# Sun Fook Kong – Bestwise Joint Venture

# Contract No. DC/2009/10 HATS Stage 2A – Upgrading Works at Stonecutters Island Sewage Treatment Works - Main Pumping Station, Sedimentation Tanks and Ancillary Facilities

Monthly Environmental Monitoring and Audit Report March 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

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Attn: Mr. K K Kam

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

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Condition 4.4 - Monthly EM&A Report for March 2021 (no. 120) Version 1.0

14 April 2021

By Post

Dear Sir,

I refer to the captioned Monthly EM&A Report for March 2021 (version 1.0) submitted by ET on 12 April 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

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#### 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

SBJV Sun Fook Kong - Bestwise Joint Venture

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#### **EXECUTIVE SUMMARY**

#### Introduction

- 1. This is the 120<sup>th</sup> Monthly Environmental Monitoring and Audit (EM&A) Report prepared by Wellab Limited for DSD Contract No. DC/2009/10 "HATS Stage 2A Upgrading Works at Stonecutters Island Treatment Works Main Pumping Station, Sedimentation Tanks and Ancillary Facilities" (The Project) which documents the key information of EM&A and environmental monitoring works undertaken by other Contracts at the SCISTW under HATS Stage 2A with the same Environmental Permit (Permit No. EP-322/2008/G).
- **2.** The site activities undertaken in the reporting month included:

#### MPS2

- Defects rectification (on-going)
- DOU3 upgrading works

#### **CEPT**

- Preparation works and equipment trail run for opening of south Primary Sedimentation Tank (Stage 3 CEPT handover).
- Scraper removal and diffuser replacement Flocculation Tank 6 in progress
- Defect rectification and inspection for FT6 in progress

#### **Environmental Monitoring Works**

- 3. The environmental monitoring works of the Project were conducted by the ETs for Contract DC/2009/10, at the SCISTW under HATS 2A with the same Environmental Permit. 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 and Environmental Complaint 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

Monitored	Monitoring Station Parameter	No. of Exceedance		No. of Exceedance Due to the Project		Action	
Ву		Parameter	Action Level	Limit Level	Action Level	Limit Level	Taken
	NM5	Noise	0	0	0	0	N/A
	NM6	Noise	0	0	0	0	N/A
	A N 47	1-hr TSP	0	0	0	0	N/A
DC/2009/10	AM7	24-hr TSP	0	0	0	0	N/A
	AM8	1-hr TSP	0	0	0	0	N/A
	AlVI8	24-hr TSP	0	0	0	0	N/A
	AM6b	1-hr TSP	0	0	0	0	N/A
	AM6b	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.

1-hour TSP Monitoring

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

24-hour TSP Monitoring

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

Construction Noise

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

#### **Environmental Licenses and Permits**

9. Licenses/Permits granted to the Project include the Environmental Permit (EP); Billing account for Disposal of Construction Waste, Registered as Chemical Waste Producer.

#### **Environmental Mitigation Implementation Schedule**

10. 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**

11. 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
Event	Number	Nature	Action Taken	Status	Kemark
Complaint received	0		N/A	N/A	
Status of submissions under EP	1	Monthly EM&A Report for February 2021	Submitted on 15 March 2021	No Comment	
Notifications of any summons & prosecutions received	0		N/A	N/A	

#### **Summary of Complaints and Prosecutions**

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

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#### **Future Key Issues:**

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

#### DOU3

- Reliability test for DOU3
- Pre-handover inspection for DOU3

#### MPS2

- Hand over of upgraded pumps (#1 #8)
- Defect rectification

#### **CEPT Tank**

Handover of CEPT

The environmental concerns in the coming months are mainly on construction waste and general refuse storage.

#### 1. INTRODUCTION

#### **Background**

- 1.1 The Project 'HATS Stage 2A Upgrading works at Stonecutters Island Treatment Works (SCISTW) Main Pumping Station, Sedimentation Tanks and Ancillary Facilities' under Contract No: DC/2009/10 mainly comprises the construction of a large underground pumping station with an internal diameter of 55 metres and a depth of more than 40 metres, the provision of additional double-tray sedimentation tanks, a new computer control system, the expansion and modification of existing installations of the SCISTW as well as the construction of other ancillary facilities. The general location plan of the Project is shown in **Figure 1**.
- 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 Sun Fook Kong Bestwise Joint Venture (hereafter called the SBJV) was commissioned by the DSD to undertake the construction of the Contract No. DC/2009/10 "HATS 2A –Upgrading works at Stonecutters Island Treatment Works Main Pumping, Sedimentation Tanks and Ancillary Facilities". The date of commencement of construction of the Project is 24<sup>th</sup> February 2011.
- 1.4 Wellab Limited was commissioned by SBJV 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 14<sup>th</sup> April 2011. The Project cover the environmental monitoring works at monitoring stations AM6b, AM7, AM8, NM5 and NM6.
- 1.5 This is the 120<sup>th</sup> monthly EM&A report summarizing the EM&A works conducted for the Project in March 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	Engineer's Representative	Mr. M P Gamini Ananda	Senior Resident Engineer	6049 5561
Kong Ltd	Coordinator	Mr. Kevin Cheung	Resident Engineer	6049 5562
		Dr. Priscilla Choy	ET Leader	2151 2089
Wellab	Environmental Team	Mr. Howard Chan	Project Coordinator & Audit Team	2151 2073

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Party	Role	Name	Position	Phone No.
Mott MacDonald	Independent Environmental Checker	Dr. Anne Kerr	Independent Environmental Checker	2828 5757
Sun Fook Kong - Bestwise Joint Venture	Control	Mr. Keith Ho	Site Agent	2620 0070
	Contractor	Mr. Albus Cheung	Environmental Officer	2620 0070

#### **Summary of EM&A Requirements**

- 1.7 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.
- 1.8 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in **Section 4** of this report.
- 1.9 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 March 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. The pervious location of AM6a was not available for future monitoring due to no secured power supply for operation and therefore the previous location of AM6a was relocated to the monitoring station AM6b on 20<sup>th</sup> October 2020 after handover of part of Portion 7. **Table 2.1** describes the air quality monitoring locations, which are also depicted in **Figure 1**.

**Table 2.1** Locations for Air Quality Monitoring

<b>Monitoring Station</b>	Monitored by	<b>Location of Measurement</b>	
$AM6b^{(1)}$	Works site boundary		
AM7	DC/2009/10	North West Kowloon Sewage Pumping Station	
AM8		Block A of Government Dockyard	

Remark:

#### **Monitoring Equipment**

2.1 **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	7
HVS Sampler	TISCH: Model no. TE-5170	3
Calibrator	TISCH: Model TE-5025A	1

#### **Monitoring Parameters, Frequency and Duration**

2.2 **Table 2.3** summarizes the monitoring parameters and frequencies of impact dust monitoring for the whole construction period. The air quality monitoring schedule for AM6b, AM7 and AM8 are shown in **Appendix C.** 

 Table 2.3
 Impact Dust Monitoring Parameters, Frequency and Duration

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

#### Monitoring Methodology and QA/QC Procedure

2.3 The monitoring methodology and QA/QC procedures for monitoring station AM6b,

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

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#### AM7 and AM8 are presented as follow:

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

TSP Monitoring with Laser Dust Monitor

#### Measuring Procedures

- 2.5 The measuring procedures of the 1-hour dust meters were in accordance with the Manufacturer's Instruction Manual as follows:
  - The 1-hour dust meter is placed at least 1.3 meters above ground.
  - Remove the red rubber cap from the AEROCET-831 inlet nozzle.
  - Turn on the power switch that is located on the right side of the AEROCET-831.
  - On power up the product intro screen is displayed for 3 seconds. The intro screen displays the product name and firmware version.
  - Then the main counter screen will be displayed.
  - Press the START button. Internal vacuum pump start running. After 1 minute the pump will stop and the 0.5µm and 5µm channels will show the cumulative counts of particles larger than 0.5µm and 5µm per cubic foot.
  - The AEROCET-831 is now checked out and ready for use.
  - To switch off the AEROCET-831 power to stop the measuring after 1 hour sampling.
  - Information such as sampling date, time, and display value and site condition were recorded during the monitoring period.

#### Maintenance/Calibration

- 2.6 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

2.7 High Volume Sampler (HVS) completed with appropriate sampling inlets was employed for air quality monitoring. Each sampler comprised 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

- 2.8 The following guidelines were adopted during the installation of HVS:
  - Sufficient 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.

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- 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.

#### Filters Preparation

- 2.9 Fibre glass filters, which have a collection efficiency of larger than 99% of particles of 0.3 µm in diameter, were used. A HOKLAS accredited laboratory, Wellab Ltd., was responsible for the preparation of 24-hr conditioned and pre-weighed filter papers for Wellab's monitoring team.
- 2.10 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 ±3 °C; the relative humidity (RH) was < 50% and not variable by more than  $\pm 5\%$ . A convenient working RH was 40%.
- 2.11 Wellab Ltd. has a comprehensive quality assurance and quality control programme.

#### Operating/Analytical Procedures

- Operating/analytical procedures for the air quality monitoring were highlighted as 2.12 follows:
  - Prior to the commencement of the dust sampling, the flow rate of the HVS was properly set (between 1.1 m<sup>3</sup>/min. and 1.4 m<sup>3</sup>/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 centred 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 aluminium strip.
  - The timer was then programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number).
  - After sampling, the filter was removed and sent to the Wellab Ltd. for weighing. The elapsed time was also recorded.
  - Before weighing, all filters were equilibrated in a conditioning environment for 24 hours. The conditioning environment temperature should be between 25°C and  $30^{\circ}$ C and not vary by more than  $\pm 3^{\circ}$ C; the relative humidity (RH) should be < 50%and not vary by more than ±5%. A convenient working RH is 40%. Weighing results were returned to Wellab for further analysis of TSP concentrations collected by each filter.

#### Maintenance/Calibration

- 2.13 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**

2.14 **Table 2.4** summarizes the monitoring results at AM6b, AM7 and AM8 in the reporting month.

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

Air Quality Monitoring Station	Average µg/m3	Range µg/m3	Action Level µg/m3	Limit Level µg/m3			
		1 hour TSP					
AM6b	134	51 - 270	346				
AM7	113.5	88.1 – 139.6	322	500			
AM8	104	71.6 – 134.9	307				
	24 hours TSP						
AM6b	79	40 – 110	196				
AM7	46	24 – 65	207	260			
AM8	57	26 - 80	158				

- 2.15 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.**
- 2.16 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.**
- 2.17 The details and graphical presentations of the air quality monitoring results at AM6b, AM7 and AM8 are shown in **Appendix D**.
- 2.18 According to field observations during site inspection, the identified dust sources at the monitoring stations were mainly from vehicles movement and construction activities from other 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.
- 3.2 Monitoring station (NM6) serves as an alternative location for FSD Diving Rescue and Diving Training Centre which is regarded as a Noise Sensitive Receiver (NSR) as it is an institution. Monitoring station (NM6) was set up at the proposed location in accordance with the Monitoring Proposal submitted by ET of Contract DC/2009/05, as agreed by the ER and IEC.

#### **Monitoring Locations**

3.3 Noise monitoring was conducted at two designated monitoring stations as listed in **Table 3.1.** 

**Table 3.1** Location of Noise Monitoring Stations

<b>Monitoring Station</b>	Monitored By	Location of Measurement
NM5	DC/2000/10	Near FSD Diving Rescue and Training Centre
NM6	DC/2009/10	Customs' Marine Base (Block H of Government Dockyard Rooftop)

#### **Monitoring Equipment**

3.4 **Table 3.2** summarizes the noise quality monitoring equipment and **Appendix B** shows the copies of calibration certificates for the equipment used at NM5 and NM6 in the reporting month.

**Table 3.2 Noise Monitoring Equipment** 

Equipment	Model and Make	Quantity
Integrating Sound Level Meter	BSWA, Model no.: BSWA 308 SVANTEK, Model no: SVAN 957	2
Calibrator	SVANTEK, Model no: SV 30A	3

#### **Monitoring Parameters, Frequency and Duration**

3.5 **Table 3.3** summarizes the monitoring parameters, frequency and total duration of monitoring. The noise monitoring schedule of the reporting month for NM5 and NM6 is shown in **Appendix C**.

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

Monitoring Stations	Parameter	Period	Frequency
NM5	$\begin{array}{c} L_{eq}(30 \text{ min.}) \\ dB(A) \end{array}$	0700-1900 hrs. on weekdays	Once per week
NM6	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:
- General weather conditions (i.e. sunny, cloudy or rainy) were recorded by field 3.7 observation during equipment checking and estimated according to weather data from the Hong Kong Observatory.

#### Field Monitoring

- 3.8 The monitoring procedures are as follows:
  - The Sound Level Meter was set on a tripod at a height of 1.2 m above the ground.
  - For free field measurement, the meter was positioned away from any nearby reflective surfaces. All records for free field noise levels were adjusted with a correction of +3 dB(A).
  - The battery condition was checked to ensure good 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

- Measurement time : 30 minutes

- Prior to and after noise measurement, the meter was calibrated using the calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement is more than 1.0 dB, the measurement was considered invalid and repeat of noise measurement was required after re-calibration or repair of the equipment.
- Noise monitoring was carried out 30 minutes during on the monitoring days. Monitoring data was recorded and stored automatically within the sound level meter system. At the end of the monitoring period, noise levels in term of L<sub>eq</sub>, L<sub>90</sub> and  $L_{10}$  were recorded.
- All the monitoring data within the sound level meter system was downloaded through the computer software, and all these data was checked and reviewed within the computer.

#### Maintenance and Calibration

- 3.9 Maintenance and Calibration procedures were as follows:
  - The microphone head of the sound level meter and calibrator were cleaned with a soft cloth at quarterly intervals.
  - The sound level meter and calibrator were checked and calibrated at yearly intervals.

#### **Results and Observations**

3.10 **Table 3.4** summarizes the monitoring results at NM5 and NM6 in the reporting month.

Table 3.4 Summary the Noise Monitoring Results in Reporting Month

For the time period 0700-1900 hrs. on weekdays			
Noise Monitoring	Range, dB(A)	Limit Level	
Station	L <sub>eq</sub> (30 min.)	dB(A)	
NM5	59.8 – 62.1	75.0	
NM6	57.2 – 62.8	75.0	

- 3.11 The construction noise monitoring at the designated location was conducted by the ET of Contracts DC/2009/10 as scheduled in the reporting month. The monitoring results and graphical presentations could be referred to **Appendix E**.
- 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 No Action/Limit Level exceedance was recorded in the reporting month. Summary of exceedance is presented in **Appendix F**.
- 3.14 The major noise sources identified at the designated noise monitoring stations were vehicle movement and construction activities from other 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 the **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
Waste/ Chemical Management	210225-R01	To dispose of general refuse properly and keep the site clean and tidy.	General refuse was cleared.
Landscape and Visual	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
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 DC/2009/10'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 DC/2009/10 are summarized in **Table 4.2**.

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#### Table 4.2 Summary of Environmental Licence / Permit for DC/2009/10

Reference	Valid I	Period	Details	Status
Number	From	To		
Water Discha	arge License			
WT00024404- 2016	19/5/2016	31/5/2021	The application was approved on 19-5-2016.	Valid
WT00025973- 2016	22/11/2016	31/5/2021	The application was approved on 22/11/2016.	Valid
Registered Chemical Waste Producer				
WPN5213- 269-3584-01	N/A	N/A	The application was approved on 4-5-2011.	Valid
Billing Accou	int for Dispos	sal of Consti	ruction Waste	
CSW01444	16/3/2011	N/A	The application was approved on 16-3-2011.	Valid
Notification of Works Under APCO				
327427	N/A	N/A	Notice form received by EPD on 2-3-2011.	N/A

#### **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 major deficiency was recorded.

#### **Summary of Complaints and Prosecutions**

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

Main Pumping Station, Sedimentation Tanks and Ancillary Facilities

Monthly EM&A Report – March 2021

#### 5. FUTURE KEY ISSUES

#### **Key Issues for the Coming Month**

- 5.1 Key environmental issues in the coming month include:
  - Disposal/ Storage of general refuse and construction waste on-site;

#### 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:

#### Water Quality

• To avoid water accumulation on site and carry out larviciding against mosquito breeding for stagnant water when mosquito larvae are observed.

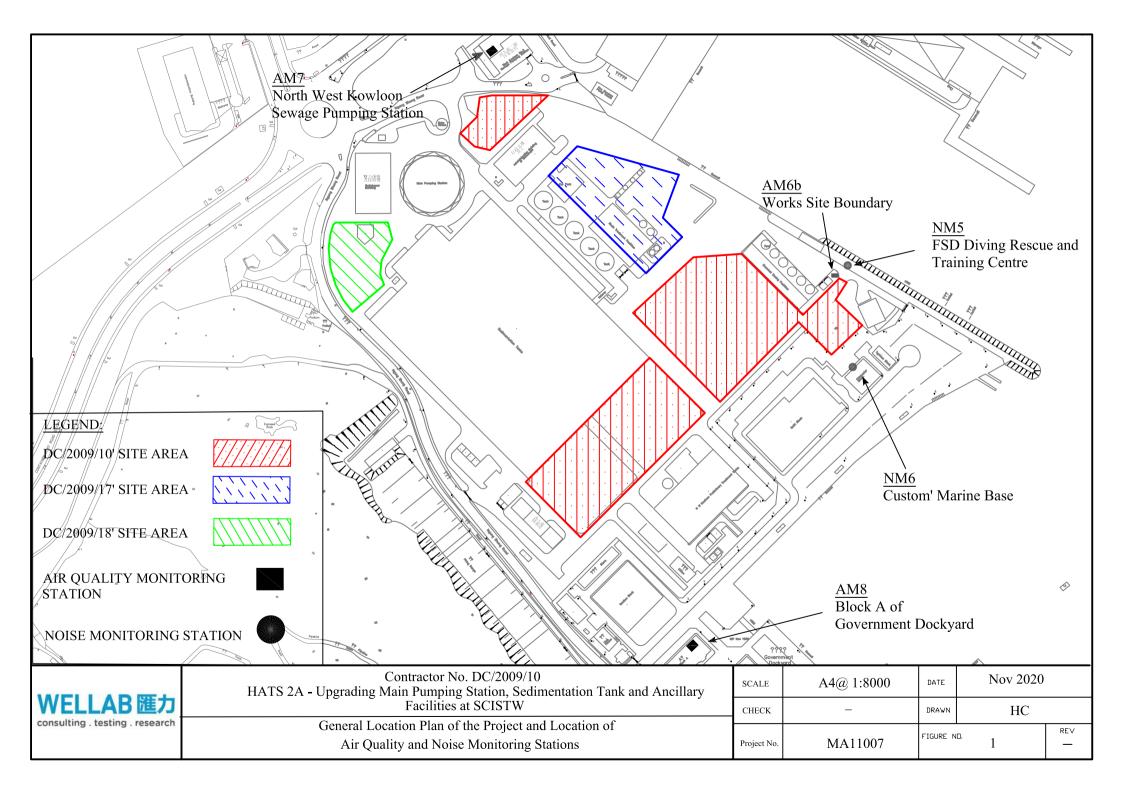
#### Waste/Chemical Management

- 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 avoid any construction materials being placed inside the tree protection zone.

# **FIGURES**



# Environmental Team Leader Dr. Priscilla Choy (Tel: 2151 2089)

- coordination of the Project and compile reports

Chan Ho Wai

(Tel: 2151 2073)

# **Monitoring Team**

- perform environmental monitoring works

Team Leader: Tang Wing Kwai (Tel: 2151 2087)

Team Members: Lee Man Hei, Ho Ka Chun, Ho Chi Wai, Lui Ka Shing, Chan Ho Wai

#### **Audit Team**

- conduct site inspection, complete the environmental checklist once a week

Team Leader: Ivy Tam (Tel: 2151 2090)

> Team Members: Chan Ho Wai

Title Contract No. DC/2009/10

HATS Stage 2A – Upgrading Works at SISTW

Main Pumping Station, Sedimentation Tanks and Ancillary Facilities

ET's Organization Chart



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

# Appendix A Action and Limit Levels

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

Manitaring Stations	Action Level (μg/m³)		Limit Level (μg/m³)	
Monitoring Stations	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)
	0700-1900 hours on normal weekdays	When one documented complaint is received	75
NM5 NM6	Evening Time of normal weekdays and General Holidays:  All days during the evening (1900 to	N/A	70(1)
	2300 hours), and general holidays (including Sundays) during the day-time and evening (0700 to 2300 hours)	17/21	,,,

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.

APPENDIX B COPIES OF CALIBRATION CERTIFICATES



WELLAB LIMITED Room 1701, Technology Park, 18 On Lai Street, Shatin, N.T., Hong Kong.

Tel: 2898 7388 Fax: 2898 7076 Website: www.wellab.com.hk

#### TEST REPORT

APPLICANT: Wellab Limited

(EM&A Department)

Room 1701, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

Test Report No.:	34871
Date of Issue:	2021-03-03
Date Received:	2021-03-01
Date Tested:	2021-03-01
Date Completed:	2021-03-03
Next Due Date:	2021-05-02

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.

: X23807

Flow rate

: 0.1 cfm

Zero Count Test

: 0 count per 1 minute

Equipment No.

: WA-01-01

**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)	1.177

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE



consulting , testing , research

WELLAB LIMITED Room 1701, Technology Park, 18 On Lai Street, Shatin, N.T., Hong Kong. Tel: 2898 7388 Fax: 2898 707

Tel: 2898 7388 Fax: 2898 7076 Website: www.wellab.com.hk

#### TEST REPORT

APPLICANT: Wellab Limited

(EM&A Department)

Room 1701, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

Test Report No.:	34871B
Date of Issue:	2021-03-03
Date Received:	2021-03-01
Date Tested:	2021-03-01
Date Completed:	2021-03-03
Next Due Date:	2021-05-02

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.

: X23809

Flow rate

: 0.1 cfm

Zero Count Test

: 0 count per 1 minute

Equipment No.

: WA-01-03

**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) 1.104

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE General Manager

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WELLAB LIMITED Room 1701, Technology Park, 18 On Lai Street, Shatin, N.T., Hong Kong. Tel: 2898 7388 Fax: 2898 7076

Website: www.wellab.com.hk

#### **TEST REPORT**

APPLICANT: Wellab Limited

(EM&A Department)

Room 1701, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

Test Report No.:	34871C
Date of Issue:	2021-03-03
Date Received:	2021-03-01
Date Tested:	2021-03-01
Date Completed:	2021-03-03
Next Due Date:	2021-05-02

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.

: 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) 1.128

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE



WELLAB LIMITED Room 1701, Technology Park, 18 On Lai Street, Shatin, N.T., Hong Kong.

Tel: 2898 7388 Fax: 2898 7076 Website: www.wellab.com.hk

#### TEST REPORT

APPLICANT: Wellab Limited

(EM&A Department)

Room 1701, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

Test Report No.: 34870A
Date of Issue: 2021-03-01
Date Received: 2021-02-27
Date Tested: 2021-02-27

Date Completed: Next Due Date: 2021-03-01 2021-04-30

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.

: X24477

Flow rate

: 0.1 cfm

Zero Count Test

: 0 count per 1 minute

Equipment No.

: WA-01-06

**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:

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE



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#### TEST REPORT

APPLICANT: Wellab Limited

(EM&A Department)

Room 1701, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

Test Report No.:	34871D
Date of Issue:	2021-03-03
Date Received:	2021-03-01
Date Tested:	2021-03-01
Date Completed:	2021-03-03
Next Due Date:	2021-05-02

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.

: X24475

Flow rate

: 0.1 cfm

Zero Count Test

: 0 count per 1 minute

Equipment No.

: WA-01-07

**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)	1.096
*************************	

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For and On Behalf of WELLAB Ltd.

PATRICK TSE



WELLAB LIMITED Room 1701, Technology Park, 18 On Lai Street, Shatin, N.T., Hong Kong.

Tel: 2898 7388 Fax: 2898 7076 Website: www.wellab.com.hk

#### TEST REPORT

APPLICANT: Wellab Limited

(EM&A Department)

Room 1701, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

Test Report No.: 34870B
Date of Issue: 2021-03-01
Date Received: 2021-02-27

Date Tested: 2021-02-27 Date Completed: 2021-03-01

Next Due Date: 2021-04-30

1 of 1

ATTN:

Ms. Meiling Tang

#### Certificate of Calibration

#### Item for Calibration:

Description

: Dust Monitor

Manufacturer

: Met One Instruments

Page:

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) 1.215

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PATRICK TSE



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#### TEST REPORT

APPLICANT: Wellab Limited

(EM&A Department)

Room 1701, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

Test Report No.: 34870D
Date of Issue: 2021-03-01
Date Received: 2021-02-27
Date Tested: 2021-02-27

Date Completed: 2021-03-01 Next Due Date: 2021-04-30

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.

: 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:

1 LOD CITOS	
Correlation Factor (CF)	1.139

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE



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

File No. MA11007/WA12/0005 Station AM6 - Works Site Boundary Operator: HLDate: 11-Feb-21 Next Due Date: 10-Apr-21 Equipment No.: WA-12-12 Serial No. 2355 **Ambient Condition** Temperature, Ta (K) 292 Pressure, Pa (mmHg) 762.6 Orifice Transfer Standard Information Serial No. 2896 Slope, mc Intercept, bc -0.02681 mc x Qstd + bc =  $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ Last Calibration Date: 18-Feb-20 Qstd =  $\{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} -bc\} / mc$ Next Calibration Date: 18-Feb-21 Calibration of TSP Sampler Orfice HVS Calibration  $\Delta H$  (orifice),  $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Qstd (CFM) ΔW (HVS), in. Point  $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ in. of water X - axis of water Y-axis 12.4 3.56 61.06 8.1 2.88 2 10.8 3.33 57.02 7.4 2.75 3 7.8 2.83 48.52 5.1 2,29 4 5.7 2.42 41.55 3.7 1.95 5 3,2 1.81 31.24 2.3 1.53 By Linear Regression of Y on X Slope, mw = 0.0466 Intercept, bw: 0.0512 Correlation coefficient\* = 0.9978 \*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 x Qstd + bw =  $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Therefore, Set Point;  $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ Remarks: Conducted by: 1757 MAN 1/167Signature: Date: Checked by: WK. 7ang Signature: Date:



File No. MA11007/WA14/0005

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

HLAM7 - North West Kowloon Sewage Pumping Station Operator: Station Next Due Date: 10-Apr-21 Date: Serial No. 2353 Equipment No.: \_ WA-12-14 **Ambient Condition** 763.4 291.4 Pressure, Pa (mmHg) Temperature, Ta (K) Orifice Transfer Standard Information -0.02681 0.0588 Intercept, bc 2896 Slope, mc Serial No. mc x Qstd + bc =  $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ Last Calibration Date: 18-Feb-20 Qstd =  $\{ |\Delta H \times (Pa/760) \times (298/Ta) \}^{1/2} -bc \} / mc$ Next Calibration Date: 18-Feb-21 Calibration of TSP Sampler HVS Orfice Calibration  $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ ΔW (HVS), in. Ostd (CFM)  $\Delta H$  (orifice),  $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ Point Y-axis in, of water X - axis of water 2.97 3.57 61.15 8.6 12.4 7.8 2.83 56.84 2 10.7 3.32 2.36 47.66 5.4 2.78 3 7.5 1,95 38.22 3.7 2.22 4 4.8 1.84 31.77 2.3 1.54 3.3 5 By Linear Regression of Y on X Slope, mw = 0.0486 Intercept, bw: 0.0407 0.9975 Correlation coefficient\* = \*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 x Qstd + bw =  $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Therefore, Set Point;  $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ Remarks: Conducted by: LEE MAN HEISignature: Date: Checked by: Wk. 70mg Signature: Date:



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

						File No.	MA11007/WA18/005
Station	AM8 - Block	A of Governmen	t Dockyard	Operator:	HL		
Date:	11-Feb-21		1	Next Due Date:	10-Apr-	21	
Equipment No.:	WA-12-18			Serial No.	3219		
			Ambient	Condition			
Temperatu	ire, Ta (K)	291.8	Pressure, Pa	a (mmHg)		763.1	111 112 113 113 113 113 113 113 113 113
		Or	ifice Transfer St	andard Inform	ation		
Seria	l No.	2896	Slope, mc	0.0588	Intercept		
Last Calibr	ation Date:	18-Feb-20			oc = [ΔH x (Pa/76		
Next Calibr	ration Date:	18-Feb-21		$\mathbf{Qstd} = \{ [\Delta \mathbf{H} :$	x (Pa/760) x (298	/Ta)] <sup>1/2</sup> -bc} .	/ mc
		•		****			
			Calibration of	f TSP Sampler		- 17 1 A.M. 1	
Calibration		Ort	fice			HVS	
Point	ΔH (orifice), in. of water	[ΔH x (Pa/76	0) x (298/Ta)] <sup>1/2</sup>	Qstd (CFM) X - axis	ΔW (HVS), in. of water	[ΔW x (Pa	a/760) x (298/Ta)] <sup>1/2</sup> <b>Y-axis</b>
1	12.3	3	3.55	60.86	8.0		2.86
2	10.8	3	3.33	57.05	6.7		2.62
3	7.9	2	2.85	48.86	5.2		2.31
4	5.4	2	2.35	40.48	3.6		1.92
5	3.6	1	.92	33.13	2.4		1.57
By Linear Regar Slope, mw = Correlation	ression of Y on 2  0.0455  coefficient* =	_	986	Intercept, bw	0.070	4	
	_	90, check and rec		- <u>-</u>			
				Calculation			
		Curve, take Qstd					
From the Regre	ssion Equation, t	he "Y" value acco	ording to				
		mw y (	$Qstd + bw = [\Delta W]$	' x (Pa/760) x (2	298/Ta)l <sup>1/2</sup>		
		mii x v	2014 . D.1. [2.1.	12 (2 til / 0 0) 1- (-			
Therefore, S	Set Point; W = ( r	nw x Qstd + bw)	<sup>2</sup> x ( 760 / Pa ) x (	Ta/298) =	4.00	l	
Remarks:			<del></del>				
			· <u>·</u>				
			1			D-4	1. 2 - 252
	LEE MHUHE				-	Date:	112122
Checked by	: Wh Toma	Signature:	/LWO	<u> </u>	-	Date:	11/2/1/02/
	V						



# RECALIBRATION DUE DATE:

February 18, 2021

# Certificate of Calibration

**Calibration Certification Information** 

Cal. Date: February 18, 2020

Rootsmeter S/N: 438320

Ta: 294
Pa: 753.1

°K

Operator: Jim Tisch

Calibration Model #: TE-5025A

Calibrator S/N: 2896

mm Hg

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4340	3.2	2.00
2	3	4	1	1.0230	6.4	4.00
3	5	6	1	0.9080	8.0	5.00
4	7	8	1	0.8680	8.8	5.50
5	9	10	1	0.7160	12.8	8.00

	Data Tabulation				
Vstd	Qstd	$\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right) \left(\frac{Tstd}{Ta}\right)}$		Qa	$\sqrt{\Delta H (Ta/Pa)}$
(m3)	(x-axis)	(y-axis)	Va	(x-axis)	(y-axis)
1.0001	0.6975	1.4173	0.9958	0.6944	0.8836
0.9959	0.9735	2.0044	0.9915	0.9692	1.2496
0.9937	1.0944	2.2410	0.9894	1.0896	1.3971
0.9927	1.1436	2.3504	0.9883	1.1386	1.4653
0.9873	1.3790	2.8347	0.9830	1.3729	1.7672
	m=	2.07675		m=	1.30043
<b>QSTD</b>	b=	-0.02681	QA [	b=	-0.01672
	r=	0.99993		r=	0.99993

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

Standard Conditions						
Tstd:	Tstd: 298.15 °κ					
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		m: slope				

#### RECALIBRATION

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

Tisch Environmental, Inc. 145 South Miami Avenue Village of Cleves, OH 45002 www.tisch-env.com

TOLL FREE: (877)263-7610 FAX: (513)467-9009



WELLAB LIMITED Room 1701, Technology Park, 18 On Lai Street, Shatin, N.T., Hong Kong. Tel: 2898 7388 Fax: 2898 7076

Website: www.wellab.com.hk

## TEST REPORT

APPLICANT: Wellab Limited

(EM&A Department)

Room 1701, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

Test Report No.:	33962
Date of Issue:	2020-08-15
Date Received:	2020-08-13
Date Tested:	2020-08-13
Date Completed:	2020-08-15
Next Due Date:	2021-08-14

Page:

1 of 1

ATTN:

Mr. W. K. Tang

## **Certificate of Calibration**

## Item for Calibration:

Description : 'SVANTEK' Integrating Sound Level

Meter

Manufacturer : SVANTEK
Model No. : SVAN 957
Serial No. : 21460
Microphone No. : 43679
Equipment No. : N-08-09

**Test Conditions:** 

Room Temperatre

: 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:

a contract of the contract of		
Reference Set Point, dB	Instrument Reading, dB	
94	94.0	
114	114.0	

\*

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE General Manager

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WELLAB LIMITED Room 1701, Technology Park, 18 On Lai Street, Shatin, N.T., Hong Kong. Tel: 2898 7388 Fax: 2898 7076

Website: www.wellab.com.hk

## **TEST REPORT**

Wellab Limited APPLICANT:

(EM&A Department)

Room 1701, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

Test Report No.:	34872
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 Model No.

:BSWA : BSWA 308

Serial No. Equipment No. : 570271 : WN-01-01

**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.

General Manager



WELLAB LIMITED Room 1701, Technology Park, 18 On Lai Street, Shatin, N.T., Hong Kong.

Tel: 2898 7388 Fax: 2898 7076 Website: www.wellab.com.hk

## 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



WELLAB LIMITED
Room 1701, Technology Park,
18 On Lai Street, Shatin,
N.T., Hong Kong.

Tel: 2898 7388 Fax: 2898 7076 Website: www.wellab.com.hk

## TEST REPORT

APPLICANT: Well

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: 2

2021-08-20

1 of 1

ATTN:

Mr. W. K. Tang

## **Certificate of Calibration**

#### Item for calibration:

Description

: Acoustical Calibrator

Page:

Manufacturer

: SVANTEK

Model No.

: SV30A

Serial No.

: 24791

Equipment No.

: N-09-04

#### **Test conditions:**

Room Temperatre

: 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



WELLAB LIMITED Room 1701, Technology Park, 18 On Lai Street, Shatin, N.T., Hong Kong.

Tel: 2898 7388 Fax: 2898 7076 Website: www.wellab.com.hk

## **TEST REPORT**

APPLICANT: Wellab Limited

(EM&A Department)

Room 1701, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

Test Report No.:	34136A
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.

: 24780

Equipment No.

: N-09-05

#### 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

# DC/2009/10, HATS 2A Upgrading Main Pumping Station, Sedimentation Tanks and Ancillary Facilities at SCISTW Impact Air Quality and Noise Monitoring Schedule (March 2021)

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

#### **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

## DC/2009/10, HATS 2A Upgrading Main Pumping Station, Sedimentation Tanks and Ancillary Facilities at SCISTW Tentative Impact Air Quality and Noise Monitoring Schedule (April 2021)

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

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

## **Appendix D - 1-hour TSP Monitoring Results**

## Location AM6b - Works Site Boundary

Start Date	Start Time	Weather	Air	Filter W	eight (g)	Particulate	Elapse	e Time	Sampling	Flow Rate	(m³/min.)	Av. flow	Total vol.	Conc.	Filter
Start Date	Start Tille	Condition	Temp. (K)	Initial	Final	weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m <sup>3</sup> /min)	$(m^3)$	(µg/m <sup>3</sup> )	ID no.
1-Mar-21	13:08	Cloudy	296.6	3.4928	3.4986	0.0058	11504.8	11505.8	1.0	1.21	1.20	1.21	72.3	80.2	C2010018/88
1-Mar-21	14:08	Cloudy	297.1	3.5367	3.5425	0.0058	11505.8	11506.8	1.0	1.20	1.20	1.20	72.2	80.3	C2010018/90
1-Mar-21	15:08	Cloudy	297.0	3.4768	3.4819	0.0051	11506.8	11507.8	1.0	1.20	1.20	1.20	72.2	70.6	C2010018/91
5-Mar-21	13:07	Cloudy	291.7	3.4864	3.4938	0.0074	11531.8	11532.8	1.0	1.22	1.22	1.22	73.0	101.3	C201001/23
5-Mar-21	14:07	Cloudy	291.9	3.5029	3.5121	0.0092	11532.8	11533.8	1.0	1.22	1.22	1.22	73.0	126.0	C201001/95
5-Mar-21	15:07	Cloudy	292.1	3.4943	3.5035	0.0092	11533.8	11534.8	1.0	1.22	1.22	1.22	73.0	126.1	C201001/26
10-Mar-21	9:00	Cloludy	292.6	3.4637	3.4796	0.0159	11558.8	11559.8	1.0	1.22	1.22	1.22	73.0	217.7	C200901/94
10-Mar-21	10:00	Cloludy	292.8	3.5390	3.5501	0.0111	11559.8	11560.8	1.0	1.22	1.22	1.22	73.0	152.0	C201001/10
10-Mar-21	11:00	Cloludy	293.1	3.5377	3.5497	0.0120	11560.8	11561.8	1.0	1.22	1.22	1.22	72.9	164.5	C201001/95
16-Mar-21	13:00	Sunny	301.2	3.2821	3.2921	0.0100	11585.8	11586.8	1.0	1.19	1.19	1.19	71.6	139.6	210301/054
16-Mar-21	14:00	Sunny	301.1	3.2720	3.2828	0.0108	11586.8	11587.8	1.0	1.19	1.19	1.19	71.6	150.8	210301/056
16-Mar-21	15:00	Sunny	300.9	3.2761	3.2856	0.0095	11587.8	11588.8	1.0	1.19	1.19	1.19	71.6	132.6	210301/057
22-Mar-21	11:00	Cloudy	290.8	3.2678	3.2746	0.0068	11612.8	11613.8	1.0	1.22	1.22	1.22	73.4	92.7	201201/095
22-Mar-21	13:00	Cloudy	292.4	3.3187	3.3240	0.0053	11613.8	11614.8	1.0	1.22	1.22	1.22	73.1	72.5	201201/097
22-Mar-21	14:05	Cloudy	292.9	3.3227	3.3264	0.0037	11614.8	11615.8	1.0	1.22	1.22	1.22	73.0	50.7	201201/098
26-Mar-21	9:00	Cloudy	292.6	3.4967	3.5164	0.0197	11639.8	11640.8	1.0	1.22	1.21	1.22	72.9	270.2	210401/002
26-Mar-21	10:00	Cloudy	293.2	3.5048	3.5211	0.0163	11640.8	11641.8	1.0	1.21	1.21	1.21	72.8	223.8	210401/001
26-Mar-21	11:00	Cloudy	294.5	3.4074	3.4193	0.0119	11641.8	11642.8	1.0	1.21	1.21	1.21	72.6	163.8	210301/099

 Min
 51

 Max
 270

 Average
 134

MA11007\1-hr TSP Results Wellab

## Appendix D - 1-hour TSP Monitoring Results

Location AM7 -	North West	Kowloon Sewage	Pumping Station
Date	Time	Weather	Particulate Concentration ( μg/m³)
1-Mar-21	13:02	Cloudy	88.1
1-Mar-21	14:02	Cloudy	93.0
1-Mar-21	15:02	Cloudy	90.2
5-Mar-21	13:01	Cloudy	108.2
5-Mar-21	14:01	Cloudy	128.6
5-Mar-21	15:01	Cloudy	101.4
10-Mar-21	9:00	Cloudy	119.6
10-Mar-21	10:00	Cloudy	129.8
10-Mar-21	11:00	Cloudy	116.6
16-Mar-21	13:45	Sunny	116.1
16-Mar-21	14:45	Sunny	122.5
16-Mar-21	15:45	Sunny	130.1
22-Mar-21	13:30	Cloudy	108.6
22-Mar-21	14:30	Cloudy	139.6
22-Mar-21	15:30	Cloudy	112.3
26-Mar-21	9:00	Cloudy	112.8
26-Mar-21	10:00	Cloudy	107.8
26-Mar-21	11:00	Cloudy	117.5
		Minimum	88.1
		Maximum	139.6
		Average	113.5

Location AM8 -	Block A of C	Government Dock	yard
Date	Time	Weather	Particulate Concentration ( μg/m3)
1-Mar-21	13:14	Cloudy	71.6
1-Mar-21	14:14	Cloudy	82.5
1-Mar-21	15:14	Cloudy	77.2
5-Mar-21	13:15	Cloudy	104.4
5-Mar-21	14:15	Cloudy	113.8
5-Mar-21	15:15	Cloudy	109.7
10-Mar-21	8:55	Cloudy	106.3
10-Mar-21	9:55	Cloudy	90.7
10-Mar-21	10:55	Cloudy	96.7
16-Mar-21	9:00	Sunny	103.1
16-Mar-21	10:00	Sunny	106.0
16-Mar-21	11:00	Sunny	98.2
22-Mar-21	13:00	Cloudy	120.4
22-Mar-21	14:00	Cloudy	128.5
22-Mar-21	15:00	Cloudy	134.9
26-Mar-21	9:00	Cloudy	102.1
26-Mar-21	10:00	Cloudy	111.1
26-Mar-21	11:00	Cloudy	114.1
<u> </u>		Minimum	71.6
		Maximum	134.9
		Average	104.0

MA11007\1-hr TSP Results Wellab

## Appendix D - 24-hour TSP Monitoring Results

## Location AM6b - Works Site Boundary

Start Date	Weather	Air	Filter W	eight (g)	Particulate	Elapse	e Time	Sampling	Flow Rate	e (m³/min.)	Av. flow	Total vol.	Conc.	Filter
Start Date	Condition	Temp. (K)	Initial	Final	weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m <sup>3</sup> /min)	(m <sup>3</sup> )	$(\mu g/m^3)$	ID no.
4-Mar-21	Cloudy	291.5	3.4986	3.6716	0.1730	11507.8	11531.8	24.0	1.22	1.22	1.22	1753.7	98.6	C201001/92
9-Mar-21	Cloudy	292.7	3.5413	3.7081	0.1668	11534.8	11558.8	24.0	1.22	1.22	1.22	1752.4	95.2	C201001/27
15-Mar-21	Cloudy	294.4	3.5082	3.6426	0.1344	11561.8	11585.8	24.0	1.21	1.21	1.21	1742.1	77.1	C201001/11
19-Mar-21	Sunny	296.7	3.2963	3.3905	0.0942	11588.8	11612.8	24.0	1.20	1.20	1.20	1733.2	54.4	210301/058
25-Mar-21	Cloudy	293.6	3.3191	3.5107	0.1916	11615.8	11639.8	24.0	1.21	1.22	1.21	1746.9	109.7	210301/075
31-Mar-21	Sunny	299.7	3.4606	3.5295	0.0689	11642.8	11666.8	24.0	1.19	1.20	1.19	1719.9	40.1	210301/098
												Min	40	
												Max	110	
												Average	79	

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

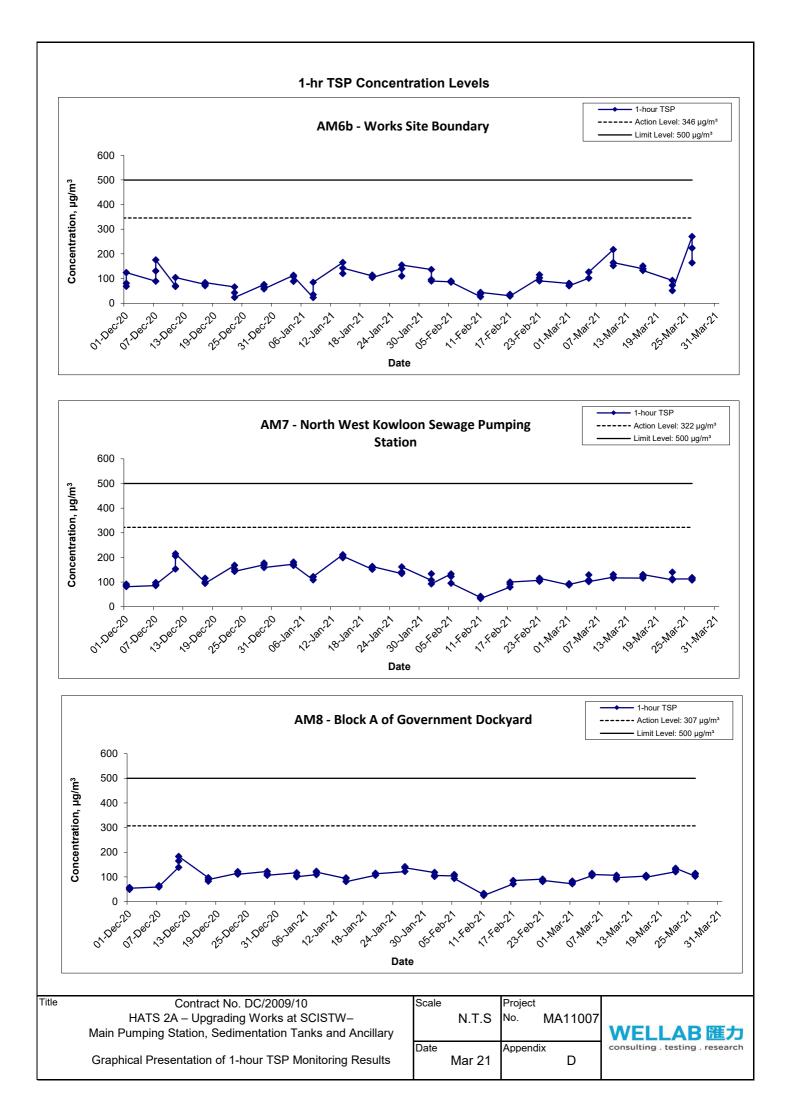
Start Date	Weather	Air	Filter W	eight (g)	Particulate	Elapse	e Time	Sampling	Flow Rate	e (m³/min.)	Av. flow	Total vol.	Conc.	Filter
Start Date	Condition	Temp. (K)	Initial	Final	weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m <sup>3</sup> /min)	$(m^3)$	(µg/m <sup>3</sup> )	ID no.
4-Mar-21	Cloudy	291.5	3.4882	3.5794	0.0912	40734.4	40758.4	24.0	1.22	1.22	1.22	1752.3	52.0	C201001/74
9-Mar-21	Cloudy	292.7	3.4943	3.5905	0.0962	40758.4	40782.4	24.0	1.22	1.22	1.22	1751.0	54.9	C201001/75
15-Mar-21	Cloudy	294.4	3.5123	3.5968	0.0845	40782.4	40806.4	24.0	1.21	1.21	1.21	1740.8	48.5	C201001/98
19-Mar-21	Sunny	296.7	3.2654	3.3255	0.0601	40806.4	40830.4	24.0	1.20	1.20	1.20	1731.9	34.7	210301/055
25-Mar-21	Cloudy	293.6	3.2522	3.3654	0.1132	40830.4	40854.4	24.0	1.21	1.21	1.21	1745.6	64.9	201201/096
31-Mar-21	Sunny	299.7	3.2908	3.3318	0.0410	40854.4	40878.4	24.0	1.19	1.19	1.19	1718.7	23.9	210301/022
												Min	24	
												Max	65	
												Average	46	

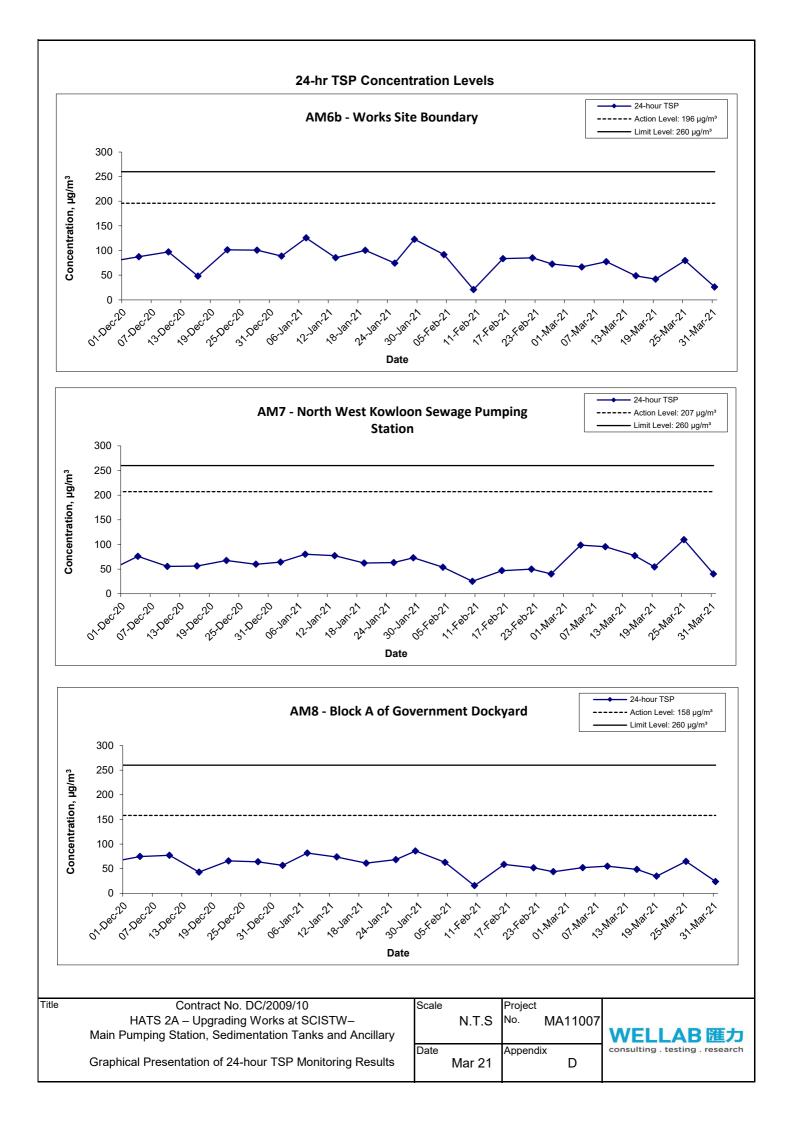
## Location AM8 - Block A of Government Dockyard

Start Date	Weather	Air	Filter W	eight (g)	Particulate	Elapse	e Time	Sampling	Flow Rate	e (m³/min.)	Av. flow	Total vol.	Conc.	Filter
Start Date	Condition	Temp. (K)	Initial	Final	weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m <sup>3</sup> /min)	$(m^3)$	$(\mu g/m^3)$	ID no.
4-Mar-21	Cloudy	291.5	3.5350	3.6522	0.1172	13668.2	13692.2	24.0	1.22	1.22	1.22	1756.3	66.7	C201001/89
9-Mar-21	Cloudy	292.7	3.5178	3.6536	0.1358	13692.2	13716.2	24.0	1.22	1.22	1.22	1755.0	77.4	C201001/93
15-Mar-21	Cloudy	294.4	3.5151	3.6000	0.0849	13716.2	13740.2	24.0	1.21	1.21	1.21	1744.6	48.7	C201001/12
19-Mar-21	Sunny	296.7	3.3086	3.3815	0.0729	13740.2	13764.2	24.0	1.21	1.20	1.21	1735.6	42.0	210301/059
25-Mar-21	Cloudy	293.6	3.3191	3.4585	0.1394	13764.2	13788.2	24.0	1.21	1.22	1.21	1749.4	79.7	210301/074
31-Mar-21	Sunny	299.7	3.4453	3.4901	0.0448	13788.2	13812.2	24.0	1.20	1.20	1.20	1722.1	26.0	210301/097
-												Min	26	

MA11007\24-hr TSP Results Wellab

Min 26 Max 80 Average 57





APPENDIX E NOISE MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

## Appendix E - Noise Monitoring Results

(0700-1900 hrs on Normal Weekdays)

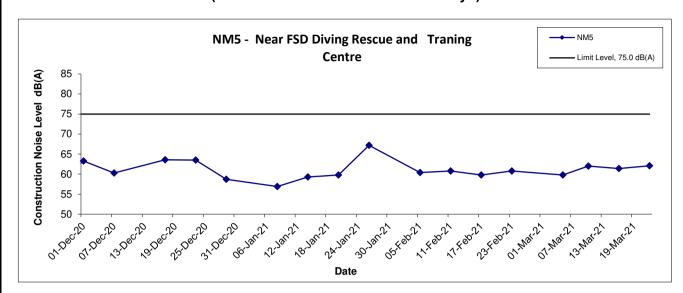
Location NM5	- Near FSD	Diving Rescu	e and Traini	ng Centre	
Data	Time	Weather		: dB (A) (30- sured Noise	
Date	Time	Weather	L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>
5-Mar-21	14:21	Cloudy	59.8	61.6	58.1
10-Mar-21	9:07	Cloudy	62.0	62.7	59.5
16-Mar-21	15:40	Sunny	61.4	63.8	58.6
22-Mar-21	11:10	Cloudy	62.1	64.8	58.0
<u>-</u>		Maximum	62.1		
		Minimum	59.8		

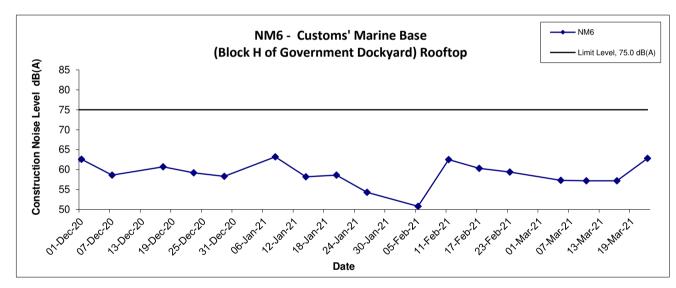
	Location NM6 - Customs' Marine Base (Block H of Government Dockyard) Rooftop								
			Unit	:: dB (A) (30-	min)				
Date	Time	Weather	Mea	sured Noise I	_evel				
			L <sub>eq</sub>	L <sub>10</sub>	L 90				
5-Mar-21	13:19	Cloudy	57.3	58.6	54.9				
10-Mar-21	10:13	Cloudy	57.2	58.6	53.1				
16-Mar-21	10:00	Sunny	57.2	59.4	54.0				
22-Mar-21	15:30	Cloudy	62.8	64.2	60.1				
		Maximum	62.8						
		Minimum	57.2						

MA11007\Noise Results Wellab

## **Noise Levels**

## (0700-1900 hrs on Normal Weekdays)





Contract No. DC/2009/10
HATS 2A – Upgrading Works at SCISTW—
Main Pumping Station, Sedimentation Tanks and Ancillary
Graphical Presentation of Noise Monitoring Result

Scale
N.T.S
No. MA11007
WELLAB 建力
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Title

## APPENDIX F SUMMARY OF EXCEEDANCE

## APPENDIX F – SUMMARY OF EXCEEDANCE

Reporting Month: March 2021

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

## APPENDIX G SITE AUDIT SUMMARY

Contract No: DC/2009/10

## HATS 2A Upgrading Main Pumping Station,

## Sedimentation Tanks and Ancillary Facilities at SCISTW

## **Record Summary of Environmental Site Inspection**

**Inspection Information** 

Checklist Reference Number	210304
Date	4 March 2021 (Thursday)
Time	09:30 – 10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	_
Ref. No.	Remarks/Observations	Related Item No.
	Part A - Water Quality	
	No environmental deficiency was identified during the site inspection.	
	Part B – Landscape and Visual	
X.,	No environmental deficiency was identified during the site inspection.	
	Part C - Air Quality	
	No environmental deficiency was identified during the site inspection.	
	Part D – Noise	
	No environmental deficiency was identified during the site inspection.	
	Part E – Waste / Chemical Management	
	No environmental deficiency was identified during the site inspection.	
	Part F - Permit / Licence	
	No environmental deficiency was identified during the site inspection.	
	Others	
	No environmental deficiency was identified during the site inspection.	
	Remark:	
	Follow-up on previous audit sessions:	and the same of th
	On previous audit session (Ref. No. 210225), all environmental deficiency	***************************************
	was rectified by contractor.	

	Name Signature		Date
Recorded by	Ivan Wong	Ivan	8 March 2021
Checked by	Dr. Priscilla Choy		8 March 2021

WELLAB MA11007 210304\_audit

Contract No: DC/2009/10

## HATS 2A Upgrading Main Pumping Station,

## Sedimentation Tanks and Ancillary Facilities at SCISTW

## **Record Summary of Environmental Site Inspection**

**Inspection Information** 

Checklist Reference Number	210311	
Date	11 March 2021 (Thursday)	
Time	09:30 - 10:30	

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	Part A - Water Quality	
	No environmental deficiency was identified during the site inspection.	ŧ
:	<ul> <li>Part B – Landscape and Visual</li> <li>No environmental deficiency was identified during the site inspection.</li> </ul>	
-	Part C - Air Quality	
	No environmental deficiency was identified during the site inspection.	
	Part D – Noise	the shall be seen to the shall be
	No environmental deficiency was identified during the site inspection.	
	Part E – Waste / Chemical Management • No environmental deficiency was identified during the site inspection.	
	Part F - Permit / Licence	at the state of th
	No environmental deficiency was identified during the site inspection.	
	Others	
	No environmental deficiency was identified during the site inspection.	
	Remark:	The control of the co
	• Follow-up on previous audit sessions:	
in the second se	On previous audit session (Ref. No. 210304), no environmental deficiency was observed during site inspection.	

	Name	Signature	Date
Recorded by	Ivan Wong	Ivan	15 March 2021
Checked by	Dr. Priscilla Choy	WI.	15 March 2021

WELLAB MA11007 210311\_audit

## HATS 2A Upgrading Main Pumping Station,

## Sedimentation Tanks and Ancillary Facilities at SCISTW

## **Record Summary of Environmental Site Inspection**

**Inspection Information** 

Checklist Reference Number	210317
Date	17 March 2021 (Wednesday)
Time	14:00 – 14:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	Part A - Water Quality	
	No environmental deficiency was identified during the site inspection.	
- Lucius and - Luc	<ul> <li>Part B – Landscape and Visual</li> <li>No environmental deficiency was identified during the site inspection.</li> </ul>	
	No environmental deficiency was identified during the site hispection.	
	Part C - Air Quality	
	No environmental deficiency was identified during the site inspection.	
	Part D - Noise	
	No environmental deficiency was identified during the site inspection.	
	Part E – Waste / Chemical Management	
	No environmental deficiency was identified during the site inspection.	
	Part F - Permit / Licence	
	No environmental deficiency was identified during the site inspection.	
	Others	
	No environmental deficiency was identified during the site inspection.	
	Remark:	
	Follow-up on previous audit sessions:	
	On previous audit session (Ref. No. 210311), no environmental deficiency	
	was observed during site inspection.	

	Name	Signature	Date
Recorded by	Ivan Wong	Ivan	22 March 2021
Checked by	Dr. Priscilla Choy	WI	22 March 2021

WELLAB MA11007 210317\_audit

Contract No: DC/2009/10

## HATS 2A Upgrading Main Pumping Station,

## Sedimentation Tanks and Ancillary Facilities at SCISTW

## **Record Summary of Environmental Site Inspection**

**Inspection Information** 

Checklist Reference Number	210325
Date	25 March 2021 (Thursday)
Time	9:30-10:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	
Ref. No.	Remarks/Observations	Related Item No.
	Part A - Water Quality	
	No environmental deficiency was identified during the site inspection.	
	<ul> <li>Part B - Landscape and Visual</li> <li>No environmental deficiency was identified during the site inspection.</li> </ul>	
	Part C - Air Quality	THE PARTY OF THE P
	No environmental deficiency was identified during the site inspection.	
	Part D - Noise	
	No environmental deficiency was identified during the site inspection.	
	Part E – Waste / Chemical Management  No environmental deficiency was identified during the site inspection.	a. Contraction of the contractio
	Part F - Permit / Licence	
	No environmental deficiency was identified during the site inspection.	
	Others	
	<ul> <li>No environmental deficiency was identified during the site inspection.</li> </ul>	
	Remark:	
	• Follow-up on previous audit sessions:	-
	On previous audit session (Ref. No. 210317), no environmental deficiency was observed during site inspection.	

Name		Signature	Date
Recorded by	Ivan Wong	Ivan	29 March 2021
Checked by	Dr. Priscilla Choy	NI	29 March 2021

WELLAB MA11007 210325\_audit

APPENDIX H SUMMARY OF AMOUNT OF WASTE GENERATED

Name of Department:	DSD	Contract No		Contract No. :	DC/2009/10
	Mo	onthly Summary Waste Flow Table for	2021	(year)	

		Actual Quantities of	inert C&D Mat	erials Generated	d Monthly		Actı	ıal Quantities of C	C&D Materials	Generated M	onthly
Month	Total Quantity	Hard Rock and Large	Reused in the	Reused in	Disposed as	Imported	Metals	Paper/	Plastics	Chemical	Other, e.g.
Month	Generated	Broken Concrete	Contract	other Projects	Public Fill	Fill		cardboard	(see Note 3)	Waste	general refuse
	(In '000m <sup>3</sup> )	(In '000m <sup>3</sup> )	(In '000m <sup>3</sup> )	$(\text{In '}000\text{m}^3)$	(In '000m <sup>3</sup> )	(In '000m <sup>3</sup> )	(In '000kg)	(In '000kg)	(In '000kg)	(In '000kg)	(In '000m <sup>3</sup> )
Jan	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002
Feb	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003
Mar	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Apr											
May											
June											
Sub-total	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004
July											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004
Total since commence ment of project	61.956	61.952	0.000	0.000	61.956	0.000	372.871	11.905	3.314	2.227	2.128

#### Notes:

- (1) The performance targets are given in PS Clause 25.41(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>.

## APPENDIX I EVENT ACTION PLANS

## **APPENDIX I – Event / Action Plans**

## **Table I-1 Event / Action Plan For Air Quality**

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

	ACTION			
EVENT	ET	IEC	ER	CONTRACTOR
LIMIT LEVEL				
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	Confirm receipt of notification of failure in writing;     Notify Contractor;     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

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

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

	ACTION			
EVENT	ET	IEC	ER	CONTRACTOR
Action Level	1. Notify ER, IEC and Contractor;	1. Review the investigation	1. Confirm receipt of	1. Submit noise mitigation
being	2. Carry out investigation;	results submitted by the ET;	notification of failure in writing;	proposals to IEC and ER;
exceeded	3. Report the results of investigation to	2. Review the proposed	2. Notify Contractor;	2. Implement noise mitigation
CACCCACA	the IEC, ER and Contractor;	remedial measures by the	3. In consolidation with the IEC,	proposals
	4. Discuss with the IEC and	Contractor and advise the ER	agree with the Contractor on the	
	Contractor on remedial measures	accordingly;	remedial measures to be	
	required;	3. Advise the ER on the	implemented;	
	5. Increase monitoring frequency to	effectiveness of the proposed	4. Supervise the implementation of	
	check mitigation effectiveness	remedial measures	remedial measures	
Limit Level	1. Inform IEC, ER, Contractor and	1. Discuss amongst ER, ET,	1. Confirm receipt of	1. Take immediate action to
being	EPD;	and	notification of failure in writing;	avoid further exceedance;
exceeded	2. Repeat measurements to confirm	Contractor on the potential	2. Notify Contractor;	2. Submit proposals for
0.100000	findings;	remedial actions;	3. In consolidation with the	remedial actions to IEC
	3. Increase monitoring frequency;	2. Review Contractor's	IEC, agree with the Contractor on	and ER within 3 working
	4. Identify source and investigate the	remedial	the remedial measures to be	days of notification;
	cause of exceedance;	actions whenever necessary	implemented;	3. Implement the agreed
	5. Carry out analysis of Contractor's	to assure their effectiveness	4. Supervise the implementation of	proposals;
	working procedures;	and advise the ER accordingly.	remedial measures;	4. Submit further proposal if
	6. Discuss with the IEC, Contractor		5. If exceedance continues,	problem still not under
	and ER on remedial measures		consider stopping the Contractor to	control;
	required;		continue working on that portion of	5. Stop the relevant portion
	7. Assess effectiveness of Contractor's		work which causes the exceedance	of works as instructed by
	remedial actions and keep IEC, EPD		until the exceedance is abated	the ER until the exceedance is
	and ER informed of the results;			abated
	8. If exceedance stops, cease			
	additional monitoring			

APPENDIX J ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE (EMIS)

## -APPENDIX J IMPLEMENTATION SCHEDULE OF ENVIRONMENTAL MITIGATION MEASURES (EMIS)

EIA	Recommended Mitigation Measures	Location of the measure	Implementation Status
Ref.			
A	Air Quality		
3.74	Skip hoist for material transport should be totally enclosed by impervious sheeting.	All construction sites	۸
	Vehicle washing facilities should be provided at every vehicle exit point.		۸
	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.		۸
	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.		٨
	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.		۸
	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.		۸
	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	۸

EIA	Recommended Mitigation Measures	Location of the measure	<b>Implementation Status</b>
Ref.			
В	Airborne Noise		
4.56-	Use of quiet PME, movable barriers and acoustic mats.	All construction sites	٨
4.61			
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.		٨
	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.		^
C	Water Quality		
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.  Accidental Spillage of Chemicals		^
0.377	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	Recommended Mitigation Measures	Location of the measure	Implementation Status
Ref.			
	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.		۸
6.379	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:  • Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport.  • Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents.  • Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.		^
6.380	Construction Works in Close Proximity of Storm Drains or Seafront:	All construction sites	۸
	<ul> <li>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.</li> <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>		

EIA	Recommended Mitigation Measures	Location of the measure	Implementation Status
Ref.			
D	Waste Management		
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:  • excavated materials suitable for reuse on-site;  • excavated materials suitable for public filling facilities;  • remaining C&D waste for landfill;  • chemical waste; and  • general refuse for landfill.	All construction sites	^
9.113	Sort C&D waste from demolition of existing facilities to recover recyclable portions such as metals.		۸
	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.		۸
	Any unused chemicals or those with remaining functional capacity shall be recycled.		٨
	Proper storage and site practices to minimize the potential for damage or contamination of construction materials.		۸
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.		۸
	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.		۸
	Provision of sufficient waste disposal points and regular collection of waste.		٨
	Regular cleaning and maintenance programme for drainage systems, sumps and oil		٨

EIA	Recommended Mitigation Measures	Location of the measure	<b>Implementation Status</b>
Ref.			
	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	۸
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.		۸
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.		۸
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

EIA	Recommended Mitigation Measures	Location of the measure	Implementation Status
Ref.			
E	Terrestrial Ecology		
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.		۸
10.96	Fences/hoardings should be erected and installed along the boundary of the works areas.		۸
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.		۸
F	Landscape and Visual		
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	۸
	Existing trees to be retained on site should be carefully protected during construction.		٨
	Trees unavoidably affected by the works should be transplanted where practical.		۸
	Compensatory tree planting should be provided to compensate for felled trees.		٨
	Control of night-time lighting.		۸
Table	Erection of decorative screen hoarding compatible with the surrounding setting.	All construction sites	N/A
13.7			
G	Marine Ecology		
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	۸
Н	Hazard to Life		
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	۸

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;

## APPENDIX K COMPLAINT LOG

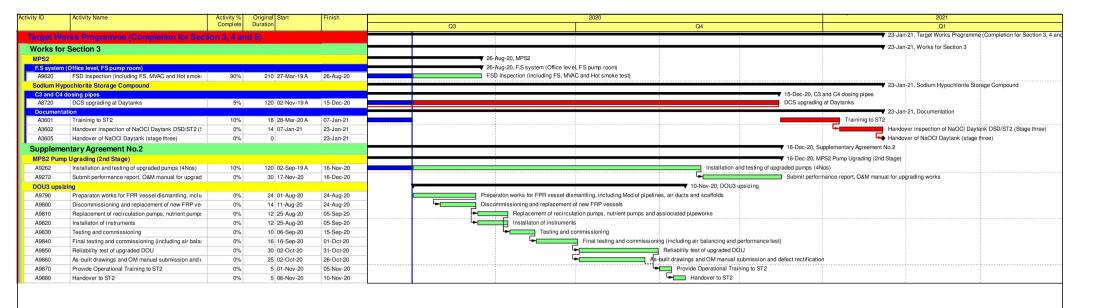
## APPENDIX K - COMPLAINT LOG

Reporting Month: March 2021

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

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

# APPENDIX L CONSTRUCTION PROGRAMME



Contract No. DC/2009/10

Target Works Programme for Completion of Section 3, 4 and 5