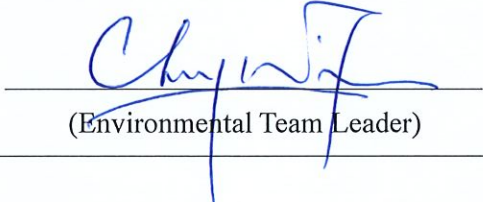


**Bestwise – SFK Joint Venture**

**Contract No. DE/2018/17  
Enhancement of Deodourisation System  
at Stonecutters Island Sewage  
Treatment Works**

**Monthly Environmental  
Monitoring and Audit Report  
August 2021**

**(Version 1.0)**

Certified By   
(Environmental Team Leader)

**REMARKS:**

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

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

**WELLAB LTD**  
Room 1714, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong  
Tel: (852) 2898 2083 Fax: (852) 2898 7076  
Email: [info@wellab.com.hk](mailto:info@wellab.com.hk)

CE/Harbour Area Treatment Scheme  
Drainage Services Department  
Sewage Services Branch  
Harbour Area Treatment Scheme Division  
5/F, Western Magistracy  
2A Pokfulam Road, Hong Kong

**Attn: Mr. K K Kam**

**Agreement No. CE 8/2009(EP) Harbour Area Treatment Scheme Stage 2A  
Independent Environmental Checker for Construction Phase – Investigation**

**Our Reference**  
EC/AFK/DC/bw/T261332/  
22.01/L-1508

**Contract No. DE/2018/17 - Enhancement of Deodourisation System at  
Stonecutters Island Sewage Treatment Works**

3/F International Trade  
Tower  
348 Kwun Tong Road  
Kowloon  
Hong Kong

**Condition 4.4 – Monthly EM&A Report for August 2021 (no. 24) Version 1.0**

14 September 2021

**By Post**

T +852 2828 5757  
F +852 2827 1823  
mottmac.hk

Dear Sir,

I refer to the captioned Monthly EM&A Report for August 2021 (Version 1.0) submitted by ET on 13 September 2021 via email. In accordance with Condition 4.4 of Environmental Permit No. EP-322/2008/G, I hereby verify the captioned Monthly EM&A Report.

Yours faithfully  
for MOTT MACDONALD HONG KONG LIMITED



Ir Dr Anne F Kerr  
Independent Environmental Checker  
T +852 2828 5757  
anne.kerr@mottmac.com

c.c.  
Ove Arup & Partners HK Limited  
Bestwise – SFK Joint Venture  
Wellab Limited

Mr. Mark Ngan  
Mr. Ken Chan  
Dr. Priscilla Choy

Fax: 2370 4377  
By email  
By email

# TABLE OF CONTENTS

	Page
<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
Introduction .....	1
Environmental Monitoring Works .....	1
Environmental Licenses and Permits .....	2
Environmental Mitigation Implementation Schedule .....	2
Key Information in the Reporting Month .....	2
Summary of Complaints and Prosecutions .....	2
Future Key Issues: .....	2
<b>1. INTRODUCTION .....</b>	<b>3</b>
Background .....	3
Project Organizations .....	3
Construction Programme .....	4
Summary of EM&A Requirements .....	4
<b>2. AIR QUALITY .....</b>	<b>5</b>
Monitoring Requirements .....	5
Monitoring Locations .....	5
Monitoring Equipment .....	5
Monitoring Parameters, Frequency and Duration .....	5
Monitoring Methodology and QA/QC Procedure .....	5
Results and Observations .....	8
<b>3. NOISE.....</b>	<b>10</b>
Monitoring Requirements .....	10
Monitoring Locations .....	10
Monitoring Equipment .....	10
Monitoring Parameters, Frequency and Duration .....	10
Monitoring Methodology and QA/QC Procedures .....	11
Results and Observations .....	12
<b>4. ENVIRONMENTAL AUDIT .....</b>	<b>13</b>
Site Audits .....	13
Implementation Status of Environmental Mitigation Measures .....	13
Review of Environmental Monitoring Procedures .....	13
Status of Environmental Licensing and Permitting .....	13
Status of Waste Management .....	14
Implementation Status of Event Action Plans .....	14
Summary of Complaints and Prosecutions .....	14
<b>5. FUTURE KEY ISSUES .....</b>	<b>15</b>
Key Issues for the Coming Month .....	15
Monitoring Schedule for the Next Month .....	15
Construction Program for the Next Month .....	15
<b>6. CONCLUSIONS AND RECOMMENDATIONS .....</b>	<b>16</b>
Conclusions .....	16
Recommendations for next reporting month .....	16

## **LIST OF TABLES**

Table I	Summary Table for Non-compliance Recorded in the Reporting Month
Table II	Summary Table for Key Information in the Reporting Month
Table 1.1	Key Project Contacts
Table 2.1	Locations for Air Quality Monitoring
Table 2.2	Impact Dust Monitoring Parameters, Frequency and Duration
Table 2.3	Summary of 1-hour and 24-hour TSP Monitoring Result in Reporting Month
Table 3.1	Locations for Noise Monitoring Stations
Table 3.2	Noise Monitoring Equipment
Table 3.3	Noise Monitoring Parameters, Frequency and Duration
Table 3.4	Summary the Noise Monitoring Results in Reporting Month
Table 4.1	Observations of Site Audit
Table 4.2	Summary of Environmental Licence / Permit for DE/2018/17

## **LIST OF FIGURES**

Figure 1	General Location Plan of the Project and Locations of Air Quality and Noise Monitoring Stations
Figure 2	ET's Organization Chart

## **LIST OF APPENDICES**

A	Action and Limit Levels for Air Quality and Noise
B	Copies of Calibration Certificates
C	Environmental Monitoring Schedules
D	1-hour and 24-hour TSP Monitoring Results and Graphical Presentations
E	Noise Monitoring Results and Graphical Presentations
F	Summary of Exceedance
G	Site Audit Summary
H	Summary of Amount of Waste Generated
I	Event Action Plans
J	Environmental Mitigation Implementation Schedule (EMIS)
K	Complaint Log
L	Construction Programme

## ABBREVIATION AND ACRONYM

AL Levels	Action and Limit Levels
DSD	Drainage Services Department
E / ER	Engineer/Engineer's Representative
EIA	Environmental Impact Assessment
EM&A	Environmental Monitoring and Audit
EMIS	Environmental Mitigation Implementation Schedule
EP	Environmental Permit
EPD	Environmental Protection Department
ET	Environmental Team
HVS	High Volume Sampler
IEC	Independent Environmental Checker
RE	Resident Engineer
RH	Relative Humidity
QA/QC	Quality Assurance / Quality Control
SLM	Sound Level Meter
WMP	Waste Management Plan
SCISTW	Stonecutters Island Sewage Treatment Works
HATS Stage 2A	Harbour Area Treatment Scheme Stage 2A
BSJV	Bestwise - SFK Joint Venture

**EXECUTIVE SUMMARY****Introduction**

1. This is the 24<sup>th</sup> Monthly Environmental Monitoring and Audit (EM&A) Report prepared by Wellab Limited for DSD Contract No. DE/2018/17 “Enhancement of Deodourisation System at SCISTW” (The Project) which documents the key information of EM&A and environmental monitoring works at the SCISTW under HATS Stage 2A with the Environmental Permit (Permit No. EP-322/2008/G).
2. The site activities undertaken in the reporting month included:

**E&M**

- DOU System
  - Mechanical electrical installation in progress
- Air Relief Duct
  - Leakage Test in process
  - Replacement FRP cover plate (CE)

**Environmental Monitoring Works**

3. The environmental monitoring works of the Project were conducted by the ETs for Contract DE/2018/17, at the SCISTW under HATS 2A with the Environmental Permit (Permit No. EP-322/2008/G). The monitoring results were checked and reviewed and the site audits were conducted once per week. The implementation of the Environmental Mitigation Measures, Event Action Plans, Environmental Complaint and Handling Procedures were also checked.
4. Summary of the non-compliance of the reporting month is tabulated in **Table I**.

**Table I Summary Table for Non-compliance Recorded in the Reporting Month**

Monitoring Station	Parameter	No. of Exceedance		No. of Exceedance Due to the Project		Action Taken
		Action Level	Limit Level	Action Level	Limit Level	
NM5	Noise	0	0	0	0	N/A
NM6	Noise	0	0	0	0	N/A
AM6b	1-hr TSP	0	0	0	0	N/A
	24-hr TSP	0	0	0	0	N/A
AM7	1-hr TSP	0	0	0	0	N/A
	24-hr TSP	0	0	0	0	N/A
AM8	1-hr TSP	0	0	0	0	N/A
	24-hr TSP	0	0	0	0	N/A

*1-hour TSP Monitoring*

5. All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

*24-hour TSP Monitoring*

6. All 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

*Construction Noise*

7. All construction noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

**Environmental Licenses and Permits**

8. Licenses/Permits granted to the Project include the Environmental Permit (EP); Billing account for Disposal of Construction Waste, Registered as Chemical Waste Producer, Construction Noise Permits and Water Discharge License.

**Environmental Mitigation Implementation Schedule**

9. According to the EIA Report Section 3.74, 4.56 and 13.44, air quality, noise and landscape and visual would be the key environmental issues and mitigation measures shall be implemented during the construction phase. Details of the implementation of mitigation measures are provided in the **Appendix J**.

**Key Information in the Reporting Month**

10. Summary of key information in the reporting month is tabulated in **Table II**.

**Table II Summary Table for Key Information in the Reporting Month**

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Complaint received	0	---	N/A	N/A	---
Status of submissions under EP	1	Monthly EM&A Report for July 2021	Submitted on 13 August 2021	N/A	---
Notifications of any summons & prosecutions received	0	---	N/A	N/A	---

**Summary of Complaints and Prosecutions**

11. No environmental complaint and prosecution was received for the Project in the reporting month.
12. There were no environmental complaint and prosecution received since the commencement of the Project. The Complaint Log is presented in **Appendix H**.

**Future Key Issues:**

13. Major site activities for the coming two months include:

E&M works

- Install sealant
- Install isolation device for effluent drop shaft (and concrete repairing)
- Installation of air relief duct

14. The environmental concerns in the coming months are mainly on dust generated from the excavated dusty materials, general refuse and construction waste storage.

## 1. INTRODUCTION

### Background

- 1.1 The Project ‘Enhancement of Deodourisation System at SCISTW’ under Contract No: DE/2018/17 mainly comprises the following major works:
- Construction of foundation for enhanced deodourisation system;
  - Design, supply, installation, testing and commissioning of enhanced deodourisation systems and associated accessories;
  - Enhancement of isolation devices at chemically enhanced primary treatment (CEPT) tanks;
  - Modification of air ducts at CEPT tanks;
  - Enhancement of sealing performance of existing covers for CEPT tanks; and
  - Any associated works as necessary to complete the above items.
- 1.2 The Project is under Harbour Area Treatment Scheme (HATS) Stage 2A and is a designated project with Register No. : AEIAR-121/2008. The current works under the Project at SCISTW for HATS 2A are covered by the Environmental Permit (Permit No. EP-322/2008/G), which was issued on 9<sup>th</sup> May 2014 by the Environmental Protection Department (hereinafter called EPD) to the Drainage Services Department (hereinafter called the DSD) as the Permit Holder.
- 1.3 Bestwise - SFK Joint Venture (hereafter called the BSJV) was commissioned by the DSD to undertake the construction of the Contract No. DE/2018/17 “Enhancement of Deodourisation System at SCISTW”. The date of commencement of construction of the Project is 9<sup>th</sup> July 2019.
- 1.4 Wellab Limited was commissioned by BSJV to undertake the Environmental Monitoring and Audit (EM&A) works for the project and was appointed as the Environmental Team (ET) of the Project under Condition 2.1 of the EP. The date of commencement of EM&A works is 2<sup>nd</sup> September 2019. The Project cover the environmental monitoring works at monitoring stations AM6b, AM7, AM8, NM5 and NM6. The general location plan of the Project is shown in **Figure 1**.
- 1.5 This is the 24<sup>th</sup> monthly EM&A report summarizing the EM&A works conducted for the Project in August 2021.

### Project Organizations

- 1.6 The contacts of the Project are shown in **Table 1.1** and the organization chart of ET for Contract is shown in **Figure 2**.



**Table 1.1 Key Project Contacts**

Party	Role	Name	Position	Phone No.
Ove Arup & Partners Hong Kong Ltd	Project Management's Representative	Mr. Edmund Chow	Senior Resident Engineer	2370 4311
	Coordinator	Mr. Kevin Cheung	Resident Engineer	3925 6506
Wellab	Environmental Team	Dr. Priscilla Choy	ET Leader	2151 2089
		Mr. Howard Chan	Project Coordinator	2151 2073
Mott MacDonald	Independent Environmental Checker	Dr. Anne Kerr	Independent Environmental Checker	2828 5757
Bestwise – SFK Joint Venture	Contractor	Mr. Ken Chan	Site Agent	2620 0070
		Mr. Leo Leung	Environmental Officer	2620 0070

### Construction Programme

1.7 The site activities undertaken in the reporting month included:

#### E&M

- DOU System
  - Mechanical electrical installation in progress
- Air Relief Duct
  - Leakage Test in process
  - Replacement FRP cover plate (CE)

### Summary of EM&A Requirements

1.8 The EM&A programme requires construction phase monitoring for air quality and construction noise, landscape and visual and environmental site audit. The EM&A requirements for each parameter are described in the following sections, including:

- All monitoring parameters;
- Action and Limit levels for all environmental parameters;
- Event Action Plans;
- Environmental mitigation measures, as recommended in the project EIA study final report; and
- Environmental requirements in contract documents.

1.9 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in **Section 4** of this report.

1.10 This report presents the monitoring results, observations, locations, equipment, period, for required monitoring parameter namely air quality, noise and audit works conducted for the Project in August 2021.

## 2. AIR QUALITY

### Monitoring Requirements

- 2.1 1-hour and 24-hour TSP monitoring were conducted to monitor the air quality. **Appendix A** shows the established Action/Limit Levels for the environmental monitoring works.

### Monitoring Locations

- 2.2 Three designated monitoring stations, AM6b, AM7 and AM8 were selected for impact dust monitoring for the Project. **Table 2.1** describes the air quality monitoring locations, which are also depicted in **Figure 1**.

**Table 2.1 Locations for Air Quality Monitoring**

Monitoring Station	Location of Measurement
AM6b <sup>(1)</sup>	Works site boundary
AM7	North West Kowloon Sewage Pumping Station
AM8	Block A of Government Dockyard

Remark:

(1) AM6b – The pervious location of AM6a was relocated after handover of part of Portion 7.

### Monitoring Equipment

- 2.3 **Table 2.2** summarizes the air quality monitoring equipment and **Appendix B** shows the copies of calibration certificates for the equipment at AM6b, AM7 and AM8.

**Table 2.2 Air Quality Monitoring Equipment**

Equipment	Model and Make	Quantity
Laser Dust Monitor	Met One Instruments no. AEROCET-831	4
HVS Sampler	TISCH: Model no. TE-5170	3
Calibrator	TISCH: Model TE-5025A	1

### Monitoring Parameters, Frequency and Duration

- 2.4 **Table 2.3** summarizes the monitoring parameters and frequencies of impact dust monitoring for the whole construction period. The air quality monitoring schedule for the reporting month is shown in **Appendix C**.

**Table 2.3 Impact Dust Monitoring Parameters, Frequency and Duration**

Monitoring Station	Parameter	Period	Frequency
All monitoring locations	1-hour TSP	0700-1900 hrs	3 times/ every 6 days
	24-hour TSP	0000-2400 hrs	once in every 6 days

### Monitoring Methodology and QA/QC Procedure

- 2.5 The monitoring methodology and QA/QC procedures for monitoring station AM6b, AM7 and AM8 are presented as follow:

### ***TSP Monitoring with Laser Dust Monitor***

#### ***Instrumentation***

- 2.6 Direct reading laser dust meter was deployed for the air quality monitoring as shown in **Table 2.2**.
- 2.7 The measuring procedures of the dust meter are in accordance with the Manufacturer's Instruction Manual as follows:

#### **(AEROCET-831)**

- The 1-hour dust meter is placed at least 1.3 meters above ground.
- Press and hold the Power key momentarily to power on the unit and make sure that the battery level was not flash or in low level.
- Allow the instrument to stand for about 3 second to display the Sample Screen minutes.
- Press the START / STOP key to run the internal vacuum pump for 1 minute and ready to use.
- Use the select dial to select the PM range and press the START / STOP key to start a measurement.
- Finally, push the START/STOP key to stop the measuring after 1 hour sampling.
- Information such as sampling date, time, value and site condition were recorded during the monitoring period.
- All data were recorded in the data logger for further data processing.

#### ***Maintenance/ Calibration***

- 2.8 The following maintenance/calibration was required for the direct dust meters:
- Check the meter at a 3-month interval and calibrate the meter at a 1-year interval throughout all stages of the air quality monitoring.

### ***TSP Monitoring with High Volume Sampler***

#### ***Instrumentation***

#### **(TISCH Model: TE-5170)**

- 2.9 High volume Samplers (HVS) completed with appropriate sampling inlets were employed for 1-hour & 24-hour TSP monitoring. Each sampler was composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complies with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50).

#### ***HVS Installation***

- 2.10 The following guidelines were adopted during the installation of HVS:
- A horizontal platform with appropriate support was provided to secure the samplers against gusty wind.
  - No two samplers were placed less than 2 meters apart.
  - The distance between the sampler and an obstacle, such as buildings, was at

least twice the height that the obstacle protrudes above the sampler.

- A minimum of 2 meters of separation from walls, parapets and penthouses was required for rooftop samples.
- A minimum of 2 meters separation from any supporting structure, measured horizontally was required.
- No furnaces or incineration flues were nearby.
- Airflow around the sampler was unrestricted.
- The samplers were more than 20 meters from the drip line.
- Any wire fence and gate, to protect the sampler, should not cause any obstruction during monitoring.
- Permission and access to the monitoring stations have been obtained to set up the samplers; and
- A secured supply of electricity was provided to operate the samplers.

#### Filters Preparation

- 2.11 Fibre glass filters, which have a collection efficiency of larger than 99% of particles of 0.3  $\mu\text{m}$  in diameter, were used. A HOKLAS accredited laboratory, Wellab Ltd., (HOKLAS Registration No.083) was responsible for the preparation of 24-hr conditioned and pre-weighed filter papers for Wellab's monitoring team.
- 2.12 All filters, which were prepared by Wellab Ltd., were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25 °C and not variable by more than  $\pm 3$  °C; the relative humidity (RH) was < 50% and not variable by more than  $\pm 5\%$ . A convenient working RH was 40%.

#### Operation/ Analytical Procedures

- 2.13 Operating/analytical procedures for the air quality monitoring were highlighted as follows:
- Prior to the commencement of the dust sampling, the flow rate of the HVS was properly set (between 1.1  $\text{m}^3/\text{min}$ . and 1.4  $\text{m}^3/\text{min}$ .) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50;
  - The power supply was checked to ensure the sampler worked properly;
  - On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air quality monitoring station;
  - The filter holding frame was then removed by loosening the four nuts and carefully a weighted and conditioned filter was centered with the stamped number upwards, on a supporting screen;
  - The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges;
  - The shelter lid was closed and secured with the aluminum strip;
  - The timer was then programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number);

- After sampling, the filter was removed and kept in a clean and tightly sealed plastic bag. The filter paper was then be returned to the HOKLAS laboratory (Wellab Ltd.) for reconditioning in the humidity-controlled chamber followed by accurate weighting by an electronic balance with a readout down to 0.1mg. The elapsed time was also recorded; and
- Before weighing, all filters were equilibrated in a conditioning environment for 24 hours. The conditioning environment temperature should be between 25°C and 30°C and not vary by more than  $\pm 3^\circ\text{C}$ ; the RH should be  $< 50\%$  and not vary by more than  $\pm 5\%$ . A convenient working RH is 40%. Weighing results were returned for further analysis of TSP concentrations collected by each filter.

2.14 The general weather conditions (i.e. sunny, cloudy or rainy) were recorded by the field staff's observation on the monitoring day.

#### Maintenance/ Calibration

2.15 The following maintenance/calibration was required for the HVS:

- The high volume motors and their accessories were properly maintained. Appropriate maintenance such as routine motor brushes replacement and electrical wiring checking were made to ensure that the equipment and necessary power supply are in good working condition.

#### **Results and Observations**

2.16 **Table 2.4** summarizes the monitoring results at AM6b, AM7 and AM8 in the reporting month. The details and graphical presentations of the air quality monitoring results are shown in **Appendix D**.

**Table 2.4 Summary of 1-hour and 24-hour TSP Monitoring Result in the Reporting Month**

Air Quality Monitoring Station	Average $\mu\text{g}/\text{m}^3$	Range $\mu\text{g}/\text{m}^3$	Action Level $\mu\text{g}/\text{m}^3$	Limit Level $\mu\text{g}/\text{m}^3$
1 hour TSP				
AM6b	45	18 – 85	346	500
AM7	72.8	25.7 – 267.9	322	
AM8	52.8	19.0 – 112.8	307	
24 hours TSP				
AM6b	64	31 - 131	196	260
AM7	36	26 - 50	207	
AM8	46	22 - 84	158	

2.17 All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. Summary of exceedance is presented in **Appendix F**.

2.18 All 24-hr TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. Summary of exceedance is presented in **Appendix F**.

- 2.19 According to field observations during site inspection, the identified dust sources at the monitoring stations were mainly from vehicles movement, dust generated from the excavated dusty materials and construction works of this Contract in the site.

### 3. NOISE

#### Monitoring Requirements

- 3.1 Two noise monitoring stations, namely NM5 and NM6 was designated in the EM&A Manual for impact monitoring. **Appendix A** shows the established Action and Limit Levels for the environmental monitoring works.

#### Monitoring Locations

- 3.2 Noise monitoring was conducted at two designated monitoring stations as listed in **Table 3.1**, which are also depicted in **Figure 1**.

**Table 3.1** Location of Noise Monitoring Stations

Monitoring Station	Location of Measurement
NM5	Near FSD Diving Rescue and Training Centre
NM6	Customs' Marine Base (Block H of Government Dockyard Rooftop)

#### Monitoring Equipment

- 3.3 Integrating Sound Level Meter was used for construction noise monitoring. The meters are Type 1 sound level meter capable of giving a continuous readout of the noise level readings including equivalent continuous sound pressure level ( $L_{eq}$ ) and percentile sound pressure level ( $L_x$ ) that also complied with International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1) specifications. **Table 3.2** summarizes the noise monitoring equipment being used. Copies of calibration certificates are attached in **Appendix B**.

**Table 3.2** Noise Monitoring Equipment

Equipment	Model and Make	Quantity
Integrating Sound Level Meter	BSWA, Model no.: BSWA 308	4
Calibrator	SVANTEK, Model no: SV30A	2

#### Monitoring Parameters, Frequency and Duration

- 3.4 **Table 3.3** summarizes the monitoring parameters, frequency and total duration of monitoring. The noise monitoring schedule for the reporting month is shown in **Appendix C**.
- 3.5 As advised by the Contractor, no construction work under Contract No. DE/2018/17 was conducted in the restricted hours during the reported month.

**Table 3.3 Noise Monitoring Parameters, Frequency and Duration**

Monitoring Stations	Parameter	Period	Frequency
NM5 NM6	L <sub>eq</sub> (30 min.) dB(A)	0700-1900 hrs. on weekdays	Once per week
	L <sub>eq</sub> (5 min.) dB(A)	During restricted hours	Monitoring to be conducted when construction works were to be carried out

**Monitoring Methodology and QA/QC Procedures**

3.6 The monitoring methodology and QA/QC procedure at NM5 and NM6 are presented as follow:

- The microphone head of the sound level meter was positioned at 1m from the exterior of the noise sensitive I and lowered sufficiently so that the building's external wall acted as a reflecting surface;
- The battery condition was checked to ensure the correct functioning of the meter;
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
  - frequency weighting : A
  - time weighting : Fast
  - time measurement : L<sub>eq</sub>(30 min.) dB(A)  
(as six consecutive L<sub>eq, 5min</sub> readings)  
during non-restricted hours (i.e. 0700-1900 hrs on normal weekdays)
- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1.0 dB, the measurement would be considered invalid and repeat of noise measurement would be required after re- calibration or repair of the equipment;
- During the monitoring period, the Leq, L90 and L10 were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet;
- Noise measurement was paused temporarily during periods of high intrusive noise (e.g. dog barking, helicopter noise) if possible and observation record during measurement period should be provided; and
- Noise monitoring was cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s. The wind speed should be checked with a portable wind speed meter capable of measuring the wind speed in m/s.

**Maintenance/ Calibration**

3.7 The microphone head of the sound level meter and calibrator were cleaned with a soft cloth at quarterly intervals.

3.8 The sound level meter and calibrator were checked and calibrated at yearly intervals.



- 3.9 Immediately prior to and following each noise measurement, the accuracy of the sound level meter should be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements would be accepted as valid only if the calibration levels before and after the noise measurement agreed to within 1.0 dB.

### Results and Observations

- 3.10 The noise monitoring results are summarized in **Table 3.4**. Detailed monitoring results and graphical presentations of noise monitoring are shown in **Appendix E**.

**Table 3.4 Summary the Noise Monitoring Results in Reporting Month**

For the time period 0700-1900 hrs. on weekdays		
Noise Monitoring Station	Range, dB(A) L <sub>eq</sub> (30 min.)	Limit Level dB(A)
NM5	60.7 – 64.4	75.0
NM6	59.6 – 61.2	75.0

- 3.11 All noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded in the reporting month. Summary of exceedance is presented in **Appendix F**.
- 3.12 1900-2300 hours noise monitoring was not conducted in the reporting month as there were no construction works during the period of restricted hours.
- 3.13 The major noise sources identified at the designated noise monitoring stations were vehicle movement and construction equipment, as well as construction activities from this Contract in Stonecutters Island STW.

**4. ENVIRONMENTAL AUDIT****Site Audits**

- 4.1 Site audits were conducted on a weekly basis to monitor the implementation of environmental management practices and mitigation measures at the site area by the Contractor.
- 4.2 Site inspections were undertaken to ensure and check that the implementation and maintenance of mitigation measures for Air Quality, Noise, Water Quality, Waste Management, Landscape and Visual are being properly carried out in the reporting month in accordance to section 14.1 of the EM&A Manual. No non-compliance was observed during the site inspections.
- 4.3 The summaries of site audits are attached in **Appendix G**.

**Implementation Status of Environmental Mitigation Measures**

- 4.4 Details of the implementation of mitigation measures are provided in **Appendix J**.
- 4.5 During the weekly environmental site inspections in the reporting period, no non-conformance was identified. The observations of the site audit for the Projects are summarized in **Table 4.1**.

**Table 4.1 Observations of Site Audit**

Parameters	Ref. Number	Observations	Follow Up Action
Water Quality	N/A	There was no observation in the reporting month.	N/A
Air Quality	N/A	There was no observation in the reporting month.	N/A
Noise	N/A	There was no observation in the reporting month.	N/A
Waste/ Chemical Management	N/A	There was no observation in the reporting month.	N/A
Landscape and Visual	N/A	There was no observation in the reporting month.	N/A
Permit/ Licenses	N/A	There was no observation in the reporting month.	N/A

**Review of Environmental Monitoring Procedures**

- 4.6 The monitoring works conducted by Contract DE/2018/17's ET were reviewed at a regular basis to ensure the monitoring procedures were carried out properly.

**Status of Environmental Licensing and Permitting**

- 4.7 All permits/licenses obtained for the Contract DE/2018/17 are summarized in **Table 4.2**.

**Table 4.2 Summary of Environmental Licence / Permit for DE/2018/17**

Reference Number	Valid Period		Details	Status
	From	To		
<b><i>Water Discharge License</i></b>				
WT00035198-2019	15/1/2020	31/1/2025	The application was approved on 15-1-2020.	Valid
<b><i>Registered Chemical Waste Producer</i></b>				
WPN5213-269-B2565-01	N/A	N/A	The application was approved on 14-8-2019.	Valid
<b><i>Billing Account for Disposal of Construction Waste</i></b>				
CSW03680	6/8/2019	N/A	The application was approved on 6-8-2019.	Valid
<b><i>Notification of Works Under APCO</i></b>				
447348	N/A	N/A	Notice form received by EPD on 17-7-2019.	N/A
<b><i>Construction Noise Permit</i></b>				
GW-RW0096-21	2/4/2021	25/9/2021	The application was approved on 26/3/2021	Valid

**Status of Waste Management**

- 4.8 The amount of wastes generated by the activities of the Project in the reporting month is shown in **Appendix H**.

**Implementation Status of Event Action Plans**

- 4.9 The Event Action Plans for air quality and noise are presented in **Appendix I**.

1-hr TSP

- 4.10 No Action/Limit Level exceedance was recorded.

24-hr TSP

- 4.11 No Action/Limit Level exceedance was recorded.

Construction Noise

- 4.12 No Action/Limit Level exceedance was recorded.

Landscape and Visual

- 4.13 No non-compliance was recorded.

**Summary of Complaints and Prosecutions**

- 4.14 No environmental complaint and prosecution was received for the Project in the reporting month.
- 4.15 There were no environmental complaint and prosecution received since the commencement of the Project. The Complaint Log is presented in **Appendix K**.

## 5. FUTURE KEY ISSUES

### Key Issues for the Coming Month

5.1 Key environmental issues in the coming month include:

- Storage of chemicals/fuel and chemical waste/waste oil on-site;
- Leakage of oil from equipment;
- Dust generation should be mitigated by adequate water spraying, especially in dry days;
- Stockpile should be properly covered by tarpaulin or impervious materials to mitigate dust generation;
- Noise from operation of equipment and machinery on-site;
- Silty surface runoff generated from the site area; and
- Silt and dust getting into the public area by the leaving site vehicles at the site exits without adequate wheel washing facilities.

### Monitoring Schedule for the Next Month

5.2 The tentative environmental monitoring schedule over the next month is shown in **Appendix C** of this report.

### Construction Program for the Next Month

5.3 The tentative construction program is provided in **Appendix L**.

## 6. CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

- 6.1 Environmental monitoring and audit works were performed in the reporting month and all monitoring results were checked and reviewed.

#### 1-hour TSP Monitoring

- 6.2 All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

#### 24-hour TSP Monitoring

- 6.3 All 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

#### Construction Noise Monitoring

- 6.4 All Construction Noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

#### Environmental Audit

- 6.5 Environmental site audits were conducted as weekly basis in the reporting month. No non-compliance was recorded.

#### Complaint and Prosecution

- 6.6 No environmental complaint and prosecution was received in the reporting month.

### Recommendations for next reporting month

- 6.7 The following recommendations were made for the next report month:

#### *Air Quality*

- To provide adequate water spray on site;
- To regularly maintain the machinery and vehicles on site;
- Non-Road Mobile Machinery (NRMM) labels must be demonstrated on the registered equipment for inspection.

#### *Noise*

- To inspect the noise sources inside the site;
- To well maintain the mechanical equipments / machineries to avoid abnormal noise nuisance.

#### *Water Quality*

- To identify any discharge of wastewater from the construction site;
- To provide adequate wastewater treatment facilities to treat the wastewater generated during construction works and heavy rain;
- To avoid water accumulation on site and carry out larviciding against mosquito breeding for stagnant water when mosquito larvae are observed.

*Waste/Chemical Management*

- To provide proper rubbish bins / skips for waste collection;
- To check for any accumulation of wasted materials or rubbish on site;
- To provide adequate chemical waste storage area on site;
- To avoid any discharge or accidental spillage of chemical waste or oil directly from the equipment; and
- To avoid improper handling or storage of oil drum and cement on site.

*Landscape and Visual*

- To erect and maintain the protection fence around the retained trees; and
- To avoid any construction materials being placed inside the tree protection zone.

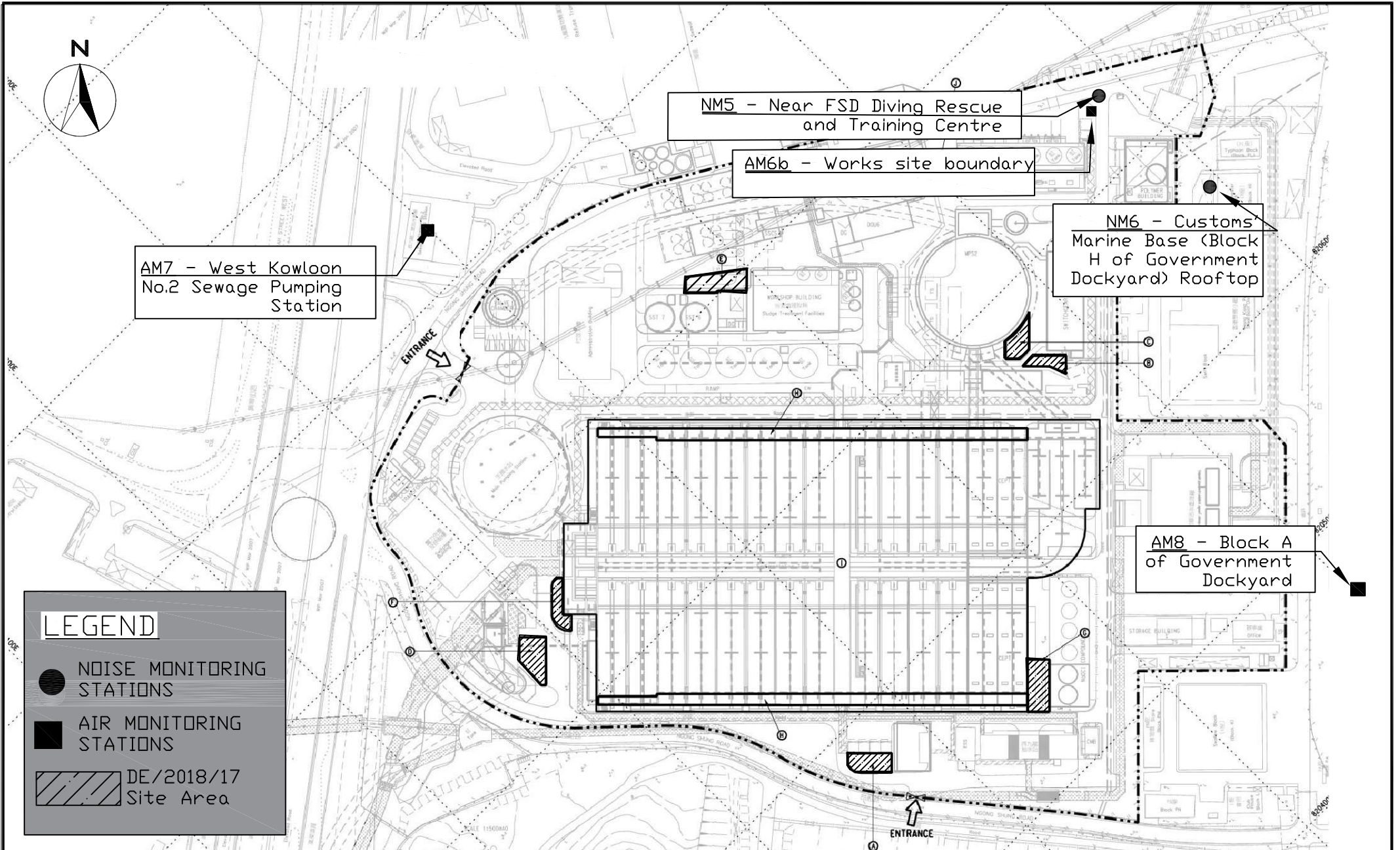
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## FIGURES

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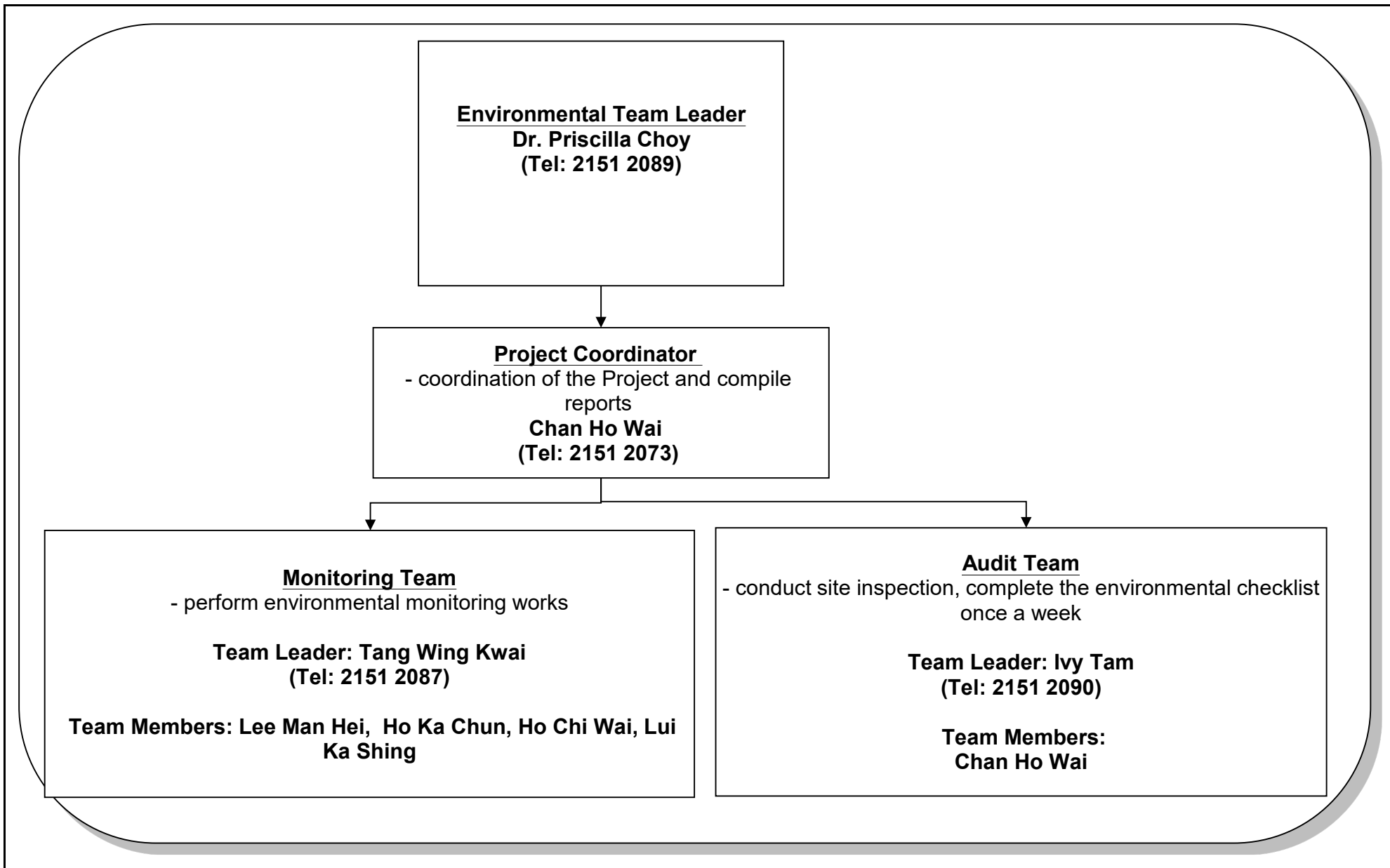
**LEGEND**


- NOISE MONITORING STATIONS
- AIR MONITORING STATIONS
- ▨ DE/2018/17 Site Area

Contract No. DE/2018/17 Enhancement of Deodourisation System at Stonecutters Island Sewage Treatment Works  
 General Location Plan of the project and Locations of Air and Noise Monitoring Locations

SCALE	1:180 @ A4	DATE	Nov 2020
CHECK	-	DRAWN	HC
Project No	WMA19011	FIGURE NO.	1
		REV	-





Title	Contract No. DE/2018/17 Enhancement of Deodourisation System at SCISTW	Scale	N.T.S	Project No.	WMA19011	 consulting . testing . research
		Version	v.2	Figure	2	
ET's Organization Chart						

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**APPENDIX A  
ACTION AND LIMIT LEVELS FOR AIR  
QUALITY AND NOISE QUALITY**

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## Appendix A Action and Limit Levels

**Table A-1 Action and Limit Levels for 1-Hour TSP and 24-Hour TSP**

Monitoring Stations	Action Level ( $\mu\text{g}/\text{m}^3$ )		Limit Level ( $\mu\text{g}/\text{m}^3$ )	
	1-hour	24-hour	1-hour	24-hour
AM6b	346	196	500	260
AM7	322	207	500	260
AM8	307	158	500	260

**Table A-2 Action and Limit Level for Construction Noise**

Monitoring Stations	Time Period	Action Level	Limit Level in dB(A)
NM5 NM6	0700-1900 hours on normal weekdays	When one documented complaint is received	75
	Evening Time of normal weekdays and General Holidays:  All days during the evening (1900 to 2300 hours), and general holidays (including Sundays) during the day-time and evening (0700 to 2300 hours)	N/A	70 <sup>(1)</sup>

Notes: If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed.

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**APPENDIX B  
COPIES OF CALIBRATION  
CERTIFICATES**

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**TEST REPORT**

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1808, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	35376A
Date of Issue:	2021-07-05
Date Received:	2021-07-02
Date Tested:	2021-07-02
Date Completed:	2021-07-05
Next Due Date:	2021-09-04

Page: 1 of 1

**ATTN:** Ms. Meiling Tang

**Certificate of Calibration**

**Item for Calibration:**

Description : Dust Monitor  
 Manufacturer : Met One Instruments  
 Model No. : AEROCET-831  
 Serial No. : X23808  
 Flow rate : 0.1 cfm  
 Zero Count Test : 0 count per 1 minute  
 Equipment No. : WA-01-02

**Test Conditions:**

Room Temperature : 17-22 degree Celsius  
 Relative Humidity : 40-70%

**Test Specifications & Methodology:**

1. Instruction and Operation Manual High Volume Sampler, Tisch Environmental Inc.
2. In-house method in according to the instruction manual: The Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

**Results:**

Correlation Factor (CF)	1.066
-------------------------	-------

\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
 General Manager

**TEST REPORT**

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1808, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	35376C
Date of Issue:	2021-07-05
Date Received:	2021-07-02
Date Tested:	2021-07-02
Date Completed:	2021-07-05
Next Due Date:	2021-09-04

Page: 1 of 1

**ATTN:** Ms. Meiling Tang

<b>Certificate of Calibration</b>
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**Item for Calibration:**

Description	: Dust Monitor
Manufacturer	: Met One Instruments
Model No.	: AEROCET-831
Serial No.	: X23810
Flow rate	: 0.1 cfm
Zero Count Test	: 0 count per 1 minute
Equipment No.	: WA-01-04

**Test Conditions:**

Room Temperature	: 17-22 degree Celsius
Relative Humidity	: 40-70%

**Test Specifications & Methodology:**

1. Instruction and Operation Manual High Volume Sampler, Tisch Environmental Inc.
2. In-house method in according to the instruction manual: The Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

**Results:**

Correlation Factor (CF)	1.116
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\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

**TEST REPORT**

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1808, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	35375B
Date of Issue:	2021-06-28
Date Received:	2021-06-25
Date Tested:	2021-06-25
Date Completed:	2021-06-28
Next Due Date:	2021-08-27

Page: 1 of 1

**ATTN:** Ms. Meiling Tang

**Certificate of Calibration**

**Item for Calibration:**

Description : Dust Monitor  
 Manufacturer : Met One Instruments  
 Model No. : AEROCET-831  
 Serial No. : X24479  
 Flow rate : 0.1 cfm  
 Zero Count Test : 0 count per 1 minute  
 Equipment No. : WA-01-08

**Test Conditions:**

Room Temperature : 17-22 degree Celsius  
 Relative Humidity : 40-70%

**Test Specifications & Methodology:**

1. Instruction and Operation Manual High Volume Sampler, Tisch Environmental Inc.
2. In-house method in according to the instruction manual: The Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

**Results:**

Correlation Factor (CF)	1.116
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\*\*\*\*\*

*PREPARED AND CHECKED BY:*  
For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

**TEST REPORT**

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1808, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	35375D
Date of Issue:	2021-06-28
Date Received:	2021-06-25
Date Tested:	2021-06-25
Date Completed:	2021-06-28
Next Due Date:	2021-08-27

**ATTN:** Ms. Meiling Tang

Page: 1 of 1

**Certificate of Calibration**

**Item for Calibration:**

Description : Dust Monitor  
Manufacturer : Met One Instruments  
Model No. : AEROCET-831  
Serial No. : X24478  
Flow rate : 0.1 cfm  
Zero Count Test : 0 count per 1 minute  
Equipment No. : WA-01-10

**Test Conditions:**

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

**Test Specifications & Methodology:**

1. Instruction and Operation Manual High Volume Sampler, Tisch Environmental Inc.
2. In-house method in according to the instruction manual: The Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

**Results:**

Correlation Factor (CF)	1.076
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*PREPARED AND CHECKED BY:*  
For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager



**High-Volume TSP Sampler  
5-POINT CALIBRATION DATA SHEET**

File No. WMA19011/WA12/0001

Station AM6 - Works Site Boundary Operator: HL  
 Date: 8-Jun-21 Next Due Date: 7-Aug-21  
 Equipment No.: WA-12-12 Serial No. 2355

Ambient Condition			
Temperature, Ta (K)	301	Pressure, Pa (mmHg)	756.5

Orifice Transfer Standard Information					
Serial No.	0993	Slope, mc	0.0569	Intercept, bc	-0.01398
Last Calibration Date:	28-Jan-21	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	28-Jan-22	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	14.3	3.75	66.24	8.6	2.91
2	10.8	3.26	57.60	6.8	2.59
3	7.7	2.75	48.67	4.7	2.15
4	5.4	2.31	40.80	3.2	1.78
5	3.7	1.91	33.82	2.5	1.57

**By Linear Regression of Y on X**  
 Slope, mw = 0.0429 Intercept, bw = 0.0787  
 Correlation coefficient\* = 0.9975

\*If Correlation Coefficient < 0.990, check and recalibrate.

**Set Point Calculation**

From the TSP Field Calibration Curve, take Qstd = 43 CFM  
 From the Regression Equation, the "Y" value according to

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

Therefore, Set Point;  $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  3.76

Remarks: \_\_\_\_\_

Conducted by: EE MAN NG Signature: \_\_\_\_\_ Date: 8/6/2021  
 Checked by: HOKA CHUN Signature: \_\_\_\_\_ Date: 8/26/2021

**High-Volume TSP Sampler  
5-POINT CALIBRATION DATA SHEET**

File No. WMA19011/WA12/0002

Station AM6 - Works Site Boundary Operator: HL  
 Date: 6-Aug-21 Next Due Date: 5-Oct-21  
 Equipment No.: WA-12-12 Serial No. 2355

Ambient Condition			
Temperature, Ta (K)	302.1	Pressure, Pa (mmHg)	751.6

Orifice Transfer Standard Information					
Serial No.	0993	Slope, mc	0.0569	Intercept, bc	-0.01398
Last Calibration Date:	28-Jan-21	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	28-Jan-22	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	14.0	3.70	65.22	8.9	2.95
2	10.8	3.25	57.31	6.7	2.56
3	7.6	2.72	48.12	5.0	2.21
4	5.3	2.27	40.22	3.4	1.82
5	3.8	1.93	34.09	2.4	1.53

By Linear Regression of Y on X  
 Slope, mw = 0.0449 Intercept, bw : 0.0134  
 Correlation coefficient\* = 0.9991  
 \*If Correlation Coefficient < 0.990, check and recalibrate.

**Set Point Calculation**

From the TSP Field Calibration Curve, take Qstd = 43 CFM  
 From the Regression Equation, the "Y" value according to

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

Therefore, Set Point;  $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  3.87

Remarks: \_\_\_\_\_

Conducted by: Lee Man Hei Signature: Lee Man Hei Date: 6-8-2021  
 Checked by: Ho Ka Chun Signature: Ho Ka Chun Date: 6/8/2021

**High-Volume TSP Sampler**  
**5-POINT CALIBRATION DATA SHEET**

File No. WMA19011/WA14/001

Station AM7 - North West Kowloon Sewage Pumping Station Operator: HL  
 Date: 8-Jun-21 Next Due Date: 7-Aug-21  
 Equipment No.: WA-12-14 Serial No. 2353

Ambient Condition			
Temperature, Ta (K)	301.8	Pressure, Pa (mmHg)	755.3

Orifice Transfer Standard Information					
Serial No.	0993	Slope, mc	0.0569	Intercept, bc	-0.01398
Last Calibration Date:	28-Jan-21	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	28-Jan-22	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	12.6	3.52	62.06	8.7	2.92
2	10.8	3.26	57.48	7.6	2.73
3	7.4	2.69	47.62	5.1	2.24
4	5.2	2.26	39.96	3.6	1.88
5	3.6	1.88	33.29	2.6	1.60

**By Linear Regression of Y on X**

Slope, mw = 0.0467 Intercept, bw = 0.0263

Correlation coefficient\* = 0.9996

\*If Correlation Coefficient < 0.990, check and recalibrate.

**Set Point Calculation**

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

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

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

Therefore, Set Point;  $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  4.22

Remarks: \_\_\_\_\_

Conducted by: LEE MON HUI Signature: \_\_\_\_\_  
 Checked by: MO KA CHUN Signature: \_\_\_\_\_

Date: 8/6/2021  
 Date: 8/6/2021

**High-Volume TSP Sampler  
5-POINT CALIBRATION DATA SHEET**

File No. WMA19011/WA14/0002

Station AM7 - North West Kowloon Sewage Pumping Station Operator: HL  
 Date: 6-Aug-21 Next Due Date: 5-Oct-21  
 Equipment No.: WA-12-14 Serial No. 2353

Ambient Condition			
Temperature, Ta (K)	302.3	Pressure, Pa (mmHg)	751.4

Orifice Transfer Standard Information					
Serial No.	0993	Slope, mc	0.0569	Intercept, bc	-0.01398
Last Calibration Date:	28-Jan-21	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	28-Jan-22	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	12.7	3.52	62.10	8.4	2.86
2	10.6	3.21	56.75	7.1	2.63
3	7.7	2.74	48.41	5.6	2.34
4	5.1	2.23	39.44	3.5	1.85
5	3.4	1.82	32.25	2.3	1.50

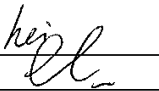
By Linear Regression of Y on X

Slope, mw = 0.0457 Intercept, bw = 0.0499  
 Correlation coefficient\* = 0.9972

\*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation	
From the TSP Field Calibration Curve, take Qstd = 43 CFM	
From the Regression Equation, the "Y" value according to	
$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$	
Therefore, Set Point; W = $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$	<u>4.17</u>

Remarks: \_\_\_\_\_

Conducted by: LEE MAN HEZ Signature:  Date: 6-8-2021  
 Checked by: AO KADU Signature: \_\_\_\_\_ Date: 6/8/2021

## High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET

File No. WMA19011/WA18/0001

Station AM8 - Block A of Government Dockyard Operator: HL  
 Date: 8-Jun-21 Next Due Date: 7-Aug-21  
 Equipment No.: WA-12-18 Serial No. 3219

Ambient Condition			
Temperature, Ta (K)	301.9	Pressure, Pa (mmHg)	755.3

Orifice Transfer Standard Information					
Serial No.	0993	Slope, mc	0.0569	Intercept, bc	-0.01398
Last Calibration Date:	28-Jan-21	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	28-Jan-22	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	11.5	3.36	59.30	8.0	2.80
2	9.8	3.10	54.76	6.4	2.51
3	7.7	2.75	48.56	5.5	2.32
4	5.4	2.30	40.71	3.9	1.96
5	3.1	1.74	30.90	2.4	1.53

**By Linear Regression of Y on X**

Slope, mw = 0.0434 Intercept, bw = 0.1918  
 Correlation coefficient\* = 0.9970

\*If Correlation Coefficient < 0.990, check and recalibrate.

**Set Point Calculation**

From the TSP Field Calibration Curve, take Qstd = 43 CFM  
 From the Regression Equation, the "Y" value according to

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

Therefore, Set Point;  $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  4.31

Remarks: \_\_\_\_\_

Conducted by: LET MAN HO Signature: \_\_\_\_\_  
 Checked by: JO KA CHUN Signature: \_\_\_\_\_

Date: 8/6/21  
 Date: 8/6/21

**High-Volume TSP Sampler  
5-POINT CALIBRATION DATA SHEET**

File No. WMA19011/WA18/0002

Station AM8 - Block A of Government Dockyard Operator: HL  
Date: 6-Aug-21 Next Due Date: 5-Oct-21  
Equipment No.: WA-12-18 Serial No. 3219

Ambient Condition			
Temperature, Ta (K)	302.7	Pressure, Pa (mmHg)	751.1

Orifice Transfer Standard Information					
Serial No.	0993	Slope, mc	0.0569	Intercept, bc	-0.01398
Last Calibration Date:	28-Jan-21	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	28-Jan-22	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X-axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	11.4	3.33	58.80	8.2	2.82
2	9.7	3.07	54.25	6.7	2.55
3	7.8	2.75	48.68	5.4	2.29
4	5.6	2.33	41.28	3.9	1.95
5	3.3	1.79	31.75	2.4	1.53

**By Linear Regression of Y on X**

Slope, mw = 0.0474 Intercept, bw : 0.0056  
Correlation coefficient\* = 0.9988

\*If Correlation Coefficient < 0.990, check and recalibrate.

**Set Point Calculation**

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

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

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

Therefore, Set Point; W =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  4.29

Remarks: \_\_\_\_\_

Conducted by: LEE HAN HAN Signature: [Signature] Date: 6-8-2021  
Checked by: Ho Ka Chun Signature: [Signature] Date: 6/8/2021



<b>RECALIBRATION</b>
<b>DUE DATE:</b>
January 28, 2022

# Certificate of Calibration

Calibration Certification Information			
Cal. Date: January 28, 2021	Rootsmeter S/N: 438320	Ta: 294	°K
Operator: Jim Tisch		Pa: 763.5	mm Hg
Calibration Model #: TE-5025A	Calibrator S/N: 0993		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4160	3.3	2.00
2	3	4	1	0.9980	6.4	4.00
3	5	6	1	0.8890	8.0	5.00
4	7	8	1	0.8500	8.8	5.50
5	9	10	1	0.7020	12.9	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)
1.0139	0.7160	1.4271	0.9957	0.7032	0.8776
1.0098	1.0118	2.0182	0.9916	0.9936	1.2411
1.0076	1.1334	2.2564	0.9895	1.1131	1.3875
1.0066	1.1842	2.3666	0.9885	1.1629	1.4553
1.0011	1.4261	2.8542	0.9831	1.4004	1.7551
<b>QSTD</b>	<b>m=</b>	<b>2.00902</b>	<b>QA</b>	<b>m=</b>	<b>1.25802</b>
	<b>b=</b>	<b>-0.01398</b>		<b>b=</b>	<b>-0.00860</b>
	<b>r=</b>	<b>0.99997</b>		<b>r=</b>	<b>0.99997</b>

Calculations			
<b>Vstd</b> = ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta)	<b>Va</b> = ΔVol((Pa-ΔP)/Pa)		
<b>Qstd</b> = Vstd/ΔTime	<b>Qa</b> = Va/ΔTime		
<b>For subsequent flow rate calculations:</b>			
<b>Qstd</b> = 1/m $\left( \left( \sqrt{\Delta H \left( \frac{Pa}{Pstd} \right) \left( \frac{Tstd}{Ta} \right)} \right) - b \right)$		<b>Qa</b> = 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](http://www.tisch-env.com)  
 TOLL FREE: (877)263-7610  
 FAX: (513)467-9009

### TEST REPORT

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1701, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	34872C
Date of Issue:	2021-03-08
Date Received:	2021-03-05
Date Tested:	2021-03-05
Date Completed:	2021-03-08
Next Due Date:	2022-03-07

Page: 1 of 1

**ATTN:** Mr. W. K. Tang

### Certificate of Calibration

**Item for calibration:**

Description	: Sound Level Meter
Manufacturer	: BSWA
Model No.	: BSWA 308
Serial No.	: 580006
Equipment No.	: WN-01-04

**Test conditions:**

Room Temperature	: 17-22 degree Celsius
Relative Humidity	: 40-70%

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

In-house method, according to manufacturer instruction manual

**Results:**

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager



### TEST REPORT

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1701, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	34872E
Date of Issue:	2021-03-08
Date Received:	2021-03-05
Date Tested:	2021-03-05
Date Completed:	2021-03-08
Next Due Date:	2022-03-07

Page: 1 of 1

**ATTN:** Mr. W. K. Tang

### Certificate of Calibration

**Item for calibration:**

Description	: Sound Level Meter
Manufacturer	: BSWA
Model No.	: BSWA 308
Serial No.	: 580008
Equipment No.	: WN-01-06

**Test conditions:**

Room Temperature	: 17-22 degree Celsius
Relative Humidity	: 40-70%

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

In-house method, according to manufacturer instruction manual

**Results:**

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

*PREPARED AND CHECKED BY:*  
For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

### TEST REPORT

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1701, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	34873
Date of Issue:	2021-03-15
Date Received:	2021-03-12
Date Tested:	2021-03-12
Date Completed:	2021-03-15
Next Due Date:	2022-03-14

Page: 1 of 1

**ATTN:** Mr. W. K. Tang

### Certificate of Calibration

**Item for calibration:**

Description	: Sound Level Meter
Manufacturer	: BSWA
Model No.	: BSWA 308
Serial No.	: 580011
Equipment No.	: WN-01-08

**Test conditions:**

Room Temperature	: 17-22 degree Celsius
Relative Humidity	: 40-70%

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

In-house method, according to manufacturer instruction manual

**Results:**

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

### TEST REPORT

APPLICANT: Wellab Limited  
(EM&A Department)  
Room 1701, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	34873B
Date of Issue:	2021-03-15
Date Received:	2021-03-12
Date Tested:	2021-03-12
Date Completed:	2021-03-15
Next Due Date:	2022-03-14

Page: 1 of 1

ATTN: Mr. W. K. Tang

### Certificate of Calibration

**Item for calibration:**

Description : Sound Level Meter  
Manufacturer : BSWA  
Model No. : BSWA 308  
Serial No. : 580017  
Equipment No. : WN-01-10

**Test conditions:**

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

In-house method, according to manufacturer instruction manual

**Results:**

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

### TEST REPORT

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1701, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	34136
Date of Issue:	2020-10-03
Date Received:	2020-09-29
Date Tested:	2020-09-29
Date Completed:	2020-10-03
Next Due Date:	2021-10-02

Page: 1 of 1

**ATTN:** Mr. W. K. Tang

### Certificate of Calibration

**Item for calibration:**

Description : Acoustical Calibrator  
Manufacturer : SVANTEK  
Model No. : SV30A  
Serial No. : 24803  
Equipment No. : N-09-03

**Test conditions:**

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

**Methodology:**

The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

**Results:**

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1 dB
At 114 dB SPL	114.0	114.0 ± 0.1 dB

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1701, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	33963A
Date of Issue:	2020-08-21
Date Received:	2020-08-19
Date Tested:	2020-08-19
Date Completed:	2020-08-21
Next Due Date:	2021-08-20

Page: 1 of 1

**ATTN:** Mr. W. K. Tang

### Certificate of Calibration

**Item for calibration:**

Description	: Acoustical Calibrator
Manufacturer	: SVANTEK
Model No.	: SV30A
Serial No.	: 24791
Equipment No.	: N-09-04

**Test conditions:**

Room Temperature	: 17-22 degree Celsius
Relative Humidity	: 40-70%

**Methodology:**

The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

**Results:**

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1 dB
At 114 dB SPL	114.0	114.0 ± 0.1 dB

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

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**APPENDIX C  
ENVIRONMENTAL MONITORING  
SCHEDULES**

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**DE/2018/17, Enhancement of Deodourisation System at Stonecutters Island Sewage Treatment Works  
Impact Air Quality and Noise Monitoring Schedule (August 2021)**

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

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

**Air Quality Monitoring Station**

AM7 - West Kowloon No.2 Sewage Pumping Station  
AM8 - Block A of Government Dockyard  
AM6b - Works Site Boundary

**Noise Monitoring Station**

NM6 - Customs' Marine Base (Block H of Government Dockyard) Rooftop  
NM5 - FSD Diving Training Centre

**DE/2018/17, Enhancement of Deodourisation System at Stonecutters Island Sewage Treatment Works  
Tentative Impact Air Quality and Noise Monitoring Schedule (September 2021)**

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

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

**Air Quality Monitoring Station**

AM7 - West Kowloon No.2 Sewage Pumping Station  
AM8 - Block A of Government Dockyard  
AM6b - Works Site Boundary

**Noise Monitoring Station**

NM6 - Customs' Marine Base (Block H of Government Dockyard) Rooftop  
NM5 - FSD Diving Training Centre



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**APPENDIX D  
1-HOUR AND 24-HOUR TSP  
MONITORING RESULTS AND  
GRAPHICAL PRESENTATION**

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## Appendix D - 1-hour TSP Monitoring Results

### Location AM6b - Works Site Boundary

Start Date	Start Time	Weather Condition	Air Temp. (K)	Filter Weight (g)		Particulate weight (g)	Elapse Time		Sampling Time(hrs.)	Flow Rate (m <sup>3</sup> /min.)		Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )	Conc. (µg/m <sup>3</sup> )	Filter ID no.
				Initial	Final		Initial	Final		Initial	Final				
2-Aug-21	13:00	Sunny	304.6	3.4886	3.4908	0.0022	12284.8	12285.8	1.0	1.21	1.21	1.21	72.7	30.2	210801/035
2-Aug-21	14:00	Sunny	304.7	3.4964	3.4994	0.0030	12285.8	12286.8	1.0	1.21	1.21	1.21	72.7	41.3	210801/036
2-Aug-21	15:00	Sunny	304.9	3.4929	3.4974	0.0045	12286.8	12287.8	1.0	1.21	1.21	1.21	72.6	62.0	210801/037
6-Aug-21	9:00	Cloudy	301.3	3.2467	3.2524	0.0057	12311.8	12312.8	1.0	1.22	1.22	1.22	73.2	77.9	210701/024
6-Aug-21	10:00	Cloudy	301.7	3.4881	3.4942	0.0061	12312.8	12313.8	1.0	1.22	1.22	1.22	73.1	83.4	210801/052
6-Aug-21	11:00	Cloudy	302.1	3.5001	3.5063	0.0062	12313.8	12314.8	1.0	1.22	1.22	1.22	73.1	84.8	210801/053
12-Aug-21	9:00	Cloudy	302.7	3.5013	3.5044	0.0031	12338.8	12339.8	1.0	1.23	1.23	1.23	73.6	42.1	210801/079
12-Aug-21	10:00	Cloudy	303.1	3.4979	3.4992	0.0013	12339.8	12340.8	1.0	1.23	1.23	1.23	73.6	17.7	210801/080
12-Aug-21	11:00	Cloudy	303.1	3.5178	3.5208	0.0030	12340.8	12341.8	1.0	1.23	1.23	1.23	73.5	40.8	210801/081
18-Aug-21	9:00	Cloudy	302.8	3.5284	3.5307	0.0023	12365.8	12366.8	1.0	1.23	1.23	1.23	73.6	31.3	210801/085
18-Aug-21	10:00	Cloudy	303.5	3.5037	3.5064	0.0027	12366.8	12367.8	1.0	1.23	1.22	1.22	73.5	36.7	210801/084
18-Aug-21	11:00	Cloudy	303.9	3.4963	3.4982	0.0019	12367.8	12368.8	1.0	1.22	1.22	1.22	73.4	25.9	210801/086
24-Aug-21	9:00	Sunny	301.3	3.4995	3.5013	0.0018	12392.8	12393.8	1.0	1.22	1.23	1.23	73.7	24.4	210901/026
24-Aug-21	10:00	Sunny	300.8	3.4999	3.5049	0.0050	12393.8	12394.8	1.0	1.23	1.23	1.23	73.8	67.8	210901/024
24-Aug-21	11:00	Sunny	302.3	3.5047	3.5063	0.0016	12394.8	12395.8	1.0	1.23	1.23	1.23	73.6	21.7	210901/025
30-Aug-21	9:00	Cloudy	301.5	3.4956	3.4981	0.0025	12419.8	12420.8	1.0	1.23	1.23	1.23	73.8	33.9	210901/044
30-Aug-21	10:00	Cloudy	302.5	3.5283	3.5320	0.0037	12420.8	12421.8	1.0	1.23	1.23	1.23	73.7	50.2	210901/043
30-Aug-21	11:00	Cloudy	301.4	3.4897	3.4919	0.0022	12421.8	12422.8	1.0	1.23	1.23	1.23	73.9	29.8	210901/031
													Min	18	
													Max	85	
													Average	45	

## Appendix D - 1-hour TSP Monitoring Results

Location AM7 - North West Kowloon Sewage Pumping Station			
Date	Time	Weather	Particulate Concentration ( $\mu\text{g}/\text{m}^3$ )
2-Aug-21	13:00	Sunny	48.3
2-Aug-21	14:00	Sunny	55.7
2-Aug-21	15:00	Sunny	45.0
6-Aug-21	8:58	Cloudy	152.0
6-Aug-21	9:58	Cloudy	267.9
6-Aug-21	10:58	Cloudy	93.8
12-Aug-21	8:45	Cloudy	78.0
12-Aug-21	9:45	Cloudy	79.0
12-Aug-21	10:45	Cloudy	86.2
18-Aug-21	8:58	Sunny	39.7
18-Aug-21	9:58	Sunny	27.3
18-Aug-21	10:58	Sunny	28.5
24-Aug-21	9:00	Sunny	81.5
24-Aug-21	10:00	Sunny	62.5
24-Aug-21	11:00	Sunny	25.7
30-Aug-21	9:00	Cloudy	52.6
30-Aug-21	10:00	Cloudy	43.6
30-Aug-21	11:00	Cloudy	42.3
		Minimum	25.7
		Maximum	267.9
		Average	72.8

Location AM8 - Block A of Government Dockyard			
Date	Time	Weather	Particulate Concentration ( $\mu\text{g}/\text{m}^3$ )
2-Aug-21	13:00	Sunny	73.5
2-Aug-21	14:00	Sunny	57.5
2-Aug-21	15:00	Sunny	47.9
6-Aug-21	13:00	Cloudy	107.8
6-Aug-21	14:00	Cloudy	112.8
6-Aug-21	15:00	Cloudy	103.2
12-Aug-21	13:00	Cloudy	39.7
12-Aug-21	14:00	Cloudy	40.1
12-Aug-21	15:00	Cloudy	44.8
18-Aug-21	13:00	Cloudy	29.7
18-Aug-21	14:00	Cloudy	29.6
18-Aug-21	15:00	Cloudy	38.7
24-Aug-21	13:00	Sunny	34.3
24-Aug-21	14:00	Sunny	19.0
24-Aug-21	15:00	Sunny	23.1
30-Aug-21	13:00	Cloudy	41.1
30-Aug-21	14:00	Cloudy	54.8
30-Aug-21	15:00	Cloudy	52.8
		Minimum	19.0
		Maximum	112.8
		Average	52.8

## Appendix D - 24-hour TSP Monitoring Results

### Location AM6b - Works Site Boundary

Start Date	Weather Condition	Air Temp. (K)	Filter Weight (g)		Particulate weight (g)	Elapse Time		Sampling Time(hrs.)	Flow Rate (m <sup>3</sup> /min.)		Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )	Conc. (µg/m <sup>3</sup> )	Filter ID no.
			Initial	Final		Initial	Final		Initial	Final				
5-Aug-21	Cloudy	300.7	3.4792	3.7095	0.2303	12287.8	12311.8	24.0	1.22	1.22	1.22	1756.9	131.1	210801/038
11-Aug-21	Cloudy	301.7	3.4900	3.6420	0.1520	12314.8	12338.8	24.0	1.23	1.23	1.23	1769.0	85.9	210801/054
17-Aug-21	Sunny	302.2	3.4980	3.5744	0.0764	12341.8	12365.8	24.0	1.23	1.23	1.23	1768.5	43.2	210801/060
23-Aug-21	Sunny	302.7	3.4822	3.5362	0.0540	12368.8	12392.8	24.0	1.23	1.22	1.23	1764.2	30.6	210801/087
27-Aug-21	Cloudy	299.4	3.4813	3.5375	0.0562	12395.8	12419.8	24.0	1.24	1.23	1.23	1778.1	31.6	210901/028
												Min	31	
												Max	131	
												Average	64	

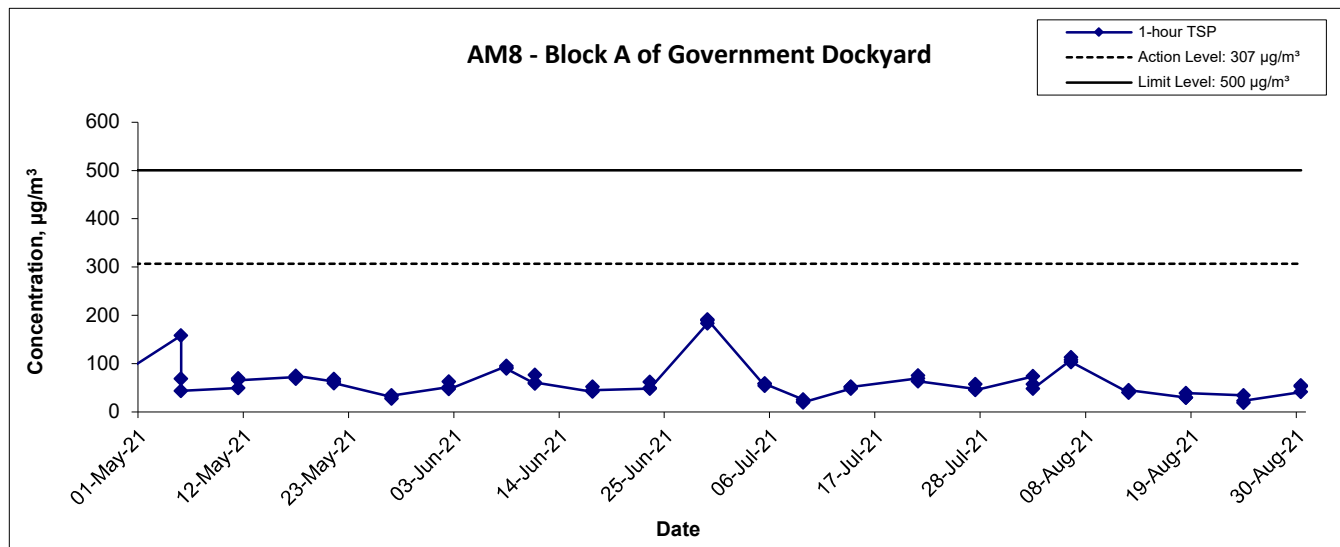
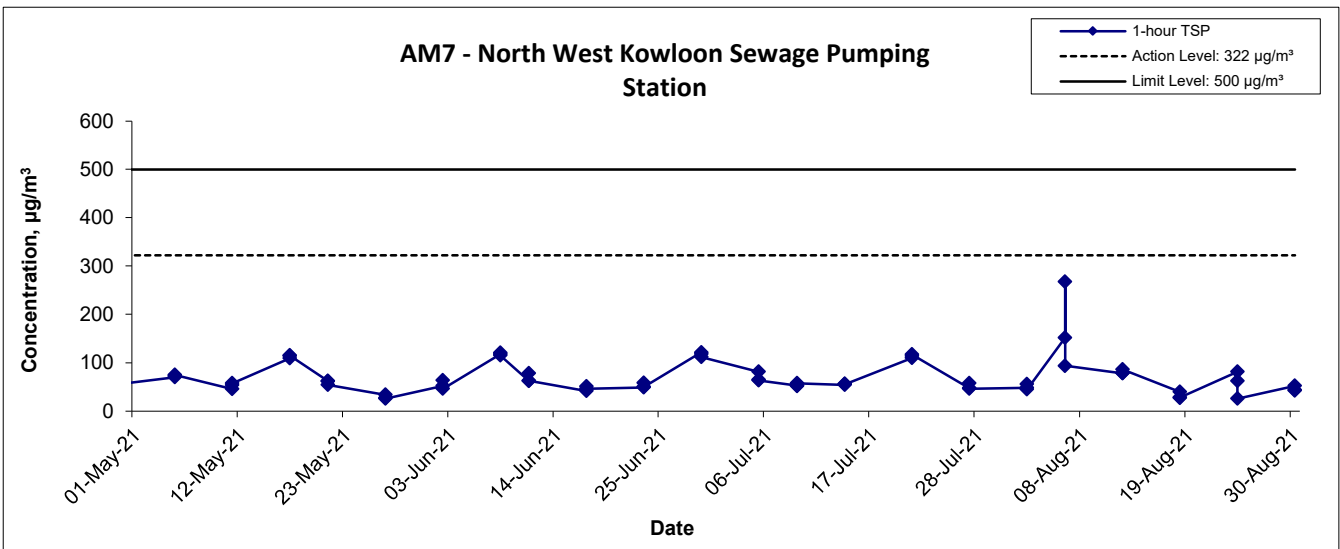
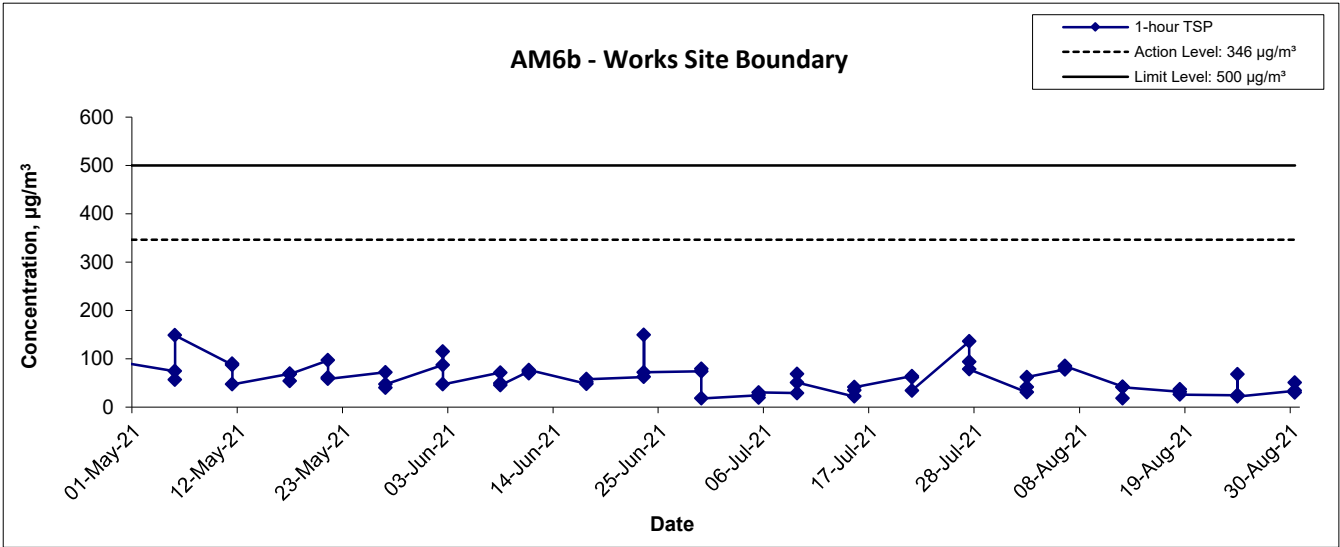
### Location AM7 - North West Kowloon Sewage Pumping Station


Start Date	Weather Condition	Air Temp. (K)	Filter Weight (g)		Particulate weight (g)	Elapse Time		Sampling Time(hrs.)	Flow Rate (m <sup>3</sup> /min.)		Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )	Conc. (µg/m <sup>3</sup> )	Filter ID no.
			Initial	Final		Initial	Final		Initial	Final				
5-Aug-21	Cloudy	300.7	3.4864	3.5739	0.0875	41430.4	41454.4	24.0	1.21	1.21	1.21	1746.0	50.1	210801/040
11-Aug-21	Cloudy	301.7	3.4700	3.5435	0.0735	41454.4	41478.4	24.0	1.23	1.23	1.23	1771.6	41.5	210801/051
17-Aug-21	Sunny	302.2	3.4977	3.5583	0.0606	41478.4	41502.4	24.0	1.23	1.23	1.23	1771.0	34.2	210801/059
23-Aug-21	Sunny	302.7	3.5197	3.5738	0.0541	41502.4	41526.4	24.0	1.23	1.23	1.23	1766.7	30.6	210901/011
27-Aug-21	Cloudy	299.4	3.5244	3.5706	0.0462	41526.4	41550.4	24.0	1.24	1.23	1.24	1780.8	25.9	210901/027
												Min	26	
												Max	50	
												Average	36	

### Location AM8 - Block A of Government Dockyard

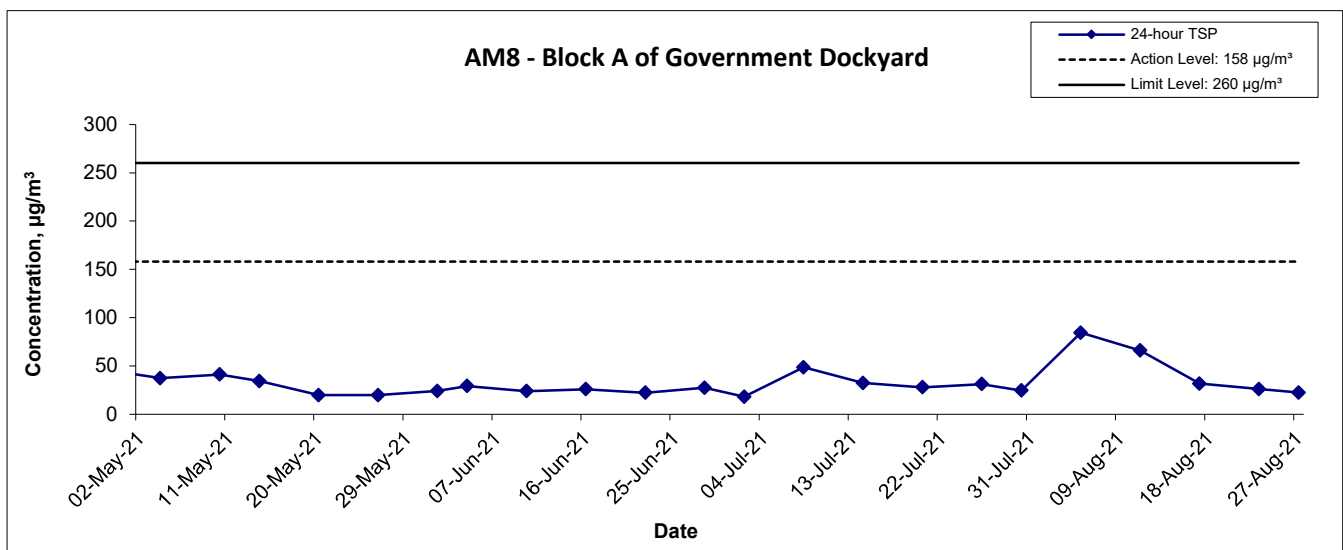
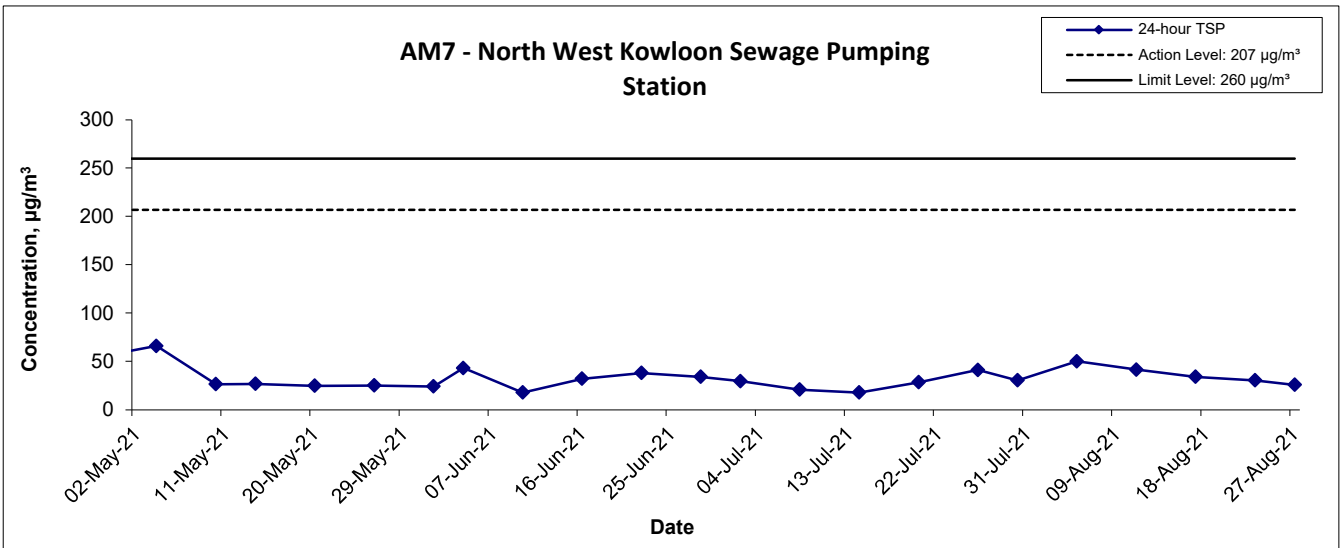
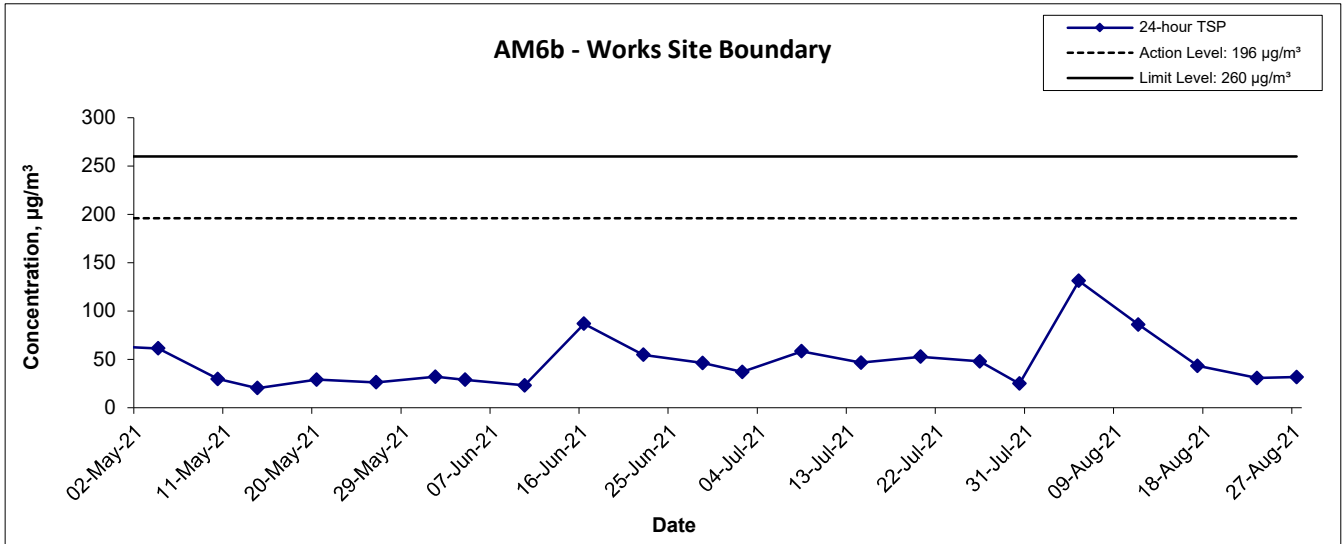
Start Date	Weather Condition	Air Temp. (K)	Filter Weight (g)		Particulate weight (g)	Elapse Time		Sampling Time(hrs.)	Flow Rate (m <sup>3</sup> /min.)		Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )	Conc. (µg/m <sup>3</sup> )	Filter ID no.
			Initial	Final		Initial	Final		Initial	Final				
5-Aug-21	Cloudy	300.7	3.4883	3.6356	0.1473	14364.2	14388.2	24.0	1.21	1.21	1.21	1745.9	84.4	210801/038
11-Aug-21	Cloudy	301.7	3.4574	3.5739	0.1165	14388.2	14412.2	24.0	1.23	1.23	1.23	1766.9	65.9	210801/055
17-Aug-21	Sunny	302.2	3.4972	3.5530	0.0558	14412.2	14436.2	24.0	1.23	1.23	1.23	1766.3	31.6	210801/082
23-Aug-21	Sunny	302.7	3.4801	3.5259	0.0458	14436.2	14460.2	24.0	1.22	1.22	1.22	1762.1	26.0	210901/012
27-Aug-21	Cloudy	299.4	3.5009	3.5408	0.0399	14460.2	14484.2	24.0	1.24	1.23	1.23	1775.9	22.5	210901/029
												Min	22	
												Max	84	
												Average	46	

### 1-hr TSP Concentration Levels



Title Contract No. DE/2018/17 Enhancement of Deodourisation System at Stonecutters Island Sewage Treatment Works  Graphical Presentation of 1-hour TSP Monitoring Results	Scale N.T.S	Project No. WMA19011	 consulting . testing . research
	Date Aug 21	Appendix D	

### 24-hr TSP Concentration Levels



Title Contract No. DE/2018/17 Enhancement of Deodourisation System at Stonecutters Island Sewage Treatment Works Graphical Presentation of 24-hour TSP Monitoring Results	Scale N.T.S	Project No. WMA19011	
	Date Aug 21	Appendix D	

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

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## Appendix E - Noise Monitoring Results

(0700-1900 hrs on Normal Weekdays)

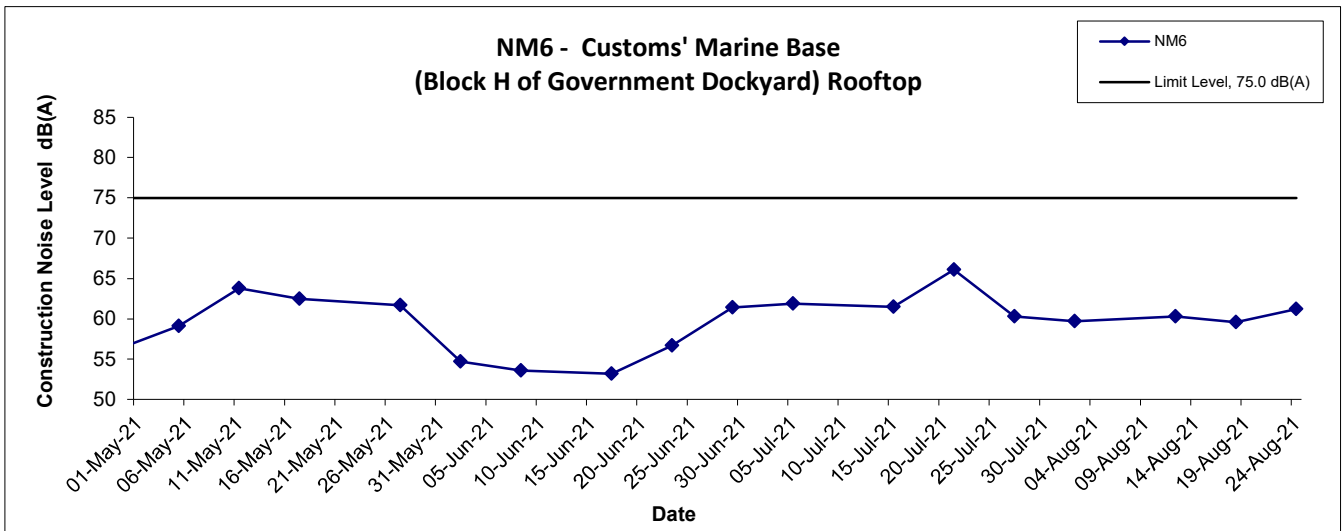
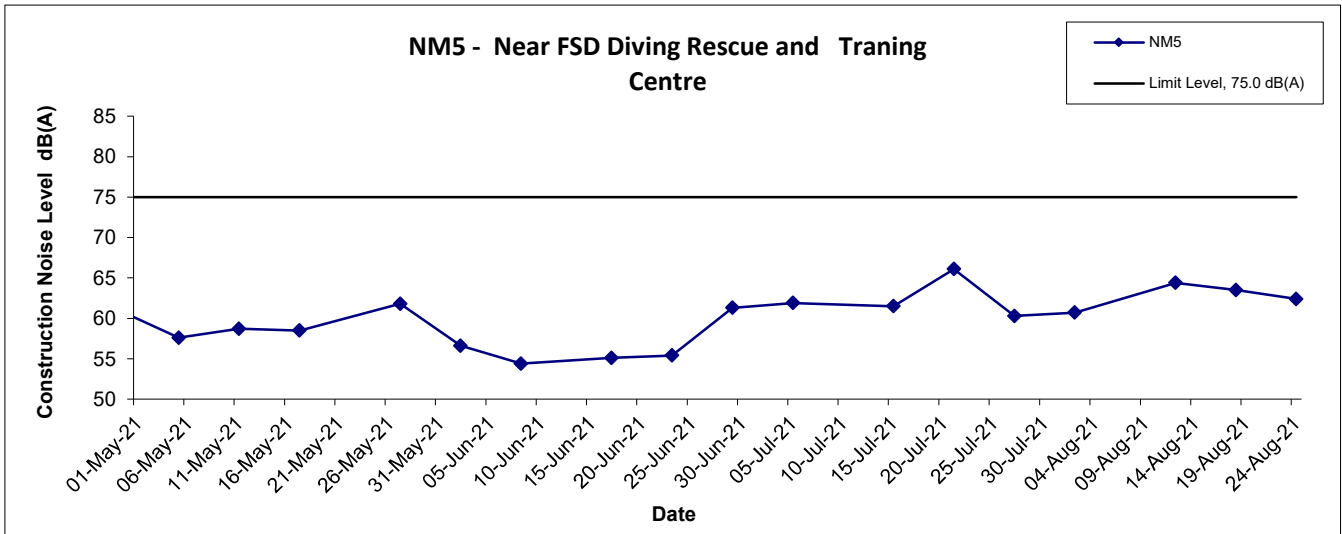
<b>Location NM5 - Near FSD Diving Rescue and Training Centre</b>					
Date	Time	Weather	Unit: dB (A) (30-min)		
			Measured Noise Level		
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>
2-Aug-21	15:53	Cloudy	60.7	61.5	59.9
12-Aug-21	08:38	Cloudy	64.4	67.6	59.9
18-Aug-21	08:22	Cloudy	63.5	66.6	57.5
24-Aug-21	08:18	Sunny	62.4	64.6	59.7
		Maximum	64.4		
		Minimum	60.7		

<b>Location NM6 - Customs' Marine Base (Block H of Government Dockyard) Rooftop</b>					
Date	Time	Weather	Unit: dB (A) (30-min)		
			Measured Noise Level		
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>
2-Aug-21	14:32	Cloudy	59.7	61.0	58.6
12-Aug-21	15:04	Cloudy	60.3	61.5	58.5
18-Aug-21	16:01	Cloudy	59.6	60.5	58.8
24-Aug-21	15:07	Sunny	61.2	62.2	60.0
		Maximum	61.2		
		Minimum	59.6		



## Noise Levels

**(0700-1900 hrs on Normal Weekdays)**



Title Contract No. DE/2018/17 Enhancement of Deodorisation System at Stonecutters Island Sewage Treatment Works  Graphical Presentation of Noise Monitoring Result	Scale	N.T.S	Project No.	WMA19011
	Date	Aug 21	Appendix	E



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**APPENDIX F**  
**SUMMARY OF EXCEEDANCE**

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## **APPENDIX F – SUMMARY OF EXCEEDANCE**

**Reporting Month:** August 2021

- a) Exceedance Report for 1-hr TSP (NIL)**
- b) Exceedance Report for 24-hr TSP (NIL)**
- c) Exceedance Report for Construction Noise (NIL)**

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**APPENDIX G  
SITE AUDIT SUMMARY**

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Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	210805
Date	5 Aug 2021 (Thursday)
Time	09:30 – 10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part B - Landscape and Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part D - Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part E - Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part F - Permit / Licence</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Others</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Remark:</b></p> <ul style="list-style-type: none"> <li>Follow-up on previous audit session: On previous audit session (Ref. No.: 210729), no environmental deficiency was observed during site inspection.</li> </ul>	

	Name	Signature	Date
Recorded by	Ivan Wong		6 Aug 2021
Checked by	Dr. Priscilla Choy		6 Aug 2021

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	210812
Date	12 Aug 2021 (Thursday)
Time	09:30 – 10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part B – Landscape and Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part D – Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part E – Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part F - Permit / Licence</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Others</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Remark:</b></p> <ul style="list-style-type: none"> <li>Follow-up on previous audit session: On previous audit session (Ref. No.: 210805), no environmental deficiency was observed during site inspection.</li> </ul>	

	Name	Signature	Date
Recorded by	Ivan Wong		12 Aug 2021
Checked by	Dr. Priscilla Choy		12 Aug 2021



Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	210819
Date	19 Aug 2021 (Thursday)
Time	09:30 – 10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part B – Landscape and Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part D – Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part E – Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part F - Permit / Licence</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Others</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Remark:</b></p> <ul style="list-style-type: none"> <li>Follow-up on previous audit session: On previous audit session (Ref. No.: 210812), no environmental deficiency was observed during site inspection.</li> </ul>	

	Name	Signature	Date
Recorded by	Ivan Wong		20 Aug 2021
Checked by	Dr. Priscilla Choy		20 Aug 2021


Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	210825
Date	25 Aug 2021 (Wednesday)
Time	14:00 – 15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part B – Landscape and Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part D – Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part E – Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part F - Permit / Licence</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Others</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Remark:</b></p> <ul style="list-style-type: none"> <li>Follow-up on previous audit session: On previous audit session (Ref. No.: 210819), no environmental deficiency was observed during site inspection.</li> </ul>	

	Name	Signature	Date
Recorded by	Ivan Wong		26 Aug 2021
Checked by	Dr. Priscilla Choy		26 Aug 2021



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**APPENDIX H  
SUMMARY OF AMOUNT OF WASTE  
GENERATED**

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Name of Department:                     DSD                    

Contract No. :                     DE/2018/17                    

**Monthly Summary Waste Flow Table for 2021 (year)**

Month	Actual Quantities of inert C&D Materials Generated Monthly						Actual Quantities of C&D Materials Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard	Plastics (see Note 3)	Chemical Waste	Other, e.g. general refuse
	(In '000m <sup>3</sup> )	(In '000m <sup>3</sup> )	(In '000m <sup>3</sup> )	(In '000m <sup>3</sup> )	(In '000m <sup>3</sup> )	(In '000m <sup>3</sup> )	(In '000kg)	(In '000kg)	(In '000kg)	(In '000kg)	(In '000m <sup>3</sup> )
Jan	0.200	0.000	0.000	0.000	0.200	0.000	0.000	1.332	0.000	0.000	0.007
Feb	0.179	0.000	0.000	0.000	0.179	0.000	0.000	3.083	0.000	0.000	0.007
Mar	0.170	0.000	0.000	0.000	0.170	0.000	0.000	3.614	0.000	0.000	0.004
Apr	0.085	0.000	0.000	0.000	0.085	0.000	0.000	2.022	0.000	0.000	0.008
May	0.070	0.000	0.000	0.000	0.070	0.000	0.000	1.456	0.000	0.000	0.002
June	0.052	0.000	0.000	0.000	0.052	0.000	0.000	0.695	0.000	0.000	0.002
Sub-total	0.755	0.000	0.000	0.000	0.755	0.000	0.000	12.202	0.000	0.000	0.030
July	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008
Aug	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005
Sep											
Oct											
Nov											
Dec											
Total	0.755	0.000	0.000	0.000	0.755	0.000	0.000	12.202	0.000	0.000	0.043
Total since commencement of project	4.495	0.399	0.000	0.000	4.495	0.000	12.260	18.928	0.000	0.000	0.092

- Notes:
- (1) The performance targets are given in PS Clause 25.37(14).
  - (2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
  - (3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material
  - (4) The conversion factor for tonne to m<sup>3</sup> for inert C&D materials is 1.9 tonne/m<sup>3</sup>.
  - (5) The conversion factor for tonne to m<sup>3</sup> for general refuse is 1.8 tonne/m<sup>3</sup>.

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**APPENDIX I**  
**EVENT ACTION PLANS**

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**APPENDIX I – Event / Action Plans**

**Table I-1 Event / Action Plan for Air Quality**

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
ACTION LEVEL				
1. Exceedance for one sample	<ol style="list-style-type: none"> <li>1. Identify source, investigate the causes of exceedance and propose remedial measures;</li> <li>2. Inform IEC and ER;</li> <li>3. Repeat measurement to confirm finding;</li> <li>4. Increase monitoring frequency to daily.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor’s working method.</li> </ol>	<ol style="list-style-type: none"> <li>1. Notify Contractor.</li> </ol>	<ol style="list-style-type: none"> <li>1. Rectify any unacceptable practice;</li> <li>2. Amend working methods if appropriate.</li> </ol>
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> <li>1. Identify source;</li> <li>2. Inform IEC and ER;</li> <li>3. Advise the ER on the effectiveness of the proposed remedial measures;</li> <li>4. Repeat measurements to confirm findings;</li> <li>5. Increase monitoring frequency to daily;</li> <li>6. Discuss with IEC and Contractor on remedial action required;</li> <li>7. If exceedance continues, arrange meeting with IEC and ER;</li> <li>8. If exceedance stops, cease additional monitoring</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor’s working method;</li> <li>3. Discuss with ET and Contractor on possible remedial measures;</li> <li>4. Advise the ET on the effectiveness of the proposed remedial measures;</li> <li>5. Supervise Implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Ensure remedial measures properly implemented</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit proposals for remedial to ER within 3 working days of notification;</li> <li>2. Implement the agreed proposals;</li> <li>3. Amend proposal if appropriate</li> </ol>

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
<b>LIMIT LEVEL</b>				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform ER, Contractor and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate
2. Exceedance for two or more consecutive samples	1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 4. Review Contractor's remedial actions whenever necessary to assure their effectiveness and	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Ensure remedial measures properly implemented;	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
	<p>implemented;</p> <p>6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken;</p> <p>7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results;</p> <p>8. If exceedance stops, cease additional monitoring</p>	<p>advise the ER accordingly;</p> <p>5. Supervise the implementation of remedial measures.</p>	<p>5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.</p>	<p>control;</p> <p>5. Stop the relevant portion of works as determined by the ER until the exceedance is abated</p>

**Table I-2 Event / Action Plan for Construction Noise**

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action Level being exceeded	<ol style="list-style-type: none"> <li>1. Notify ER, IEC and Contractor;</li> <li>2. Carry out investigation;</li> <li>3. Report the results of investigation to the IEC, ER and Contractor;</li> <li>4. Discuss with the IEC and Contractor on remedial measures required;</li> <li>5. Increase monitoring frequency to check mitigation effectiveness</li> </ol>	<ol style="list-style-type: none"> <li>1. Review the investigation results submitted by the ET;</li> <li>2. Review the proposed remedial measures by the Contractor and advise the ER accordingly;</li> <li>3. Advise the ER on the effectiveness of the proposed remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>4. Supervise the implementation of remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit noise mitigation proposals to IEC and ER;</li> <li>2. Implement noise mitigation proposals</li> </ol>
Limit Level being exceeded	<ol style="list-style-type: none"> <li>1. Inform IEC, ER, Contractor and EPD;</li> <li>2. Repeat measurements to confirm findings;</li> <li>3. Increase monitoring frequency;</li> <li>4. Identify source and investigate the cause of exceedance;</li> <li>5. Carry out analysis of Contractor's working procedures;</li> <li>6. Discuss with the IEC, Contractor and ER on remedial measures required;</li> <li>7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results;</li> <li>8. If exceedance stops, cease additional monitoring</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>2. Review Contractor's remedial action whenever necessary to assure their effectiveness and advise the ER accordingly</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>4. Supervise the implementation of remedial measures;</li> <li>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</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IEC and ER within 3 working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Submit further proposal if problem still not under control;</li> <li>5. Stop the relevant portion of works as instructed by the ER until the exceedance is abated</li> </ol>

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

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**APPENDIX J IMPLEMENTATION SCHEDULE OF ENVIRONMENTAL MITIGATION MEASURES (EMIS)**

<b>EIA Ref.</b>	<b>Recommended Mitigation Measures</b>	<b>Location of the measure</b>	<b>Implementation Status</b>
<b>A</b>	<b>Air Quality</b>		
3.74	Skip hoist for material transport should be totally enclosed by impervious sheeting.	All construction sites	^
	Vehicle washing facilities should be provided at every vehicle exit point.		^
	The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcore.		^
	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.		N/A
	Use of regular watering, with complete coverage, to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather.		^
	Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines.		^
	Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs.		^
	Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.		^
	Imposition of speed controls for vehicles on unpaved site roads. Ten kilometers per hour is the recommended limit.		^
	Every stock of more than 20 bags of cement should be covered entirely by impervious sheeting placed in an area sheltered on the top and the 3 sides.		^
	Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.		^
3.74	Instigation of an environmental monitoring and auditing program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise.	All construction sites	^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
<b>B</b>	<b>Airborne Noise</b>		
4.56– 4.61	Use of quiet PME, movable barriers and acoustic mats.	All construction sites	^
4.67	Only well-maintained plant shall be operated on-site and plant shall be serviced regularly during the construction program.		^
	Silencers or mufflers on construction equipment shall be utilized and shall be properly maintained during the construction program.		^
	Mobile plant, if any, shall be sited as far away from NSRs as possible.		^
	Machines and plant (such as trucks) that may be in intermittent use shall be shut down between works periods or shall be throttled down to a minimum.		^
4.67	Plant known to emit noise strongly in one direction shall, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.		^
	Material stockpiles and other structures shall be effectively utilized, wherever practicable, in screening noise from on-site construction activities.		^
<b>C</b>	<b>Water Quality</b>		
6.349 to 6.375	Construction Site Runoff and General Construction Activities The mitigation measures as outlined in the ProPECC PN 1/94 Construction Site Drainage should be adopted where applicable.	All construction sites	^
6.376	Effluent Discharge There is a need to apply to EPD for a discharge licence for discharge of effluent from the construction site under the WPCO. The discharge quality must meet the requirements specified in the discharge licence. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the WPCO license which is under the ambit of regional office (RO) of EPD. Minimum distances of 100 m should be maintained between the discharge points of construction site effluent and the existing saltwater intakes.		^
6.377	Accidental Spillage of Chemicals  Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General)		^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
	Regulation should be observed and complied with for control of chemical wastes.		
6.378	Any service shop and maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.		^
6.379	<p>Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows:</p> <ul style="list-style-type: none"> <li>• Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport.</li> <li>• Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents.</li> <li>• Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.</li> </ul>		^
6.380	<p>Construction Works in Close Proximity of Storm Drains or Seafront:</p> <p>To minimize the potential water quality impacts from the construction works located at or near any watercourse, the practices outlined below should be adopted where applicable.</p> <ul style="list-style-type: none"> <li>• The use of less or smaller construction plants may be specified to reduce the disturbance to the storm water courses or marine environment.</li> <li>• Temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction materials should be located well away from any water courses during carrying out of the construction works.</li> <li>• Stockpiling of construction materials and dusty materials should be covered and located away from any water courses.</li> <li>• Construction debris and spoil should be covered up and/or disposed of as soon as possible to avoid being washed into the nearby water receivers.</li> <li>• Construction activities, which generate large amount of wastewater, should be carried out in a distance away from the waterfront, where practicable.</li> <li>• Proper shoring may need to be erected in order to prevent soil/mud from slipping into the storm culvert or sea.</li> </ul>	All construction sites	^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
<b>D</b>	<b>Waste Management</b>		
9.107	Reusable steel or concrete panel shutters, fencing and hoarding and signboard should be used as a preferred alternative to items made of wood, to minimize wastage of wood. Attention should be paid to WBTC No. 19/2001 - Metallic Site Hoardings and Signboards to reduce the amount of timber used on construction sites. Metallic alternatives to timber are readily available and should be used rather than new timber. Precast concrete units should be adopted wherever feasible to minimize the use of timber formwork.	All construction sites	^
9.109	All waste materials should be segregated into categories covering: <ul style="list-style-type: none"> <li>• excavated materials suitable for reuse on-site;</li> <li>• excavated materials suitable for public filling facilities;</li> <li>• remaining C&amp;D waste for landfill;</li> <li>• chemical waste; and</li> <li>• general refuse for landfill.</li> </ul>	All construction sites	^
9.113	Sort C&D waste from demolition of existing facilities to recover recyclable portions such as metals.		^
	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.		^
	Encourage collection of aluminum cans, PET bottles and paper by providing separate labeled bins to enable these wastes to be segregated from other general refuse generated by the work force.		^
	Any unused chemicals or those with remaining functional capacity shall be recycled.		^
	Proper storage and site practices to minimize the potential for damage or contamination of construction materials.		^
9.115	Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.		^
	Training of site personnel in proper waste management and chemical waste handling procedures.		^
9.115	Develop and provide toolbox talk for on-site sorting of C&D materials to enhance worker's awareness in handling, sorting, reuse and recycling of C&D materials.		^
	Provision of sufficient waste disposal points and regular collection of waste.		^
	Regular cleaning and maintenance programme for drainage systems, sumps and oil		^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
	interceptors.		
9.125	Bentonite slurries used in diaphragm wall construction should be reconditioned and reused wherever practicable. The disposal of residual used bentonite slurry should follow the good practice guidelines stated in ProPECC PN 1/94 "Construction Site Drainage".	All construction sites	^
9.131	Adequate number of portable toilets at temporary works areas or the PTWs to ensure that sewage from site staff would be properly collected.		^
9.133	General refuse should be stored in enclosed bins, skips or compaction units separating from C&D material and disposed of at designated landfill.		^
9.135	The recyclable component of the municipal waste generated by the workforce, such as aluminum cans, paper and cleansed plastic containers should be separated from other waste. Provision and collection of recycling bins for different types of recyclable waste should be set up by the Contractor. The Contractor should also be responsible for arranging recycling companies to collect these materials.		^
9.137	If chemical wastes are produced at the construction site, the Contractor would be required to register with the EPD as a chemical waste producer and to follow the guidelines 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, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the approved Chemical Waste Treatment Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.		^
9.142	Prior to excavation of the marine deposit layer, the deposit should be tested in accordance with the ETWB TC(W) No. 34/2002 and the results should be presented in a Preliminary Sediment Quality Report. The marine deposit should be disposed of at the disposal site designated by the Marine Fill Committee (MFC) or Director of Environmental Protection (DEP) depending on the test results.		N/A

<b>EIA Ref.</b>	<b>Recommended Mitigation Measures</b>	<b>Location of the measure</b>	<b>Implementation Status</b>
<b>E</b>	<b>Terrestrial Ecology</b>		
10.94	To implement effective noise mitigation measures as recommended in Section 4 of EIA.	All construction sites	N/A
10.95	Dust control practices such as regular watering, complete coverage of any aggregate or dusty material storage piles, and re-schedule of dusty activities during high-wind conditions as well as other measures recommended in Section 3 of EIA, should be implemented.		^
10.96	Fences/hoardings should be erected and installed along the boundary of the works areas.		^
10.97	Standard good site practices as suggested in Section 10 of EIA should be implemented.		N/A
10.98	Provision of proper drainage system and runoff control measures such as use of sand/silt traps, oil/grease separators, sedimentation tanks, etc.		^
<b>F</b>	<b>Landscape and Visual</b>		
Table 13.7	Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical.	All construction sites	^
	Existing trees to be retained on site should be carefully protected during construction.		^
	Trees unavoidably affected by the works should be transplanted where practical.		^
	Compensatory tree planting should be provided to compensate for felled trees.		^
	Control of night-time lighting.		^
Table 13.7	Erection of decorative screen hoarding compatible with the surrounding setting.	All construction sites	N/A
<b>G</b>	<b>Marine Ecology</b>		
11.137	To minimize the potential indirect impacts on water quality from construction site runoff and various construction activities, the practices outlined in ProPECC PN 1/94 Construction Site Drainage should be adopted.	All construction sites	^
<b>H</b>	<b>Hazard to Life</b>		
14A.201	Limiting use of cranes in terms of locations, lifting height, swing angle and setting up safety zone.	Exact location will be determined on construction site by the engineer	^

Remarks:	^ Compliance of mitigation measure;
	N/A Not Applicable;
	* Recommendation was made during site audit but improved/rectified by the contractor.
	# Recommendation was made during site audit and to be improved / rectified by the contractor.
	X Non-compliance of mitigation measure;
	• Non-compliance but rectified by the contractor;

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**APPENDIX K  
COMPLAINT LOG**

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**APPENDIX K – COMPLAINT LOG****Reporting Month:** August 2021

<b>Log Ref.</b>	<b>Location</b>	<b>Received Date</b>	<b>Details of Complaint</b>	<b>Investigation/Mitigation Action</b>	<b>Status</b>
N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

**Remarks:** No environmental complaint was received in the reporting month.

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**APPENDIX L**  
**CONSTRUCTION PROGRAMME**

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Activity ID	Activity Name	Activity % Complete	Total Float	Original Duration	Time risk allowance	Start	Finish	2019				2020				2021		
								Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3		
<b>Works Programme (First Programme)</b>								03-May-21, Works Programme (First Programme)										
<b>Contract Particulars</b>								03-May-21, Contract Particulars										
KD0001	Starting date of Project	0%	0	0		09-Jul-19*		29-Dec-20, Key Dates										
KD0005	Completion Date (665 days)	0%	0	0			03-May-21	03-May-21, Completion Date (665 days)										
<b>Key Dates</b>								29-Dec-20, Key Dates										
KD0010	Starting date of Project	0%	0	0		09-Jul-19*		03-May-21, Infrastructure Construction Works										
KD0020	KD A - Completion of all other works including DOUs 1, 2, 4, 5 Polishing stages for FSI (540 days)	0%	0	0			29-Dec-20*	03-May-21, Infrastructure Construction Works										
<b>Access Date of Part of the Site</b>								09-Jul-19, Access Date of Part of the Site										
A1090	Part A-L	0%	0	0		09-Jul-19		19-Aug-19, Preliminary and General Requirements										
<b>Preliminary and General Requirements</b>								19-Aug-19, Preliminary and General Requirements										
PG00010	Statutory application/ notification of EPD and LD	0%	11	21	0	09-Jul-19	29-Jul-19	Statutory application/ notification of EPD and LD										
PG00020	Submission of Safety plan	0%	11	21	0	09-Jul-19	29-Jul-19	Submission of Safety plan										
PG00030	Approval of Safety Plan	0%	11	21	0	09-Jul-19	19-Aug-19	Approval of Safety Plan										
PG00040	Submission of Waste Management Plan/ Environmental Management plan	0%	11	21	0	09-Jul-19	29-Jul-19	Submission of Waste Management Plan/ Environmental Management plan										
PG00050	Approval of Waste Management Plan/ Environmental Management plan	0%	11	14	0	30-Jul-19	12-Aug-19	Approval of Waste Management Plan/ Environmental Management plan										
PG00060	Submission of Subcontractor Management Plan	0%	112	14	0	09-Jul-19	22-Jul-19	Submission of Subcontractor Management Plan										
PG00070	Approval of Subcontractor Management Plan	0%	112	14	0	23-Jul-19	05-Aug-19	Approval of Subcontractor Management Plan										
PG00080	Submission of Staffing Proposal	0%	7	14	0	09-Jul-19	22-Jul-19	Submission of Staffing Proposal										
PG00090	Approval of Staffing Proposal	0%	7	7	0	23-Jul-19	29-Jul-19	Approval of Staffing Proposal										
<b>Infrastructure Construction Works</b>								06-Jan-20, Section 1 of the Works										
<b>Section 1 of the Works</b>								06-Jan-20, Section 1 of the Works										
A2960	Section 1 Completion (150days)	0%	0	0	0		05-Dec-19*	05-Aug-19, E&M Design Submission (AIP)										
<b>E&amp;M Design Submission (AIP)</b>								05-Aug-19, E&M Design Submission (AIP)										
A4930	Submission of AIP Design of Activated Carbon Filter Systems for DOU1, DOU2 and DOU5	0%	0	7	0	09-Jul-19	15-Jul-19	Submission of AIP Design of Activated Carbon Filter Systems for DOU1, DOU2 and DOU5										
A4940	Approval of AIP Design of Activated Carbon Filter Systems for DOU1, DOU2 and DOU5	0%	0	21	0	16-Jul-19	05-Aug-19	Approval of AIP Design of Activated Carbon Filter Systems for DOU1, DOU2 and DOU5										
A4950	Submission of AIP Design of Air Relief Duct for Effluent Drop Structure	0%	0	7	0	09-Jul-19	15-Jul-19	Submission of AIP Design of Air Relief Duct for Effluent Drop Structure										
A4960	Approval of AIP Design of Air Relief Duct for Effluent Drop Structure	0%	0	21	0	16-Jul-19	05-Aug-19	Approval of AIP Design of Air Relief Duct for Effluent Drop Structure										
A4970	Submission of AIP Design of Isolation Device for Effluent Drop Structure	0%	0	7	0	09-Jul-19	15-Jul-19	Submission of AIP Design of Isolation Device for Effluent Drop Structure										
A4980	Approval of AIP Design of Isolation Device for Effluent Drop Structure	0%	0	21	0	16-Jul-19	05-Aug-19	Approval of AIP Design of Isolation Device for Effluent Drop Structure										
A4990	Submission of AIP Design of Sealant for FRP Sliding Covers of Existing CEPT Tanks	0%	1	7	0	09-Jul-19	15-Jul-19	Submission of AIP Design of Sealant for FRP Sliding Covers of Existing CEPT Tanks										
A5000	Approval of AIP Design of Sealant for FRP Sliding Covers of Existing CEPT Tanks	0%	1	21	0	16-Jul-19	05-Aug-19	Approval of AIP Design of Sealant for FRP Sliding Covers of Existing CEPT Tanks										
A5010	Submission of AIP Design to power supply, cabling, earthing, lightning protection and interface with extg installation	0%	57	7	0	09-Jul-19	15-Jul-19	Submission of AIP Design to power supply, cabling, earthing, lightning protection and interface with extg installation										
A5170	Approval of AIP Design to power supply, cabling, earthing, lightning protection and interface with extg installation	0%	57	21	0	16-Jul-19	05-Aug-19	Approval of AIP Design to power supply, cabling, earthing, lightning protection and interface with extg installation										
<b>E&amp;M Design Submission (DDA)</b>								16-Sep-19, E&M Design Submission (DDA)										
A4945	Submission of DDA Civil requirement drawings and General Arrangement of DOU1, DOU1R, DOU2, DOU4 and DOU5	0%	0	7	0	09-Jul-19	15-Jul-19	Submission of DDA Civil requirement drawings and General Arrangement of DOU1, DOU1R, DOU2, DOU4 and DOU5										
A4955	Review and comment on DDA of Civil requirement drawings and General Arrangement of DOU1, DOU1R, DOU2, DOU4 and DOU5	0%	0	21	0	16-Jul-19	05-Aug-19	Review and comment on DDA of Civil requirement drawings and General Arrangement of DOU1, DOU1R, DOU2, DOU4 and DOU5										
A4965	Re-submission of DDA Civil requirement drawings and General Arrangement of DOU1, DOU1R, DOU2, DOU4 and DOU5	0%	0	7	0	06-Aug-19	12-Aug-19	Re-submission of DDA Civil requirement drawings and General Arrangement of DOU1, DOU1R, DOU2, DOU4 and DOU5										
A4975	Approval of DDA Civil requirement drawings and General Arrangement of DOU1, DOU1R, DOU2, DOU4 and DOU5	0%	0	7	0	13-Aug-19	19-Aug-19	Approval of DDA Civil requirement drawings and General Arrangement of DOU1, DOU1R, DOU2, DOU4 and DOU5										
A5015	Submission of DDA Design of Activated Carbon Filter Systems for DOU1, DOU2 and DOU5	0%	0	7	0	06-Aug-19	12-Aug-19	Submission of DDA Design of Activated Carbon Filter Systems for DOU1, DOU2 and DOU5										
A5020	Review and Comment on DDA Design of Activated Carbon Filter Systems for DOU1, DOU2 and DC	0%	0	21	0	13-Aug-19	02-Sep-19	Review and Comment on DDA Design of Activated Carbon Filter Systems for DOU1, DOU2 and DC										
A5030	Re-submission of DDA Design of Activated Carbon Filter Systems for DOU1, DOU2 and DOU5	0%	0	7	0	03-Sep-19	09-Sep-19	Re-submission of DDA Design of Activated Carbon Filter Systems for DOU1, DOU2 and DOU5										
A5040	Approval of DDA Design of Activated Carbon Filter Systems for DOU1, DOU2 and DOU5	0%	0	7	0	10-Sep-19	16-Sep-19	Approval of DDA Design of Activated Carbon Filter Systems for DOU1, DOU2 and DOU5										
A5050	Submission of DDA Design of Air Relief Duct for Effluent Drop Structure	0%	0	7	0	06-Aug-19	12-Aug-19	Submission of DDA Design of Air Relief Duct for Effluent Drop Structure										
A5060	Review and Comment on DDA Design of Air Relief Duct for Effluent Drop Structure	0%	0	21	0	13-Aug-19	02-Sep-19	Review and Comment on DDA Design of Air Relief Duct for Effluent Drop Structure										
A5070	Re-submission of DDA Design of Air Relief Duct for Effluent Drop Structure	0%	0	7	0	03-Sep-19	09-Sep-19	Re-submission of DDA Design of Air Relief Duct for Effluent Drop Structure										
A5080	Approval of DDA Design of Air Relief Duct for Effluent Drop Structure	0%	0	7	0	10-Sep-19	16-Sep-19	Approval of DDA Design of Air Relief Duct for Effluent Drop Structure										
A5090	Submission of DDA Design of Isolation Device for Effluent Drop Structure	0%	0	7	0	06-Aug-19	12-Aug-19	Submission of DDA Design of Isolation Device for Effluent Drop Structure										
A5100	Review and Comment on DDA Design of Isolation Device for Effluent Drop Structure	0%	0	21	0	13-Aug-19	02-Sep-19	Review and Comment on DDA Design of Isolation Device for Effluent Drop Structure										
A5110	Re-submission of DDA Design of Isolation Device for Effluent Drop Structure	0%	0	7	0	03-Sep-19	09-Sep-19	Re-submission of DDA Design of Isolation Device for Effluent Drop Structure										
A5120	Approval of DDA Design of Isolation Device for Effluent Drop Structure	0%	0	7	0	10-Sep-19	16-Sep-19	Approval of DDA Design of Isolation Device for Effluent Drop Structure										
A5130	Submission of DDA Design of Sealant for FRP Sliding Covers of Existing CEPT Tanks	0%	1	7	0	06-Aug-19	12-Aug-19	Submission of DDA Design of Sealant for FRP Sliding Covers of Existing CEPT Tanks										
A5140	Review and Comment on DDA Design of Sealant for FRP Sliding Covers of Existing CEPT Tanks	0%	1	21	0	13-Aug-19	02-Sep-19	Review and Comment on DDA Design of Sealant for FRP Sliding Covers of Existing CEPT Tanks										
A5150	Re-submission of DDA Design of Sealant for FRP Sliding Covers of Existing CEPT Tanks	0%	1	7	0	03-Sep-19	09-Sep-19	Re-submission of DDA Design of Sealant for FRP Sliding Covers of Existing CEPT Tanks										
A5160	Approval of DDA Design of Sealant for FRP Sliding Covers of Existing CEPT Tanks	0%	1	7	0	10-Sep-19	16-Sep-19	Approval of DDA Design of Sealant for FRP Sliding Covers of Existing CEPT Tanks										
A5460	Submission of DDA Design of power supply, cabling, earthing, lightning protection and interface with extg installation	0%	57	7	0	06-Aug-19	12-Aug-19	Submission of DDA Design of power supply, cabling, earthing, lightning protection and interface with extg installation										
A8020	Review & comment of DDA Design of power supply, cabling, earthing, lightning protection and interface with extg installation	0%	57	21	0	13-Aug-19	02-Sep-19	Review & comment of DDA Design of power supply, cabling, earthing, lightning protection and interface with extg installation										
A8030	Re-submission of DDA Design of power supply, cabling, earthing, lightning protection and interface with extg installation	0%	57	7	0	03-Sep-19	09-Sep-19	Re-submission of DDA Design of power supply, cabling, earthing, lightning protection and interface with extg installation										
A8040	Approval of DDA Design of power supply, cabling, earthing, lightning protection and interface with extg installation	0%	57	7	0	10-Sep-19	16-Sep-19	Approval of DDA Design of power supply, cabling, earthing, lightning protection and interface with extg installation										
<b>Procurement and Delivery of Equipment/ Material for Section 1 of Works</b>								07-Nov-19, Procurement and Delivery of Equipment/ Material for Section 1 of Works										
A5180	Procurement of Activated Carbon Filter Systems for DOU1, DOU2 and DOU5	0%	0	48	0	07-Sep-19	24-Oct-19	Procurement of Activated Carbon Filter Systems for DOU1, DOU2 and DOU5										
A5190	FAT of Activated Carbon Filter System for DOU1	0%	0	6	0	07-Oct-19	12-Oct-19	FAT of Activated Carbon Filter System for DOU1										
A5200	Delivery of Activated Carbon Filter System for DOU1 to Site	0%	0	14	0	13-Oct-19	26-Oct-19	Delivery of Activated Carbon Filter System for DOU1 to Site										
A5210	FAT of Activated Carbon Filter System for DOU2	0%	0	6	0	13-Oct-19	18-Oct-19	FAT of Activated Carbon Filter System for DOU2										
A5220	Delivery of Activated Carbon Filter System for DOU2 to Site	0%	0	14	0	19-Oct-19	01-Nov-19	Delivery of Activated Carbon Filter System for DOU2 to Site										
A5230	FAT of Activated Carbon Filter System for DOU5	0%	0	6	0	19-Oct-19	24-Oct-19	FAT of Activated Carbon Filter System for DOU5										
A5240	Delivery of Activated Carbon Filter System for DOU5 to Site	0%	0	14	0	25-Oct-19	07-Nov-19	Delivery of Activated Carbon Filter System for DOU5 to Site										
A5250	Procurement of FRP Air Ducts for Effluent Drop Structure	0%	0	45	0	02-Sep-19	16-Oct-19	Procurement of FRP Air Ducts for Effluent Drop Structure										
A5260	FAT of FRP Air Ducts for Effluent Drop Structure	0%	0	7	0	10-Oct-19	16-Oct-19	FAT of FRP Air Ducts for Effluent Drop Structure										
A5270	Delivery of FRP Air Ducts for Effluent Drop Structure to Site	0%	0	7	0	17-Oct-19	23-Oct-19	Delivery of FRP Air Ducts for Effluent Drop Structure to Site										
A5280	Procurement of Isolation Devices for Effluent Drop Structure	0%	0	30	0	02-Sep-19	01-Oct-19	Procurement of Isolation Devices for Effluent Drop Structure										
A5290	Delivery of Isolation Devices for Effluent Drop Structure to Site	0%	0	7	0	02-Oct-19	08-Oct-19	Delivery of Isolation Devices for Effluent Drop Structure to Site										

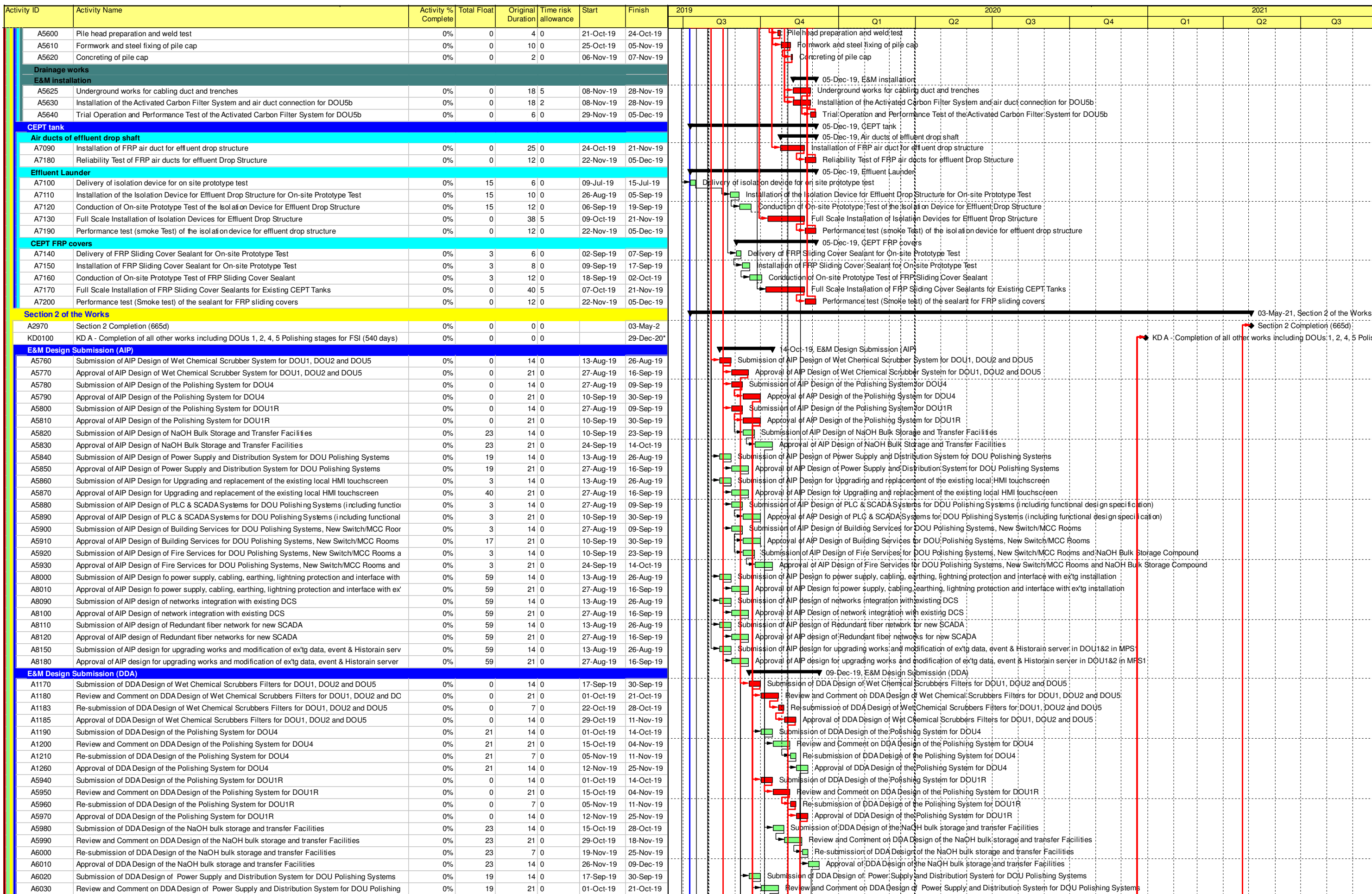
■ Actual Work      ◆ Milestone  
■ Remaining Work      ▼ Summary  
■ Critical Remaining Work

Sheet 1 of 7

Date	Revision	Checked	Approved
19-Jul-19	Rev. 0		
29-Aug-19	Rev. 1		

Activity ID	Activity Name	Activity % Complete	Total Float	Original Duration	Time risk allowance	Start	Finish	2019				2020				2021		
								Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3		
A5300	Procurement of Sealant for FRP Sliding Covers of Existing CEPT Tanks	0%	1	30	0	02-Sep-19	01-Oct-19											
A5310	Delivery of Sealant for FRP Sliding Covers of Existing CEPT Tanks to Site	0%	1	7	0	02-Oct-19	08-Oct-19											
<b>Civil and Geotechnical Design Submission (DDA)</b>																		
A5320	Submission of DDA Geotechnical design for piling works for DOU1, DOU2 and DOU5	0%	0	7	0	20-Aug-19	26-Aug-19											
A5330	Review and Comment on DDA Geotechnical design for piling works for DOU1, DOU2 and DOU5	0%	0	21	0	27-Aug-19	16-Sep-19											
A5340	Re-submission of DDA Geotechnical design for piling works for DOU1, DOU2 and DOU5	0%	0	5	0	17-Sep-19	21-Sep-19											
A5350	Approval of DDA Geotechnical design for piling works for DOU1, DOU2 and DOU5	0%	0	7	0	22-Sep-19	28-Sep-19											
A5400	Submission of DDA structural design for RC works of DOU 1, 2 and 5	0%	0	14	0	29-Sep-19	12-Oct-19											
A7500	Review and Comment on DDA structural design for RC works for DOU1, DOU2 and DOU5	0%	0	10	0	13-Oct-19	22-Oct-19											
A7510	Re-submission of DDA structural design for RC works for DOU1, DOU2 and DOU5	0%	0	10	0	23-Oct-19	01-Nov-19											
A7520	Approval of DDA structural design for RC works for DOU1, DOU2 and DOU5	0%	0	10	0	02-Nov-19	11-Nov-19											
A7840	Submission of DDA for ABWF design for DOU 1, 2 and 5	0%	115	14	0	29-Sep-19	12-Oct-19											
A7850	Review and Comment on DDA ABWF design for DOU1, DOU2 and DOU5	0%	115	14	0	13-Oct-19	26-Oct-19											
A7860	Re-submission of DDA ABWF design for DOU1, DOU2 and DOU5	0%	115	14	0	27-Oct-19	09-Nov-19											
A7870	Approval of DDA ABWF design for DOU1, DOU2 and DOU5	0%	115	14	0	10-Nov-19	23-Nov-19											
<b>DOU 1</b>																		
<b>Foundation works</b>																		
A1130	General Site Clearance and underground utilities detection/ identification	0%	0	6	0	09-Jul-19	15-Jul-19											
A1131	Installation and initial survey of building, ground and utilities settlement	0%	0	6	0	16-Jul-19	22-Jul-19											
A1132	Temporary Diversion of existing drainage pipes	0%	0	15	0	16-Jul-19	01-Aug-19											
A1133	Pre-drilling for H-pile foundation (3Nos)	0%	0	10	0	29-Jul-19	08-Aug-19											
A1134	Engineer's Review of foundation design, rockhead contour and founding level of H-piles	0%	0	28	0	09-Aug-19	10-Sep-19											
A1137	Mobilization of piling rigs (1 rig)	0%	0	3	0	21-Aug-19	23-Aug-19											
A1140	Prebored H-pile (P1-7, 7Nos)	0%	0	32	0	24-Aug-19	30-Sep-19											
A1430	Pile load test	0%	0	6	0	02-Oct-19	08-Oct-19											
A1440	Post Drilling for Prebored H-piles	0%	0	4	0	09-Oct-19	12-Oct-19											
<b>RC works</b>																		
A5470	Open Excavation and for pile cap construction	0%	0	4	0	14-Oct-19	17-Oct-19											
A5480	Pile head preparation and weld test	0%	0	5	0	18-Oct-19	23-Oct-19											
A5490	Formwork and steel fixing of pile cap	0%	0	10	0	24-Oct-19	04-Nov-19											
A5500	Concreting of pile cap	0%	0	2	0	05-Nov-19	06-Nov-19											
A5510	Concreting of MCC room wall and roof slab	0%	76	24	2	07-Nov-19	04-Dec-19											
A5520	Internal finishes of MCC room and Builder works	0%	76	18	2	13-Dec-19	06-Jan-20											
<b>Drainage works</b>																		
<b>E&amp;M installation</b>																		
A5535	Underground works for cabling duct and trenches	0%	0	15	0	13-Nov-19	29-Nov-19											
A5540	Installation of the Activated Carbon Filter System and air duct connection for DOU1	0%	0	15	1	13-Nov-19	29-Nov-19											
A5550	Trial operation and Performance Test of the Activated Carbon Filter System for DOU1	0%	0	5	0	30-Nov-19	05-Dec-19											
<b>DOU 2</b>																		
<b>Foundation works</b>																		
A5380	General Site Clearance and underground utilities detection/ identification	0%	0	6	0	09-Jul-19	15-Jul-19											
A5390	Installation and initial survey of building, ground and utilities settlement	0%	0	9	0	16-Jul-19	25-Jul-19											
A5410	Pre-drilling for H-pile foundation (5Nos, 2 rig)	0%	0	12	0	26-Jul-19	08-Aug-19											
A5420	Engineer's Review of foundation design, rockhead contour and founding level of H-piles	0%	0	28	0	09-Aug-19	10-Sep-19											
A5430	Mobilization of piling rigs	0%	0	3	0	17-Aug-19	21-Aug-19											
A5440	Preliminary pile for shaft friction piles (3Nos)	0%	0	12	0	21-Aug-19	03-Sep-19											
A5450	Pile load test for preliminary piles	0%	0	6	0	04-Sep-19	10-Sep-19											
A5560	Prebored H-pile (2a-P1-2a-P8, 8Nos)	0%	0	35	0	11-Sep-19	22-Oct-19											
A5565	Prebored H-pile (2b-P1-2b-P6, 6Nos)	0%	51	30	0	23-Oct-19	26-Nov-19											
A5570	Pile load test	0%	0	6	0	23-Oct-19	29-Oct-19											
A5580	Post Drilling for Prebored H-piles	0%	0	4	0	30-Oct-19	02-Nov-19											
<b>RC works</b>																		
A1450	Open Excavation and for pile cap construction DOU2a	0%	0	4	0	04-Nov-19	07-Nov-19											
A1455	Pile head preparation and weld test	0%	0	3	0	08-Nov-19	11-Nov-19											
A1460	Formwork and steel fixing of pile cap	0%	0	7	0	12-Nov-19	19-Nov-19											
A1470	Concreting of pile cap	0%	0	1	0	20-Nov-19	20-Nov-19											
<b>Drainage works</b>																		
<b>E&amp;M installation</b>																		
A5355	Underground works for cabling duct and trenches	0%	0	10	0	21-Nov-19	02-Dec-19											
A5360	Installation of the Activated Carbon Filter System and air duct connection for DOU2a	0%	0	10	0	21-Nov-19	02-Dec-19											
A5370	Trial Operation and Performance Test of the Activated Carbon Filter System for DOU2a	0%	0	3	0	03-Dec-19	05-Dec-19											
<b>DOU5</b>																		
<b>Foundation works</b>																		
A5650	General Site Clearance and underground utilities detection/ identification	0%	8	6	0	09-Jul-19	15-Jul-19											
A5660	Installation and initial survey of building, ground and utilities settlement	0%	8	9	0	16-Jul-19	25-Jul-19											
A5670	Pre-drilling for H-pile foundation (4Nos, 1 rig)	0%	8	12	0	26-Jul-19	08-Aug-19											
A5680	Engineer's Review of foundation design, rockhead contour and founding level of H-piles	0%	8	28	0	09-Aug-19	10-Sep-19											
A5690	Mobilization of piling rigs	0%	8	3	0	17-Aug-19	21-Aug-19											
A5720	Prebored H-pile (5a-P1-2a-P6, 6Nos)	0%	0	28	0	30-Aug-19	02-Oct-19											
A5730	Prebored H-pile (5b-P1-5b-P6, 6Nos)	0%	25	24	0	03-Oct-19	30-Oct-19											
A5740	Pile load test	0%	0	6	0	03-Oct-19	09-Oct-19											
A5750	Post Drilling for Prebored H-piles	0%	0	4	0	10-Oct-19	14-Oct-19											
<b>RC works for DOU5a</b>																		
A5590	Open Excavation and for pile cap construction DOU5b	0%	0	5	0	15-Oct-19	19-Oct-19											

- Actual Work
- Remaining Work
- Critical Remaining Work
- Milestone
- Summary



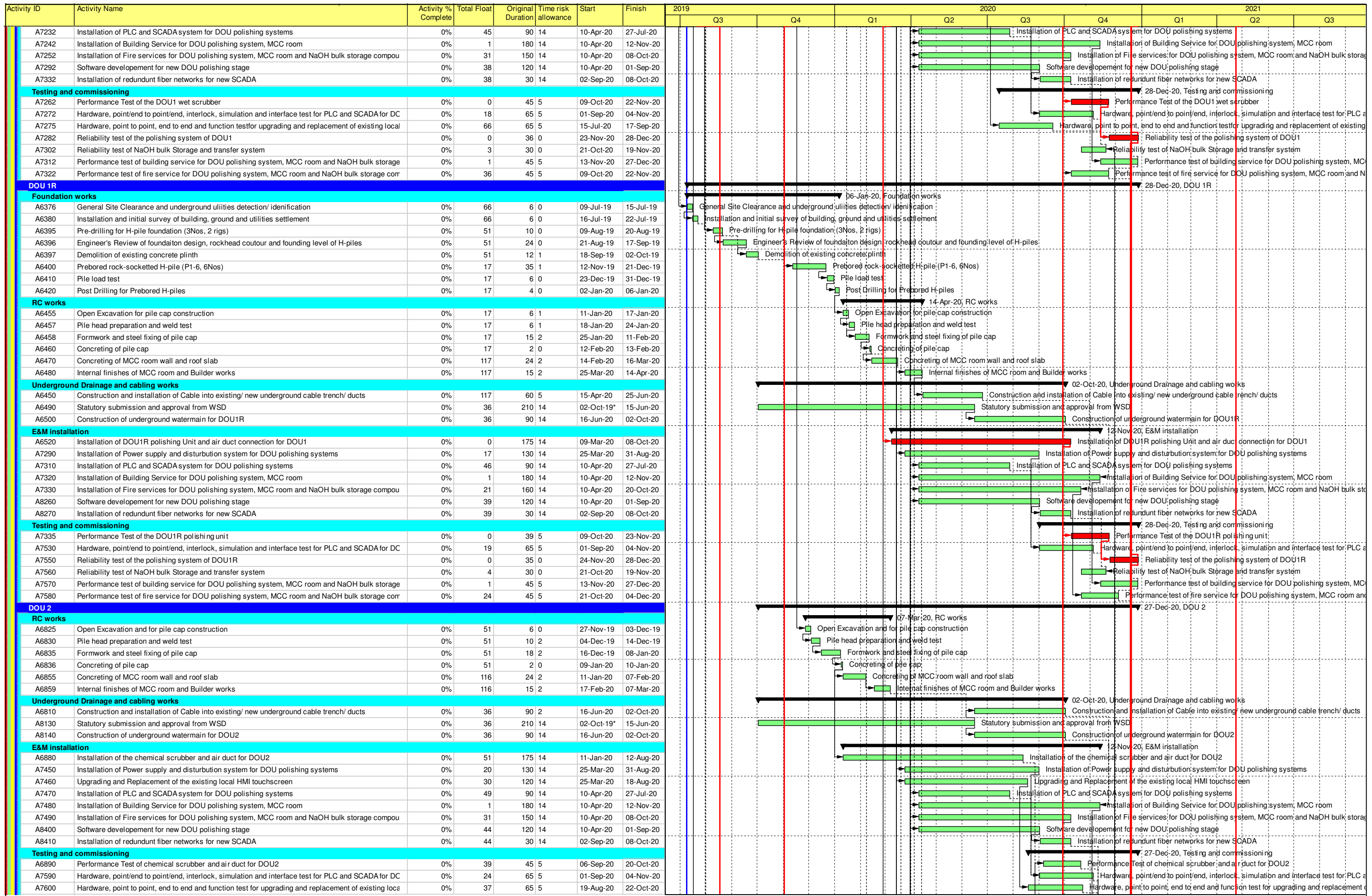
Activity ID	Activity Name	Activity % Complete	Total Float	Original Duration	Time risk allowance	Start	Finish	2020												
								Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3				
A6040	Re-submission of DDA Design of Power Supply and Distribution System for DOU Polishing System	0%	19	7	0	22-Oct-19	28-Oct-19													
A6050	Approval of DDA Design of Power Supply and Distribution System for DOU Polishing Systems	0%	19	14	0	29-Oct-19	11-Nov-19													
A6060	Submission of DDA Design of Upgrading and replacement of the existing local HMI touchscreen	0%	40	14	0	17-Sep-19	30-Sep-19													
A6070	Review and Comment on DDA Design of Upgrading and replacement of the existing local HMI touch	0%	40	21	0	01-Oct-19	21-Oct-19													
A6080	Re-submission of DDA Design of Upgrading and replacement of the existing local HMI touchscreen	0%	40	7	0	22-Oct-19	28-Oct-19													
A6090	Approval of DDA Design of Upgrading and replacement of the existing local HMI touchscreen	0%	40	14	0	29-Oct-19	11-Nov-19													
A6100	Submission of DDA Design of PLC & SCADA Systems for DOU Polishing Systems	0%	3	14	0	01-Oct-19	14-Oct-19													
A6110	Review and Comment on DDA Design of PLC & SCADA Systems for DOU Polishing Systems	0%	45	21	0	15-Oct-19	04-Nov-19													
A6120	Re-submission of DDA Design of PLC & SCADA Systems for DOU Polishing Systems	0%	45	7	0	05-Nov-19	11-Nov-19													
A6130	Approval of DDA Design of PLC & SCADA Systems for DOU Polishing Systems	0%	45	14	0	12-Nov-19	25-Nov-19													
A6140	Submission of DDA Design of Building Services for DOU Polishing Systems, New MCC Rooms and	0%	3	14	0	15-Oct-19	28-Oct-19													
A6150	Review and Comment on DDA Design of Building Services for DOU Polishing Systems, New MCC	0%	3	21	0	29-Oct-19	18-Nov-19													
A6160	Re-submission of DDA Design of Building Services for DOU Polishing Systems, New MCC Rooms	0%	3	7	0	19-Nov-19	25-Nov-19													
A6170	Approval of DDA Design of Building Services for DOU Polishing Systems, New MCC Rooms and N	0%	3	14	0	26-Nov-19	09-Dec-19													
A8050	Submission of DDA Design of power supply, cabling, earthing, lightning protection and interface with	0%	59	14	0	17-Sep-19	30-Sep-19													
A8060	Review & comment of DDA Design of power supply, cabling, earthing, lightning protection and interf	0%	59	21	0	01-Oct-19	21-Oct-19													
A8070	Re-submission of DDA Design of power supply, cabling, earthing, lightning protection and interface	0%	59	7	0	22-Oct-19	28-Oct-19													
A8080	Approval of DDA Design of power supply, cabling, earthing, lightning protection and interface with e	0%	59	14	0	29-Oct-19	11-Nov-19													
A8280	Submission of DDA Design of networks integration with the existing DCS	0%	59	14	0	17-Sep-19	30-Sep-19													
A8290	Review & comment of DDA Design of networks integration with the existing DCS	0%	59	21	0	01-Oct-19	21-Oct-19													
A8300	Re-submission of DDA Design of networks integration with the existing DCS	0%	59	7	0	22-Oct-19	28-Oct-19													
A8310	Approval of DDA Design of networks integration with the existing DCS	0%	59	14	0	29-Oct-19	11-Nov-19													
A8320	Submission of DDA Design of redundant fiber networks for new SCADA	0%	59	14	0	17-Sep-19	30-Sep-19													
A8330	Review & comment of DDA Design of redundant fiber networks for new SCADA	0%	59	21	0	01-Oct-19	21-Oct-19													
A8340	Re-submission of DDA Design of redundant fiber networks for new SCADA	0%	59	7	0	22-Oct-19	28-Oct-19													
A8350	Approval of DDA Design of redundant fiber networks for new SCADA	0%	59	14	0	29-Oct-19	11-Nov-19													
A8360	Submission of DDA Design of upgrading works and modification of ext'g data, event & Historain ser	0%	59	14	0	17-Sep-19	30-Sep-19													
A8370	Review & comment of DDA Design of upgrading works and modification of ext'g data, event & Histor	0%	59	21	0	01-Oct-19	21-Oct-19													
A8380	Re-submission of DDA Design of upgrading works and modification of ext'g data, event & Historain	0%	59	7	0	22-Oct-19	28-Oct-19													
A8390	Approval of DDA Design of upgrading works and modification of ext'g data, event & Historain server	0%	59	14	0	29-Oct-19	11-Nov-19													
<b>Civil and Geotechnical Design Submission (DDA)</b>																				
A7880	Submission of DDA Geotechnical design for piling works for DOU1R and 4	0%	0	7	0	01-Oct-19	07-Oct-19													
A7890	Review and Comment on DDA Geotechnical design for piling works for DOU1R and 4	0%	0	21	0	08-Oct-19	28-Oct-19													
A7900	Re-submission of DDA Geotechnical design for piling works for DOU1R and 4	0%	0	7	0	29-Oct-19	04-Nov-19													
A7910	Approval of DDA Geotechnical design for piling works for DOU1R and 4	0%	0	7	0	05-Nov-19	11-Nov-19													
A7920	Submission of DDA structural design for RC works of DOU1R and 4	0%	39	14	0	12-Nov-19	25-Nov-19													
A7930	Review and Comment on DDA structural design for RC works for DOU1R and 4	0%	39	21	0	26-Nov-19	16-Dec-19													
A7940	Re-submission of DDA structural design for RC works for DOU1R and 4	0%	39	10	0	17-Dec-19	26-Dec-19													
A7950	Approval of DDA structural design for RC works for DOU1R and 4	0%	39	10	0	27-Dec-19	05-Jan-20													
A7960	Submission of DDA for ABWF design for DOU1R and 4	0%	184	14	0	12-Nov-19	25-Nov-19													
A7970	Review and Comment on DDA ABWF design for DOU1R and 4	0%	184	21	0	26-Nov-19	16-Dec-19													
A7980	Re-submission of DDA ABWF design for DOU1R and 4	0%	184	10	0	17-Dec-19	26-Dec-19													
A7990	Approval of DDA ABWF design for DOU1R and 4	0%	184	10	0	27-Dec-19	05-Jan-20													
<b>Procurement and Delivery of Equipment/ Material for Section 2 of Works</b>																				
A1320	Procurement of Wet Chemical Scrubber Systems for DOU1, DOU2 and DOU5	0%	0	90	0	12-Nov-19	09-Feb-20													
A1330	FAT of Wet Chemical Scrubber Systems for DOU1, DOU2 and DOU5	0%	0	14	0	10-Feb-20	23-Feb-20													
A1350	Delivery of Wet Chemical Scrubber Systems for DOU1, DOU2 and DOU5	0%	0	14	0	24-Feb-20	08-Mar-20													
A1360	Procurement of DOU4 Polishing System	0%	21	76	0	26-Nov-19	09-Feb-20													
A1380	FAT of DOU4 Polishing System	0%	21	14	0	10-Feb-20	23-Feb-20													
A1500	Delivery of DOU4 Polishing System	0%	21	14	0	24-Feb-20	08-Mar-20													
A6180	Procurement of DOU1R Polishing System	0%	0	76	0	26-Nov-19	09-Feb-20													
A6190	FAT of DOU1R Polishing System	0%	0	14	0	10-Feb-20	23-Feb-20													
A6200	Delivery of DOU1R Polishing System	0%	0	14	0	24-Feb-20	08-Mar-20													
A6210	Procurement of NaOH Bulk Storage Tank and Transfer Facilities	0%	23	76	0	10-Dec-19	23-Feb-20													
A6220	FAT of NaOH Bulk Storage Tank and Transfer Facilities	0%	23	14	0	24-Feb-20	08-Mar-20													
A6230	Delivery of NaOH Bulk Storage Tank and Transfer Facilities	0%	23	14	0	09-Mar-20	22-Mar-20													
A6240	Procurement of Power Supply and Distribution System for DOU Polishing Systems	0%	19	90	0	12-Nov-19	09-Feb-20													
A6250	FAT of Power Supply and Distribution System for DOU Polishing Systems	0%	19	30	0	10-Feb-20	10-Mar-20													
A6260	Delivery of Power Supply and Distribution System for DOU Polishing Systems	0%	19	14	0	11-Mar-20	24-Mar-20													
A6270	Procurement of packaged offer for Upgrading and Replacement of the existing local HMI touchscee	0%	40	120	0	12-Nov-19	10-Mar-20													
A6290	Delivery of packaged offer for Upgrading and Replacement of the existing local HMI touchscreen	0%	40	14	0	11-Mar-20	24-Mar-20													
A6300	Procurement of PLC and SCADA Systems for DOU Polishing Systems	0%	45	90	0	26-Nov-19	23-Feb-20													
A6310	FAT of PLC and SCADA Systems for DOU Polishing Systems	0%	45	30	0	24-Feb-20	24-Mar-20													
A6320	Delivery of hardware of PLC and SCADA Systems for DOU Polishing Systems	0%	45	14	0	25-Mar-20	07-Apr-20													
A6330	Procurement of Building Services Equipment for DOU Polishing Systems, New Switch/MCC Rooms	0%	3	90	0	10-Dec-19	08-Mar-20													
A6340	Delivery of Building Services Equipment for DOU Polishing Systems, New Switch/MCC Rooms and	0%	3	30	0	09-Mar-20	07-Apr-20													
A6350	Procurement of Fire Services Equipment for DOU Polishing Systems, New MCC Rooms and NaOH	0%	28	90	0	10-Dec-19	08-Mar-20													
A7080	Delivery of Fire Services Equipment for DOU Polishing Systems, New MCC Rooms and NaOH Bu	0%	28	30	0	09-Mar-20	07-Apr-20													
<b>DOU 1</b>																				
<b>E&amp;M Installation (2nd stage)</b>																				
A7210	Installation of DOU1 wet scrubber and air duct connection for DOU1	0%	0	175	14	09-Mar-20	08-Oct-20													
A7212	Installation of Power supply and distribution system for DOU polishing systems	0%	16	130	14	25-Mar-20	31-Aug-20													
A7222	Upgrading and Replacement of the existing local HMI touchscreen	0%	56	90	14	25-Mar-20	14-Jul-20													

■ Actual Work      ◆ Milestone  
■ Remaining Work      ⇄ Summary  
■ Critical Remaining Work

Date	Revision	Checked	Approved
19-Jul-19	Rev. 0		
29-Aug-19	Rev. 1		

**Enhancement of Deodourization System at Stonecutter Island Sewage Treatment Works**

**First Programme**



Activity ID	Activity Name	Activity % Complete	Total Float	Original Duration	Time risk allowance	Start	Finish
A7232	Installation of PLC and SCADA system for DOU polishing systems	0%	45	90	14	10-Apr-20	27-Jul-20
A7242	Installation of Building Service for DOU polishing system, MCC room	0%	1	180	14	10-Apr-20	12-Nov-20
A7252	Installation of Fire services for DOU polishing system, MCC room and NaOH bulk storage compou	0%	31	150	14	10-Apr-20	08-Oct-20
A7292	Software development for new DOU polishing stage	0%	38	120	14	10-Apr-20	01-Sep-20
A7332	Installation of redundant fiber networks for new SCADA	0%	38	30	14	02-Sep-20	08-Oct-20
<b>Testing and commissioning</b>							
A7262	Performance Test of the DOU1 wet scrubber	0%	0	45	5	09-Oct-20	22-Nov-20
A7272	Hardware, point/end to point/end, interlock, simulation and interface test for PLC and SCADA for DC	0%	18	65	5	01-Sep-20	04-Nov-20
A7275	Hardware, point to point, end to end and function test for upgrading and replacement of existing local	0%	66	65	5	15-Jul-20	17-Sep-20
A7282	Reliability test of the polishing system of DOU1	0%	0	36	0	23-Nov-20	28-Dec-20
A7302	Reliability test of NaOH bulk Storage and transfer system	0%	3	30	0	21-Oct-20	19-Nov-20
A7312	Performance test of building service for DOU polishing system, MCC room and NaOH bulk storage	0%	1	45	5	13-Nov-20	27-Dec-20
A7322	Performance test of fire service for DOU polishing system, MCC room and NaOH bulk storage corr	0%	36	45	5	09-Oct-20	22-Nov-20
<b>DOU 1R</b>							
<b>Foundation works</b>							
A6376	General Site Clearance and underground utilities detection/ identification	0%	66	6	0	09-Jul-19	15-Jul-19
A6380	Installation and initial survey of building, ground and utilities settlement	0%	66	6	0	16-Jul-19	22-Jul-19
A6395	Pre-drilling for H-pile foundation (3Nos, 2 rigs)	0%	51	10	0	09-Aug-19	20-Aug-19
A6396	Engineer's Review of foundation design, rockhead outour and founding level of H-piles	0%	51	24	0	21-Aug-19	17-Sep-19
A6397	Demolition of existing concrete plinth	0%	51	12	1	18-Sep-19	02-Oct-19
A6400	Prebored rock-socketted H-pile (P1-6, 6Nos)	0%	17	35	1	12-Nov-19	21-Dec-19
A6410	Pile load test	0%	17	6	0	23-Dec-19	31-Dec-19
A6420	Post Drilling for Prebored H-piles	0%	17	4	0	02-Jan-20	06-Jan-20
<b>RC works</b>							
A6455	Open Excavation for pile cap construction	0%	17	6	1	11-Jan-20	17-Jan-20
A6457	Pile head preparation and weld test	0%	17	6	1	18-Jan-20	24-Jan-20
A6458	Formwork and steel fixing of pile cap	0%	17	15	2	25-Jan-20	11-Feb-20
A6460	Concreting of pile cap	0%	17	2	0	12-Feb-20	13-Feb-20
A6470	Concreting of MCC room wall and roof slab	0%	117	24	2	14-Feb-20	16-Mar-20
A6480	Internal finishes of MCC room and Builder works	0%	117	15	2	25-Mar-20	14-Apr-20
<b>Underground Drainage and cabling works</b>							
A6450	Construction and installation of Cable into existing/ new underground cable trench/ ducts	0%	117	60	5	15-Apr-20	25-Jun-20
A6490	Statutory submission and approval from WSD	0%	36	210	14	02-Oct-19*	15-Jun-20
A6500	Construction of underground watermain for DOU1R	0%	36	90	14	16-Jun-20	02-Oct-20
<b>E&amp;M installation</b>							
A6520	Installation of DOU1R polishing Unit and air duct connection for DOU1	0%	0	175	14	09-Mar-20	08-Oct-20
A7290	Installation of Power supply and distribution system for DOU polishing systems	0%	17	130	14	25-Mar-20	31-Aug-20
A7310	Installation of PLC and SCADA system for DOU polishing systems	0%	46	90	14	10-Apr-20	27-Jul-20
A7320	Installation of Building Service for DOU polishing system, MCC room	0%	1	180	14	10-Apr-20	12-Nov-20
A7330	Installation of Fire services for DOU polishing system, MCC room and NaOH bulk storage compou	0%	21	160	14	10-Apr-20	20-Oct-20
A8260	Software development for new DOU polishing stage	0%	39	120	14	10-Apr-20	01-Sep-20
A8270	Installation of redundant fiber networks for new SCADA	0%	39	30	14	02-Sep-20	08-Oct-20
<b>Testing and commissioning</b>							
A7335	Performance Test of the DOU1R polishing unit	0%	0	39	5	09-Oct-20	23-Nov-20
A7530	Hardware, point/end to point/end, interlock, simulation and interface test for PLC and SCADA for DC	0%	19	65	5	01-Sep-20	04-Nov-20
A7550	Reliability test of the polishing system of DOU1R	0%	0	35	0	24-Nov-20	28-Dec-20
A7560	Reliability test of NaOH bulk Storage and transfer system	0%	4	30	0	21-Oct-20	19-Nov-20
A7570	Performance test of building service for DOU polishing system, MCC room and NaOH bulk storage	0%	1	45	5	13-Nov-20	27-Dec-20
A7580	Performance test of fire service for DOU polishing system, MCC room and NaOH bulk storage corr	0%	24	45	5	21-Oct-20	04-Dec-20
<b>DOU 2</b>							
<b>RC works</b>							
A6825	Open Excavation and for pile cap construction	0%	51	6	0	27-Nov-19	03-Dec-19
A6830	Pile head preparation and weld test	0%	51	10	2	04-Dec-19	14-Dec-19
A6835	Formwork and steel fixing of pile cap	0%	51	18	2	16-Dec-19	08-Jan-20
A6836	Concreting of pile cap	0%	51	2	0	09-Jan-20	10-Jan-20
A6855	Concreting of MCC room wall and roof slab	0%	116	24	2	11-Jan-20	07-Feb-20
A6859	Internal finishes of MCC room and Builder works	0%	116	15	2	17-Feb-20	07-Mar-20
<b>Underground Drainage and cabling works</b>							
A6810	Construction and installation of Cable into existing/ new underground cable trench/ ducts	0%	36	90	2	16-Jun-20	02-Oct-20
A8130	Statutory submission and approval from WSD	0%	36	210	14	02-Oct-19*	15-Jun-20
A8140	Construction of underground watermain for DOU2	0%	36	90	14	16-Jun-20	02-Oct-20
<b>E&amp;M installation</b>							
A6880	Installation of the chemical scrubber and air duct for DOU2	0%	51	175	14	11-Jan-20	12-Aug-20
A7450	Installation of Power supply and distribution system for DOU polishing systems	0%	20	130	14	25-Mar-20	31-Aug-20
A7460	Upgrading and Replacement of the existing local HMI touchscreen	0%	30	120	14	25-Mar-20	18-Aug-20
A7470	Installation of PLC and SCADA system for DOU polishing systems	0%	49	90	14	10-Apr-20	27-Jul-20
A7480	Installation of Building Service for DOU polishing system, MCC room	0%	1	180	14	10-Apr-20	12-Nov-20
A7490	Installation of Fire services for DOU polishing system, MCC room and NaOH bulk storage compou	0%	31	150	14	10-Apr-20	08-Oct-20
A8400	Software development for new DOU polishing stage	0%	44	120	14	10-Apr-20	01-Sep-20
A8410	Installation of redundant fiber networks for new SCADA	0%	44	30	14	02-Sep-20	08-Oct-20
<b>Testing and commissioning</b>							
A6890	Performance Test of chemical scrubber and air duct for DOU2	0%	39	45	5	06-Sep-20	20-Oct-20
A7590	Hardware, point/end to point/end, interlock, simulation and interface test for PLC and SCADA for DC	0%	24	65	5	01-Sep-20	04-Nov-20
A7600	Hardware, point to point, end to end and function test for upgrading and replacement of existing loca	0%	37	65	5	19-Aug-20	22-Oct-20

█ Actual Work      ◆ Milestone  
█ Remaining Work      ▼ Summary  
█ Critical Remaining Work

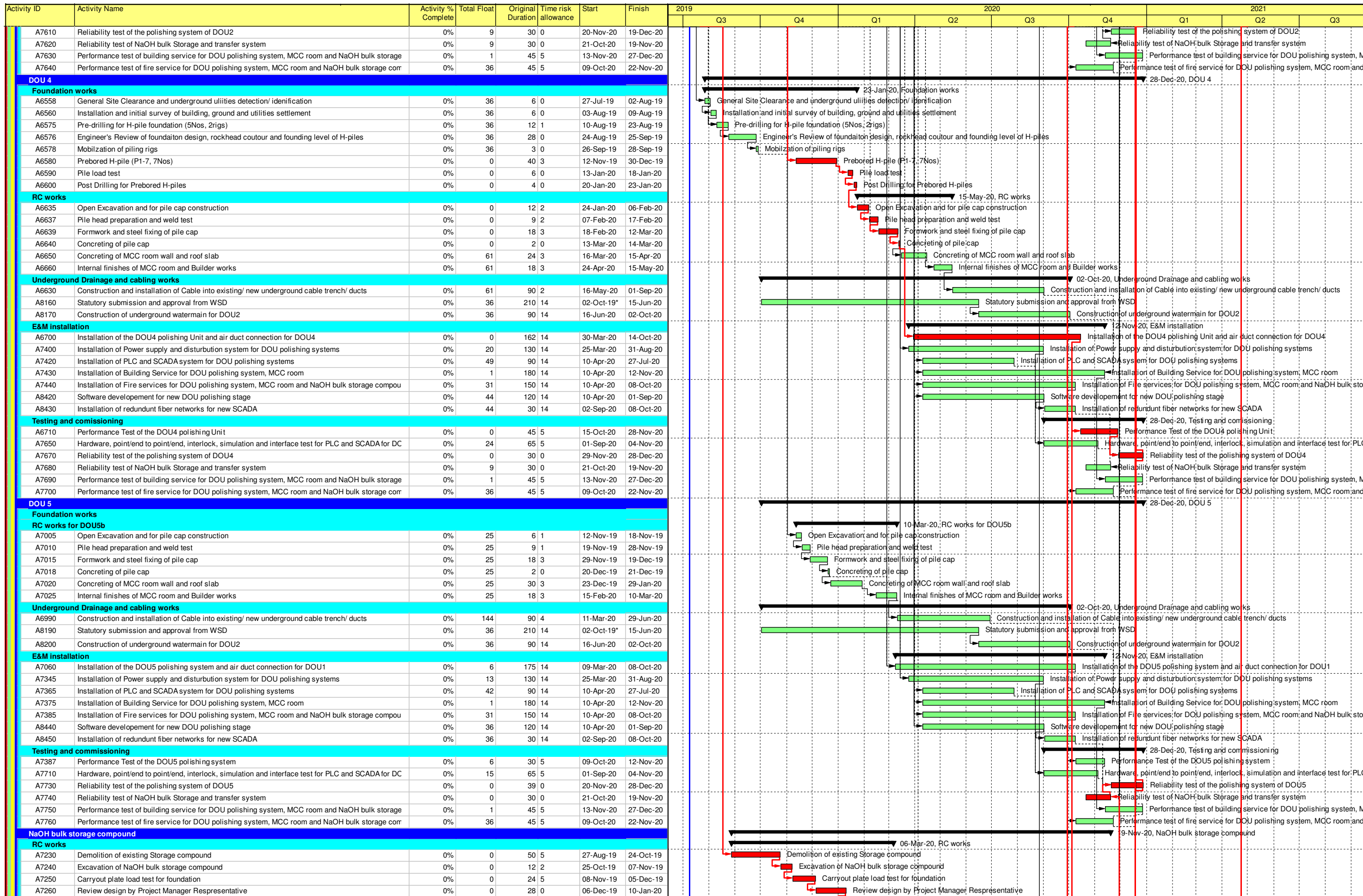
Contract No. DC/2018/17

Sheet 5 of 7

Date	Revision	Checked	Approved
19-Jul-19	Rev. 0		
29-Aug-19	Rev. 1		

Enhancement of Deodourization System at Stonecutter Island Sewage Treatment Works

First Programme



- Actual Work
- Remaining Work
- Critical Remaining Work
- ◆ Milestone
- Summary

Contract No. DC/2018/17

Sheet 6 of 7

Date	Revision	Checked	Approved
19-Jul-19	Rev. 0		
29-Aug-19	Rev. 1		

Enhancement of Deodourization System at Stonecutter Island Sewage Treatment Works

First Programme



Activity ID	Activity Name	Activity % Complete	Total Float	Original Duration	Time risk allowance	Start	Finish	2019				2020				2021		
								Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3		
A7270	RC works for NaOH bulk storage compound	0%	0	45	5	11-Jan-20	06-Mar-20											
<b>E&amp;M installation</b>																		
A7280	Installation NaOH storage tanks and associated transfer pump	0%	0	120	20	15-Apr-20	05-Sep-20											
<b>Testing and Commissioning</b>																		
A7390	Performance test of the NaOH bulk storage compound and transfer system	0%	0	75	15	06-Sep-20	19-Nov-20											
<b>Statutory Inspection by FSD</b>																		
A7770	Submission of Application for FS inspection of FSD	0%	0	21	0	29-Dec-20	18-Jan-21											
A7780	FS inspection by FSD	0%	0	14	2	19-Jan-21	01-Feb-21											
A7790	System/ Defect rectification	0%	0	40	5	02-Feb-21	13-Mar-21											
A7800	Submission of application for FS reinspection to FSD	0%	0	21	0	14-Mar-21	03-Apr-21											
A7810	FS re-inspection by FSD	0%	0	14	2	04-Apr-21	17-Apr-21											
A7820	Issue FS certificates	0%	0	15	2	18-Apr-21	02-May-21											
A7830	Works completion for Handover	0%	0	1	0	03-May-21	03-May-21											
<b>Handover of E&amp;M equipment</b>																		
A8210	Submission of O&M manual, Training manual and spare part list	0%	0	30		30-Dec-20	28-Jan-21											
A8220	Submission of final version of training manual	0%	0	30		29-Jan-21	27-Feb-21											
A8230	O&M training to DSD/ST2	0%	0	14		28-Feb-21	13-Mar-21											
A8240	Handover spare parts	0%	0	30		14-Mar-21	12-Apr-21											
A8250	Handover of Final version of O&M manual	0%	0	21		13-Apr-21	03-May-21											

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