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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

19th Monthly Environmental Monitoring and Audit Report – February 2023

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	Prepared by:	Reviewed by:	Certified by:
Name	Alex LEUNG	Tandy TSE	Kevin LI
Position	Environmental Team Member	Environmental Team Member	Environmental Team Leader
Signature			
Date:	09/03/2023	09/03/2023	09/03/2023

Acuity Sustainability Consulting Limited
Flat/RM E, 12/F, Ford Glory Plaza,
Nos. 37-39 Wing Hong Street, Kowloon, Hong Kong
tel +852 2698 6833
fax +852 2698 9383 | e-mail admin@acityhk.com
http www.acityhk.com | www.aurecongroup.com

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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 19th 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 February to 28 February 2023.

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
- Excavation and Lateral Support (ELS) at CCSTW
- Mechanical Installation Works of Pak She Sewage Pumping Station

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 Four (4) 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	82	88	68 - 91	40 - 131
A2a	69	86	61 - 77	42 - 138

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	72.7	70.0 – 74.4
N3a	72.9	71.7 – 74.4

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 07, 14, 21 and 27 February 2023.

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
Permit issued under the Dumping At Sea Ordinance	EP/MD/23-096	11/02/2023	10/03/2023
Waste Disposal (Vessel) Billing Account	7040870	28/12/2022	10/04/2023
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

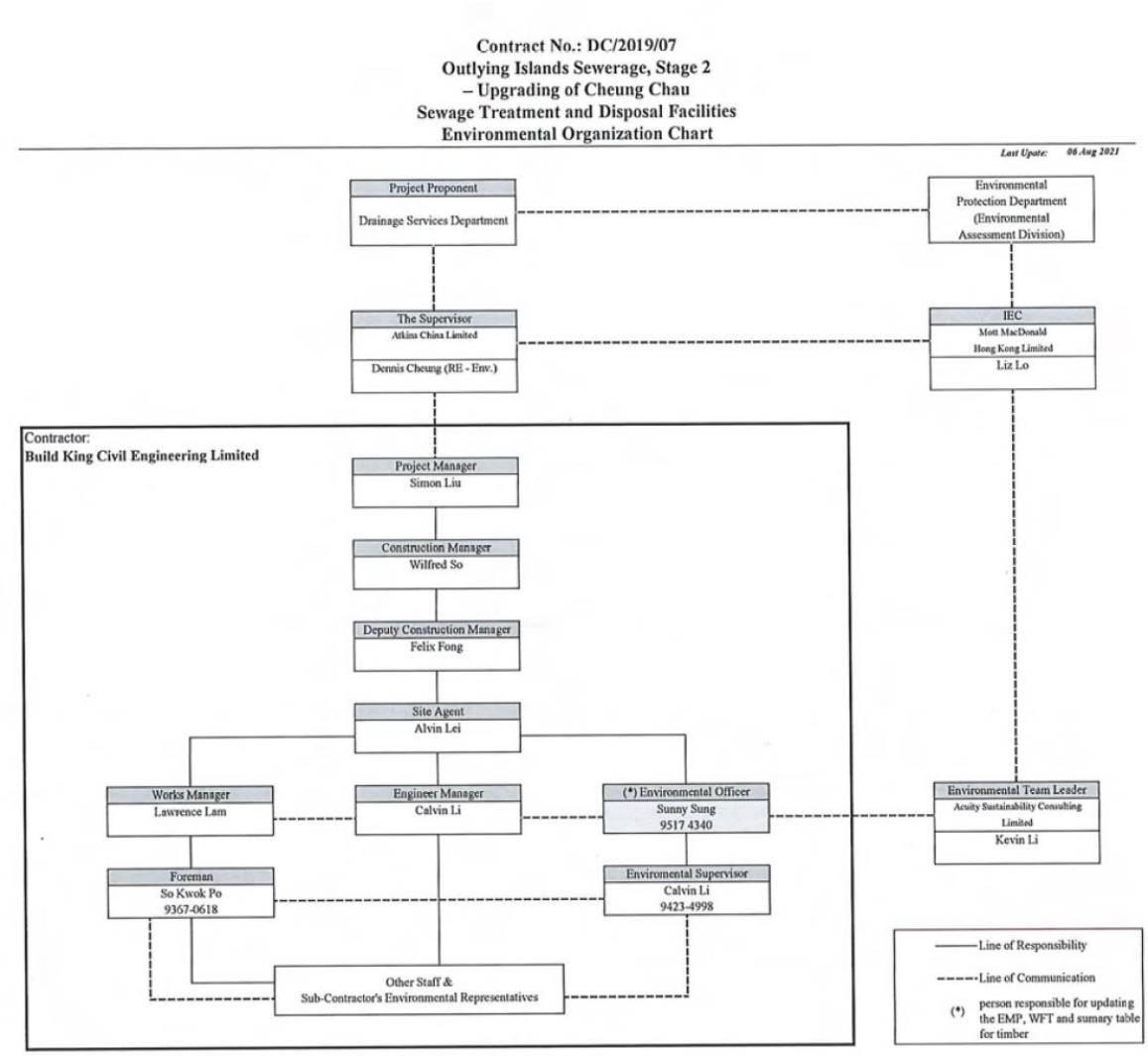
1.2.1. The purpose of the Project is to upgrade the sewerage collection, treatment and disposal facilities in Cheung Chau in order to cater for the projected ultimate population and planned developments in Cheung Chau to meet the increased demand and to achieve more stringent effluent quality standards. 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
- Excavation and Lateral Support (ELS) at CCSTW
- Mechanical Installation Works of Pak She Sewage Pumping Station
- Mechanical Installation Works of Temporary Digestion System
- Construction of Superstructure of LV Main Switch Room and Transformer Room at CCSTW
- Construction of Sludge Digester Building
- Internal Finishing

Key activities to be 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
- Excavation and Lateral Support (ELS) at CCSTW
- Mechanical Installation Works of Pak She Sewage Pumping Station
- Mechanical Installation Works of Temporary Digestion System
- Construction of Superstructure of LV Main Switch Room and Transformer Room at CCSTW
- Construction of Sludge Digester Building
- Internal Finishing

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 February to 28 February 2023.

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)	761173 992821
High Volume Samplers – 24- hour TSP	Tisch TE-5170X High Volume Air Sampler	1048 1085
Calibrator Kit	Tisch TE-5025A Calibration Kit	3465

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

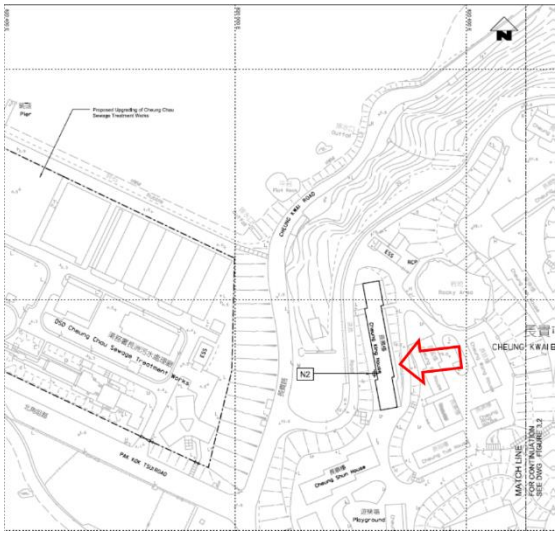
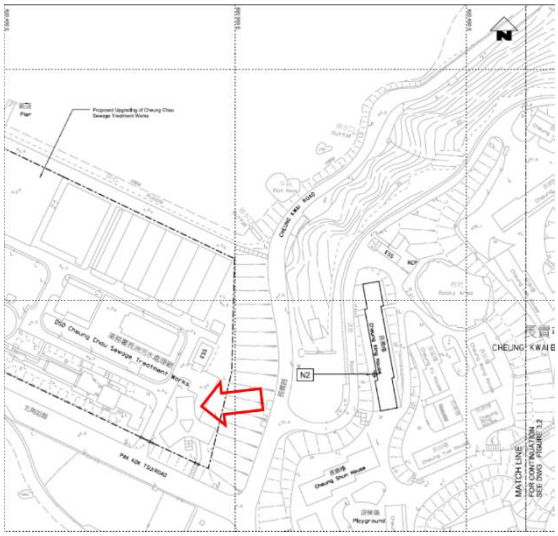
2.4.3. As secured electricity supply was not able to be provided at Monitoring Station A1, Monitoring Station A1a was then proposed, The proposed Monitoring Station A1a is the Admin Building inside the construction site. It is located at a similar direction as A1 from the construction site, but much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

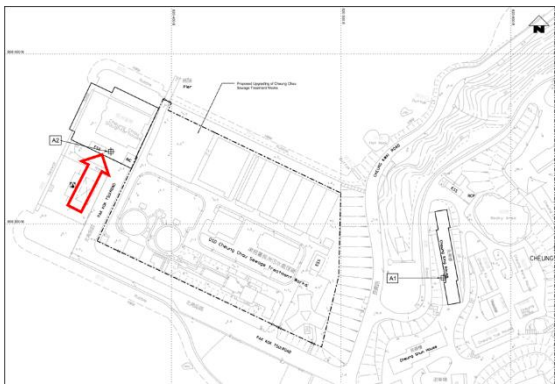
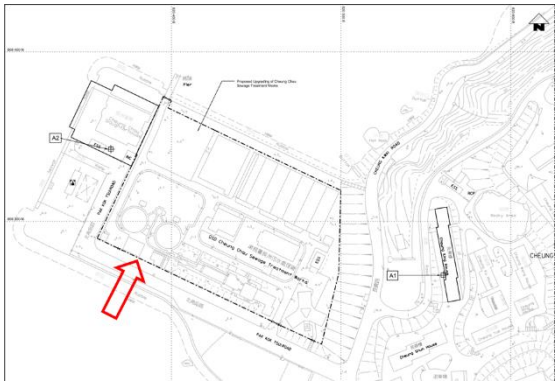
2.4.4. Monitoring Station A2 is now abandoned, only limited access can be granted and power supply cannot be guaranteed which may not feasible to be a monitoring location. An alternative location A2a, which is the existing outfall pumping station Building inside the construction site. Location A2a is 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 Position	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 Position	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	82	68 - 91
A2a	69	61 - 77

Table 2.5 Summary of 24-hour TSP Monitoring Results

Monitoring Location	Average(µg/m3)	Range(µg/m3)
A1a	88	40 - 131
A2a	86	42 - 138

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	Once per week	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	SVANTEK 971	C119577
Acoustic Calibrator	Rion NC-75	34724244

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

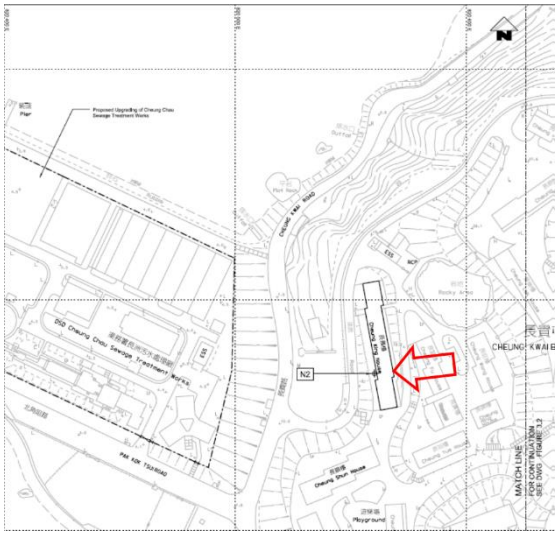
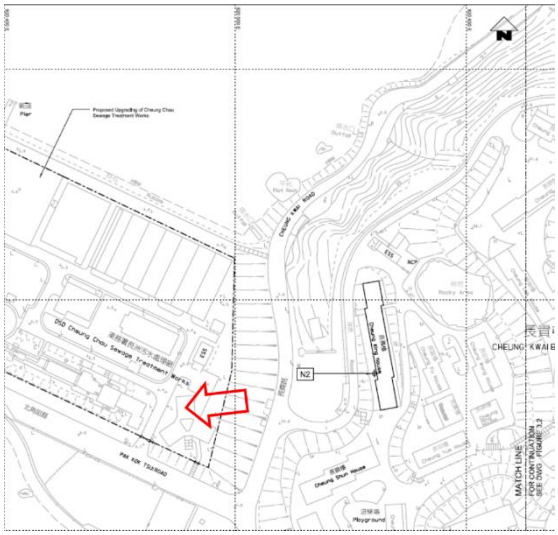
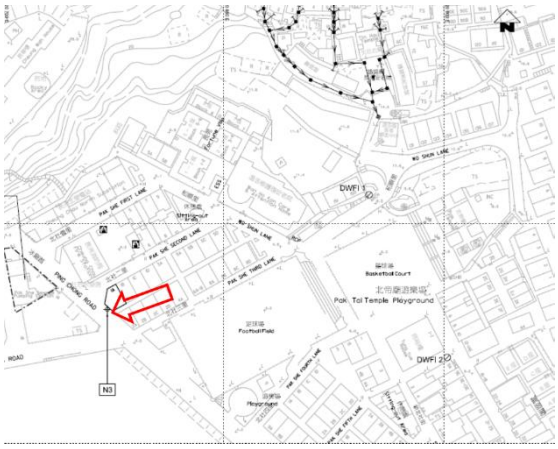
3.3.2. For this Contract, only N2 and N3 need to be monitored since all the other monitoring stations specified in the EM&A Manual are for sewers works but this Contract does not include sewers works.

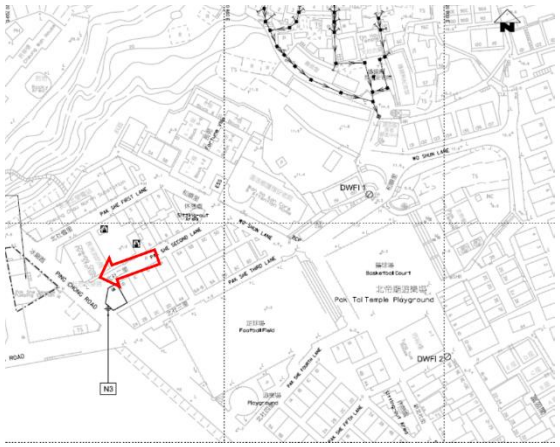
3.3.3. The proposed Monitoring Station N2a is the Admin Building inside the construction site. It is located at a similar direction as N2 from the construction site, but much closer to any major noise emission source than N2.

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 Position	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 Position	Direction of Photo
N3a		

3.4. Results and Analysis

3.4.1. The noise monitoring was carried out in February 2023. 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)	72.7	70.0 – 74.4
N3a	Daytime (0700-1900)	72.9	71.7 – 74.4

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 noise monitoring 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 07, 14, 21 and 27 February 2023. 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 7 February 2023 for testing. 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 2023 (in Weight)

(All quantities shall be rounded off to 3 decimal places) updated on: 03-Oct-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-2023	6752.4100	0.0000	0.0000	0.0000	6745.3900	0.0000	0.0000	0.0000	0.0000	0.0000	7.0200
Feb-2023	2032.0500	0.0000	0.0000	0.0000	2028.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4.0500
Mar-2023											
Apr-2023											
May-2023											
Jun-2023											
Half-year total	8784.4600	0.0000	0.0000	0.0000	8773.3900	0.0000	0.0000	0.0000	0.0000	0.0000	11.0700
Jul-2023											
Aug-2023											
Sep-2023											
Oct-2023											
Nov-2023											
Dec-2023											
Yearly Total	8784.4600	0.0000	0.0000	0.0000	8773.3900	0.0000	0.0000	0.0000	0.0000	0.0000	11.0700

(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	13440.7200	0.0000	0.0000	0.0000	13391.3700	0.0000	0.0000	0.0000	0.0000	0.0000	49.3500
2023	8784.4600	0.0000	0.0000	0.0000	8773.3900	0.0000	0.0000	0.0000	0.0000	0.0000	11.0700
2024											
2025											
2026											
Total	23083.5400	0.0000	0.0000	0.0000	22951.0600	0.0000	0.0000	0.0000	0.0000	0.0000	132.4800

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 07, 14, 21 and 27 February 2023. A joint site inspection with IEC was carried out on 27 February 2023.

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
7 February 2023	NIL	NIL	1. After finishing the maintenance of the wet-sep, sediment around the wet-sep should also be cleaned up. 2. Dusty materials on road should be cleaned after drilling works activities.
14 February 2023	1. Sandbag should be placed around gully to avoid flowing muddy water into storm drain. 2. Stone breaker should be put on tarpaulin when not in use,	1. Sandbag was provided surrounding the gully. 2. Stone breaker was removed.	If dusty condition appears during excavation in any work activities, water spray should be applied to minimizes dust material.

Date	Environmental Observations	Follow-up Status	Reminders
21 February 2023	NIL	NIL	Sandbag should be provided surrounding the drainage.
27 February 2023	1. An EP copy should be provided at the entrance of the site. 2. At SHT location, sandbags or other mitigation measures should be constructed to avoid seepage of muddy water in rainy days. 3. Water spraying should be applied for dusty operation to avoid dust nuisance.	1. EP was provided at the entrance. 2. Sandbag was provided. 3. Watering was conducted frequently.	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 19th Monthly EM&A Report for the Project which summarizes the key findings of the programme during the reporting period from 1 February to 28 February 2023, in accordance with the EM&A Manual and the requirement under EP-488/2014/A.

8.2. Five (5) sessions of air and four (4) 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.

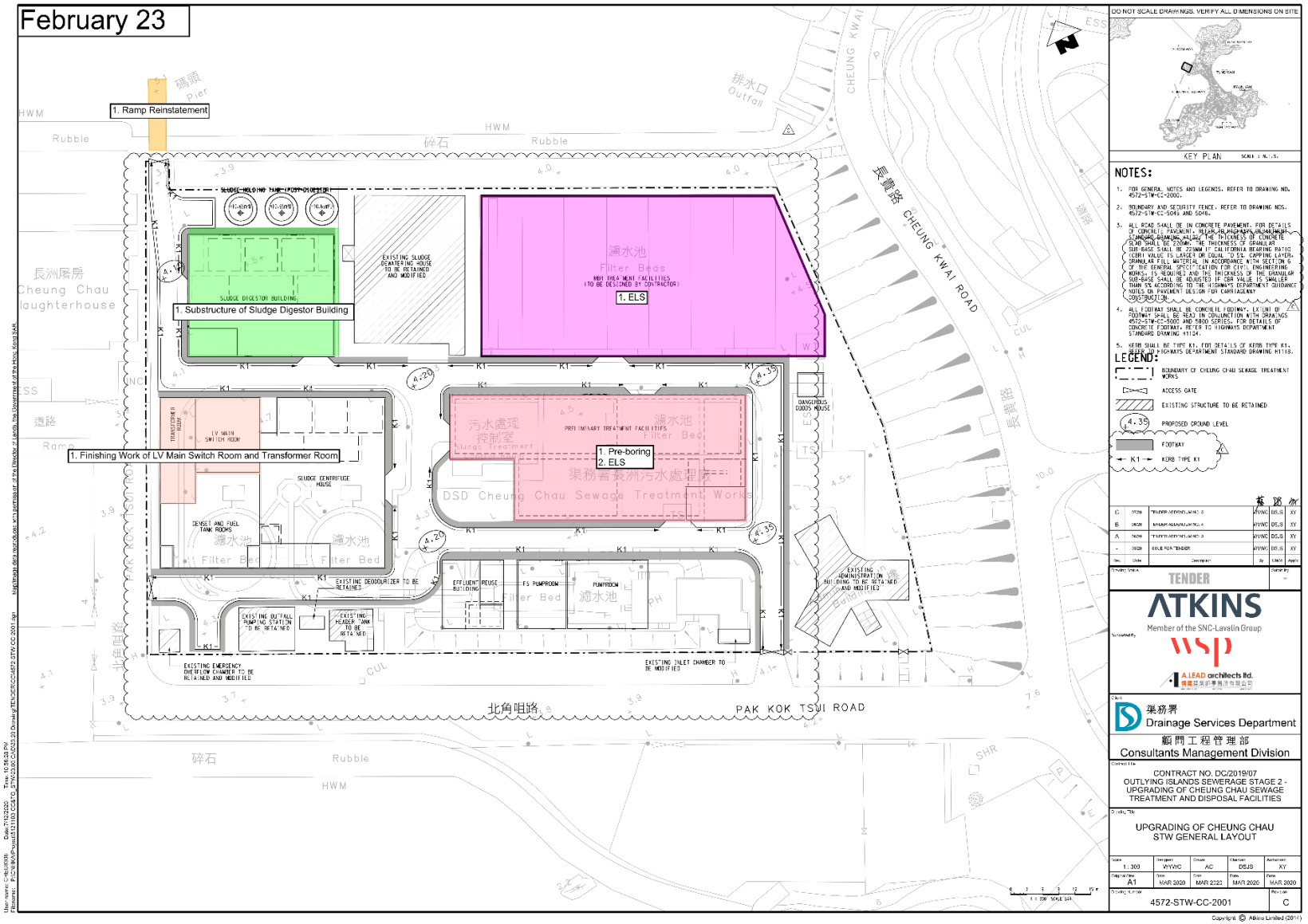
8.4. Weekly environmental site inspections were conducted during the reporting period. Only minor deficiencies were observed during site inspections. The environmental performance of the project was therefore considered satisfactory.

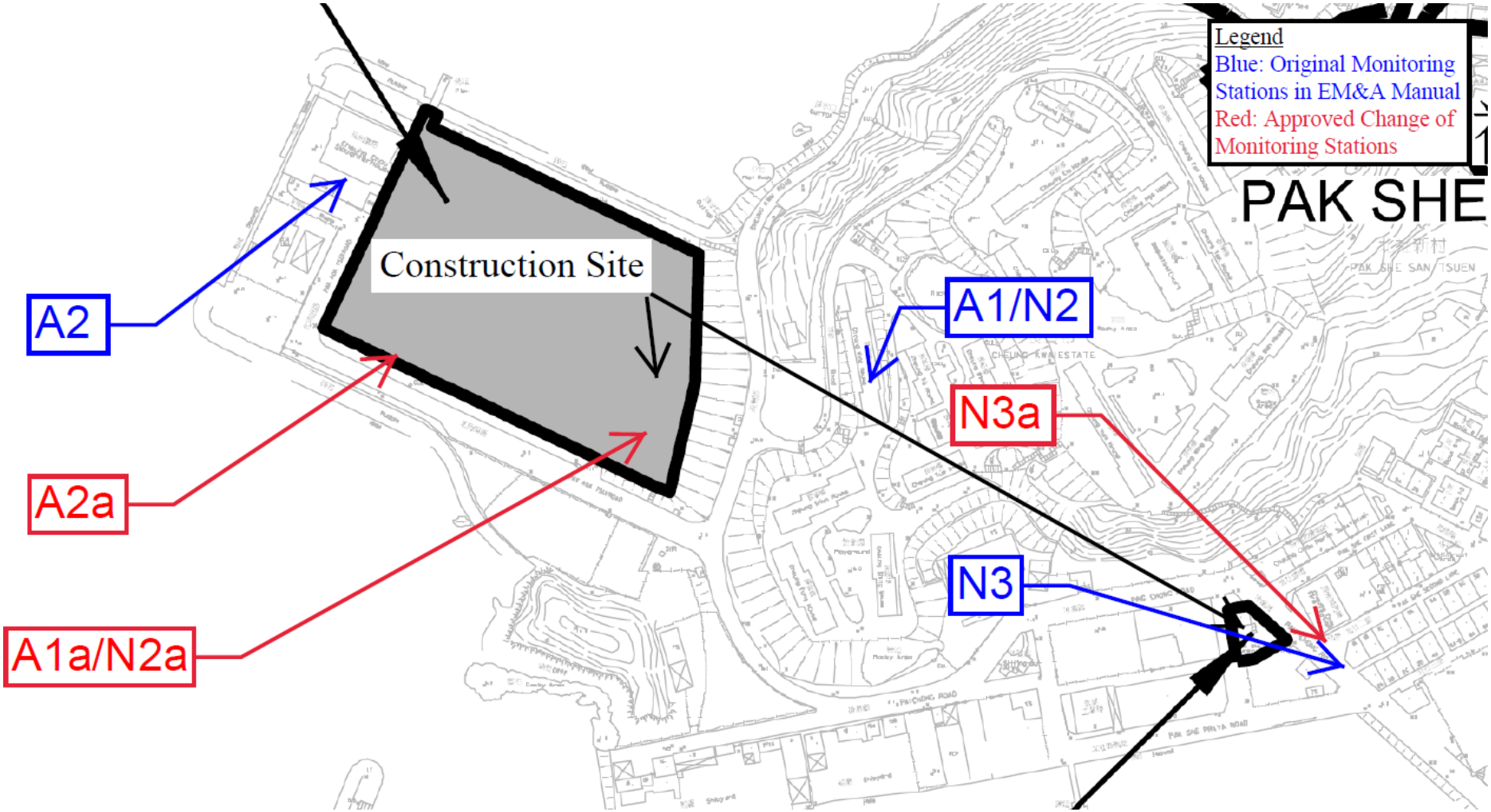
8.5. No exceedance of Action or Limit Level was recorded in the reporting period.

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

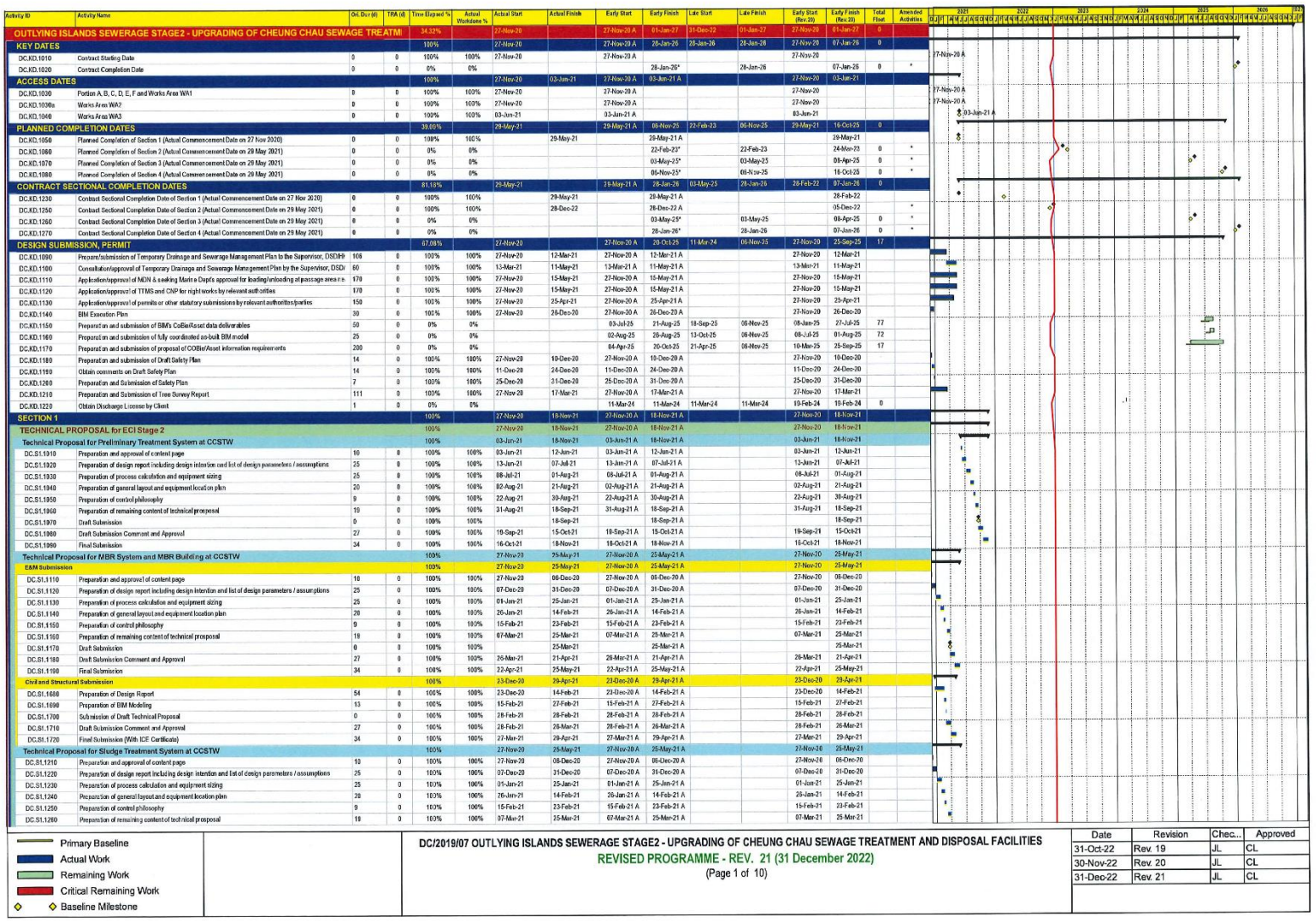
8.7. No notification of summons or prosecution was received during the reporting period.

APPENDIX A
Location Plan and Noise and Dust Monitoring Stations





APPENDIX B
Construction Programme



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 20)	Early Finish (Rev 20)	Total Float	Amended Activities
OUTLYING ISLANDS SEWERAGE STAGE2 - UPGRADING OF CHEUNG CHAU SEWAGE TREATMI				34.32%		27-Nov-20		27-Nov-20 A	01-Jan-27	31-Dec-22	01-Jan-27	27-Nov-20	01-Jan-27	0	
KEY DATES				100%		27-Nov-20		27-Nov-20 A	28-Jan-26	28-Jan-26	28-Jan-26	27-Nov-20	07-Jan-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%				28-Jan-26*		28-Jan-26		07-Jan-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				27-Nov-20			
DC.KD.1040	Works Area WA3	0	0	100%	100%	03-Jun-21		03-Jun-21 A				03-Jun-21			
PLANNED COMPLETION DATES				39.05%		29-May-21		29-May-21 A	06-Nov-25	22-Feb-23	06-Nov-25	29-May-21	16-Oct-25	0	
DC.KD.1050	Planned Completion of Section 1 (Actual Commencement Date on 27 Nov 2020)	0	0	100%	100%		29-May-21		29-May-21 A				29-May-21		
DC.KD.1060	Planned Completion of Section 2 (Actual Commencement Date on 29 May 2021)	0	0	0%	0%				22-Feb-23*		22-Feb-23		24-Mar-23	0	*
DC.KD.1070	Planned Completion of Section 3 (Actual Commencement Date on 29 May 2021)	0	0	0%	0%				03-May-25*		03-May-25		08-Apr-25	0	*
DC.KD.1080	Planned Completion of Section 4 (Actual Commencement Date on 29 May 2021)	0	0	0%	0%				06-Nov-25*		06-Nov-25		16-Oct-25	0	*
CONTRACT SECTIONAL COMPLETION DATES				81.15%		29-May-21		29-May-21 A	28-Jan-26	03-May-25	28-Jan-26	28-Feb-22	07-Jan-26	0	
DC.KD.1230	Contract Sectional Completion Date of Section 1 (Actual Commencement Date on 27 Nov 2020)	0	0	100%	100%		29-May-21		29-May-21 A				28-Feb-22		
DC.KD.1250	Contract Sectional Completion Date of Section 2 (Actual Commencement Date on 29 May 2021)	0	0	100%	100%		28-Dec-22		28-Dec-22 A				05-Dec-22		*
DC.KD.1260	Contract Sectional Completion Date of Section 3 (Actual Commencement Date on 29 May 2021)	0	0	0%	0%				03-May-25*		03-May-25		08-Apr-25	0	*
DC.KD.1270	Contract Sectional Completion Date of Section 4 (Actual Commencement Date on 29 May 2021)	0	0	0%	0%				28-Jan-26*		28-Jan-26		07-Jan-26	0	*
DESIGN SUBMISSION, PERMIT				67.08%		27-Nov-20		27-Nov-20 A	28-Oct-25	11-Mar-24	06-Nov-25	27-Nov-20	25-Sep-25	17	
DC.KD.1090	Prepare/submission of Temporary Drainage and Sewerage Management Plan to the Supervisor, DSD/HI	105	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/	60	0	100%	100%	13-Mar-21	11-May-21	13-Mar-21 A	11-May-21 A			13-Mar-21	11-May-21		
DC.KD.1110	Application/approval of MDN & seeking Marine Dept's approval for loading/unloading at passage area n	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 authorities/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%			03-Jul-25	21-Aug-25	18-Sep-25	06-Nov-25	08-Jan-25	27-Jul-25	72	
DC.KD.1160	Preparation and submission of fully coordinated as-built BIM model	25	0	0%	0%			02-Aug-25	28-Aug-25	13-Oct-25	06-Nov-25	08-Jul-25	01-Aug-25	72	
DC.KD.1170	Preparation and submission of proposal of COBie/Asset information requirements	200	0	0%	0%			04-Apr-25	20-Oct-25	21-Apr-25	06-Nov-25	10-Mar-25	25-Sep-25	17	
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%			11-Mar-24	11-Mar-24	11-Mar-24	11-Mar-24	19-Feb-24	19-Feb-24	0	
SECTION 1				100%		27-Nov-20	18-Nov-21	27-Nov-20 A	18-Nov-21 A			27-Nov-20	18-Nov-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	18-Nov-21		
Technical Proposal for Preliminary Treatment System at CCSTW				100%		03-Jun-21	18-Nov-21	03-Jun-21 A	18-Nov-21 A			03-Jun-21	18-Nov-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			03-Jun-21	12-Jun-21		
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			13-Jun-21	07-Jul-21		
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			08-Jul-21	01-Aug-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			02-Aug-21	21-Aug-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			22-Aug-21	30-Aug-21		
DC.S1.1060	Preparation of remaining content of technical proposal	19	0	100%	100%	31-Aug-21	18-Sep-21	31-Aug-21 A	18-Sep-21 A			31-Aug-21	18-Sep-21		
DC.S1.1070	Draft Submission	0	0	100%	100%		18-Sep-21		18-Sep-21 A				18-Sep-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			19-Sep-21	15-Oct-21		
DC.S1.1090	Final Submission	34	0	100%	100%	16-Oct-21	18-Nov-21	18-Oct-21 A	18-Nov-21 A			18-Oct-21	18-Nov-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	25-May-21		
E&M Submission				100%		27-Nov-20	25-May-21	27-Nov-20 A	25-May-21 A			27-Nov-20	25-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 proposal	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			26-Mar-21	21-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			22-Apr-21	25-May-21		
Civil and Structural Submission				100%		23-Dec-20	29-Apr-21	23-Dec-20 A	29-Apr-21 A			23-Dec-20	29-Apr-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			23-Dec-20	14-Feb-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			15-Feb-21	27-Feb-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			28-Feb-21	28-Feb-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			28-Feb-21	26-Mar-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			27-Mar-21	29-Apr-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	25-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 proposal	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
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Remaining Work
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Baseline Milestone

DC/2019/07 OUTLYING ISLANDS SEWERAGE STAGE2 - UPGRADING OF CHEUNG CHAU SEWAGE TREATMENT AND DISPOSAL FACILITIES
REVISED PROGRAMME - REV. 21 (31 December 2022)
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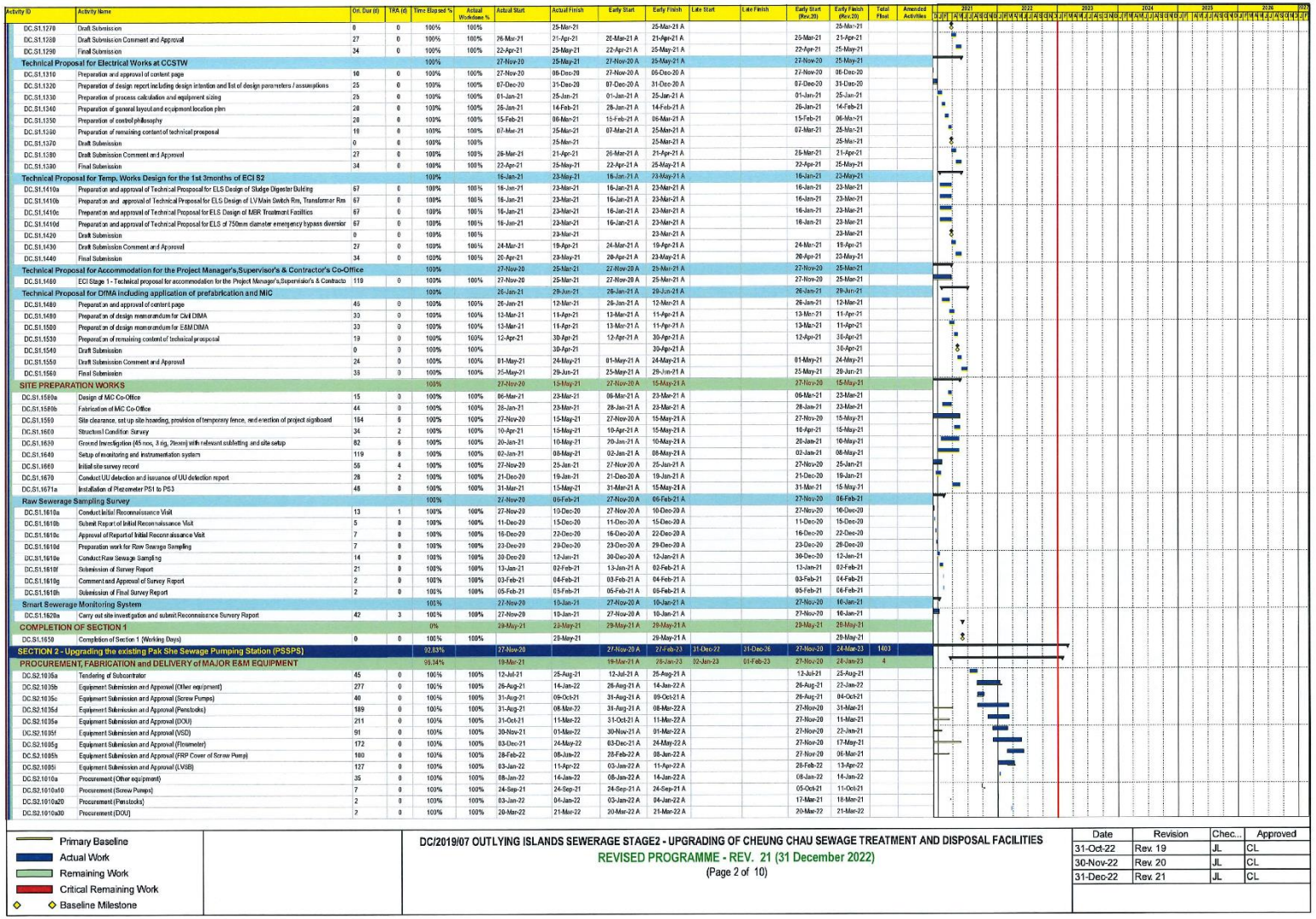
Date	Revision	Chec...	Approved
31-Oct-22	Rev. 19	JL	CL
30-Nov-22	Rev. 20	JL	CL
31-Dec-22	Rev. 21	JL	CL



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.20)	Early Finish (Rev.20)	Total Float	Amended Activities
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			25-Mar-21	21-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			22-Apr-21	25-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	25-May-21		
DC.S1.1310	Preparation and approval of content page	10	0	100%	100%	27-Nov-20	08-Dec-20	27-Nov-20 A	08-Dec-20 A			27-Nov-20	08-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 proposal	10	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				25-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			25-Mar-21	21-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			22-Apr-21	25-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			16-Jan-21	23-May-21		
DC.S1.1410a	Preparation and approval of Technical Proposal for ELS Design of Sludge Digester Buiding	67	0	100%	100%	16-Jan-21	23-Mar-21	16-Jan-21 A	23-Mar-21 A			16-Jan-21	23-Mar-21		
DC.S1.1410b	Preparation and approval of Technical Proposal for ELS Design of LV/Main Switch Rm, Transformer Rm	67	0	100%	100%	16-Jan-21	23-Mar-21	16-Jan-21 A	23-Mar-21 A			16-Jan-21	23-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			16-Jan-21	23-Mar-21		
DC.S1.1410d	Preparation and approval of Technical Proposal for ELS of 750mm diameter emergency bypass diversion	67	0	100%	100%	16-Jan-21	23-Mar-21	16-Jan-21 A	23-Mar-21 A			16-Jan-21	23-Mar-21		
DC.S1.1420	Draft Submission	0	0	100%	100%		23-Mar-21		23-Mar-21 A				23-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			24-Mar-21	19-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			20-Apr-21	23-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 & Contracto	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			26-Jan-21	29-Jun-21		
DC.S1.1480	Preparation and approval of content page	45	0	100%	100%	26-Jan-21	12-Mar-21	26-Jan-21 A	12-Mar-21 A			26-Jan-21	12-Mar-21		
DC.S1.1490	Preparation of design memorandum for Civil DfMA	33	0	100%	100%	13-Mar-21	11-Apr-21	13-Mar-21 A	11-Apr-21 A			13-Mar-21	11-Apr-21		
DC.S1.1500	Preparation of design memorandum for E&M DfMA	33	0	100%	100%	13-Mar-21	11-Apr-21	13-Mar-21 A	11-Apr-21 A			13-Mar-21	11-Apr-21		
DC.S1.1510	Preparation of remaining content of technical proposal	19	0	100%	100%	12-Apr-21	30-Apr-21	12-Apr-21 A	30-Apr-21 A			12-Apr-21	30-Apr-21		
DC.S1.1540	Draft Submission	0	0	100%	100%		30-Apr-21		30-Apr-21 A				30-Apr-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			01-May-21	24-May-21		
DC.S1.1560	Final Submission	33	0	100%	100%	25-May-21	29-Jun-21	25-May-21 A	29-Jun-21 A			25-May-21	29-Jun-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			06-Mar-21	23-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			28-Jan-21	23-Mar-21		
DC.S1.1590	Site clearance, set up site hoarding, provision of temporary fence, and erection of project signboard	184	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			10-Apr-21	15-May-21		
DC.S1.1620	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	55	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	48	8	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	06-Feb-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	16-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			03-Feb-21	04-Feb-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			05-Feb-21	06-Feb-21		
Smart Sewerage Monitoring System				100%		27-Nov-20	16-Jan-21	27-Nov-20 A	16-Jan-21 A			27-Nov-20	16-Jan-21		
DC.S1.1620a	Carry out site investigation and submit Reconnaissance Survery Report	42	3	100%	100%	27-Nov-20	16-Jan-21	27-Nov-20 A	16-Jan-21 A			27-Nov-20	16-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)				92.83%		27-Nov-20		27-Nov-20 A	27-Feb-23	31-Dec-22	31-Dec-26	27-Nov-20	24-Mar-23	1403	
PROCUREMENT, FABRICATION and DELIVERY of MAJOR E&M EQUIPMENT				98.34%		19-Mar-21		19-Mar-21 A	28-Jan-23	02-Jan-23	01-Feb-23	27-Nov-20	24-Jan-23	4	
DC.S2.1035a	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.S2.1035b	Equipment Submission and Approval (Other equipment)	277	0	100%	100%	26-Aug-21	14-Jan-22	26-Aug-21 A	14-Jan-22 A			26-Aug-21	27-Jan-22		
DC.S2.1035c	Equipment Submission and Approval (Screw Pumps)	40	0	100%	100%	31-Aug-21	09-Oct-21	31-Aug-21 A	09-Oct-21 A			26-Aug-21	04-Oct-21		
DC.S2.1035d	Equipment Submission and Approval (Penstocks)	189	0	100%	100%	31-Aug-21	08-Mar-22	31-Aug-21 A	08-Mar-22 A			27-Nov-20	31-Mar-21		
DC.S2.1035e	Equipment Submission and Approval (DOU)	211	0	100%	100%	31-Oct-21	11-Mar-22	31-Oct-21 A	11-Mar-22 A			27-Nov-20	11-Mar-21		
DC.S2.1035f	Equipment Submission and Approval (VSD)	91	0	100%	100%	30-Nov-21	01-Mar-22	30-Nov-21 A	01-Mar-22 A			27-Nov-20	22-Jan-21		
DC.S2.1035g	Equipment Submission and Approval (Flowmeter)	172	0	100%	100%	03-Dec-21	24-May-22	03-Dec-21 A	24-May-22 A			27-Nov-20	17-May-21		
DC.S2.1035h	Equipment Submission and Approval (FRP Cover of Screw Pump)	100	0	100%	100%	28-Feb-22	08-Jun-22	28-Feb-22 A	08-Jun-22 A			27-Nov-20	06-Mar-21		
DC.S2.1035i	Equipment Submission and Approval (LVSB)	127	0	100%	100%	03-Jan-22	11-Apr-22	03-Jan-22 A	11-Apr-22 A			28-Feb-22	13-Apr-22		
DC.S2.1010a	Procurement (Other equipment)	35	0	100%	100%	08-Jan-22	14-Jan-22	08-Jan-22 A	14-Jan-22 A			08-Jan-22	14-Jan-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			05-Oct-21	11-Oct-21		
DC.S2.1010a20	Procurement (Penstocks)	2	0	100%	100%	03-Jan-22	04-Jan-22	03-Jan-22 A	04-Jan-22 A			17-Mar-21	18-Mar-21		
DC.S2.1010a30	Procurement (DOU)	2	0	100%	100%	20-Mar-22	21-Mar-22	20-Mar-22 A	21-Mar-22 A			20-Mar-22	21-Mar-22		

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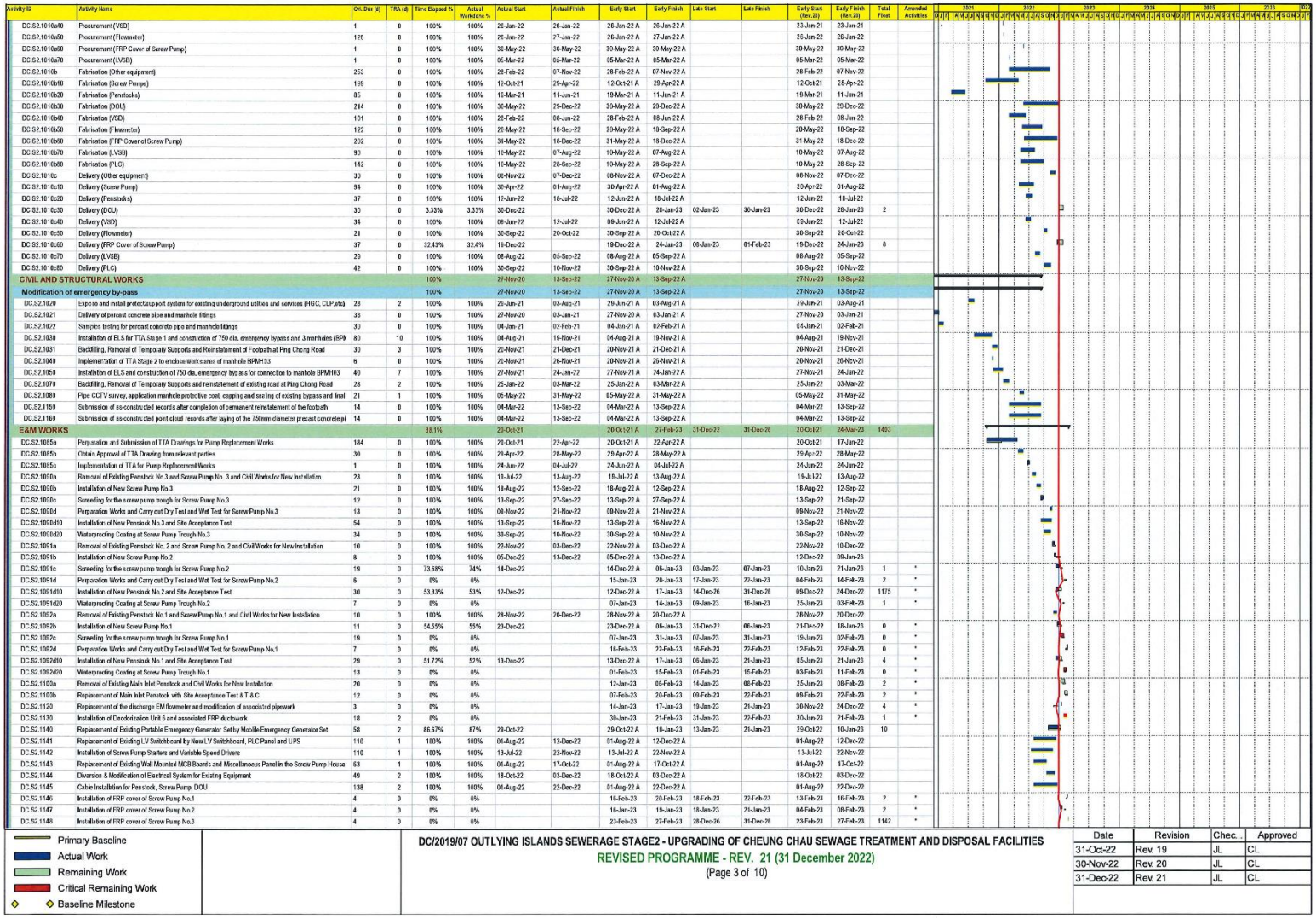
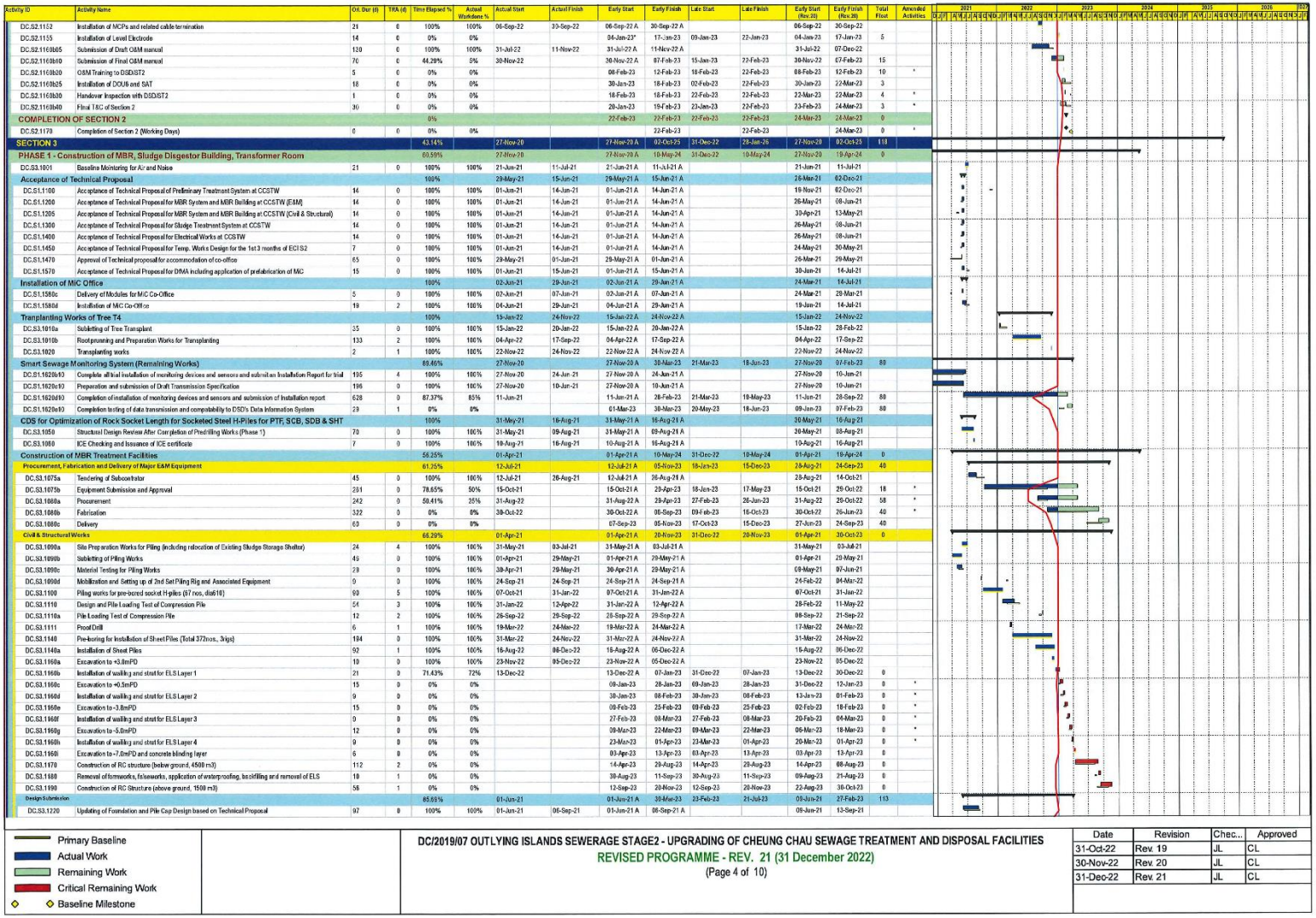


Activity ID	Activity Name	Orl. Dur (d)	TRA (d)	Time Elapsed %	Actual Workdone %	Actual Start	Actual Finish	Early Start	Early Finish	Late Start	Late Finish	Early Start (Rev.20)	Early Finish (Rev.20)	Total Float	Amended Activities
DC.S2.1010a00	Procurement (VSD)	1	0	100%	100%	26-Jan-22	26-Jan-22	26-Jan-22 A	26-Jan-22 A			23-Jan-21	23-Jan-21		
DC.S2.1010a50	Procurement (Flowmeter)	126	0	100%	100%	26-Jan-22	27-Jun-22	26-Jan-22 A	27-Jun-22 A			26-Jan-22	26-Jan-22		
DC.S2.1010a60	Procurement (FRP Cover of Screw Pump)	1	0	100%	100%	30-May-22	30-May-22	30-May-22 A	30-May-22 A			30-May-22	30-May-22		
DC.S2.1010a70	Procurement (LVSB)	1	0	100%	100%	05-Mar-22	05-Mar-22	05-Mar-22 A	05-Mar-22 A			05-Mar-22	05-Mar-22		
DC.S2.1010b	Fabrication (Other equipment)	253	0	100%	100%	28-Feb-22	07-Nov-22	28-Feb-22 A	07-Nov-22 A			28-Feb-22	07-Nov-22		
DC.S2.1010b10	Fabrication (Screw Pumps)	199	0	100%	100%	12-Oct-21	26-Apr-22	12-Oct-21 A	26-Apr-22 A			12-Oct-21	26-Apr-22		
DC.S2.1010b20	Fabrication (Penstocks)	85	0	100%	100%	18-Mar-21	11-Jun-21	18-Mar-21 A	11-Jun-21 A			18-Mar-21	11-Jun-21		
DC.S2.1010b30	Fabrication (DOU)	214	0	100%	100%	30-May-22	29-Dec-22	30-May-22 A	29-Dec-22 A			30-May-22	29-Dec-22		
DC.S2.1010b40	Fabrication (VSD)	101	0	100%	100%	28-Feb-22	08-Jun-22	28-Feb-22 A	08-Jun-22 A			28-Feb-22	08-Jun-22		
DC.S2.1010b50	Fabrication (Flowmeter)	122	0	100%	100%	20-May-22	18-Sep-22	20-May-22 A	18-Sep-22 A			20-May-22	18-Sep-22		
DC.S2.1010b60	Fabrication (FRP Cover of Screw Pump)	202	0	100%	100%	31-May-22	16-Dec-22	31-May-22 A	16-Dec-22 A			31-May-22	16-Dec-22		
DC.S2.1010b70	Fabrication (LVSB)	90	0	100%	100%	15-May-22	07-Aug-22	19-May-22 A	07-Aug-22 A			15-May-22	07-Aug-22		
DC.S2.1010b80	Fabrication (PLC)	142	0	100%	100%	16-May-22	28-Sep-22	19-May-22 A	28-Sep-22 A			16-May-22	28-Sep-22		
DC.S2.1010c	Delivery (Other equipment)	30	0	100%	100%	08-Nov-22	07-Dec-22	08-Nov-22 A	07-Dec-22 A			08-Nov-22	07-Dec-22		
DC.S2.1010c10	Delivery (Screw Pump)	94	0	100%	100%	30-Apr-22	01-Aug-22	30-Apr-22 A	01-Aug-22 A			30-Apr-22	01-Aug-22		
DC.S2.1010c20	Delivery (Penstocks)	37	0	100%	100%	12-Jun-22	18-Jul-22	12-Jun-22 A	18-Jul-22 A			12-Jun-22	18-Jul-22		
DC.S2.1010c30	Delivery (DOU)	30	0	3.33%	3.33%	30-Dec-22		30-Dec-22 A	28-Jan-23	02-Jan-23	30-Jan-23	30-Dec-22	28-Jan-23	2	
DC.S2.1010c40	Delivery (VSD)	34	0	100%	100%	08-Jun-22	12-Jul-22	09-Jun-22 A	12-Jul-22 A			09-Jun-22	12-Jul-22		
DC.S2.1010c50	Delivery (Flowmeter)	21	0	100%	100%	30-Sep-22	20-Oct-22	30-Sep-22 A	20-Oct-22 A			30-Sep-22	20-Oct-22		
DC.S2.1010c60	Delivery (FRP Cover of Screw Pump)	37	0	32.43%	32.4%	19-Dec-22		19-Dec-22 A	24-Jan-23	08-Jan-23	01-Feb-23	19-Dec-22	24-Jan-23	8	
DC.S2.1010c70	Delivery (LVSB)	20	0	100%	100%	08-Aug-22	05-Sep-22	08-Aug-22 A	05-Sep-22 A			08-Aug-22	05-Sep-22		
DC.S2.1010c80	Delivery (PLC)	42	0	100%	100%	30-Sep-22	10-Nov-22	30-Sep-22 A	10-Nov-22 A			30-Sep-22	10-Nov-22		
CIVIL AND STRUCTURAL WORKS				100%		27-Nov-20	13-Sep-22	27-Nov-20 A	13-Sep-22 A			27-Nov-20	13-Sep-22		
Modification of emergency by-pass				100%		27-Nov-20	13-Sep-22	27-Nov-20 A	13-Sep-22 A			27-Nov-20	13-Sep-22		
DC.S2.1020	Expose and install protect/support system for existing underground utilities and services (HGC, CLP,etc)	28	2	100%	100%	26-Jun-21	03-Aug-21	26-Jun-21 A	03-Aug-21 A			26-Jun-21	03-Aug-21		
DC.S2.1021	Delivery of precast concrete pipe and manhole fittings	38	0	100%	100%	27-Nov-20	03-Jan-21	27-Nov-20 A	03-Jan-21 A			27-Nov-20	03-Jan-21		
DC.S2.1022	Samples testing for precast concrete pipe and manhole fittings	30	0	100%	100%	04-Jan-21	02-Feb-21	04-Jan-21 A	02-Feb-21 A			04-Jan-21	02-Feb-21		
DC.S2.1030	Installation of ELS for TTA Stage 1 and construction of 750 dia. emergency bypass and 3 manholes (BPM	80	10	100%	100%	04-Aug-21	19-Nov-21	04-Aug-21 A	19-Nov-21 A			04-Aug-21	19-Nov-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			20-Nov-21	21-Dec-21		
DC.S2.1040	Implementation of TTA Stage 2 to enclose works area of manhole BPM103	6	0	100%	100%	26-Nov-21	26-Nov-21	20-Nov-21 A	26-Nov-21 A			20-Nov-21	26-Nov-21		
DC.S2.1050	Installation of ELS and construction of 750 dia. emergency bypass for connection to manhole BPM103	40	7	100%	100%	27-Nov-21	24-Jan-22	27-Nov-21 A	24-Jan-22 A			27-Nov-21	24-Jan-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			25-Jan-22	03-Mar-22		
DC.S2.1080	Pipe CCTV survey, application manhole protective coat, capping and sealing of existing bypass and final	21	1	100%	100%	05-May-22	31-May-22	05-May-22 A	31-May-22 A			05-May-22	31-May-22		
DC.S2.1150	Submission of as-constructed records after completion of permanent reinstatement of the footpath	14	0	100%	100%	04-Mar-22	13-Sep-22	04-Mar-22 A	13-Sep-22 A			04-Mar-22	13-Sep-22		
DC.S2.1160	Submission of as-constructed point cloud records after laying of the 750mm diameter precast concrete pi	14	0	100%	100%	04-Mar-22	13-Sep-22	04-Mar-22 A	13-Sep-22 A			04-Mar-22	13-Sep-22		
E&M WORKS				88.1%		20-Oct-21		20-Oct-21 A	27-Feb-23	31-Dec-22	31-Dec-26	20-Oct-21	24-Mar-23	1493	
DC.S2.1085a	Preparation and Submission of TTA Drawings for Pump Replacement Works	184	0	100%	100%	20-Oct-21	22-Apr-22	20-Oct-21 A	22-Apr-22 A			20-Oct-21	17-Jan-22		
DC.S2.1085b	Obtain Approval of TTA Drawing from relevant parties	30	0	100%	100%	29-Apr-22	28-May-22	29-Apr-22 A	28-May-22 A			29-Apr-22	28-May-22		
DC.S2.1085c	Implementation of TTA for Pump Replacement Works	1	0	100%	100%	24-Jun-22	04-Jul-22	24-Jun-22 A	04-Jul-22 A			24-Jun-22	24-Jun-22		
DC.S2.1090a	Removal of Existing Penstock No.3 and Screw Pump No. 3 and Civil Works for New Installation	23	0	100%	100%	18-Jul-22	13-Aug-22	18-Jul-22 A	13-Aug-22 A			18-Jul-22	13-Aug-22		
DC.S2.1090b	Installation of New Screw Pump No.3	21	0	100%	100%	18-Aug-22	12-Sep-22	18-Aug-22 A	12-Sep-22 A			18-Aug-22	12-Sep-22		
DC.S2.1090c	Screeding for the screw pump trough for Screw Pump No.3	12	0	100%	100%	13-Sep-22	27-Sep-22	13-Sep-22 A	27-Sep-22 A			13-Sep-22	21-Sep-22		
DC.S2.1090d	Preparation Works and Carry out Dry Test and Wet Test for Screw Pump No.3	13	0	100%	100%	08-Nov-22	21-Nov-22	08-Nov-22 A	21-Nov-22 A			08-Nov-22	21-Nov-22		
DC.S2.1090d10	Installation of New Penstock No.3 and Site Acceptance Test	54	0	100%	100%	13-Sep-22	16-Nov-22	13-Sep-22 A	16-Nov-22 A			13-Sep-22	16-Nov-22		
DC.S2.1090d20	Waterproofing Coating at Screw Pump Trough No.3	34	0	100%	100%	30-Sep-22	10-Nov-22	30-Sep-22 A	10-Nov-22 A			30-Sep-22	10-Nov-22		
DC.S2.1091a	Removal of Existing Penstock No. 2 and Screw Pump No. 2 and Civil Works for New Installation	10	0	100%	100%	23-Nov-22	03-Dec-22	23-Nov-22 A	03-Dec-22 A			23-Nov-22	10-Dec-22		
DC.S2.1091b	Installation of New Screw Pump No.2	8	0	100%	100%	05-Dec-22	13-Dec-22	05-Dec-22 A	13-Dec-22 A			12-Dec-22	09-Jan-23		
DC.S2.1091c	Screeding for the screw pump trough for Screw Pump No.2	19	0	73.68%	74%	14-Dec-22		14-Dec-22 A	06-Jan-23	03-Jan-23	07-Jan-23	10-Jan-23	21-Jan-23	1	*
DC.S2.1091d	Preparation Works and Carry out Dry Test and Wet Test for Screw Pump No.2	6	0	0%	0%			15-Jan-23	20-Jan-23	17-Jan-23	27-Jan-23	04-Feb-23	14-Feb-23	2	*
DC.S2.1091d10	Installation of New Penstock No.2 and Site Acceptance Test	30	0	53.33%	53%	12-Dec-22		12-Dec-22 A	17-Jan-23	14-Dec-26	31-Dec-26	05-Dec-22	24-Dec-22	1175	*
DC.S2.1091d20	Waterproofing Coating at Screw Pump Trough No.2	7	0	0%	0%			07-Jan-23	14-Jan-23	09-Jan-23	16-Jan-23	25-Jan-23	03-Feb-23	1	*
DC.S2.1092a	Removal of Existing Penstock No.1 and Screw Pump No.1 and Civil Works for New Installation	10	0	100%	100%	28-Nov-22	20-Dec-22	28-Nov-22 A	20-Dec-22 A			28-Nov-22	20-Dec-22		
DC.S2.1092b	Installation of New Screw Pump No.1	11	0	54.55%	55%	23-Dec-22		23-Dec-22 A	06-Jan-23	31-Dec-22	06-Jan-23	21-Dec-22	18-Jan-23	0	*
DC.S2.1092c	Screeding for the screw pump trough for Screw Pump No.1	19	0	0%	0%			07-Jan-23	31-Jan-23	07-Jan-23	31-Jan-23	19-Jan-23	02-Feb-23	0	*
DC.S2.1092d	Preparation Works and Carry out Dry Test and Wet Test for Screw Pump No.1	7	0	0%	0%			16-Feb-23	22-Feb-23	16-Feb-23	22-Feb-23	12-Feb-23	22-Feb-23	0	*
DC.S2.1092d10	Installation of New Penstock No.1 and Site Acceptance Test	29	0	51.72%	52%	13-Dec-22		13-Dec-22 A	17-Jan-23	06-Jan-23	21-Jan-23	05-Jan-23	21-Jan-23	4	*
DC.S2.1092d20	Waterproofing Coating at Screw Pump Trough No.1	13	0	0%	0%			01-Feb-23	15-Feb-23	01-Feb-23	15-Feb-23	03-Feb-23	11-Feb-23	0	*
DC.S2.1103a	Removal of Existing Main Inlet Penstock and Civil Works for New Installation	20	0	0%	0%			12-Jan-23	08-Feb-23	14-Jan-23	08-Feb-23	25-Jan-23	08-Feb-23	2	*
DC.S2.1103b	Replacement of Main Inlet Penstock with Site Acceptance Test & T & C	12	0	0%	0%			07-Feb-23	20-Feb-23	09-Feb-23	22-Feb-23	09-Feb-23	22-Feb-23	2	*
DC.S2.1120	Replacement of the discharge EM flowmeter and modification of associated pipework	3	0	0%	0%			14-Jan-23	17-Jan-23	19-Jan-23	21-Jan-23	30-Nov-22	24-Dec-22	4	*
DC.S2.1130	Installation of Deodorization Unit 6 and associated FRP ductwork	18	2	0%	0%			30-Jan-23	21-Feb-23	31-Jan-23	22-Feb-23	30-Jan-23	21-Feb-23	1	*
DC.S2.1140	Replacement of Existing Portable Emergency Generator Set by Mobile Emergency Generator Set	58	2	86.67%	87%	29-Oct-22		29-Oct-22 A	10-Jan-23	13-Jan-23	21-Jan-23	29-Oct-22	10-Jan-23	10	
DC.S2.1141	Replacement of Existing LV Switchboard by New LV Switchboard, PLC Panel and UPS	110	1	100%	100%	01-Aug-22	12-Dec-22	01-Aug-22 A	12-Dec-22 A			01-Aug-22	12-Dec-22		
DC.S2.1142	Installation of Screw Pump Starters and Variable Speed Drivers	110	1	100%	100%	13-Jul-22	22-Nov-22	13-Jul-22 A	22-Nov-22 A			13-Jul-22	22-Nov-22		
DC.S2.1143	Replacement of Existing Wall Mounted MCB Boards and Miscellaneous Panel in the Screw Pump House	63	1	100%	100%	01-Aug-22	17-Oct-22	01-Aug-22 A	17-Oct-22 A			01-Aug-22	17-Oct-22		
DC.S2.1144	Diversion & Modification of Electrical System for Existing Equipment	49	2	100%	100%	18-Oct-22	03-Dec-22	18-Oct-22 A	03-Dec-22 A			18-Oct-22	03-Dec-22		
DC.S2.1145	Cable Installation for Penstock, Screw Pump, DOU	138	2	100%	100%	01-Aug-22	22-Dec-22	01-Aug-22 A	22-Dec-22 A			01-Aug-22	22-Dec-22		
DC.S2.1146	Installation of FRP cover of Screw Pump No.1	4	0	0%	0%			16-Feb-23	20-Feb-23	18-Feb-23	22-Feb-23	13-Feb-23	16-Feb-23	2	*
DC.S2.1147	Installation of FRP cover of Screw Pump No.2	4	0	0%	0%			16-Jan-23	19-Jan-23	18-Jan-23	21-Jan-23	04-Feb-23	08-Feb-23	2	*
DC.S2.1148	Installation of FRP cover of Screw Pump No.3	4	0	0%	0%			23-Feb-23	27-Feb-23	28-Dec-26	31-Dec-26	23-Feb-23	27-Feb-23	1142	*

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. 21 (31 December 2022)
(Page 3 of 10)

Date	Revision	Chec...	Approved
31-Oct-22	Rev. 19	JL	CL
30-Nov-22	Rev. 20	JL	CL
31-Dec-22	Rev. 21	JL	CL



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.20)	Early Finish (Rev.20)	Total Float	Amended Activities
DC.S2.1152	Installation of MCPs and related cable termination	21	0	100%	100%	06-Sep-22	30-Sep-22	06-Sep-22 A	30-Sep-22 A			06-Sep-22	30-Sep-22		
DC.S2.1155	Installation of Level Electrode	14	0	0%	0%			04-Jan-23*	17-Jan-23	09-Jan-23	22-Jan-23	04-Jan-23	17-Jan-23	5	
DC.S2.1160b05	Submission of Draft O&M manual	120	0	100%	100%	31-Jul-22	11-Nov-22	31-Jul-22 A	11-Nov-22 A			31-Jul-22	07-Dec-22		
DC.S2.1160b10	Submission of Final O&M manual	70	0	44.29%	5%	30-Nov-22		30-Nov-22 A	07-Feb-23	15-Jan-23	22-Feb-23	30-Nov-22	07-Feb-23	15	
DC.S2.1160b20	O&M Training to DSD/IST2	5	0	0%	0%			08-Feb-23	12-Feb-23	18-Feb-23	22-Feb-23	08-Feb-23	12-Feb-23	10	*
DC.S2.1160b25	Installation of DOU6 and SAT	18	0	0%	0%			30-Jan-23	18-Feb-23	02-Feb-23	22-Feb-23	30-Jan-23	22-Mar-23	3	
DC.S2.1160b30	Handover Inspection with DSD/IST2	1	0	0%	0%			18-Feb-23	18-Feb-23	22-Feb-23	22-Feb-23	22-Mar-23	22-Mar-23	4	*
DC.S2.1160b40	Final T&C of Section 2	30	0	0%	0%			20-Jan-23	19-Feb-23	23-Jan-23	22-Feb-23	23-Feb-23	24-Mar-23	3	*
COMPLETION OF SECTION 2				0%				22-Feb-23	22-Feb-23	22-Feb-23	22-Feb-23	24-Mar-23	24-Mar-23	0	
DC.S2.1170	Completion of Section 2 (Working Days)	0	0	0%	0%				22-Feb-23		22-Feb-23		24-Mar-23	0	*
SECTION 3				43.14%		27-Nov-20		27-Nov-20 A	02-Oct-25	31-Dec-22	28-Jan-26	27-Nov-20	02-Oct-25	118	
PHASE 1 - Construction of MBR, Sludge Disgestor Building, Transformer Room				60.59%		27-Nov-20		27-Nov-20 A	19-May-24	31-Dec-22	19-May-24	27-Nov-20	19-Apr-24	0	
DC.S3.1001	Baseline Monitoring 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			26-Mar-21	02-Dec-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			19-Nov-21	02-Dec-21		
DC.S1.1200	Acceptance of Technical Proposal for MBR System and MBR Building at CCSTW (E&M)	14	0	100%	100%	01-Jun-21	14-Jun-21	01-Jun-21 A	14-Jun-21 A			26-May-21	08-Jun-21		
DC.S1.1205	Acceptance of Technical Proposal for MBR System and MBR Building at CCSTW (Civil & Structural)	14	0	100%	100%	01-Jun-21	14-Jun-21	01-Jun-21 A	14-Jun-21 A			30-Apr-21	13-May-21		
DC.S1.1300	Acceptance of Technical Proposal for Sludge Treatment System at CCSTW	14	0	100%	100%	01-Jun-21	14-Jun-21	01-Jun-21 A	14-Jun-21 A			26-May-21	08-Jun-21		
DC.S1.1400	Acceptance of Technical Proposal for Electrical Works at CCSTW	14	0	100%	100%	01-Jun-21	14-Jun-21	01-Jun-21 A	14-Jun-21 A			26-May-21	08-Jun-21		
DC.S1.1450	Acceptance of Technical Proposal for Temp. Works Design for the 1st 3 months of ECI S2	7	0	100%	100%	01-Jun-21	14-Jun-21	01-Jun-21 A	14-Jun-21 A			24-May-21	30-May-21		
DC.S1.1470	Approval of Technical proposal for accomodation of co-office	65	0	100%	100%	29-May-21	01-Jun-21	29-May-21 A	01-Jun-21 A			26-Mar-21	29-May-21		
DC.S1.1570	Acceptance of Technical Proposal for DMA including application of prefabrication of MC	15	0	100%	100%	01-Jun-21	15-Jun-21	01-Jun-21 A	15-Jun-21 A			30-Jun-21	14-Jul-21		
Installation of MiC Office				100%		02-Jun-21	29-Jun-21	02-Jun-21 A	29-Jun-21 A			24-Mar-21	14-Jul-21		
DC.S1.1560c	Delivery of Modules for MiC Co-Office	5	0	100%	100%	02-Jun-21	07-Jun-21	02-Jun-21 A	07-Jun-21 A			24-Mar-21	28-Mar-21		
DC.S1.1580d	Installation of MiC Co-Office	19	2	100%	100%	04-Jun-21	29-Jun-21	04-Jun-21 A	29-Jun-21 A			19-Jun-21	14-Jul-21		
Tranplanting Works of Tree T4				100%		15-Jan-22	24-Nov-22	15-Jan-22 A	24-Nov-22 A			15-Jan-22	24-Nov-22		
DC.S3.1010a	Subletting of Tree Transplant	35	0	100%	100%	15-Jan-22	20-Jan-22	15-Jan-22 A	20-Jan-22 A			15-Jan-22	28-Feb-22		
DC.S3.1010b	Rootpronning and Preparation Works for Transplanting	133	2	100%	100%	04-Apr-22	17-Sep-22	04-Apr-22 A	17-Sep-22 A			04-Apr-22	17-Sep-22		
DC.S3.1020	Transplanting works	2	1	100%	100%	22-Nov-22	24-Nov-22	22-Nov-22 A	24-Nov-22 A			22-Nov-22	24-Nov-22		
Smart Sewage Monitoring System (Remaining Works)				86.46%		27-Nov-20		27-Nov-20 A	30-Mar-23	21-Mar-23	18-Jun-23	27-Nov-20	07-Feb-23	80	
DC.S1.1620s10	Complete all trial installation of monitoring devices and sensors and submit an Installation Report for trial	195	4	100%	100%	27-Nov-20	24-Jun-21	27-Nov-20 A	24-Jun-21 A			27-Nov-20	10-Jun-21		
DC.S1.1620s10	Preparation and submission of Draft Transmission Specification	196	0	100%	100%	27-Nov-20	10-Jun-21	27-Nov-20 A	10-Jun-21 A			27-Nov-20	10-Jun-21		
DC.S1.1620s10	Completion of installation of monitoring devices and sensors and submission of Installation report	628	0	87.37%	85%	11-Jun-21		11-Jun-21 A	28-Feb-23	21-Mar-23	18-May-23	11-Jun-21	28-Sep-22	80	
DC.S1.1620s10	Completion testing of data transmission and compatibility to DSD's Data Information System	29	1	0%	0%			01-Mar-23	30-Mar-23	20-May-23	18-Jun-23	09-Jan-23	07-Feb-23	80	
CDS for Optimization of Rock Socket Length for Socketed Steel H-Piles for PTF, SCB, SDB & SHT				100%		31-May-21	16-Aug-21	31-May-21 A	16-Aug-21 A			30-May-21	16-Aug-21		
DC.S3.1050	Structural Design Review After Completion of Predrilling Works (Phase 1)	70	0	100%	100%	31-May-21	09-Aug-21	31-May-21 A	09-Aug-21 A			26-May-21	08-Aug-21		
DC.S3.1060	ICE Checking and Issuance of ICE certificate	7	0	100%	100%	10-Aug-21	16-Aug-21	10-Aug-21 A	16-Aug-21 A			10-Aug-21	16-Aug-21		
Construction of MBR Treatment Facilities				56.25%		01-Apr-21		01-Apr-21 A	10-May-24	31-Dec-22	10-May-24	01-Apr-21	19-Apr-24	0	
Procurement, Fabrication and Delivery of Major E&M Equipment				61.25%		12-Jul-21		12-Jul-21 A	05-Nov-23	18-Jan-23	15-Dec-23	26-Aug-21	24-Sep-23	40	
DC.S3.1075a	Tendering of Subcontractor	45	0	100%	100%	12-Jul-21	26-Aug-21	12-Jul-21 A	26-Aug-21 A			26-Aug-21	14-Oct-21		
DC.S3.1075b	Equipment Submission and Approval	231	0	78.65%	50%	15-Oct-21		15-Oct-21 A	29-Apr-23	18-Jan-23	17-May-23	15-Oct-21	29-Oct-22	18	*
DC.S3.1080a	Procurement	242	0	58.41%	25%	31-Aug-22		31-Aug-22 A	29-Apr-23	27-Feb-23	26-Jun-23	31-Aug-22	29-Oct-22	58	*
DC.S3.1080b	Fabrication	322	0	0%	0%	30-Oct-22		30-Oct-22 A	05-Sep-23	09-Feb-23	16-Oct-23	30-Oct-22	26-Jun-23	40	*
DC.S3.1080c	Delivery	60	0	0%	0%			07-Sep-23	05-Nov-23	17-Oct-23	15-Dec-23	27-Jun-23	24-Sep-23	40	
Civil & Structural Works				66.29%		01-Apr-21		01-Apr-21 A	20-Nov-23	31-Dec-22	20-Nov-23	01-Apr-21	30-Oct-23	0	
DC.S3.1090a	Site Preparation Works for Piling (including relocation of Existing Sludge Storage Shelter)	24	4	100%	100%	31-May-21	03-Jul-21	31-May-21 A	03-Jul-21 A			31-May-21	03-Jul-21		
DC.S3.1090b	Subletting of Piling Works	49	0	100%	100%	01-Apr-21	29-May-21	01-Apr-21 A	29-May-21 A			01-Apr-21	20-May-21		
DC.S3.1090c	Material Testing for Piling Works	28	0	100%	100%	30-Apr-21	29-May-21	30-Apr-21 A	29-May-21 A			09-May-21	07-Jun-21		
DC.S3.1090d	Mobilization and Setting up of 2nd Set Piling Rig and Associated Equipment	0	0	100%	100%	24-Sep-21	24-Sep-21	24-Sep-21 A	24-Sep-21 A			24-Feb-22	04-Mar-22		
DC.S3.1100	Piling works for pre-bored socked H-piles (67 nos, dia610)	93	5	100%	100%	07-Oct-21	31-Jan-22	07-Oct-21 A	31-Jan-22 A			07-Oct-21	31-Jan-22		
DC.S3.1110	Design and Pile Loading Test of Compression Pile	54	3	100%	100%	31-Jan-22	12-Apr-22	31-Jan-22 A	12-Apr-22 A			28-Feb-22	11-May-22		
DC.S3.1110a	Pile Loading Test of Compression Pile	12	2	100%	100%	26-Sep-22	29-Sep-22	26-Sep-22 A	29-Sep-22 A			06-Sep-22	21-Sep-22		
DC.S3.1111	Proof Drill	6	1	100%	100%	19-Mar-22	24-Mar-22	19-Mar-22 A	24-Mar-22 A			17-Mar-22	24-Mar-22		
DC.S3.1140	Pre-boring for Installation of Sheet Piles (Total 372nos., 3rigs)	194	0	100%	100%	31-Mar-22	24-Nov-22	31-Mar-22 A	24-Nov-22 A			31-Mar-22	24-Nov-22		
DC.S3.1140a	Installation of Sheet Piles	92	1	100%	100%	16-Aug-22	06-Dec-22	16-Aug-22 A	06-Dec-22 A			16-Aug-22	06-Dec-22		
DC.S3.1160a	Excavation to +3.8mPD	10	0	100%	100%	23-Nov-22	05-Dec-22	23-Nov-22 A	05-Dec-22 A			23-Nov-22	05-Dec-22		
DC.S3.1160b	Installation of walling and strut for ELS Layer 1	21	0	71.43%	72%	13-Dec-22		13-Dec-22 A	07-Jan-23	31-Dec-22	07-Jan-23	13-Dec-22	30-Dec-22	0	
DC.S3.1160c	Excavation to +0.5mPD	15	0	0%	0%			09-Jan-23	28-Jan-23	09-Jan-23	28-Jan-23	31-Dec-22	12-Jan-23	0	*
DC.S3.1160d	Installation of walling and strut for ELS Layer 2	9	0	0%	0%			30-Jan-23	08-Feb-23	30-Jan-23	08-Feb-23	13-Jan-23	01-Feb-23	0	*
DC.S3.1160e	Excavation to -3.8mPD	15	0	0%	0%			09-Feb-23	25-Feb-23	09-Feb-23	25-Feb-23	02-Feb-23	18-Feb-23	0	*
DC.S3.1160f	Installation of walling and strut for ELS Layer 3	9	0	0%	0%			27-Feb-23	08-Mar-23	27-Feb-23	08-Mar-23	20-Feb-23	04-Mar-23	0	*
DC.S3.1160g	Excavation to -5.8mPD	12	0	0%	0%			09-Mar-23	22-Mar-23	09-Mar-23	22-Mar-23	06-Mar-23	18-Mar-23	0	*
DC.S3.1160h	Installation of walling and strut for ELS Layer 4	9	0	0%	0%			23-Mar-23	01-Apr-23	23-Mar-23	01-Apr-23	20-Mar-23	01-Apr-23	0	*
DC.S3.1160i	Excavation to -7.8mPD and concrete blinding layer	6	0	0%	0%			03-Apr-23	13-Apr-23	03-Apr-23	13-Apr-23	03-Apr-23	13-Apr-23	0	
DC.S3.1170	Construction of RC structure (below ground, 4500 m3)	112	2	0%	0%			14-Apr-23	29-Aug-23	14-Apr-23	28-Aug-23	14-Apr-23	08-Aug-23	0	
DC.S3.1180	Removal of formworks, falseworks, application of waterproofing, backfilling and removal of ELS	10	1	0%	0%			30-Aug-23	11-Sep-23	30-Aug-23	11-Sep-23	09-Aug-23	21-Aug-23	0	
DC.S3.1190	Construction of RC Structure (above ground, 1500 m3)	58	1	0%	0%			12-Sep-23	28-Nov-23	12-Sep-23	28-Nov-23	22-Aug-23	08-Oct-23	0	
Design Submission				85.65%		01-Jun-21		01-Jun-21 A	30-Mar-23	23-Feb-23	21-Jul-23	01-Jun-21	27-Feb-23	113	
DC.S3.1220	Updating of Foundation and Pile Cap Design based on Technical Proposal	97	0	100%	100%	01-Jun-21	06-Sep-21	01-Jun-21 A	06-Sep-21 A			05-Jun-21	13-Sep-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. 21 (31 December 2022)
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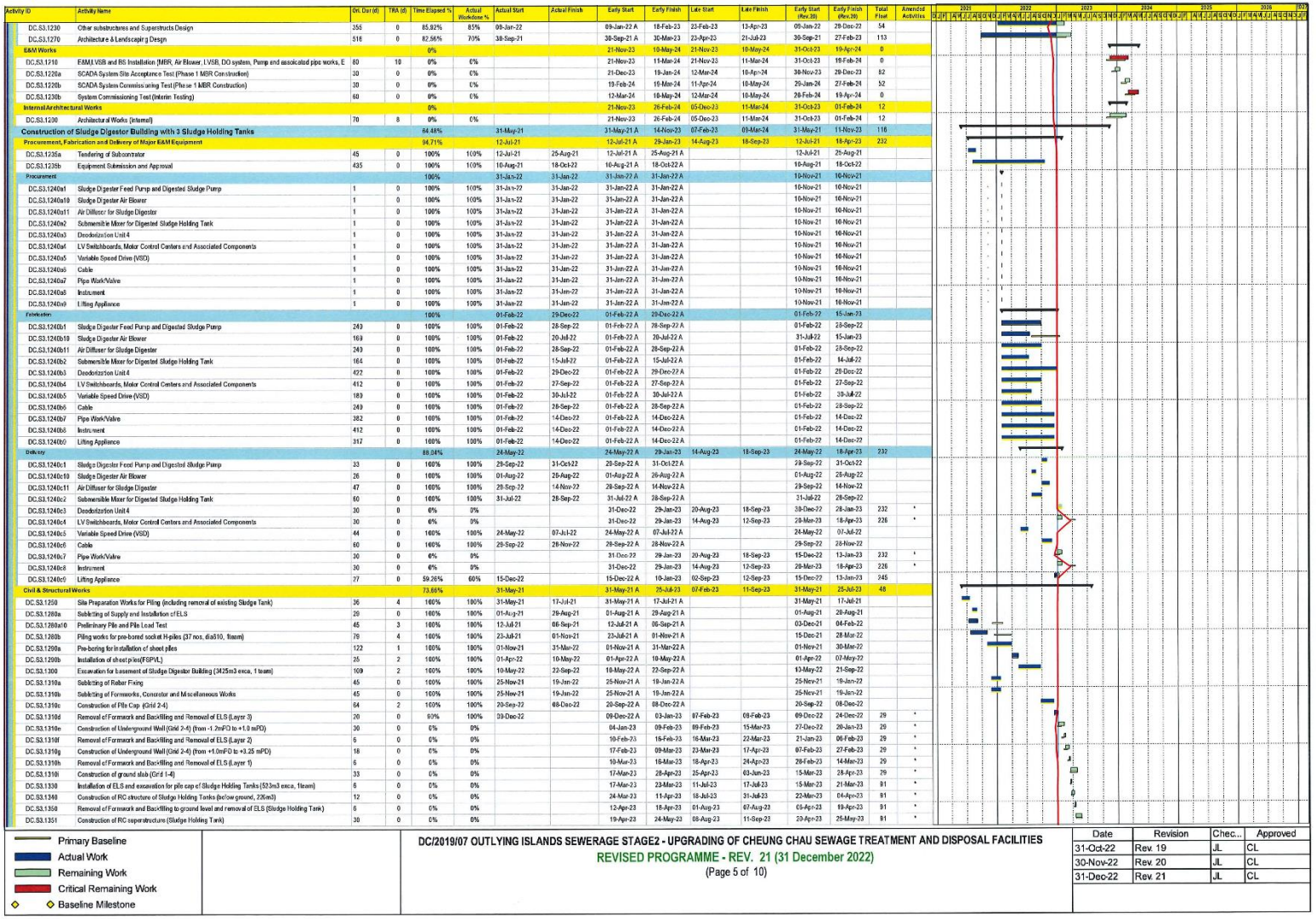
Date	Revision	Chec..	Approved
31-Oct-22	Rev. 19	JL	CL
30-Nov-22	Rev. 20	JL	CL
31-Dec-22	Rev. 21	JL	CL



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.20)	Early Finish (Rev.20)	Total Float	Amended Activities
DC.S3.1230	Other substructures and Superstructs Design	355	0	85.92%	85%	09-Jan-22		09-Jan-22 A	18-Feb-23	23-Feb-23	13-Apr-23	09-Jan-22	28-Dec-22	54	
DC.S3.1270	Architecture & Landscaping Design	516	0	82.56%	70%	30-Sep-21		30-Sep-21 A	30-Mar-23	23-Apr-23	21-Jul-23	30-Sep-21	27-Feb-23	113	
E&M Works				0%				21-Nov-23	10-May-24	21-Nov-23	10-May-24	31-Oct-23	19-Apr-24	0	
DC.S3.1210	E&M,I,VSB and BS Installation (MBR, Air Blower, LVSB, DO system, Pump and associated pipe works, E	60	10	0%	0%			21-Nov-23	11-Mar-24	21-Nov-23	11-Mar-24	31-Oct-23	19-Feb-24	0	
DC.S3.1220a	SCADA System Site Acceptance Test (Phase 1 MBR Construction)	30	0	0%	0%			21-Dec-23	19-Jan-24	12-Mar-24	16-Apr-24	30-Nov-23	29-Dec-23	82	
DC.S3.1220b	SCADA System Commissioning Test (Phase 1 MBR Construction)	30	0	0%	0%			19-Feb-24	19-Mar-24	11-Apr-24	10-May-24	29-Jan-24	27-Feb-24	52	
DC.S3.1230b	System Commissioning Test (Interim Testing)	60	0	0%	0%			12-Mar-24	10-May-24	12-Mar-24	10-May-24	28-Feb-24	19-Apr-24	0	
Internal Architectural Works				0%				21-Nov-23	26-Feb-24	05-Dec-23	11-Mar-24	31-Oct-23	01-Feb-24	12	
DC.S3.1200	Architectural Works (Internal)	70	8	0%	0%			21-Nov-23	26-Feb-24	05-Dec-23	11-Mar-24	31-Oct-23	01-Feb-24	12	
Construction of Sludge Digestor Building with 3 Sludge Holding Tanks				64.48%		31-May-21		31-May-21 A	14-Nov-23	07-Feb-23	01-Mar-24	31-May-21	11-Nov-23	116	
Procurement, Fabrication and Delivery of Major E&M Equipment				94.71%		12-Jul-21		12-Jul-21 A	29-Jan-23	14-Aug-23	18-Sep-23	12-Jul-21	18-Apr-23	232	
DC.S3.1235a	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.S3.1235b	Equipment Submission and Approval	435	0	100%	100%	10-Aug-21	18-Oct-22	10-Aug-21 A	18-Oct-22 A			10-Aug-21	18-Oct-22		
Procurement				100%		31-Jan-22	31-Jan-22	31-Jan-22 A	31-Jan-22 A			10-Nov-21	10-Nov-21		
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			10-Nov-21	10-Nov-21		
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			10-Nov-21	10-Nov-21		
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			10-Nov-21	10-Nov-21		
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			10-Nov-21	10-Nov-21		
DC.S3.1240a3	Deodorization Unit 4	1	0	100%	100%	31-Jan-22	31-Jan-22	31-Jan-22 A	31-Jan-22 A			10-Nov-21	10-Nov-21		
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			10-Nov-21	10-Nov-21		
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			10-Nov-21	10-Nov-21		
DC.S3.1240a6	Cable	1	0	100%	100%	31-Jan-22	31-Jan-22	31-Jan-22 A	31-Jan-22 A			10-Nov-21	10-Nov-21		
DC.S3.1240a7	Pipe Work/Valve	1	0	100%	100%	31-Jan-22	31-Jan-22	31-Jan-22 A	31-Jan-22 A			10-Nov-21	10-Nov-21		
DC.S3.1240a8	Instrument	1	0	100%	100%	31-Jan-22	31-Jan-22	31-Jan-22 A	31-Jan-22 A			10-Nov-21	10-Nov-21		
DC.S3.1240a9	Lifting Appliance	1	0	100%	100%	31-Jan-22	31-Jan-22	31-Jan-22 A	31-Jan-22 A			10-Nov-21	10-Nov-21		
Fabrication				100%		01-Feb-22	29-Dec-22	01-Feb-22 A	29-Dec-22 A			01-Feb-22	15-Jan-23		
DC.S3.1240b1	Sludge Digester Feed Pump and Digested Sludge Pump	240	0	100%	100%	01-Feb-22	28-Sep-22	01-Feb-22 A	28-Sep-22 A			01-Feb-22	28-Sep-22		
DC.S3.1240b10	Sludge Digester Air Blower	169	0	100%	100%	01-Feb-22	20-Jul-22	01-Feb-22 A	20-Jul-22 A			31-Jul-22	15-Jan-23		
DC.S3.1240b11	Air Diffuser for Sludge Digester	240	0	100%	100%	01-Feb-22	28-Sep-22	01-Feb-22 A	28-Sep-22 A			01-Feb-22	28-Sep-22		
DC.S3.1240b2	Submersible Mixer for Digested Sludge Holding Tank	164	0	100%	100%	01-Feb-22	15-Jul-22	01-Feb-22 A	15-Jul-22 A			01-Feb-22	14-Jul-22		
DC.S3.1240b3	Deodorization Unit 4	422	0	100%	100%	01-Feb-22	29-Dec-22	01-Feb-22 A	29-Dec-22 A			01-Feb-22	29-Dec-22		
DC.S3.1240b4	LV Switchboards, Motor Control Centers and Associated Components	412	0	100%	100%	01-Feb-22	27-Sep-22	01-Feb-22 A	27-Sep-22 A			01-Feb-22	27-Sep-22		
DC.S3.1240b5	Variable Speed Drive (VSD)	189	0	100%	100%	01-Feb-22	30-Jul-22	01-Feb-22 A	30-Jul-22 A			01-Feb-22	30-Jul-22		
DC.S3.1240b6	Cable	240	0	100%	100%	01-Feb-22	28-Sep-22	01-Feb-22 A	28-Sep-22 A			01-Feb-22	28-Sep-22		
DC.S3.1240b7	Pipe Work/Valve	382	0	100%	100%	01-Feb-22	14-Dec-22	01-Feb-22 A	14-Dec-22 A			01-Feb-22	14-Dec-22		
DC.S3.1240b8	Instrument	412	0	100%	100%	01-Feb-22	14-Dec-22	01-Feb-22 A	14-Dec-22 A			01-Feb-22	14-Dec-22		
DC.S3.1240b9	Lifting Appliance	317	0	100%	100%	01-Feb-22	14-Dec-22	01-Feb-22 A	14-Dec-22 A			01-Feb-22	14-Dec-22		
Delivery				88.04%		24-May-22		24-May-22 A	29-Jan-23	14-Aug-23	18-Sep-23	24-May-22	18-Apr-23	232	
DC.S3.1240c1	Sludge Digester Feed Pump and Digested Sludge Pump	33	0	100%	100%	29-Sep-22	31-Oct-22	29-Sep-22 A	31-Oct-22 A			29-Sep-22	31-Oct-22		
DC.S3.1240c10	Sludge Digester Air Blower	26	0	100%	100%	01-Aug-22	26-Aug-22	01-Aug-22 A	26-Aug-22 A			01-Aug-22	25-Aug-22		
DC.S3.1240c11	Air Diffuser for Sludge Digester	47	0	100%	100%	29-Sep-22	14-Nov-22	29-Sep-22 A	14-Nov-22 A			29-Sep-22	14-Nov-22		
DC.S3.1240c2	Submersible Mixer for Digested Sludge Holding Tank	60	0	100%	100%	31-Jul-22	28-Sep-22	31-Jul-22 A	28-Sep-22 A			31-Jul-22	28-Sep-22		
DC.S3.1240c3	Deodorization Unit 4	30	0	0%	0%			31-Dec-22	29-Jan-23	20-Aug-23	18-Sep-23	28-Dec-22	28-Jan-23	232	*
DC.S3.1240c4	LV Switchboards, Motor Control Centers and Associated Components	30	0	0%	0%			31-Dec-22	29-Jan-23	14-Aug-23	12-Sep-23	28-Mar-23	18-Apr-23	226	*
DC.S3.1240c5	Variable Speed Drive (VSD)	44	0	100%	100%	24-May-22	07-Jul-22	24-May-22 A	07-Jul-22 A			24-May-22	07-Jul-22		
DC.S3.1240c6	Cable	60	0	100%	100%	29-Sep-22	28-Nov-22	29-Sep-22 A	28-Nov-22 A			29-Sep-22	28-Nov-22		
DC.S3.1240c7	Pipe Work/Valve	30	0	0%	0%			31-Dec-22	29-Jan-23	20-Aug-23	18-Sep-23	15-Dec-22	13-Jan-23	232	*
DC.S3.1240c8	Instrument	30	0	0%	0%			31-Dec-22	29-Jan-23	14-Aug-23	12-Sep-23	28-Mar-23	18-Apr-23	226	*
DC.S3.1240c9	Lifting Appliance	27	0	59.26%	60%	15-Dec-22		15-Dec-22 A	10-Jan-23	02-Sep-23	12-Sep-23	15-Dec-22	13-Jan-23	245	
Civil & Structural Works				73.85%		31-May-21		31-May-21 A	25-Jul-23	07-Feb-23	11-Sep-23	31-May-21	25-Jul-23	48	
DC.S3.1250	Site Preparation 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	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.S3.1280a10	Preliminary Pile and Pile Load Test	45	3	100%	100%	12-Jul-21	06-Sep-21	12-Jul-21 A	06-Sep-21 A			03-Dec-21	04-Feb-22		
DC.S3.1280b	Piling works for pre-bored socket H-piles (37 nos. dia510, 1team)	79	4	100%	100%	23-Jul-21	01-Nov-21	23-Jul-21 A	01-Nov-21 A			15-Dec-21	28-Mar-22		
DC.S3.1290a	Pre-boring for installation of sheet piles	122	1	100%	100%	01-Nov-21	31-Mar-22	01-Nov-21 A	31-Mar-22 A			01-Nov-21	30-Mar-22		
DC.S3.1290b	Installation of sheet piles(FSP/VL)	25	2	100%	100%	01-Apr-22	10-May-22	01-Apr-22 A	10-May-22 A			01-Apr-22	07-May-22		
DC.S3.1300	Excavation for basement of Sludge Digester Building (34.25m3 exca, 1 team)	109	2	100%	100%	10-May-22	22-Sep-22	10-May-22 A	22-Sep-22 A			10-May-22	21-Sep-22		
DC.S3.1310a	Subletting of Rebar Fixing	45	0	100%	100%	25-Nov-21	19-Jan-22	25-Nov-21 A	19-Jan-22 A			25-Nov-21	19-Jan-22		
DC.S3.1310b	Subletting of Formworks, Concretor and Miscellaneous Works	45	0	100%	100%	25-Nov-21	19-Jan-22	25-Nov-21 A	19-Jan-22 A			25-Nov-21	19-Jan-22		
DC.S3.1310c	Construction of Pile Cap (Grid 2-4)	64	2	100%	100%	20-Sep-22	08-Dec-22	20-Sep-22 A	08-Dec-22 A			20-Sep-22	08-Dec-22		
DC.S3.1310d	Removal of Formwork and Backfilling and Removal of ELS (Layer 3)	20	0	93%	100%	09-Dec-22		09-Dec-22 A	03-Jan-23	07-Feb-23	08-Feb-23	09-Dec-22	24-Dec-22	29	*
DC.S3.1310e	Construction of Underground Wall (Grid 2-4) (from -1.2mPD to +1.0 mPD)	30	0	0%	0%			04-Jan-23	09-Feb-23	09-Feb-23	15-Mar-23	27-Dec-22	29-Jan-23	29	*
DC.S3.1310f	Removal of Formwork and Backfilling and Removal of ELS (Layer 2)	6	0	0%	0%			10-Feb-23	16-Feb-23	16-Mar-23	22-Mar-23	21-Jan-23	06-Feb-23	29	*
DC.S3.1310g	Construction of Underground Wall (Grid 2-4) (from +1.0mPD to +3.25 mPD)	18	0	0%	0%			17-Feb-23	09-Mar-23	23-Mar-23	17-Apr-23	07-Feb-23	27-Feb-23	29	*
DC.S3.1310h	Removal of Formwork and Backfilling and Removal of ELS (Layer 1)	6	0	0%	0%			10-Mar-23	16-Mar-23	18-Apr-23	24-Apr-23	28-Feb-23	14-Mar-23	29	*
DC.S3.1310i	Construction of ground slab (Grid 1-4)	33	0	0%	0%			17-Mar-23	28-Apr-23	25-Apr-23	03-Jun-23	15-Mar-23	28-Apr-23	29	*
DC.S3.1330	Installation of ELS and excavation for pile cap of Sludge Holding Tanks (523m3 exca, 1team)	6	0	0%	0%			17-Mar-23	23-Mar-23	11-Jul-23	17-Jul-23	15-Mar-23	21-Mar-23	91	*
DC.S3.1340	Construction of RC structure of Sludge Holding Tanks (below ground, 226m3)	12	0	0%	0%			24-Mar-23	11-Apr-23	18-Jul-23	31-Jul-23	22-Mar-23	04-Apr-23	91	*
DC.S3.1350	Removal of Formwork and Backfilling to ground level and removal of ELS (Sludge Holding Tank)	6	0	0%	0%			12-Apr-23	18-Apr-23	01-Aug-23	07-Aug-23	05-Apr-23	11-Apr-23	91	*
DC.S3.1351	Construction of RC superstructure (Sludge Holding Tank)	30	0	0%	0%			19-Apr-23	24-May-23	08-Aug-23	11-Sep-23	20-Apr-23	25-May-23	91	*

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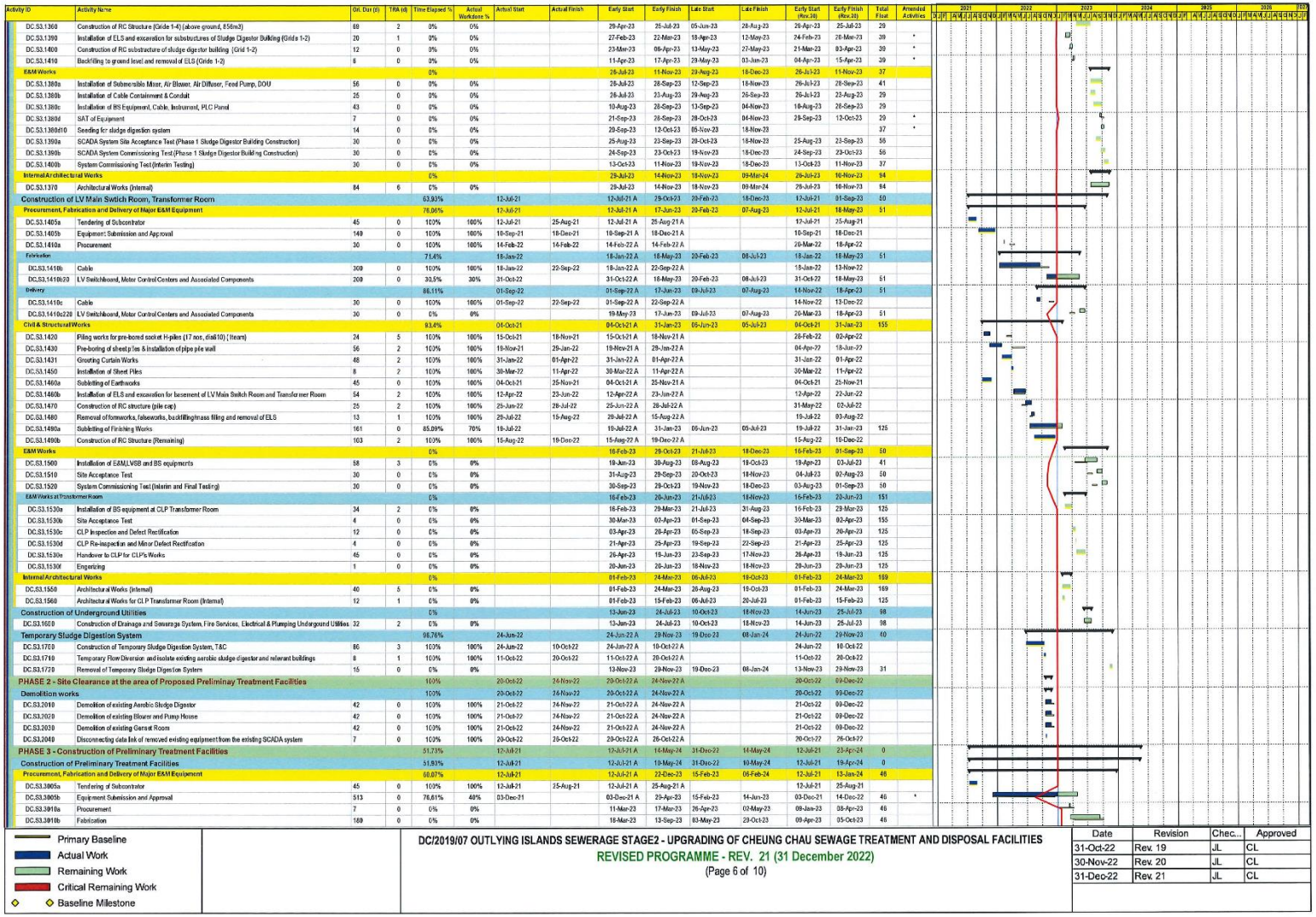
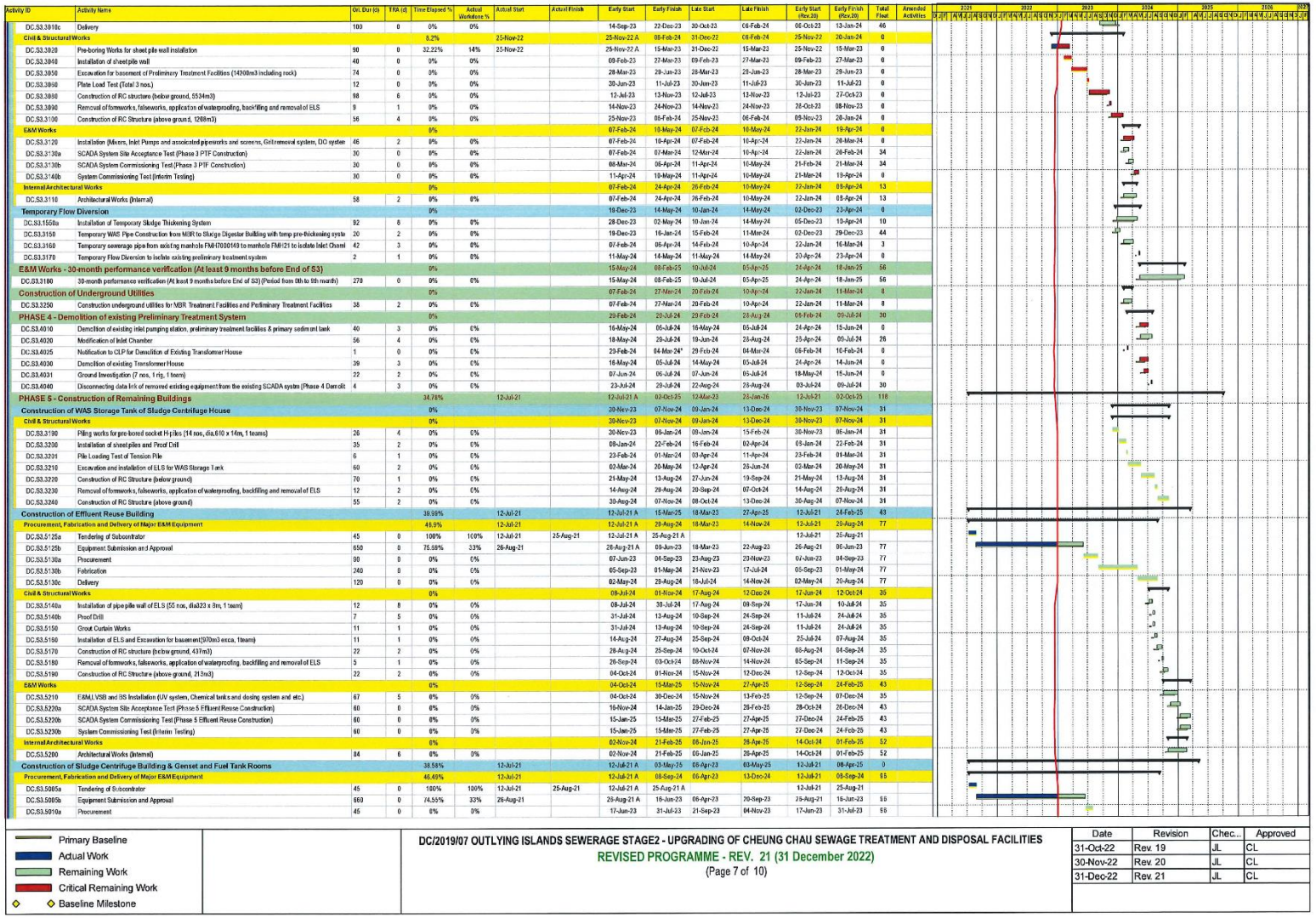


Activity ID	Activity Name	Orl. Dur (d)	TRA (d)	Time Elapsed %	Actual Workdone %	Actual Start	Actual Finish	Early Start	Early Finish	Late Start	Late Finish	Early Start (Rev.20)	Early Finish (Rev.20)	Total Float	Amended Activities
DC.S3.1360	Construction of RC Structure (Grids 1-4) (above ground, 656m3)	69	2	0%	0%			29-Apr-23	25-Jul-23	05-Jun-23	28-Aug-23	26-Apr-23	25-Jul-23	29	
DC.S3.1390	Installation of ELS and excavation for substructures of Sludge Digestor Building (Grids 1-2)	20	1	0%	0%			27-Feb-23	22-Mar-23	18-Apr-23	12-May-23	24-Feb-23	26-Mar-23	39	*
DC.S3.1400	Construction of RC substructure of sludge digestor building (Grid 1-2)	12	0	0%	0%			23-Mar-23	06-Apr-23	13-May-23	27-May-23	21-Mar-23	03-Apr-23	39	*
DC.S3.1410	Backfilling to ground level and removal of ELS (Grids 1-2)	6	0	0%	0%			11-Apr-23	17-Apr-23	29-May-23	03-Jun-23	04-Apr-23	15-Apr-23	39	*
E&M Works				0%				26-Jul-23	11-Nov-23	29-Aug-23	16-Dec-23	26-Jul-23	11-Nov-23	37	
DC.S3.1380a	Installation of Submersible Mixer, Air Blower, Air Diffuser, Feed Pump, DOU	56	0	0%	0%			26-Jul-23	28-Sep-23	12-Sep-23	16-Nov-23	26-Jul-23	28-Sep-23	41	
DC.S3.1380b	Installation of Cable Containment & Conduit	25	0	0%	0%			26-Jul-23	23-Aug-23	29-Aug-23	26-Sep-23	26-Jul-23	23-Aug-23	29	
DC.S3.1380c	Installation of IS Equipment, Cable, Instrument, PLC Panel	43	0	0%	0%			10-Aug-23	28-Sep-23	13-Sep-23	04-Nov-23	10-Aug-23	28-Sep-23	29	
DC.S3.1380d	SAT of Equipment	7	0	0%	0%			21-Sep-23	28-Sep-23	28-Oct-23	04-Nov-23	28-Sep-23	12-Oct-23	29	*
DC.S3.1380d10	Seeding for sludge digestion system	14	0	0%	0%			29-Sep-23	12-Oct-23	05-Nov-23	18-Nov-23			37	*
DC.S3.1390a	SCADA System Site Acceptance Test (Phase 1 Sludge Digestor Building Construction)	30	0	0%	0%			25-Aug-23	23-Sep-23	20-Oct-23	18-Nov-23	25-Aug-23	23-Sep-23	55	
DC.S3.1390b	SCADA System Commissioning Test (Phase 1 Sludge Digestor Building Construction)	30	0	0%	0%			24-Sep-23	23-Oct-23	19-Nov-23	18-Dec-23	24-Sep-23	23-Oct-23	55	
DC.S3.1400b	System Commissioning Test (Interim Testing)	30	0	0%	0%			13-Oct-23	11-Nov-23	19-Nov-23	18-Dec-23	13-Oct-23	11-Nov-23	37	
Internal Architectural Works				0%				29-Jul-23	14-Nov-23	18-Nov-23	09-Mar-24	29-Jul-23	16-Nov-23	94	
DC.S3.1370	Architectural Works (Internal)	84	6	0%	0%			29-Jul-23	14-Nov-23	18-Nov-23	09-Mar-24	29-Jul-23	16-Nov-23	84	
Construction of LV Main Switch Room, Transformer Room				63.93%		12-Jul-21		12-Jul-21 A	29-Oct-23	20-Feb-23	18-Dec-23	12-Jul-21	01-Sep-23	50	
Procurement, Fabrication and Delivery of Major E&M Equipment				76.06%		12-Jul-21		12-Jul-21 A	17-Jun-23	20-Feb-23	07-Aug-23	12-Jul-21	18-May-23	51	
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	149	0	100%	100%	10-Sep-21	18-Dec-21	10-Sep-21 A	18-Dec-21 A			10-Sep-21	18-Dec-21		
DC.S3.1410a	Procurement	30	0	100%	100%	14-Feb-22	14-Feb-22	14-Feb-22 A	14-Feb-22 A			26-Mar-22	18-Apr-22		
Fabrication				71.4%		18-Jan-22		18-Jan-22 A	18-May-23	20-Feb-23	08-Jul-23	18-Jan-22	18-May-23	51	
DC.S3.1410b	Cable	309	0	100%	100%	18-Jan-22	22-Sep-22	18-Jan-22 A	22-Sep-22 A			18-Jan-22	13-Nov-22		
DC.S3.1410b20	LV Switchboard, Motor Control Centers and Associated Components	209	0	30.5%	30%	31-Oct-22		31-Oct-22 A	18-May-23	20-Feb-23	08-Jul-23	31-Oct-22	18-May-23	51	
Delivery				86.11%		01-Sep-22		01-Sep-22 A	17-Jun-23	09-Jul-23	07-Aug-23	14-Nov-22	18-Apr-23	51	
DC.S3.1410c	Cable	30	0	100%	100%	01-Sep-22	22-Sep-22	01-Sep-22 A	22-Sep-22 A			14-Nov-22	13-Dec-22		
DC.S3.1410c220	LV Switchboard, Motor Control Centers and Associated Components	30	0	0%	0%			19-May-23	17-Jun-23	09-Jul-23	07-Aug-23	26-Mar-23	18-Apr-23	51	
Civil & Structural Works				93.4%		04-Oct-21		04-Oct-21 A	31-Jan-23	05-Jun-23	05-Jul-23	04-Oct-21	31-Jan-23	155	
DC.S3.1420	Piling works for pre-bored socket H-piles (17 nos, dia610) (Team)	24	5	100%	100%	15-Oct-21	18-Nov-21	15-Oct-21 A	18-Nov-21 A			28-Feb-22	02-Apr-22		
DC.S3.1430	Pre-boring 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			04-Apr-22	18-Jun-22		
DC.S3.1431	Grouting Curtain Works	48	2	100%	100%	31-Jan-22	01-Apr-22	31-Jan-22 A	01-Apr-22 A			31-Jan-22	01-Apr-22		
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			30-Mar-22	11-Apr-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	54	2	100%	100%	12-Apr-22	23-Jun-22	12-Apr-22 A	23-Jun-22 A			12-Apr-22	22-Jun-22		
DC.S3.1470	Construction of RC structure (pile cap)	25	2	100%	100%	23-Jun-22	28-Jul-22	25-Jun-22 A	28-Jul-22 A			31-May-22	02-Jul-22		
DC.S3.1480	Removal of formworks, falseworks, backfilling/mass filling and removal of ELS	13	1	100%	100%	29-Jul-22	15-Aug-22	29-Jul-22 A	15-Aug-22 A			19-Jul-22	03-Aug-22		
DC.S3.1490a	Subletting of Finishing Works	161	0	85.09%	70%	19-Jul-22		19-Jul-22 A	31-Jan-23	05-Jun-23	05-Jul-23	19-Jul-22	31-Jan-23	125	
DC.S3.1490b	Construction of RC Structure (Remaining)	103	2	100%	100%	15-Aug-22	19-Dec-22	15-Aug-22 A	19-Dec-22 A			15-Aug-22	19-Dec-22		
E&M Works				0%				16-Feb-23	29-Oct-23	21-Jul-23	18-Dec-23	16-Feb-23	01-Sep-23	50	
DC.S3.1500	Installation of E&M,LVSB and BS equipments	58	3	0%	0%			19-Jun-23	30-Aug-23	08-Aug-23	19-Oct-23	19-Apr-23	03-Jul-23	41	
DC.S3.1510	Site Acceptance Test	30	0	0%	0%			31-Aug-23	29-Sep-23	20-Oct-23	18-Nov-23	04-Jul-23	02-Aug-23	50	
DC.S3.1520	System Commissioning Test (Interim and Final Testing)	30	0	0%	0%			30-Sep-23	29-Oct-23	19-Nov-23	18-Dec-23	03-Aug-23	01-Sep-23	50	
E&M Works at Transformer Room				0%				16-Feb-23	29-Jun-23	21-Jul-23	18-Nov-23	16-Feb-23	23-Jun-23	151	
DC.S3.1530a	Installation of BS equipment at CLP Transformer Room	34	2	0%	0%			16-Feb-23	29-Mar-23	21-Jul-23	31-Aug-23	16-Feb-23	29-Mar-23	125	
DC.S3.1530b	Site Acceptance Test	4	0	0%	0%			30-Mar-23	03-Apr-23	01-Sep-23	04-Sep-23	30-Mar-23	02-Apr-23	155	
DC.S3.1530c	CLP Inspection and Defect Rectification	12	0	0%	0%			03-Apr-23	28-Apr-23	05-Sep-23	18-Sep-23	03-Apr-23	26-Apr-23	125	
DC.S3.1530d	CLP Re-inspection and Minor Defect Rectification	4	0	0%	0%			21-Apr-23	25-Apr-23	19-Sep-23	22-Sep-23	21-Apr-23	25-Apr-23	125	
DC.S3.1530e	Handover to CLP for CLP's Works	45	0	0%	0%			26-Apr-23	19-Jun-23	23-Sep-23	17-Nov-23	26-Apr-23	19-Jun-23	125	
DC.S3.1530f	Engerizing	1	0	0%	0%			20-Jun-23	20-Jun-23	18-Nov-23	18-Nov-23	20-Jun-23	20-Jun-23	125	
Internal Architectural Works				0%				01-Feb-23	24-Mar-23	06-Jul-23	18-Oct-23	01-Feb-23	24-Mar-23	169	
DC.S3.1550	Architectural Works (Internal)	40	5	0%	0%			01-Feb-23	24-Mar-23	26-Aug-23	19-Oct-23	01-Feb-23	24-Mar-23	169	
DC.S3.1560	Architectural Works for CLP Transformer Room (Internal)	12	1	0%	0%			01-Feb-23	15-Feb-23	06-Jul-23	20-Jul-23	01-Feb-23	15-Feb-23	125	
Construction of Underground Utilities				0%				13-Jun-23	24-Jul-23	10-Oct-23	18-Nov-23	14-Jun-23	25-Jul-23	98	
DC.S3.1650	Construction of Drainage and Sewerage System, Fire Services, Electrical & Plumping Underground Utilities	32	2	0%	0%			13-Jun-23	24-Jul-23	10-Oct-23	18-Nov-23	14-Jun-23	25-Jul-23	98	
Temporary Sludge Digestion System				96.76%		24-Jun-22		24-Jun-22 A	29-Nov-23	19-Dec-23	08-Jan-24	24-Jun-22	29-Nov-23	60	
DC.S3.1750	Construction of Temporary Sludge Digestion System, T&C	86	3	100%	100%	24-Jun-22	10-Oct-22	24-Jun-22 A	10-Oct-22 A			24-Jun-22	10-Oct-22		
DC.S3.1740	Temporary Flow Diversion and isolate existing aerobic sludge digestor and relevant buildings	8	1	100%	100%	11-Oct-22	20-Oct-22	11-Oct-22 A	20-Oct-22 A			11-Oct-22	20-Oct-22		
DC.S3.1720	Removal of Temporary Sludge Digestion System	15	0	0%	0%			13-Nov-23	29-Nov-23	19-Dec-23	08-Jan-24	13-Nov-23	29-Nov-23	31	
PHASE 2 - Site Clearance at the area of Proposed Preliminay Treatment Facilities				100%		20-Oct-22	24-Nov-22	20-Oct-22 A	24-Nov-22 A			20-Oct-22	09-Dec-22		
Demolition works				100%		20-Oct-22	24-Nov-22	20-Oct-22 A	24-Nov-22 A			20-Oct-22	09-Dec-22		
DC.S3.2010	Demolition of existing Aerobic Sludge Digestor	42	0	100%	100%	21-Oct-22	24-Nov-22	21-Oct-22 A	24-Nov-22 A			21-Oct-22	09-Dec-22		
DC.S3.2020	Demolition of existing Blower and Pump House	42	0	100%	100%	21-Oct-22	24-Nov-22	21-Oct-22 A	24-Nov-22 A			21-Oct-22	09-Dec-22		
DC.S3.2030	Demolition of existing Genset Room	42	0	100%	100%	21-Oct-22	24-Nov-22	21-Oct-22 A	24-Nov-22 A			21-Oct-22	09-Dec-22		
DC.S3.2040	Disconnecting data link of removed existing equipment from the existing SCADA system	7	0	100%	100%	20-Oct-22	26-Oct-22	20-Oct-22 A	26-Oct-22 A			20-Oct-22	26-Oct-22		
PHASE 3 - Construction of Preliminary Treatment Facilities				51.73%		12-Jul-21		12-Jul-21 A	16-May-24	31-Dec-22	14-May-24	12-Jul-21	23-Apr-24	0	
Construction of Preliminary Treatment Facilities				51.91%		12-Jul-21		12-Jul-21 A	10-May-24	31-Dec-22	10-May-24	12-Jul-21	19-Apr-24	0	
Procurement, Fabrication and Delivery of Major E&M Equipment				60.07%		12-Jul-21		12-Jul-21 A	22-Dec-23	15-Feb-23	06-Feb-24	12-Jul-21	13-Jan-24	46	
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	513	0	76.61%	40%	03-Dec-21		03-Dec-21 A	29-Apr-23	15-Feb-23	14-Jun-23	03-Dec-21	14-Dec-22	46	*
DC.S3.3010a	Procurement	7	0	0%	0%			11-Mar-23	17-Mar-23	26-Apr-23	02-May-23	09-Jan-23	08-Apr-23	46	
DC.S3.3010b	Fabrication	169	0	0%	0%			18-Mar-23	13-Sep-23	03-May-23	29-Oct-23	09-Apr-23	05-Oct-23	46	

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. 21 (31 December 2022)
(Page 6 of 10)

Date	Revision	Chec...	Approved
31-Oct-22	Rev. 19	JL	CL
30-Nov-22	Rev. 20	JL	CL
31-Dec-22	Rev. 21	JL	CL



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.20)	Early Finish (Rev.20)	Total Float	Amended Activities
DC.S3.3010c	Delivery	100	0	0%	0%			14-Sep-23	22-Dec-23	30-Oct-23	06-Feb-24	06-Oct-23	13-Jan-24	46	
Civil & Structural Works				5.2%		25-Nov-22		25-Nov-22 A	08-Feb-24	31-Dec-22	08-Feb-24	25-Nov-22	26-Jan-24	0	
DC.S3.3020	Pre-boring Works for sheet pile wall installation	90	0	32.22%	14%	25-Nov-22		25-Nov-22 A	15-Mar-23	31-Dec-22	15-Mar-23	25-Nov-22	15-Mar-23	0	
DC.S3.3040	Installation of sheet pile wall	40	0	0%	0%			09-Feb-23	27-Mar-23	09-Feb-23	27-Mar-23	09-Feb-23	27-Mar-23	0	
DC.S3.3050	Excavation for basement of Preliminary Treatment Facilities (14200m3 including rock)	74	0	0%	0%			28-Mar-23	29-Jun-23	28-Mar-23	28-Jun-23	28-Mar-23	29-Jun-23	0	
DC.S3.3060	Plate Load Test (Total 3 nos.)	12	0	0%	0%			30-Jun-23	11-Jul-23	30-Jun-23	11-Jul-23	30-Jun-23	11-Jul-23	0	
DC.S3.3080	Construction of RC structure (below ground, 5534m3)	98	6	0%	0%			12-Jul-23	13-Nov-23	12-Jul-23	13-Nov-23	12-Jul-23	27-Oct-23	0	
DC.S3.3090	Removal of formworks, falseworks, application of waterproofing, backfilling and removal of ELS	9	1	0%	0%			14-Nov-23	24-Nov-23	14-Nov-23	24-Nov-23	28-Oct-23	08-Nov-23	0	
DC.S3.3100	Construction of RC Structure (above ground, 1208m3)	56	4	0%	0%			25-Nov-23	06-Feb-24	25-Nov-23	06-Feb-24	09-Nov-23	26-Jan-24	0	
E&M Works				0%				07-Feb-24	10-May-24	07-Feb-24	16-May-24	22-Jan-24	19-Apr-24	0	
DC.S3.3120	Installation (Mixers, Inlet Pumps and associated pipeworks and screens, Grit removal system, DO system	46	2	0%	0%			07-Feb-24	10-Apr-24	07-Feb-24	16-Apr-24	22-Jan-24	26-Mar-24	0	
DC.S3.3130a	SCADA System Site Acceptance Test (Phase 3 PTF Construction)	30	0	0%	0%			07-Feb-24	07-Mar-24	12-Mar-24	16-Apr-24	22-Jan-24	26-Feb-24	34	
DC.S3.3130b	SCADA System Commissioning Test (Phase 3 PTF Construction)	30	0	0%	0%			08-Mar-24	06-Apr-24	11-Apr-24	10-May-24	21-Feb-24	21-Mar-24	34	
DC.S3.3140b	System Commissioning Test (Interim Testing)	30	0	0%	0%			11-Apr-24	10-May-24	11-Apr-24	16-May-24	21-Mar-24	19-Apr-24	0	
Internal Architectural Works				0%				07-Feb-24	24-Apr-24	26-Feb-24	10-May-24	22-Jan-24	09-Apr-24	13	
DC.S3.3110	Architectural Works (Internal)	58	2	0%	0%			07-Feb-24	24-Apr-24	26-Feb-24	10-May-24	22-Jan-24	09-Apr-24	13	
Temporary Flow Diversion				0%				19-Dec-23	14-May-24	10-Jan-24	14-May-24	02-Dec-23	23-Apr-24	0	
DC.S3.3150a	Installation of Temporary Sludge Thickening System	92	8	0%	0%			28-Dec-23	02-May-24	10-Jan-24	14-May-24	05-Dec-23	10-Apr-24	10	
DC.S3.3150	Temporary WAS Pipe Construction from MSR to Sludge Digestor Building with temp pre-thickening syste	20	2	0%	0%			19-Dec-23	16-Jan-24	15-Feb-24	11-Mar-24	02-Dec-23	29-Dec-23	44	
DC.S3.3160	Temporary sewerage pipe from existing manhole FMH7000149 to manhole FMH21 to isolate Inlet Chamb	42	3	0%	0%			07-Feb-24	06-Apr-24	14-Feb-24	10-Apr-24	22-Jan-24	16-Mar-24	3	
DC.S3.3170	Temporary Flow Diversion to isolate existing preliminary treatment system	2	1	0%	0%			11-May-24	14-May-24	11-May-24	14-May-24	20-Apr-24	23-Apr-24	0	
E&M Works - 30-month performance verification (At least 9 months before End of S3)				0%				15-May-24	08-Feb-25	10-Jul-24	05-Apr-25	24-Apr-24	18-Jan-25	56	
DC.S3.3180	30-month performance verification (At least 9 months before End of S3) (Period from 0th to 9th month)	278	0	0%	0%			15-May-24	08-Feb-25	10-Jul-24	05-Apr-25	24-Apr-24	18-Jan-25	56	
Construction of Underground Utilities				0%				07-Feb-24	27-Mar-24	20-Feb-24	10-Apr-24	22-Jan-24	11-Mar-24	8	
DC.S3.3250	Construction underground utilities for MBR Treatment Facilities and Preliminary Treatment Facilities	38	2	0%	0%			07-Feb-24	27-Mar-24	20-Feb-24	10-Apr-24	22-Jan-24	11-Mar-24	8	
PHASE 4 - Demolition of existing Preliminary Treatment System				0%				29-Feb-24	20-Jul-24	29-Feb-24	28-Aug-24	05-Feb-24	09-Jul-24	30	
DC.S3.4010	Demolition of existing inlet pumping station, preliminary treatment facilities & primary sedimunt tank	40	3	0%	0%			16-May-24	05-Jul-24	16-May-24	05-Jul-24	24-Apr-24	15-Jun-24	0	
DC.S3.4020	Modification of Inlet Chamber	56	4	0%	0%			18-May-24	29-Jul-24	19-Jun-24	28-Aug-24	23-Apr-24	09-Jul-24	26	
DC.S3.4025	Notification to CLP for Demolition of Existing Transformer House	1	0	0%	0%			29-Feb-24	04-Mar-24*	29-Feb-24	04-Mar-24	06-Feb-24	10-Feb-24	0	
DC.S3.4030	Demolition of existing Transformer House	39	3	0%	0%			16-May-24	05-Jul-24	14-May-24	05-Jul-24	24-Apr-24	14-Jun-24	0	
DC.S3.4031	Ground Investigation (7 nos, 1 rig, 1 team)	22	2	0%	0%			07-Jun-24	06-Jul-24	07-Jun-24	05-Jul-24	18-May-24	15-Jun-24	0	
DC.S3.4040	Disconnecting data link of removed existing equipment from the existing SCADA system (Phase 4 Demolit	4	3	0%	0%			23-Jul-24	29-Jul-24	22-Aug-24	28-Aug-24	03-Jul-24	09-Jul-24	30	
PHASE 5 - Construction of Remaining Buildings				34.74%		12-Jul-21		12-Jul-21 A	02-Oct-25	12-Mar-23	28-Jan-26	12-Jul-21	02-Oct-25	118	
Construction of WAS Storage Tank of Sludge Centrifuge House				0%				30-Nov-23	07-Nov-24	09-Jan-24	13-Dec-24	30-Nov-23	07-Nov-24	31	
Civil & Structural Works				0%				30-Nov-23	07-Nov-24	09-Jan-24	13-Dec-24	30-Nov-23	07-Nov-24	31	
DC.S3.3190	Piling works for pre-bored socket H-piles (14 nos, dia.610 x 14m, 1 teams)	26	4	0%	0%			30-Nov-23	05-Jan-24	09-Jan-24	15-Feb-24	30-Nov-23	06-Jan-24	31	
DC.S3.3200	Installation of sheet piles and Proof Drill	35	2	0%	0%			08-Jan-24	22-Feb-24	16-Feb-24	02-Apr-24	03-Jan-24	22-Feb-24	31	
DC.S3.3201	Pile Loading Test of Tension Pile	6	1	0%	0%			23-Feb-24	01-Mar-24	03-Apr-24	11-Apr-24	23-Feb-24	01-Mar-24	31	
DC.S3.3210	Excavation and installation of ELS for WAS Storage Tank	60	2	0%	0%			02-Mar-24	20-May-24	12-Apr-24	26-Jun-24	02-Mar-24	20-May-24	31	
DC.S3.3220	Construction of RC Structure (below ground)	70	1	0%	0%			21-May-24	13-Aug-24	27-Jun-24	19-Sep-24	21-May-24	13-Aug-24	31	
DC.S3.3230	Removal of formworks, falseworks, application of waterproofing, backfilling and removal of ELS	12	2	0%	0%			14-Aug-24	29-Aug-24	20-Sep-24	07-Oct-24	14-Aug-24	29-Aug-24	31	
DC.S3.3240	Construction of RC Structure (above ground)	55	2	0%	0%			30-Aug-24	07-Nov-24	08-Oct-24	13-Dec-24	30-Aug-24	07-Nov-24	31	
Construction of Effluent Reuse Building				38.99%		12-Jul-21		12-Jul-21 A	15-Mar-25	18-Mar-23	27-Apr-25	12-Jul-21	24-Feb-25	43	
Procurement, Fabrication and Delivery of Major E&M Equipment				46.9%		12-Jul-21		12-Jul-21 A	29-Aug-24	18-Mar-23	14-Nov-24	12-Jul-21	29-Aug-24	77	
DC.S3.5125a	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.S3.5125b	Equipment Submission and Approval	650	0	75.69%	33%	26-Aug-21		26-Aug-21 A	09-Jun-23	18-Mar-23	22-Aug-23	26-Aug-21	06-Jun-23	77	
DC.S3.5130a	Procurement	90	0	0%	0%			07-Jun-23	04-Sep-23	23-Aug-23	20-Nov-23	07-Jun-23	04-Sep-23	77	
DC.S3.5130b	Fabrication	240	0	0%	0%			05-Sep-23	01-May-24	21-Nov-23	17-Jul-24	05-Sep-23	01-May-24	77	
DC.S3.5130c	Delivery	120	0	0%	0%			02-May-24	29-Aug-24	18-Jul-24	14-Nov-24	02-May-24	29-Aug-24	77	
Civil & Structural Works				0%				09-Jul-24	01-Nov-24	17-Aug-24	12-Dec-24	12-Jun-24	12-Oct-24	35	
DC.S3.5140a	Installation of pipe pile wall of ELS (55 nos, dia323 x 8m, 1 team)	12	8	0%	0%			09-Jul-24	30-Jul-24	17-Aug-24	09-Sep-24	12-Jun-24	10-Jul-24	35	
DC.S3.5140b	Proof Drill	7	5	0%	0%			31-Jul-24	13-Aug-24	10-Sep-24	24-Sep-24	11-Jul-24	24-Jul-24	35	
DC.S3.5150	Grout Curtain Works	11	1	0%	0%			31-Jul-24	13-Aug-24	10-Sep-24	24-Sep-24	11-Jul-24	24-Jul-24	35	
DC.S3.5160	Installation of ELS and Excavation for basement(970m3 exca, 1team)	11	1	0%	0%			14-Aug-24	27-Aug-24	25-Sep-24	09-Oct-24	25-Jul-24	07-Aug-24	35	
DC.S3.5170	Construction of RC structure (below ground, 437m3)	22	2	0%	0%			28-Aug-24	25-Sep-24	10-Oct-24	07-Nov-24	08-Aug-24	04-Sep-24	35	
DC.S3.5180	Removal of formworks, falseworks, application of waterproofing, backfilling and removal of ELS	5	1	0%	0%			26-Sep-24	03-Oct-24	08-Nov-24	14-Nov-24	05-Sep-24	11-Sep-24	35	
DC.S3.5190	Construction of RC Structure (above ground, 213m3)	22	2	0%	0%			04-Oct-24	01-Nov-24	15-Nov-24	12-Dec-24	12-Sep-24	12-Oct-24	35	
E&M Works				0%				04-Oct-24	15-Mar-25	15-Nov-24	27-Apr-25	12-Sep-24	24-Feb-25	43	
DC.S3.5210	E&M, LVSB and BS Installation (UV system, Chemical tanks and dosing system and etc.)	67	5	0%	0%			04-Oct-24	30-Dec-24	15-Nov-24	13-Feb-25	12-Sep-24	07-Dec-24	35	
DC.S3.5220a	SCADA System Site Acceptance Test (Phase 5 Effluent Reuse Construction)	60	0	0%	0%			16-Nov-24	14-Jan-25	29-Dec-24	28-Feb-25	28-Oct-24	26-Dec-24	43	
DC.S3.5220b	SCADA System Commissioning Test (Phase 5 Effluent Reuse Construction)	60	0	0%	0%			15-Jan-25	15-Mar-25	27-Feb-25	27-Apr-25	27-Dec-24	24-Feb-25	43	
DC.S3.5230b	System Commissioning Test (Interim Testing)	60	0	0%	0%			15-Jan-25	15-Mar-25	27-Feb-25	27-Apr-25	27-Dec-24	24-Feb-25	43	
Internal Architectural Works				0%				02-Nov-24	21-Feb-25	06-Jan-25	28-Apr-25	14-Oct-24	01-Feb-25	52	
DC.S3.5200	Architectural Works (Internal)	84	6	0%	0%			02-Nov-24	21-Feb-25	06-Jan-25	28-Apr-25	14-Oct-24	01-Feb-25	52	
Construction of Sludge Centrifuge Building & Genset and Fuel Tank Rooms				38.58%		12-Jul-21		12-Jul-21 A	03-May-25	09-Apr-23	03-May-25	12-Jul-21	08-Apr-25	0	
Procurement, Fabrication and Delivery of Major E&M Equipment				46.45%		12-Jul-21		12-Jul-21 A	08-Sep-24	09-Apr-23	13-Dec-24	12-Jul-21	08-Sep-24	55	
DC.S3.5005a	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.S3.5005b	Equipment Submission and Approval	660	0	74.55%	33%	26-Aug-21		26-Aug-21 A	16-Jun-23	09-Apr-23	20-Sep-23	26-Aug-21	16-Jun-23	55	
DC.S3.5010a	Procurement	45	0	0%	0%			17-Jun-23	31-Jul-23	21-Sep-23	04-Nov-23	17-Jun-23	31-Jul-23	55	

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. 21 (31 December 2022)
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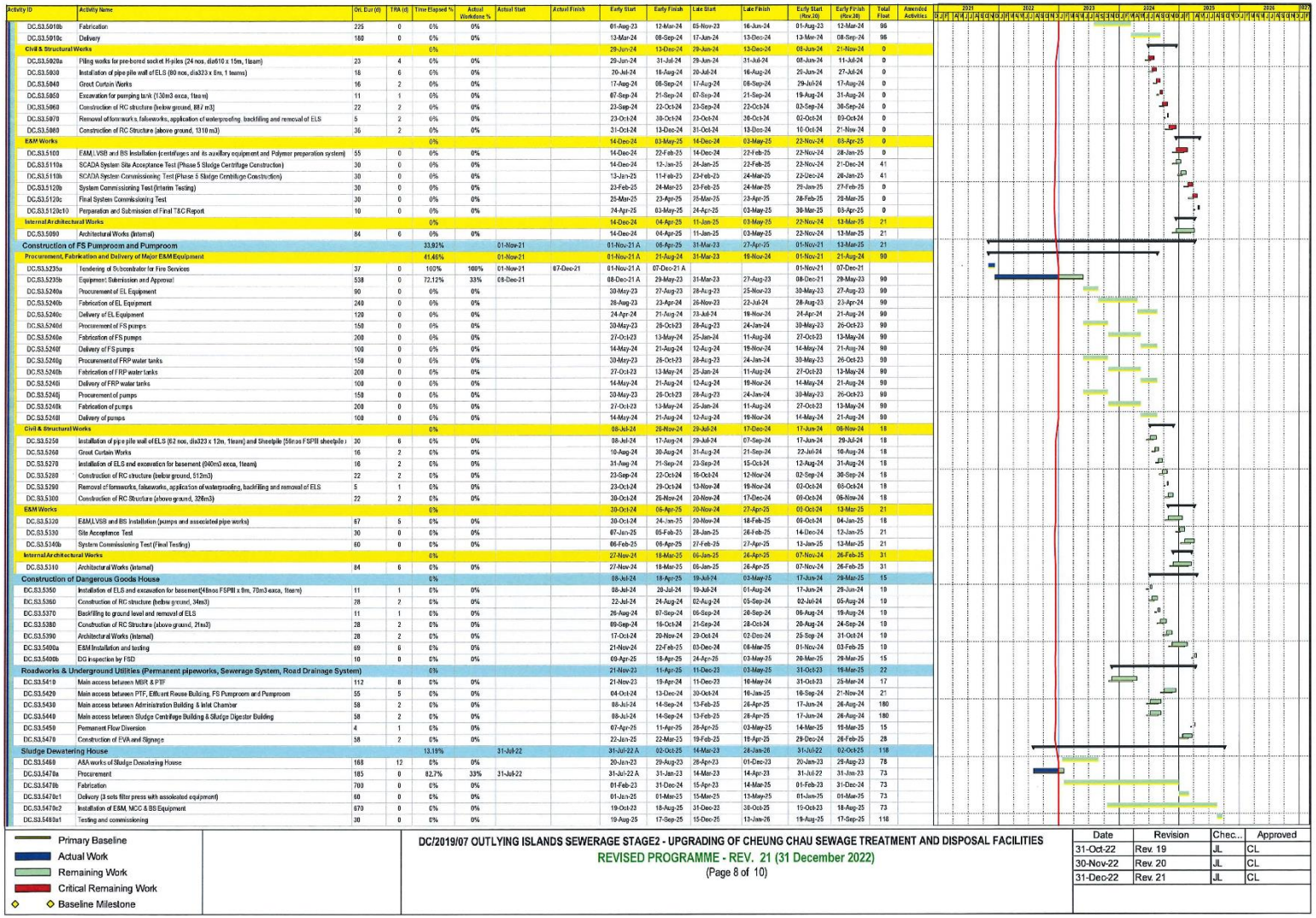
Date	Revision	Chec...	Approved
31-Oct-22	Rev. 19	JL	CL
30-Nov-22	Rev. 20	JL	CL
31-Dec-22	Rev. 21	JL	CL



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.20)	Early Finish (Rev.20)	Total Float	Awarded Activities
DC.S3.5010b	Fabrication	225	0	0%	0%			01-Aug-23	12-Mar-24	05-Nov-23	16-Jun-24	01-Aug-23	12-Mar-24	96	
DC.S3.5010c	Delivery	180	0	0%	0%			13-Mar-24	08-Sep-24	17-Jun-24	13-Dec-24	13-Mar-24	08-Sep-24	96	
Civil & Structural Works				0%				29-Jun-24	13-Dec-24	29-Jun-24	13-Dec-24	08-Jun-24	21-Nov-24	0	
DC.S3.5020a	Piling works for pre-bored socket H-piles (24 nos, dia610 x 15m, 1team)	23	4	0%	0%			29-Jun-24	31-Jul-24	29-Jun-24	31-Jul-24	08-Jun-24	11-Jul-24	0	
DC.S3.5030	Installation of pipe pile wall of ELS (80 nos, dia323 x 8m, 1 teams)	16	6	0%	0%			20-Jul-24	18-Aug-24	20-Jul-24	16-Aug-24	26-Jun-24	27-Jul-24	0	
DC.S3.5040	Grout Curtain Works	16	2	0%	0%			17-Aug-24	08-Sep-24	17-Aug-24	06-Sep-24	29-Jul-24	17-Aug-24	0	
DC.S3.5050	Excavation for pumping tank (136m3 exca, 1team)	11	1	0%	0%			07-Sep-24	21-Sep-24	07-Sep-24	21-Sep-24	19-Aug-24	31-Aug-24	0	
DC.S3.5060	Construction of RC structure (below ground, 88 r m3)	22	2	0%	0%			23-Sep-24	23-Oct-24	23-Sep-24	22-Oct-24	02-Sep-24	30-Sep-24	0	
DC.S3.5070	Removal of formworks, falseworks, application of waterproofing, backfilling and removal of ELS	5	2	0%	0%			23-Oct-24	30-Oct-24	23-Oct-24	30-Oct-24	02-Oct-24	09-Oct-24	0	
DC.S3.5080	Construction of RC Structure (above ground, 1310 m3)	36	2	0%	0%			31-Oct-24	13-Dec-24	31-Oct-24	13-Dec-24	10-Oct-24	21-Nov-24	0	
E&M Works				0%				14-Dec-24	03-May-25	14-Dec-24	03-May-25	22-Nov-24	05-Apr-25	0	
DC.S3.5100	E&M, VSB and BS Installation (centrifuges and its auxiliary equipment and Polymer preparation system)	95	0	0%	0%			14-Dec-24	22-Feb-25	14-Dec-24	22-Feb-25	22-Nov-24	28-Jan-25	0	
DC.S3.5110a	SCADA System Site Acceptance Test (Phase 5 Sludge Centrifuge Construction)	30	0	0%	0%			14-Dec-24	13-Jan-25	24-Jan-25	22-Feb-25	22-Nov-24	21-Dec-24	41	
DC.S3.5110b	SCADA System Commissioning Test (Phase 5 Sludge Centrifuge Construction)	30	0	0%	0%			13-Jan-25	11-Feb-25	23-Feb-25	24-Mar-25	22-Dec-24	26-Jan-25	41	
DC.S3.5120b	System Commissioning Test (Interim Testing)	30	0	0%	0%			23-Feb-25	24-Mar-25	23-Feb-25	24-Mar-25	29-Jan-25	27-Feb-25	0	
DC.S3.5120c	Final System Commissioning Test	30	0	0%	0%			25-Mar-25	23-Apr-25	25-Mar-25	23-Apr-25	28-Feb-25	29-Mar-25	0	
DC.S3.5120c10	Perparation and Submission of Final T&C Report	10	0	0%	0%			24-Apr-25	03-May-25	24-Apr-25	03-May-25	30-Mar-25	05-Apr-25	0	
Internal Architectural Works				0%				14-Dec-24	04-Apr-25	11-Jun-25	03-May-25	22-Nov-24	13-Mar-25	21	
DC.S3.5090	Architectural Works (Internal)	84	6	0%	0%			14-Dec-24	04-Apr-25	11-Jun-25	03-May-25	22-Nov-24	13-Mar-25	21	
Construction of FS Pumproom and Pumproom				33.93%		01-Nov-21		01-Nov-21 A	06-Apr-25	31-Mar-23	27-Apr-25	01-Nov-21	13-Mar-25	21	
Procurement, Fabrication and Delivery of Major E&M Equipment				41.46%		01-Nov-21		01-Nov-21 A	21-Aug-24	31-Mar-23	19-Nov-24	01-Nov-21	21-Aug-24	90	
DC.S3.5235a	Tendering of Subcontractor 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	538	0	72.12%	33%	09-Dec-21		08-Dec-21 A	29-May-23	31-Mar-23	27-Aug-23	08-Dec-21	29-May-23	90	
DC.S3.5240a	Procurement of EL Equipment	90	0	0%	0%			30-May-23	27-Aug-23	28-Aug-23	25-Nov-23	30-May-23	27-Aug-23	90	
DC.S3.5240b	Fabrication of EL Equipment	240	0	0%	0%			26-Aug-23	23-Apr-24	26-Nov-23	22-Jul-24	26-Aug-23	23-Apr-24	90	
DC.S3.5240c	Delivery of EL Equipment	120	0	0%	0%			24-Apr-24	21-Aug-24	23-Jul-24	19-Nov-24	24-Apr-24	21-Aug-24	90	
DC.S3.5240d	Procurement of FS pumps	150	0	0%	0%			30-May-23	26-Oct-23	28-Aug-23	24-Jan-24	30-May-23	26-Oct-23	90	
DC.S3.5240e	Fabrication of FS pumps	200	0	0%	0%			27-Oct-23	13-May-24	25-Jan-24	11-Aug-24	27-Oct-23	13-May-24	90	
DC.S3.5240f	Delivery of FS pumps	100	0	0%	0%			14-May-24	21-Aug-24	12-Aug-24	19-Nov-24	14-May-24	21-Aug-24	90	
DC.S3.5240g	Procurement of FRP water tanks	150	0	0%	0%			30-May-23	26-Oct-23	28-Aug-23	24-Jan-24	30-May-23	26-Oct-23	90	
DC.S3.5240h	Fabrication of FRP water tanks	200	0	0%	0%			27-Oct-23	13-May-24	25-Jan-24	11-Aug-24	27-Oct-23	13-May-24	90	
DC.S3.5240i	Delivery of FRP water tanks	100	0	0%	0%			14-May-24	21-Aug-24	12-Aug-24	19-Nov-24	14-May-24	21-Aug-24	90	
DC.S3.5240j	Procurement of pumps	150	0	0%	0%			30-May-23	26-Oct-23	28-Aug-23	24-Jan-24	30-May-23	26-Oct-23	90	
DC.S3.5240k	Fabrication of pumps	200	0	0%	0%			27-Oct-23	13-May-24	25-Jan-24	11-Aug-24	27-Oct-23	13-May-24	90	
DC.S3.5240l	Delivery of pumps	100	0	0%	0%			14-May-24	21-Aug-24	12-Aug-24	19-Nov-24	14-May-24	21-Aug-24	90	
Civil & Structural Works				0%				08-Jul-24	26-Nov-24	29-Jul-24	17-Dec-24	17-Jun-24	08-Nov-24	18	
DC.S3.5250	Installation of pipe pile wall of ELS (62 nos, dia323 x 12m, 1team) and Sheetpile (56nos FSPIII sheetpile)	30	6	0%	0%			08-Jul-24	17-Aug-24	29-Jul-24	07-Sep-24	17-Jun-24	29-Jul-24	18	
DC.S3.5260	Grout Curtain Works	16	2	0%	0%			10-Aug-24	30-Aug-24	31-Aug-24	21-Sep-24	22-Jul-24	10-Aug-24	18	
DC.S3.5270	Installation of ELS and excavation for basement (940m3 exca, 1team)	16	2	0%	0%			31-Aug-24	21-Sep-24	23-Sep-24	15-Oct-24	12-Aug-24	31-Aug-24	18	
DC.S3.5280	Construction of RC structure (below ground, 512m3)	22	2	0%	0%			23-Sep-24	23-Oct-24	16-Oct-24	12-Nov-24	02-Sep-24	30-Sep-24	18	
DC.S3.5290	Removal of formworks, falseworks, application of waterproofing, backfilling and removal of ELS	5	1	0%	0%			23-Oct-24	29-Oct-24	13-Nov-24	19-Nov-24	02-Oct-24	08-Oct-24	18	
DC.S3.5300	Construction of RC Structure (above ground, 326m3)	22	2	0%	0%			30-Oct-24	26-Nov-24	20-Nov-24	17-Dec-24	09-Oct-24	06-Nov-24	18	
E&M Works				0%				30-Oct-24	06-Apr-25	20-Nov-24	27-Apr-25	01-Oct-24	13-Mar-25	21	
DC.S3.5320	E&M, LVSB and BS Installation (pumps and associated pipe works)	67	5	0%	0%			30-Oct-24	24-Jan-25	20-Nov-24	18-Feb-25	09-Oct-24	04-Jan-25	18	
DC.S3.5330	Site Acceptance Test	30	0	0%	0%			07-Jan-25	05-Feb-25	28-Jan-25	26-Feb-25	14-Dec-24	12-Jan-25	21	
DC.S3.5340b	System Commissioning Test (Final Testing)	60	0	0%	0%			06-Feb-25	06-Apr-25	27-Feb-25	27-Apr-25	13-Jan-25	13-Mar-25	21	
Internal Architectural Works				0%				27-Nov-24	18-Mar-25	06-Jan-25	26-Apr-25	07-Nov-24	26-Feb-25	31	
DC.S3.5310	Architectural Works (Internal)	84	6	0%	0%			27-Nov-24	18-Mar-25	06-Jan-25	26-Apr-25	07-Nov-24	26-Feb-25	31	
Construction of Dangerous Goods House				0%				08-Jul-24	18-Apr-25	19-Jul-24	03-May-25	17-Jun-24	29-Mar-25	15	
DC.S3.5350	Installation of ELS and excavation for basement(48nos FSPIII x 8m, 70m3 exca, 1team)	11	1	0%	0%			08-Jul-24	29-Jul-24	19-Jul-24	01-Aug-24	17-Jun-24	29-Jun-24	10	
DC.S3.5360	Construction of RC structure (below ground, 34m3)	28	2	0%	0%			22-Jul-24	24-Aug-24	02-Aug-24	05-Sep-24	02-Jul-24	05-Aug-24	10	
DC.S3.5370	Backfilling to ground level and removal of ELS	11	1	0%	0%			26-Aug-24	07-Sep-24	06-Sep-24	20-Sep-24	06-Aug-24	19-Aug-24	10	
DC.S3.5380	Construction of RC Structure (above ground, 21m3)	28	2	0%	0%			09-Sep-24	16-Oct-24	21-Sep-24	28-Oct-24	20-Aug-24	24-Sep-24	10	
DC.S3.5390	Architectural Works (Internal)	28	2	0%	0%			17-Oct-24	20-Nov-24	29-Oct-24	02-Dec-24	25-Sep-24	31-Oct-24	10	
DC.S3.5400a	E&M Installation and testing	69	6	0%	0%			21-Nov-24	22-Feb-25	03-Dec-24	06-Mar-25	01-Nov-24	03-Feb-25	10	
DC.S3.5400b	DG inspection by FSD	10	0	0%	0%			09-Apr-25	18-Apr-25	24-Apr-25	03-May-25	20-Mar-25	29-Mar-25	15	
Roadworks & Underground Utilities (Permanent pipeworks, Sewerage System, Road Drainage System)				0%				21-Nov-23	11-Apr-25	11-Dec-23	03-May-25	31-Oct-23	19-Mar-25	22	
DC.S3.5410	Main access between MBR & PTF	112	8	0%	0%			21-Nov-23	19-Apr-24	11-Dec-23	16-May-24	31-Oct-23	25-Mar-24	17	
DC.S3.5420	Main access between PTF, Effluent Reuse Building, FS Pumproom and Pumproom	55	5	0%	0%			04-Oct-24	13-Dec-24	30-Oct-24	16-Jan-25	16-Sep-24	21-Nov-24	21	
DC.S3.5430	Main access between Administration Building & Inlet Chamber	58	2	0%	0%			08-Jul-24	14-Sep-24	13-Feb-25	26-Apr-25	17-Jun-24	26-Aug-24	180	
DC.S3.5440	Main access between Sludge Centrifuge Building & Sludge Digestor Building	58	2	0%	0%			08-Jul-24	14-Sep-24	13-Feb-25	26-Apr-25	17-Jun-24	26-Aug-24	180	
DC.S3.5450	Permanent Flow Diversion	4	1	0%	0%			07-Apr-25	11-Apr-25	28-Apr-25	03-May-25	14-Mar-25	19-Mar-25	15	
DC.S3.5470	Construction of FVA and Signage	58	2	0%	0%			22-Jan-25	22-Mar-25	19-Feb-25	19-Apr-25	29-Dec-24	28-Feb-25	28	
Sludge Dewatering House				13.19%		31-Jul-22		31-Jul-22 A	02-Oct-25	14-Mar-23	24-Jan-26	31-Jul-22	02-Oct-25	118	
DC.S3.5460	A&A works of Sludge Dewatering House	168	12	0%	0%			20-Jan-23	29-Aug-23	28-Apr-23	01-Dec-23	20-Jan-23	29-Aug-23	78	
DC.S3.5470a	Procurement	185	0	92.7%	33%	31-Jul-22		31-Jul-22 A	31-Jan-23	14-Mar-23	14-Apr-23	31-Jul-22	31-Jan-23	73	
DC.S3.5470b	Fabrication	700	0	0%	0%			01-Feb-23	31-Dec-24	15-Apr-23	14-Mar-25	01-Feb-23	31-Dec-24	73	
DC.S3.5470c1	Delivery (3 sets filter press with associated equipment)	60	0	0%	0%			01-Jan-25	01-Mar-25	15-Mar-25	13-May-25	01-Jan-25	01-Mar-25	73	
DC.S3.5470c2	Installation of E&M, MCC & BS Equipment	670	0	0%	0%			19-Oct-23	18-Aug-25	31-Dec-23	28-Oct-25	19-Oct-23	18-Aug-25	73	
DC.S3.5480a1	Testing and commissioning	30	0	0%	0%			19-Aug-25	17-Sep-25	15-Dec-25	13-Jan-26	19-Aug-25	17-Sep-25	118	

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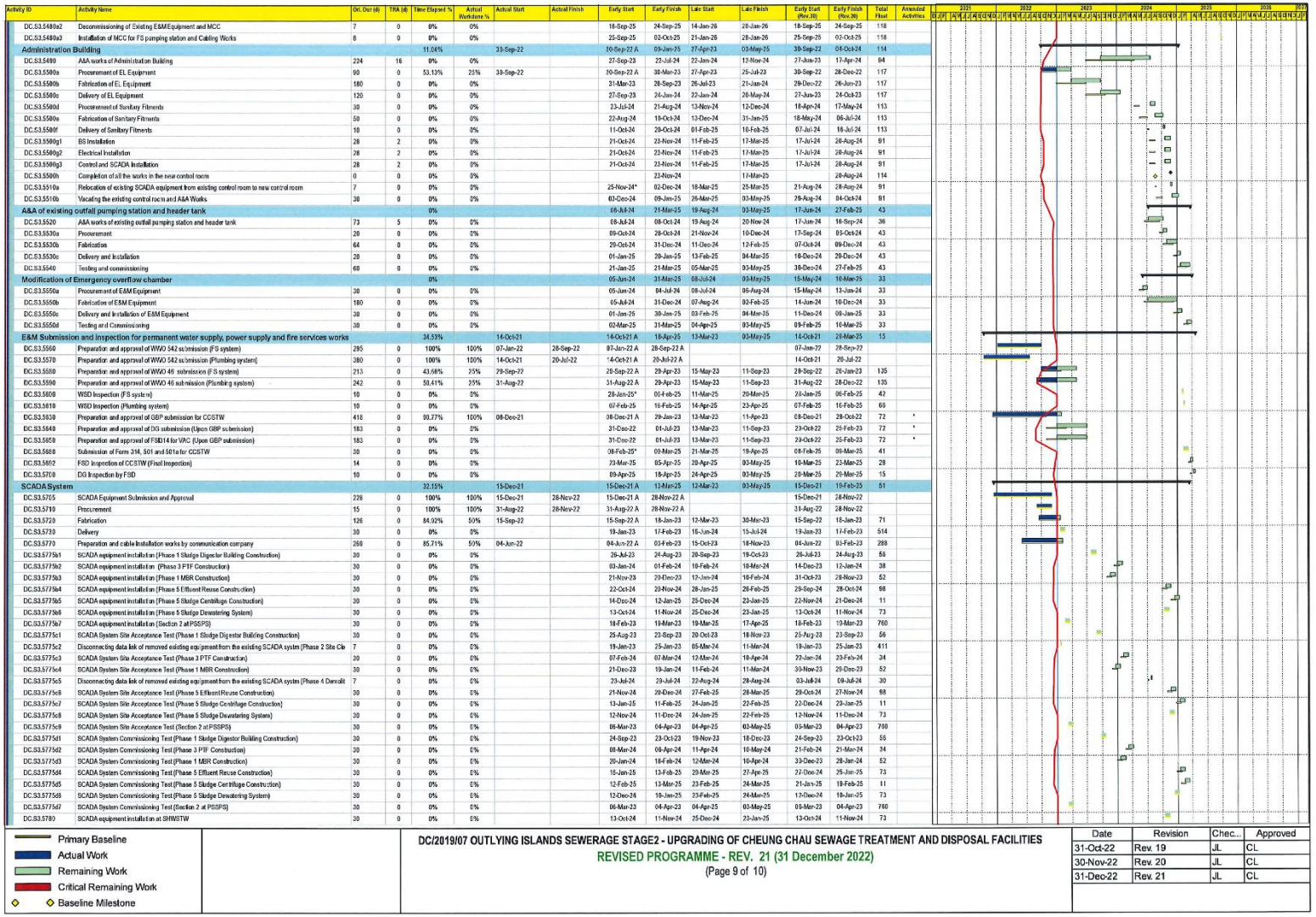
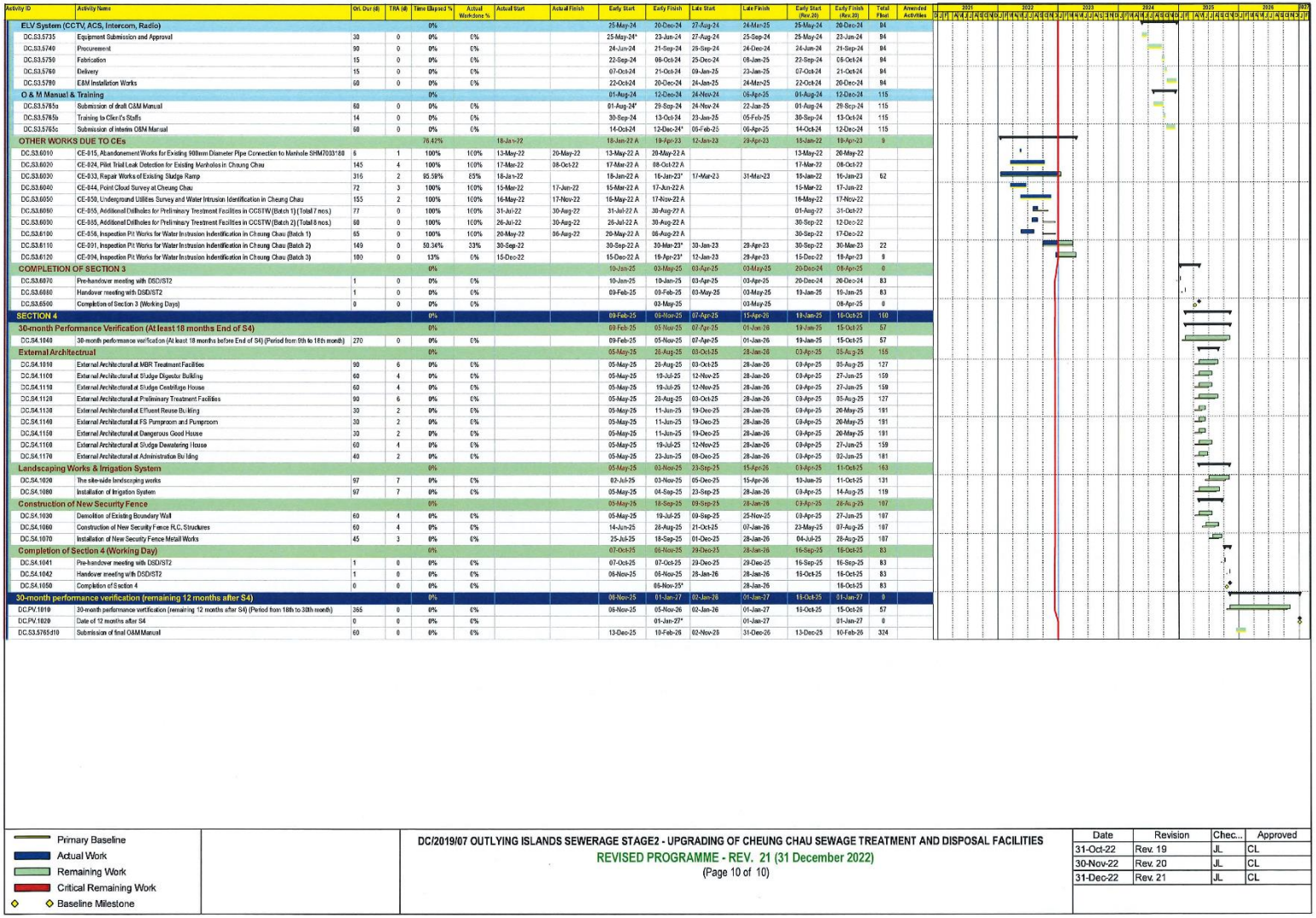


Activity ID	Activity Name	Orl. Dur (d)	TRA (d)	Time Elapsed %	Actual Workdone %	Actual Start	Actual Finish	Early Start	Early Finish	Late Start	Late Finish	Early Start (Rev.20)	Early Finish (Rev.20)	Total Float	Amended Activities
DC.S3.5480a2	Decommissioning of Existing E&M Equipment and MCC	7	0	0%	0%			18-Sep-25	24-Sep-25	14-Jan-26	28-Jan-26	18-Sep-25	24-Sep-25	118	
DC.S3.5480a3	Installation of MCC for FS pumping station and Cabling Works	8	0	0%	0%			25-Sep-25	02-Oct-25	21-Jan-26	28-Jan-26	25-Sep-25	02-Oct-25	118	
Administration Building				11.04%		30-Sep-22		30-Sep-22 A	09-Jan-25	27-Apr-23	03-May-25	30-Sep-22	08-Oct-24	114	
DC.S3.5490	AAA works of Administration Building	224	16	0%	0%			27-Sep-23	23-Jul-24	22-Jan-24	12-Nov-24	27-Jun-23	17-Apr-24	94	
DC.S3.5580a	Procurement of EL Equipment	90	0	53.13%	25%	30-Sep-22		30-Sep-22 A	30-Mar-23	27-Apr-23	25-Jul-23	30-Sep-22	28-Dec-22	117	
DC.S3.5580b	Fabrication of EL Equipment	180	0	0%	0%			31-Mar-23	28-Sep-23	26-Jul-23	21-Jan-24	29-Dec-22	26-Jun-23	117	
DC.S3.5580c	Delivery of EL Equipment	120	0	0%	0%			27-Sep-23	24-Jan-24	22-Jan-24	26-May-24	27-Jun-23	24-Oct-23	117	
DC.S3.5580d	Procurement of Sanitary Fitments	30	0	0%	0%			23-Jul-24	21-Aug-24	13-Nov-24	12-Dec-24	18-Apr-24	17-May-24	113	
DC.S3.5580e	Fabrication of Sanitary Fitments	50	0	0%	0%			22-Aug-24	19-Oct-24	13-Dec-24	31-Jan-25	18-May-24	06-Jul-24	113	
DC.S3.5580f	Delivery of Sanitary Fitments	10	0	0%	0%			11-Oct-24	28-Oct-24	01-Feb-25	10-Feb-25	07-Jul-24	16-Jul-24	113	
DC.S3.5580g1	BS Installation	28	2	0%	0%			21-Oct-24	23-Nov-24	11-Feb-25	17-Mar-25	17-Jul-24	26-Aug-24	91	
DC.S3.5580g2	Electrical Installation	28	2	0%	0%			21-Oct-24	23-Nov-24	11-Feb-25	17-Mar-25	17-Jul-24	26-Aug-24	91	
DC.S3.5580g3	Control and SCADA Installation	28	2	0%	0%			21-Oct-24	23-Nov-24	11-Feb-25	17-Mar-25	17-Jul-24	26-Aug-24	91	
DC.S3.5580h	Completion of all the works in the new control room	0	0	0%	0%				23-Nov-24		17-Mar-25		26-Aug-24	114	
DC.S3.5510a	Relocation of existing SCADA equipment from existing control room to new control room	7	0	0%	0%			25-Nov-24*	02-Dec-24	18-Mar-25	25-Mar-25	21-Aug-24	28-Aug-24	91	
DC.S3.5510b	Vacating the existing control room and A&A Works	30	0	0%	0%			03-Dec-24	09-Jan-25	26-Mar-25	03-May-25	29-Aug-24	04-Oct-24	91	
A&A of existing outfall pumping station and header tank				0%				08-Jul-24	21-Mar-25	19-Aug-24	03-May-25	17-Jun-24	27-Feb-25	43	
DC.S3.5520	A&A works of existing outfall pumping station and header tank	73	5	0%	0%			08-Jul-24	08-Oct-24	19-Aug-24	20-Nov-24	17-Jun-24	16-Sep-24	36	
DC.S3.5530a	Procurement	20	0	0%	0%			09-Oct-24	28-Oct-24	21-Nov-24	10-Dec-24	17-Sep-24	09-Oct-24	43	
DC.S3.5530b	Fabrication	64	0	0%	0%			29-Oct-24	31-Dec-24	11-Dec-24	12-Feb-25	07-Oct-24	09-Dec-24	43	
DC.S3.5530c	Delivery and Installation	20	0	0%	0%			01-Jan-25	20-Jan-25	13-Feb-25	04-Mar-25	10-Dec-24	29-Dec-24	43	
DC.S3.5540	Testing and commissioning	60	0	0%	0%			21-Jan-25	21-Mar-25	05-Mar-25	03-May-25	30-Dec-24	27-Feb-25	43	
Modification of Emergency overflow chamber				0%				05-Jun-24	31-Mar-25	08-Jul-24	03-May-25	15-May-24	16-Mar-25	33	
DC.S3.5550a	Procurement of E&M Equipment	30	0	0%	0%			05-Jun-24	04-Jul-24	08-Jul-24	06-Aug-24	15-May-24	13-Jun-24	33	
DC.S3.5550b	Fabrication of E&M Equipment	180	0	0%	0%			05-Jul-24	31-Dec-24	07-Aug-24	02-Feb-25	14-Jun-24	10-Dec-24	33	
DC.S3.5550c	Delivery and Installation of E&M Equipment	30	0	0%	0%			01-Jan-25	30-Jan-25	03-Feb-25	04-Mar-25	11-Dec-24	09-Jan-25	33	
DC.S3.5550d	Testing and Commissioning	30	0	0%	0%			02-Mar-25	31-Mar-25	04-Apr-25	03-May-25	09-Feb-25	16-Mar-25	33	
E&M Submission and Inspection for permanent water supply, power supply and fire services works				34.53%		14-Oct-21		14-Oct-21 A	18-Apr-25	13-Mar-23	03-May-25	14-Oct-21	28-Mar-25	15	
DC.S3.5560	Preparation and approval of WWO 542 submission (FS system)	295	0	100%	100%	07-Jan-22	28-Sep-22	07-Jan-22 A	28-Sep-22 A			07-Jan-22	28-Sep-22		
DC.S3.5570	Preparation and approval of WWO 542 submission (Plumbing system)	380	0	100%	100%	14-Oct-21	20-Jul-22	*4-Oct-21 A	20-Jul-22 A			14-Oct-21	20-Jul-22		
DC.S3.5580	Preparation and approval of WWO 46 submission (FS system)	213	0	43.66%	25%	29-Sep-22		29-Sep-22 A	29-Apr-23	15-May-23	11-Sep-23	29-Sep-22	26-Jan-23	135	
DC.S3.5590	Preparation and approval of WWO 46 submission (Plumbing system)	242	0	50.41%	25%	31-Aug-22		31-Aug-22 A	29-Apr-23	15-May-23	11-Sep-23	31-Aug-22	28-Dec-22	135	
DC.S3.5600	WSD Inspection (FS system)	10	0	0%	0%			28-Jan-25*	06-Feb-25	11-Mar-25	20-Mar-25	28-Jan-25	06-Feb-25	42	
DC.S3.5610	WSD Inspection (Plumbing system)	10	0	0%	0%			07-Feb-25	16-Feb-25	14-Apr-25	23-Apr-25	07-Feb-25	16-Feb-25	60	
DC.S3.5630	Preparation and approval of GBP submission for CCSTW	416	0	90.77%	100%	08-Dec-21		08-Dec-21 A	29-Jan-23	13-Mar-23	11-Apr-23	08-Dec-21	28-Oct-22	72	*
DC.S3.5640	Preparation and approval of DG submission (Upon GBP submission)	183	0	0%	0%			31-Dec-22	01-Jul-23	13-Mar-23	11-Sep-23	29-Oct-22	26-Feb-23	72	*
DC.S3.5650	Preparation and approval of FSD14 for VAC (Upon GBP submission)	183	0	0%	0%			31-Dec-22	01-Jul-23	13-Mar-23	11-Sep-23	29-Oct-22	26-Feb-23	72	*
DC.S3.5660	Submission of Form 314, 501 and 501a for CCSTW	30	0	0%	0%			08-Feb-25*	09-Mar-25	21-Mar-25	19-Apr-25	08-Feb-25	09-Mar-25	41	
DC.S3.5662	FSD Inspection of CCSTW (Final Inspection)	14	0	0%	0%			23-Mar-25	05-Apr-25	20-Apr-25	03-May-25	10-Mar-25	23-Mar-25	28	
DC.S3.5700	DG Inspection by FSD	10	0	0%	0%			09-Apr-25	18-Apr-25	24-Apr-25	03-May-25	24-Mar-25	29-Mar-25	15	
SCADA System				32.15%		15-Dec-21		15-Dec-21 A	13-Mar-25	12-Mar-23	03-May-25	15-Dec-21	15-Feb-25	51	
DC.S3.5705	SCADA Equipment Submission and Approval	226	0	100%	100%	15-Dec-21	28-Nov-22	15-Dec-21 A	28-Nov-22 A			15-Dec-21	28-Nov-22		
DC.S3.5710	Procurement	15	0	100%	100%	31-Aug-22	28-Nov-22	31-Aug-22 A	28-Nov-22 A			31-Aug-22	28-Nov-22		
DC.S3.5720	Fabrication	126	0	84.92%	50%	15-Sep-22		15-Sep-22 A	18-Jan-23	12-Mar-23	30-Mar-23	15-Sep-22	18-Jan-23	71	
DC.S3.5730	Delivery	30	0	0%	0%			19-Jan-23	17-Feb-23	16-Jun-24	15-Jul-24	19-Jan-23	17-Feb-23	514	
DC.S3.5770	Preparation and cable installation works by communication company	266	0	85.71%	50%	04-Jun-22		04-Jun-22 A	03-Feb-23	15-Oct-23	18-Nov-23	04-Jun-22	03-Feb-23	288	
DC.S3.5775a1	SCADA equipment installation (Phase 1 Sludge Digester Building Construction)	30	0	0%	0%			26-Jul-23	24-Aug-23	20-Sep-23	19-Oct-23	26-Jul-23	24-Aug-23	56	
DC.S3.5775a2	SCADA equipment installation (Phase 3 PTF Construction)	30	0	0%	0%			03-Jan-24	01-Feb-24	10-Feb-24	10-Mar-24	14-Dec-23	12-Jan-24	38	
DC.S3.5775a3	SCADA equipment installation (Phase 1 MBR Construction)	30	0	0%	0%			21-Nov-23	20-Dec-23	12-Jan-24	10-Feb-24	31-Oct-23	28-Nov-23	52	
DC.S3.5775a4	SCADA equipment installation (Phase 5 Effluent Reuse Construction)	30	0	0%	0%			22-Oct-24	20-Nov-24	28-Jan-25	26-Feb-25	26-Sep-24	28-Oct-24	98	
DC.S3.5775a5	SCADA equipment installation (Phase 5 Sludge Centrifuge Construction)	30	0	0%	0%			14-Dec-24	12-Jan-25	25-Dec-24	23-Jan-25	22-Nov-24	21-Dec-24	11	
DC.S3.5775a6	SCADA equipment installation (Phase 5 Sludge Dewatering System)	30	0	0%	0%			13-Oct-24	11-Nov-24	25-Dec-24	23-Jan-25	13-Oct-24	11-Nov-24	73	
DC.S3.5775a7	SCADA equipment installation (Section 2 at PSSPS)	30	0	0%	0%			18-Feb-23	19-Mar-23	19-Mar-25	17-Apr-25	18-Feb-23	19-Mar-23	760	
DC.S3.5775c1	SCADA System Site Acceptance Test (Phase 1 Sludge Digestor Building Construction)	30	0	0%	0%			25-Aug-23	23-Sep-23	20-Oct-23	18-Nov-23	25-Aug-23	23-Sep-23	56	
DC.S3.5775c2	Disconnecting data link of removed existing equipment from the existing SCADA system (Phase 2 Site Cle	7	0	0%	0%			19-Jan-23	25-Jan-23	05-Mar-24	11-Mar-24	19-Jan-23	25-Jan-23	411	
DC.S3.5775c3	SCADA System Site Acceptance Test (Phase 3 PTF Construction)	30	0	0%	0%			07-Feb-24	07-Mar-24	12-Mar-24	10-Apr-24	22-Jan-24	23-Feb-24	34	
DC.S3.5775c4	SCADA System Site Acceptance Test (Phase 1 MBR Construction)	30	0	0%	0%			21-Dec-23	19-Jan-24	11-Feb-24	11-Mar-24	30-Nov-23	28-Dec-23	52	
DC.S3.5775c5	Disconnecting data link of removed existing equipment from the existing SCADA system (Phase 4 Demolit	7	0	0%	0%			23-Jul-24	29-Jul-24	22-Aug-24	28-Aug-24	03-Jul-24	09-Jul-24	30	
DC.S3.5775c6	SCADA System Site Acceptance Test (Phase 5 Effluent Reuse Construction)	30	0	0%	0%			21-Nov-24	20-Dec-24	27-Feb-25	28-Mar-25	29-Oct-24	27-Nov-24	98	
DC.S3.5775c7	SCADA System Site Acceptance Test (Phase 5 Sludge Centrifuge Construction)	30	0	0%	0%			13-Jan-25	11-Feb-25	24-Jan-25	22-Feb-25	22-Dec-24	23-Jan-25	11	
DC.S3.5775c8	SCADA System Site Acceptance Test (Phase 5 Sludge Dewatering System)	30	0	0%	0%			12-Nov-24	11-Dec-24	24-Jan-25	22-Feb-25	12-Nov-24	11-Dec-24	73	
DC.S3.5775c9	SCADA System Site Acceptance Test (Section 2 at PSSPS)	30	0	0%	0%			06-Mar-23	04-Apr-23	04-Apr-25	03-May-25	06-Mar-23	04-Apr-23	760	
DC.S3.5775d1	SCADA System Commissioning Test (Phase 1 Sludge Digestor Building Construction)	30	0	0%	0%			24-Sep-23	23-Oct-23	19-Nov-23	18-Dec-23	24-Sep-23	23-Oct-23	56	
DC.S3.5775d2	SCADA System Commissioning Test (Phase 3 PTF Construction)	30	0	0%	0%			08-Mar-24	06-Apr-24	11-Apr-24	10-May-24	21-Feb-24	21-Mar-24	34	
DC.S3.5775d3	SCADA System Commissioning Test (Phase 1 MBR Construction)	30	0	0%	0%			26-Jan-24	18-Feb-24	12-Mar-24	10-Apr-24	30-Dec-23	28-Jan-24	52	
DC.S3.5775d4	SCADA System Commissioning Test (Phase 5 Effluent Reuse Construction)	30	0	0%	0%			15-Jan-25	13-Feb-25	29-Mar-25	27-Apr-25	27-Dec-24	25-Jan-25	73	
DC.S3.5775d5	SCADA System Commissioning Test (Phase 5 Sludge Centrifuge Construction)	30	0	0%	0%			12-Feb-25	13-Mar-25	23-Feb-25	24-Mar-25	21-Jan-25	19-Feb-25	11	
DC.S3.5775d6	SCADA System Commissioning Test (Phase 5 Sludge Dewatering System)	30	0	0%	0%			12-Dec-24	10-Jan-25	23-Feb-25	24-Mar-25	13-Dec-24	10-Jan-25	73	
DC.S3.5775d7	SCADA System Commissioning Test (Section 2 at PSSPS)	30	0	0%	0%			06-Mar-23	04-Apr-23	04-Apr-25	03-May-25	06-Mar-23	04-Apr-23	760	
DC.S3.5780	SCADA equipment installation at SHWSTW	30	0	0%	0%			13-Oct-24	11-Nov-24	25-Dec-24	23-Jan-25	13-Oct-24	11-Nov-24	73	

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. 21 (31 December 2022)
(Page 9 of 10)

Date	Revision	Chec...	Approved
31-Oct-22	Rev. 19	JL	CL
30-Nov-22	Rev. 20	JL	CL
31-Dec-22	Rev. 21	JL	CL



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.20)	Early Finish (Rev.20)	Total Float	Amended Activities
	ELV System (CCTV, ACS, Intercom, Radio)			0%				25-May-24	20-Dec-24	27-Aug-24	24-Mar-25	25-May-24	26-Dec-24	84	
DC.S3.5735	Equipment Submission and Approval	30	0	0%	0%			25-May-24*	23-Jun-24	27-Aug-24	25-Sep-24	25-May-24	23-Jun-24	84	
DC.S3.5740	Procurement	90	0	0%	0%			24-Jun-24	21-Sep-24	26-Sep-24	24-Dec-24	24-Jun-24	21-Sep-24	84	
DC.S3.5750	Fabrication	15	0	0%	0%			22-Sep-24	08-Oct-24	25-Dec-24	08-Jan-25	23-Sep-24	08-Oct-24	84	
DC.S3.5760	Delivery	15	0	0%	0%			07-Oct-24	21-Oct-24	09-Jan-25	23-Jan-25	07-Oct-24	21-Oct-24	84	
DC.S3.5780	E&M Installation Works	60	0	0%	0%			22-Oct-24	20-Dec-24	24-Jan-25	24-Mar-25	22-Oct-24	26-Dec-24	84	
	O & M Manual & Training			0%				01-Aug-24	12-Dec-24	24-Nov-24	05-Apr-25	01-Aug-24	12-Dec-24	115	
DC.S3.5765a	Submission of draft O&M Manual	60	0	0%	0%			01-Aug-24*	29-Sep-24	24-Nov-24	22-Jan-25	01-Aug-24	29-Sep-24	115	
DC.S3.5765b	Training to Client's Staffs	14	0	0%	0%			30-Sep-24	13-Oct-24	23-Jan-25	05-Feb-25	30-Sep-24	13-Oct-24	115	
DC.S3.5765c	Submission of Interim O&M Manual	60	0	0%	0%			14-Oct-24	12-Dec-24*	06-Feb-25	05-Apr-25	14-Oct-24	12-Dec-24	115	
	OTHER WORKS DUE TO CEs			76.43%		18-Jan-22		18-Jan-22 A	19-Apr-23	12-Jan-23	29-Apr-23	15-Jan-22	18-Apr-23	9	
DC.S3.6010	CE-015, Abandonement Works for Existing 900mm Diameter Pipe Connection to Manhole SHM7033188	6	1	100%	100%	13-May-22	20-May-22	13-May-22 A	20-May-22 A			13-May-22	20-May-22		
DC.S3.6030	CE-024, Pilot Trial Leak Detection for Existing Manholes in Cheung Chau	145	4	100%	100%	17-Mar-22	08-Oct-22	17-Mar-22 A	08-Oct-22 A			17-Mar-22	08-Oct-22		
DC.S3.6020	CE-033, Repair Works of Existing Sludge Ramp	316	2	95.59%	85%	18-Jan-22		18-Jan-22 A	16-Jan-23*	17-Mar-23	31-Mar-23	15-Jan-22	16-Jan-23	62	
DC.S3.6040	CE-044, Point Cloud Survey at Cheung Chau	72	3	100%	100%	15-Mar-22	17-Jun-22	15-Mar-22 A	17-Jun-22 A			15-Mar-22	17-Jun-22		
DC.S3.6050	CE-050, Underground Utilities Survey and Water Intrusion Identification in Cheung Chau	155	2	100%	100%	16-May-22	17-Nov-22	16-May-22 A	17-Nov-22 A			16-May-22	17-Nov-22		
DC.S3.6060	CE-055, Additional Drillholes for Preliminary Treatment Facilites in CCSTW (Batch 1) (Total 7 nos.)	77	0	100%	100%	31-Jul-22	30-Aug-22	31-Jul-22 A	30-Aug-22 A			01-Aug-22	31-Oct-22		
DC.S3.6090	CE-055, Additional Drillholes for Preliminary Treatment Facilites in CCSTW (Batch 2) (Total 8 nos.)	60	0	100%	100%	26-Jul-22	30-Aug-22	26-Jul-22 A	30-Aug-22 A			30-Sep-22	12-Dec-22		
DC.S3.6100	CE-056, Inspection Pit Works for Water Intrusion Indentification in Cheung Chau (Batch 1)	65	0	100%	100%	20-May-22	06-Aug-22	20-May-22 A	06-Aug-22 A			30-Sep-22	17-Dec-22		
DC.S3.6110	CE-091, Inspection Pit Works for Water Intrusion Indentification in Cheung Chau (Batch 2)	149	0	50.34%	33%	30-Sep-22		30-Sep-22 A	30-Mar-23*	30-Jan-23	29-Apr-23	30-Sep-22	30-Mar-23	22	
DC.S3.6120	CE-094, Inspection Pit Works for Water Intrusion Indentification in Cheung Chau (Batch 3)	100	0	13%	0%	15-Dec-22		15-Dec-22 A	19-Apr-23*	12-Jan-23	29-Apr-23	15-Dec-22	18-Apr-23	9	
	COMPLETION OF SECTION 3			0%				10-Jan-25	03-May-25	03-Apr-25	03-May-25	20-Dec-24	08-Apr-25	0	
DC.S3.6070	Pre-handover meeting with DSD/ST2	1	0	0%	0%			10-Jan-25	10-Jan-25	03-Apr-25	03-Apr-25	20-Dec-24	20-Dec-24	83	
DC.S3.6080	Handover meeting with DSD/ST2	1	0	0%	0%			09-Feb-25	09-Feb-25	03-May-25	03-May-25	19-Jan-25	19-Jan-25	83	
DC.S3.6500	Completion of Section 3 (Working Days)	0	0	0%	0%				03-May-25		03-May-25		08-Apr-25	0	
	SECTION 4			0%				09-Feb-25	03-Nov-25	07-Apr-25	15-Apr-26	19-Jan-25	16-Oct-25	110	
	30-month Performance Verification (At least 18 months End of S4)			0%				09-Feb-25	05-Nov-25	07-Apr-25	01-Jan-26	19-Jan-25	15-Oct-25	57	
DC.S4.1040	30-month performance verification (At least 18 months before End of S4) (Period from 9th to 18th month)	270	0	0%	0%			09-Feb-25	05-Nov-25	07-Apr-25	01-Jan-26	19-Jan-25	15-Oct-25	57	
	External Architectrual			0%				05-May-25	28-Aug-25	03-Oct-25	28-Jan-26	03-Apr-25	05-Aug-25	155	
DC.S4.1010	External Architectural at MBR Treatment Facilities	90	6	0%	0%			05-May-25	28-Aug-25	03-Oct-25	28-Jan-26	03-Apr-25	05-Aug-25	127	
DC.S4.1100	External Architectural at Sludge Digestor Building	60	4	0%	0%			05-May-25	10-Jul-25	12-Nov-25	28-Jan-26	03-Apr-25	27-Jun-25	159	
DC.S4.1110	External Architectural at Sludge Centrifuge House	60	4	0%	0%			05-May-25	10-Jul-25	12-Nov-25	28-Jan-26	03-Apr-25	27-Jun-25	159	
DC.S4.1120	External Architectural at Preliminary Treatment Facilities	90	6	0%	0%			05-May-25	28-Aug-25	03-Oct-25	28-Jan-26	03-Apr-25	05-Aug-25	127	
DC.S4.1130	External Architectural at Effluent Reuse Building	30	2	0%	0%			05-May-25	11-Jun-25	19-Dec-25	28-Jan-26	03-Apr-25	26-May-25	191	
DC.S4.1140	External Architectural at FS Pumproom and Pumproom	30	2	0%	0%			05-May-25	11-Jun-25	19-Dec-25	28-Jan-26	03-Apr-25	26-May-25	191	
DC.S4.1150	External Architectural at Dangerous Good House	30	2	0%	0%			05-May-25	11-Jun-25	19-Dec-25	28-Jan-26	03-Apr-25	26-May-25	191	
DC.S4.1160	External Architectural at Sludge Dewatering House	60	4	0%	0%			05-May-25	10-Jul-25	12-Nov-25	28-Jan-26	03-Apr-25	27-Jun-25	159	
DC.S4.1170	External Architectural at Administration Building	40	2	0%	0%			05-May-25	23-Jun-25	08-Dec-25	28-Jan-26	03-Apr-25	02-Jun-25	181	
	Landscaping Works & Irrigation System			0%				05-May-25	03-Nov-25	23-Sep-25	15-Apr-26	03-Apr-25	11-Oct-25	163	
DC.S4.1020	The site-wide landscaping works	97	7	0%	0%			02-Jul-25	03-Nov-25	05-Dec-25	15-Apr-26	10-Jun-25	11-Oct-25	131	
DC.S4.1080	Installation of Irrigation System	97	7	0%	0%			05-May-25	04-Sep-25	23-Sep-25	28-Jan-26	03-Apr-25	14-Aug-25	119	
	Construction of New Security Fence			0%				05-May-25	18-Sep-25	09-Sep-25	28-Jan-26	03-Apr-25	28-Aug-25	107	
DC.S4.1030	Demolition of Existing Boundary Wall	60	4	0%	0%			05-May-25	10-Jul-25	09-Sep-25	25-Nov-25	03-Apr-25	27-Jun-25	107	
DC.S4.1060	Construction of New Security Fence R.C. Structures	60	4	0%	0%			14-Jun-25	28-Aug-25	21-Oct-25	07-Jan-26	23-May-25	07-Aug-25	107	
DC.S4.1070	Installation of New Security Fence Metall Works	45	3	0%	0%			25-Jul-25	18-Sep-25	01-Dec-25	28-Jan-26	04-Jul-25	28-Aug-25	107	
	Completion of Section 4 (Working Day)			0%				07-Oct-25	08-Nov-25	29-Dec-25	28-Jan-26	16-Sep-25	16-Oct-25	83	
DC.S4.1041	Pre-handover meeting with DSD/ST2	1	0	0%	0%			07-Oct-25	07-Oct-25	29-Dec-25	29-Dec-25	16-Sep-25	16-Sep-25	83	
DC.S4.1042	Handover meeting with DSD/ST2	1	0	0%	0%			06-Nov-25	06-Nov-25	28-Jan-26	28-Jan-26	15-Oct-25	16-Oct-25	83	
DC.S4.1050	Completion of Section 4	0	0	0%	0%				06-Nov-25*		28-Jan-26		16-Oct-25	83	
	30-month performance verification (remaining 12 months after S4)			0%				06-Nov-25	01-Jan-27	02-Jan-26	01-Jan-27	15-Oct-25	01-Jan-27	0	
DC.PV.1010	30-month performance verification (remaining 12 months after S4) (Period from 18th to 30th month)	365	0	0%	0%			06-Nov-25	05-Nov-26	02-Jan-26	01-Jan-27	15-Oct-25	15-Oct-26	57	
DC.PV.1020	Date of 12 months after S4	0	0	0%	0%				01-Jan-27*		01-Jan-27		01-Jan-27	0	
DC.S3.5765d10	Submission of final O&M Manual	60	0	0%	0%			13-Dec-25	10-Feb-26	02-Nov-28	31-Dec-26	13-Dec-25	10-Feb-26	324	

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. 21 (31 December 2022)
(Page 10 of 10)

Date	Revision	Chec...	Approved
31-Oct-22	Rev. 19	JL	CL
30-Nov-22	Rev. 20	JL	CL
31-Dec-22	Rev. 21	JL	CL

APPENDIX C
Calibration Certificates
(Air Monitoring)

ACUITY SUSTAINABILITY CONSULTING LIMITED
Website: www.acuityhk.com
Unit E, 12/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-Mar-22	to 3-Apr-22
Next Verification Test Date:	4-Apr-23	
Unit-under-Test- Model No.	Sibata LD-5R	
Unit-under-Test Serial No.	761173	
Our Report Refrence No.	RPT-22-HVS-0011	

Standard Equipment Information			
Verification Equipment Type		Tisch' s TSP HVS	Tish HVS Calibrator
Standard Equipment Model No.		TE-5170X	TE-5025A
Equipment serial no.	MFC	1049	3465
Last Calibration Date		2-Jun-22	28-Jun-22
Next Calibration Date		1-Sep-22	29-Jun-23

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	10/7/2022	5653.00	5656.00	180.00	0.00012	50	9000	R221113/1	6
2	10/7/2022	5656.00	5659.00	180.00	0.00033	58	7980	R221113/2	15
3	10/7/2022	5659.00	5663.00	240.00	0.00008	44	13920	R221113/3	5
4	17/7/2022	5715.00	5719.00	240.00	0.00050	67	15200	R221114/1	32
5	17/7/2022	5719.00	5722.00	180.00	0.00047	63	11820	R221114/2	31
6	17/7/2022	5722.00	5725.00	180.00	0.00051	66	12000	R221114/3	34
					0.00033				

K-Factor to be inputted in LD-5R (corrected 1 decimal point): 0.3

By Linear Regression of y on x:

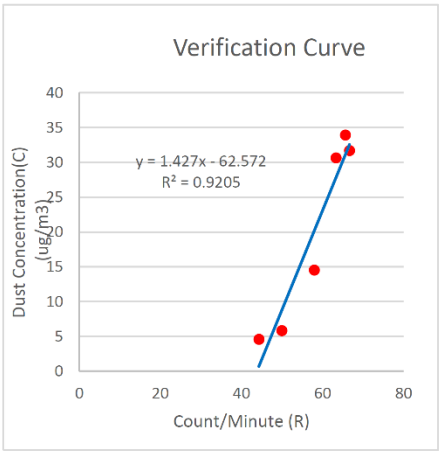
slope, mh= 1.4270

intercept,ch= -62.5718

*Correlation Coefficient,R= 0.9594

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: 16-08-2022

Field Supervisor

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 6835
Fax.: (852) 2698 9385

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

Verification Test Date:	9-Oct-22	to	16-Oct-22
Next Verification Test Date:	17-Oct-23		
Unit-under-Test- Model No.	Sibata LD-5R		
Unit-under-Test Serial No.	992821		
Our Report Refrence No.	RPT-22-HVS-0013		

Standard Equipment Information			
Verification Equipment Type		Tisch's TSP HVS	Tish HVS Calibrator
Standard Equipment Model No.		TE-5170X	TE-5025A
Equipment serial no.	MFC	1049	3465
Last Calibration Date		28-Sep-22	28-Jun-22
Next Calibration Date		28-Nov-22	29-Jun-23

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	9/10/2022	6210.34	6213.34	180.00	0.00072	47.67	8580	R221670/1	34
2	9/10/2022	6213.34	6216.36	181.20	0.00093	71.00	12865	R221670/2	66
3	9/10/2022	6216.36	6221.78	325.20	0.00115	89.33	29051	R221670/3	103
4	16/10/2022	6249.91	6252.92	180.60	0.00108	50.00	9030	R221671/1	54
5	16/10/2022	6252.92	6255.92	180.00	0.00110	80.33	14460	R221671/2	88
6	16/10/2022	6255.92	6261.94	361.20	0.00109	75.67	27331	R221671/3	83
					0.00101				

K-Factor to be inputted in LD-5R (corrected 1 decimal point): 1.0

By Linear Regression of y on x:

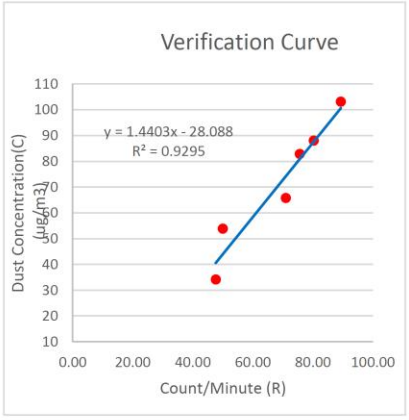
slope, mh= 1.4403

intercept,ch= -28.0877

*Correlation Coefficient,R= 0.9641

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: 19-10-2022

Technical Manager

TISCH Environmental

RECALIBRATION DUE DATE:
June 28, 2023

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	June 28, 2022	**Rootsmeter S/N:** 438320	**Ta:** 296	°K
Operator:	Jim Tisch		**Pa:** 755.1	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **3465**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4290	3.2	2.00
2	3	4	1	1.0130	6.4	4.00
3	5	6	1	0.9050	7.9	5.00
4	7	8	1	0.8590	8.8	5.50
5	9	10	1	0.7110	12.8	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H(Ta/Pa)}$ (y-axis)
0.9961	0.6970	1.4144	0.9958	0.6968	0.8854
0.9918	0.9791	2.0003	0.9915	0.9788	1.2522
0.9899	1.0938	2.2364	0.9895	1.0934	1.4000
0.9887	1.1509	2.3456	0.9883	1.1506	1.4683
0.9834	1.3831	2.8289	0.9830	1.3826	1.7708
QSTD	**m=**	**2.05924**	**QA**	**m=**	**1.28946**
	b=	**-0.01929**		**b=**	**-0.01207**
	r=	**0.99998**		**r=**	**0.99998**

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= $1/m\left(\left(\sqrt{\Delta H(Ta/Pa)}\right)-b\right)$

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg

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

RECALIBRATION

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

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

HIVOL SAMPLER CALIBRATION DATA SHEET (TSP)

Site Information

Location:	The admin building inside the construction site	Site ID:	A1a	Date:	06-二月-2023
Serial No:	1048	Model:	TE-5170X	Operator:	Andy Li

Ambient Condition

Actual Pressure during Calibration (P_a) (mm Hg):	761.0	Actual Temperature during Calibration (T_a) (deg K):	292.4

Calibration Orifice

Model:	TE-5025A	Slope (m_c):	2.05924
Serial No.:	3465	Intercept (b_c):	-0.01929
Calibration Due Date:	28-Jun-23	Corr. Coeff:	0.99998

Calibration Data

Plate or Test #	ΔH_2O (in)	Qa, X-Axis (m^3/min)	I, CFM (chart)	IC, Y-Axis (corrected)
1	4.30	1.027	35.0	35.36
2	4.90	1.095	40.0	40.41
3	6.80	1.289	53.0	53.55
4	7.30	1.335	57.0	57.59
5	7.90	1.388	61.0	61.63

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

m= 71.8491 b= -38.4396 Corr. Coeff= 0.9995

Sampler Set Point Flow Rate (SFR)= 1.1108 Sampler Chart Set Point (SSP)= 42

Calculations

$Qa = 1/m_c * [Sqrt (\Delta H_2O * (P_a/P_{Std}) * (T_{Std}/T_a)) - b_c]$

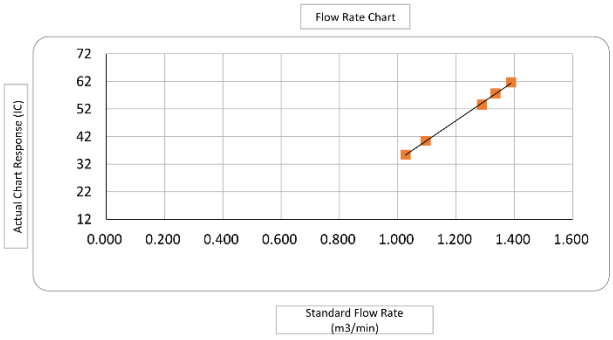
$IC = I * (Sqrt (P_a/P_{Std}) * (T_{Std}/T_a))$

$SFR = 1.13 (P_{Std} / P_a) (T_a / T_{Std})$

$SSP = (m*SFR+b) (Sqrt (P_a / P_{Std})(T_{Std} / T_a))$

Qa = actual flow rate
IC = corrected chart response
I = actual chart response
m_c = calibrator slope
b_c = calibrator intercept
T_a = actual temperature during calibration (deg K)
P_a = actual pressure during calibration (mm Hg)

m = sampler slope
b = sampler intercept
T_{Std} = 298 deg K
P_{Std} = 760 mm Hg
T_a = actual temperature during calibration (deg K)
P_a = actual pressure during calibration (mm Hg)
Where 1.13 is the designed sampling flow rae of PM10 samplers, m^3/min



Checked by: _____ Date: 06-二月-2023

HIVOL SAMPLER CALIBRATION DATA SHEET (TSP)

Site Information

Location:	The existing outfall pumping station inside the construction site	Site ID:	A2a	Date:	06-二月-2023
Serial No:	1085	Model:	TE-5170X	Operator:	Andy Li

Ambient Condition

Actual Pressure during Calibration (P_a) (mm Hg):	761.0	Actual Temperature during Calibration (T_a) (deg K):	292.4

Calibration Orifice

Model:	TE-5025A	Slope (m_c):	2.05924
Serial No.:	3465	Intercept (b_c):	-0.01929
Calibration Due Date:	28-Jun-23	Corr. Coeff:	0.99998

Calibration Data

Plate or Test #	ΔH_2O (in)	Qa, X-Axis (m^3/min)	I, CFM (chart)	IC, Y-Axis (corrected)
1	4.60	1.062	37.0	37.38
2	5.10	1.117	41.0	41.42
3	6.20	1.231	49.0	49.50
4	6.70	1.279	53.0	53.55
5	7.40	1.344	57.0	57.59

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

m= 72.2656 b= -39.3107 Corr. Coeff= 0.9996

Sampler Set Point Flow Rate (SFR)= 1.1108 Sampler Chart Set Point (SSP)= 41

Calculations

$Qa = 1/m_c * [Sqrt (\Delta H_2O * (P_a/P_{Std}) * (T_{Std}/T_a)) - b_c]$

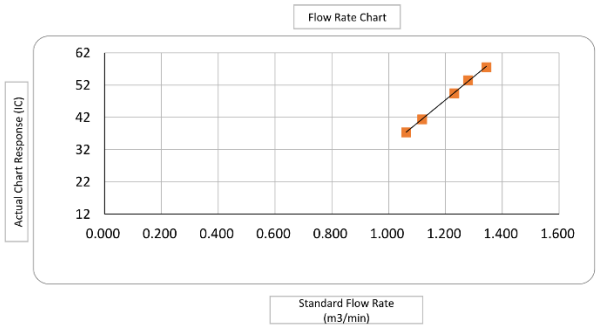
$IC = I * (Sqrt (P_a/P_{Std}) * (T_{Std}/T_a))$

$SFR = 1.13 (P_{Std} / P_a) (T_a / T_{Std})$

$SSP = (m*SFR+b) (Sqrt (P_a / P_{Std}) (T_{Std} / T_a))$

Qa = actual flow rate
IC = corrected chart response
I = actual chart response
m_c = calibrator slope
b_c = calibrator intercept
T_a = actual temperature during calibration (deg K)
P_a = actual pressure during calibration (mm Hg)

m = sampler slope
b = sampler intercept
T_{Std} = 298 deg K
P_{Std} = 760 mm Hg
T_a = actual temperature during calibration (deg K)
P_a = actual pressure during calibration (mm Hg)
Where 1.13 is the designed sampling flow rae of PM10 samplers, m^3/min



Checked by: Date: 06-二月-2023

APPENDIX D
Monitoring Data (Air)

Location: A1a

Monitoring Period: February 2023

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)
2023/2/6	Fine	13:42	80	90	85
2023/2/9	Sunny	15:14	77	84	77
2023/2/14	Sunny	14:20	79	91	90
2023/2/20	Sunny	13:50	78	84	85
2023/2/27	Sunny	14:00	68	77	80
		Average	82		
		Range	68 – 91		

Location: A2a

Monitoring Period: February 2023

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)
2023/2/6	Fine	13:32	68	70	77
2023/2/9	Sunny	14:28	72	65	61
2023/2/14	Sunny	14:04	63	64	61
2023/2/20	Sunny	13:34	73	74	67
2023/2/27	Sunny	13:46	68	65	69
		Average	69		
		Range	61 – 77		

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

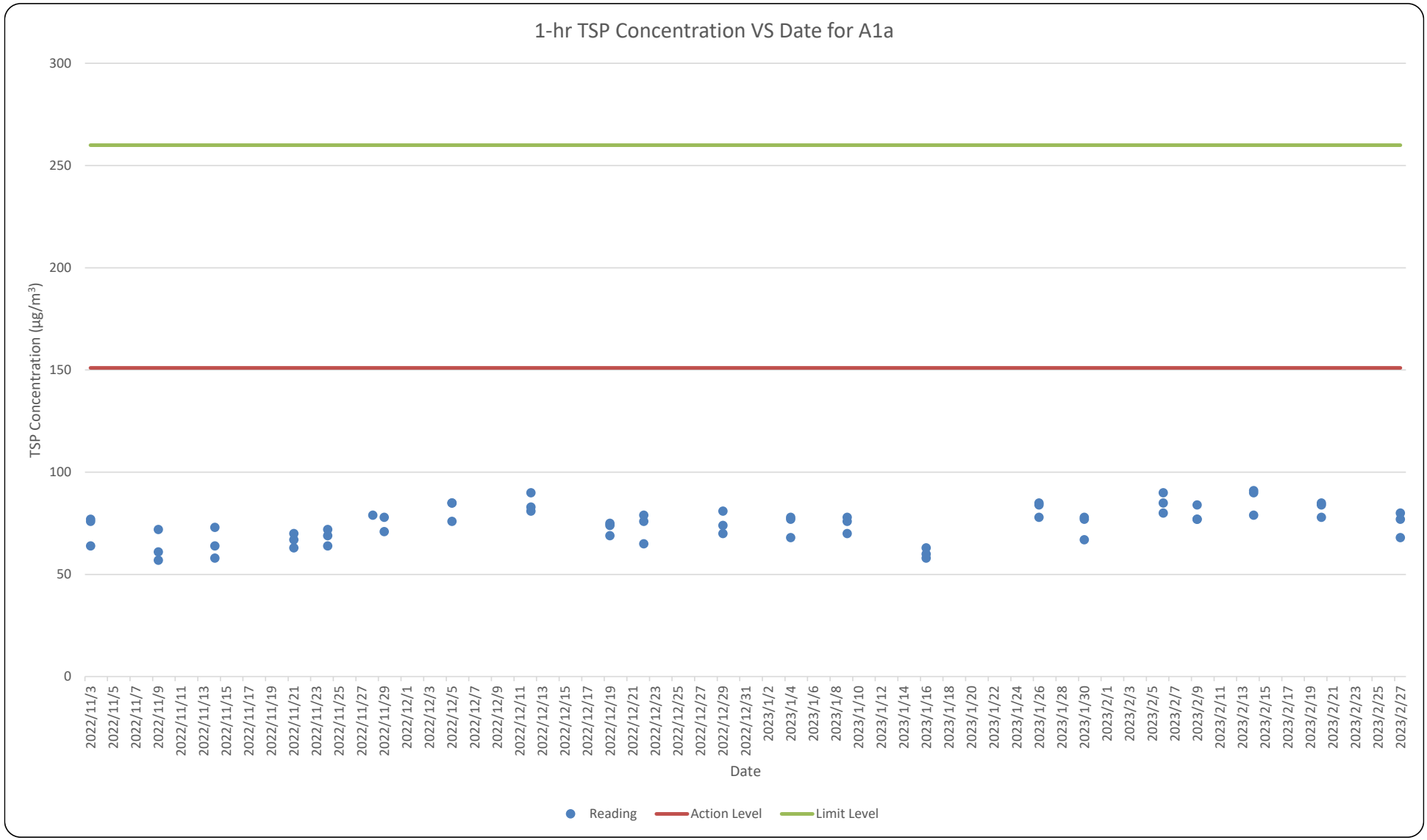
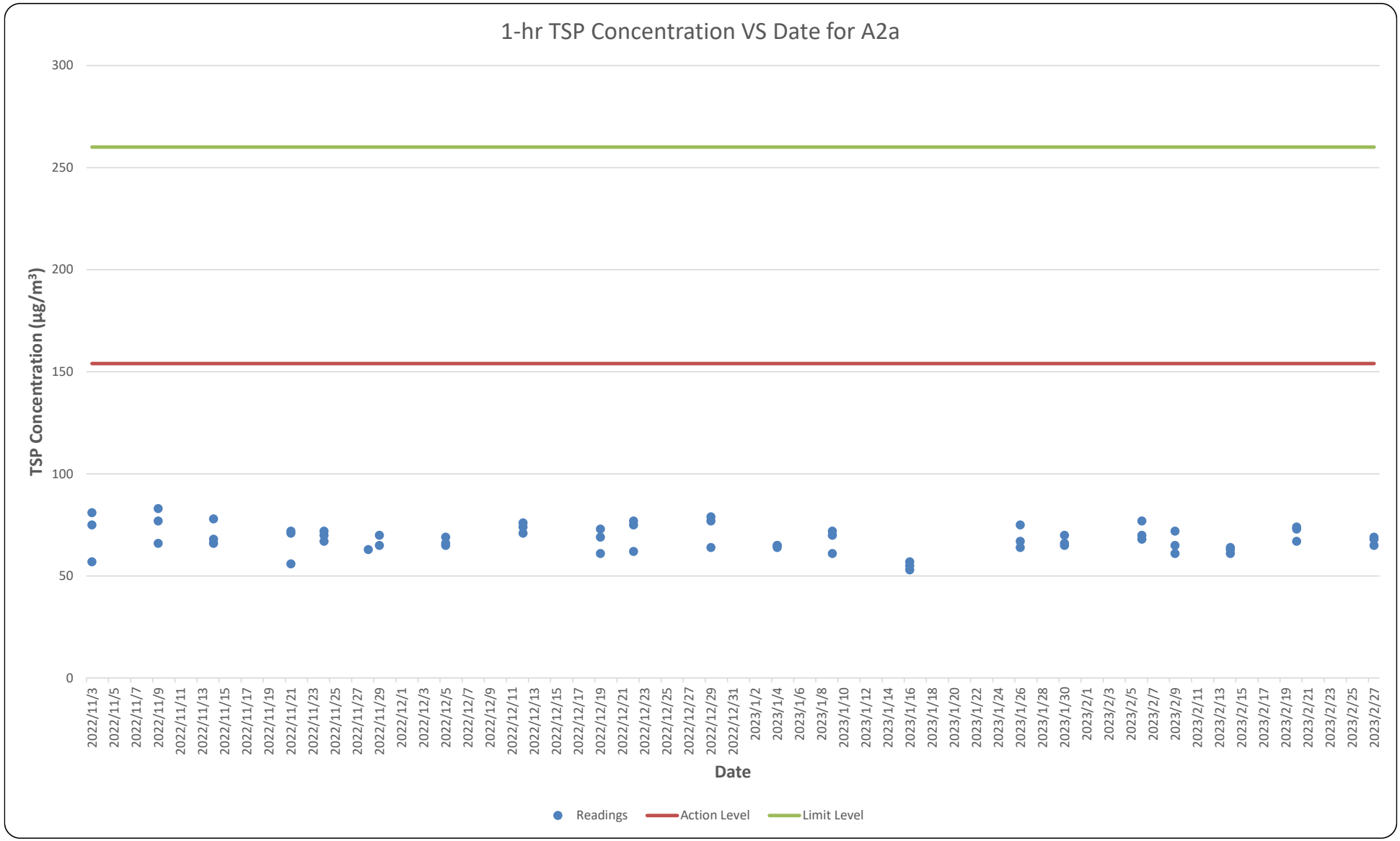


Figure D.2 Measured 1-Hour TSP at the existing outfall pumping station inside the construction site (A2a)



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)
06/02/2023	20.1	1015.0	Fine	253094.0	254609.0	1515.0	1.11	1684	2.6665	2.7343	0.0678	40
09/02/2023	20.4	1015.6	Sunny	254609.0	256069.0	1460.0	1.11	1623	2.7648	2.8957	0.1309	81
14/02/2023	17.4	1021.2	Sunny	256069.0	257571.0	1502.0	1.12	1679	2.7781	2.9465	0.1684	100
20/02/2023	19.0	1020.9	Sunny	257571.0	259071.0	1500.0	1.12	1674	2.6676	2.8875	0.2199	131
27/02/2023	17.1	1025.7	Sunny	259071.0	260539.0	1468.0	1.12	1645	2.7746	2.9161	0.1415	86
											Average	88
											Range	40 - 131

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)**
06/02/2023	20.1	1015.0	Fine	471941.0	473424.0	1483.0	1.12	1657	2.7792	2.9118	0.1326	80
09/02/2023	20.4	1015.6	Sunny	473424.0	474918.0	1494.0	1.16	1732	2.7754	2.9383	0.1629	94
14/02/2023	17.4	1021.2	Sunny	474918.0	476416.0	1498.0	1.14	1704	2.7810	2.8522	0.0712	42
20/02/2023	19.0	1020.9	Sunny	476416.0	477920.0	1504.0	1.14	1708	2.6538	2.8901	0.2363	138
27/02/2023	17.1	1025.7	Sunny	477920.0	479391.0	1471.0	1.08	1594	2.7797	2.9022	0.1225	77
											Average	86
											Range	42 - 138

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

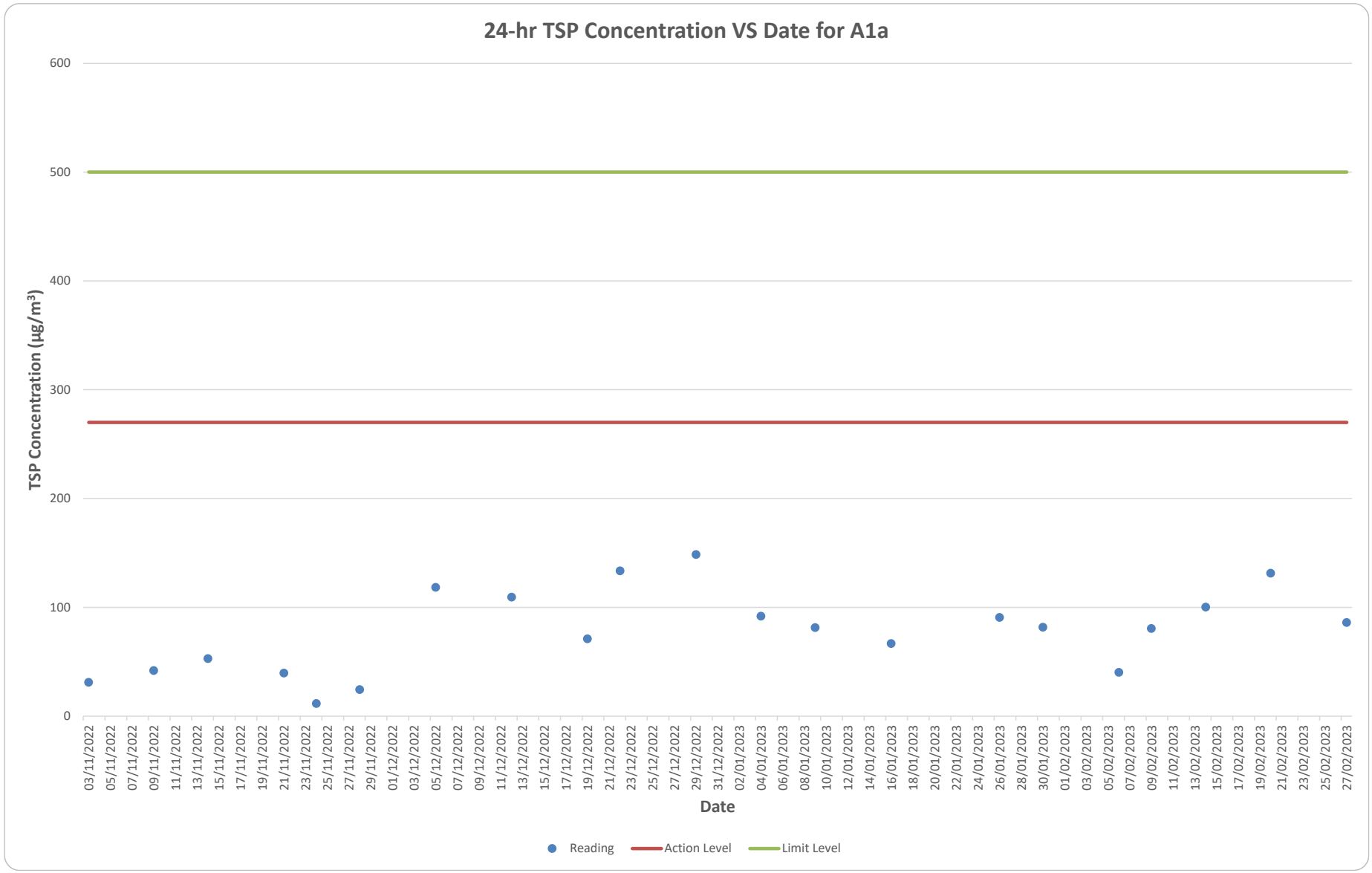
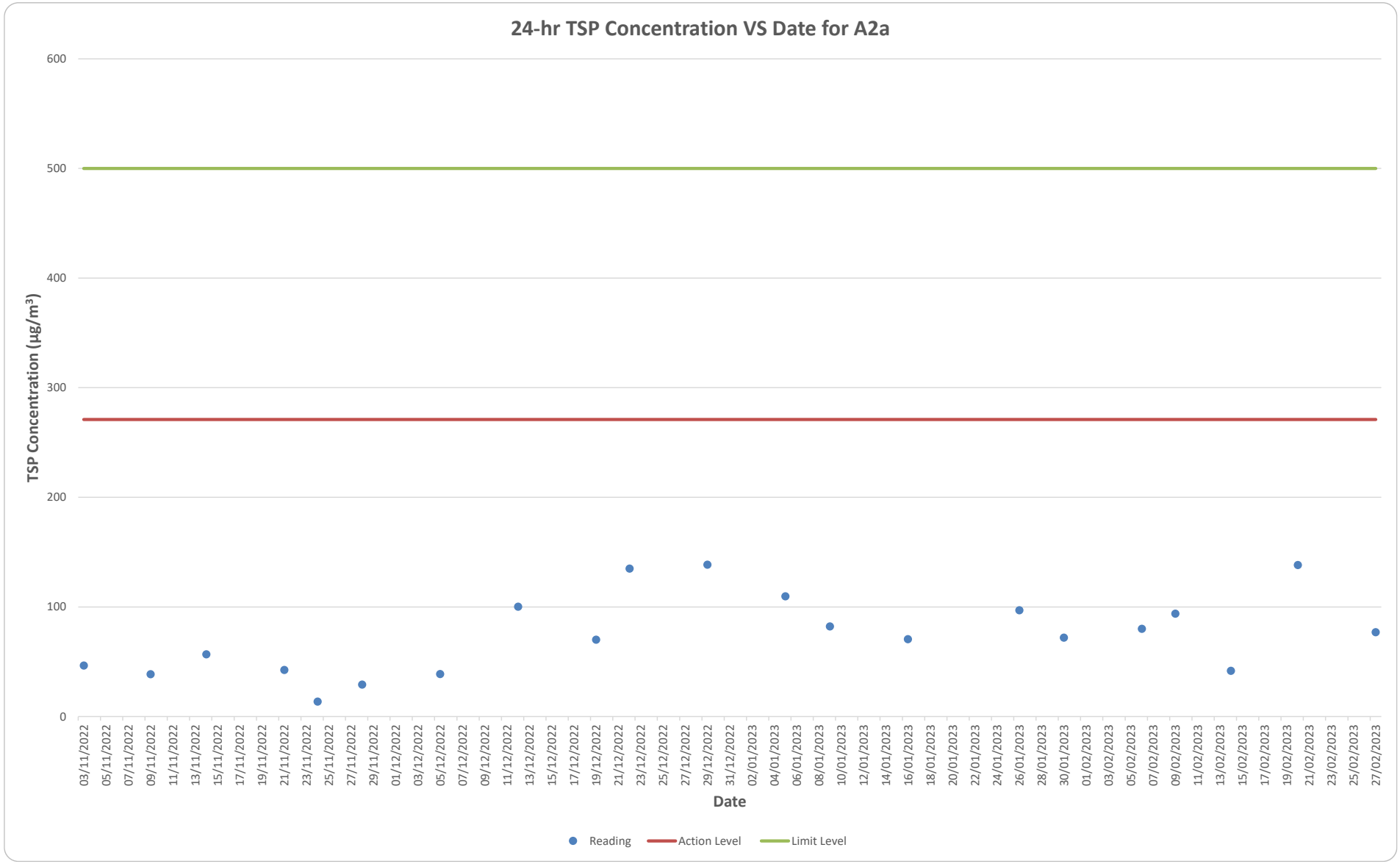


Figure D.4 Measured 24-Hour TSP at the existing outfall pumping station inside the construction site (A2a)



APPENDIX E
Calibration Certificates (Noise)

SVANTEK ISO9001 certified

FACTORY CALIBRATION DATA OF THE *SVAN 971 No. C119577*

with preamplifier SVANTEK type SV 18 No. C122487 and

with microphone ACO type 7052E No. 85197

1. CALIBRATION* (acoustical)

LEVEL METER function; Range: Low; Reference frequency: 1000Hz; Sound Pressure Level: **114.03** dB.

Characteristic	Correct value [dB]	Indication [dB]	Error [dB]
Z	114.03	114.05	0.02
A	114.03	114.05	0.02
C	114.03	114.05	0.02

Calibration measured with the microphone ACO type 7052E No. 85197. Calibration factor: 0.74 dB.

2. LINEARITY TEST* (electrical)

LEVEL METER function; Range: Low; Characteristic: A; f_{sin}= 31.5 Hz

Nominal result LEQ [dB]	24.0	25.0	26.0	28.0	30.0	40.0	60.0	83.0
Error [dB]	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0

LEVEL METER function; Range: Low; Characteristic: A; f_{sin}= 1000 Hz

Nominal result LEQ [dB]	24.0	25.0	26.0	28.0	30.0	40.0	60.0	80.0	100.0	123.0
Error [dB]	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.0	-0.0	-0.0	-0.0

LEVEL METER function; Range: Low; Characteristic: A; f_{sin}= 8000 Hz

Nominal result LEQ [dB]	24.0	25.0	26.0	28.0	30.0	40.0	60.0	80.0	100.0	122.0
Error [dB]	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.0	-0.0	-0.0	-0.0

LEVEL METER function; Range: High; Characteristic: A; f_{sin}= 31.5 Hz

Nominal result LEQ [dB]	34.0	35.0	36.0	38.0	40.0	60.0	80.0	97.0
Error [dB]	0.0	0.0	0.0	0.0	0.0	0.0	-0.0	0.0

LEVEL METER function; Range: High; Characteristic: A; f_{sin}= 1000 Hz

Nominal result LEQ [dB]	34.0	35.0	36.0	38.0	40.0	60.0	80.0	100.0	120.0	137.0
Error [dB]	-0.0	0.0	-0.0	-0.0	-0.1	-0.1	-0.0	-0.0	-0.0	-0.0

LEVEL METER function; Range: High; Characteristic: A; f_{sin}= 8000 Hz

Nominal result LEQ [dB]	34.0	35.0	36.0	38.0	40.0	60.0	80.0	100.0	120.0	136.0
Error [dB]	-0.0	-0.0	-0.1	-0.1	-0.1	-0.1	0.0	0.0	-0.0	0.0

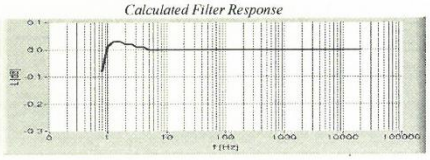
1/3 OCTAVE (1kHz); Range: Low; f_{sin}= 1000 Hz

Nominal result [dB]	25.0	30.0	40.0	60.0	80.0	100.0	120.0	123.0
Error [dB]	0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0

4. FREQUENCY RESPONSE* (electrical)

LEVEL METER function; Characteristic: Z; Range: Low; Input signal =120 dB;

Calculated Filter Response



Measured Filter Response with Preamplifier SV18
(f-frequency, L-level)

f [Hz]	L [dB]	f [Hz]	L [dB]	f [Hz]	L [dB]
10	-0.1	63	0.0	4000	0.0
12.5	-0.0	125	0.0	8000	0.0
16	0.0	250	0.0	16000	0.0
20	0.0	500	0.0	20000	0.0
25	0.0	1000	0.0		
31.5	0.0	2000	0.0		

All frequencies are nominal center values for the 1/3 octave bands

5. INTERNAL NOISE LEVEL* (electrical - compensated)

LEVEL METER function; Range: Low; (Back-light – off) ; Calibration factor: 0dB

Characteristic	Z	A	C
Level [dB]	≤20	≤12	≤12

* measured with preamplifier SVANTEK type SV 18 No. C122487.

6. INTERNAL NOISE LEVEL (acoustical - compensated)

LEVEL METER function; Characteristic: A; (Backlight – off)

Range	Low	High
Indication [dB]	≤15	20.5

Noise measured in special chamber, with reference microphone G.R.A.S type 40AN No. 73421

ENVIRONMENTAL CONDITIONS

Temperature	Relative humidity	Ambient pressure
23 °C	42%	1008 hPa

TEST EQUIPMENT

Item	Manufacturer	Model	Serial no.	Description
1.	SVANTEK	SVAN 401	100	Signal generator
2.	SVANTEK	SVAN 912A	4369	Sound & Vibration Analyser
3.	RIGOL	DM3068	DM30155100773	Digital multimeter
4.	SVANTEK	SV33B	93171	Acoustic calibrator
5.	SVANTEK	ST02	-	Microphone equivalent electrical impedance (18pF)

CONFORMITY & TEST DECLARATION

1. Herewith Svantek company declares that this instrument has been calibrated and tested in compliance with the internal ISO9001 procedures and meets all specification given in the Manual(s) or respectively surpass them.
2. The acoustic calibration was performed using the Sound Calibrator and is traceable to the GUM (Central Office of Measures) reference standard - sound level calibrator type 4231 No 2292773.
3. The information appearing on this sheet has been compiled specifically for this instrument. This form is produced with advanced equipment & procedures which permit comprehensive quality assurance verification of all data supplied herein.
4. This calibration sheet shall not be reproduced except in full, without written permission of the SVANTEK Ltd.

Calibration specialist: Cezary Dardziński ……

Test date: 2022-10-11

Certificate No. D224350E

JCSS 0197

CALIBRATION CERTIFICATE

Product	:	SOUND CALIBRATOR
Type	:	NC-75
Serial number	:	34724244
Manufacturer	:	RION CO., LTD.
Calibration quantities	:	Sound pressure level (with reference standard microphone)
Calibration method	:	Measured by specified secondary standard microphone according to JCSS calibration procedure specified by RION.
Ambient conditions	:	Temperature 23.9 ℃, Relative humidity 49 %, Static pressure 99.9 kPa
Calibration date	:	05/07/2022 (DD/MM/YYYY)
Calibration location	:	3-20-41 Higashimotomachi, Kokubunji, Tokyo 185-8533, Japan RION CO., LTD. Calibration Room

We hereby certify that the results of this calibration were as follows.

Issue date : 11/07/2022 (DD/MM/YYYY)

Junichi Kawamura
Manager
Quality Assurance Section,
Quality Assurance Department,
Environmental Instrument Division,
RION CO., LTD.
3-20-41 Higashimotomachi, Kokubunji,
Tokyo 185-8533, Japan

This certificate is based on article 144 of the Measurement Law and indicates the result of calibration in accordance with measurement standards traceable to Primary Measurement Standards (National Standards) which realizes the physical units of measurement according to the International System of Units (SI).
The accreditation symbol is attestation of which the result of calibration is traceable to Primary Measurement Standards (National Standards).
The certificate shall not be reproduced except in full, without the written approval of the issuing laboratory.
The calibration laboratory who issued this calibration certificate conforms to ISO/IEC 17025:2017.
This calibration certificate was issued by the calibration laboratory accredited by IAJapan who is a signatory to the Mutual Recognition Arrangement (MRA) of International Laboratory Accreditation Cooperation (ILAC) and Asia Pacific Accreditation Cooperation (APAC). This (These) calibration result(s) may be accepted internationally through ILAC/APAC MRA.

RION

Certificate No. D224350E

CALIBRATION RESULT

1. Sound pressure level (with reference standard microphone)

Measured value	Expanded uncertainty *1
93.99 dB	0.09 dB

Specified secondary standard microphone:
Type : 4160
Serial number : 2973341
Reference Sound pressure : 2×10^{-5} Pa

*1 Defines an interval estimated to have a level of confidence of approximately 95 %.
Coverage factor k=2

Calibration result is the calibration value in ambient conditions during calibration.

BE OUT OF JCSS CALIBRATION

1. Frequency

Measured value	Measurement uncertainty (k=2)
1000.0 Hz	3.9×10^{-4} Hz

Working measurement standard universal counter:
Type : 53132A
Serial number : MY40005574
(JCSS Calibration Certificate No. 21081499079575510)

2. Total distortion

Measured value
0.2 %

Working measurement standard distortion meter:
Type : VA-2230A
Serial number : 11076061
(A2LA Calibration Certificate No. 1501-03080)

- closing -

RION

APPENDIX F
Monitoring Data (Noise)

Location: N2a

Monitoring Period: February 2023

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}**
2023/2/7	Fine	15:10	71.1	73.5	67.4
2023/2/15	Sunny	15:23	70.0	72.4	65.4
2023/2/21	Sunny	14:56	73.8	77.4	68.6
2023/2/28	Sunny	14:30	74.4	78.0	67.2
		Average	72.7		
		Range	70.0 – 74.4		

Location: N3a

Monitoring Period: February 2023

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}**
2023/2/7	Fine	13:26	71.7	74.6	57.4
2023/2/15	Sunny	14:15	73.1	76.1	56.1
2023/2/21	Sunny	13:36	74.4	75.4	63.3
2023/2/28	Sunny	13:23	71.9	76.8	54.3
Average			72.9		
Range			71.7 – 74.4		

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)

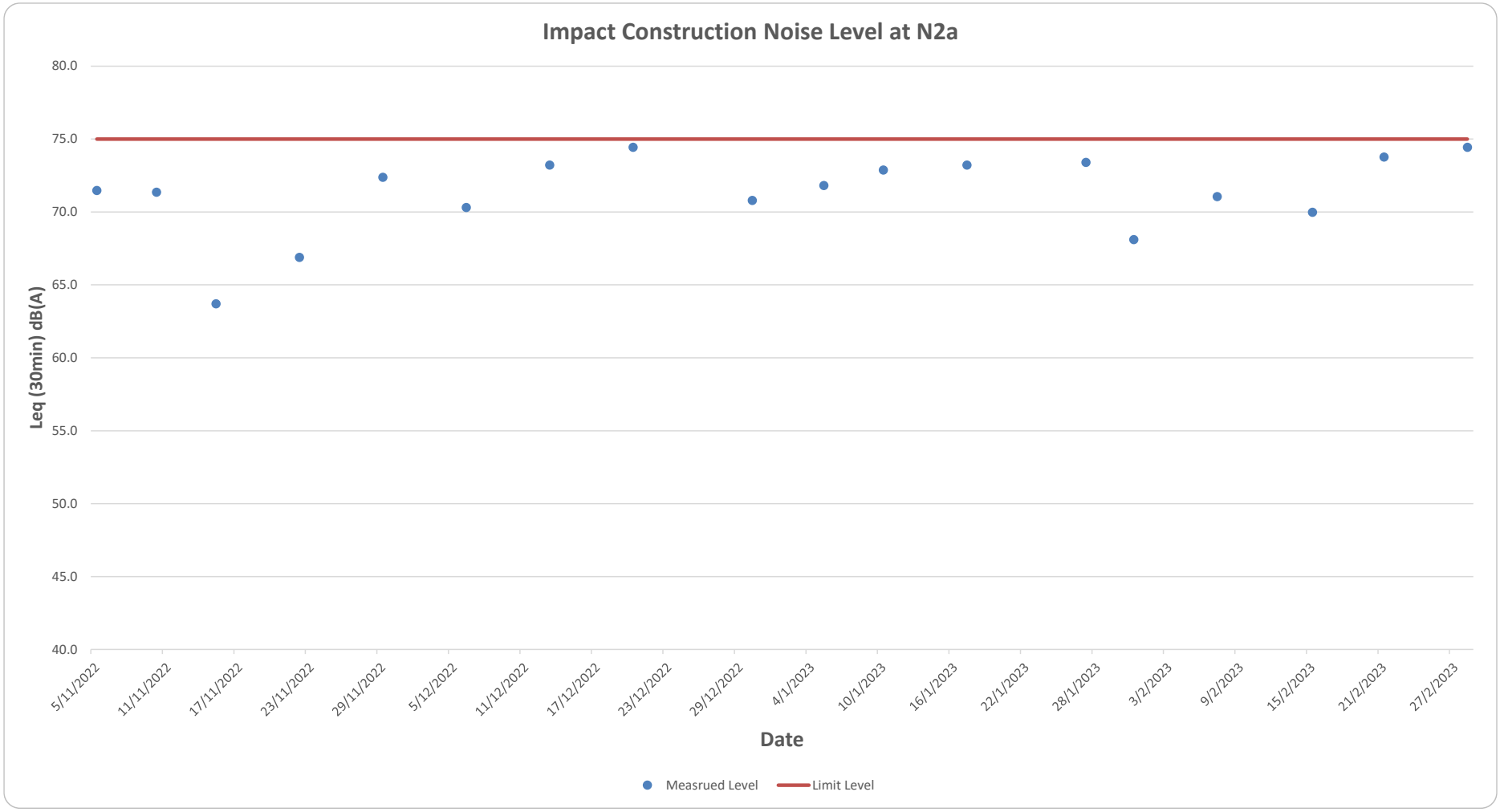
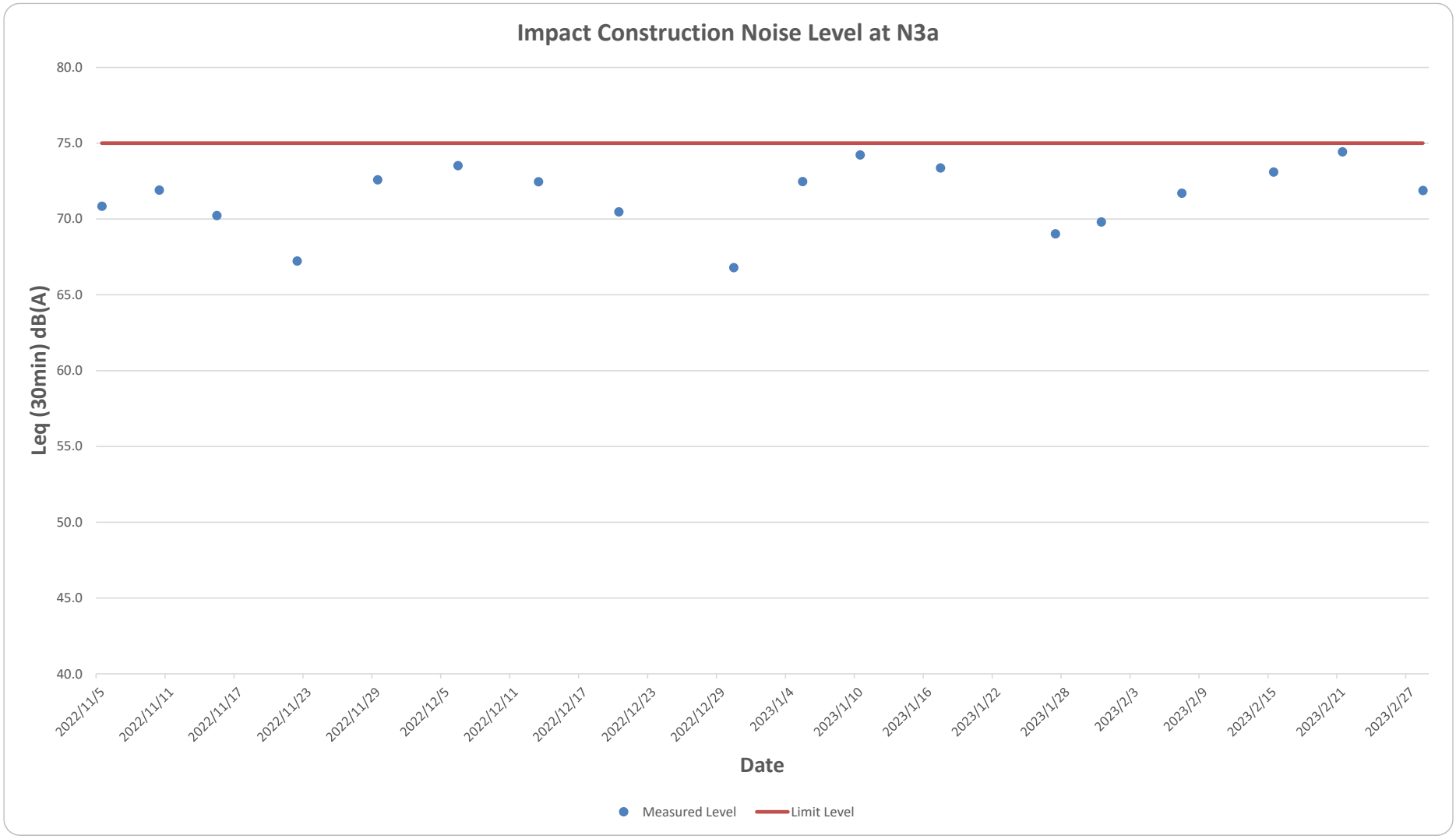


Figure F.2 Measured daytime (0700-1900) noise level at Cheung Chau Fire Station (N3a)



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 Complaints Statistics		
	Frequency	Nature	Follow-up Actions
1 February 2023 - 28 February 2023	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 February 2023 - 28 February 2023	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 February 2023 - 28 February 2023	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						
Feb-23						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
	24-hour TSP monitoring for A1a & A2a 1-hour TSP monitoring for A1a & A2a	Daytime Noise monitoring for N2a & N3a				
5	6	7	8	9	10	11
	24-hour TSP monitoring for A1a & A2a 1-hour TSP monitoring for A1a & A2a	Daytime Noise monitoring for N2a & N3a		24-hour TSP monitoring for A1a & A2a 1-hour TSP monitoring for A1a & A2a		
12	13	14	15	16	17	18
		24-hour TSP monitoring for A1a & A2a 1-hour TSP monitoring for A1a & A2a	Daytime Noise monitoring for N2a & N3a			
19	20	21	22	23	24	25
	24-hour TSP monitoring for A1a & A2a 1-hour TSP monitoring for A1a & A2a	Daytime Noise monitoring for N2a & N3a				
26	27	28				
	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						
Mar-23						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
	24-hour TSP monitoring for A1a & A2a 1-hour TSP monitoring for A1a & A2a	Daytime Noise monitoring for N2a & N3a				
5	6	7	8	9	10	11
	24-hour TSP monitoring for A1a & A2a 1-hour TSP monitoring for A1a & A2a	Daytime Noise monitoring for N2a & N3a				
12	13	14	15	16	17	18
	24-hour TSP monitoring for A1a & A2a 1-hour TSP monitoring for A1a & A2a	Daytime Noise monitoring for N2a & N3a				
19	20	21	22	23	24	25
	24-hour TSP monitoring for A1a & A2a 1-hour TSP monitoring for A1a & A2a	Daytime Noise monitoring for N2a & N3a		24-hour TSP monitoring for A1a & A2a 1-hour TSP monitoring for A1a & A2a		
26	27	28	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)