				
22	23	24	25	26	27	28
	24-hour TSP monitoring for A1a & A2a 1-hour TSP monitoring for A1a & A2a	Daytime Noise monitoring for N2a & N3a				
29	30	31				
	24-hour TSP monitoring for A1a & A2a 1-hour TSP monitoring for A1a & A2a	Daytime Noise monitoring for N2a & N3a				

Remarks:

1. Daytime Noise Monitoring (07:00-1900)

Impact Monitoring Schedule for Upgrading of Cheung Chau Sewage Collection, Treatment and Disposal Facilities

Jun-22						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1 24-hour TSP monitoring for A1a & A2a 1-hour TSP monitoring for A1a & A2a	2 Daytime Noise monitoring for N2a & N3a	3	4
5	6	7 24-hour TSP monitoring for A1a & A2a 1-hour TSP monitoring for A1a & A2a	8 Daytime Noise monitoring for N2a & N3a	9	10	11
12	13 24-hour TSP monitoring for A1a & A2a 1-hour TSP monitoring for A1a & A2a	14 Daytime Noise monitoring for N2a & N3a	15	16	17	18
19	20 24-hour TSP monitoring for A1a & A2a 1-hour TSP monitoring for A1a & A2a	21 Daytime Noise monitoring for N2a & N3a	22	23	24	25
26	27 24-hour TSP monitoring for A1a & A2a 1-hour TSP monitoring for A1a & A2a	28 Daytime Noise monitoring for N2a & N3a	29	30		

Remarks:
1. Daytime Noise Monitoring (07:00-1900)