

**Agreement No. CE
20/2004(EP) North
East New
Territories (NENT)
Landfill Extension**

Monthly Environmental
Monitoring and Audit Report
(No. 4) – March 2023

2023-04-13

Our Ref.: CL/91823/0348-VES
Date: 14 April 2023

By Email

Veolia Environmental Services Hong Kong Limited
40/F, One Taikoo Place
979 King's Road
Quarry Bay
Hong Kong

Attn.: Mr. Alvin Kam

**Meinhardt Infrastructure and
Environment Ltd**
邁進基建環保工程顧問有限公司

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Dear Sir

Re: Contract No. EP/SP/77/15
North-East New Territories Landfill Extension (NENTX)
Monthly Environmental Monitoring and Audit Report (No.4) – March 2023

I refer to Conditions 3.3 under Environmental Permit No. EP-292/2007 and Further Environmental Permit No. FEP-01/292/2007, regarding the submission of a monthly Environmental Monitoring and Audit report. I hereby verified the captioned "Monthly Environmental Monitoring and Audit Report (No.4) – March 2023" dated 13 April 2023.

Should you have any queries, please do not hesitate to contact the undersigned at 2859 5409.

Yours faithfully
MEINHARDT INFRASTRUCTURE AND ENVIRONMENT LTD



Claudine Lee
Independent Environmental Checker

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The Aurecon logo features a small green square above the letter 'a' in the word 'aurecon', which is written in a bold, dark grey sans-serif font.

Ref: P521530-0000-REP-NN-0042

13 April 2023

By Email

Meinhardt Infrastructure & Environment Ltd.
10/F Genesis
33-35 Wong Chuk Hand Road
Hong Kong

Attn: Ms. Claudine Lee,

Dear Claudine,

Re: Contract No. EP/SP/77/15
Northeast New Territories Landfill Extension
Submission of Monthly Environmental Monitoring and Audit Report (No.4) – March 2023

In accordance with the requirement specified in Condition 3.3 of Environmental Permit No. EP-292/2007 and Further Environmental Permit No. FEP-01/292/2007, we are pleased to submit the certified “Monthly Environmental Monitoring and Audit Report (No.4) – March 2023” dated 13 April 2023 for your verification.

Should you require any further information or clarification, please do not hesitate to contact the undersigned or our Mr. Keith Chau on 3664 6788.

Yours faithfully,
For and on behalf of
Aurecon Hong Kong Limited

A handwritten signature in blue ink, appearing to read 'Fredrick Leong', is positioned above the printed name.

Fredrick Leong
Environmental Team Leader

Encl.

1. Monthly Environmental Monitoring and Audit Report (No.4) – March 2023

cc.

1. IEC - Ms. Claudine Lee (By email: claudinelee@meinhardt.com.hk)
2. IEC Representative – Ms. Echo Hung (By email: echo.hung@meinhardt.com.hk)

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Name	Keith Chau	Name	Fredrick Leong
Title	Associate, Environmental	Title	Environmental Team Leader

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Executive Summary

Aurecon Hong Kong Limited (Aurecon) was appointed to undertake the role of Environmental Team (ET) and carry out Environmental Monitoring and Audit for the North East New Territories (NENT) Landfill Extension.

The construction phase and EM&A programme of the Project commenced on 1 December 2022.

This 4th Monthly EM&A Report presents the EM&A works conducted from 1 to 31 March 2023 in accordance with the EM&A Manual.

Summary of Construction Works undertaken during Report Period

The major construction works undertaken during the reporting period include:

- Material loading and unloading, site traffic
- Permanent site office foundation works with pouring of concrete
- Site clearance
- Installation of permanent fencing
- Site formation
- Tree felling

Environmental Monitoring and Audit Progress

A summary of the monitoring activities in this reporting period is listed below:

Items	Times	Date
- Air Quality Monitoring during normal weekdays at each monitoring station	6 times	2, 8, 14, 20, 25 & 31 March 2023
- Additional 24-hr TSP Air Quality Monitoring during normal weekdays at AM1	4 times	1, 2, 3 & 4 March 2023
- Additional 24-hr TSP Air Quality Monitoring during normal weekdays at AM3	5 times	1, 2, 3, 4 & 13 March 2023
- Construction Noise Monitoring during normal weekdays at each monitoring station	5 times	2, 8, 14, 20 & 31 March 2023
- Surface Water Quality Monitoring during normal weekdays at each monitoring station	1 time	2 March 2023
- Landfill Gas Monitoring during normal weekdays for Construction Works	27 times	1 to 4, 6 to 11, 13 to 18, 20 to 25 & 27 to 31 March 2023
- Post-translocation Monitoring during normal weekdays at recipient site	1 time	20 March 2023
- Post-transplantation monitoring and audit during normal weekdays for transplanted plants and receptor sites	1 time	20 March 2023
- Joint Environmental Site Inspection	4 times	6, 13, 20 & 27 March 2023

Environmental Exceedance

1-hr TSP Monitoring

No Action / Limit Level exceedance for 1-hr TSP impact monitoring at AM1, AM2 & AM3 was recorded during the period.

24-hr TSP Monitoring

2 Action Level & 2 Limit Level Exceedance for 24-hr TSP monitoring at AM1 was recorded during the reporting period. The exceedance was considered likely caused by external sources such as the high level of background air quality in Hong Kong during the monitoring period etc and not project related.

No Action / Limit Level exceedance for 24-hr TSP monitoring at AM2 was recorded during the period.

3 Action Level Exceedance & 2 Limit Level Exceedance for 24-hr TSP monitoring at AM3 were recorded during the reporting period. The exceedance was considered likely caused by external sources such as the high level of background air quality in Hong Kong during the monitoring period etc and not project related.

Noise, Surface Water Quality & Landfill Gas Monitoring

No exceedance of the Action and Limit Levels for was recorded at designated monitoring stations during the reporting period.

Environmental Non-conformance/Compliant/Summons and Prosecution

No non-compliance event and complaint were recorded during the reporting period.

No summons/prosecutions were received in this reporting period.

Reporting Change

There was no reporting change in the reporting period.

Future Key Issues

Works to be undertaken in the next month include:

-
- Material loading and unloading, site traffic

 - Permanent site office foundation works with pouring of concrete

 - Site clearance

 - Installation of permanent fencing

 - Site formation

 - Tree felling

Potential environmental impacts arising from the above construction activities are mainly associated with air quality, construction noise, water quality, waste management, landfill gas monitoring, landscape and visual, cultural heritage and ecology.

1. Introduction

1.1. Background

- 1.1.1. The North East New Territories Landfill Extension (the NENTX Project) is located adjacent to the existing North East New Territories (NENT) Landfill at Ta Kwu Ling. The extension site is located in a valley covering mainly the existing NENT Landfill Stockpile and Borrow Area that was formed to the east of the existing landfill as part of the original site development of the landfill, and layout plan shown in **Figure 1**.
- 1.1.2. The NENTX is a designated project. The Environmental Impact Assessment (EIA) Report (AEIAR-111/2007) and an Environmental Monitoring and Audit Manual were approved on 20 September 2007. The project is governed by an Environmental Permit (EP) (EP-292/2007) which was granted on 26 November 2007. A further of EP (FEP) was applied and the FEP (FEP-01/292/2007) was subsequently granted on 28 April 2022.
- 1.1.3. In accordance with the requirements specified in Section 2.6 to 2.10 and Section 12.3 of the approved Environmental Monitoring and Audit (EM&A) Manual and Environmental Permit (EP and FEP) condition 3.3, Monthly EM&A report should be submitted to the Director of Environmental Protection (DEP), within 2 weeks after the end of the reporting month. The submissions shall be certified by the Environmental Team (ET) Leader and verified by the Independent Environmental Checker (IEC).
- 1.1.4. The construction phase and EM&A programme of the Project commenced on 1 December 2022.

1.2. Nature, Scale and Scope of the captioned Designated Project

- 1.2.1 The Nature, Scale and Scope of the captioned Designated Project is presented in **Table 1-1**.

Table 1-1 Nature, Scale and Scope of the captioned Designated Project

Item(s)	Content
Nature of Designated Project	Construction and operation of a landfill for waste as defined in the “Waste Disposal Ordinance” (Cap. 354)
Scale and Scope of Designated Project	<p>The Project mainly consists of the followings: -</p> <p>Construction and operation of a landfill extension of about 70 hectares with a target void space of at least 19 million cubic metres on the eastern side of the existing NENT Landfill, including the followings: -</p> <ul style="list-style-type: none"> i. Site formation and preparation; ii. Installation of liner system; iii. Installation of leachate collection, treatment and disposal facilities; iv. Installation of gas collection, utilization and management facilities; v. Utilities provisions and drainage diversion; vi. Landfilling operation; vii. Restoration and aftercare in subsequent stages; and viii. Measures to mitigate environmental impacts as well as environmental monitoring and auditing to be implemented.

1.3. Purpose of this Report

- 1.3.1. This is the 4th Monthly EM&A Report which summarises the impact monitoring results and audit findings for the EM&A programme during the reporting period from 01 to 31 March 2023.

1.4. Structure of the Report

- 1.4.1. The structure of the report is as follows:

Section 1 – Introduction

- details the background, purpose and structure of the report.

Section 2 – Project Information

- summarises background and scope of the Project, site description, project organization and contact details, construction programme, the construction works undertaken and the status of Environmental Permit(s)/License(s) during the reporting period.

Section 3 – Air Quality Monitoring

- Construction Dust

Section 4 – Noise Monitoring

Section 5 – Water Quality Monitoring

- Groundwater Monitoring
- Surface Water Monitoring

Section 6 – Waste Management

Section 7 – Landfill Gas Monitoring

Section 8 – Landscape and Visual

Section 9 – Cultural Heritage

Section 10 – Ecological Monitoring

Section 11 – Site Inspection and Audit

Section 12 – Environmental Non-Conformance

Section 13 – Implementation Status on Environmental Mitigation Measures

Section 14 – Future Key Issues

2. Project Information

2.1. Construction Activities

2.1.1. A summary of the major construction activities undertaken in this reporting period is shown in **Appendix L**. Construction programme is illustrated in **Appendix A**. Detailed construction

2.2. Project Organization & Management Structure

2.2.1. The Project Organization Chart & Management Structure are shown in **Appendix B**. The key personnel contact information is summarized in **Table 2-1**.

Table 2-1 Contact Information of Key Personnel

Party	Name	Contact Number
Contractor (Veolia Environmental Service Hong Kong Ltd.)	Mr. William Wan	2902 5296
Independent Environmental Checker (IEC) (Meinhardt Infrastructure and Environment Ltd.)	Ms. Claudine Lee	2859 5409
Environmental Team Leader (ETL) (Aurecon Hong Kong Limited)	Mr. Fredrick Leong	3664 6888

2.3. Status of Submission required under the FEP & EP during reporting period

2.3.1. The status of statutory environmental compliance with the EP conditions under the EIAO, submission status under the FEP & EP during reporting period are presented in **Table 2-2**. The detail status of statutory environmental compliance with the EP conditions under the EIAO, submission status under the FEP & EP for NENTX project are shown in **Appendix O**.

Table 2-2 Status of Submissions required under the FEP & EP during reporting period

FEP Condition	EP Condition	Submission / Measures	Status
2.1	2.3	Management Organization of Main Construction Companies	Submitted
2.2	2.4	Setting up of Community Liaison Group (CLG)	Community Liaison Group was set up.
2.3	2.5	Submission of EM&A Manual	Submitted
2.5	2.7	Submission of Vegetation Survey (Transplantation Proposal)	Submitted
2.6	2.8	Submission of translocation proposal	Submitted
2.7	2.9	Submission of Transplantation Report and Transplantation Monitoring	Submitted 8 th transplantation monitoring (20 March 2023)
2.8	2.10	Submission of Translocation Report and Translocation Monitoring	Translocation was carried out and the report submitted. 8 th translocation monitoring (20 Mar 2023)
2.9	2.11	Submission of Detailed Landfill Gas Hazard Assessment Report	Submitted
2.10	2.12	Submission of Waste Management Plan	Submitted
3.2	3.2	Submission of Baseline Monitoring Report	Submitted

2.4. Status of Environmental Approval Document

2.4.1. A summary of the relevant valid permits, licences, and/or notifications on environmental protection for this Project since the granting of the EP is presented in **Table 2-4**.

Table 2-4 Summary of the relevant valid permits, licences, and/or notifications on environmental protection

Permit / Licenses / Notification	Reference	Expiry Date	Remark
Environmental Permit (EP)	EP-292/2007	Throughout the Contract	Permit granted on 26 November 2007
Further Environmental Permit (FEP)	FEP-210/2022	Throughout the Contract	Permit granted on 28 April 2022
Notification of Construction Works as required under Air Pollution Control (Construction Dust) Regulation	479809	Throughout the Contract	Approved on 13 May 2022
Registration of Waste Producer under Waste Disposal Ordinance	7043692	Throughout the Contract	Approved on 13 April 2022
Registration as Chemical Waste Producer	5213-642-P1034-18	Throughout the Contract	Approved on 11 July 2022
Construction Noise Permit	GW-RN0131-23	13 May 2023	Approved on 9 February 2023 (Cancelled with effect from 23 March 2023)
Construction Noise Permit	GW-RN0299-23	22 June 2023	Approved on 21 March 2023
Effluent Discharge License under Water Pollution Control Ordinance	WT00042301-2022	31 October 2027	Approved on 18 October 2022 Variation of Licence (Approved on 7 February 2023)

2.5. Environmental Monitoring and Audit Progress

2.5.1. A summary of the monitoring activities in this reporting period is presented in **Table 2-5**.

Table 2-5 Summary of the Monitoring Activities in this reporting period

Items	Times	Date
- Air Quality Monitoring during normal weekdays at each monitoring station	6 times	2, 8, 14, 20, 25 & 31 March 2023
- Additional 24-hr TSP Air Quality Monitoring during normal weekdays at AM1	4 times	1, 2, 3 & 4 March 2023
- Additional 24-hr TSP Air Quality Monitoring during normal weekdays at AM3	5 times	1 to 4 & 13 March 2023
- Construction Noise Monitoring during normal weekdays at each monitoring station	5 times	2, 8, 14, 20 & 31 March 2023
- Surface Water Quality Monitoring during normal weekdays at each monitoring station	1 time	2 March 2023
- Landfill Gas Monitoring during normal weekdays for Construction Works	27 times	1 to 4, 6 to 11, 13 to 18, 20 to 25 & 27 to 31 March 2023
- Post-translocation Monitoring during normal weekdays at recipient site	1 time	20 March 2023
- Post-transplantation monitoring and audit during normal weekdays for transplanted plants and receptor sites	1 time	20 March 2023
- Joint Environmental Site Inspection	4 times	6, 13, 20 & 27 March 2023

Air Quality

6 sets of 1-hr TSP & 24-hr TSP construction dust measurement were carried out at each monitoring stations during normal weekdays of the reporting period.

4 sets of additional 24-hr TSP construction dust measurement were carried out at AM1 from 1 to 4 March 2023.

5 sets of additional 24-hr TSP construction dust measurement were carried out at AM3 from 1 to 4, 13 March 2023.

No Action / Limit Level exceedance for 1-hr TSP impact monitoring at AM1, AM2 & AM3 was recorded during the period.

2 Action Level & 2 Limit Level Exceedance for 24-hr TSP monitoring at AM1 was recorded during the reporting period. The exceedance was considered likely caused by external sources such as the high level of background air quality in Hong Kong during the monitoring period etc and not project related.

No Action / Limit Level exceedance for 24-hr TSP monitoring at AM2 was recorded during the period.

3 Action Level Exceedance & 2 Limit Level Exceedance for 24-hr TSP monitoring at AM3 were recorded during the reporting period. The exceedance was considered likely caused by external sources such as the high level of background air quality in Hong Kong during the monitoring period etc and not project related.

Noise

5 sets of 30-minute construction noise measurement were carried out at each monitoring stations during normal weekdays of the reporting period. No exceedance of Action and Limit Levels of construction noise was recorded during the reporting period.

Groundwater

Site clearance of future landfilling area is in progress. The installation of groundwater monitoring boreholes will be installed after the site formation work of the landfilling area. The target commencement period of groundwater monitoring will be in 2026. No groundwater monitoring is required before the completion of site formation work of the landfilling area.

Surface Water Quality

1 set of surface water quality measurement were carried out at each monitoring stations during normal weekdays of the reporting period. No exceedance of Action and Limit Levels of surface water quality was recorded during the reporting period

Landfill Gas

27 sets of landfill gas measurement were carried out at a designated monitoring location during normal weekdays of the reporting period. No exceedance of Action and Limit Levels of landfill gas was recorded during the reporting period.

Landscape and Visual

All the specified and affected LCAs, LRs and VSRs have been monitored during the reporting period. No exceedance of Action and Limit Levels of landscape and visual was recorded during the reporting period.

Cultural Heritage

Implementation of the mitigation measures during construction phase of the Project has been monitored through the regular site inspection/audit.

Ecology

1 set of post-translocation monitoring at recipient site and 1 set of post-transplantation monitoring and audit for transplanted plants and receptor sites during normal weekdays of the reporting period were carried out. Implementation of the mitigation measures during construction phase of the Project has been monitored through the regular site inspection/audit.

Environmental Site Inspection

ET weekly environmental site inspections were carried out on 6, 13, 20 & 27 March 2023. A joint environmental site inspection was carried out by the representatives of the Employer's Representative (ER), the Contractor, IEC and the ET on 20 March 2023. The Contractor has generally implemented the mitigation measures as recommended.

3. Air Quality Monitoring

3.1 Construction Dust

3.1.1 Monitoring Requirement

3.1.1.1 In accordance with the EM&A Manual, 1-hr & 24-hr Total Suspended Particulates (TSP) levels should be measured at the designated air quality monitoring stations in every 6 days to ensure that any deteriorating air quality could be readily detected, and timely action shall be undertaken to rectify such situation. For 1-hr TSP monitoring, the sampling frequency of at least three times in every six-days should be undertaken when the highest dust impact occurs. The specific time to start and stop the 24-hr TSP monitoring shall be clearly defined for each location.

3.1.2 Monitoring Parameters, Frequency and Location

3.1.2.1 According to the EM&A Manual, three monitoring stations namely AM(D)1, AM(D)2 and AM(D)3 are selected for the impact monitoring.

3.1.2.2 A baseline monitoring plan has been submitted to IEC and EPD on 31 May 2022 including the proposal with justification of change of monitoring locations. Due to limited access to the original monitoring locations at AM(D)1, AM(D)2 and AM(D)3, the adjusted stations at AM1, AM2 and AM3 were agreed with IEC prior to the baseline and impact monitoring. The locations of adjusted dust monitoring locations are shown in **Figure 2**.

3.1.2.3 The detailed monitoring schedule is shown in **Appendix C**. The locations of dust monitoring stations are shown in **Table 3-1**. The monitoring parameters, frequency and duration are shown in **Table 3-2**.

Table 3-1 Locations of Dust Monitoring Stations

Monitoring Station	Representative for	Monitoring Parameters
AM1	Tung Lo Hang	1-hr and 24-hr TSP
AM2	Heung Yuen Wai	1-hr and 24-hr TSP
AM3	Wo Keng Shan Tsuen	1-hr and 24-hr TSP

Remarks:

The contractor passed correspondence including original monitoring locations specified on the Approved EM&A Manual to the village representatives on 26 April 2022. After a meeting with Ta Kwu Ling District Rural Committee (RC) Chairman, representative from the RC and a few villagers on 1 May 2022, all the Village Heads of Wo Keng Shan Tsuen, Heung Yuen Wai and Lin Ma Hang verbally refused to accept our proposal for installation of dust and / or noise monitoring equipment within or next to their villages, for the baseline & impact monitoring.

AM(D)1 Tung Lo Hang, AM(D)2 Heung Yuen Wai, AM(D)3 Wo Keng Shan Tsuen are the air monitoring stations for the construction phase EM&A programme as identified in the approved EM&A Manual for the Project. The access to Tung Lo Hang, Heung Yuen

Wai and Wo Keng Shan Tsuen were denied. A search for alternative air monitoring locations (AM1, AM2 & AM3) was carried out during the site visit.

The Baseline Monitoring Plan has been submitted to IEC and EPD including the proposal of change of monitoring locations on 31 May 2022. This arrangement was conducted between baseline and impact monitoring and has been agreed by the Independent Environmental Checker (IEC) and no comment received from EPD.

Due to the adjustment of the location of AM(D)1, AM(D)2 & AM(D)3 to AM1, AM2 & AM3, the measured air quality levels at AM1, AM2 & AM3 would represent the air quality levels at AM(D)1, AM(D)2 & AM(D)3.

Table 3-2 Dust Impact Monitoring Parameters, Frequency and Duration

Monitoring Station	Parameter	Frequency and Duration
AM1, AM2, AM3	1-hr TSP	At least 3 times per 6 days
	24-hr TSP	1 time per 6 days

3.1.3 Monitoring Equipment

3.1.3.1 High volume samplers (HVSs) were used for carrying out 24-hr TSP monitoring. For 1-hr TSP monitoring, direct reading dust meters were used to measure 1-hr TSP levels.

3.1.3.2 **Table 3-3** summarises the equipment that were used in the dust monitoring programme. The calibration certificates are shown in **Appendix D**.

Table 3-3 Dust Monitoring Equipment

Equipment	Model	Expiry Date	Monitoring Station
High Volume Sampler (HVS)	TE-5170X (S/N: 1105)	6 May 2023	AM1
	TE-5170X (S/N: 1106)		AM2
	TE-5170X (S/N: 1856)		AM3
Direct Reading Dust Meter	Sibata LD-5R (S/N: 0Z4545)	2 Dec 2023	AM1 to AM3
	Sibata LD-5R (S/N: 882106)		
	Sibata LD-5R (S/N: 882110)		
	Sibata LD-5R (S/N: 942532)		
Calibration Kit (for HVS)	TE-5025A (S/N: 3465)	28 Jun 2023	AM1 to AM3

3.1.4 Monitoring Methodology

1-hr TSP Monitoring

3.1.4.1 The 1-hr TSP impact monitoring was conducted using a portable direct reading dust meter.

Measuring Procedures

3.1.4.2 The measuring procedures of the 1-hr dust meter has been undertaken in accordance with the Manufacturer's Instruction Manual as follows:

Procedure of starting monitoring

- Place the 1-hr dust meter at least 1.3m above ground;
- Turn on the "On/Off" button at the side of instrument. Program will be changed to "BG" mode and leave it for 1 minute.
- Pull out the Suction adaptor and turn the button at the side. Cover with hand at the suction adaptor measure the background for 10 seconds.
- Press "UP" and "DOWN" for choosing "SPAM Mode" for SPAM Measurement.
- Press "Up" and "Down" to select "Measurement Mode" with 60 minutes interval and unit in ug/m3.
- Press "Start/Stop" to start monitoring.

Procedure of setting measurement timer

- Press "Up" or "Down" to find "Setting LOG".
- Select "Record Cycle" and change the record time subject to different project requirement. For example, setting the record cycle as 60 minutes for normal operation.
- Press "ESCAPS" back to the main page.
- Press "Up" or "Down" to access "Measurement Timer" and select "Measurement time" to change the time to 3 hours.
- Information such as sampling date, time, count value and site condition will be recorded during the monitoring period.

Calibration & Maintenance

3.1.4.3 The direct reading dust meters will be verified against calibrated high volume samples (HVSs) annually. A 2-day, three 3-hour measurement results per day from direct reading dust meter will be taken to compare with the sampling results from the HVS. The correlation between the direct reading dust meter and the HVS will then be concluded. By accounting for the correlation factor, the direct reading dust meter will be considered to achieve comparable results as that of the HVS.

3.1.4.4 All digital dust indicator will be calibrated with on-site HVS annually. Calibration certificate will be provided after calibration. The Calibration process shall eyewitness with the representative of ET & IEC.

Quality Audit

- 3.1.4.5 Checklist of regular checking for digital dust meter will be conducted bi-weekly by environmental technician to ensure the all-digital dust meter are in good condition and submitted to supervisors. All checklists will be kept by supervisors.
- 3.1.4.6 Logbook is provided to environmental technician record the transferal of equipment to other colleagues, reporting to supervisors is required.

24-hr TSP Monitoring

- 3.1.4.7 The 24-hr TSP monitoring has been conducted using a High-Volume Sampler (HVS).

Measuring Procedures

- 3.1.4.8 The HVS has been set-up at the monitoring location with a fixed power supply for operation. The measuring procedures of the 24-hr TSP measurements has been undertaken in accordance with the specifications listed in the EM&A Manual. Each HVS includes a motor, a filter holder, a flow controller and a sampling inlet in accordance with the performance specification of the USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50), Appendix B. The measuring procedures of the 24-hr dust meter was undertaken in accordance with the Manufacturer's Instruction Manual as follows:

- The power supply will be checked to ensure the HVS works properly;
- The filter holder and the area surrounding the filter will be cleaned;
- The filter holder will be removed by loosening the four bolts and a new filter on a supporting screen will be aligned carefully;
- The filter will be properly aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter;
- The swing bolts will be fastened to hold the filter holder down to the frame. The pressure applied should be sufficient to avoid air leakage at the edges;
- The shelter lid will be closed and secured with the aluminium strip;
- The HVS will be warmed-up to establish run-temperature conditions;
- A new flowrate record sheet will be set into the flow recorder;
- The programmable timer will be set for a sampling period of 24 hour, and the starting time, weather condition and the filter number will be recorded;
- The initial elapsed time will be recorded;
- At the end of sampling, the sampled filter will be removed carefully and folded in half-length so that only surfaces with collected particulate matter will be in contact;
- The sample will be placed in a clean plastic envelope and sealed;
- All monitoring information will be recorded on a standard data sheet; and
- The filters will be taken back to HOKLAS accredited laboratory for analysis.

- 3.1.4.9 In addition, site conditions and dust sources were recorded in a standard form for direct input into a database.

Calibration & Maintenance

3.1.4.10 The high volume motors and their accessories should be properly maintained, including routine motor brushes replacement and electrical wiring checking, to ensure that the equipment and a continuous power supply were in good working condition.

3.1.4.11 Initial calibration of dust monitoring equipment shall be conducted upon installation and thereafter at bi-monthly intervals. The transfer standard shall be traceable to the internationally recognized primary standard and be calibrated annually.

The detail procedure of calibration of HVS is listed below:

1. Make sure the electrical circuit is connected properly. The motor should be directly connected to the power source.
2. Open the top cover and unlock the screws at the four corners.
3. Install the variable orifice and adapter plate to high volume air sample. Tighten the nut securely. Turn the knob of orifice clock-wise to close the four holes on the bottom open.
4. Hold the water manometer on the cover of mass flow controller vertically. Connect one side of a water manometer to the pressure tap on the side of the orifice with a rubber vacuum tube. Leave opposite side of the manometer open to the atmosphere.
5. Turn on the sampler
6. Five flow rates are achieved by changing the different plates to change the resistance. Record the manometer reading and the reading from continuous flow recorder. At least 5 sets of data should be recorded.

3.1.4.12 The Calibration process shall eyewitness with the representative of ET & IEC.

3.1.5 Monitoring Results

3.1.5.1 The impact dust monitoring results are summarized in **Table 3-4** and **Table 3-5**. The monitoring data together with graphical presentations are presented in **Appendix E** and **Appendix F**.

Table 3-4 Summary of Impact 1-hr TSP Monitoring Results

Dust Monitoring Station	Average 1-hr TSP Concentration, $\mu\text{g}/\text{m}^3$ (Range)	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
AM1	45 (22 – 67)	>285	>500
AM2	49 (31 – 65)	>279	>500
AM3	47 (15 – 68)	>285	>500

Table 3-5 Summary of Impact 24-hr TSP Monitoring Results

Dust Monitoring Station	Average 24-hr TSP Concentration, $\mu\text{g}/\text{m}^3$ (Range)	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
AM1	184 (30 – 490)	>164	>260
AM2	78 (29 – 152)	>152	>260
AM3	162 (35 – 337)	>163	>260

3.1.5.2 The Summary of Impact 1-hr & 24-hr TSP Exceedance are shown in **Table 3-6**.

Table 3-6 Summary of Impact 1-hr & 24-hr TSP Exceedance

Dust Monitoring Station	Parameter	1-hr TSP	24-hr TSP	Exceedance Count
	Level Exceedance			
AM1	Action	-	1 Mar 2023* 3 Mar 2023*	2
	Limit	-	2 Mar 2023* 4 Mar 2023*	2
AM2	Action	-	-	0
	Limit	-	-	0
AM3	Action	-	3 Mar 2023* 4 Mar 2023* 8 Mar 2023*	3
	Limit	-	1 Mar 2023* 2 Mar 2023*	2

Remarks: * equal to non-project related

3.1.5.3 No Action / Limit Level exceedance for 1-hr TSP impact monitoring at AM1, AM2 & AM3 was recorded during the period.

3.1.5.4 2 Action Level & 2 Limit Level Exceedance for 24-hr TSP monitoring at AM1 was recorded during the reporting period. The exceedance was considered likely caused by external sources such as the high level of background air quality in Hong Kong during the monitoring period etc and not project related. The Notification of Environmental Quality Limits Exceedances are presented in **Appendix G**.

3.1.5.5 No Action / Limit Level exceedance for 24-hr TSP monitoring at AM2 was recorded during the period.

3.1.5.6 3 Action Level Exceedance & 2 Limit Level Exceedance for 24-hr TSP monitoring at AM3 were recorded during the reporting period. The exceedance was considered likely caused by external sources such as the high level of background air quality in Hong Kong during the monitoring period etc and not project related. The Notification of Environmental Quality Limits Exceedances are presented in **Appendix G**.

3.1.6 Wind Data Monitoring

3.1.6.1 During the monitoring period, wind data from existing weather station in the vicinity of the designated monitoring location, i.e Ta Kwu Ling station operated by Hong Kong Observatory was adopted. It is considered that the wind data obtained from Ta Kwu Ling station are representative of the Project area and could be used for the construction dust monitoring programme for the Project. The results for wind data monitoring are presented in **Appendix H**.

3.1.7 Recommended Mitigation Measures

3.1.7.1 The recommended dust mitigation measures from EIA report are listed as followed:

- The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation.
- Dust emission from construction vehicle movement is confined within the worksites area.
- Watering facilities will be provided at every designated vehicular exit point.
- Good site practice is recommended during construction phase.

3.1.8 Event and Action Plan

3.1.8.1 Should non-compliance of the criteria occur, action in accordance with the action plan in **Table 3-7** shall be carried out.

Table 3-7 Event and Action Plan for dust impact

Event	ET	IEC	Contractor
Exceedance of Action Level			
Exceedance for one sample	<ul style="list-style-type: none"> • Identify source • Prepare Notification of Exceedance • Inform IEC and Contractor • Repeat measurement to confirm findings • Increase monitoring frequency to daily if exceedance is due to the Project and continue until the monitoring results reduce to below action level 	<ul style="list-style-type: none"> • Verify the Notification of Exceedance • Check monitoring data submitted by ET and Contractor's working methods • Discuss with ET and Contractor on proposed remedial measures 	<ul style="list-style-type: none"> • Rectify any unacceptable practice • Amend working methods if appropriate
Exceedance for two or more consecutive samples	<ul style="list-style-type: none"> • Identify source • Prepare Notification of Exceedance • Inform Contractor and IEC • Repeat measurements to confirm findings • Increase monitoring frequency to daily if exceedance is due to the Project and continue until the monitoring results reduce to below action level • Discuss with IEC for remedial action required • Ensure remedial measures are properly implemented • Continue monitoring at daily intervals if exceedance is due to the Project • If no exceedance for 3 consecutive days, cease additional monitoring 	<ul style="list-style-type: none"> • Verify the Notification of Exceedance • Check monitoring data submitted by ET and Contractor's working methods • Discuss with ET and Contractor on proposed remedial measures • Review with analysed results submitted by ET • Review the proposed remedial measures by Contractor • Supervise the implementation of remedial measures 	<ul style="list-style-type: none"> • Submit proposals for remedial actions to IEC within 3 working days of notification • Implement the agreed proposals • Amend proposal if appropriate

Event	ET	IEC	Contractor
Exceedance of Limit Level			
Exceedance for one sample	<ul style="list-style-type: none"> • Identify source • Prepare Notification of Exceedance • Inform IEC and Contractor • Repeat measurement to confirm findings • Increase monitoring frequency to daily if exceedance is due to the Project and continue until the monitoring results reduce to below limit level • Assess effectiveness of Contractor's remedial actions and keep EPD and IEC informed of the results 	<ul style="list-style-type: none"> • Verify the Notification of Exceedance • Check monitoring data submitted by ET and Contractor's working methods • Discuss with ET and Contractor potential remedial actions • Supervise the implementation of remedial measures 	<ul style="list-style-type: none"> • Take immediate action to avoid further exceedance • Submit proposals for remedial actions to IEC within 3 working days of notification • Implement the agreed proposals • Amend proposal if appropriate
Exceedance for two or more consecutive samples	<ul style="list-style-type: none"> • Identify source • Prepare Notification of Exceedance • Inform IEC and EPD the causes and actions taken for the exceedances • Discuss with IEC for remedial action required • Ensure remedial measures are properly implemented • Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and informed of the results • Increase monitoring frequency to confirm findings • If exceedance stops, cease additional monitoring 	<ul style="list-style-type: none"> • Verify the Notification of Exceedance • Check monitoring data submitted by ET and Contractor's working methods • Discuss amongst ET and Contractor on the potential remedial actions. • Review Contractor's remedial actions whenever necessary to assure their effectiveness • Supervise the implementation of remedial measures 	<ul style="list-style-type: none"> • Take immediate action to avoid further exceedance • Submit proposals for remedial actions to IEC of notification • Implement the agreed proposals • Resubmit proposals if problem still not under control • Stop the relevant activity of works until the exceedance is abated

4 Noise Monitoring

4.1 Monitoring Requirement

4.1.1 In accordance with the EM&A manual, noise impact monitoring shall be carried out at 2 monitoring stations NM1 and NM2 once a week during normal construction working hour (0700-1900 Monday to Saturday). The minimum logging interval shall be 30 minutes with average of 6 consecutive Leq 5 mins. L10 and L90 shall also be measured at 5 mins intervals.

4.2 Monitoring Locations, Parameters and Frequency

4.2.1 According to the EM&A Manual, two monitoring stations namely NM1 and NM2 are selected for the impact monitoring.

4.2.2 A baseline monitoring plan has been submitted to IEC and EPD on 31 May 2022 including the proposal with justification of change of monitoring locations. Due to limited access to the original monitoring locations at NM1 and NM2, the adjusted stations at NM1a and NM2a were agreed with IEC prior to the baseline and impact monitoring. The noise monitoring locations are summarized in **Table 4-1** and shown in **Figure 2**.

4.2.3 The detailed monitoring schedule is shown in **Appendix C**. The frequency and duration are shown in **Table 4-2**.

Table 4-1 Noise Monitoring Locations

Monitoring Station	Representative for	Type of Measurement
NM1a	Wo Keng Shan Tsuen	Free field
NM2a	Lin Ma Hang	Free field

Remarks:

The contractor passed correspondence including original monitoring locations specified on the Approved EM&A Manual to the village representatives on 26 April 2022. After a meeting with Ta Kwu Ling District Rural Committee (RC) Chairman, representative from the RC and a few villagers on 1 May 2022, all the Village Heads of Wo Keng Shan Tsuen, Heung Yuen Wai and Lin Ma Hang verbally refused to accept our proposal for installation of dust and / or noise monitoring equipment within or next to their villages, for the baseline & impact monitoring.

NM1 Wo Keng Shan Tsuen & NM2 Lin Ma Hang are the noise monitoring stations for the construction phase EM&A programme as identified in the approved EM&A Manual for the Project. The access to Tung Lo Hang, Heung Yuen Wai and Wo Keng Shan Tsuen were denied. A search for alternative noise monitoring locations (NM1a & NM2a) was carried out during the site visit.

The Baseline Monitoring Plan has been submitted to IEC and EPD including the proposal of change of monitoring locations on 31 May 2022. This arrangement was conducted between baseline and impact monitoring and has been agreed by the Independent Environmental Checker (IEC) and no comments received from EPD. Noise measurement at NM1a & NM2a will be considered as free-field and a correction of +3dB(A) would be made to the noise monitoring results.

Due to the adjustment of the location of NM1 & NM2 to NM1a & NM2a, the measured noise levels at NM1 & NM2 would represent the noise levels at NM1 & NM2.

Table 4-2 Noise Monitoring Parameters, Frequency and Duration

Monitoring Station	Parameter	Frequency and Duration
NM1a and NM2a	L _{Aeq} (30mins) average of 6 consecutive L _{eq} (5min); L10 (5min) & L90 (5min)	once a week during normal construction working hour (0700-1900 Monday to Saturday)

4.3 Monitoring Equipment

4.3.1 Integrating Sound Level Meters (SLMs) was used for noise impact monitoring. The SLM complied with International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1) specifications shall be used for carrying out noise monitoring. The accuracy of the SLM was checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements shall be accepted as valid only if the calibration level from prior to and after the noise measurement agrees to within 1.0dB.

4.3.2 A portable wind speed meter was used for measuring wind speeds in m/s.

4.3.3 **Table 4-3** summarises the equipment that have been used in the impact noise monitoring programme. The calibration certificates are shown in **Appendix D**.

Table 4-3 Noise Monitoring Equipment

Equipment	Model	Expiry Date
Sound Level Meter	NTi XL2 (S/N: A2A-09696-E0)	25 Mar 2023 (Using before 21 Mar 2023)
	NTi XL2 (S/N: A2A-13661-E0)	21 Aug 2023 (Using after 21 Mar 2023)
Acoustic Calibrator	Rion NC-75 (S/N: 34724243)	10 Jul 2023
Anemometer	RS-90 (S/N: 210722168)	24 Oct 2023

4.4 Monitoring Methodology

4.4.1 The details of noise measurement procedures are described as follows:

- Free-field measurements were made at the monitoring locations.
- For free field, the Sound Level Meter was set at a height of 1.2 m above the ground. The battery condition was checked to ensure the proper 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: 5 minutes (Leq (30-min) would be determined for daytime noise by calculating the logarithmic average of six Leq (5min) data.)

- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1.0 dB, the measurement would be considered invalid and repeat of noise measurement would be required after recalibration or repair of the equipment.
- Noise measurement should be paused during periods of high intrusive noise if possible and observation shall be recorded when intrusive noise is not avoided.
- At the end of the monitoring period, the Leq, L10 and L90 shall be recorded. In addition, site conditions and noise sources should be recorded on a standard record sheet.
- All noise monitoring will be conducted with the wind speed not exceeding 5m/s and no gusts exceeding 10m/s.

Calibration & Maintenance

- 4.4.2** The sound level meter, sound calibrator, and anemometer should be properly maintained to ensure that the equipment and a continuous power supply were in good working condition. The sound level meter and sound calibrator will be calibrated annually. The anemometer will be calibrated two years interval in accordance with the HOKLAS Supplementary Criteria No.2. Calibration certificate will be provided after calibration.
- 4.4.3** The microphone head of the sound level meter and calibrator should be cleaned with a soft cloth at quarterly intervals.

4.5 Monitoring Results

- 4.5.1** The impact noise monitoring results are summarized in **Table 4-4**. The monitoring data together with graphical presentations are presented in **Appendix E** and **Appendix F**.

Table 4-4 Summary of Noise Monitoring Results during normal working hours (07:00-19:00, Monday to Saturday)

Noise Monitoring Station	Average Leq, 30min, dB(A) (Range)	Action Level	Limit Level
NM1a	58.0 (53.1 – 62.3)	When one documented complaint is received	>75dB(A)
NM2a	57.1 (42.3 – 62.1)		

Remark:

- (1) * A correction of +3 dB(A) was made to the free field measurements
- (2) If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the Noise Control Authority have to be followed.

- 4.5.2** No exceedance of Action and Limit Levels of construction noise was recorded during the reporting period. Therefore, there was no record of Notification of Environmental Quality Limits Exceedance in the **Appendix G**.
- 4.5.3** No particular observations are identified near the monitoring stations during the monitoring period.

4.6 Recommended Mitigation Measures

4.6.1 The recommended dust mitigation measures from EIA report are listed as followed:

1. Use of good site practices to limit noise emissions by considering the following:
 - Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme;
 - Machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum;
 - Plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs;
 - Silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works;
 - Mobile plant should be sited as far away from NSRs as possible and practicable;
 - Material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.
2. Select “Quiet plants” which comply with the BS 5228 Part 1 or TM standards.

4.7 Event and Action Plan

4.7.1 Should non-compliance of the criteria occurs, action in accordance with the action plan in **Table 4-5** shall be carried out.

Table 4-5 Event and action plan for construction noise monitoring

Event	ET	IEC	Contractor
Exceedance of Action Level	<ul style="list-style-type: none"> Identify source, investigate the causes of exceedance Prepare Notification of Exceedance Inform IEC and Contractor Report the results of investigation to IEC, and Contractor Discuss with Contractor and IEC for formulate remedial measures Ensure remedial measures are properly implemented Have additional monitoring if exceedance is due to the Project. If exceedance stops, cease additional monitoring 	<ul style="list-style-type: none"> Verify the Notification of Exceedance Review the analysed results submitted by ET Discuss with ET, and Contractor on the potential remedial actions Review the proposed remedial measures Supervise the implementation of remedial measures 	<ul style="list-style-type: none"> Submit noise mitigation proposals to IEC Implement the agreed noise mitigation proposals
Exceedance of Limit Level	<ul style="list-style-type: none"> Identify source, investigate the causes of exceedance Prepare Notification of Exceedance Inform IEC and Contractor Repeat measurements to confirm findings Discuss with Contractor and IEC for remedial measures Ensure remedial measures are properly implemented Assess effectiveness of Contractor's remedial actions and keep IEC and EPD informed of the results Have additional monitoring if exceedance is due to the Project. If exceedance stops, cease additional monitoring 	<ul style="list-style-type: none"> Verify the Notification of Exceedance Review the analysed results submitted by ET Discuss with ET, and Contractor on the potential remedial actions Review the proposed remedial measures Supervise the implementation of remedial measures 	<ul style="list-style-type: none"> Take immediate action to avoid further exceedance Submit proposals for remedial actions to IEC of notification Implement the agreed proposals Resubmit proposals if problem still not under control Stop the relevant portion of works as determined by project proponent until the exceedance is abated.

5 Water Quality Monitoring

5.1 Groundwater Monitoring

5.1.1 Monitoring Requirement

5.1.1.1 In accordance with the EM&A manual, groundwater quality monitoring shall be carried out at least once per month at the 35 designated groundwater monitoring locations (i.e ED1 to ED35). Based on the existing construction programme, site clearance and site formation works for future landfilling area are in progress. The groundwater monitoring locations ED1 to ED35 will be installed after the site formation work of the landfilling area. No groundwater monitoring is required before the completion of site formation work of the landfilling area.

5.2 Surface Water Monitoring

5.2.1 Monitoring Requirement

5.2.1.1 In accordance with the EM&A manual, impact surface water quality monitoring was carried out at the two designated surface water discharge points (i.e WM1 and WM2) for once per month from commencement of construction works of the Project.

5.2.2 Monitoring Locations, Parameters and Frequency

5.2.2.1 Impact surface water monitoring was carried out on 2 March 2023 at WM1 and WM2. The monitoring locations are indicated in **Table 5-1** and **Figure 2**.

5.2.2.2 The monitoring parameters, frequency and duration of surface water quality monitoring are summarized in **Table 5-2**. Detailed monitoring schedule is presented in **Appendix C**.

Table 5-1 Surface water quality monitoring locations

Monitoring Station	Location	Coordinates (HK Grid)	
		Easting	Northing
WM1	Upstream of Lin Ma Hang River	836665	845020
WM2	Ping Yuen River	835592	844186

Table 5-2 Surface water quality monitoring Parameters, Frequency and Duration

Parameter	Frequency
pH, Electrical conductivity, DO, Turbidity, SS, Alkalinity, COD, BOD ₅ , TOC, Ammonia-nitrogen, TKN, Nitrate, Sulphate, Sulphite, Phosphate, Chloride, Sodium, Mg, Ca, K, Fe, Ni, Zn, Mn, Cu, Pb, Cd, Coliform Count, Oil and Grease	once per month

5.2.3 Monitoring Equipment

5.2.3.1 The measurements of pH, electrical conductivity (EC), DO, turbidity, water temperature and air temperature were undertaken in situ. In situ monitoring instruments in compliance with the specifications listed under Section 5.5 of the EM&A Manual were used to undertake the surface water quality monitoring for the Project. **Table 5-3** summarises the equipment used in the impact surface water quality monitoring works. Copies of the calibration certificates are attached in **Appendix D**.

Table 5-3 Surface Water Quality Monitoring Equipment

Equipment	Model	Expiry Date
Water Quality Meter	Horiba U-53 (S/N: S2A98W8H)	29 Mar 2023
Water Flow Meter	FP111 (S/N: 22K100859)	6 Nov 2023

5.2.4 Summary of Surface Water Quality Monitoring Procedure

Operational/ Analytical Procedures

5.2.4.1 In general, water samples were collected from within 500 mm of the water surface. Water was collected by a small clean open-mouthed bucket with the lip pointing upstream. Usually, water was then transferred to the sample bottles until they were filled to the top with no remaining air space before the lid was securely screwed on. For samples that were preserved with acid or alkalis prior to transport to the laboratory, the samples bottles were filled to the level specified by the analytical laboratory.

5.2.4.2 Analyses shall be carried out in accordance with methods described in ASTM or APHA - AWWA-WEF Standard.

Laboratory Analytical Methods

5.2.4.3 The testing of parameters presented in **Table 5-4** for all stations was conducted by ALS Technichem (HK) Pty Ltd. (HOKLAS Registration No. 066). Comprehensive quality assurance and control procedures were in place in order to ensure quality and consistency in results. The detection limits are provided in **Table 5-4**.

Table 5-4 Surface Water Monitoring Detection Limits and Limit of Reporting

Parameters	Detection Limit (in EM&A Manual)	Limit of Reporting	Method Reference
pH	0.1	0.1	APHA 4500 H+ B
Electrical conductivity	1 µS/cm	1 µS/cm	APHA 2510 B
Alkalinity	1 mg/L	1 mg/L	APHA 2320 B
COD	10 mg/L	5 mg/L	APHA 5220 C
BOD ₅	3 mg/L	2 mg/L	APHA 5210 B
TOC	1 mg/L	1 mg/L	APHA 5310 B
SS	0.1 mg/L	0.1 mg/L	APHA 2540 D
Ammonia-nitrogen	0.2 mg/L	0.01 mg/L	APHA 4500 NH3 G
TKN	0.4 mg/L	0.1 mg/L	APHA 4500Norg: D
Nitrate	0.5 mg/L	0.01 mg/L	APHA 4500 NO3 I
Sulphate	5 mg/L	1 mg/L	USEPA 375.4
Sulphite	2 mg/L	2 mg/L	APHA 4500 SO3 B
Phosphate	0.01 mg/L	0.01 mg/L	APHA 4500-P B & F
Chloride	0.5 mg/L	0.5 mg/L	USEPA 325.1
Sodium	50 µg/L	50 µg/L	USEPA 6010C
Mg	50 µg/L	50 µg/L	USEPA 6010C
Ca	50 µg/L	50 µg/L	USEPA 6010C
K	50 µg/L	50 µg/L	USEPA 6010C
Fe	50 µg/L	10 µg/L	USEPA 6010C
Ni	1 µg/L	1 µg/L	USEPA 6020A
Zn	10 µg/L	10 µg/L	USEPA 6020A
Mn	1 µg/L	1 µg/L	USEPA 6020A
Cu	1 µg/L	1 µg/L	USEPA 6020A
Pb	1 µg/L	1 µg/L	USEPA 6020A
Cd	0.2 µg/L	0.2 µg/L	USEPA 6020A
Coliform Count	1 cfu/ 100mL	1 cfu/ 100mL	DoE section 7.8, 7.9.4.1 & 3
Oil and Grease	5 mg/L	5 mg/L	APHA 5520 B

QA/ QC Requirements

5.2.4.4 All in situ monitoring instruments were checked, calibrated and certified by a laboratory accredited under HOKLAS or other international accreditation scheme before use, and subsequently re-calibrated at the intervals according to manufacturer's requirement throughout all stages of the surface water quality monitoring programme. Calibration of temperature, DO, salinity, pH and turbidity is conducted in three-month interval. Calibration of water flow is conducted annually. Responses of sensors and electrodes were checked with certified standard solutions before each use. Calibration for a DO meter was carried out before measurement according to the instruction manual of the equipment model. For the on-site calibration of field equipment, the requirements of the BS 1427:2018, "Guide to on-site test methods for the analysis of waters" was observed.

Decontamination Procedures

5.2.4.5 Water sampling equipment used during the course of the monitoring programme was decontaminated by manual washing and rinsed with clean distilled water after each sampling location.

Sampling Management and Supervision

5.2.4.6 All sampling bottles were labelled with the sample ID (including the indication of sampling station), laboratory number and sampling date. Water samples were dispatched to the testing laboratory for analysis as soon as possible after the sampling. All samples were stored in a cool box and kept at less than 4°C but without frozen. All water samples were handled under chain of custody protocols and relinquished to the laboratory representatives at locations specified by the laboratory. The laboratory determination works started within 24 hours after collection of water samples.

Quality Control Measures for Sample Testing

5.2.4.7 The samples testing was performed by ALS Technichem (HK) Pty Ltd. The following quality control programme was performed by the laboratory:

- One method blank; and
- One sample duplicate.

5.2.5 Monitoring Results

5.2.5.1 Impact surface water quality monitoring was conducted at WM1 and WM2 on 2 March 2023. No adverse weather was observed during reporting period. The detailed monitoring schedule is shown in **Appendix C**.

5.2.5.2 The summary of monitoring results are presented in **Table 5-5**. Detailed monitoring results at each monitoring station and graphical presentations of surface water quality (DO, SS and Turbidity) at the monitoring stations are given in **Appendix E** and **Appendix F**.

5.2.5.3 No particular observations are identified near the monitoring stations during the monitoring period.

5.2.5.4 No exceedance of Action and Limit Levels of surface water monitoring was recorded during the reporting period. Therefore, there was no record of Notification of Environmental Quality Limits Exceedance in the **Appendix G**.

Table 5-5 Summary of Impact Surface Water Monitoring Results

Monitoring Parameter(s)	Monitoring Station					
	WM1			WM2		
	Monitoring Results	Action Level	Limit Level	Monitoring Results	Action Level	Limit Level
pH	7.1	>7.7	>7.8	7.0	>7.6	>7.7
Electrical Conductivity in $\mu\text{S}/\text{cm}$	63	---	---	124	---	---
DO in mg/L	7.6	<7.4	<4	7.9	<5	<4
Turbidity in NTU	6.3	>9.2	>9.5	13.7	>108.3	>108.9
SS in mg/L	2.1	>9.7	>11.4	12.0	>94.5	>94.7
Alkalinity	14	---	---	36	---	---
COD	6			<5		
BOD ₅	<2			<2		
TOC	2			3		
Ammonia-nitrogen	0.06			0.33		
TKN	0.3			0.5		
Nitrate	0.01			0.05		
Sulphate	7			5		
Sulphite	<2			<2		
Phosphate	0.02			<0.01		
Chloride	6			6		
Sodium	7960			5810		
Mg	440			690		
Ca	3280			7020		
K	400			1050		
Fe	1310			10600		
Ni	<1			<1		
Zn	<10			20		
Mn	106			3070		
Cu	<1			1		
Pb	<1	<1				
Cd	<0.2	<0.2				
Coliform Count	Not Detected	14				
Oil and Grease	<5	<5				

5.2.6 Recommended Mitigation Measure

5.2.6.1 The recommended surface water mitigation measures from EIA report are listed as followed:

- Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilities.
- The overall slope of the site should be kept to a minimum to reduce the erosive potential of surface water flows.
- The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94, which states that the retention time for silts and sediment traps should be 5 minutes under maximum flow conditions.
- All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads.
- Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts.
- Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.

5.2.7 Implementation of the temporary surface water drainage system

5.2.7.1 The site inspection and audits were carried out by ER, IC, ET & Contractor on weekly basis (IEC on monthly basis) to monitor the construction progress, maintenance performance and effectiveness of temporary surface water drainage system in the Project Site to fulfil the FEP Condition 2.13, EP Condition 2.15 and the section 5.2.1.1 of the EM&A Manual. The joint environmental site inspection records are shown in **Appendix J**.

5.2.7.2 All construction site runoff would be treated by silt removal facilities to fulfil the requirement of WPCO licenses from the project. Construction site runoff from the project after treatment was discharged to Ping Yuen River. The surface water monitoring results at WM2 (after the discharge point of silt removal facilities) can reflect the water quality at Ping Yuen River during the reporting period.

5.2.8 Event and Action Plan

5.2.8.1 Should non-compliance of the criteria occurs, action in accordance with the action plan in **Table 5-6** shall be carried out.

Table 5-6 Event and Action Plan for Water Quality

Event	ET	IEC	Contractor
Action level being exceeded by one sampling day	<ul style="list-style-type: none"> • Repeat in situ measurement to confirm findings • Identify source(s) of impact • Prepare Notification of Exceedance • Inform IEC and Contractor • Check monitoring data, all plant, equipment and Contractor's working methods • Repeat measurement on next day of exceedance 	<ul style="list-style-type: none"> • Verify Notification of Exceedance • Check monitoring data and Contractor's working methods 	<ul style="list-style-type: none"> • Rectify unacceptable practice • Amend working methods if appropriate
Action level being exceeded by two or more consecutive sampling days	<ul style="list-style-type: none"> • Repeat in situ measurement to confirm findings • Identify source(s) of impact • Prepare Notification of Exceedance • Inform IEC and Contractor • Check monitoring data, all plant, equipment and Contractor's working methods • Discuss with Contractor and IEC for remedial measures • Ensure mitigation measures are implemented • Increase the monitoring frequency to daily until no exceedance of Action level • Repeat measurement on next day of exceedance 	<ul style="list-style-type: none"> • Verify Notification of Exceedance • Check monitoring data and Contractor's working method • Discuss with ET and Contractor on possible remedial actions • Review the proposed mitigation measures • Supervise the implementation of mitigation measures 	<ul style="list-style-type: none"> • Submit proposal of additional mitigation measures to IEC of notification • Implement the agreed mitigation measures • Amend proposal if appropriate

Event	ET	IEC	Contractor
Limit Level being exceeded by one sampling day	<ul style="list-style-type: none"> • Repeat in situ measurement to confirm findings • Identify source(s) of impact • Prepare Notification of Exceedance • Inform IEC and Contractor; • Check monitoring data, all plant, equipment and Contractor's working methods • Discuss mitigation measures with IEC and Contractor • Ensure mitigation measure are implemented 	<ul style="list-style-type: none"> • Verify Notification of Exceedance • Check monitoring data submitted By ET and Contractor's working method • Discuss with ET and Contractor on possible remedial actions • Review the proposed mitigation measures • Supervise the implementation of mitigation measures 	<ul style="list-style-type: none"> • Critically review the working method • Rectify unacceptable practice • Take immediate corrective actions to avoid further exceedance • Submit proposal of mitigation measures to IEC • Implement the agreed mitigation measures •
Limit level being exceeded by two or more consecutive sampling days	<ul style="list-style-type: none"> • Repeat in situ measurement to confirm findings • Identify source(s) of impact • Prepare Notification of Exceedance • Inform IEC, contractor and EPD • Check monitoring data, all plant, equipment and Contractor's working methods • Discuss mitigation measures with IEC and Contractor • Ensure mitigation measure are implemented 	<ul style="list-style-type: none"> • Verify Notification of Exceedance • Check monitoring data submitted by ET and Contractor's working method • Discuss with ET and Contractor on possible remedial actions • Review the proposed mitigation measures • Supervise the implementation of mitigation measures 	<ul style="list-style-type: none"> • Critically review the working method • Rectify unacceptable practice • Take immediate corrective actions to avoid further exceedance • Submit proposal of mitigation measures to IEC • Implement the agreed mitigation measures • Resubmit proposals if problem still not under control • Slow down or to stop relevant activity until exceedance is abated

6 Waste Management

- 6.1.1** Wastes generated from this Project include inert construction and demolition (C&D) materials and non-inert C&D materials. Non-inert C&D materials were made up of general refuse, steels and paper/cardboard packaging materials. Steel materials generated from the Project were also grouped into non-inert C&D materials as the materials were not disposed of with other inert C&D materials. With reference to relevant handling records and trip tickets of this Project, the quantities of different types of waste generated in the reporting month are summarised in **Appendix I**.
- 6.1.2** A total of 9,187 tonnes of C&D materials was reused at alternative disposal ground (NENT Landfill) during the reporting period. A total of 3.69 tonnes of yard waste was generated during the reporting period. A total of 390.46 tonnes of general refuse and non-recyclable yard waste was generated during the reporting period. The general refuse generated from the Project were disposed of at the NENT Landfill.
- 6.1.3** The recommended waste management mitigation measures from EIA report are listed as followed:
- Implement a trip-ticket system to ensure that the movement of C&D materials are properly documented and verified in accordance with DEVB TC(W) No. 6/2010.
 - Concrete and masonry should be used as general fill and steel reinforcement bars can be used by scrap steel mills.
 - Proper areas should be designated for waste segregation and storage wherever site conditions permit.
 - Maximise the use of reusable steel formwork to reduce the amount of C&D material.
 - Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement.
 - On-site sorting and segregation facility of all type of wastes is considered as one of the best practice in waste management and hence, should be implemented in all projects generating construction waste.
 - The sorted public fill and C&D waste should be properly reused.
 - Excavated slope, stockpiled material and bund walls should be covered by tarpaulin until used in order to prevent wind-blown dust during dry weather, and to reduce muddy runoff during wet weather.

7 Landfill Gas Monitoring

7.1 Monitoring Requirement during Construction

Monitoring for Construction Works

7.1.1 Intrinsically safe portable gas detectors should be used during excavation or when working in any confined spaces, which have the potential for presence of LFG and risk of explosion or asphyxiation. The monitoring equipment should alarm, both audibly and visually, when the concentrations of the following gases were exceeded:

- CH₄: >10% Lower Explosion Limit (LEL);
- CO₂: >0.5%; and
- O₂: <18% by volume.

7.2 Monitoring Location

Monitoring Locations

7.2.1 During the construction works within the NENT Landfill Extension site with excavation of 1m deep or more, LFG concentrations should be monitored before entry and periodically during the progress of works. If drilling is required, the procedures for safety management and working procedures as stipulated in EPD’s Landfill Gas Hazard Assessment – Guidance Note should be strictly adopted.

7.2.2 The monitoring frequency and areas to be monitored should be set down prior to commencement of groundworks by the Safety Officer. All measurements in excavations should be made with the monitoring tube located not more than 10mm from the exposed ground surface. Monitoring of excavations should be undertaken as follows:

7.2.3 For excavation works deeper than 1m, measurements should be made:

- at ground surface prior to excavation;
- immediately before any worker enters the excavation;
- at the beginning of each working day for the entire period the excavation remains open; and
- periodically through the working day whilst workers are in the excavation.

For excavation between 300mm and 1m deep, measurements should be made:

- directly after the excavation has been completed; and
- periodically whilst the excavation remains open.

7.2.4 For excavations less than 300mm deep, monitoring may be omitted, at the discretion of the Safety Officer.

7.2.5 The locations of LFG monitoring locations during reporting period are shown in **Table 7-1**. The Site formation layout plan is shown in **Figure 2**.

Table 7-1 Locations of LFG Monitoring during reporting period

Monitoring Location	Type of works
Portion A +55 mpD to 70 mpD Platform	Excavation Works

7.3 Monitoring Equipment

7.3.1 Gas Detector was used for carrying out LFG monitoring for Construction Works. **Table 7-2** summarises the equipment that were used in the LFG monitoring programme. The calibration certificates are shown in **Appendix D**.

Table 7-2 LFG Monitoring Equipment

Equipment	Model
Gas Detector	PS200 (S/N: 373075)

7.4 Event and Action Plan (EAP)

7.4.1 Should non-compliance of the criteria occur, action in accordance with the action plan in **Table 7-3** shall be carried out.

Table 7-3 Action Plan for the monitoring during construction phase

Parameter	Monitoring Result	Action
Oxygen (O ₂)	Action Level <19% O ₂	Ventilate trench/void to restore O ₂ to >19%
	Limit Level <18% O ₂	Stop works Evacuate personnel/prohibit entry Increase ventilation to restore O ₂ to >19%
Methane (CH ₄)	Action Level >10% LEL*	Prohibit hot works Increase ventilation to restore CH ₄ to <10% LEL
	Limit Level >20% LEL*	Stop works Evacuate personnel/prohibit entry Increase ventilation to restore CH ₄ to <10% LEL
Carbon dioxide (CO ₂)	Action Level** >0.5%** CO ₂	Ventilate to restore CO ₂ to <0.5%
	Limit Level >1.5% CO ₂	Stop works Evacuate personnel / prohibit entry Increase ventilation to restore CO ₂ to <0.5%

* LEL: Lower Explosive Limit - concentrations in air below which there is not enough fuel to continue an explosion.

** This Action Level of CO₂ at 0.5% is set for reference only, assuming no CO₂ emission from a particular location.

Depending on the baseline CO₂ levels, the Action Level at a particular location will be changed.

7.5 Monitoring Results

7.5.1 The LFG monitoring was conducted at Portion A +55 mpD to 70 mpD Platform in March 2023 (Conducted on working days). The LFG monitoring results are summarized in **Table 7-4**.

Table 7-4 Summary of LFG Monitoring Results

LFG Monitoring Station	Monitoring Date	Monitoring Parameter(s)			
		CH ₄ in %	LEL in %/v	CO ₂ in %	O ₂ in %
		Monitoring Results			
Portion A +55 mpD to 70 mpD Platform	1 Mar 2023	0	0	0	20.8
	2 Mar 2023	0	0	0	20.6
	3 Mar 2023	0	0	0	20.5
	4 Mar 2023	0	0	0	20.4
	6 Mar 2023	0	0	0	20.5
	7 Mar 2023	0	0	0	20.6
	8 Mar 2023	0	0	0	20.4
	9 Mar 2023	0	0	0	20.3
	10 Mar 2023	0	0	0	20.4
	11 Mar 2023	0	0	0	20.4
	13 Mar 2023	0	0	0	20.3
	14 Mar 2023	0	0	0	20.5
	15 Mar 2023	0	0	0	20.4
	16 Mar 2023	0	0	0	20.4
	17 Mar 2023	0	0	0	20.3
	18 Mar 2023	0	0	0	20.4
	20 Mar 2023	0	0	0	20.2
	21 Mar 2023	0	0	0	20.3
	22 Mar 2023	0	0	0	20.4
	23 Mar 2023	0	0	0	20.3
	24 Mar 2023	0	0	0	20.3
	25 Mar 2023	0	0	0	20.3
	27 Mar 2023	0	0	0	20.2
28 Mar 2023	0	0	0	20.3	
29 Mar 2023	0	0	0	20.3	
30 Mar 2023	0	0	0	20.4	
31 Mar 2023	0	0	0	20.3	
Action Level		>10% LEL	---	>0.5%** CO ₂	<19%

* LEL: Lower Explosive Limit - concentrations in air below which there is not enough fuel to continue an explosion.

** This Limit Level of CO₂ at 0.5% is set for reference only, assuming no CO₂ emission from a particular location.

7.5.2 No exceedance of Limit Levels of LFG was recorded during the reporting period. Therefore, there was no record of Notification of Environmental Quality Limits Exceedance in the **Appendix G**.

7.5.3 No effect that arose from the other special phenomena and work progress of the concerned site was noted during the current monitoring month.

7.6 Recommended Mitigation Measures

3.1.7.2 The recommended landfill gas mitigation measures from EIA report are listed as followed:

- Special LFG precautions should be taken due to close proximity of NENT landfill extension site to existing landfill to avoid potential hazards of LFG exposure (ignition, explosion, asphyxiation, toxicity).
- Prominent safety warning signs should be erected on-site to alert all personnel and visitors of LFG hazards during excavation works.
- No smoking or burning should be permitted on-site.
- Prominent 'No smoking' and 'No Naked Flames' signs should be erected on-site.
- No worker should be allowed to work alone at any time in excavated trenches or confined areas on-site.
- Adequate fire fighting equipment should be provided on-site.
- Construction equipment should be equipped with vertical exhaust at least 0.6m above ground installed with spark arrestors.
- Electrical motors and extension cords should be explosion-proof and intrinsically safe for use on-site.
- 'Permit to Work' system should be implemented.
- Welding, flame-cutting or other hot works should be conducted only under 'Permit to Work' system following clear safety requirements, gas monitoring procedures and presence of qualified persons to supervise the works.

8 Landscape and Visual

8.1 Monitoring Requirement

- 8.1.1 In order to monitor the landscape and visual impact after providing mitigation measures effectively, all the specified and affected LCAs, LRs and VSRs should be monitored. Implementation of the mitigation measures during construction phase of the Project has been monitored through the regular site inspection/audit.
- 8.1.2 All relevant environmental mitigation measures listed in the approved EIA Report and the EM&A Manual and their implementation status are summarised in **Appendix K**.

8.2 Result and Observation

- 8.2.1 Measures to mitigate the landscape and visual impacts during the construction phase has been checked to ensure compliance with the intended aims of the measures within the reporting period. The progress of the engineering works are regularly reviewed on site to identify the earliest practical opportunities for the landscape works to be undertaken.
- 8.2.2 In order to monitor the landscape and visual impact after providing mitigation measures effectively, all the specified and affected LCAs, LRs and VSRs should be monitored. Implementation of the mitigation measures during construction phase of the Project has been monitored through the regular site inspection/audit.

9 Cultural Heritage

- 9.1.1** The Mitigation measures for preservation of the cultural landscape feature located within the project area was conducted before commencement of construction of the project based on the requirement of Survey Report and Mapping Records for Boulder Paths BP1 & 2 & Conditions of G2, G4, G5 G6, G7, G8, G14, G15, G25, G26 and G27 within NENTX.
- 9.1.2** The survey and mapping works carried out on 23 August 2022 and the verification works carried out on 23 August 22 confirmed that both 2 boulder paths BP1 and BP2 are fall outside the site boundary and the Project area.
- 9.1.3** All the affected graves within the waste boundary have been removed in accordance with section 119(1) of the Public Health and Municipal Services Ordinance (Cap 132). Removal of the graves as shown on Figure 2 attached to the FEP was proven by the visit of graves on 8 July 2022. All the graves as shown on Figure 2 attached to the FEP were abandoned and removed and no mitigation or preservation measures is necessary.
- 9.1.4** The Survey Report and Mapping Records for Boulder Paths BP1 & 2 was certified by ET on 10 Oct 2022, was verified by IEC and submitted to EPD on 12 Oct 2022. The Conditions of G2, G4, G5 G6, G7, G8, G14, G15, G25, G26 and G27 within NENTX was certified by ET, was verified by IEC and submitted to EPD on 15 Oct 2022. No later than four weeks before commencement of construction of the project in accordance with Condition 2.4 of the FEP-01/292/2007.
- 9.1.5** Implementation of the mitigation measures such as permanent fencing to protect the boulder path and setting up warning notices during construction phase of the Project has been monitored through the regular site inspection/audit. The permanent fencing locations are shown in **Appendix M**. In case of any presence of undiscovered grave during construction phase, AMO will be informed as soon as possible.

10 Ecological Monitoring

- 10.1.1** In the reporting period, the post-translocation monitoring for the Endemic Freshwater Crab *Somanniathelphusa zanklon* was conducted on 20 March 2023 based on the requirement of the approved Revised Translocation Proposal for the Endemic Freshwater Crab *Somanniathelphusa zanklon*. The 8th Post-Translocation Monitoring Report (March 2023) presents the details of requirements, monitoring results and site inspection with photos. The site inspection photos are also summarized in **Appendix N**. During the reporting period, no *S. zanklon* individual is identified.
- 10.1.2** The post-transplantation monitoring was conducted on 20 March 2023 based on the requirement of the approved Transplantation Proposal for Plant Species of Conservation Importance (Rev.1). The 8th Post-transplantation Monitoring and Audit Report (20th March 2023) presents the details of requirements, monitoring results and site inspection with photos. The site inspection photos are also summarized in **Appendix N**. During the reporting period, the numbers, measurements, and health conditions of the transplanted plant species are recorded.
- 10.1.3** The details of requirements, monitoring results and site inspection with photos for the post-translocation monitoring and post-transplantation monitoring would be reported separately.
- 10.1.4** The milestone of the ecological monitoring is presented in **Table 10-1**. The softcopies of the submissions are provided in <https://www.nentx-ema.com/ep-submissions/>.

Table 10-1 Milestone of the Ecological Monitoring

Type of Monitoring	Monitoring Event No.	Monitoring Date
Post-translocation Monitoring	1 st (Aug 2022)	29 Aug 2022
	2 nd (Sep 2022)	28 Sep 2022
	3 rd (Oct 2022)	28 Oct 2022
	4 th (Nov 2022)	22 Nov 2022
	5 th (Dec 2022)	29 Dec 2022
	6 th (Jan 2023)	30 Jan 2023
	7 th (Feb 2023)	24 Feb 2023
	8 th (Mar 2023)	20 Mar 2023
Post-transplantation Monitoring	1 st	24 Nov 2022
	2 nd	9 Dec 2022
	3 rd	21 Dec 2022
	4 th	13 Jan 2023
	5 th	26 Jan 2023
	6 th	8 Feb 2023
	7 th	24 Feb 2023
	8 th	20 Mar 2023

11 Site Inspection and Audit

11.1.1 Site Inspection and audits were carried out by ET on weekly basis to monitor the implementation of proper environmental management practices and mitigation measures in the Project Site.

11.1.2 Weekly ET environmental site inspections were conducted in the reporting period on 6, 13, 20 & 27 March 2023. A joint environmental site inspection was carried out by the representatives of the ER, the Contractor, IEC and the ET on 20 March 2023. The joint environmental site inspection records are shown in **Appendix J**. There was no noncompliance recorded during the site inspections.

11.1.3 Major findings and recommendations are summarized as follows:

06 March 2023

- The Contractor was reminded to increase the frequency of watering at unpaved road and works area of SBA and Portion D. The frequency of watering at unpaved road and works area of SBA and Portion D should be increased.

13 March 2023

- Fugitive dust was observed from the breaking and excavation works in Portion E3-1. The Contractor has been reminded to spray water on surface or the dusty material during breaking and excavation works.
- Paint containers were observed without drip tray. Drip tray shall be provided to the paint containers.
- The Contractor was reminded to increase the frequency of watering at unpaved road and works area of Portion A. The frequency of watering at unpaved road and works area of Portion A should be increased.

20 March 2023

- Chemical containers in SBA were observed without drip tray. Drip tray shall be provided to all chemical containers.
- Stockpiles of dusty material are not covered with impervious sheets. The Contractor has been reminded to fully cover the stockpiles of dusty material with impervious sheets.
- The Contractor was reminded to increase the frequency of watering in construction site to prevent dust dispersion. Frequency of watering in the construction site should be increased to prevent dust dispersion.

27 March 2023

- Sand and silt were observed at the vehicle entrance in SBA. The contractor has been recommended that the vehicle entrance shall be kept clear.
- Chemical containers were observed in the open area and some of them were not placed inside the drip tray. The Contractor has been recommended to storage chemical containers properly and chemical container shall be placed inside the drip tray when it is in outdoor.

11.1.4 No Environmental Protection Department-Regional Office (North) conducted general site inspection in March 2023.

12 Environmental Non-conformance

12.1 Summary of Monitoring Exceedance

1-hr TSP Monitoring

12.1.1 No Action / Limit Level exceedance for 1-hr TSP impact monitoring at AM1, AM2 & AM3 was recorded during the period.

24-hr TSP Monitoring

12.1.2 2 Action Level & 2 Limit Level Exceedance for 24-hr TSP monitoring at AM1 was recorded during the reporting period. The exceedance was considered likely caused by external sources such as the high level of background air quality in Hong Kong during the monitoring period etc and not project related.

12.1.3 No Action / Limit Level exceedance for 24-hr TSP monitoring at AM2 was recorded during the period.

12.1.4 3 Action Level Exceedance & 2 Limit Level Exceedance for 24-hr TSP monitoring at AM3 were recorded during the reporting period. The exceedance was considered likely caused by external sources such as the high level of background air quality in Hong Kong during the monitoring period etc and not project related.

Noise, Surface Water Quality & Landfill Gas Monitoring

12.1.5 No exceedance of the Action and Limit Levels for was recorded at designated monitoring stations during the reporting period.

12.2 Summary of Environmental Non-compliance

12.2.1 No non-compliance event was recorded during the reporting period.

12.3 Summary of Environmental Complaint

12.3.1 No environmental complaint was recorded during the reporting period.

12.4 Summary of Environmental Summons and Successful Prosecution

12.4.1 No summons was received during the reporting period

13 Implementation Status on Environmental Mitigation Measures

13.1.1 The Contractor has generally implemented environmental mitigation measures and requirements as stated in the EIA Report, the EP and EM&A Manual and the contract documents. The implementation status during the reporting period is summarized in **Appendix K**.

14 Future Key Issues

14.1 Key Issues for the Coming Month

14.1.1 Works to be undertaken for the coming monitoring periods are summarized below. Detailed construction activities and locations are summarized in **Appendix L**.

-
- Material loading and unloading, site traffic

 - Permanent site office foundation works with pouring of concrete

 - Site clearance

 - Installation of permanent fencing

 - Site formation

 - Tree felling

14.1.2 Potential environmental impacts arising from the above construction activities are mainly associated with air quality, construction noise, water quality, waste management, landfill gas monitoring, landscape and visual, cultural heritage and ecology

14.2 Monitoring Schedule for the Next Month

14.2.1 The tentative schedule of environmental monitoring for the next reporting period is presented in **Appendix C**.

14.3 Construction Programme for the Next Month

14.3.1 The most updated construction programme for the Project is presented in **Appendix A**.

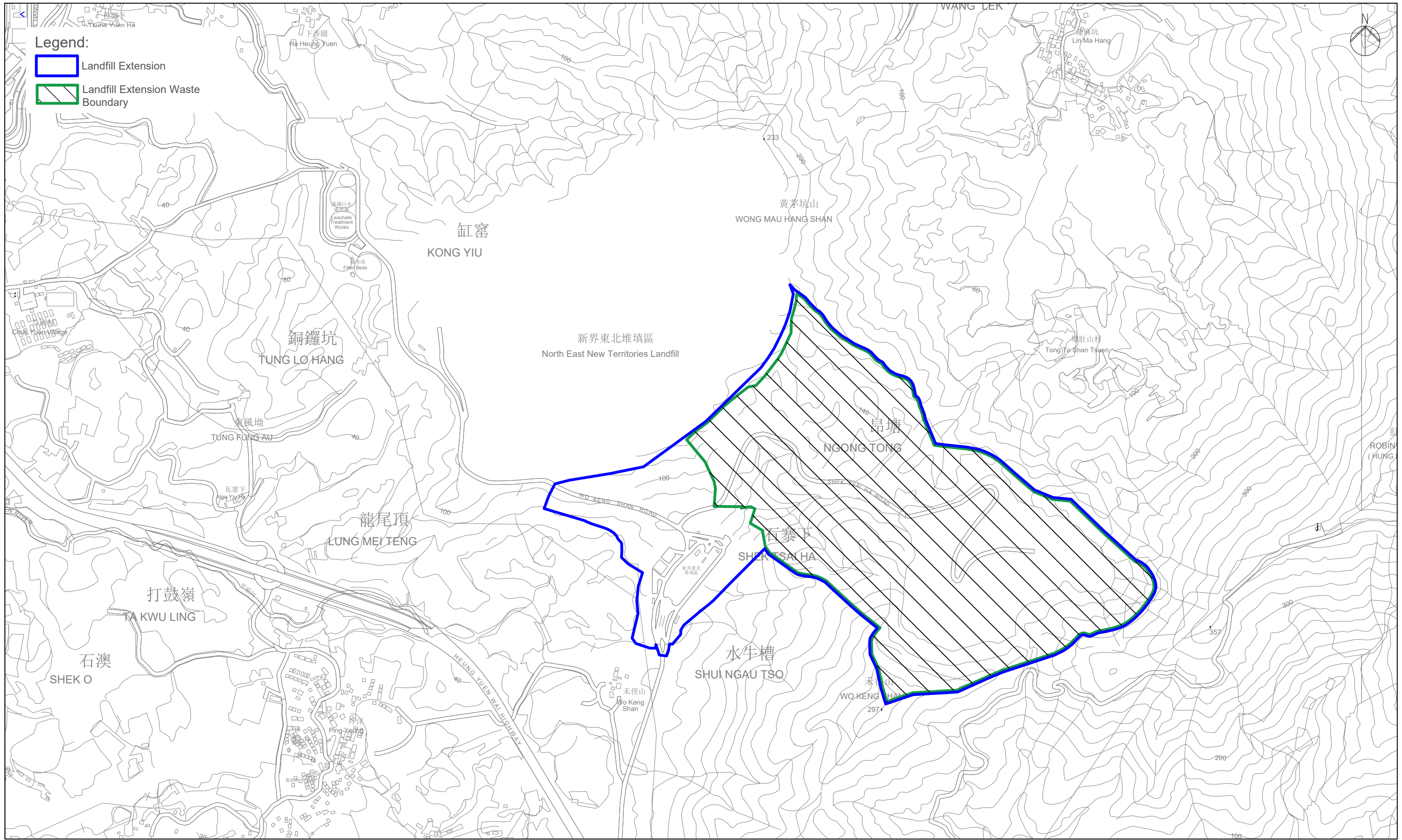
15 Conclusion

- 15.1.1** 1-hr & 24-hr TSP impact monitoring was carried out in the reporting month. No Action / Limit Level exceedance for 1-hr TSP impact monitoring at AM1, AM2 & AM3 was recorded during the period.
- 15.1.2** 2 Action Level & 2 Limit Level Exceedance for 24-hr TSP monitoring at AM1 was recorded during the reporting period. The exceedance was considered likely caused by external sources such as the high level of background air quality in Hong Kong during the monitoring period etc and not project related.
- 15.1.3** No Action / Limit Level exceedance for 24-hr TSP monitoring at AM2 was recorded during the period.
- 15.1.4** 3 Action Level Exceedance & 2 Limit Level Exceedance for 24-hr TSP monitoring at AM3 were recorded during the reporting period. The exceedance was considered likely caused by external sources such as the high level of background air quality in Hong Kong during the monitoring period etc and not project related.
- 15.1.5** Construction noise monitoring was carried out in the reporting month. No Action / Limit Level exceedance at NM1a & NM2a was recorded during the period.
- 15.1.6** Site clearance of future landfilling area is in progress. The installation of groundwater monitoring boreholes will be installed after the site formation work of the landfilling area. The target commencement period of groundwater monitoring will be in 2026. No groundwater monitoring is required before the completion of site formation work of the landfilling area.
- 15.1.7** Surface water monitoring was carried out in the reporting month. No Action / Limit Level exceedance at WM1 & WM2 was recorded during the period.
- 15.1.8** Landfill Gas Monitoring was carried out in the reporting month. No exceedance of Limit Levels of LFG was recorded during the reporting period.
- 15.1.9** In terms of cultural heritage, implementation of the mitigation measures such as permanent fencing to protect the boulder path and setting up warning notices during construction phase of the Project has been monitored through the regular site inspection/audit in the reporting period. All the mitigation measures are in order.
- 15.1.10** Post-translocation Monitoring was carried out in the reporting period. No *S. zanklon individual* was found. Post-transplantation monitoring was carried out in the reporting month. The numbers, measurements and health conditions of the transplanted species are recorded.
- 15.1.11** Four environmental site inspections were carried out in the reporting month. Recommendations on mitigation measures for Permit/ Licenses were given to the Contractor for remediating the deficiencies identified during the site inspections.
- 15.1.12** No environmental complaint was recorded during the reporting period.
- 15.1.13** No non-compliance event was recorded during the reporting period.

15.1.14 No notification of summons and prosecution was received during the reporting period.

15.1.15 The ET will keep track on the EM&A programme to ensure compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

Figure 1 Location of the Project Site



aurecon

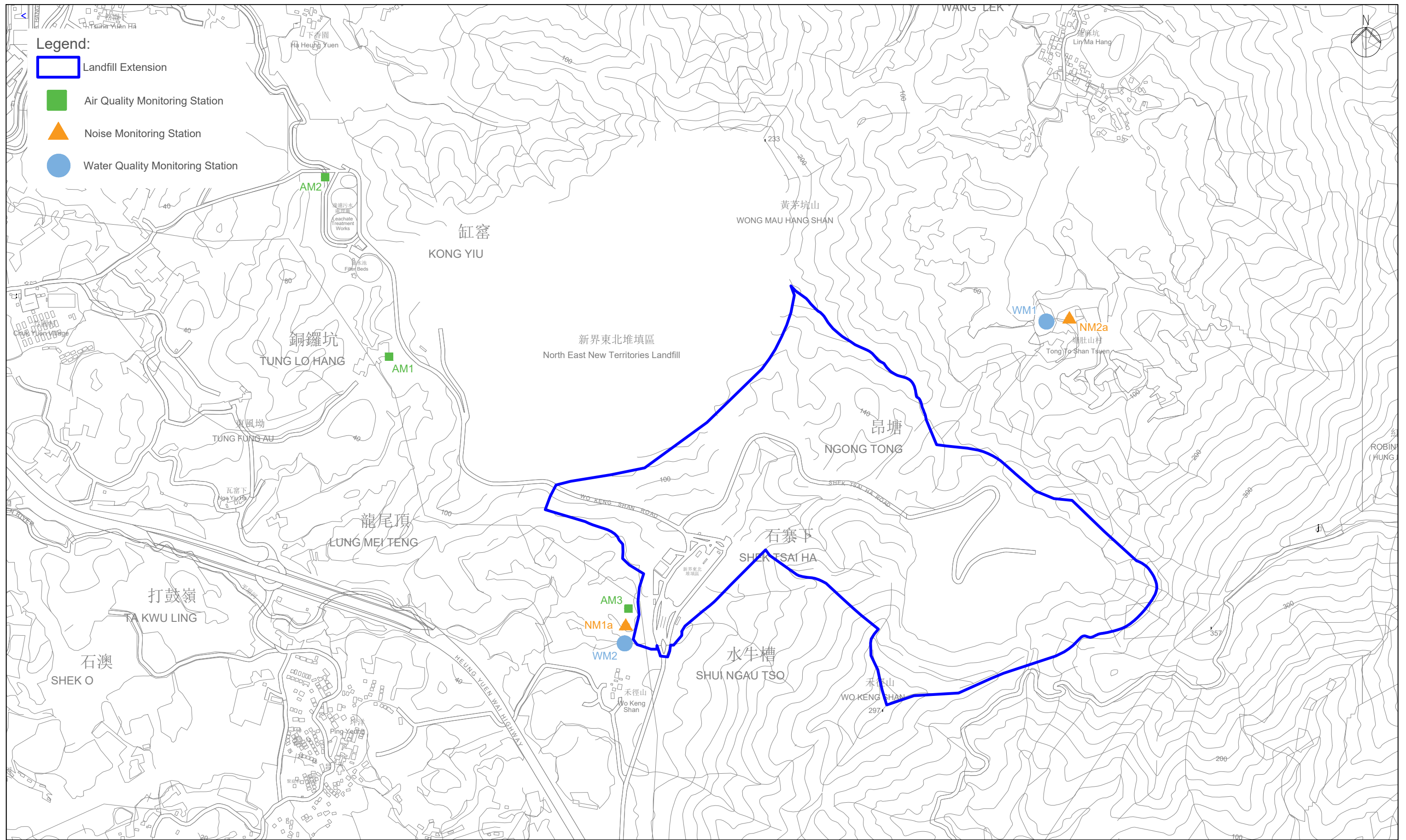
Aurecon Hong Kong Limited

North-East New Territories (NENT) Landfill Extension
Location Plan of the Project Site

Figure 1.1

Scale: 1:10000

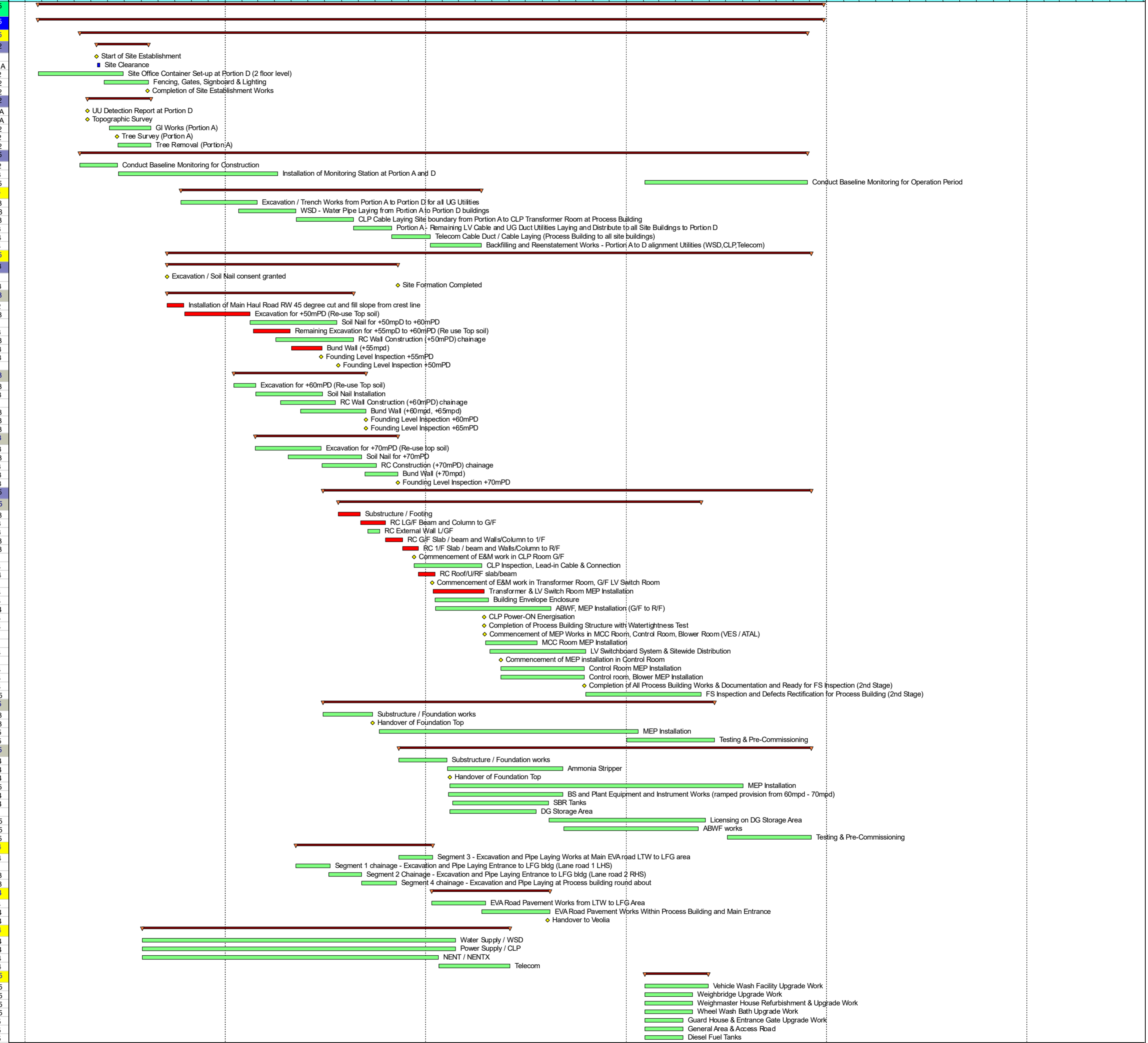
Figure 2 Impact Air, Noise & Surface Water Quality Monitoring Locations



Appendix A Construction Program

Activity ID	Activity Name	OD	Start	Finish	2022												2023												2024												2025												2026												2027											
					Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov

Activity ID	Activity Name	OD	Start	Finish
NENTX				
1432	25-Jan-22 A	27-Dec-25		
CONSTRUCTION - INITIAL WORKS PHASE 1				
1403	11-Apr-22 A	27-Nov-25		
PORTION A - Advance Works & Site Establishment				
SITE ESTABLISHMENT AND MOBILISATION				
05-0001	Start of Site Establishment	0	12-May-22 A	
05-0002	Site Clearance	12	13-May-22 A	18-May-22 A
05-0003	Site Office Container Set-up at Portion D (2 floor level)	60	13-May-22 A	29-Jun-22
05-0004	Fencing, Gates, Signboard & Lighting	80	25-May-22 A	14-Aug-22
05-0005	Completion of Site Establishment Works	0		12-Aug-22
75	25-Apr-22 A	18-Aug-22		
SITE SURVEY & INVESTIGATION WORKS				
05-0007	UU Detection Report at Portion D	0		25-Apr-22 A
05-0008	Topographic Survey	0		25-Apr-22 A
05-0009	GI Works (Portion A)	75	04-Jun-22	18-Aug-22
05-0010	Tree Survey (Portion A)	0		17-Jun-22
05-0011	Tree Removal (Portion A)	59	19-Jun-22	18-Aug-22
ENVIRONMENTAL MONITORING				
05-0018	Conduct Baseline Monitoring for Construction	60	11-Apr-22	18-Jun-22
05-0019	Installation of Monitoring Station at Portion A and D	250	20-Jun-22	06-Apr-23
05-0020	Conduct Baseline Monitoring for Operation Period	255	04-Feb-25	27-Nov-25
470	12-Oct-22	11-Apr-24		
SITEWIDE Underground UTILITIES (Portion A to Portion D)				
05-0012	Excavation / Trench Works from Portion A to Portion D for all UG Utilities	120	12-Oct-22	28-Feb-23
05-0013	WSD - Water Pipe Laying from Portion A to Portion D buildings	90	25-Jan-23	09-Mar-23
05-0014	CLP Cable Laying Site boundary from Portion A to CLP Transformer Room at Process Building	90	10-May-23	22-Aug-23
05-0015	Portion A - Remaining LV Cable and UG Duct Utilities Laying and Distribute to all Site Buildings	60	22-Aug-23	31-Oct-23
05-0016	Telecom Cable Duct / Cable Laying (Process Building to all site buildings)	60	31-Oct-23	09-Jan-24
05-0017	Backfilling and Reenstatement Works - Portion A to D alignment Utilities (WSD,CLP,Telecom)	80	09-Jan-24	11-Apr-24
PORTION A - Infrastructure Treatment Area				
SITE FORMATION				
05-0021	Excavation / Soil Nail consent granted	0	17-Sep-22	11-Nov-23
05-0022	Site Formation Completed	0		11-Nov-23
320	17-Sep-22	22-Aug-23		
Soil Ground Platform at +50mPD/+55mPD				
05-0023	Installation of Main Haul Road RW 45 degree cut and fill slope from crest line	28	17-Sep-22	17-Oct-22
05-0024	Excavation for +50mPD (Re-use Top soil)	111	19-Oct-22	15-Feb-23
05-0025	Soil Nail for +50mPD to +60mPD	150	15-Feb-23	23-Jul-23
05-0026	Remaining Excavation for +55mPD to +60mPD (Re use Top soil)	64	21-Feb-23	29-Apr-23
05-0027	RC Wall Construction (+50mPD) chainage	134	03-Apr-23	22-Aug-23
05-0028	Bund Wall (+55mpd)	54	02-May-23	26-Jun-23
05-0029	Founding Level Inspection +55mPD	0		24-Jun-23
05-0030	Founding Level Inspection +50mPD	0		26-Jul-23
229	17-Jan-23	14-Sep-23		
Soil Ground Platform at +60mPD (LTW Plant)				
05-0031	Excavation for +60mPD (Re-use Top soil)	36	17-Jan-23	25-Feb-23
05-0032	Soil Nail Installation	115	25-Feb-23	27-Jun-23
05-0033	RC Wall Construction (+60mPD) chainage	96	12-Apr-23	20-Jul-23
05-0034	Bund Wall (+60mpd, +65mpd)	117	18-May-23	14-Sep-23
05-0035	Founding Level Inspection +60mPD	0		14-Sep-23
05-0036	Founding Level Inspection +65mPD	0		14-Sep-23
248	25-Feb-23	11-Nov-23		
Soil Ground Platform at +70mPD (LTW Plant)				
05-0037	Excavation for +70mPD (Re-use top soil)	113	25-Feb-23	24-Jun-23
05-0038	Soil Nail for +70mPD	130	26-Apr-23	06-Sep-23
05-0039	RC Construction (+70mPD) chainage	96	26-Jun-23	03-Oct-23
05-0040	Bund Wall (+70mpd)	56	13-Sep-23	11-Nov-23
05-0041	Founding Level Inspection +70mPD	0		11-Nov-23
PROCESS TREATMENT AREA				
891	28-Jun-23	04-Dec-25		
Process Building (+50mpd)				
05-0042	Substructure / Footing	40	26-Jul-23	04-Sep-23
05-0043	RC LG/F Beam and Column to G/F	42	05-Sep-23	20-Oct-23
05-0044	RC External Wall U/GF	18	18-Sep-23	09-Oct-23
05-0045	RC G/F Slab / beam and Walls/Column to 1/F	30	20-Oct-23	20-Nov-23
05-0046	RC 1/F Slab / beam and Walls/Column to R/F	29	20-Nov-23	19-Dec-23
05-0047	Commencement of E&M work in CLP Room G/F	0	11-Dec-23	
05-0048	CLP Inspection, Lead-in Cable & Connection	107	11-Dec-23	12-Apr-24
05-0050	RC Roof/U/R/F slab/beam	27	19-Dec-23	18-Jan-24
05-0051	Commencement of E&M work in Transformer Room, G/F LV Switch Room	0	13-Jan-24	
05-0052	Transformer & LV Switch Room MEP Installation	80	15-Jan-24	17-Apr-24
05-0053	Building Envelope Enclosure	90	18-Jan-24	25-Apr-24
05-0054	ABWF, MEP Installation (G/F to R/F)	180	19-Jan-24	16-Aug-24
05-0055	CLP Power-ON Energisation	0		17-Apr-24
05-0056	Completion of Process Building Structure with Watertightness Test	0		17-Apr-24
05-0057	Commencement of MEP Works in MCC Room, Control Room, Blower Room (VES / ATAL)	0	18-Apr-24	
05-0058	MCC Room MEP Installation	80	19-Apr-24	22-Jul-24
05-0059	LV Switchboard System & Sitewide Distribution	150	27-Apr-24	19-Oct-24
05-0060	Commencement of MEP installation in Control Room	0	17-May-24	
05-0061	Control Room MEP Installation	130	17-May-24	16-Oct-24
05-0062	Control room, Blower MEP Installation	130	17-May-24	16-Oct-24
05-0063	Completion of All Process Building Works & Documentation and Ready for FS Inspection (2nd Stage)	0		16-Oct-24
05-0064	FS Inspection and Defects Rectification for Process Building (2nd Stage)	180	19-Oct-24	17-May-25
678	28-Jun-23	10-Jun-25		
LFG Plant (+55mpd)				
05-0065	Substructure / Foundation works	90	28-Jun-23	26-Sep-23
05-0066	Handover of Foundation Top	0		26-Sep-23
05-0067	MEP Installation	450	08-Oct-23	22-Jan-25
05-0068	Testing & Pre-Commissioning	150	02-Jan-25	10-Jun-25
753	13-Nov-23	04-Dec-25		
LTW Plant (+60mpd, +70mpd)				
05-0069	Substructure / Foundation works	86	13-Nov-23	09-Feb-24
05-0070	Ammonia Stripper	180	10-Feb-24	07-Sep-24
05-0071	Handover of Foundation Top	0		14-Feb-24
05-0072	MEP Installation	510	14-Feb-24	01-Aug-25
05-0073	BS and Plant Equipment and Instrument Works (ramped provision from 60mpd - 70mpd)	180	12-Feb-24	07-Sep-24
05-0074	SBR Tanks	150	19-Feb-24	12-Aug-24
05-0075	DG Storage Area	150	14-Feb-24	20-Jul-24
05-0076	Licensing on DG Storage Area	270	13-Aug-24	25-May-25
05-0077	ABWF works	210	09-Sep-24	12-May-25
05-0078	Testing & Pre-Commissioning	150	04-Jul-25	04-Dec-25
240	09-May-23	14-Jan-24		
PORTION A - Underground Drainage and Process Pipeworks				
05-0079	Segment 3 - Excavation and Pipe Laying Works at Main EVA road LTW to LFG area	60	13-Nov-23	14-Jan-24
05-0080	Segment 1 chainage - Excavation and Pipe Laying Entrance to LFG bldg (Lane road 1 LHS)	60	09-May-23	11-Jul-23
05-0081	Segment 2 Chainage - Excavation and Pipe Laying Entrance to LFG bldg (Lane road 2 RHS)	60	08-Jul-23	06-Sep-23
05-0082	Segment 4 chainage - Excavation and Pipe Laying at Process building round about	60	06-Sep-23	09-Nov-23
PORTION A - EVA Road Paving Works				
05-0067.01	EVA Road Pavement Works from LTW to LFG Area	90	12-Jan-24	19-Apr-24
05-0067.02	EVA Road Pavement Works Within Process Building and Main Entrance	120	12-Apr-24	14-Aug-24
05-0067.03	Handover to Veolia	0		10-Aug-24
SITEWIDE Interfacing and Coordination				
05-0083	Water Supply / WSD	540	03-Aug-22	24-Feb-24
05-0084	Power Supply / CLP	540	03-Aug-22	24-Feb-24
05-0085	NENT / NENTX	513	03-Aug-22	24-Jan-24
05-0086	Telecom	120	25-Jan-24	02-Jun-24
PORTION C - Waste Reception Area				
05-0087	Vehicle Wash Facility Upgrade Work	100	04-Feb-25	30-May-25
05-0089	Weighbridge Upgrade Work	75	04-Feb-25	01-May-25
05-0091	Weighmaster House Refurbishment & Upgrade Work	75	04-Feb-25	01-May-25
05-0092	Wheel Wash Bath Upgrade Work	75	04-Feb-25	01-May-25
05-0093	Guard House & Entrance Gate Upgrade Work	60	04-Feb-25	14-Apr-25
05-0094	General Area & Access Road	60	04-Feb-25	14-Apr-25
05-0095	Diesel Fuel Tanks	60	04-Feb-25	14-Apr-25



▬	Remaining Level of Effort
▬	Actual Work
▬	Remaining Work
▬	Critical Remaining Work
◆	Milestone
▬	Summary

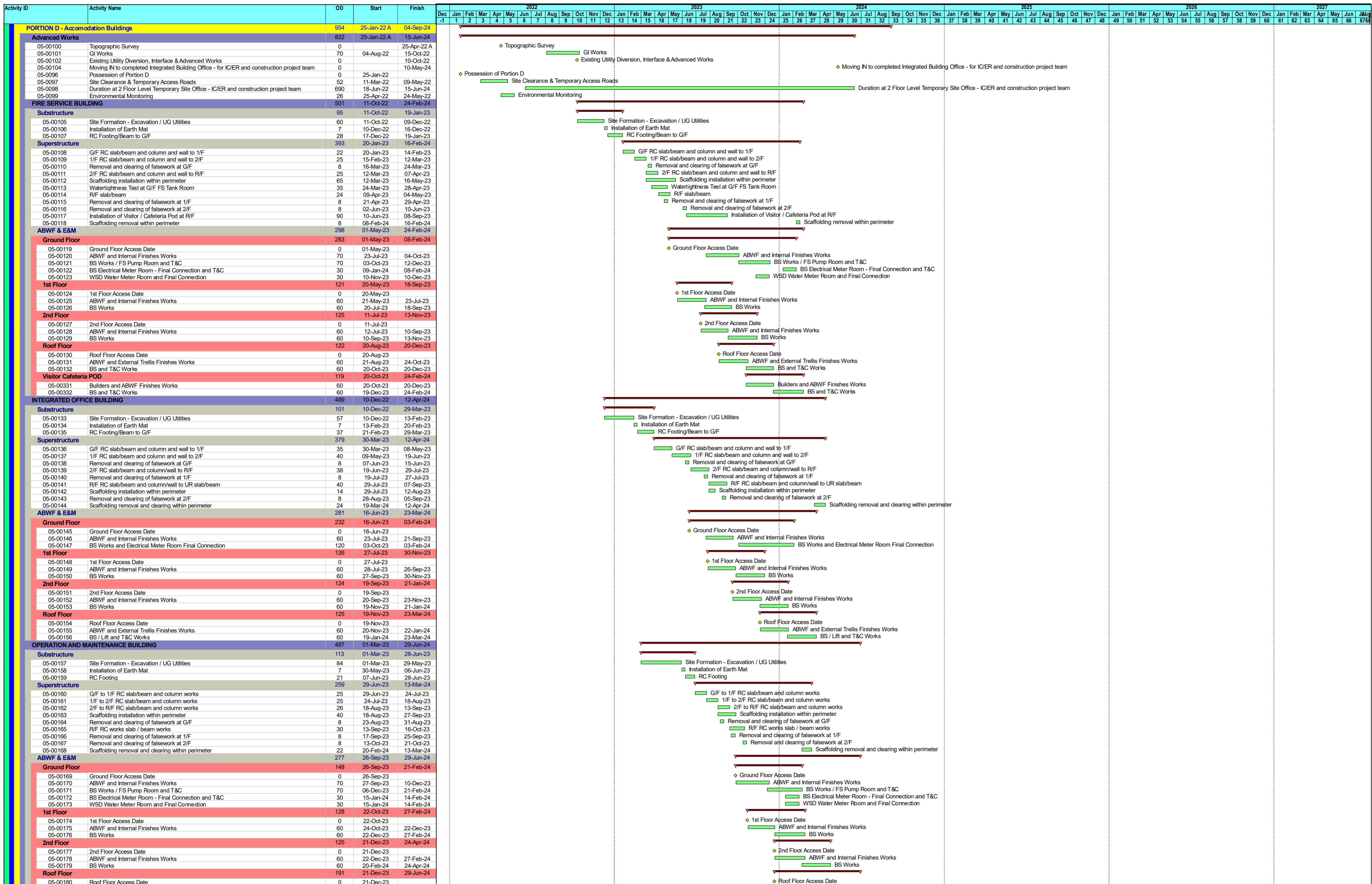
NORTH EAST NEW TERRITORIES (NENTX) LANDFILL EXTENSION

BASELINE PROGRAMME - EXTRACTED (REV.3)

INITIAL WORKS (PHASE 1)

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- █ Remaining Level of Effort
- █ Actual Work
- █ Remaining Work
- █ Critical Remaining Work
- ◆ Milestone
- Summary

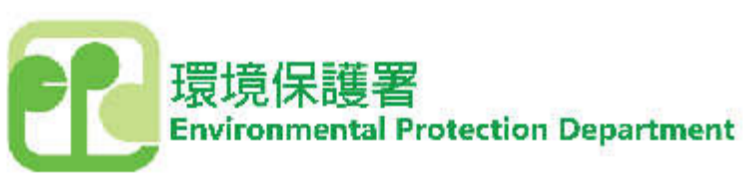
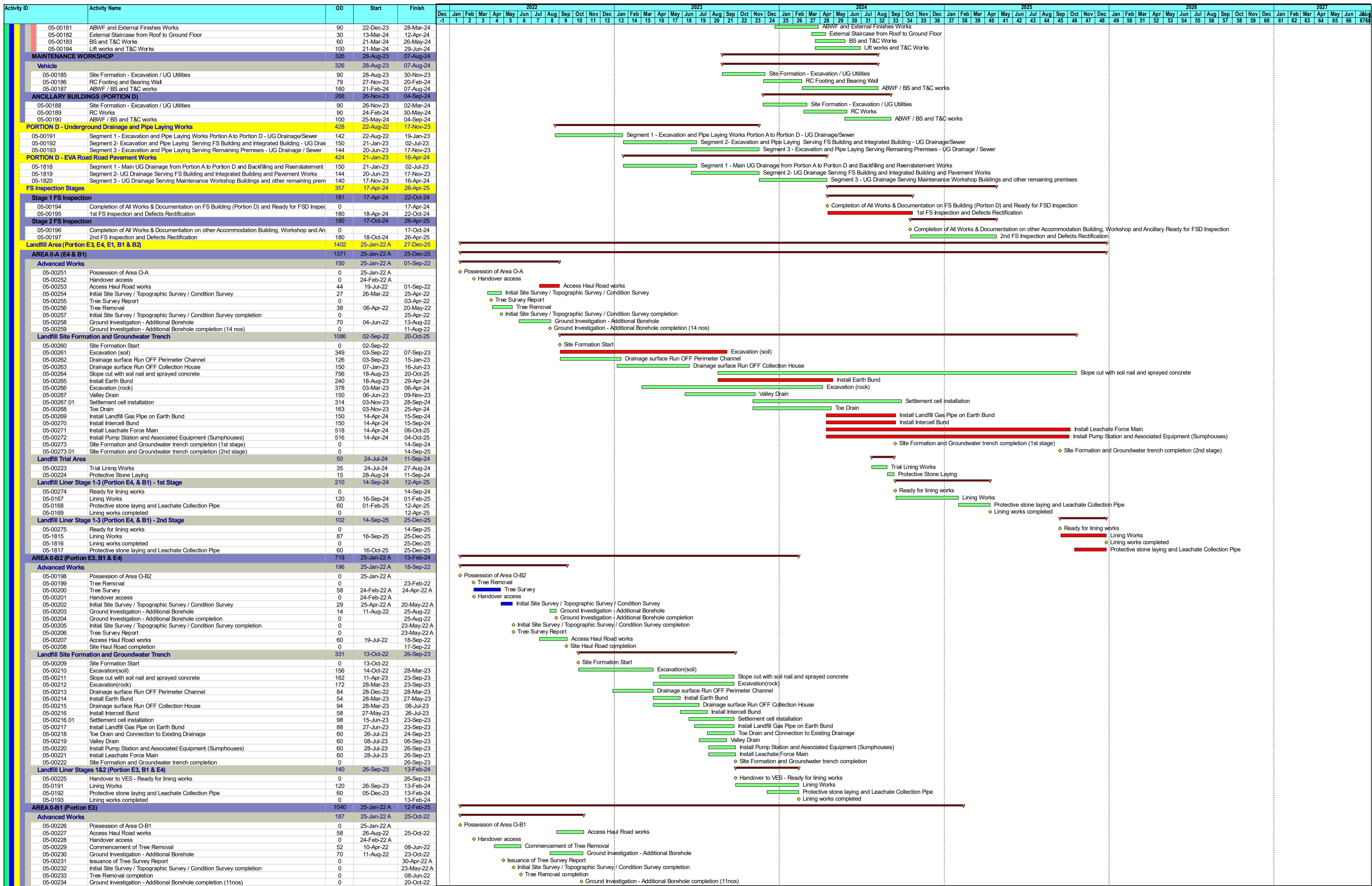
NORTH EAST NEW TERRITORIES (NENTX) LANDFILL EXTENSION

**BASELINE PROGRAMME - EXTRACTED (REV.3)
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- ▬ Remaining Level of Effort
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- ◆ Milestone
- ▬ Summary

NORTH EAST NEW TERRITORIES (NENTX) LANDFILL EXTENSION

**BASELINE PROGRAMME - EXTRACTED (REV.3)
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Activity ID	Activity Name	OD	Start	Finish	2022												2023												2024												2025												2026												2027														
					Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
05-00235	Site Haul Road completion	0	25-Oct-22	25-Oct-22	◆ Site Haul Road completion																																																																										
Landfill Site Formation and Groundwater Trench					664	25-Oct-22	25-Sep-24	◆ Site Formation Start																																																																							
05-00236	Site Formation Start	0	25-Oct-22	25-Oct-22	◆ Site Formation Start																																																																										
05-00237	Excavation(soil)	252	27-Oct-22	22-Jul-23	Excavation(soil)																																																																										
05-00238	Drainage surface Run OFF Perimeter Channel	111	27-Oct-22	23-Feb-23	Drainage surface Run OFF Perimeter Channel																																																																										
05-00239	Drainage surface Run OFF Collection House	85	24-Feb-23	24-May-23	Drainage surface Run OFF Collection House																																																																										
05-00240	Slope cut with soil nail and sprayed concrete	401	22-Jul-23	14-Sep-24	Slope cut with soil nail and sprayed concrete																																																																										
05-00241	Excavation(rock)	317	23-Jul-23	21-Jun-24	Excavation(rock)																																																																										
05-00242	Toe Drain and Connection to Existing Drainage	144	24-May-23	21-Oct-23	Toe Drain and Connection to Existing Drainage																																																																										
05-00243	Valley Drain	144	24-May-23	21-Oct-23	Valley Drain																																																																										
05-00244	Install Earth Bund	126	05-Feb-24	21-Jun-24	Install Earth Bund																																																																										
05-00245	Site Formation and Groundwater trench completion	0		24-Sep-24	◆ Site Formation and Groundwater trench completion																																																																										
05-00246	Install Landfill Gas Pipe on Earth Bund	60	21-Jun-24	21-Aug-24	Install Landfill Gas Pipe on Earth Bund																																																																										
05-00247	Install Intercell Bund	59	21-Jun-24	20-Aug-24	Install Intercell Bund																																																																										
05-00247.01	Settlement cell installation	192	21-Oct-23	13-May-24	Settlement cell installation																																																																										
05-00248	Install Leachate Force Main	35	20-Aug-24	25-Sep-24	Install Leachate Force Main																																																																										
05-00249	Install Pump Station and Associated Equipment (Sumphouses)	34	20-Aug-24	24-Sep-24	Install Pump Station and Associated Equipment (Sumphouses)																																																																										
Landfill Liner Stage 1-2 (Portion E3)					140	25-Sep-24	12-Feb-25	◆ Handover to VES - Ready for lining works																																																																							
05-00250	Handover to VES - Ready for lining works	0		25-Sep-24	◆ Handover to VES - Ready for lining works																																																																										
05-0143	Lining Works	120	26-Sep-24	12-Feb-25	Lining Works																																																																										
05-0144	Protective stone laying and Leachate Collection Pipe	60	04-Dec-24	12-Feb-25	Protective stone laying and Leachate Collection Pipe																																																																										
05-0145	Lining works completed	0		12-Feb-25	◆ Lining works completed																																																																										
Area O-D (Portion E1 & B2) Access Road					884	26-Jul-23	25-Dec-25	◆ Possession of Area O-D																																																																							
Advanced Works					86	26-Jul-23	24-Oct-23	◆ Initial Site Survey / Topographic Survey / Condition Survey																																																																							
05-00301	Possession of Area O-D	0	26-Jul-23	24-Aug-23	◆ Initial Site Survey / Topographic Survey / Condition Survey																																																																										
05-00302	Initial Site Survey / Topographic Survey / Condition Survey	30	26-Jul-23	24-Aug-23	◆ Tree Survey Report																																																																										
05-00303	Tree Survey Report	0		24-Aug-23	◆ Tree Removal																																																																										
05-00304	Tree Removal	30	25-Aug-23	23-Sep-23	◆ Initial Site Survey / Topographic Survey / Condition Survey completion																																																																										
05-00305	Initial Site Survey / Topographic Survey / Condition Survey completion	0		24-Aug-23	◆ Access Haul Road works																																																																										
05-00306	Access Haul Road works	56	25-Aug-23	23-Oct-23	◆ Tree Removal completion																																																																										
05-00307	Tree Removal completion	0		23-Sep-23	◆ Site Haul Road completion																																																																										
05-00308	Site Haul Road completion	0		24-Oct-23	◆ Site Formation Start																																																																										
Landfill Site Formation and Groundwater Trench					690	24-Oct-23	12-Sep-25	Excavation (soil)																																																																							
05-00309	Site Formation Start	0	24-Oct-23	10-Feb-24	Excavation (soil)																																																																										
05-00310	Excavation (soil)	106	24-Oct-23	10-Feb-24	Install Earth Bund and Pump Station																																																																										
05-00311	Install Earth Bund and Pump Station	140	14-Feb-24	09-Jul-24	Excavation (rock)																																																																										
05-00312	Excavation (rock)	268	14-Feb-24	18-Nov-24	Drainage surface Run OFF Perimeter Channel																																																																										
05-00313	Drainage surface Run OFF Perimeter Channel	141	14-Feb-24	11-Jul-24	Settlement cell installation																																																																										
05-00313.01	Settlement cell installation	200	10-Jul-24	26-Jan-25	Install Landfill Gas Pipe on Earth Bund																																																																										
05-00314	Install Landfill Gas Pipe on Earth Bund	193	10-Jul-24	25-Jan-25	Drainage surface Run OFF Collection House																																																																										
05-00315	Drainage surface Run OFF Collection House	84	16-Nov-24	13-Feb-25	Valley Drain																																																																										
05-00316	Valley Drain	84	13-Feb-25	14-May-25	Install Perimeter Leachate Force Main																																																																										
05-00317	Install Perimeter Leachate Force Main	82	27-Jan-25	25-Apr-25	Toe Drain																																																																										
05-00318	Toe Drain	118	15-May-25	12-Sep-25	◆ Site Formation and Groundwater trench completion																																																																										
05-00319	Site Formation and Groundwater trench completion	0		12-Sep-25	◆ Ready for lining works																																																																										
Landfill Liner Stage 1&2 (Portion E1 & B2)					101	15-Sep-25	25-Dec-25	Lining Works																																																																							
05-00320	Ready for lining works	0		15-Sep-25	Protective stone laying and Leachate Collection Pipe																																																																										
05-0232.04	Lining Works	60	16-Sep-25	24-Nov-25	◆ Lining works completed																																																																										
05-0232.05	Protective stone laying and Leachate Collection Pipe	27	24-Nov-25	25-Dec-25	◆ Lining works completed																																																																										
05-0232.06	Lining works completed	0		25-Dec-25	◆ Lining works completed																																																																										
AREA O-C (Portion E1, B1 & E4)					1231	11-Aug-22	25-Dec-25	◆ Ground Investigation - Additional Borehole																																																																							
Advanced Works					505	11-Aug-22	25-Jan-24	◆ Possession of Area O-C																																																																							
05-00276	Ground Investigation - Additional Borehole	70	11-Aug-22	23-Oct-22	◆ Initial Site Survey / Topographic Survey / Condition Survey																																																																										
05-00277	Ground Investigation - Additional Borehole completion (6 nos)	0		20-Oct-22	◆ Initial Site Survey / Topographic Survey / Condition Survey completion																																																																										
05-00278	Possession of Area O-C	0	26-Jul-23	23-Oct-23	◆ Access Haul Road works																																																																										
05-00279	Initial Site Survey / Topographic Survey / Condition Survey	56	25-Aug-23	23-Oct-23	◆ Tree Survey / Tree Removal																																																																										
05-00280	Initial Site Survey / Topographic Survey / Condition Survey completion	0		24-Oct-23	◆ Tree Survey Report																																																																										
05-00281	Access Haul Road works	60	24-Sep-23	26-Nov-23	◆ Tree Removal																																																																										
05-00282	Tree Survey / Tree Removal	90	25-Oct-23	25-Jan-24	◆ Site Haul Road completion																																																																										
05-00283	Tree Survey Report	0		28-Nov-23	◆ Site Formation Start																																																																										
05-00284	Tree Removal	0		22-Jan-24	Excavation (soil)																																																																										
05-00285	Site Haul Road completion	0		22-Nov-23	Slope cut with soil nail and sprayed concrete																																																																										
Landfill Site Formation and Groundwater Trench					572	23-Jan-24	15-Sep-25	Excavation (rock)																																																																							
05-00286	Site Formation Start	0	23-Jan-24	13-Jul-24	Drainage surface Run OFF Perimeter Channel																																																																										
05-00287	Excavation (soil)	160	23-Jan-24	13-Jul-24	Excavation (rock)																																																																										
05-00288	Slope cut with soil nail and sprayed concrete	314	13-Jul-24	08-Jun-25	Install Landfill Gas Pipe on Earth Bund																																																																										
05-00289	Excavation (rock)	341	13-Jul-24	06-Jul-25	Install Earth Bund																																																																										
05-00290	Drainage surface Run OFF Perimeter Channel	112	15-Mar-24	13-Jul-24	Drainage surface Run OFF Collection House																																																																										
05-00291	Install Landfill Gas Pipe on Earth Bund	95	28-Feb-25	07-Jun-25	Valley Drain																																																																										
05-00292	Install Earth bund	83	10-Mar-25	08-Jun-25	Install Intercell Bund																																																																										
05-00293	Drainage surface Run OFF Collection House	118	13-Jul-24	11-Nov-24	Settlement cell installation																																																																										
05-00294	Valley Drain	117	13-Jul-24	10-Nov-24	Toe Drain																																																																										
05-00295	Install Intercell Bund	70	06-Jul-25	14-Sep-25	Install Pump Station and Associated Equipment (Sumphouses)																																																																										
05-00295.01	Settlement cell installation	198	10-Nov-24	09-Jun-25	Install Leachate Force Main																																																																										
05-00296	Toe Drain	114	10-Nov-24	10-Mar-25	◆ Site Formation and Groundwater trench completion																																																																										
05-00297	Install Pump Station and Associated Equipment (Sumphouses)	70	07-Jul-25	15-Sep-25	◆ Ready for lining works																																																																										
05-00298	Install Leachate Force Main	70	07-Jul-25	15-Sep-25	Lining Works																																																																										
05-00299	Site Formation and Groundwater trench completion	0		15-Sep-25	Protective stone laying and Leachate Collection Pipe																																																																										
Landfill Liner Stage 1&2 (Portion E1, B1 & E4)					100	16-Sep-25	25-Dec-25	◆ Lining works completed																																																																							
05-00300	Ready for lining works	0		16-Sep-25	◆ Lining works completed																																																																										
05-0215	Lining Works	86	16-Sep-25	25-Dec-25	◆ Lining works completed																																																																										
05-0216	Protective stone laying and Leachate Collection Pipe	55	22-Oct-25	25-Dec-25	◆ Lining works completed																																																																										
05-0217	Lining works completed	0		25-Dec-25	◆ Lining works completed																																																																										
Geotechnical Retaining Structure & Access Road					756	26-Oct-23	27-Dec-25	◆ West Wall Start Construction																																																																							
West Wall					756	26-Oct-23	27-Dec-25	◆ West Wall Start Construction																																																																							
05-00321	West Wall Start Construction	0	26-Oct-23	04-Sep-24	West Wall - Chainage 0+000 - 0+100																																																																										
05-00322	West Wall - Chainage 0+000 - 0+100	298	28-Oct-23	04-Sep-24	West Wall - Chainage 0+100 - 0+200																																																																										
05-00323	West Wall - Chainage 0+100 - 0+200	190	05-Sep-24	22-Mar-25	West Wall - Chainage 0+200 - 0+270																																																																										
05-00324	West Wall - Chainage 0+200 - 0+270	265	24-Mar-25	25-Dec-25	◆ West Wall Completion																																																																										
05-00325	West Wall Completion	0		27-Dec-25	◆ East Wall Start Construction																																																																										
EAST Wall					540	11-Jun-24	24-Dec-25	◆ East Wall Start Construction																																																																							
05-00326	East Wall Start Construction	0	11-Jun-24	28-Dec-24	East Wall - Chainage 0+50 - 0+150																																																																										
05-00327	East Wall - Chainage 0+50 - 0+150	193	13-Jun-24	28-Dec-24	East Wall - Chainage 0+150 - 0+300																																																																										
05-00328	East Wall - Chainage 0+150 - 0+300	188	30-Dec-24	17-Jul-25	East Wall - Chainage 0+300 - 0+415																																																																										
05-00329	East Wall - Chainage 0+300 - 0+415	157	18-Jul-25	24-Dec-25	◆ East Wall Completion																																																																										
05-00330	East Wall Completion	0		24-Dec-25	◆ East Wall Completion																																																																										
Landscape Works					485	12-Apr-24	09-Aug-25	Hard Landscaping																																																																							
05-0242	Hard Landscaping	150	12-Apr-24	03-Oct-24	Soft Landscaping																																																																										
05-0243	Soft Landscaping	110	04-Oct-24	08-Feb-25	Screen Planting																																																																										
05-0252	Screen Planting	88	11-May-25	09-Aug-25	Establishment of Screen Planting																																																																										
05-0262	Establishment of Screen Planting	84	10-Feb-25	11-May-25																																																																											



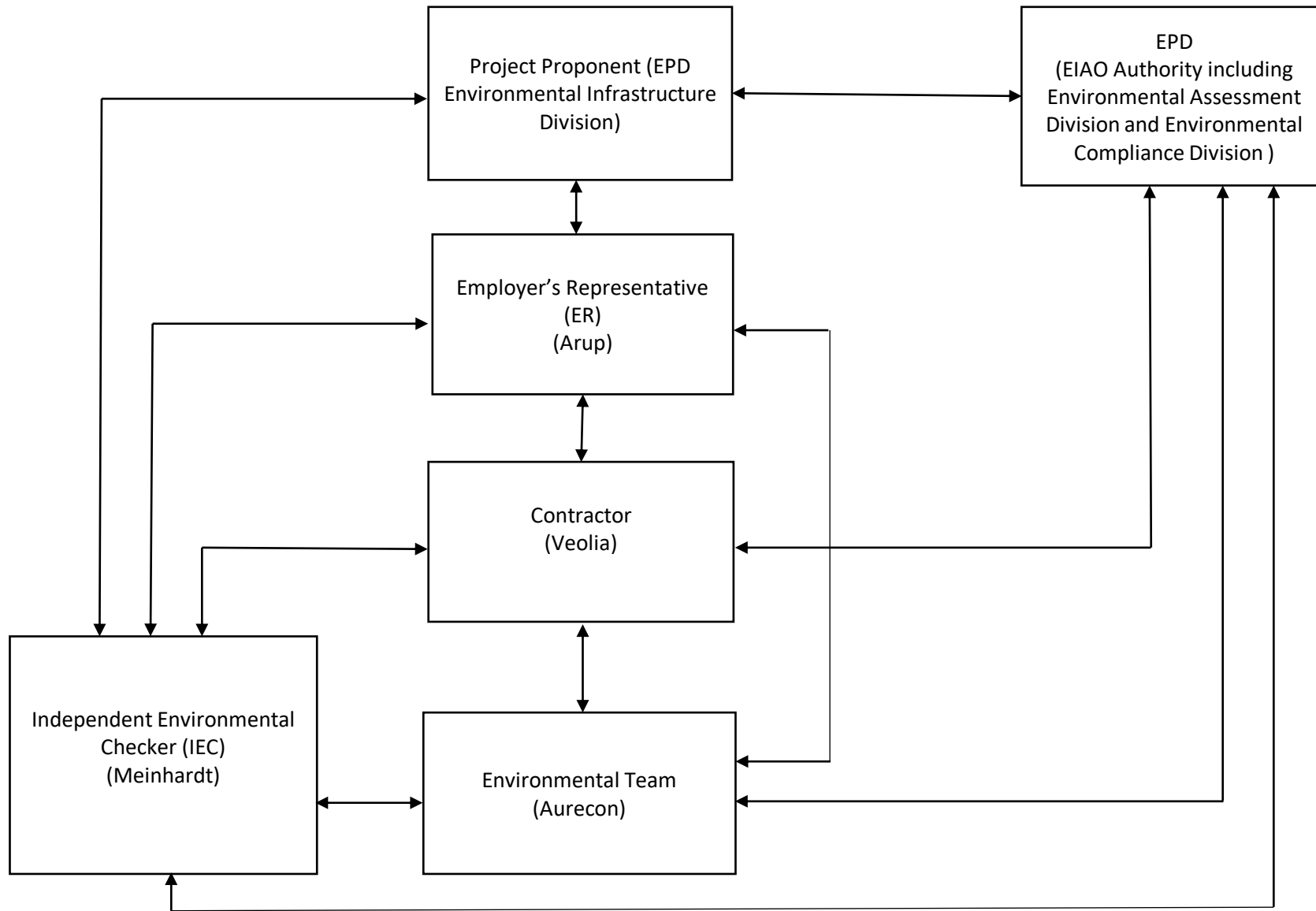
- ▬ Remaining Level of Effort
- ▬ Actual Work
- ▬ Remaining Work
- ▬ Critical Remaining Work
- ◆ Milestone
- ▬ Summary

NORTH EAST NEW TERRITORIES (NENTX) LANDFILL EXTENSION
BASELINE PROGRAMME - EXTRACTED (REV.3)
INITIAL WORKS (PHASE 1)



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08-Jul-22	EXTRACTED - ISSUED 14JAN2023	DW	AY

Appendix B Project Organization Chart & Management Structure



Notes:

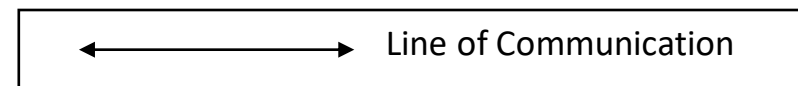
EPD - Environmental Protection Department

Arup – Ove Arup & Partners Limited

Veolia - Veolia Environmental Services Hong Kong Limited

Meinhardt - Meinhardt Infrastructure And Environment Limited

Aurecon - Aurecon Hong Kong Limited



Appendix C Monitoring Schedule for Reporting Month & Next Month

Impact Monitoring Schedule for NENT Landfill Extension (March 2023) (version 3.0)

3-2023						
			Wed	Thur	Fri	Sat
			1 Additional 24-hour TSP monitoring at AM1 and AM3	2 Air quality monitoring at AM1, AM2 and AM3 & Additional 24-hour TSP monitoring at AM1 and AM3 Noise monitoring at NM1a and NM2a Surface water quality monitoring at WM1 and WM2	3 Additional 24-hour TSP monitoring at AM1 and AM3	4 Additional 24-hour TSP monitoring at AM1 and AM3 Re-measurement for 24-hour TSP monitoring at AM2
5	6	7	8 Air quality monitoring at AM1, AM2 and AM3 Noise monitoring at NM1a and NM2a	9	10	11
12	13 Additional 24-hour TSP monitoring at AM3	14 Air quality monitoring at AM1, AM2 and AM3 Noise monitoring at NM1a and NM2a	15	16	17	18
19	20 Air quality monitoring at AM1, AM2 and AM3 Noise monitoring at NM1a and NM2a	21	22	23	24	25 Air quality monitoring at AM1, AM2 and AM3
26	27	28	29	30	31 Air quality monitoring at AM1, AM2 and AM3 Noise monitoring at NM1a and NM2a	

Remark:

1. Air quality monitoring includes 1-hour TSP and 24-hour TSP monitoring at AM1, AM2 and AM3 (Ref.: Table 3.1 of the approved EM&A Manual).
2. Noise monitoring includes 30-minute construction noise monitoring at NM1a and NM2a (Ref.: Table 4.1 of the approved EM&A Manual).
3. Surface water quality monitoring includes in-situ measurement and water sampling for laboratory analysis at WM1 and WM2 (Ref.: Table 5.5 and Section 5.5.6 of the approved EM&A Manual).
4. The additional 24-hour TSP monitoring at AM1 was ceased 5 March 2023 and 24-hour TSP monitoring at AM3 was ceased 14 March 2023.
5. Re-measurement for 24-hour TSP monitoring at AM2 was conducted on 4 March 2023 due to the electricity supply problem.

Impact Monitoring Schedule for NENT Landfill Extension (April 2023) (version 1.0)

4-2023						
Sun	Mon	Tue	Wed	Thur	Fri	Sat
						1
2	3	4	5	6 Air quality monitoring at AM1, AM2 and AM3 Noise monitoring at NM1a and NM2a Surface water quality monitoring at WM1 and WM2	7	8
9	10	11	12 Air quality monitoring at AM1, AM2 and AM3 Noise monitoring at NM1a and NM2a	13	14	15
16	17	18 Air quality monitoring at AM1, AM2 and AM3 Noise monitoring at NM1a and NM2a	19	20	21	22
23	24 Air quality monitoring at AM1, AM2 and AM3 Noise monitoring at NM1a and NM2a	25	26	27	28	29 Air quality monitoring at AM1, AM2 and AM3
30						

Remark:

1. The schedule is tentative only and would be subject to changes due to unforeseen circumstances.
2. Air quality monitoring includes 1-hour TSP and 24-hour TSP monitoring at AM1, AM2 and AM3 (Ref.: Table 3.1 of the approved EM&A Manual).
3. Noise monitoring includes 30-minute construction noise monitoring at NM1a and NM2a (Ref.: Table 4.1 of the approved EM&A Manual).
4. Surface water quality monitoring includes in-situ measurement and water sampling for laboratory analysis at WM1 and WM2 (Ref.: Table 5.5 and Section 5.5.6 of the approved EM&A Manual).

Appendix D Calibration Certificates

Air Quality

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

Verification Test Date: 3-Dec-22 to 4-Dec-22
 Next Verification Test Date: 2-Dec-23
 Unit-under-Test- Model No. Sibata LD-5R
 Unit-under-Test Serial No. OZ4545
 Our Report Reference No. RPT-22-HVS-0026
 Calibration Location: AM2, Located near the Leachate Treatment Works within the NENT Landfill

Standard Equipment Information			
Verification Equipment Type	Tisch TSP	Tisch HVS	
	HVS	Calibrator	
Standard Equipment Model No.	TE-5170X	TE-5025A	
Equipment serial no.	MFC 1106	3465	
Last Calibration Date	1-Dec-22	28-Jun-22	
Next Calibration Date	31-Jan-23	27-Jun-23	

Verification Test No.	Date	Time			K-Factor	Counts/Minute (R)	Total Counts (TC)	TSP Sample ID No.	Dust Concentration (ug/m3), (C)	
		Start-time	End-time	Elapsed Time (in min)					K-Factor (K=C/R)	x-axis
1	3/12/2022	194.73	198.08	201.00	0.00120	51	10251	R222043/1	61	
2	3/12/2022	198.08	201.27	191.40	0.00102	34	6444	R222043/2	34	
3	3/12/2022	201.27	204.35	184.80	0.00111	44	8193	R222043/3	49	
4	4/12/2022	252.37	255.36	179.40	0.00122	55	9927	R222044/1	67	
5	4/12/2022	255.38	258.38	180.00	0.00120	52	9360	R222044/2	62	
6	4/12/2022	258.38	261.38	180.00	0.00112	63	11340	R222044/3	70	
					0.00114					

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

By Linear Regression of y on x:

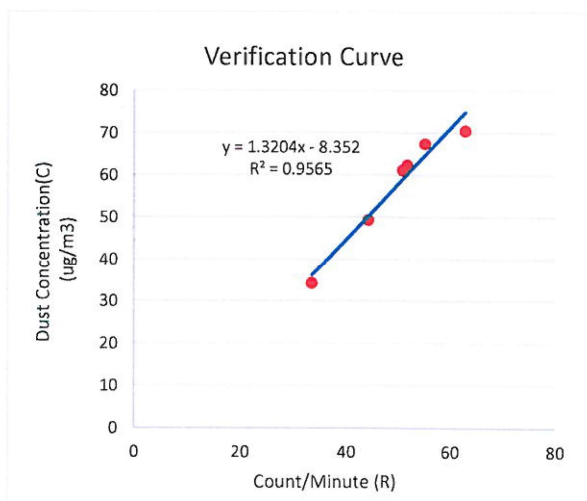
slope, mh= 1.3204

intercept, ch= -8.3520

*Correlation Coefficient, R= 0.9780

Verification Test Result: Strong Correlation, Results were accepted.

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



Verified By: 
 Technical Manager

Date: 05-12-2022

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

Verification Test Date: 3-Dec-22 to 4-Dec-22
 Next Verification Test Date: 2-Dec-23
 Unit-under-Test- Model No.: Sibata LD-5R
 Unit-under-Test Serial No.: 882106
 Our Report Reference No.: RPT-22-HVS-0027
 Calibration Location: AM2, Located near the Leachate Treatment Works within the NENT Landfill

Standard Equipment Information			
Verification Equipment Type	Tisch TSP HVS	Tisch HVS Calibrator	
Standard Equipment Model No.	TE-5170X	TE-5025A	
Equipment serial no.	MFC 1106	3465	
Last Calibration Date	1-Dec-22	28-Jun-22	
Next Calibration Date	31-Jan-23	27-Jun-23	

Verification Test No.	Date	Time			K-Factor K-Factor (K=C/R)	Counts/ Minute (R)	Total Counts (TC)	TSP Sample ID No.	Dust Concentration (ug/m3), (C)
		Start-time	End-time	Elapsed Time (in min)					y axis
1	3/12/2022	194.73	198.08	201.00	0.00123	50	9983	R222043/1	61
2	3/12/2022	198.08	201.27	191.40	0.00092	37	7146	R222043/2	34
3	3/12/2022	201.27	204.35	184.80	0.00103	48	8870	R222043/3	49
4	4/12/2022	252.37	255.36	179.40	0.00108	62	11183	R222044/1	67
5	4/12/2022	255.38	258.38	180.00	0.00110	57	10260	R222044/2	62
6	4/12/2022	258.38	261.38	180.00	0.00108	65	11760	R222044/3	70
					0.00107				

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

By Linear Regression of y on x:

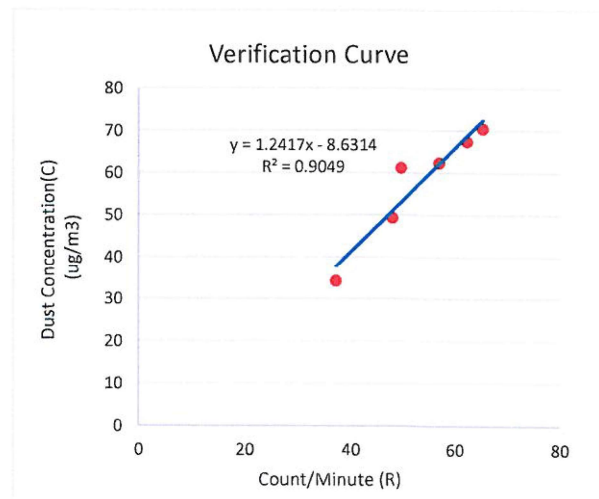
slope, mh= 1.2417

intercept, ch= -8.6314

*Correlation Coefficient, R= 0.9513

Verification Test Result: Strong Correlation, Results were accepted.

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



Verified By: IA
 Technical Manager

Date: 05-12-2022

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

Verification Test Date: 3-Dec-22 to 4-Dec-22
 Next Verification Test Date: 2-Dec-23
 Unit-under-Test- Model No. Sibata LD-5R
 Unit-under-Test Serial No. 882110
 Our Report Reference No. RPT-22-HVS-0025
 Calibration Location: AM2, Located near the Leachate Treatment Works within the NENT Landfill

Standard Equipment Information			
Verification Equipment Type	Tisch TSP HVS	Tisch HVS Calibrator	
Standard Equipment Model No.	TE-5170X	TE-5025A	
Equipment serial no.	MFC 1106	3465	
Last Calibration Date	1-Dec-22	28-Jun-22	
Next Calibration Date	31-Jan-23	27-Jun-23	

Verification Test No.	Date	Time			K-Factor	Counts/Minute (R)	Total Counts (TC)	TSP Sample ID No.	Dust Concentration (ug/m3), (C)	
		Start-time	End-time	Elapsed Time (in min)					K-Factor (K=C/R)	x-axis
1	3/12/2022	194.73	198.08	201.00	0.00101	61	12194	R222043/1	61	
2	3/12/2022	198.08	201.27	191.40	0.00089	38	7337	R222043/2	34	
3	3/12/2022	201.27	204.35	184.80	0.00108	46	8439	R222043/3	49	
4	4/12/2022	252.37	255.36	179.40	0.00110	61	11003	R222044/1	67	
5	4/12/2022	255.38	258.38	180.00	0.00112	56	10080	R222044/2	62	
6	4/12/2022	258.38	261.38	180.00	0.00104	68	12180	R222044/3	70	
					0.00104					

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

By Linear Regression of y on x:

slope, mh= 1.1984

intercept, ch= -8.3267

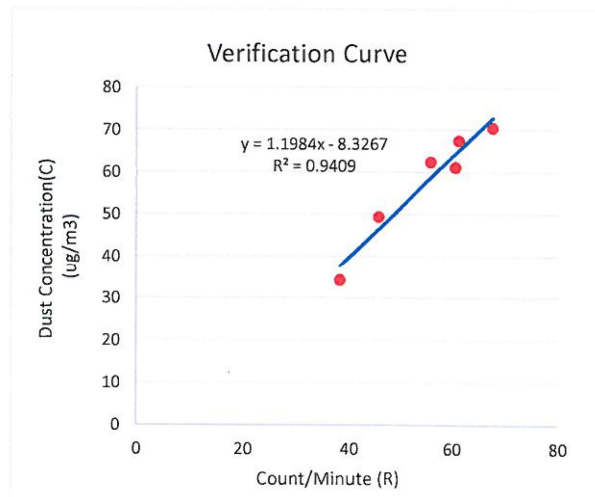
*Correlation Coefficient, R= 0.9700

Verification Test Result: Strong Correlation, Results were accepted.

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

Verified By: 
 Technical Manager

Date: 05-12-2022





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 Cheung Sha Wan, Kowloon
 Tel: (852) 2698 6833
 Fax: (852) 2698 9383

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

Verification Test Date: 3-Dec-22 to 4-Dec-22
 Next Verification Test Date: 2-Dec-23
 Unit-under-Test- Model No. Sibata LD-5R
 Unit-under-Test Serial No. 942532
 Our Report Reference No. RPT-22-HVS-0024
 Calibration Location: AM2, Located near the Leachate Treatment Works within the NENT Landfill

Standard Equipment Information			
Verification Equipment Type	Tisch TSP HVS	Tisch HVS Calibrator	
Standard Equipment Model No.	TE-5170X	TE-5025A	
Equipment serial no.	MFC 1106	3465	
Last Calibration Date	1-Dec-22	28-Jun-22	
Next Calibration Date	31-Jan-23	27-Jun-23	

Verification Test No.	Date	Time			K-Factor K-Factor (K=C/R)	Counts/ Minute (R) x-axis	Total Counts (TC)	TSP Sample ID No.	Dust Concentration (ug/m3), (C) y axis
		Start-time	End-time	Elapsed Time (in min)					
1	3/12/2022	194.73	198.08	201.00	0.00111	55	11122	R222043/1	61
2	3/12/2022	198.08	201.27	191.40	0.00093	37	7082	R222043/2	34
3	3/12/2022	201.27	204.35	184.80	0.00110	45	8316	R222043/3	49
4	4/12/2022	252.37	255.36	179.40	0.00113	60	10704	R222044/1	67
5	4/12/2022	255.38	258.38	180.00	0.00120	52	9360	R222044/2	62
6	4/12/2022	258.38	261.38	180.00	0.00104	68	12180	R222044/3	70

0.00108

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

By Linear Regression of y on x:

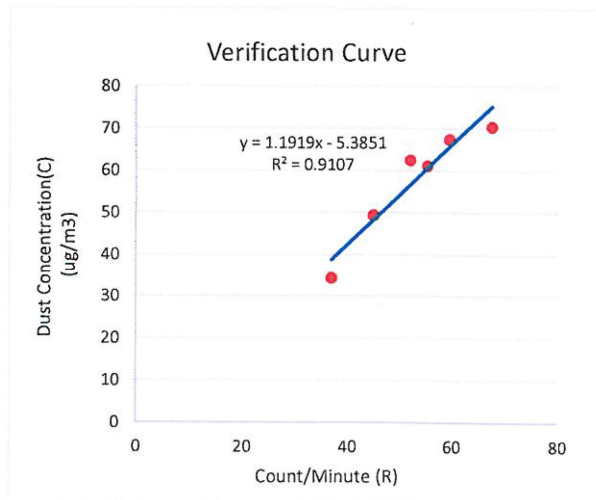
slope, mh= 1.1919

intercept, ch= -5.3851

*Correlation Coefficient, R= 0.9543

Verification Test Result: Strong Correlation, Results were accepted.

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



Verified By: [Signature]
 Technical Manager

Date: 05-12-2022

HIVOL SAMPLER CALIBRATION DATA SHEET (TSP)

Site Information

Location:	NENTX	Site ID:	AM1	Date:	30-Jan-2023
Serial No.:	1105	Model:	TE-5170X	Operator:	Andy Li

Ambient Condition

Actual Pressure during Calibration (P_a) (mm Hg):	765.1	Actual Temperature during Calibration (T_a) (deg K):	291.4
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Calibration Orifice

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

Calibration Data

Plate or Test #	ΔH_2O (in)	Qa, X-Axis (m ³ /min)	I, CFM (chart)	IC, Y-Axis (corrected)
1	2.20	0.740	43.0	43.63
2	3.40	0.918	47.0	47.69
3	4.60	1.066	52.0	52.76
4	5.20	1.133	54.0	54.79
5	6.00	1.216	56.0	56.82

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

$$m = \frac{28.5644}{\text{Sampler Set Point Flow Rate (SFR) = 1.1013}} \quad b = \frac{22.1538}{\text{Sampler Chart Set Point (SSP) = 54}} \quad \text{Corr. Coeff} = 0.9971$$

Calculations

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

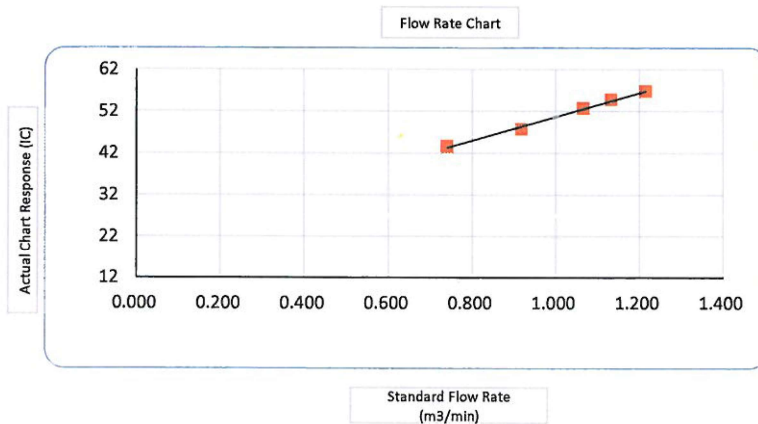
$$IC = I * (\text{Sqrt}(P_a/P_{std}) * (T_{std}/T_a))$$

$$\text{SFR} = 1.13 (P_{std} / P_a) (T_a / T_{std})$$

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

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

m = sampler slope
 b = sampler intercept
 T_{std} = 298 deg K
 P_{std} = 760 mm Hg
 T_a = actual temperature during calibration (deg K)
 P_a = actual pressure during calibration (mm Hg)
 Where 1.13 is the designed sampling flow rate of PM10 samplers, m³/min



Checked by: _____

Date: _____ 30-Jan-2023

HIVOL SAMPLER CALIBRATION DATA SHEET (TSP)**Site Information**

Location:	NENTX	Site ID:	AM1	Date:	07-Mar-2023
Serial No.:	1105	Model:	TE-5170X	Operator:	Andy Li

Ambient Condition

Actual Pressure during Calibration (P _a) (mm Hg):	759.0	Actual Temperature during Calibration (T _a) (deg K):	296.4
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Calibration Orifice

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

Calibration Data

Plate or Test #	ΔH ₂ O (in)	Q _a , X-Axis (m ³ /min)	I, CFM (chart)	IC, Y-Axis (corrected)
18	11.30	1.645	55.0	55.11
13	9.20	1.485	50.0	50.10
10	6.90	1.288	44.0	44.09
7	4.50	1.042	37.0	37.08
5	2.80	0.824	30.0	30.06

Sampler Calibration Relationship (Q_a on x-axis, IC on y-axis)

m = 30.2340

b = 5.2945

Corr. Coeff = 0.9998

Calculations

$$Q_a = 1/m_c \cdot [\text{Sqrt}(\Delta H_2O \cdot (P_a/P_{std}) \cdot (T_{std}/T_a)) - b_c]$$

$$IC = I \cdot (\text{Sqrt}(P_a/P_{std}) \cdot (T_{std}/T_a))$$

Q_a = actual flow rate

IC = corrected chart response

I = actual chart response

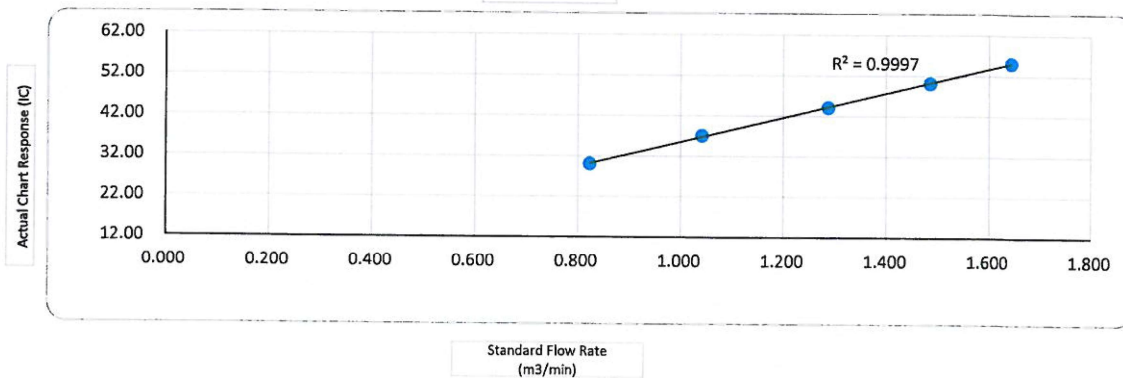
m_c = calibrator slopeb_c = calibrator intercept

m = sampler slope

b = sampler intercept

T_{std} = 298 deg KP_{std} = 760 mm HgT_a = actual temperature during calibration (deg K)P_a = actual pressure during calibration (mm Hg)

Flow Rate Chart



Checked by: _____



Date: _____

07-Mar-2023

HIVOL SAMPLER CALIBRATION DATA SHEET (TSP)

Site Information

Location:	NENTX	Site ID:	AM2	Date:	30-Jan-2023
Serial No.:	1106	Model:	TE-5170X	Operator:	Andy Li

Ambient Condition

Actual Pressure during Calibration (P_a) (mm Hg):	765.1	Actual Temperature during Calibration (T_a) (deg K):	295.4
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Calibration Orifice

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

Calibration Data

Plate or Test #	ΔH_2O (in)	Qa, X-Axis (m ³ /min)	I, CFM (chart)	IC, Y-Axis (corrected)
1	2.00	0.701	42.0	42.33
2	2.60	0.798	45.0	45.35
3	3.80	0.963	50.0	50.39
4	4.60	1.059	55.0	55.43
5	5.60	1.167	58.0	58.45

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

m=	35.3651	b=	17.2173	Corr. Coeff=	0.9959	
Sampler Set Point Flow Rate (SFR)=			1.1164	Sampler Chart Set Point (SSP)=		57

Calculations

$$Q_a = 1/m_c \cdot [\text{Sqrt}(\Delta H_2O \cdot (P_a/P_{std}) \cdot (T_{std}/T_a)) - b_c]$$

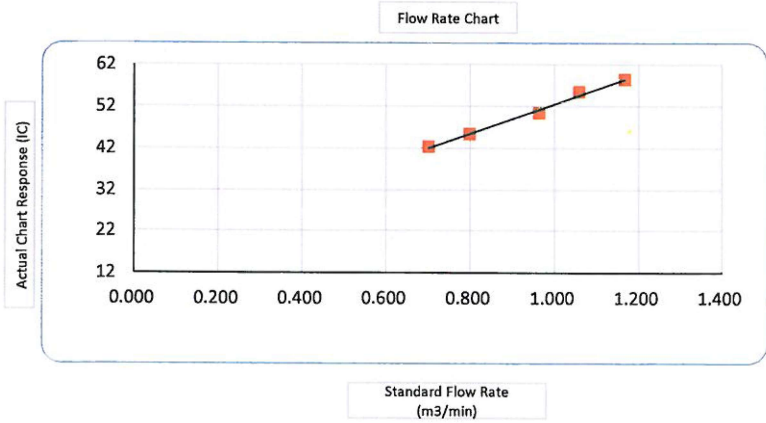
$$IC = I \cdot (\text{Sqrt}(P_a/P_{std}) \cdot (T_{std}/T_a))$$

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

$$SSP = (m \cdot SFR + b) (\text{Sqrt}(P_a / P_{std}) (T_{std} / T_a))$$

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

m = sampler slope
 b = sampler intercept
 T_{std} = 298 deg K
 P_{std} = 760 mm Hg
 T_a = actual temperature during calibration (deg K)
 P_a = actual pressure during calibration (mm Hg)
 Where 1.13 is the designed sampling flow rate of PM10 samplers, m³/min



Checked by: _____

Date: _____ 30-Jan-2023

HIVOL SAMPLER CALIBRATION DATA SHEET (TSP)

Site Information

Location:	NENTX	Site ID:	AM2	Date:	07-Mar-2023
Serial No:	1106	Model:	TE-5170X	Operator:	Andy Li

Ambient Condition

Actual Pressure during Calibration (P _a) (mm Hg):	759.0	Actual Temperature during Calibration (T _a) (deg K):	296.4
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Calibration Orifice

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

Calibration Data

Plate or Test #	ΔH ₂ O (in)	Q _a , X-Axis (m ³ /min)	I, CFM (chart)	IC, Y-Axis (corrected)
18	12.10	1.702	62.0	62.13
13	9.40	1.501	57.0	57.12
10	7.20	1.315	50.0	50.10
7	4.50	1.042	42.0	42.09
5	2.90	0.838	36.0	36.07

Sampler Calibration Relationship (Q_a on x-axis, IC on y-axis)

m = 30.6717 b = 10.2530 Corr. Coeff = 0.9989

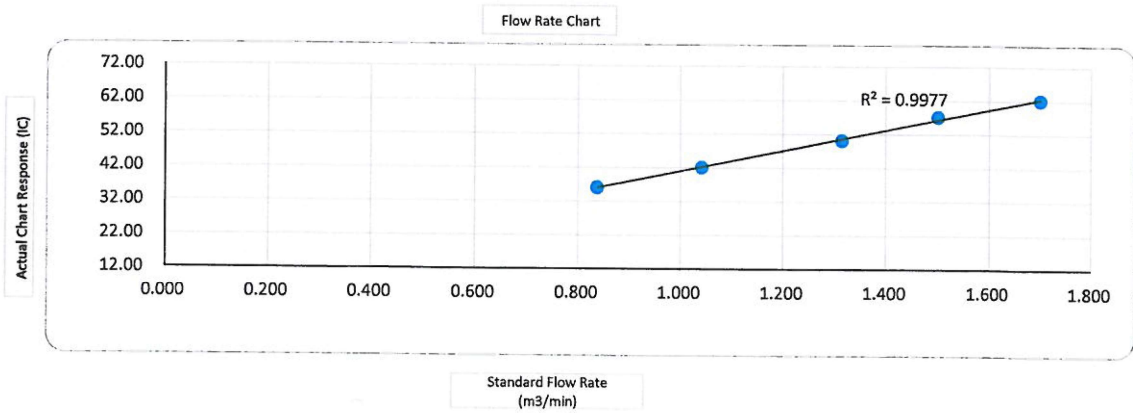
Calculations

$$Q_a = 1/m_c \cdot [\text{Sqrt}(\Delta H_2O \cdot (P_a/P_{std}) \cdot (T_{std}/T_a)) - b_c]$$

$$IC = I \cdot (\text{Sqrt}(P_a/P_{std}) \cdot (T_{std}/T_a))$$

Q_a = actual flow rate
IC = corrected chart response
I = actual chart response
m_c = calibrator slope
b_c = calibrator intercept

m = sampler slope
b = sampler intercept
T_{std} = 298 deg K
P_{std} = 760 mm Hg
T_a = actual temperature during calibration (deg K)
P_a = actual pressure during calibration (mm Hg)



Checked by: AL

Date: 07-Mar-2023

HIVOL SAMPLER CALIBRATION DATA SHEET (TSP)

Site Information

Location:	NENTX	Site ID:	AM3	Date:	30-Jan-2023
Serial No:	1856	Model:	TE-5170X	Operator:	Andy Li

Ambient Condition

Actual Pressure during Calibration (P_a) (mm Hg):	765.1	Actual Temperature during Calibration (T_a) (deg K):	296.9
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Calibration Orifice

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

Calibration Data

Plate or Test #	ΔH_2O (in)	Qa, X-Axis (m ³ /min)	I, CFM (chart)	IC, Y-Axis (corrected)
1	1.60	0.627	44.0	44.23
2	3.00	0.855	54.0	54.28
3	4.00	0.986	57.0	57.30
4	5.00	1.101	60.0	60.31
5	6.00	1.205	64.0	64.33

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

m=	33.5233	b=	24.0872	Corr. Coeff=	0.9921
Sampler Set Point Flow Rate (SFR)=	1.1221	Sampler Chart Set Point (SSP)=	62		

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

$$IC = I * (\text{Sqrt}(P_a/P_{std}) * (T_{std}/T_a))$$

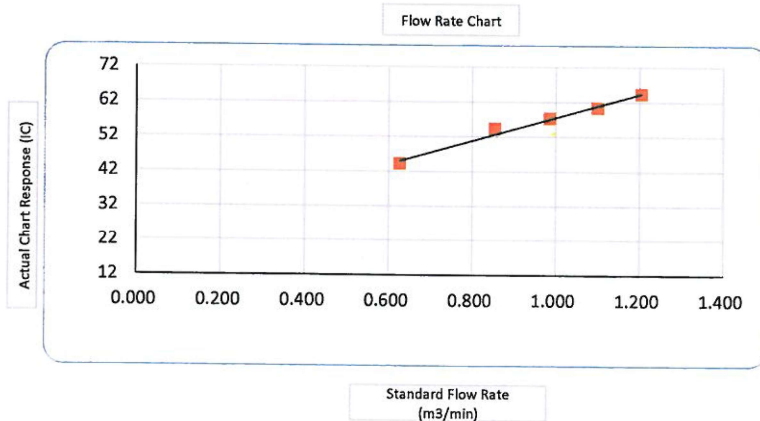
Calculations

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

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

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

m = sampler slope
 b = sampler intercept
 T_{std} = 298 deg K
 P_{std} = 760 mm Hg
 T_a = actual temperature during calibration (deg K)
 P_a = actual pressure during calibration (mm Hg)
 Where 1.13 is the designed sampling flow rate of PM10 samplers, m³/min



Checked by: _____

Date: _____ 30-Jan-2023

HIVOL SAMPLER CALIBRATION DATA SHEET (TSP)

Site Information

Location:	NENTX	Site ID:	AM3	Date:	07-Mar-2023
Serial No:	1856	Model:	TE-5170X	Operator:	Andy Li

Ambient Condition

Actual Pressure during Calibration (P_a) (mm Hg):	759.0	Actual Temperature during Calibration (T_a) (deg K):	296.4
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Calibration Orifice

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

Calibration Data

Plate or Test #	ΔH_2O (in)	Qa, X-Axis (m ³ /min)	I, CFM (chart)	IC, Y-Axis (corrected)
18	12.70	1.743	58.0	58.12
13	10.00	1.548	52.0	52.11
10	7.80	1.368	45.0	45.09
7	4.90	1.087	37.0	37.08
5	3.10	0.866	29.0	29.06

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

$m = \underline{\hspace{2cm} 32.9317 \hspace{2cm}}$

 $b = \underline{\hspace{2cm} 0.7369 \hspace{2cm}}$

 Corr. Coeff = $\underline{\hspace{2cm} 0.9991 \hspace{2cm}}$

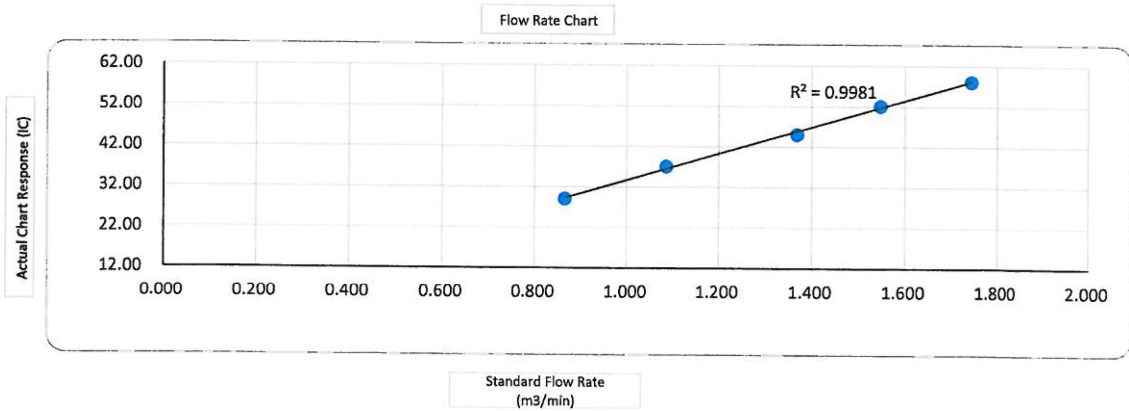
Calculations

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

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

Qa = actual flow rate
 IC = corrected chart response
 I = actual chart response
 m_c = calibrator slope
 b_c = calibrator intercept

m = sampler slope
 b = sampler intercept
 T_{Std} = 298 deg K
 P_{Std} = 760 mm Hg
 T_a = actual temperature during calibration (deg K)
 P_a = actual pressure during calibration (mm Hg)



Checked by: _____

Date: _____ 07-Mar-2023

Certificate of Calibration

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

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

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

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

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

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

Noise

Certificate of Calibration

for

Description: Sound Level Meter
Manufacturer: NTi Audio
Type No.: XL2 (Serial No.: A2A-09696-E0)
Microphone: ACO 7052 (Serial No.:68840)
Preamplifier: NTi Audio M2211 MA220 (Serial No.:5287)

Submitted by:

Customer: Acumen Environmental Engineering and Technologies Co.
Ltd.
Address: Unit D, 12/F, Ford Glory Plaza,
Nos. 37-39 Wing Hong Street,
Cheung Sha Wan, Kowloon, Hong Kong

Upon receipt for calibration, the instrument was found to be:

- Within
 Outside

the allowable tolerance.

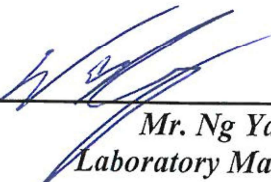
The test equipment used for calibration are traceable to National Standards via:

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 24 March 2022

Date of calibration: 26 March 2022

Calibrated by: 
Calibration Technician

Certified by: 
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: 26 March 2022



Certificate No.: APJ21-161-CC001

Page 1 of 4

1. Calibration Precaution:

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.

2. Calibration Conditions:

Air Temperature: 22.6 °C
 Air Pressure: 1006 hPa
 Relative Humidity: 74.5 %

3. Calibration Equipment:

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV200041	HOKLAS

4. Calibration Results

Sound Pressure Level

Reference Sound Pressure Level

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
30-130	dBA SPL	Fast	94	1000	94.1	±0.4

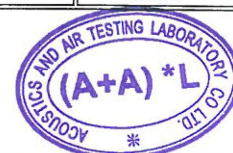
Linearity

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
30-130	dBA SPL	Fast	94	1000	94.1	Ref
			104		104.1	±0.3
			114		114.1	±0.3

Time Weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
30-130	dBA SPL	Fast	94	1000	94.1	Ref
		Slow			94.1	±0.3

Certificate No.: APJ21-161-CC001



Page 2 of 4

Frequency Response

Linear Response

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB	
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
30-130	dB	SPL	Fast	94	31.5	94.0	±2.0
					63	94.1	±1.5
					125	94.1	±1.5
					250	94.0	±1.4
					500	94.1	±1.4
					1000	94.1	Ref
					2000	94.3	±1.6
					4000	94.9	±1.6
				8000	93.6	+2.1; -3.1	

A-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB	
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
30-130	dBA	SPL	Fast	94	31.5	54.7	-39.4±2.0
					63	67.9	-26.2±1.5
					125	78.0	-16.1±1.5
					250	85.4	-8.6±1.4
					500	90.9	-3.2±1.4
					1000	94.1	Ref
					2000	95.5	+1.2±1.6
					4000	95.9	+1.0±1.6
				8000	92.5	-1.1+2.1; -3.1	

C-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB	
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
30-130	dBC	SPL	Fast	94	31.5	91.0	-3.0±2.0
					63	93.2	-0.8±1.5
					125	93.9	-0.2±1.5
					250	94.0	-0.0±1.4
					500	94.1	-0.0±1.4
					1000	94.1	Ref
					2000	94.1	-0.2±1.6
					4000	94.1	-0.8±1.6
				8000	90.6	-3.0+2.1; -3.1	

Certificate No.: APJ21-161-CC001



Page 3 of 4

5. Calibration Results Applied

The results apply to the particular unit-under-test only. All calibration points are within manufacture's specification as IEC 61672 Class 1.

Uncertainties of Applied Value:

94 dB	31.5 Hz	± 0.05
	63 Hz	± 0.05
	125 Hz	± 0.05
	250 Hz	± 0.05
	500 Hz	± 0.05
	1000 Hz	± 0.05
	2000 Hz	± 0.05
	4000 Hz	± 0.05
	8000 Hz	± 0.10
104 dB	1000 Hz	± 0.05
114 dB	1000 Hz	± 0.05

The uncertainties are evaluated for a 95% confidence level.

Note:

The values given in this certification only related to the values measured at the time of the calibration and any uncertainties quoted will not allow for the equipment long-term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the calibration. (A+A)*L shall not be liable for any loss or damage resulting from the use of the equipment.

Certificate No.: APJ21-161-CC001



Page 4 of 4

Certificate of Calibration

for

Description: *Sound Level Meter*
Manufacturer: *NTi Audio*
Type No.: *XL2 (Serial No.: A2A-13661-E0)*
Microphone: *ACO 7052 (Serial No.:68914)*
Preamplifier: *NTi Audio MA220 (M2211) (Serial No.:6282)*

Submitted by:

Customer: *Acuity Sustainability Consulting Limited*
Address: *Unit E, 12/F., Ford Glory Plaza,*
Nos. 37-39 Wing Hong Street,
Cheung Sha Wan, Kowloon, Hong Kong

Upon receipt for calibration, the instrument was found to be:

- Within (31.5Hz – 8kHz)**
 Outside

the allowable tolerance.

The test equipment used for calibration are traceable to National Standards via:

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 20 August 2022

Date of calibration: 22 August 2022

Date of NEXT calibration: 21 August 2023

Calibrated by: _____
Calibration Technician

Certified by: _____
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: 22 August 2022

Certificate No.: APJ22-071-CC001



Page 1 of 4

1. Calibration Precaution:

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.

2. Calibration Conditions:

Air Temperature: 23.4 °C
 Air Pressure: 1005 hPa
 Relative Humidity: 68.5 %

3. Calibration Equipment:

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV220061	HOKLAS

4. Calibration Results

Sound Pressure Level

Reference Sound Pressure Level

Setting of Unit-under-test (UUT)				Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
30-130	dBA SPL	Fast	94	1000	93.8	±0.4	

Linearity

Setting of Unit-under-test (UUT)				Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
30-130	dBA SPL	Fast	94	1000	93.8	Ref	
			104		103.8	±0.3	
			114		114.0	±0.3	

Time Weighting

Setting of Unit-under-test (UUT)				Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
30-130	dBA SPL	Fast	94	1000	93.8	Ref	
		Slow			93.8	±0.3	

Frequency Response

Linear Response

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB	
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
30-130	dB	SPL	Fast	94	31.5	93.9	±2.0
					63	94.0	±1.5
					125	93.9	±1.5
					250	93.8	±1.4
					500	93.8	±1.4
					1000	93.8	Ref
					2000	93.4	±1.6
					4000	93.0	±1.6
				8000	92.2	+2.1; -3.1	

A-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB	
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
30-130	dBA	SPL	Fast	94	31.5	54.6	-39.4 ±2.0
					63	67.7	-26.2 ±1.5
					125	77.8	-16.1 ±1.5
					250	85.2	-8.6 ±1.4
					500	90.6	-3.2 ±1.4
					1000	93.8	Ref
					2000	94.6	+1.2 ±1.6
					4000	94.0	+1.0 ±1.6
				8000	91.2	-1.1 +2.1; -3.1	

C-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB	
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
30-130	dBC	SPL	Fast	94	31.5	90.9	-3.0 ±2.0
					63	93.1	-0.8 ±1.5
					125	93.7	-0.2 ±1.5
					250	93.8	-0.0 ±1.4
					500	93.8	-0.0 ±1.4
					1000	93.8	Ref
					2000	93.3	-0.2 ±1.6
					4000	92.2	-0.8 ±1.6
				8000	89.3	-3.0 +2.1; -3.1	

5. Calibration Results Applied

The results apply to the particular unit-under-test only. All calibration points are within manufacture's specification as IEC 61672 Class 1.

Uncertainties of Applied Value:

94 dB	31.5 Hz	± 0.10
	63 Hz	± 0.10
	125 Hz	± 0.05
	250 Hz	± 0.05
	500 Hz	± 0.05
	1000 Hz	± 0.05
	2000 Hz	± 0.05
	4000 Hz	± 0.05
	8000 Hz	± 0.10
104 dB	1000 Hz	± 0.05
114 dB	1000 Hz	± 0.05

The uncertainties are evaluated for a 95% confidence level.

Note:

The values given in this certification only related to the values measured at the time of the calibration and any uncertainties quoted will not allow for the equipment long-term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the calibration. (A+A)*L shall not be liable for any loss or damage resulting from the use of the equipment.



CALIBRATION CERTIFICATE

Product : SOUND CALIBRATOR
Type : NC-75
Serial number : 34724243
Manufacturer : RION CO., LTD.
Calibration quantities : Sound pressure level (with reference standard microphone)
Calibration method : Measured by specified secondary standard microphone
according to JCSS calibration procedure specified by RION.
Ambient conditions : Temperature 23.9 °C, Relative humidity 49 %,
Static pressure 99.9 kPa
Calibration date : 05/07/2022 (DD/MM/YYYY)
Calibration location : 3-20-41 Higashimotomachi, Kokubunji, Tokyo 185-8533, Japan
RION CO., LTD. Calibration Room

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

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

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



This certificate is based on article 144 of the Measurement Law and indicates the result of calibration in accordance with measurement standards traceable to Primary Measurement Standards (National Standards) which realizes the physical units of measurement according to the International System of Units (SI).

The accreditation symbol is attestation of which the result of calibration is traceable to Primary Measurement Standards (National Standards).

The certificate shall not be reproduced except in full, without the written approval of the issuing laboratory.

The calibration laboratory who issued this calibration certificate conforms to ISO/IEC 17025:2017.

This calibration certificate was issued by the calibration laboratory accredited by IA Japan who is a signatory to the Mutual Recognition Arrangement (MRA) of International Laboratory Accreditation Cooperation (ILAC) and Asia Pacific Accreditation Cooperation (APAC). This (These) calibration result(s) may be accepted internationally through ILAC/APAC MRA.

CALIBRATION RESULT

1. Sound pressure level (with reference standard microphone)

Measured value	Expanded uncertainty *1
93.99 dB	0.09 dB

Specified secondary standard microphone:

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

*1 Defines an interval estimated to have a level of confidence of approximately 95 %.

Coverage factor $k=2$

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

BE OUT OF JCSS CALIBRATION

1. Frequency

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

Working measurement standard universal counter:

Type : 53132A
 Serial number : MY40005574
 (JCSS Calibration Certificate No. 21081499079575510)

2. Total distortion

Measured value
0.2 %

Working measurement standard distortion meter:

Type : VA-2230A
 Serial number : 11076061
 (A2LA Calibration Certificate No. 1501-03080)

- closing -



輝創工程有限公司

Sun Creation Engineering Limited

Calibration & Testing Laboratory

Certificate of Calibration

校正證書

Certificate No. : C216243
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC21-2101) Date of Receipt / 收件日期 : 12 October 2021

Description / 儀器名稱 : Mini Anemometer
Manufacturer / 製造商 : RS PRO
Model No. / 型號 : RS-90
Serial No. / 編號 : 210722168
Supplied By / 委託者 : Acuity Sustainability Consulting Limited
Room C 11/F, Ford Glory Plaza, No. 37-39 Wing Hong Street,
Cheung Sha Wan, Kowloon

TEST CONDITIONS / 測試條件

Temperature / 溫度 : $(23 \pm 2)^{\circ}\text{C}$ Relative Humidity / 相對濕度 : $(50 \pm 25)\%$
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 25 October 2021

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Agilent Technologies / Keysight Technologies
- Testo Industrial Services GmbH, Germany
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By : CKLo
測試 : C K Lo
Assistant Engineer

Certified By : H C Chan
核證 : H C Chan
Engineer

Date of Issue : 26 October 2021
簽發日期

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗室書面批准。

Sun Creation Engineering Limited – Calibration & Testing Laboratory

c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong

輝創工程有限公司 - 校正及檢測實驗室

c/o 香港新界屯門興安里一號四樓

Tel/電話: (852) 2927 2606

Fax/傳真: (852) 2744 8986

E-mail/電郵: callab@suncreation.com

Website/網址: www.suncreation.com

Certificate of Calibration

校正證書

Certificate No. : C216243
證書編號

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.
- Test equipment :

Equipment ID	Description	Certificate No.
CL018	Portable Calibrator	C204749
CL041 & CL041B	Digital Thermometer	C212654
CL042 & CL042B	Digital Thermometer	C212655
CL292	Recorder	C214057
CL330	Environmental Chamber	C205909
CL386	Multi-function Measuring Instrument	S16494

- Test procedure : MA006 & MA130N.

- Results :

4.1 Air Velocity

Applied Value (m/s)	UUT Reading (m/s)	Measured Correction		
		Value (m/s)	Measurement Uncertainty	
			Expanded Uncertainty (m/s)	Coverage Factor
2.01	1.70	+0.31	0.15	2.0
4.00	3.75	+0.25	0.20	2.0
6.01	5.81	+0.20	0.25	2.0
8.00	7.74	+0.26	0.29	2.0
10.01	9.84	+0.17	0.34	2.0

The results presented are the mean of 10 measurements at each calibration point.

4.2 Temperature

Applied Value (°C)	UUT Reading (°C)	Measured Correction		
		Value (°C)	Measurement Uncertainty	
			Expanded Uncertainty (°C)	Coverage Factor
25.0	24.8	+0.2	0.5	2.0

The results presented are the mean of 3 measurements at each calibration point.

Remarks : - The Measured Corrections are defined as :
Value = Applied Value - UUT Reading

- The expanded uncertainties are for a level of confidence of 95 %.

Note :

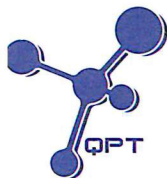
Only the original copy or the laboratory's certified true copy is valid.

The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗室書面批准。

Water Quality



專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED

Unit 10, 5/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BB120089
Date of Issue : 04 January 2023
Page No. : 1 of 2

PART A - CUSTOMER INFORMATION

Acuity Sustainability Consulting Limited
Unit E, 12/F, Ford Glory Plaza 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon, Hong Kong

PART B - SAMPLE INFORMATION

Name of Equipment : HORIBA U-53
Manufacturer : HORIBA
Serial Number : S2A98W8H
Date of Received : 30 December 2022
Date of Calibration : 30 December 2022
Date of Next Calibration : 29 March 2023
Request No. : D-BB120089

PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Test Parameter	Reference Method
pH value	APHA 21e 4500 H ⁺
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure
Salinity	APHA 21e 2520 B
Dissolved oxygen	APHA 21e 4500 O
Turbidity	APHA 21e 2130 B

PART D - CALIBRATION RESULT

(1) pH value

Target (pH unit)	Display Reading (pH unit)	Tolerance	Result
4.00	4.18	0.18	Satisfactory
7.42	7.26	-0.16	Satisfactory
10.01	9.86	-0.15	Satisfactory

Tolerance of pH value should be less than ± 0.2 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Display Reading (°C)	Tolerance	Result
15	13.89	-1.11	Satisfactory
26	26.25	0.25	Satisfactory
34	33.80	-0.20	Satisfactory

Tolerance of Temperature should be less than ± 2.0 (°C)


(3) Salinity

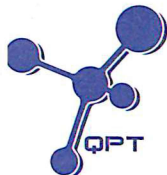
Expected Reading (g/L)	Display Reading (g/L)	Tolerance (%)	Result
10	10.10	1.00	Satisfactory
20	19.49	-2.55	Satisfactory
30	29.96	-0.13	Satisfactory

Tolerance of Salinity should be less than ± 10.0 (%)

--- CONTINUED ON NEXT PAGE ---

AUTHORIZED
SIGNATORY:


LEE Chun-ning
Assistant Manager (Chemical Testing)



專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED

Unit 10, 5/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BB120089
Date of Issue : 04 January 2023
Page No. : 2 of 2

(4) Dissolved oxygen

Expected Reading (mg/L)	Display Reading (mg/L)	Tolerance	Result
9.01	8.90	-0.11	Satisfactory
5.82	5.64	-0.18	Satisfactory
2.29	1.89	-0.40	Satisfactory
0.74	1.10	0.36	Satisfactory

Tolerance of Dissolved oxygen should be less than ± 0.5 (mg/L)

(5) Turbidity

Expected Reading (NTU)	Display Reading (NTU)	Tolerance (%)	Result
0	0.86	--	Satisfactory
10	9.86	-1.4	Satisfactory
20	21.3	6.5	Satisfactory
100	106	6.0	Satisfactory
800	798	-0.3	Satisfactory

Tolerance of Turbidity should be less than ± 10.0 (%)

Remark(s)

- The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.
- The results relate only to the calibrated equipment as received
- The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.
- "Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.
- The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant international standards.

--- END OF REPORT ---



Calibration Certificate

Certificate No. **210252**

Page 1 of 2 Pages

Customer : Acuity Sustainability Consulting Limited

Address : Unit E, 12/F, Ford Glory Plaza, No. 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon, H.K.

Order No. : Q24081

Date of receipt : 31-Oct-22

Item Tested

Description : Flow Probe

Manufacturer : Global Water

Model : FP111

I.D. : --

Serial No. : 22K100859

Test Conditions

Date of Test : 7-Nov-22

Ambient Temperature : 23°C

Supply Voltage : --

Relative Humidity : 78%

Test Specifications

Calibration check.

Ref. Document/Procedure : V12

Test Results

All results were within the manufacturer's specification.

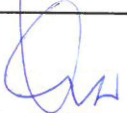
The results are shown in the attached page(s).

Main Test equipment used:

<u>Equipment No.</u>	<u>Description</u>	<u>Cert. No.</u>	<u>Traceable to</u>
S179	Std. Tape	201868	NIM-PRC
S136A	Stop Watch	201878	SCL-HKSAR

The values given in this Calibration Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to International System of Units (SI), or by reference to a natural constant. The test results apply to the above Unit-Under-Test only

Calibrated by : 
Kin Wong

Approved by : 
Alan Chu

This Certificate is issued by:
Hong Kong Calibration Ltd.

Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong Kong.
Tel: 2425 8801 Fax: 2425 8646

Date: 7-Nov-22



Calibration Certificate

Certificate No. 210252

Page 2 of 2 Pages

Results :

Applied Value (m/s)	UUT Reading (m/s)	Mfr's Spec.
0.96	1.0	± 0.1 m/s

Remarks : 1. UUT : Unit-Under-Test

2. Uncertainty : ± 1 %, for a confidence probability of not less than 95%.

----- END -----

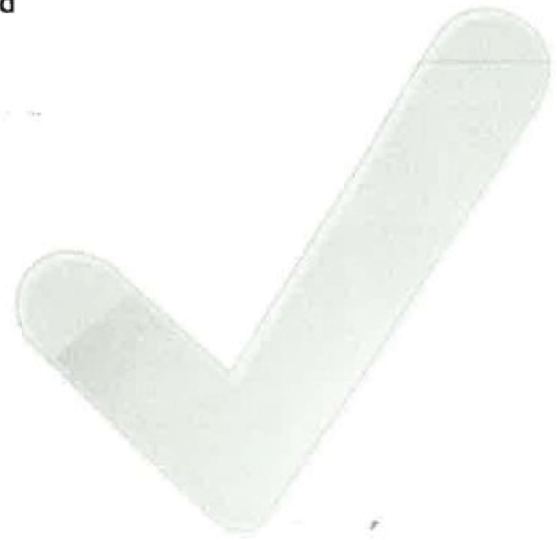
Landfill Gas

Calibration Certificate

Customer Name Paul Y Construction Co. Ltd
 Model PS200
 Serial 373075
 Tested On 16 November, 2022
 Cal Expires 16 November, 2023

Audible Alarm PASS
 Visual Alarm PASS
 Calibrated For METHANE
 100% LEL Equivalent 4.4% by VOL

Overall Results PASS



Calibration Result

Gas Applied	Range	Reading	Calibrated	Result
Zero Air	% LEL	0	0	PASS
Zero Air	% O2	20.9	20.9	PASS
Zero Air	PPM CO	0	0	PASS
Zero Air	PPM H2S	0	0	PASS

Gas Applied	Range	Reading	Calibrated	Result
50% LEL Methane	% LEL	61	50	PASS
18% VOL Oxygen	% O2	17.8	N/A	PASS
100 PPM Carbon Monoxide	PPM CO	71	100	PASS
25 PPM Hydrogen Sulphide	PPM H2S	22	25	PASS

Calibrated By Ivan Lo :



Appendix E Monitoring Results

Air Quality

1-hour TSP Concentration ($\mu\text{g}/\text{m}^3$) at Location AM1

Date	Equipment Brand & Model	Equipment Serial No.	K-factor	Weather	Sampling Time (1)	Sampling Time (2)	Sampling Time (3)	Reading (1)	Reading (2)	Reading (3)	Average	Action Level	Limit Level
								$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
2/3/2023	Sibata LD-5R	942532	0.00108	Fine	12:45	13:45	14:45	54	50	53	52	285	500
8/3/2023	Sibata LD-5R	942532	0.00108	Fine	15:11	16:11	17:11	22	24	24	23		
14/3/2023	Sibata LD-5R	882106	0.00107	Fine	8:30	9:30	10:30	44	40	43	42		
20/3/2023	Sibata LD-5R	942532	0.00108	Cloudy	9:40	10:40	11:40	65	67	64	65		
25/3/2023	Sibata LD-5R	942532	0.00108	Drizzle	11:10	12:10	13:10	51	60	53	55		
31/3/2023	Sibata LD-5R	942532	0.00108	Cloudy	12:06	13:06	14:06	31	36	32	33		
Average								45					
Max.								67					
Min.								22					

1-hour TSP Concentration ($\mu\text{g}/\text{m}^3$) at Location AM2

Date	Equipment Brand & Model	Equipment Serial No.	K-factor	Weather	Sampling Time (1)	Sampling Time (2)	Sampling Time (3)	Reading (1)	Reading (2)	Reading (3)	Average	Action Level	Limit Level
								$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
2/3/2023	Sibata LD-5R	882106	0.00107	Fine	12:24	13:24	14:24	61	60	62	61	279	500
8/3/2023	Sibata LD-5R	882106	0.00107	Fine	15:15	16:15	17:15	32	33	31	32		
14/3/2023	Sibata LD-5R	942532	0.00108	Fine	8:12	9:12	10:12	56	57	55	56		
20/3/2023	Sibata LD-5R	882106	0.00107	Cloudy	9:56	10:56	11:56	65	64	62	64		
25/3/2023	Sibata LD-5R	882106	0.00107	Drizzle	11:35	12:35	13:35	41	44	42	42		
31/3/2023	Sibata LD-5R	882106	0.00107	Cloudy	11:10	12:10	13:10	41	43	39	41		
Average								49					
Max.								65					
Min.								31					

1-hour TSP Concentration ($\mu\text{g}/\text{m}^3$) at Location AM3

Date	Equipment Brand & Model	Equipment Serial No.	K-factor	Weather	Sampling Time (1)	Sampling Time (2)	Sampling Time (3)	Reading (1)	Reading (2)	Reading (3)	Average	Action Level	Limit Level
								$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
2/3/2023	Sibata LD-5R	0Z4545	0.00114	Fine	9:42	10:42	11:42	63	60	65	63	285	500
8/3/2023	Sibata LD-5R	0Z4545	0.00114	Fine	15:09	16:09	17:09	30	34	32	32		
14/3/2023	Sibata LD-5R	0Z4545	0.00114	Fine	8:09	9:09	10:09	44	40	39	41		
20/3/2023	Sibata LD-5R	0Z4545	0.00114	Cloudy	9:16	10:16	11:16	64	68	65	66		
25/3/2023	Sibata LD-5R	0Z4545	0.00114	Drizzle	10:40	11:40	12:40	61	64	60	62		
31/3/2023	Sibata LD-5R	0Z4545	0.00114	Cloudy	11:56	12:56	13:56	20	22	15	19		
Average								47					
Max.								68					
Min.								15					

The Summary of TSP 24-hour Concentration (µg/m³) at Location AM1

Start Date	Weather Condition	Avg Air Temp	Avg Atmospheric Pressure	Elapse Time		Sampling Time (minutes)	Averaged Flow Rate	Averaged Flow Rate	Total Flow Volume (m³)	Filter Weight (g)		Particulate weight (g)	Concentration (µg/m³)	Action Level (µg/m³)	Limit Level (µg/m³)
		(°C)	(hPa)	Initial	Final		(cfm)	(m³/min)		Initial	Final				
1/3/2023	Fine	19.2	1022.7	613.93	637.93	1440	44.5	0.81	1170	2.7614	3.0313	0.2699	231	164	260
2/3/2023	Fine	19.0	1024.4	637.93	661.93	1440	43	0.76	1097	2.6476	3.1852	0.5376	490		
3/3/2023	Fine	20.3	1024.7	662.00	686.00	1440	44	0.79	1144	2.6834	2.9537	0.2703	236		
4/3/2023	Fine	19.7	1024.0	686.00	710.00	1440	44	0.80	1145	2.6518	3.0042	0.3524	308		
8/3/2023	Fine	22.1	1018.7	783.24	807.24	1440	40	1.16	1673	2.6635	2.9202	0.2567	153		
14/3/2023	Fine	21.7	1020.0	855.24	879.24	1440	35	1.00	1435	2.6692	2.7849	0.1157	81		
20/3/2023	Cloudy	22.8	1010.6	879.31	903.31	1440	40	1.15	1655	2.6857	2.8011	0.1154	70		
25/3/2023	Drizzle	22.3	1013.6	903.31	927.31	1440	39.5	1.14	1638	2.6769	2.7650	0.0881	54		
31/3/2023	Cloudy	20.6	1013.1	927.31	951.31	1440	40	1.16	1667	2.6431	2.6935	0.0504	30		
												Average	184		
												Min	30		
												Max	490		

The Summary of 24-hour TSP Concentration (µg/m³) at Location AM2

Start Date	Weather Condition	Avg Air Temp	Avg Atmospheric Pressure	Elapse Time		Sampling Time (minutes)	Averaged Flow Rate	Flow Rate	Total Flow Volume (m³)	Filter Weight (g)		Particulate weight (g)	Concentration (µg/m³)	Action Level (µg/m³)	Limit Level (µg/m³)
		(°C)	(hPa)	Initial	Final		(cfm)	(m³/min)		Initial	Final				
4/3/2023	Fine	19.7	1024.0	555.85	579.85	1440	44	0.78	1127	2.6633	2.8345	0.1712	152	152	260
8/3/2023	Fine	22.1	1018.7	580.26	604.26	1440	42.5	1.07	1535	2.6608	2.7951	0.1343	88		
14/3/2023	Fine	21.7	1020.0	628.26	652.26	1440	40	0.99	1420	2.6787	2.7963	0.1176	83		
20/3/2023	Cloudy	22.8	1010.6	652.40	676.40	1440	41	1.00	1446	2.6714	2.8003	0.1289	89		
25/3/2023	Drizzle	22.3	1013.6	676.40	700.40	1440	40	0.98	1406	2.6642	2.7050	0.0408	29		
31/3/2023	Cloudy	20.6	1013.1	927.31	951.31	1440	40	1.16	1667	2.6431	2.6935	0.0504	30		
												Average	78		
												Min	29		
												Max	152		

The Summary of 24-hour TSP Concentration (µg/m³) at Location AM3

Start Date	Weather Condition	Avg Air Temp	Avg Atmospheric Pressure	Elapse Time		Sampling Time (minutes)	Averaged Flow Rate	Flow Rate	Total Flow Volume (m³)	Filter Weight (g)		Particulate weight (g)	Concentration (µg/m³)	Action Level (µg/m³)	Limit Level (µg/m³)
		(°C)	(hPa)	Initial	Final		(cfm)	(m³/min)		Initial	Final				
1/3/2023	Fine	19.2	1022.7	1393.39	1417.39	1440	43	0.59	848	2.6288	2.8637	0.2349	277	163	260
2/3/2023	Fine	19.0	1024.4	1417.40	1441.40	1440	44	0.62	896	2.6737	2.9758	0.3021	337		
3/3/2023	Fine	20.3	1024.7	1441.46	1465.46	1440	44.5	0.63	914	2.6792	2.8955	0.2163	237		
4/3/2023	Fine	19.7	1024.0	1465.49	1489.49	1440	44.5	0.64	915	2.6628	2.8353	0.1725	189		
8/3/2023	Fine	22.1	1018.7	1561.78	1585.78	1440	40	1.20	1735	2.6563	2.9912	0.3349	193		
13/3/2023	Fine	20.4	1020.8	1609.78	1633.78	1440	40.5	1.23	1766	2.6697	2.9297	0.2600	147		
14/3/2023	Fine	21.7	1020.2	1633.78	1657.78	1440	37.5	1.13	1628	2.6735	2.8379	0.1644	101		
20/3/2023	Cloudy	22.8	1010.6	1657.97	1681.97	1440	41	1.22	1763	2.6706	2.7942	0.1236	70		
25/3/2023	Drizzle	22.3	1013.6	1681.97	1705.97	1440	40.5	1.21	1747	2.6889	2.7494	0.0605	35		
31/3/2023	Cloudy	20.6	1013.1	1705.97	1729.97	1440	39.5	1.19	1708	2.6486	2.7076	0.0590	35		
												Average	162		
												Min	35		
												Max	337		

Remarks:

1. Orange Text equal to exceed Action Level
2. Red Text equal to exceed Limit Level
3. Blue Highlight equal to additional monitoring

Noise

Impact Phase Construction Noise Monitoring Data at Location NM1a

Date	Weather	Wind speed m/s	Start Time	End Time	L_{eq} (dB(A))							L_{10} (dB(A))						L_{90} (dB(A))					
					1st	2nd	3rd	4th	5th	6th	Overall (30min)	1st	2nd	3rd	4th	5th	6th	1st	2nd	3rd	4th	5th	6th
2/3/2023	Fine	1.2	9:17	9:47	53.1	51.5	53.5	53.5	54.7	54.2	53.5	53.8	53.8	56.1	56	56.6	55.9	47.3	46.2	49.2	48.1	50.3	51.3
8/3/2023	Fine	1.4	16:44	17:14	57.6	59	56.9	57.7	60.2	59.8	58.7	60.2	61.9	58.5	59.1	62.8	63	53.7	54.3	54.3	54.3	54.3	54.6
14/3/2023	Fine	2.1	8:40	9:10	54.9	53.4	54.2	54.6	55.1	54.3	54.5	55.8	54.6	55.8	56.3	57.6	56.3	47.2	47.1	47.6	46.2	48.2	49.2
20/3/2023	Cloudy	1.9	9:13	9:43	50	56.3	53.7	51.5	51.8	52.1	53.1	52.5	59.1	56.8	54	55.2	54.2	54.2	48.6	46.4	47.3	45.6	46.1
31/3/2023	Cloudy	2.7	14:20	14:50	60.9	61.2	62.6	63.3	62.5	63	62.3	62.3	63.2	64.2	65.1	64.4	64.6	52.5	53.6	53.7	54.2	54.1	53.2
Average											58.0												
Baseline Level											55.4												
Action Level											When one valid documented complaint is received												
Limit Level											75												

Impact Phase Construction Noise Monitoring Data at Location NM2a

Date	Weather	Wind speed m/s	Start Time	End Time	L_{eq} (dB(A))							L_{10} (dB(A))						L_{90} (dB(A))					
					1st	2nd	3rd	4th	5th	6th	Overall (30min)	1st	2nd	3rd	4th	5th	6th	1st	2nd	3rd	4th	5th	6th
2/3/2023	Fine	1.7	14:39	15:09	44.6	38.6	44.5	41.6	39.9	41.6	42.3	47.4	40.3	43.7	44	42.7	44.5	35.9	34.7	35.5	35.4	35.1	34.7
8/3/2023	Fine	1.5	15:20	15:50	51.2	51.5	51.7	52.3	50.9	52.3	51.7	54.6	55.2	54.8	55.9	54	56	38.2	40.5	40.7	41.8	39.1	39.9
14/3/2023	Fine	1.7	16:44	17:14	47.4	46.2	43.7	45.5	44.6	45.4	45.6	48.4	48.9	46.8	48.8	48.3	48.7	35.9	36.1	35.9	35.8	35.8	35.4
20/3/2023	Cloudy	2.1	13:01	13:31	60.8	62.2	61.6	60.7	62.3	64.1	62.1	63.8	65.2	65.2	64.1	66.1	68	53.9	55.2	53.5	52.5	53.5	54.4
31/3/2023	Cloudy	1.7	10:28	10:58	59.5	58.4	59.6	58.2	58.9	58.2	58.8	63.3	62.5	62.9	61.6	62.4	61.4	51.8	51.6	51.2	52.1	52.6	51.6
Average											57.1												
Baseline Level											54.5												
Action Level											When one valid documented complaint is received												
Limit Level											75												

Water Quality

Monitoring Location: WM1

Date	Time	Weather	Water Depth (m)	Water Flow (L/s)	Water Temperature (°C)	DO (mg/L)			pH			Turbidity (NTU)			SS (mg/L)		
						Value	Action Level	Limit Level	Value	Action Level	Limit Level	Value	Action Level	Limit Level	Value	Action Level	Limit Level
2-Mar-23	16:57	Fine	0.04	0	18.5	7.5	<7.4	<4	7.1	>7.7	>7.8	6.3	>9.2	>9.5	2.1	>9.7	>11.4

Monitoring Location: WM2

Date	Time	Weather	Water Depth (m)	Water Flow (L/s)	Water Temperature (°C)	DO (mg/L)			pH			Turbidity (NTU)			SS (mg/L)		
						Value	Action Level	Limit Level	Value	Action Level	Limit Level	Value	Action Level	Limit Level	Value	Action Level	Limit Level
2-Mar-23	8:42	Fine	0.10	0	23.4	7.9	<5	<4	7.0	>7.6	>7.7	13.7	>108.3	>108.9	12.0	>94.5	>94.7

Remarks

1. Sample will be grabbed on surface when the water depth is less than 1m.
2. "TBC" equal to "To be confirm"






CERTIFICATE OF ANALYSIS

Client	: ACUMEN LABORATORY AND TESTING LIMITED	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 9
Contact	: MR HUNTINGTON HUI	Contact	: Richard Fung	Work Order	: HK2308312
Address	: UNIT D, 12/F, FORD GLORY PLAZA, NOS.37-39 WING HONG STREET, CHEUNG SHA WAN, KOWLOON, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: hthui@acumen-env.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: +852 2333 6823	Telephone	: +852 2610 1044	Date Samples Received	: 03-Mar-2023
Facsimile	: +852 2333 1316	Facsimile	: +852 2610 2021	Issue Date	: 16-Mar-2023
Project	: NENTX			No. of samples received	: 2
Order number	: ---	Quote number	: HKE/2751/2022_V2	No. of samples analysed	: 2
C-O-C number	: ---				
Site	:				

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This document has been signed by those names that appear on this report and are the authorised signatories.

<i>Signatories</i>	<i>Position</i>	<i>Authorised results for</i>
 Fung Lim Chee, Richard	Managing Director	Inorganics
 Fung Lim Chee, Richard	Managing Director	Metals_ENV
 Ng Sin Kou, May	Laboratory Manager	Microbiology_ENV



General Comments

This report supersedes any previous report(s) with the same work order number. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Testing period is from 03-Mar-2023 to 14-Mar-2023.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order: HK2308312

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in chilled condition. The result(s) related only to the item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

Result(s) of sample(s) is/are reported on as received basis, unless otherwise specified.

Microbiological sample(s) was/ were collected in 250mL sterile plastic bottles containing sodium thiosulfate. Sample(s) arrived at the laboratory at 09:00.

NOT DETECTED denotes result(s) is (are) less than the Limit of Report (LOR).

ED037 - Titration end point for Total Alkalinity is pH 4.5 while end point for Total Alkalinity <20mg/L is pH 4.2.

Water sample(s) digested by in-house method E-3005 prior to the determination of total metals. The in-house method is developed based on USEPA method 3005.

EA002 - pH value is reported as at 25°C. Calibration range of pH value is 4.0 - 10.0. Results exceeding this range is for reference only.

EA025 - The accredited LOR of Total Suspended Solids is 0.5mg/L. Results below this LOR are for reference only.



Analytical Results

Sub-Matrix: WATER

				Sample ID	WM1	WM2	---	---	---
				Sampling date / time	02-Mar-2023	02-Mar-2023	---	---	---
Compound	CAS Number	LOR	Unit		HK2308312-001	HK2308312-002	-----	-----	-----
EA/ED: Physical and Aggregate Properties									
EA002: pH Value	----	0.1	pH Unit		6.5	6.5	---	---	---
EA010: Electrical Conductivity @ 25°C	----	1	µS/cm		63	102	---	---	---
EA025: Suspended Solids (SS)	----	0.1	mg/L		2.1	12.0	---	---	---
ED037: Total Alkalinity as CaCO3	----	1	mg/L		14	36	---	---	---
ED/EK: Inorganic Nonmetallic Parameters									
ED041K: Sulphate as SO4 - Turbidimetric	----	1	mg/L		7	5	---	---	---
ED045K: Chloride	16887-00-6	0.5	mg/L		6	6	---	---	---
EK055K: Ammonia as N	7664-41-7	0.01	mg/L		0.06	0.33	---	---	---
EK058A: Nitrate as N	14797-55-8	0.01	mg/L		0.01	0.05	---	---	---
EK061A: Total Kjeldahl Nitrogen as N	----	0.1	mg/L		0.3	0.5	---	---	---
EK071K: Reactive Phosphorus as P	14265-44-2	0.01	mg/L		0.02	<0.01	---	---	---
EK086: Sulphite as SO3 2-	14265-45-3	2	mg/L		<2	<2	---	---	---
EP: Aggregate Organics									
EP005: Total Organic Carbon	----	1	mg/L		2	3	---	---	---
EP020: Oil & Grease	----	5	mg/L		<5	<5	---	---	---
EP026C: Chemical Oxygen Demand	----	5	mg/L		6	<5	---	---	---
EP030: Biochemical Oxygen Demand	----	2	mg/L		<2	<2	---	---	---
EG: Metals and Major Cations - Total									
EG020: Cadmium	7440-43-9	0.2	µg/L		<0.2	<0.2	---	---	---
EG020: Copper	7440-50-8	1	µg/L		<1	1	---	---	---
EG020: Lead	7439-92-1	1	µg/L		<1	<1	---	---	---
EG020: Manganese	7439-96-5	1	µg/L		106	3070	---	---	---
EG020: Nickel	7440-02-0	1	µg/L		<1	<1	---	---	---
EG020: Zinc	7440-66-6	10	µg/L		<10	20	---	---	---
EG032: Calcium	7440-70-2	50	µg/L		3280	7020	---	---	---
EG032: Iron	7439-89-6	10	µg/L		1310	10600	---	---	---
EG032: Magnesium	7439-95-4	50	µg/L		440	690	---	---	---
EG032: Potassium	7440-09-7	50	µg/L		400	1050	---	---	---
EG032: Sodium	7440-23-5	50	µg/L		7960	5810	---	---	---



Sub-Matrix: WATER				Sample ID	WM1	WM2	---	---	---
				Sampling date / time	02-Mar-2023	02-Mar-2023	---	---	---
Compound	CAS Number	LOR	Unit		HK2308312-001	HK2308312-002	-----	-----	-----
EM: Microbiological Testing									
EM002: E. coli	----	1	CFU/100mL		NOT DETECTED	NOT DETECTED	---	---	---
EM003: Total Coliforms	----	1	CFU/100mL		NOT DETECTED	14	---	---	---



Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method/Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 4909150)								
HK2308291-002	Anonymous	EA002: pH Value	----	0.1	pH Unit	8.4	8.4	0.0
HK2308487-001	Anonymous	EA002: pH Value	----	0.1	pH Unit	10.4	10.4	0.0
EA/ED: Physical and Aggregate Properties (QC Lot: 4909345)								
HK2308312-002	WM2	ED037: Total Alkalinity as CaCO3	----	1	mg/L	36	36	0.0
EA/ED: Physical and Aggregate Properties (QC Lot: 4909346)								
HK2308312-001	WM1	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	63	63	0.0
EA/ED: Physical and Aggregate Properties (QC Lot: 4913143)								
HK2308291-001	Anonymous	EA025: Suspended Solids (SS)	----	0.5	mg/L	7.1	7.6	7.8
HK2308428-007	Anonymous	EA025: Suspended Solids (SS)	----	0.5	mg/L	25.4	24.9	2.0
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4908210)								
HK2308126-002	Anonymous	EK071K: Reactive Phosphorus as P	14265-44-2	0.01	mg/L	8.14	8.16	0.2
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4909215)								
HK2308142-001	Anonymous	EK061A: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	106	104	2.4
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4912076)								
HK2308586-001	Anonymous	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	20.8	19.7	5.5
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4913371)								
HK2308312-001	WM1	ED041K: Sulphate as SO4 - Turbidimetric	----	1	mg/L	7	7	0.0
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4913372)								
HK2308312-001	WM1	ED045K: Chloride	16887-00-6	1	mg/L	6	6	0.0
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4915998)								
HK2308438-001	Anonymous	EK086: Sulphite as SO3 2-	14265-45-3	2	mg/L	<2	<2	0.0
EP: Aggregate Organics (QC Lot: 4924670)								
HK2308479-006	Anonymous	EP005: Total Organic Carbon	----	1	mg/L	<1	<1	0.0
EP: Aggregate Organics (QC Lot: 4925157)								
HK2308586-003	Anonymous	EP026C: Chemical Oxygen Demand	----	5	mg/L	12	12	0.0
EG: Metals and Major Cations - Total (QC Lot: 4910942)								
HK2308312-002	WM2	EG032: Iron	7439-89-6	10	µg/L	10600	10500	0.4
		EG032: Calcium	7440-70-2	50	µg/L	7020	7030	0.0
		EG032: Magnesium	7439-95-4	50	µg/L	690	690	0.0
		EG032: Potassium	7440-09-7	50	µg/L	1050	1060	0.0



Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Total (QC Lot: 4910942) - Continued								
HK2308312-002	WM2	EG032: Sodium	7440-23-5	50	µg/L	5810	5770	0.6
EG: Metals and Major Cations - Total (QC Lot: 4910943)								
HK2308312-002	WM2	EG020: Cadmium	7440-43-9	0.2	µg/L	<0.2	<0.2	0.0
		EG020: Copper	7440-50-8	1	µg/L	1	<1	0.0
		EG020: Lead	7439-92-1	1	µg/L	<1	<1	0.0
		EG020: Manganese	7439-96-5	1	µg/L	3070	3160	2.9
		EG020: Nickel	7440-02-0	1	µg/L	<1	<1	0.0
		EG020: Zinc	7440-66-6	10	µg/L	20	18	11.2

Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report

Matrix: WATER				Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)		
						LCS	DCS	Low	High	Value	Control Limit	
EA/ED: Physical and Aggregate Properties (QC Lot: 4909345)												
ED037: Total Alkalinity as CaCO3	----	1	mg/L	<1	50 mg/L	102	----	95.0	105	----	----	
EA/ED: Physical and Aggregate Properties (QC Lot: 4909346)												
EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	146.9 µS/cm	102	----	93.5	106	----	----	
				<1	1412 µS/cm	97.6	----	94.3	105	----	----	
EA/ED: Physical and Aggregate Properties (QC Lot: 4913143)												
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	10 mg/L	93.0	----	82.4	118	----	----	
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4908210)												
EK071K: Reactive Phosphorus as P	14265-44-2	0.01	mg/L	<0.01	0.5 mg/L	99.4	----	92.4	106	----	----	
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4909215)												
EK061A: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	0.5 mg/L	106	----	89.0	120	----	----	
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4912076)												
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	96.2	----	89.3	109	----	----	
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4913371)												
ED041K: Sulphate as SO4 - Turbidimetric	----	1	mg/L	<1	5 mg/L	100	----	89.8	108	----	----	
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4913372)												



Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report							
		LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)		
Method: Compound	CAS Number					LCS	DCS	Low	High	Value	Control Limit	
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4913372) - Continued												
ED045K: Chloride	16887-00-6	1	mg/L	<1	10 mg/L	100	---	88.2	108	---	---	
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4915998)												
EK086: Sulphite as SO3 2-	14265-45-3	2	mg/L	<2	---	---	---	---	---	---	---	
EP: Aggregate Organics (QC Lot: 4909457)												
EP030: Biochemical Oxygen Demand	---	---	mg/L	---	198 mg/L	105	---	78.6	118	---	---	
EP: Aggregate Organics (QC Lot: 4924670)												
EP005: Total Organic Carbon	---	1	mg/L	<1	5 mg/L	108	---	78.1	123	---	---	
				<1	100 mg/L	112	---	79.9	119	---	---	
EP: Aggregate Organics (QC Lot: 4925157)												
EP026C: Chemical Oxygen Demand	---	---	mg/L	---	25 mg/L	98.4	---	92.0	108	---	---	
				---	250 mg/L	101	---	92.3	106	---	---	
EP: Aggregate Organics (QC Lot: 4925469)												
EP020: Oil & Grease	---	2	mg/L	<2	20 mg/L	95.2	---	84.2	110	---	---	
EG: Metals and Major Cations - Total (QC Lot: 4910942)												
EG032: Calcium	7440-70-2	50	µg/L	<50	2000 µg/L	98.6	---	85.0	115	---	---	
EG032: Iron	7439-89-6	10	µg/L	<10	2000 µg/L	104	---	85.0	115	---	---	
EG032: Magnesium	7439-95-4	50	µg/L	<50	2000 µg/L	105	---	85.0	115	---	---	
EG032: Potassium	7440-09-7	50	µg/L	<50	2000 µg/L	99.0	---	85.0	115	---	---	
EG032: Sodium	7440-23-5	50	µg/L	<50	2000 µg/L	99.2	---	85.0	115	---	---	
EG: Metals and Major Cations - Total (QC Lot: 4910943)												
EG020: Cadmium	7440-43-9	0.2	µg/L	<0.2	5 µg/L	98.1	---	85.0	109	---	---	
EG020: Copper	7440-50-8	1	µg/L	<1	50 µg/L	106	---	90.0	111	---	---	
EG020: Lead	7439-92-1	1	µg/L	<1	50 µg/L	98.7	---	89.0	111	---	---	
EG020: Manganese	7439-96-5	1	µg/L	<1	50 µg/L	98.3	---	85.0	115	---	---	
EG020: Nickel	7440-02-0	1	µg/L	<1	50 µg/L	102	---	87.0	110	---	---	
EG020: Zinc	7440-66-6	10	µg/L	<10	50 µg/L	102	---	86.0	114	---	---	



Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

Matrix: WATER

					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4908210)										
HK2308126-002	Anonymous	EK071K: Reactive Phosphorus as P	14265-44-2	50 mg/L	101	----	75.0	125	----	----
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4909215)										
HK2308142-001	Anonymous	EK061A: Total Kjeldahl Nitrogen as N	----	50 mg/L	100	----	75.0	125	----	----
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4912076)										
HK2308586-001	Anonymous	EK055K: Ammonia as N	7664-41-7	50 mg/L	101	----	75.0	125	----	----
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4913371)										
HK2308312-001	WM1	ED041K: Sulphate as SO4 - Turbidimetric	----	5 mg/L	82.8	----	75.0	125	----	----
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4913372)										
HK2308312-001	WM1	ED045K: Chloride	16887-00-6	5 mg/L	94.6	----	75.0	125	----	----
EP: Aggregate Organics (QC Lot: 4924670)										
HK2308479-006	Anonymous	EP005: Total Organic Carbon	----	5 mg/L	109	----	75.0	125	----	----
EP: Aggregate Organics (QC Lot: 4925157)										
HK2308586-003	Anonymous	EP026C: Chemical Oxygen Demand	----	10 mg/L	86.0	----	75.0	125	----	----
EG: Metals and Major Cations - Total (QC Lot: 4910942)										
HK2308312-001	WM1	EG032: Calcium	7440-70-2	2000 µg/L	98.1	----	75.0	125	----	----
		EG032: Iron	7439-89-6	2000 µg/L	104	----	75.0	125	----	----
		EG032: Magnesium	7439-95-4	2000 µg/L	104	----	75.0	125	----	----
		EG032: Potassium	7440-09-7	2000 µg/L	100	----	75.0	125	----	----
		EG032: Sodium	7440-23-5	2000 µg/L	103	----	75.0	125	----	----
EG: Metals and Major Cations - Total (QC Lot: 4910943)										
HK2308312-001	WM1	EG020: Cadmium	7440-43-9	5 µg/L	100	----	75.0	125	----	----
		EG020: Copper	7440-50-8	50 µg/L	104	----	75.0	125	----	----
		EG020: Lead	7439-92-1	50 µg/L	99.2	----	75.0	125	----	----
		EG020: Manganese	7439-96-5	50 µg/L	94.6	----	75.0	125	----	----
		EG020: Nickel	7440-02-0	50 µg/L	100	----	75.0	125	----	----



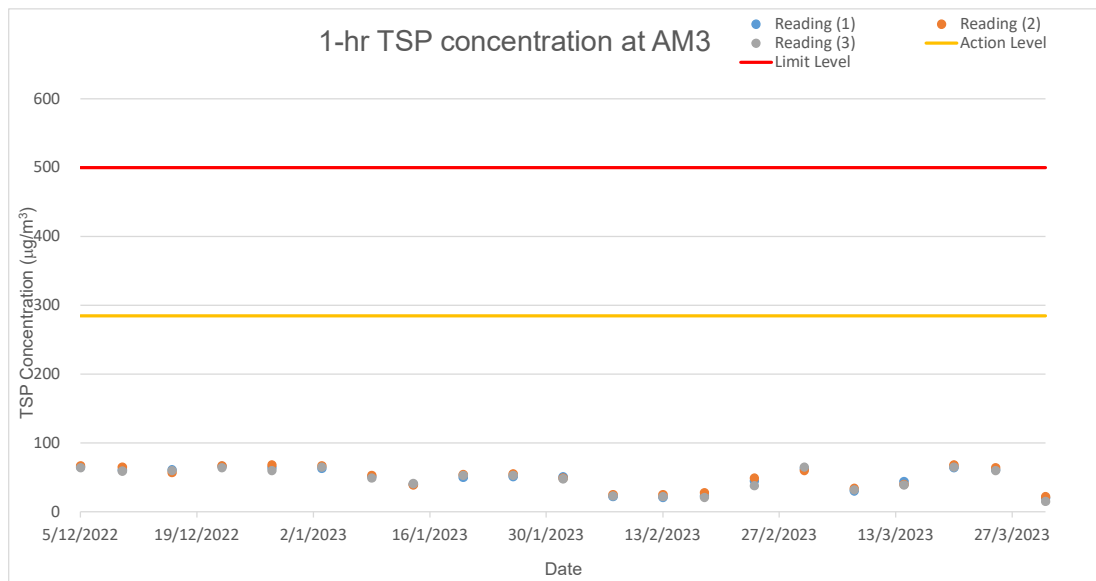
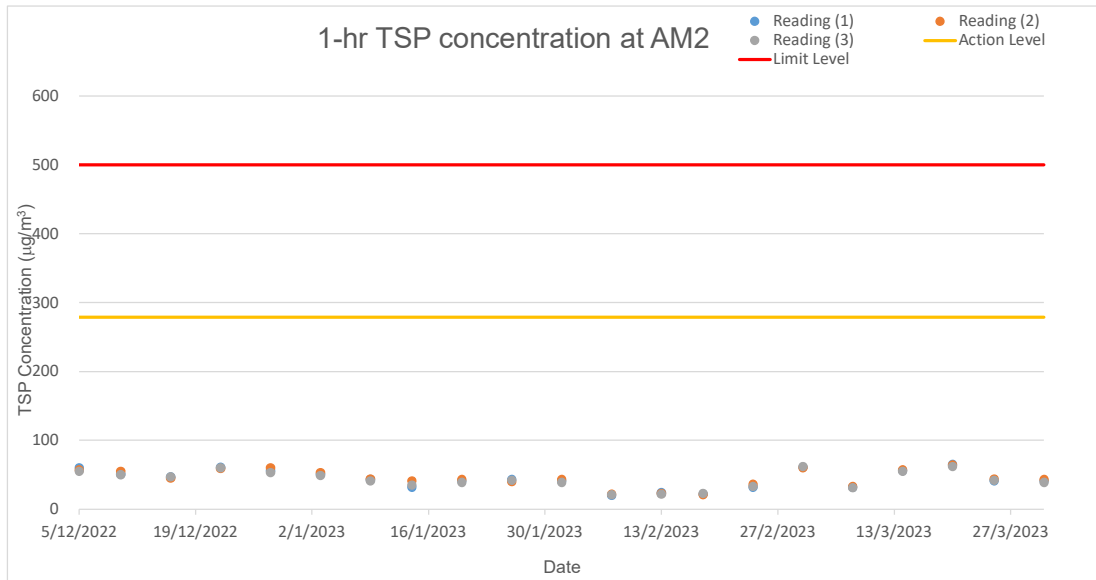
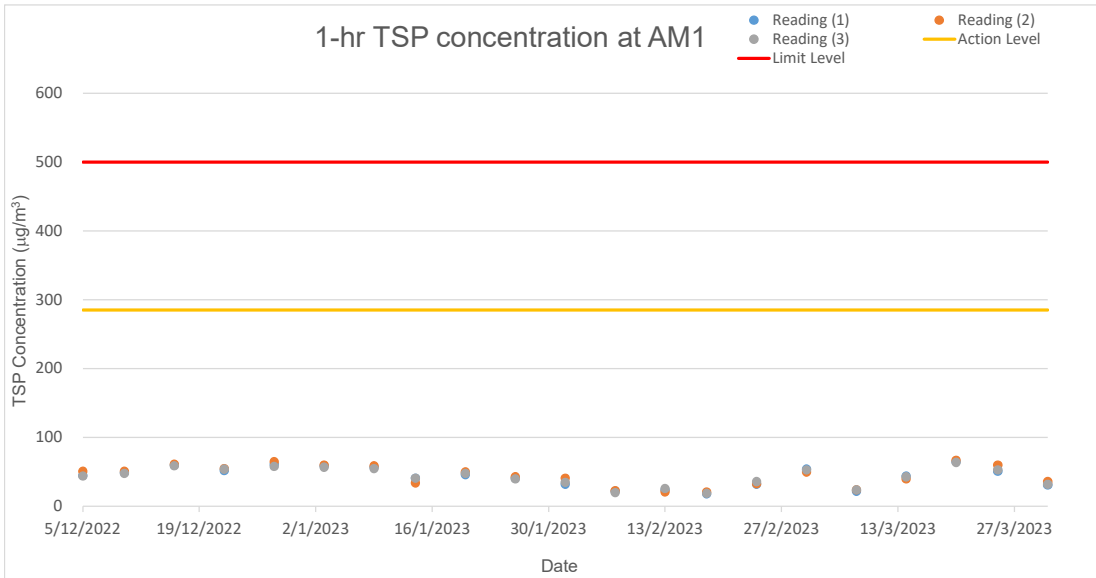
Matrix: WATER

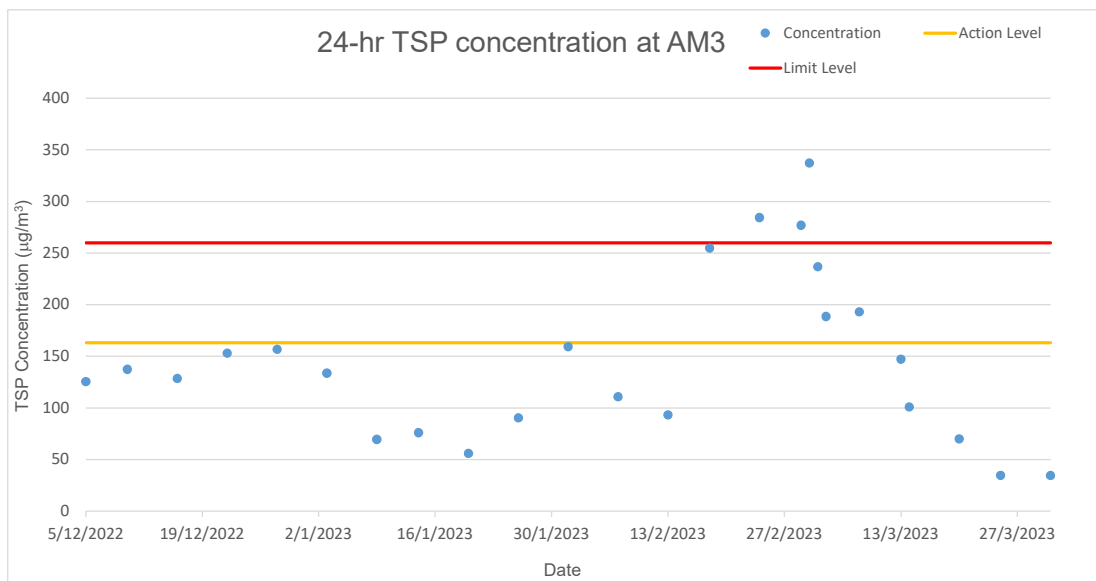
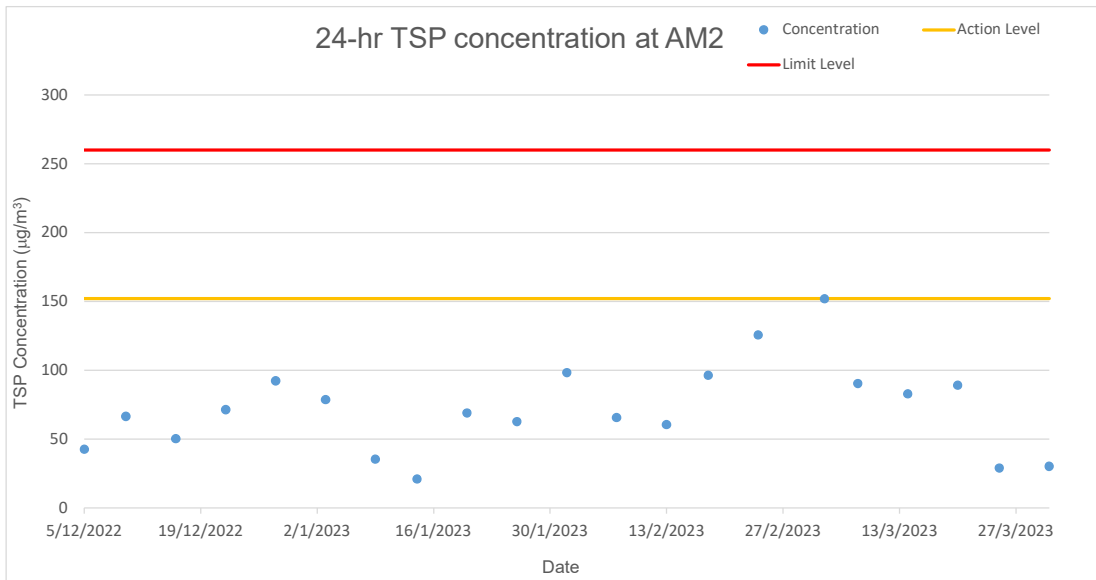
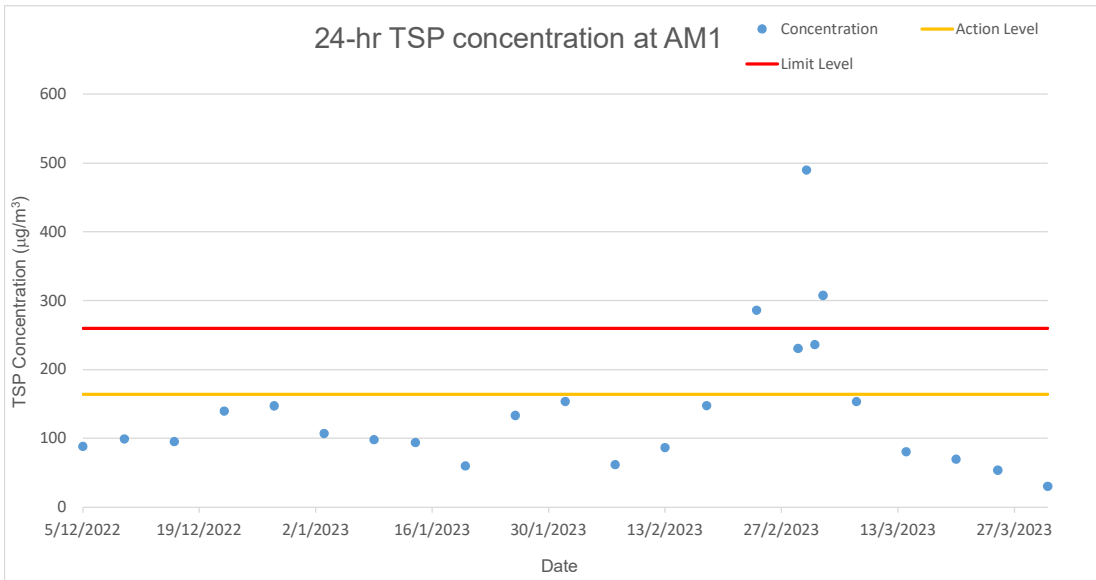
Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

<i>Laboratory sample ID</i>	<i>Sample ID</i>	<i>Method: Compound</i>	<i>CAS Number</i>	<i>Spike Concentration</i>	<i>Spike Recovery (%)</i>		<i>Recovery Limits (%)</i>		<i>RPD (%)</i>	
					<i>MS</i>	<i>MSD</i>	<i>Low</i>	<i>High</i>	<i>Value</i>	<i>Control Limit</i>
EG: Metals and Major Cations - Total (QC Lot: 4910943) - Continued										
HK2308312-001	WM1	EG020: Zinc	7440-66-6	50 µg/L	98.7	----	75.0	125	----	----

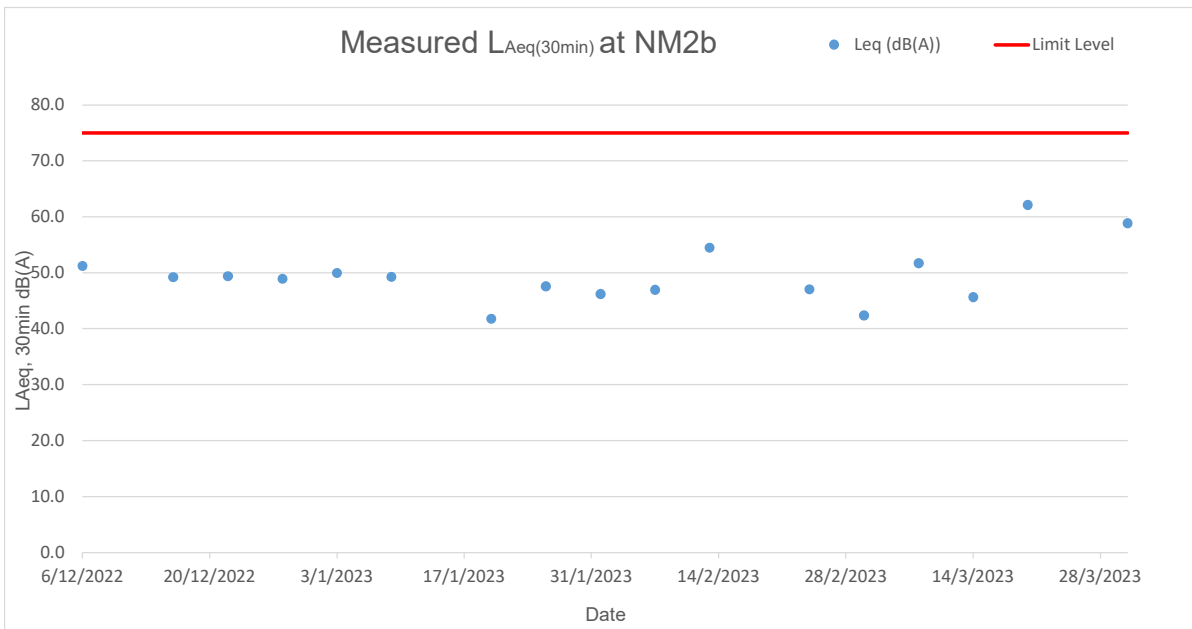
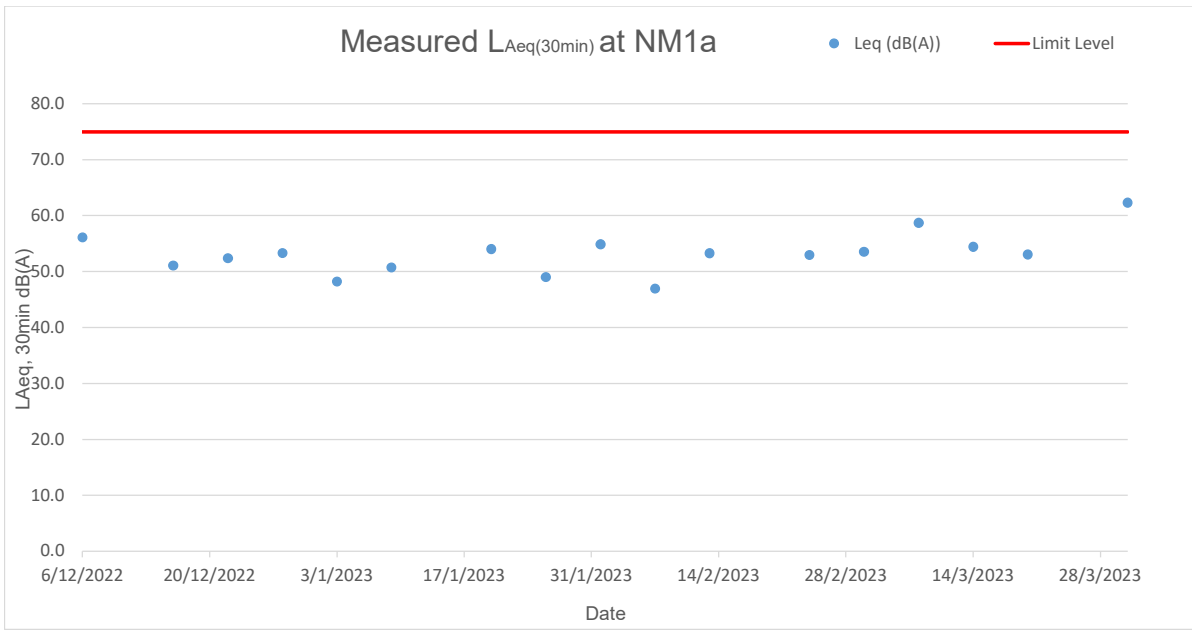
Appendix F Graphical Presentations

Air Quality



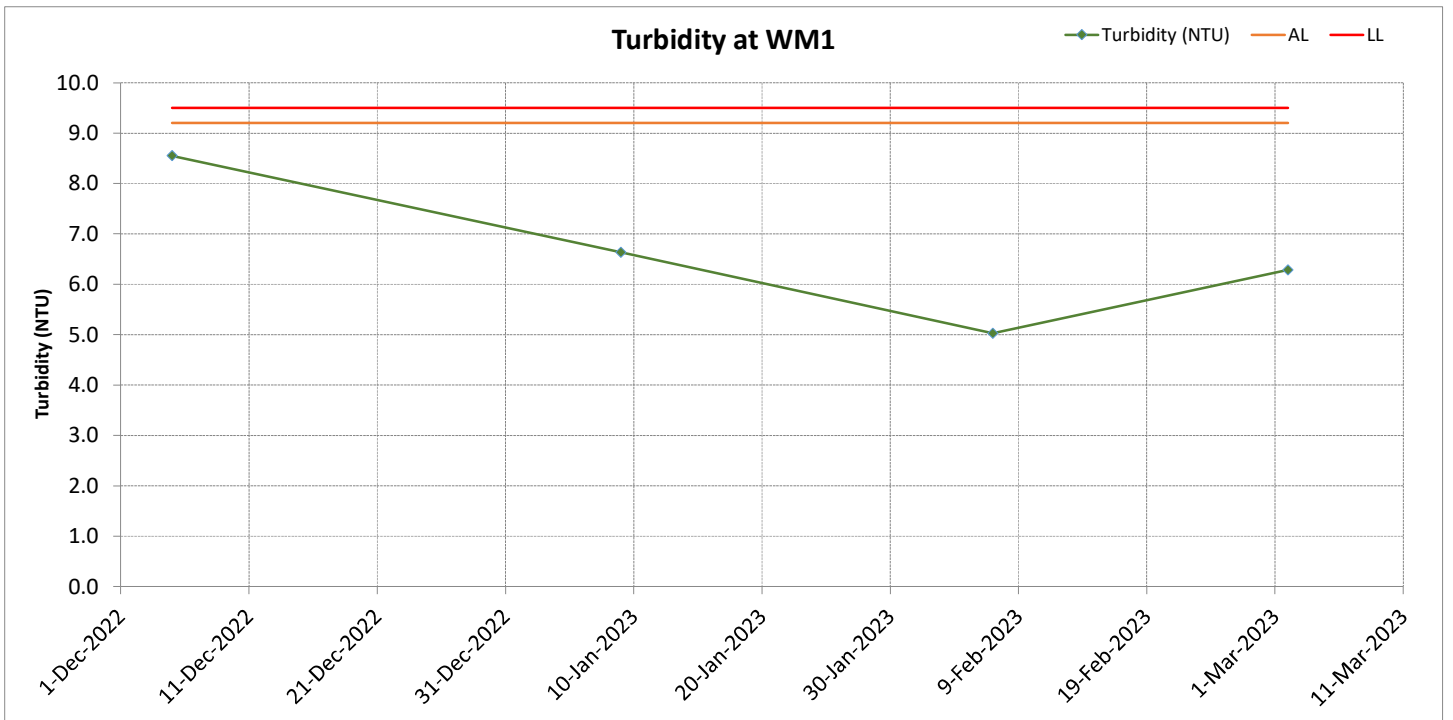
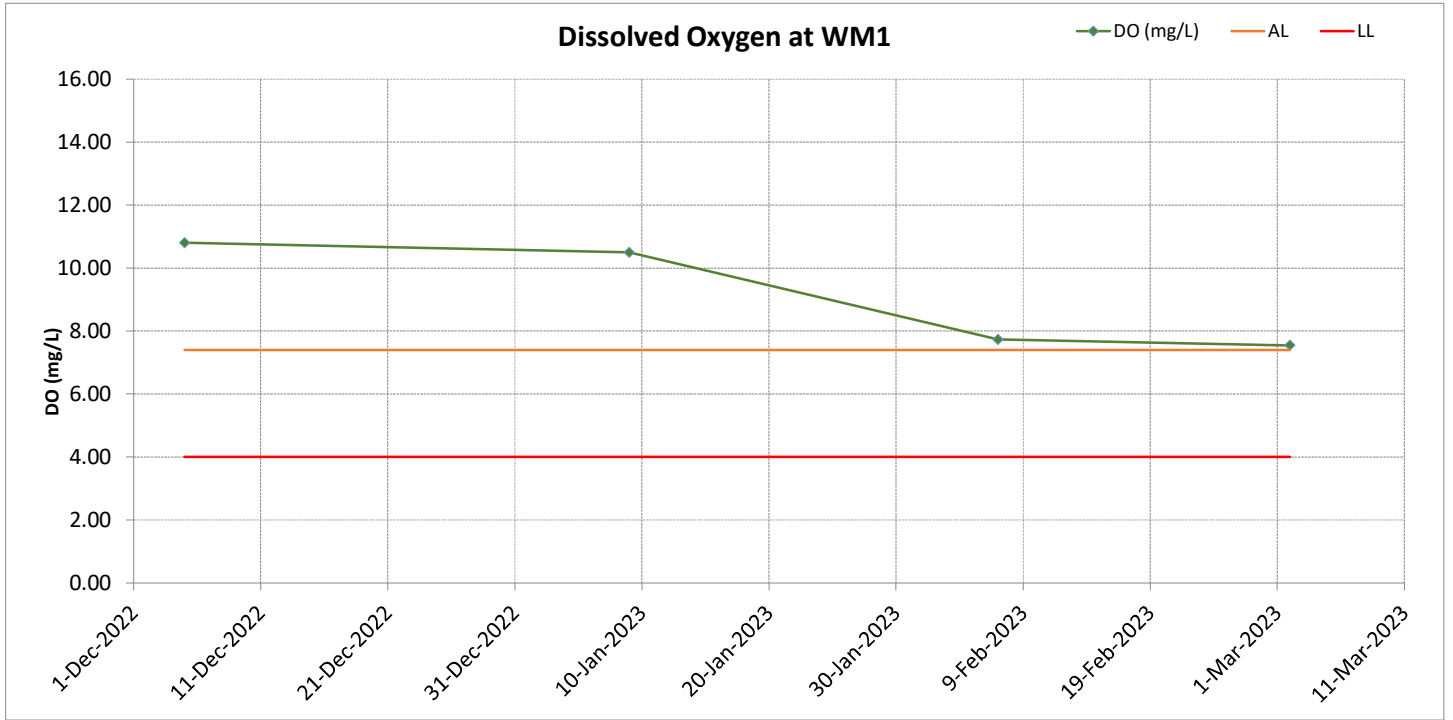


Noise

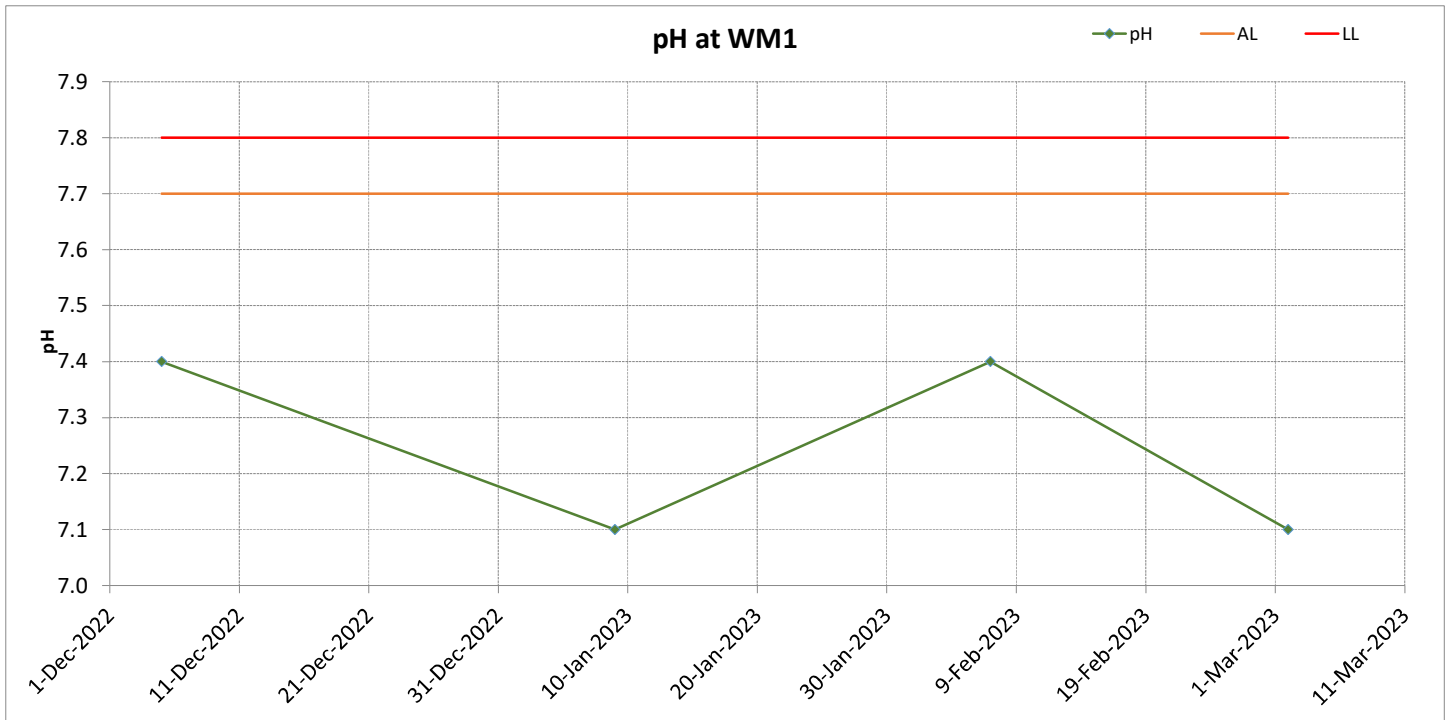
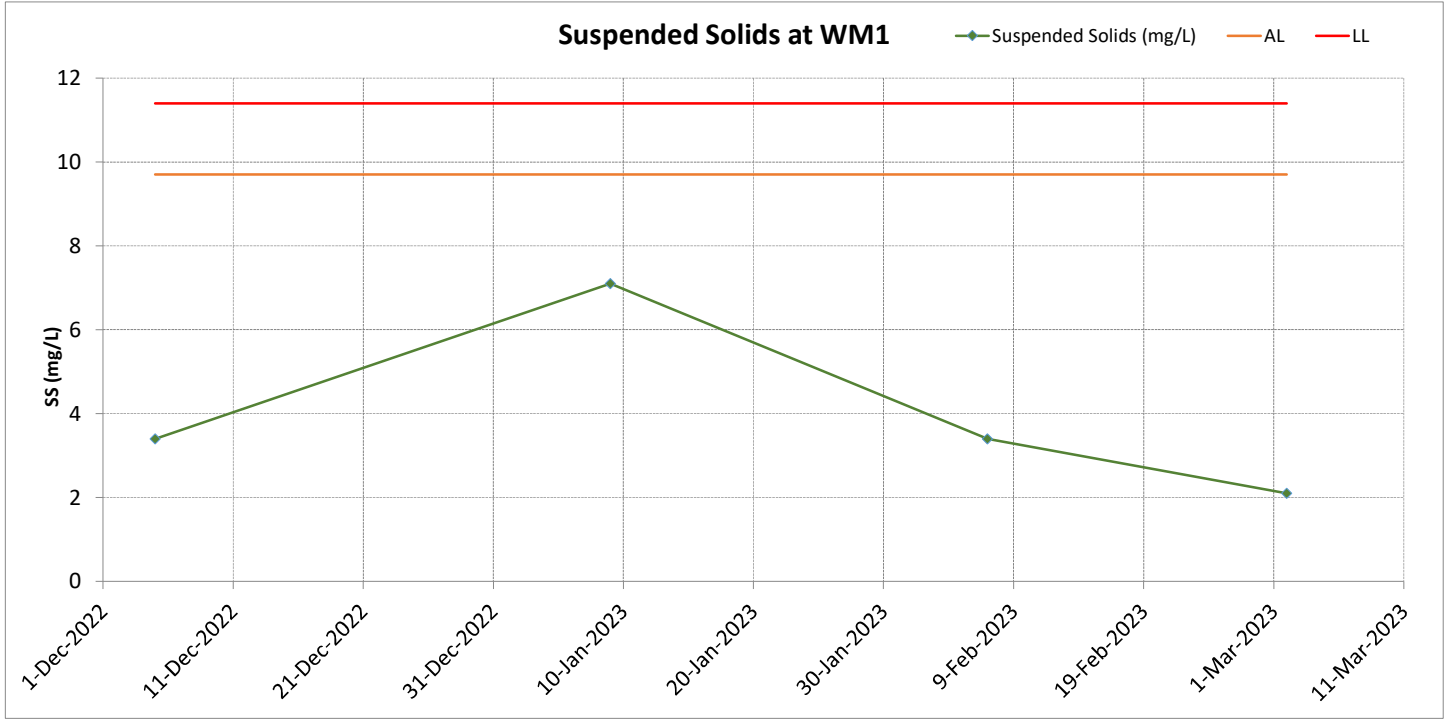


Water Quality

Surface Water Monitoring Results at WM1

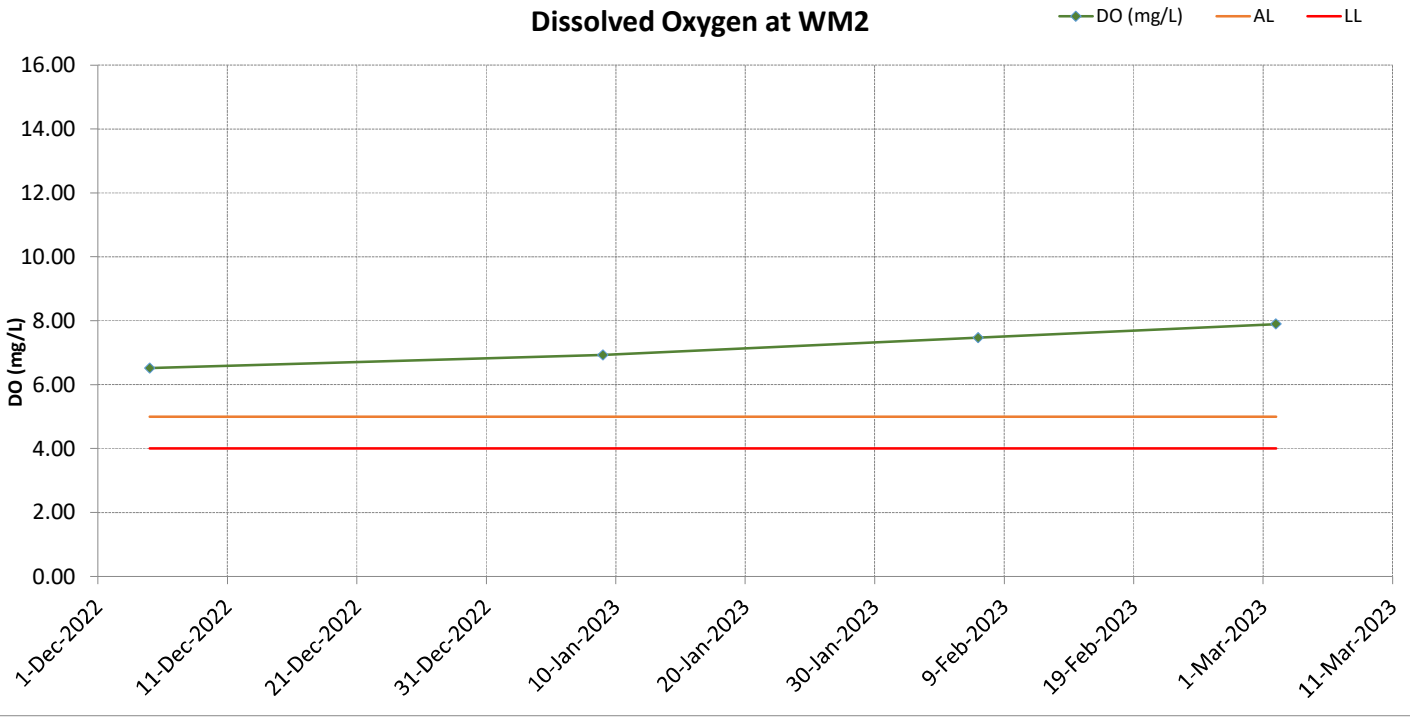


Surface Water Monitoring Results at WM1

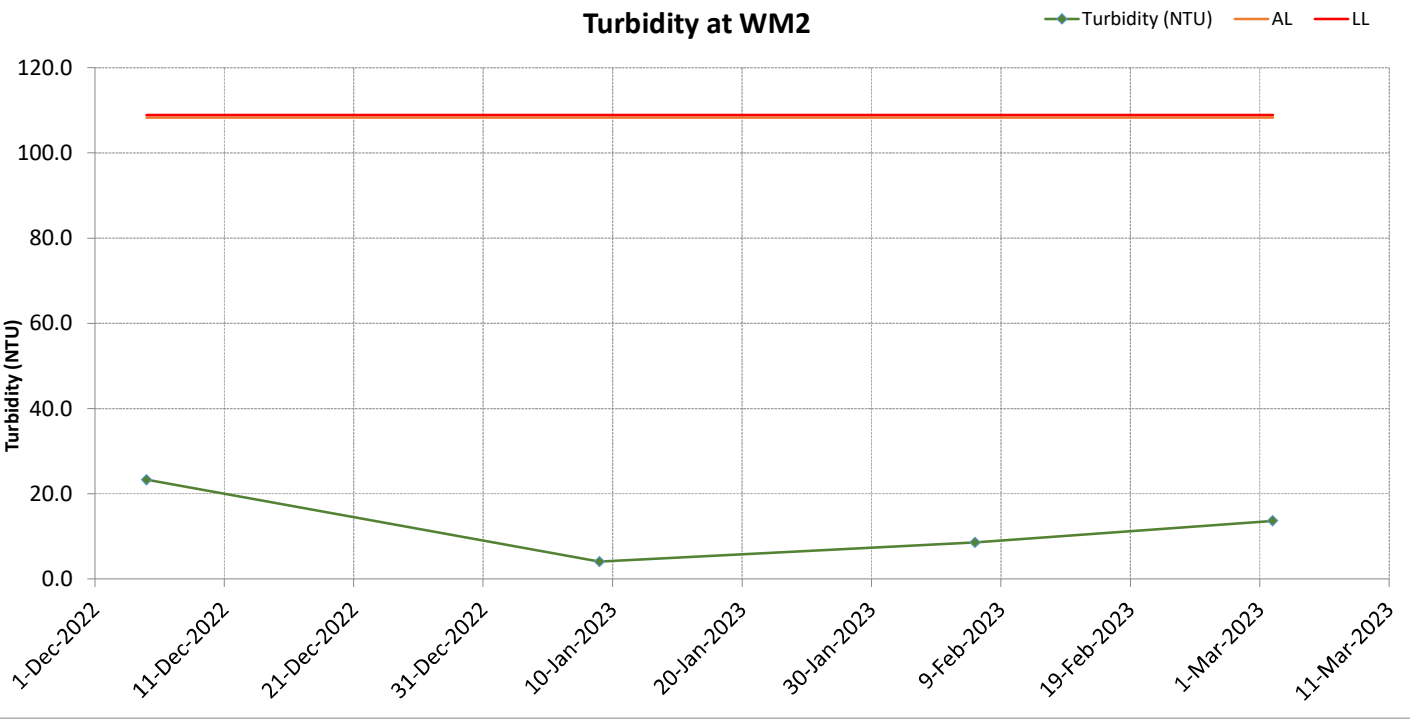


Surface Water Monitoring Results at WM2

Dissolved Oxygen at WM2



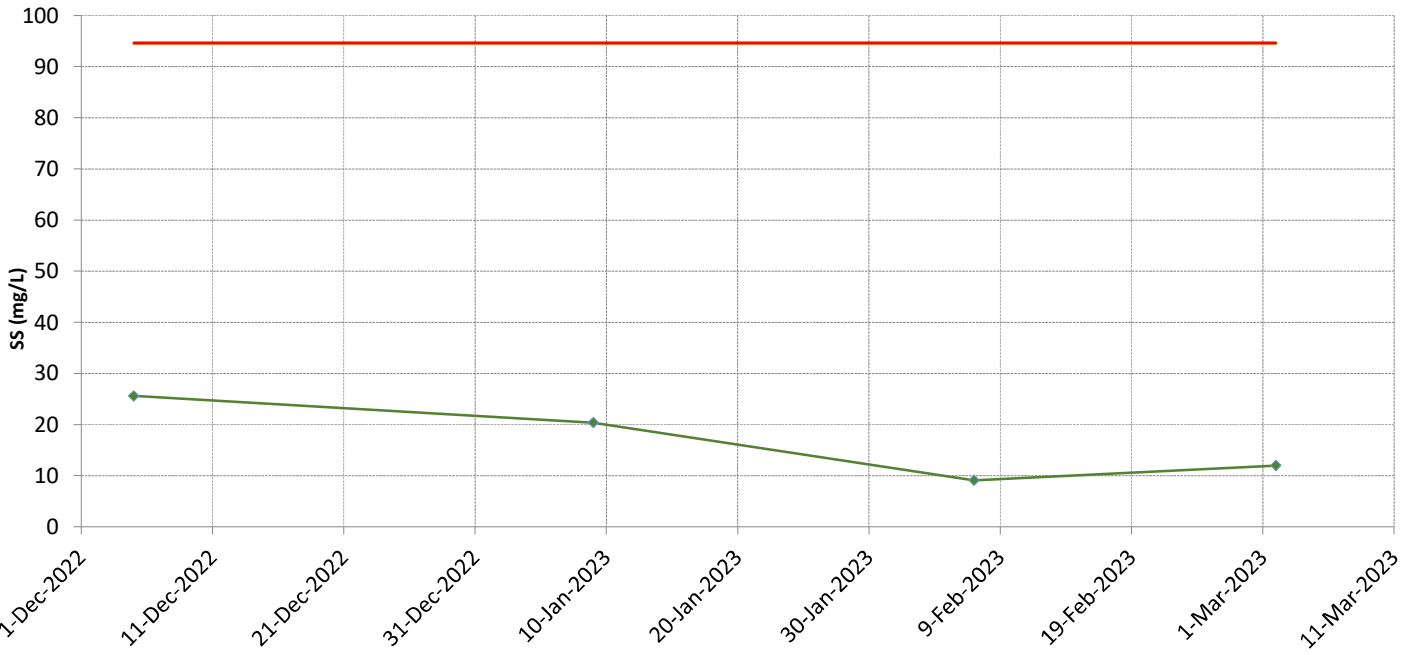
Turbidity at WM2



Surface Water Monitoring Results at WM2

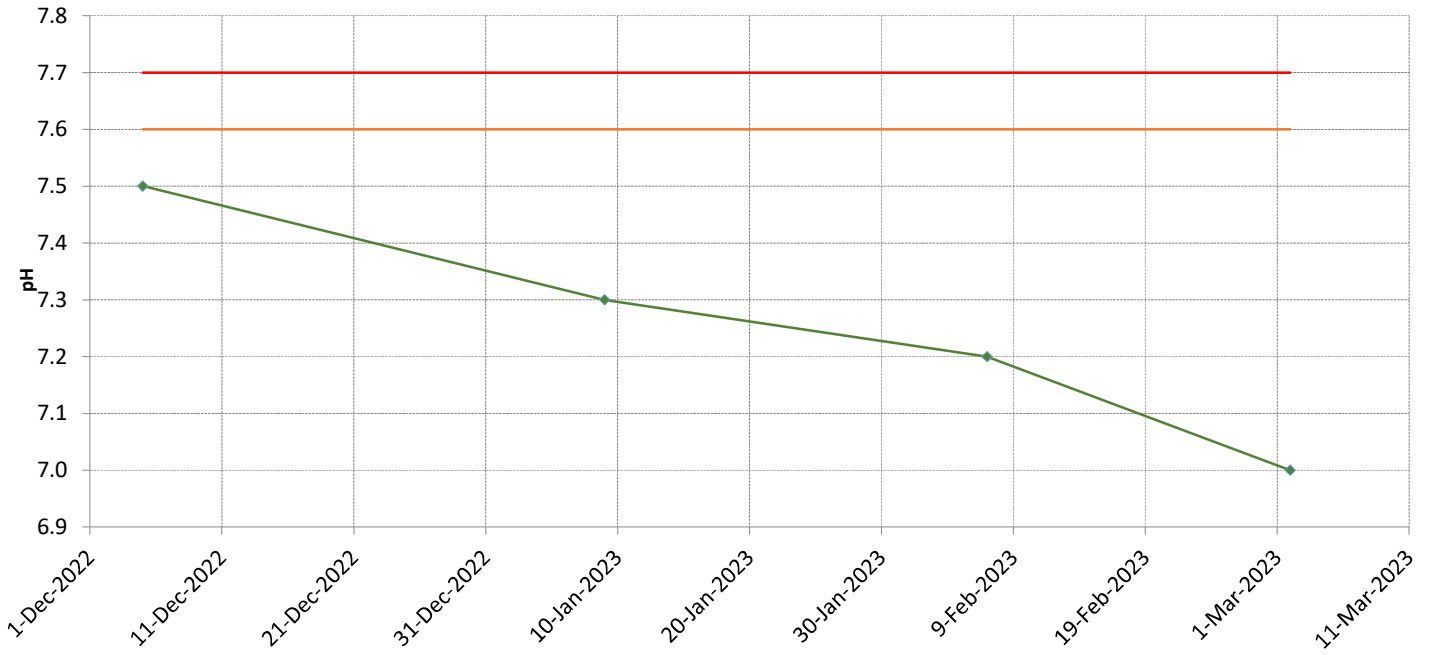
Suspended Solids at WM2

◆ Suspended Solids (mg/L) — AL — LL



pH at WM2

◆ pH — AL — LL



Appendix G Notification of Environmental Quality Limits Exceedance

Notification of Environmental Quality Limits Exceedance

Construction Dust

Dust Monitoring Station	Parameter	1-hr TSP	24-hr TSP	Exceedance Count
	Level Exceedance			
AM1	Action	-	1 Mar 2023* 3 Mar 2023*	2
	Limit	-	2 Mar 2023* 4 Mar 2023*	2
AM2	Action	-	-	0
	Limit	-	-	0
AM3	Action	-	3 Mar 2023* 4 Mar 2023* 8 Mar 2023*	3
	Limit	-	1 Mar 2023* 2 Mar 2023*	2

Remarks: * equal to non-project related

Noise Monitoring

Monitoring Station	Monitoring Parameter(s)	No. of Exceedance	
		Action Level	Limit Level
NM1a	LAeq (30mins)	0	0
NM2a		0	0

Surface Water Monitoring

Monitoring Station	Monitoring Parameter(s)	No. of Exceedance	
		Action Level	Limit Level
WM1	Dissolved Oxygen	0	0
	pH	0	0
	Turbidity	0	0
	Suspended Solids	0	0
WM2	Dissolved Oxygen	0	0
	pH	0	0
	Turbidity	0	0
	Suspended Solids	0	0

Notification of Environmental Quality Limits Exceedance

Landfill Gas (LFG) Monitoring

LFG Monitoring Station	Monitoring Parameter(s)	No. of Exceedance
		Limit Level
Portion A +58 mpD,+55 mpD Platform	CH ₄	0
	CO ₂	0
	O ₂	0

Monitoring Data Received date: 10 March 2023

Date of Notification: 11 March 2023 (by email)

Works Inspected: Project Site Area & Monitoring Station AM1 & AM3

Monitoring Location: AM1 –Tung Lo Hang

Parameter: Air Quality (Construction Dust) – 24-hr TSP

Action & Limit Levels			Measured Level		Repeat Measured Level	
Time Period	Action Level	Limit Level	Monitoring Period:		Monitoring Period:	
24 hours	> 164	> 260	Concentration (µg/m ³)	231	Concentration (µg/m ³)	490

Monitoring Location: AM3 –Wo Keng Shan Tsuen

Parameter: Air Quality (Construction Dust) – 24-hr TSP

Action & Limit Levels			Measured Level		Repeat Measured Level	
Time Period	Action Level	Limit Level	Monitoring Period:		Monitoring Period:	
24 hours	> 163	> 260	Concentration (µg/m ³)	277	Concentration (µg/m ³)	337

Possible reason for Action or Limit Level Non-compliance:

An exceedance in Action Level of 24-hr TSP air quality was recorded during impact monitoring at AM1 from 1 to 2 March 2023. An exceedance in Limit Level of 24-hr TSP air quality was recorded during impact monitoring at AM3 from 1 to 2 March 2023. Based on the contractor's record, construction activities and mitigation measures conducted by contractor from 1 to 2 March 2023 [Photo 1 to Photo 11] were listed below:

Construction Activities from 1 to 2 March 2023	Mitigation Measures from 1 to 2 March 2023
Site Formation at Portion E3	Water spraying by water tanker along the haul road between Portion A and the SBA
Site formation at Portion A	Water spraying by water sprinklers & hose at Portion A
Permanent Building Foundation at Portion D	Water spraying by water hose at Portion D
Hydroseeding at Portion E3	Hydroseeding at bare slope at Portion E3-2

The path of water spraying by water tanker, the water spraying by water hose and the water tanker schedule are presented in **Appendix A**.

No high dusty construction works of the project were found by monitoring staff. The dust emission from vehicles was observed on the public road, Wo Keng Shan Road. The monitoring location & site area are presented in **Figure 1**. The NENTX portions layout plan is presented in **Figure 2**.

Based on the HKO's record (Hong Kong Observatory Automatic Weather Station – Ta Kwu Ling), the prevailing wind direction was from east-southeast wind during the monitoring period.

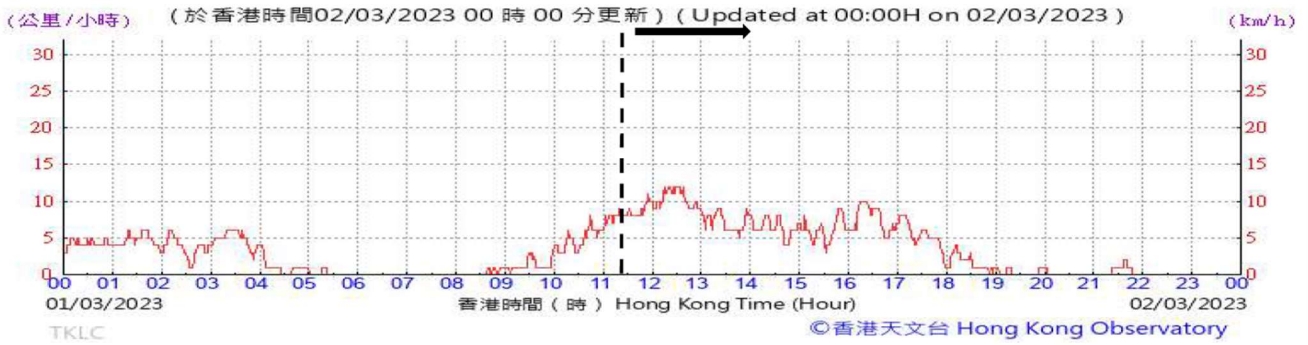
AM1

Although AM1 is located at downwind direction at Portion B1(including SBA) & Portion E2 to E4 (around 600 m of Portion A, 800 m of Portion B1, 900 m of Portion D & E4, 1000 km of Portion E3, 1700 m of SBA and Portion E2), the two natural barriers, where are the around 100 m height hill near Lung Mei Teng , and the around 150 m height hill between North East New Territories Landfill and Shek Tsai Ha Road, block part of the wind flow to the monitoring station. In addition, the appropriate dust control mitigation measures were implemented in construction area during the monitoring period. Therefore, the construction activities of the project may not cause the high level of concentration at AM1.

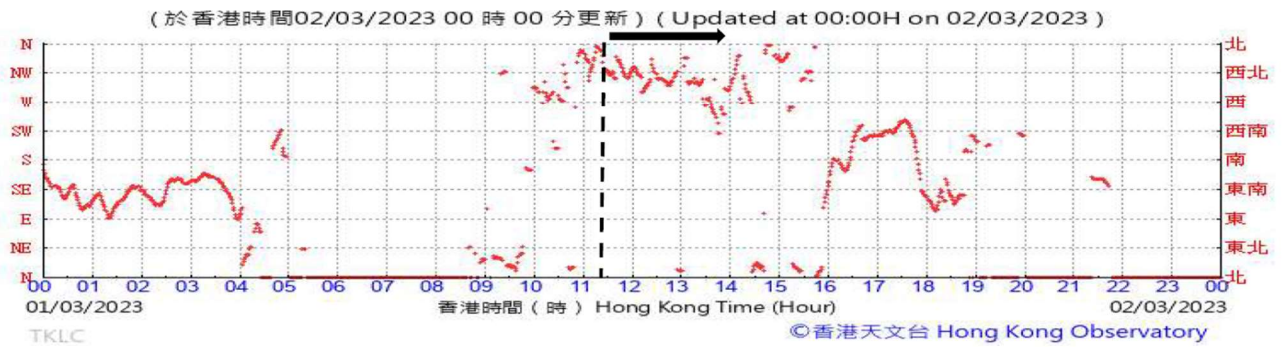
AM3

Although AM3 is located at downwind direction at Portion C, the Portion C was not the construction area from the project from commencement of construction to now. Therefore, the construction activities of the project may not cause the high level of concentration at AM3.

Wind Speed



Wind Direction



Wind Speed



Wind Direction

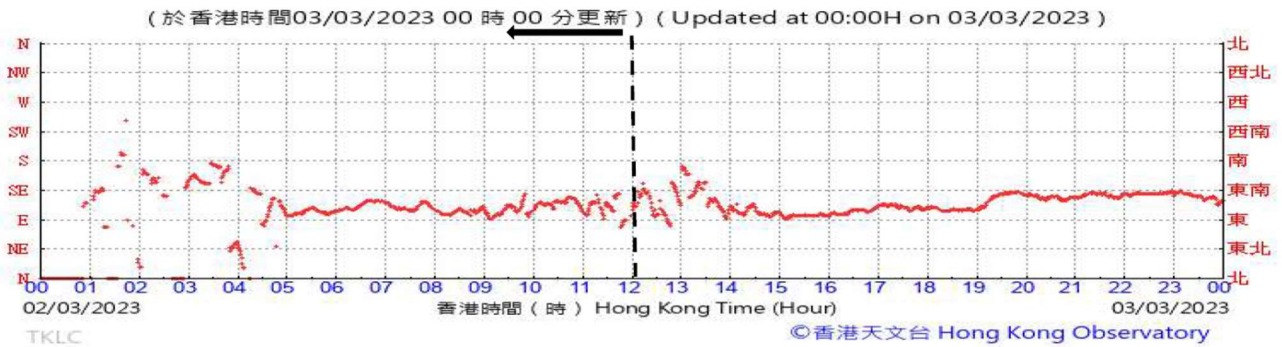


Photo 1 Site Formation at Portion E3



Photo 2 Site formation at Portion A



Photo 3 Permanent Building Foundation at Portion D



Photo 4 Hydroseeding at Portion E3



Photo 5 Water spraying by water tanker along the haul road between Portion A and the SBA



Photo 6 Water spraying by water tanker along the haul road between Portion A and the SBA



Photo 7 Water spraying by water sprinklers at Portion A



Photo 8 Water spraying by water sprinklers at Portion A



Photo 9 Water spraying by water hose at Portion A



Photo 10 Water spraying by water hose at Portion D



Photo 11 Hydroseeding at bare slope at Portion E3-2
(Implemented start on 26 February 2023)



Follow Up

Based on the contractor's record, construction activities were observed within the site area which included site formation at Portion E3, site formation at Portion A, permanent building foundation at Portion D & hydroseeding at Portion E3 from 1 to 2 March 2023. Appropriate dust control mitigation measures were implemented at construction area during the monitoring period. No construction works causing high dust emission were found during the monitoring period. Following the Event and Action Plan, a repeat monitoring was undertaken from 2 to 3 March 2023 to confirm findings which showed that the limit level exceedance occurred at AM1 & AM3.

Actions taken/ to be taken:

Due to the measurement from 1 to 2 March 2023 exceeded the Action Level at AM1, the actions taken by ET in accordance with the Event/ Action Plan for dust impact were listed below:

- ✓ Identify source
- ✓ Inform IEC and Contractor
- ✓ Repeat measurement to confirm findings
- ✓ Increase monitoring frequency to daily
- ✓ Discuss with IEC/IC for remedial actions required
- ✓ If exceedance continues, arrange meeting with IEC

Due to the measurement from 1 to 2 March 2023 exceeded the Limit Level at AM3, the actions taken by ET in accordance with the Event/ Action Plan for dust impact were listed below:

- ✓ Identify source
- ✓ Increase monitoring frequency to daily
- ✓ Inform IEC, IC and EPD the causes and actions taken for the exceedances
- ✓ Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented
- ✓ Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and IC informed of the results

Due to the repeat measurement from 2 to 3 March 2023 exceeded the Limit Level at AM1 & AM3, the below actions will be taken by ET in accordance with the Event/ Action Plan for dust impact:

- ✓ Identify source
- ✓ Increase monitoring frequency to daily
- ✓ If exceedance stops, cease additional monitoring
- ✓ Inform IEC, IC and EPD the causes and actions taken for the exceedances
- ✓ Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented
- ✓ Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and IC informed of the results

The monitoring frequency was increased to daily starting from 1 March 2023. The Construction Dust Control Mitigation Measures by the Environmental Mitigation Measure Implementation Schedule (EMIS) will continue to be implemented by the contractor. The additional mitigation measures [Photo 12 to 15] are implemented by contractor. Details are shown below:

Additional Mitigation Measures	Start Date
Application of cement slurry at Portion A	10 March 2023
Hydroseeding at bare slope at Portion E3-2	3 March 2023

Photo 12 Application of cement slurry at Portion A



Photo 13 Application of cement slurry at Portion A



Photo 14 Application of cement slurry at Portion A



Photo 15 Hydroseeding at bare slope at Portion E3-2 (3 March 2023)

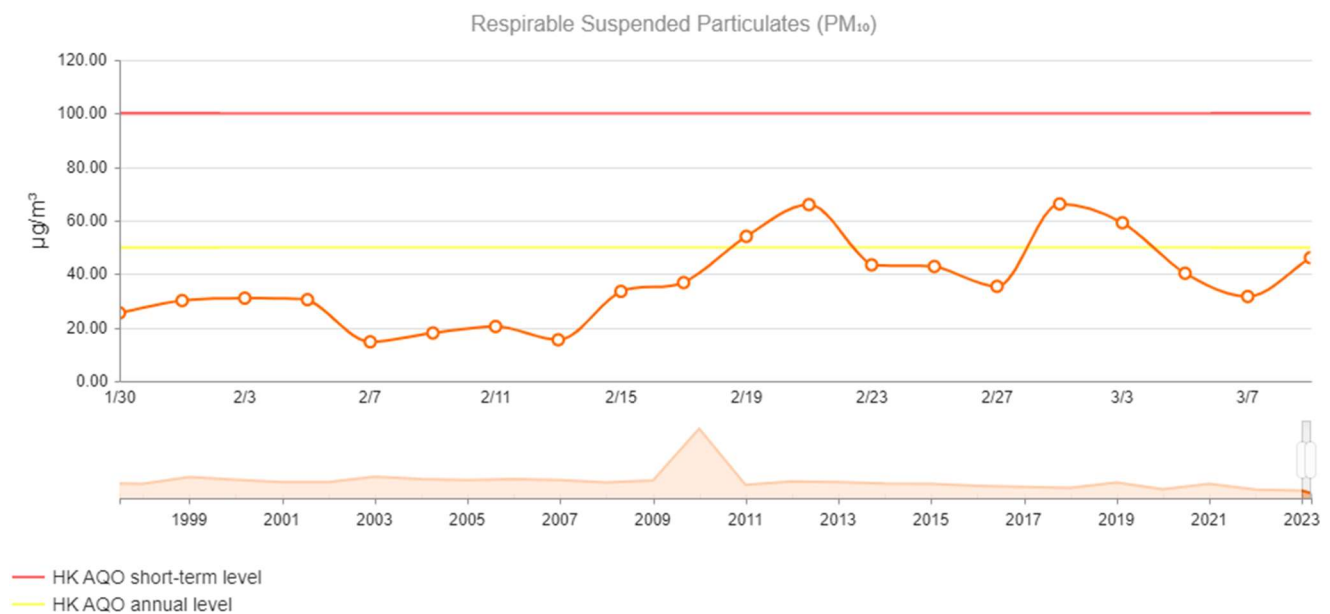


The planning additional mitigation measures will be implemented by contractor. Details are shown below:

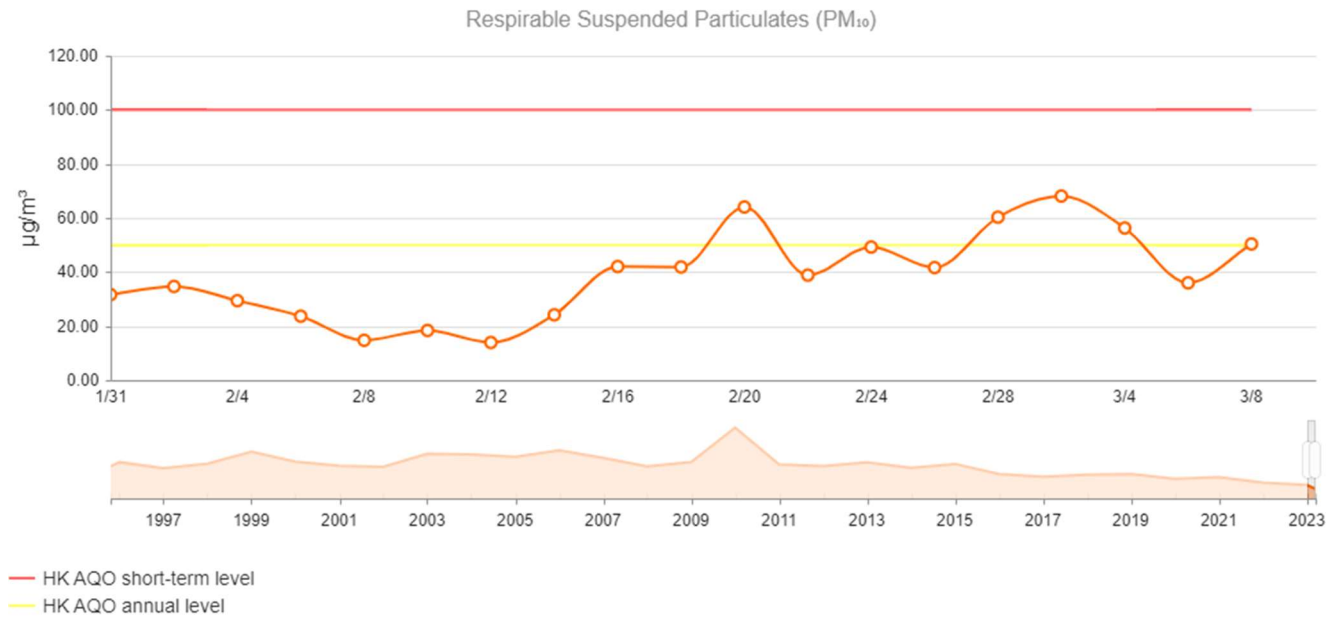
Planning Additional Mitigation Measures	Estimated Implementation Date
Installation of more sprinklers at Portion A	17 March 2023
Application of cement slurry on the slopes of Portion A	24 March 2023
Hard Paving of a 300 m section of haul road near the SBA	30 March 2023

In view of the press releases from the government on 1 March 2023, the health risk category for Air Quality Health Index (AQHIs) may reach the "Serious" level on 1 March 2023 (<https://www.info.gov.hk/gia/general/202303/01/P2023030100565.htm?fontSize=1>). Respirable Suspended Particulates (RSP)(PM₁₀) is one of monitoring parameter from AQHIs. The RSP concentration at EPD Tai Po & Yuen Long monitoring station are shown in below:

Tai Po Station



Yuen Long Station



Both the TSP and RSP are suspended particles but refer to different diameters. TSP refers to the total amount of suspended particulate matter (PM30) in the air, including both larger and smaller particles, while RSP refers explicitly to the smaller particles (PM10). As such, RSP concentration can be considered a component of TSP concentration since it represents a subset of the total suspended particulate matter in the air. Therefore, the high RSP concentration recorded will affect the monitoring results

Based on no construction works of the Project causing high dust emission with the properly implemented dust mitigation measures as above mention. And the influence of high concentrations of regional background particulates was identified at EPD air quality monitoring stations during the monitoring period. Therefore, the exceedances at AM1 & AM3 were considered to be attributed to external factors and mostly unlikely to be related to the Project.

Reviewed by: _____

Keith Chau

Title: Deputy ET Leader

Date: 17 Mar 2023

Approved by: _____

Fredrick Leong

Title: ET Leader

Date: 17 Mar 2023

Figure 1

Impact Monitoring Location

Legend

-  NENTX Project Site
-  Air Monitoring Location

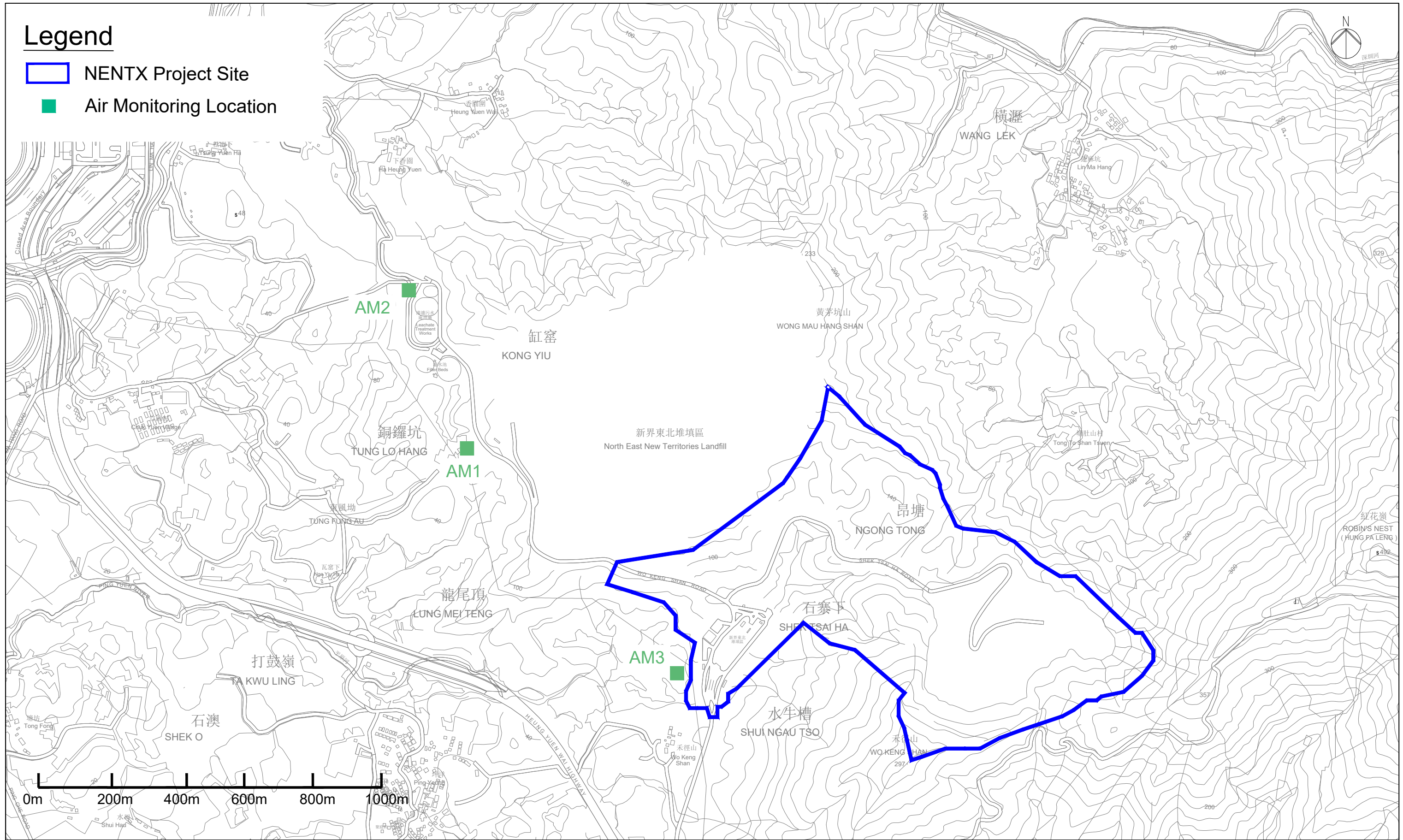
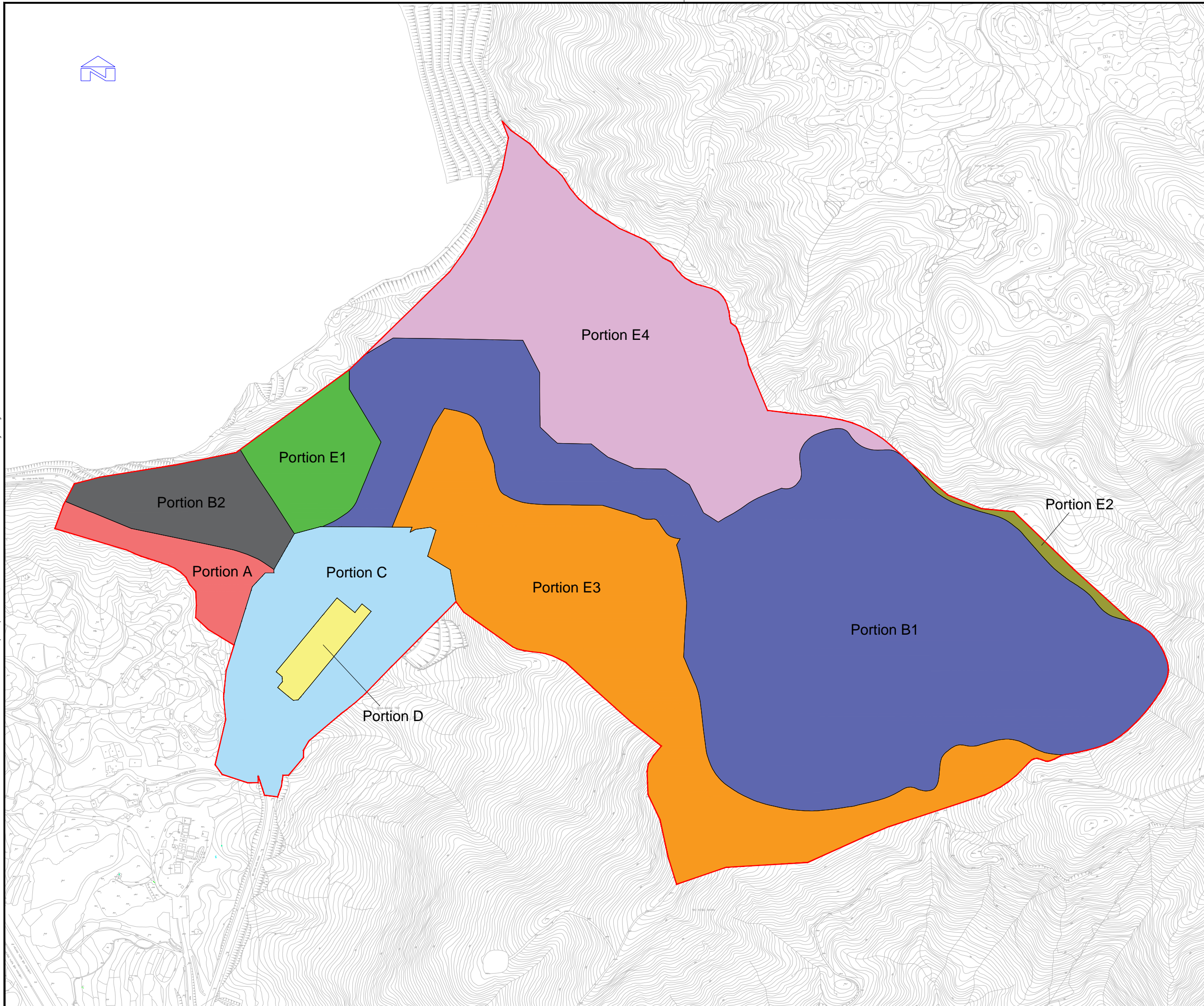


Figure 2












NENTX Portions Layout Plan



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LEGEND :

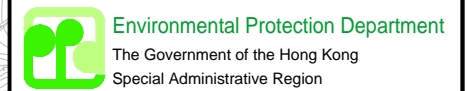
-  SITE BOUNDARY
-  PORTION BOUNDARY
-  PORTION A
-  PORTION B1
-  PORTION B2
-  PORTION C
-  PORTION D
-  PORTION E1
-  PORTION E2
-  PORTION E3
-  PORTION E4

1	FIRST ISSUE	JN	22/3/23	WW
Rev.	Description	By	Date	Approved

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Drawn	JN	Check	WW
Design	JN	Approved	WW
Date	22/3/2023	Scale	N.T.S.

Contract
CONTRACT EP/SP/75/15
 DEVELOPMENT AND MANAGEMENT
 OF NORTH EAST NEW TERRITORIES
 LANDFILL EXTENSION (NENTX)





Drawing Title
PORTIONS LAYOUT PLAN

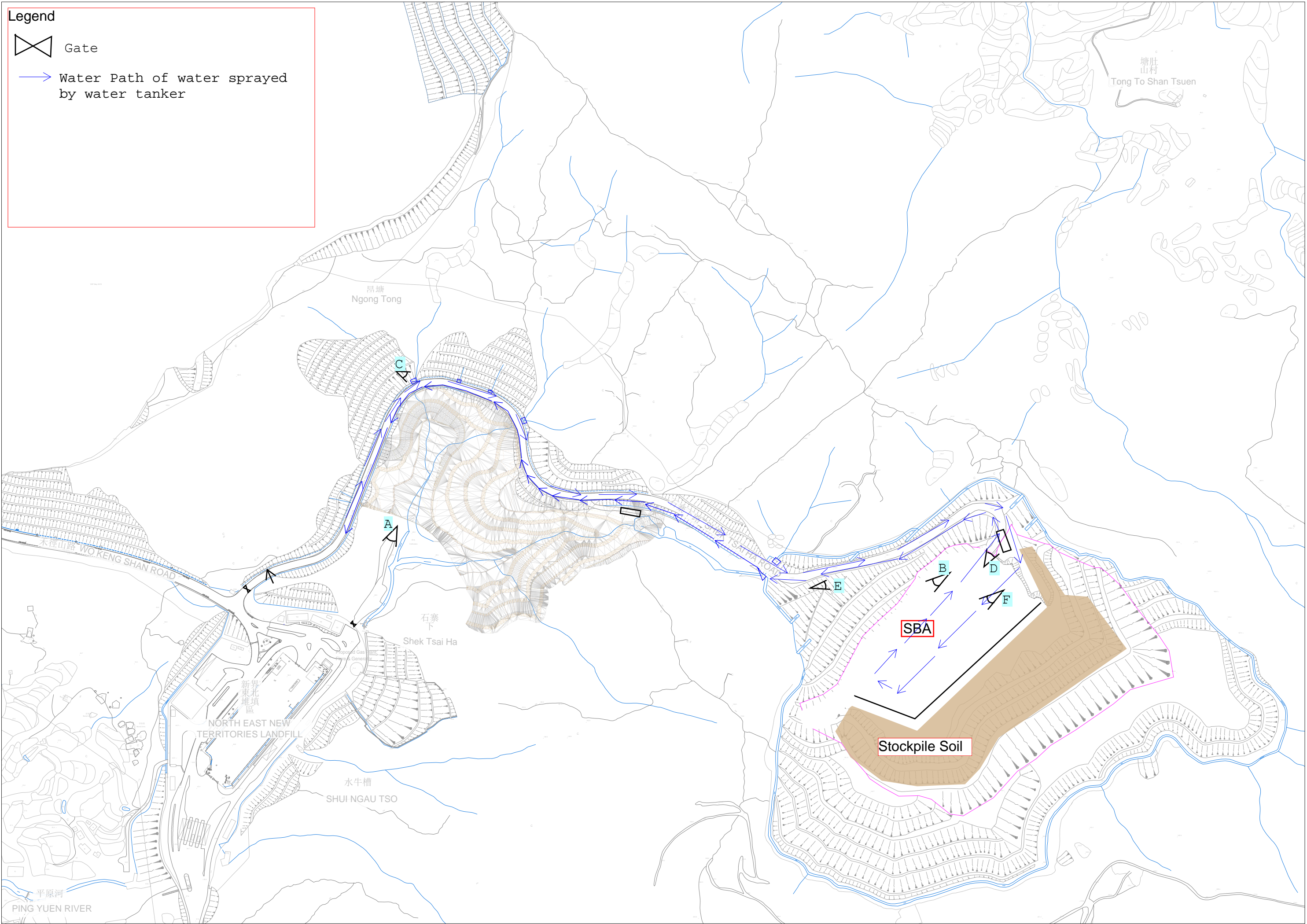
Drawing No.	NENTX-VES-DW-E-ZZ-000	Rev.	1
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Appendix A

**Path of water spraying by water tanker & Water
spraying by water hose & water tanker
schedule**

Legend


-  Gate
-  Water Path of water sprayed by water tanker



NENTX Watering Schedule

Month Mar-23

Date	Time	Portion	Area	Watering			Arranged by
				Water Hose	Sprinkler	Tanker	
1/3/2023	900	A			✓		Cheong
1/3/2023	900	D		✓			Fung
1/3/2023	900	E	SBA			✓	Chuen
1/3/2023	1030	A			✓		Cheong
1/3/2023	1030	D		✓			Fung
1/3/2023	1030	E	SBA			✓	Chuen
1/3/2023	1330	A			✓		Cheong
1/3/2023	1330	D		✓			Fung
1/3/2023	1330	E	SBA			✓	Chuen
1/3/2023	1530	A			✓		Cheong
1/3/2023	1530	D		✓			Fung
1/3/2023	1530	E	SBA			✓	Chuen
2/3/2023	900	A			✓		Cheong
2/3/2023	900	D		✓			Fung
2/3/2023	900	E	SBA			✓	Chuen
2/3/2023	1030	A			✓		Cheong
2/3/2023	1030	D		✓			Fung
2/3/2023	1030	E	SBA			✓	Chuen
2/3/2023	1330	A			✓		Cheong
2/3/2023	1330	D		✓			Fung
2/3/2023	1330	E	SBA			✓	Chuen
2/3/2023	1530	A			✓		Cheong
2/3/2023	1530	D		✓			Fung
2/3/2023	1530	E	SBA			✓	Chuen
3/3/2023	900	A			✓		Cheong
3/3/2023	900	D		✓			Fung
3/3/2023	900	E	SBA			✓	Chuen
3/3/2023	1030	A			✓		Cheong
3/3/2023	1030	D		✓			Fung
3/3/2023	1030	E	SBA			✓	Chuen
3/3/2023	1330	A			✓		Cheong
3/3/2023	1330	D		✓			Fung
3/3/2023	1330	E	SBA			✓	Chuen
3/3/2023	1530	A			✓		Cheong
3/3/2023	1530	D		✓			Fung
3/3/2023	1530	E	SBA			✓	Chuen
4/3/2023	900	A			✓		Cheong
4/3/2023	900	D		✓			Fung
4/3/2023	900	E	SBA			✓	Chuen
4/3/2023	1030	A			✓		Cheong
4/3/2023	1030	D		✓			Fung
4/3/2023	1030	E	SBA			✓	Chuen
4/3/2023	1330	A			✓		Cheong
4/3/2023	1330	D		✓			Fung
4/3/2023	1330	E	SBA			✓	Chuen
4/3/2023	1530	A			✓		Cheong
4/3/2023	1530	D		✓			Fung
4/3/2023	1530	E	SBA			✓	Chuen

Reviewed by: 
 PYE EO

Monitoring Data Received date: 10 March 2023

Date of Notification: 11 March 2023 (by email)

Works Inspected: Project Site Area & Monitoring Station AM1 & AM3

Monitoring Location: AM1 –Tung Lo Hang

Parameter: Air Quality (Construction Dust) – 24-hr TSP

Action & Limit Levels			Measured Level		Repeat Measured Level	
Time Period	Action Level	Limit Level	Monitoring Period:		Monitoring Period:	
24 hours	> 164	> 260	Concentration (µg/m ³)	490	Concentration (µg/m ³)	236

Monitoring Location: AM3 –Wo Keng Shan Tsuen

Parameter: Air Quality (Construction Dust) – 24-hr TSP

Action & Limit Levels			Measured Level		Repeat Measured Level	
Time Period	Action Level	Limit Level	Monitoring Period:		Monitoring Period:	
24 hours	> 163	> 260	Concentration (µg/m ³)	337	Concentration (µg/m ³)	237

Possible reason for Action or Limit Level Non-compliance:

An exceedance in Limit Level of 24-hr TSP air quality was recorded during impact monitoring at AM1 & AM3 from 2 to 3 March 2023. Based on the contractor's record, construction activities and mitigation measures conducted by contractor from 2 to 3 March 2023 [Photo 1 to Photo 14] were listed below:

Construction Activities from 2 to 3 March 2023	Mitigation Measures from 2 to 3 March 2023
Site formation at Portion A	Water spraying by sprinklers at Portion A
Permanent Building Foundation at Portion D	Water spraying by water hose at Portion D
Hydroseeding at Portion E3	Water spraying by water tanker along the haul road between Portion A and the SBA
Permanent Fencing Installation	Hydroseeding at bare slope at Portion E3-2

The path of water spraying by water tanker, the water spraying by water hose and the water tanker schedule are presented in **Appendix A**.

No high dusty construction works of the project were found by monitoring staff. The dust emission from vehicles was observed on the public road, Wo Keng Shan Road [Photo 15 to 16]. The monitoring location & site area are presented in **Figure 1**. The NENTX portions layout plan is presented in **Figure 2**.

Based on the HKO's record (Hong Kong Observatory Automatic Weather Station – Ta Kwu Ling), the prevailing wind direction was from east-southeast wind during the monitoring period.

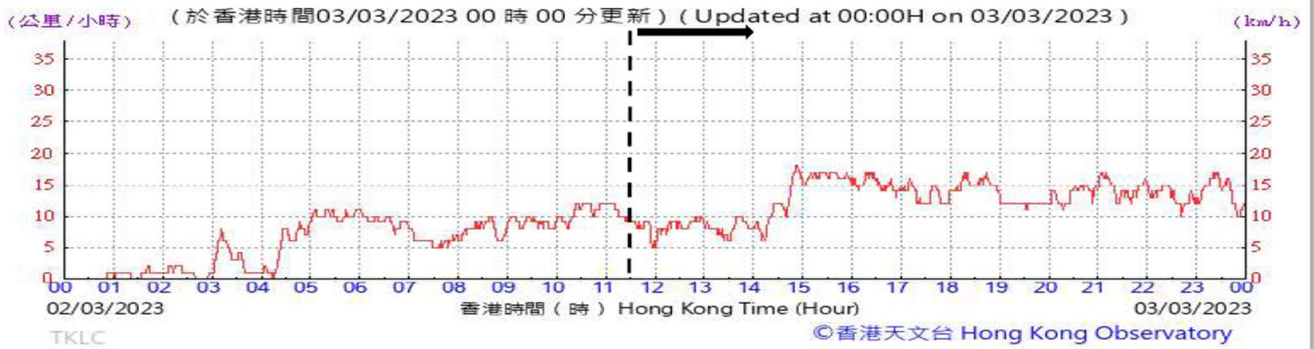
AM1

Although AM1 is located at downwind direction at Portion B1(including SBA) & Portion E2 to E4 (around 600 m of Portion A, 800 m of Portion B1, 900 m of Portion D & E4, 1000 km of Portion E3, 1700 m of SBA and Portion E2), the two natural barriers, where are the around 100 m height hill near Lung Mei Teng , and the around 150 m height hill between North East New Territories Landfill and Shek Tsai Ha Road, block part of the wind flow to the monitoring station. In addition, the appropriate dust control mitigation measures were implemented in construction area during the monitoring period. Therefore, the construction activities of the project may not cause the high level of concentration at AM1.

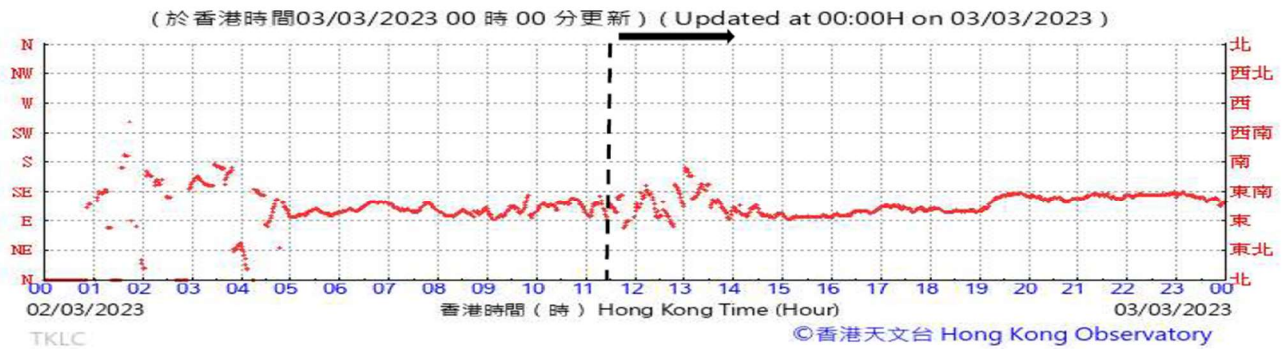
AM3

Although AM3 is located at downwind direction at Portion C, the Portion C was not the construction area from the project from commencement of construction to now. Therefore, the construction activities of the project may not cause the high level of concentration at AM3.

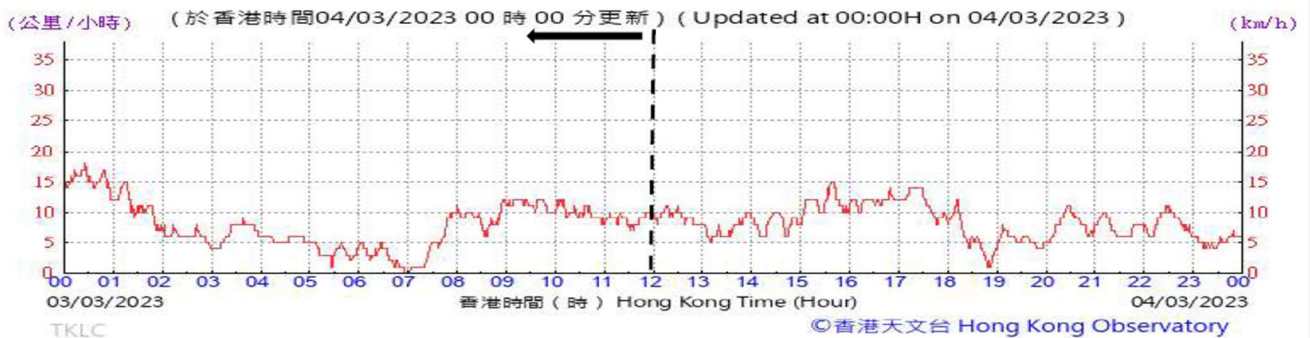
Wind Speed



Wind Direction



Wind Speed



Wind Direction

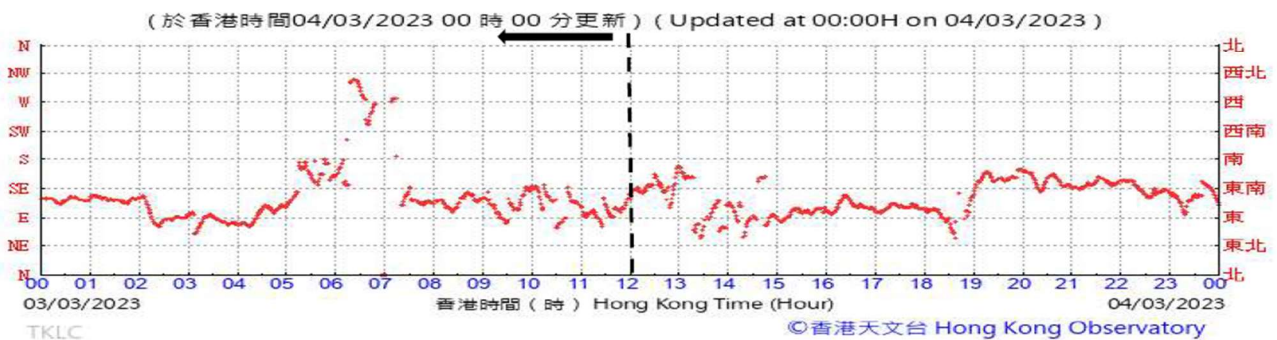


Photo 1 Site formation at Portion A



Photo 2 Permanent Building Foundation at Portion D



Photo 3 Hydroseeding at Portion E3



Photo 4 Permanent Fencing Installation



Photo 5 Water spraying by sprinklers at Portion A



Photo 6 Water spraying by sprinklers at Portion A



Photo 7 Water spraying by water hose at Portion D



02/03/2023

Photo 8 Water spraying by water tanker along the haul road between Portion A and the SBA



2023年3月2日 13:24:35
石寨下路
新界

Photo 9 Water spraying by water tanker along the haul road between Portion A and the SBA



2023年3月2日 09:06:53

Photo 10 Water spraying by water tanker along the haul road between Portion A and the SBA



2023年3月2日 09:06:23

Photo 11 Water spraying by water tanker along the haul road between Portion A and the SBA



2023年3月2日 09:06:05

Photo 12 Hydroseeding at bare slope at Portion E3-2 (Implemented start on 26 February 2023)





Photo 13 Dust emission from vehicles at Wo Keng Shan Road	Photo 14 Dust emission from vehicles at Wo Keng Shan Road
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Follow Up

Based on contractor's record, construction activities were observed within the site area which included site formation at Portion A, permanent building foundation at Portion D, hydroseeding at Portion E3 & permanent fencing installation from 2 to 3 March 2023. Appropriate dust control mitigation measures were implemented at construction area during the monitoring period. No construction works causing high dust emission were found during the monitoring period. Following the Event and Action Plan, a repeat monitoring was undertaken from 3 to 4 March 2023 to confirm findings which showed that the action level exceedance occurred at AM1 & AM3.

- Actions taken/ to be taken:**
- Due to the measurement from 2 to 3 March 2023 exceeded the Limit Level at AM1 & AM3, the actions taken by ET in accordance with the Event/ Action Plan for dust impact were listed below:
- ✓ Identify source
 - ✓ Increase monitoring frequency to daily
 - ✓ Inform IEC, IC and EPD the causes and actions taken for the exceedances
 - ✓ Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented
 - ✓ Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and IC informed of the results
- Due to the repeat measurement from 3 to 4 March 2023 exceeded the Action Level at AM1 & AM3, the below actions will be taken by ET in accordance with the Event/ Action Plan for dust impact:
- ✓ Identify source
 - ✓ Inform IEC and Contractor
 - ✓ Repeat measurement to confirm findings
 - ✓ Increase monitoring frequency to daily
 - ✓ Discuss with IEC/IC for remedial actions required

- ✓ If exceedance continues, arrange meeting with IEC
- ✓ If exceedance stops, cease additional monitoring

The monitoring frequency was increased to daily starting from 1 March 2023. The Construction Dust Control Mitigation Measures by the Environmental Mitigation Measure Implementation Schedule (EMIS) will continue to be implemented by the contractor. The additional mitigation measures [Photo 17 to 19] are implemented by contractor. Details are shown below:

Additional Mitigation Measures	Start Date
Application of cement slurry at Portion A	10 March 2023

Photo 17 Application of cement slurry at Portion A



Photo 18 Application of cement slurry at Portion A



Photo 19 Application of cement slurry at Portion A

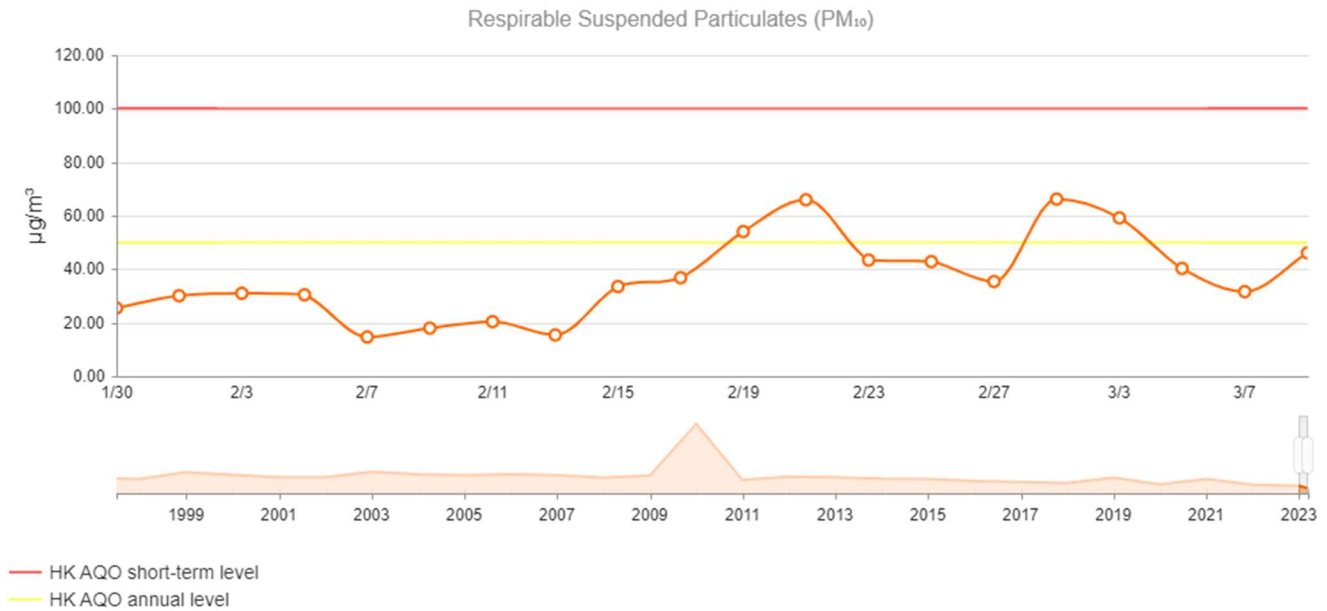


The planning additional mitigation measures will be implemented by contractor. Details are shown below:

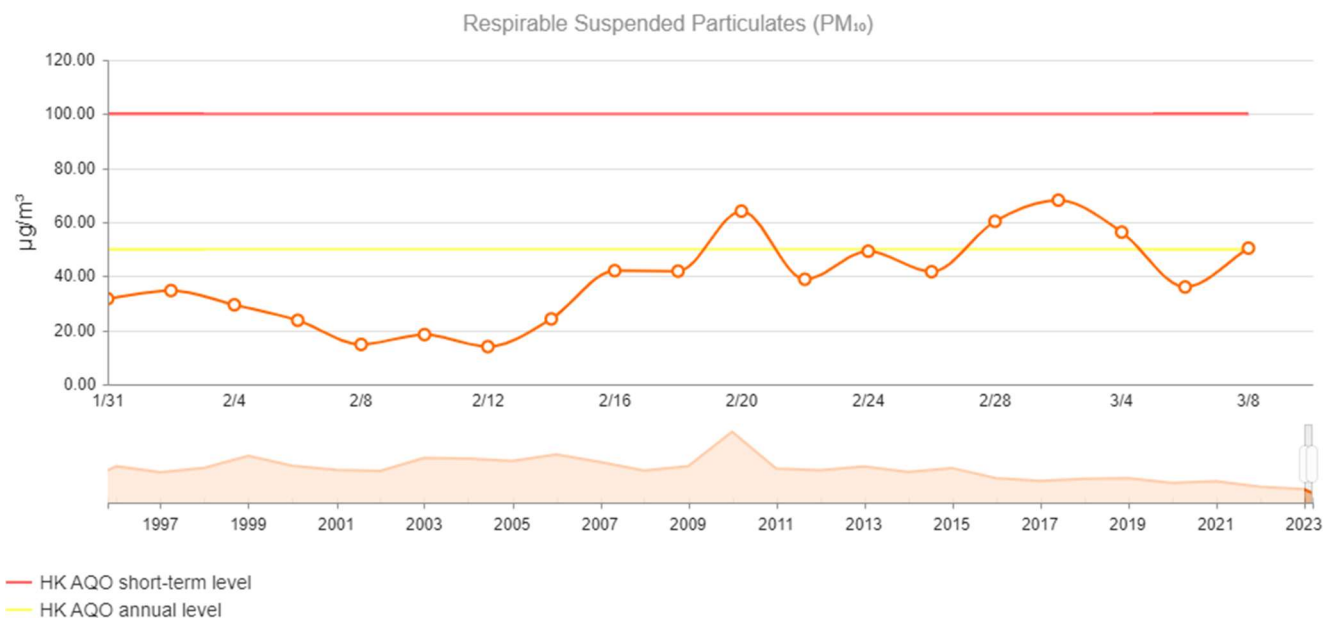
Planning Additional Mitigation Measures	Estimated Implementation Date
Installation of more sprinklers at Portion A	17 March 2023
Application of cement slurry on the slopes of Portion A	24 March 2023
Hard Paving of a 300 m section of haul road near the SBA	30 March 2023

In view of the press releases from the government on 1 March 2023, the health risk category for Air Quality Health Index (AQHIs) may reach the "Serious" level on 1 March 2023 (<https://www.info.gov.hk/gia/general/202303/01/P2023030100565.htm?fontSize=1>). Respirable Suspended Particulates (RSP)(PM₁₀) is one of monitoring parameter from AQHIs. The RSP concentration at EPD Tai Po & Yuen Long monitoring station are shown in below:

Tai Po Station




Yuen Long Station

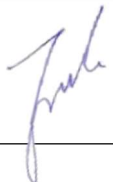


Both the TSP and RSP are suspended particles but refer to different diameters. TSP refers to the total amount of suspended particulate matter (PM₃₀) in the air, including both larger and smaller particles, while RSP refers explicitly to the smaller particles (PM₁₀). As such, RSP concentration can be considered a component of TSP concentration since it represents a subset of the total suspended particulate matter in the air. Therefore, the high RSP concentration recorded will affect the monitoring results.

Based on no construction works of the Project causing high dust emission with the properly implemented dust mitigation measures as above mention. And the influence of high concentrations of regional background particulates was identified at EPD air quality monitoring stations during the monitoring period. Therefore, the exceedances at AM1 & AM3 were considered to be attributed to external factors and mostly unlikely to be related to the Project.

Reviewed by: 

Keith Chau

Approved by: 

Fredrick Leong

Title: Deputy ET Leader

Date: 17 Mar 2023

Title: ET Leader

Date: 17 Mar 2023

Figure 1

Impact Monitoring Location

Legend

-  NENTX Project Site
-  Air Monitoring Location

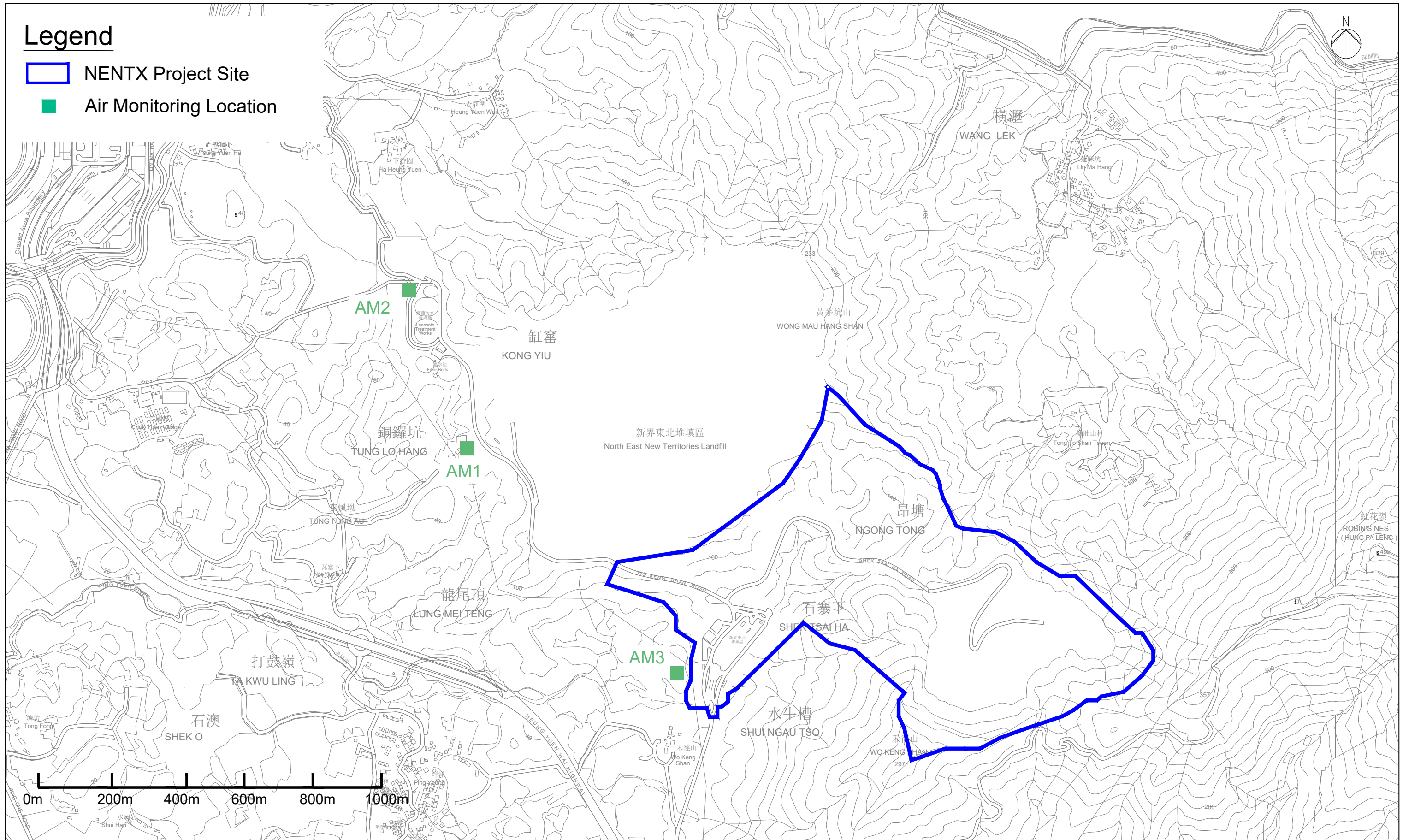
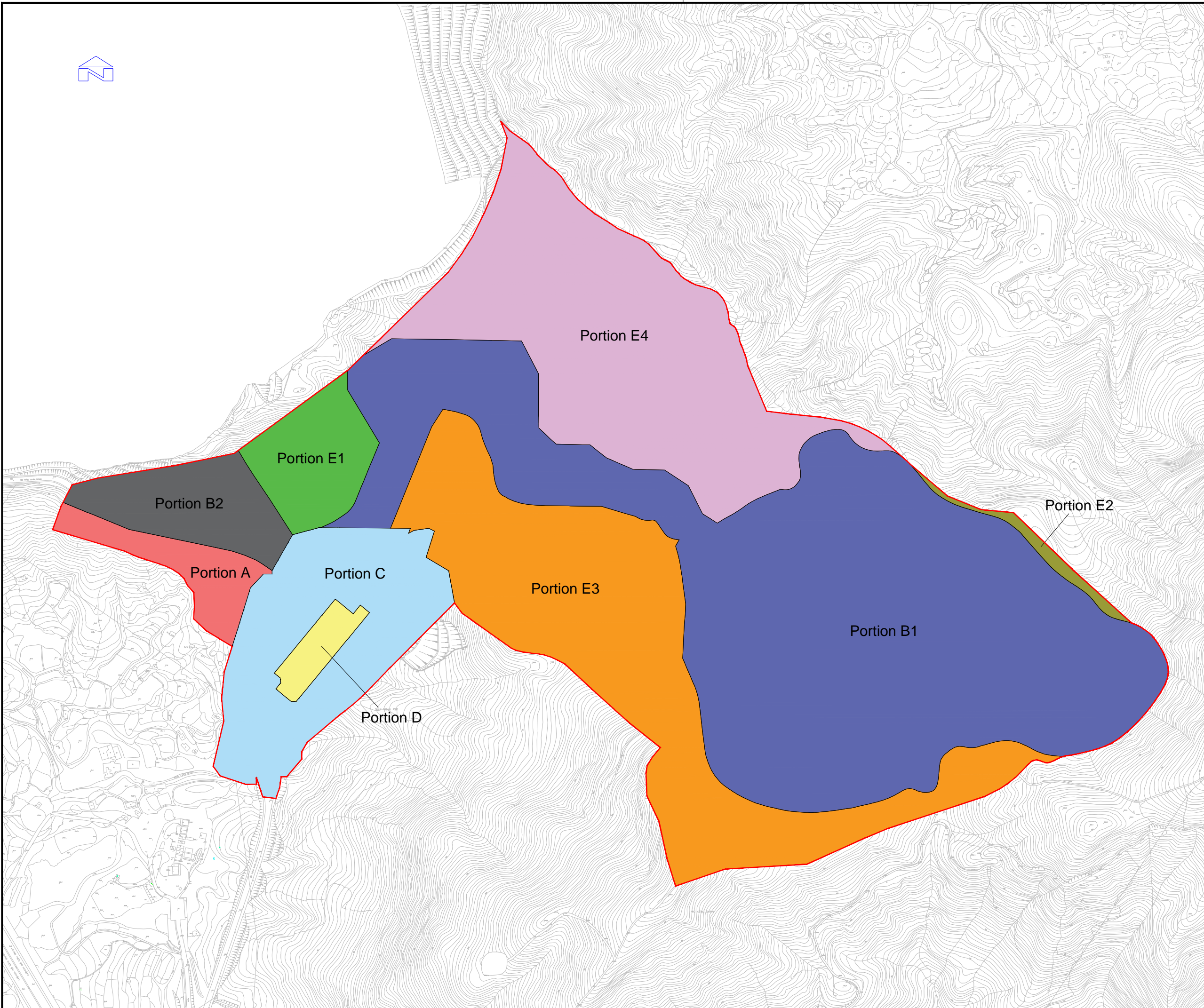


Figure 2

NENTX Portions Layout Plan



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LEGEND :

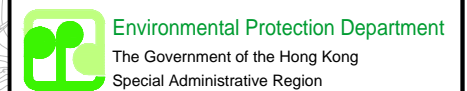
- SITE BOUNDARY
- PORTION BOUNDARY
- PORTION A
- PORTION B1
- PORTION B2
- PORTION C
- PORTION D
- PORTION E1
- PORTION E2
- PORTION E3
- PORTION E4

1	FIRST ISSUE	JN	22/3/23	WW
Rev.	Description	By	Date	Approved

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Design	JN	Approved	WW
Date	22/3/2023	Scale	N.T.S.

Contract
CONTRACT EP/SP/75/15
 DEVELOPMENT AND MANAGEMENT
 OF NORTH EAST NEW TERRITORIES
 LANDFILL EXTENSION (NENTX)





Drawing Title
PORTIONS LAYOUT PLAN

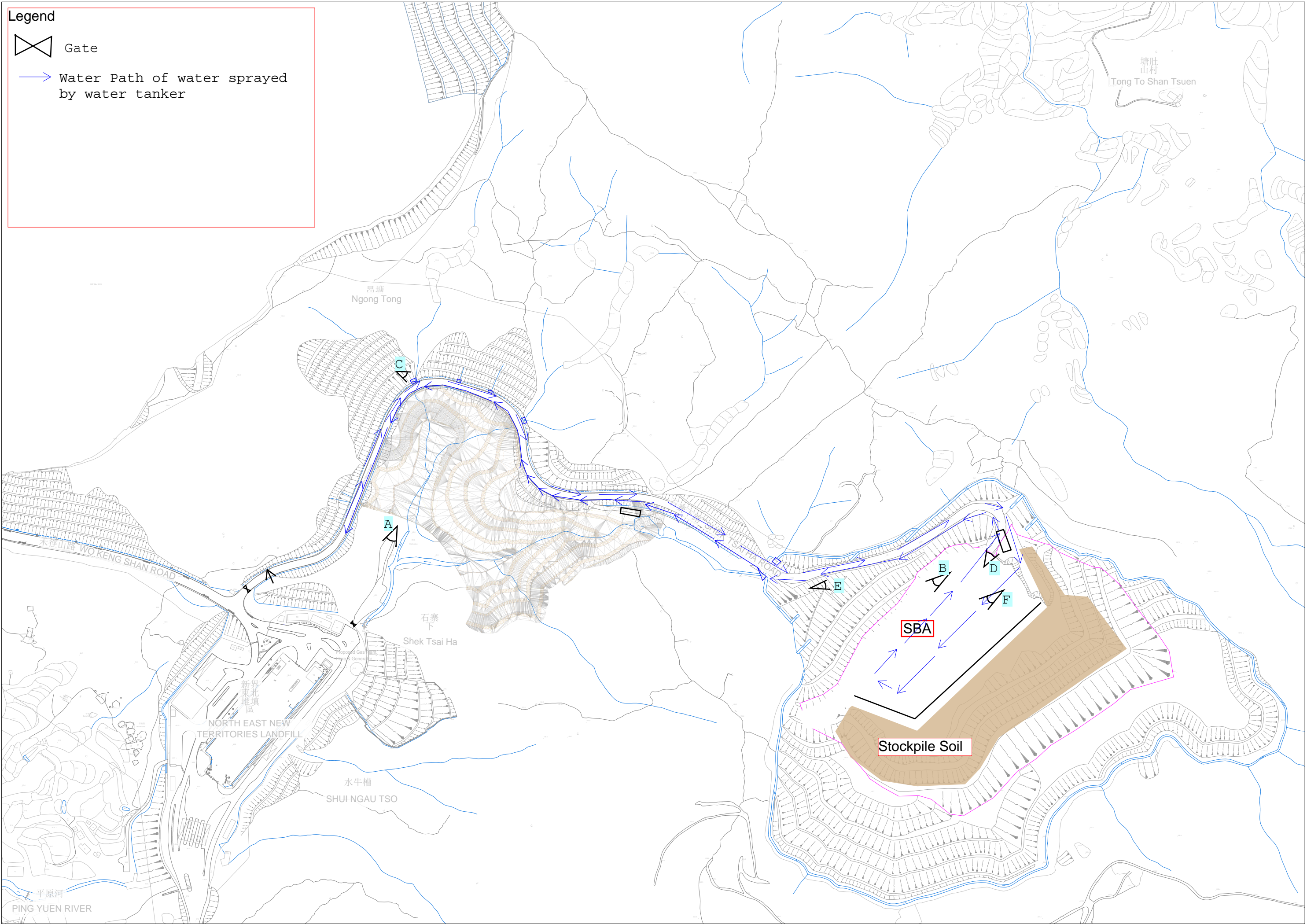
Drawing No. NENTX-VES-DW-E-ZZ-000	Rev. 1
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Appendix A

**Path of water spraying by water tanker & Water
spraying by water hose & water tanker
schedule**

Legend


-  Gate
-  Water Path of water sprayed by water tanker



NENTX Watering Schedule

Month Mar-23

Date	Time	Portion	Area	Watering			Arranged by
				Water Hose	Sprinkler	Tanker	
1/3/2023	900	A			✓		Cheong
1/3/2023	900	D		✓			Fung
1/3/2023	900	E	SBA			✓	Chuen
1/3/2023	1030	A			✓		Cheong
1/3/2023	1030	D		✓			Fung
1/3/2023	1030	E	SBA			✓	Chuen
1/3/2023	1330	A			✓		Cheong
1/3/2023	1330	D		✓			Fung
1/3/2023	1330	E	SBA			✓	Chuen
1/3/2023	1530	A			✓		Cheong
1/3/2023	1530	D		✓			Fung
1/3/2023	1530	E	SBA			✓	Chuen
2/3/2023	900	A			✓		Cheong
2/3/2023	900	D		✓			Fung
2/3/2023	900	E	SBA			✓	Chuen
2/3/2023	1030	A			✓		Cheong
2/3/2023	1030	D		✓			Fung
2/3/2023	1030	E	SBA			✓	Chuen
2/3/2023	1330	A			✓		Cheong
2/3/2023	1330	D		✓			Fung
2/3/2023	1330	E	SBA			✓	Chuen
2/3/2023	1530	A			✓		Cheong
2/3/2023	1530	D		✓			Fung
2/3/2023	1530	E	SBA			✓	Chuen
3/3/2023	900	A			✓		Cheong
3/3/2023	900	D		✓			Fung
3/3/2023	900	E	SBA			✓	Chuen
3/3/2023	1030	A			✓		Cheong
3/3/2023	1030	D		✓			Fung
3/3/2023	1030	E	SBA			✓	Chuen
3/3/2023	1330	A			✓		Cheong
3/3/2023	1330	D		✓			Fung
3/3/2023	1330	E	SBA			✓	Chuen
3/3/2023	1530	A			✓		Cheong
3/3/2023	1530	D		✓			Fung
3/3/2023	1530	E	SBA			✓	Chuen
4/3/2023	900	A			✓		Cheong
4/3/2023	900	D		✓			Fung
4/3/2023	900	E	SBA			✓	Chuen
4/3/2023	1030	A			✓		Cheong
4/3/2023	1030	D		✓			Fung
4/3/2023	1030	E	SBA			✓	Chuen
4/3/2023	1330	A			✓		Cheong
4/3/2023	1330	D		✓			Fung
4/3/2023	1330	E	SBA			✓	Chuen
4/3/2023	1530	A			✓		Cheong
4/3/2023	1530	D		✓			Fung
4/3/2023	1530	E	SBA			✓	Chuen

Reviewed by: 
 PYE EO

Monitoring Data Received date: 10 March 2023

Date of Notification: 11 March 2023 (by email)

Works Inspected: Project Site Area & Monitoring Station AM1 & AM3

Monitoring Location: AM1 –Tung Lo Hang

Parameter: Air Quality (Construction Dust) – 24-hr TSP

Action & Limit Levels			Measured Level		Repeat Measured Level	
Time Period	Action Level	Limit Level	Monitoring Period:		Monitoring Period:	
24 hours	> 164	> 260	Concentration (µg/m ³)	236	Concentration (µg/m ³)	308

Monitoring Location: AM3 –Wo Keng Shan Tsuen

Parameter: Air Quality (Construction Dust) – 24-hr TSP

Action & Limit Levels			Measured Level		Repeat Measured Level	
Time Period	Action Level	Limit Level	Monitoring Period:		Monitoring Period:	
24 hours	> 163	> 260	Concentration (µg/m ³)	237	Concentration (µg/m ³)	189

Possible reason for Action or Limit Level Non-compliance:

An exceedance in Action Level of 24-hr TSP air quality was recorded during impact monitoring at AM1 & AM3 from 3 to 4 March 2023. Based on the contractor's record, construction activities and mitigation measures conducted by contractor from 3 to 4 March 2023 [Photo 1 to Photo 16] were listed below:

Construction Activities from 3 to 4 March 2023	Mitigation Measures from 3 to 4 March 2023
Permanent Fencing Installation	Water spraying by sprinklers & hose at Portion A
Site formation at Portion A	Water spraying by water hose at Portion D
Permanent Building Foundation at Portion D	Hydroseeding at bare slope at Portion E3-2
	Water spraying by water tanker along the haul road between Portion A and the SBA

The path of water spraying by water tanker, the water spraying by water hose and the water tanker schedule are presented in **Appendix A**.

No high dusty construction works of the project were found by monitoring staff. The dust emission from vehicles was observed on the public road, Wo Keng Shan Road. The monitoring location & site area are presented in **Figure 1**. The NENTX portions layout plan is presented in **Figure 2**.

Based on the HKO's record (Hong Kong Observatory Automatic Weather Station – Ta Kwu Ling), the prevailing wind direction was from east-southeast to southeast wind during the monitoring period.

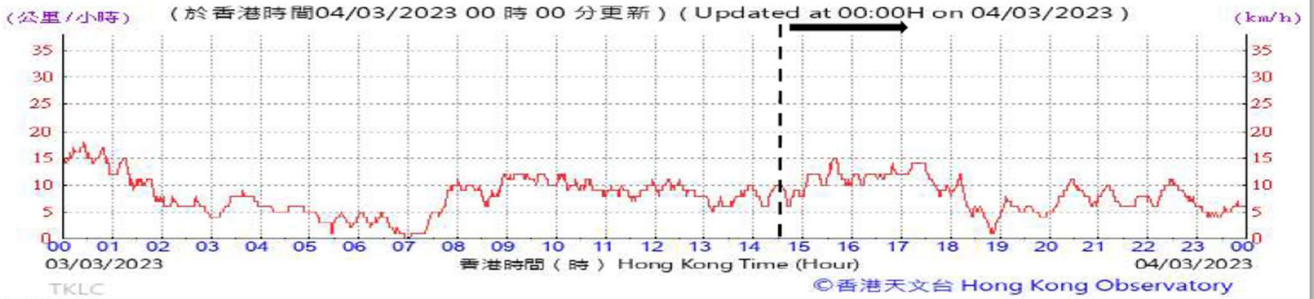
AM1

Although AM1 is located at downwind direction at Portion B1(including SBA) & Portion E2 to E4 (around 600 m of Portion A, 800 m of Portion B1, 900 m of Portion D & E4, 1000 km of Portion E3, 1700 m of SBA and Portion E2), the two natural barriers, where are the around 100 m height hill near Lung Mei Teng , and the around 150 m height hill between North East New Territories Landfill and Shek Tsai Ha Road, block part of the wind flow to the monitoring station. In addition, the appropriate dust control mitigation measures were implemented in construction area during the monitoring period. Therefore, the construction activities of the project may not cause the high level of concentration at AM1.

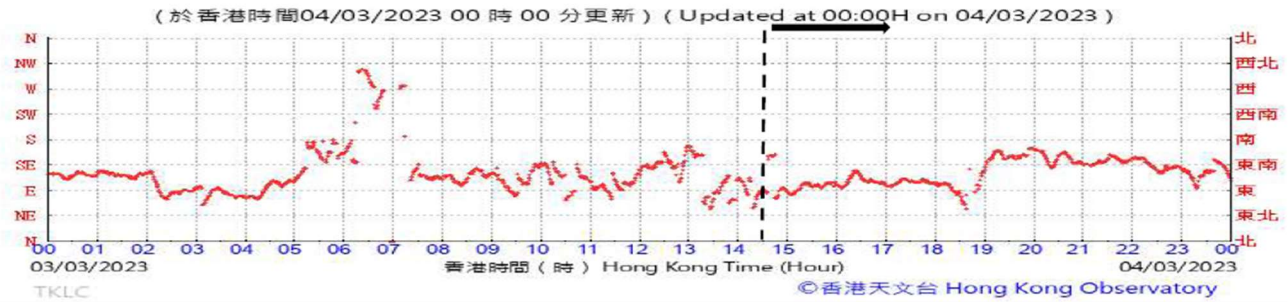
AM3

Although AM3 is located at downwind direction at Portion C, the Portion C was not the construction area from the project from commencement of construction to now. Therefore, the construction activities of the project may not cause the high level of concentration at AM3.

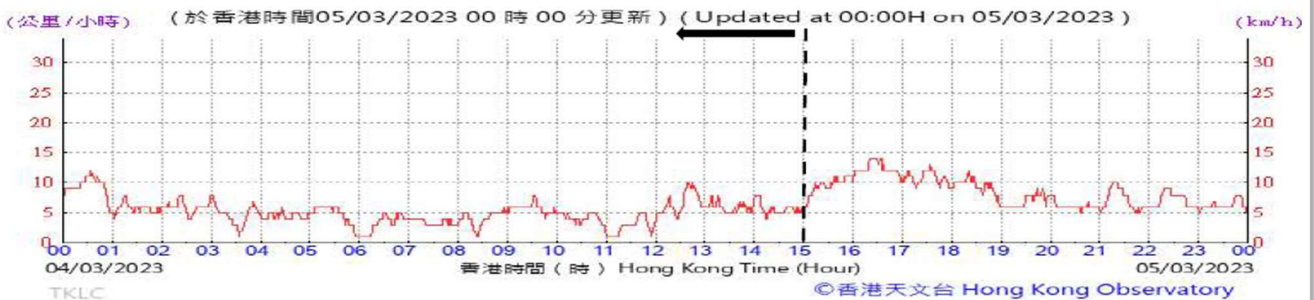
Wind Speed



Wind Direction



Wind Speed



Wind Direction

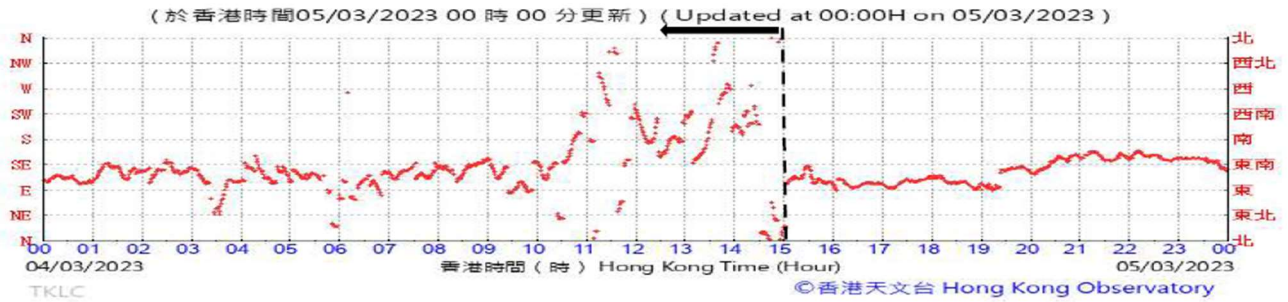


Photo 1 Permanent Fencing Installation



Photo 2 Site formation at Portion A



Photo 3 Permanent Building Foundation at Portion D



Photo 4 Water spraying by water sprinklers at Portion A



Photo 5 Water spraying by water sprinklers at Portion A



Photo 6 Water spraying by water sprinklers at Portion A



Photo 7 Water spraying by water sprinklers at Portion A



Photo 8 Water spraying by water hose at Portion A



Photo 9 Water spraying by water hose at Portion D

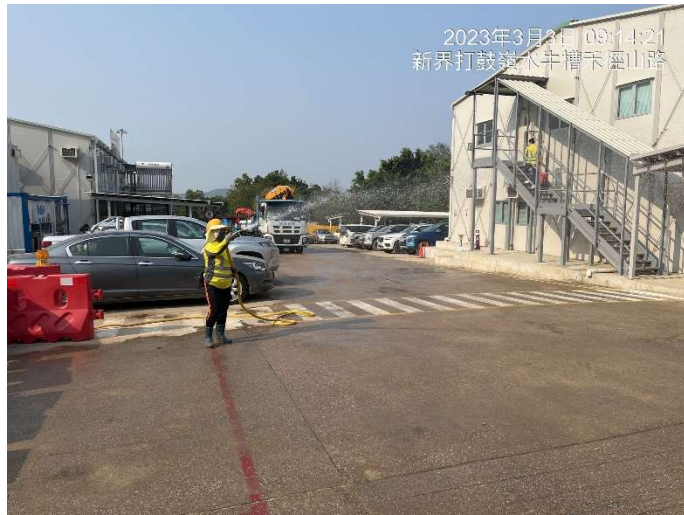


Photo 10 Water spraying by water hose at Portion D



Photo 11 Water spraying by water hose at Portion D



Photo 12 Water spraying by water hose at Portion D



Photo 13 Water spraying by water hose at Portion D

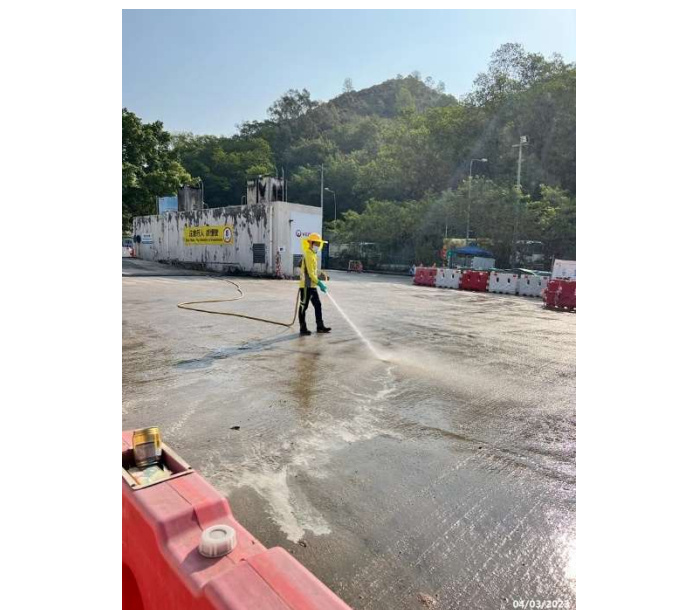


Photo 14 Water spraying by water hose at Portion D

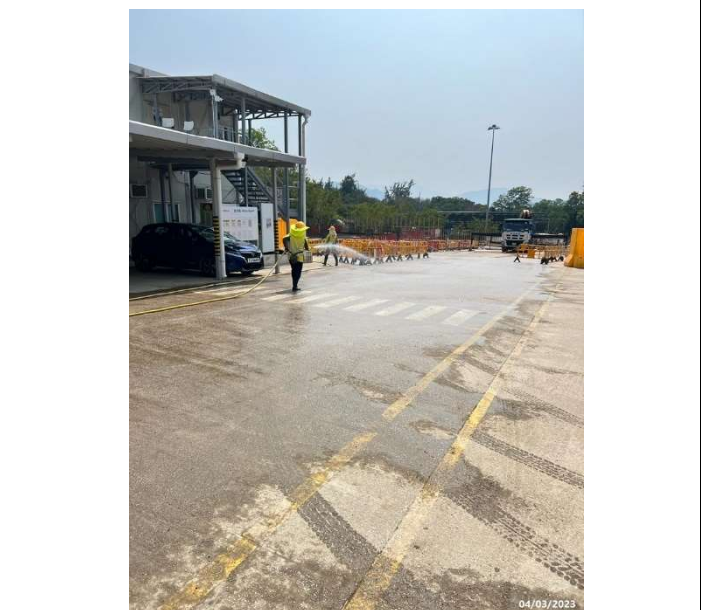


Photo 15 Hydroseeding at bare slope at Portion E3-2

Photo 16 Water spraying by water tanker along the haul road between Portion A and the SBA



Follow Up

Based on the contractor's record, construction activities were observed within the site area which included permanent fencing installation, site formation at Portion A & permanent building foundation at Portion D from 3 to 4 March 2023. Appropriate dust control mitigation measures were implemented at construction area during the monitoring period. No construction works causing high dust emission were found during the monitoring period. Following the Event and Action Plan, a repeat monitoring was undertaken from 4 to 5 March 2023 to confirm findings which showed that the limit level exceedance occurred at AM1 & the action level exceedance occurred at AM3.

Actions taken/ to be taken:

Due to the measurement from 3 to 4 March 2023 exceeded the Action Level at AM1 & AM3, the actions taken by ET in accordance with the Event/ Action Plan for dust impact were listed below:

- ✓ Identify source
- ✓ Inform IEC and Contractor
- ✓ Repeat measurement to confirm findings
- ✓ Increase monitoring frequency to daily
- ✓ If exceedance continues, arrange meeting with IEC

The monitoring frequency was increased to daily starting from 1 March 2023. The Construction Dust Control Mitigation Measures by the Environmental Mitigation Measure Implementation Schedule (EMIS) will continue to be implemented by the contractor. The additional mitigation measures [Photo 17 to 19] are implemented by contractor. Details are shown below:

Additional Mitigation Measures	Start Date
Application of cement slurry at Portion A	10 March 2023

Photo 17 Application of cement slurry at Portion A

Photo 18 Application of cement slurry at Portion A



Photo 19 Application of cement slurry at Portion A

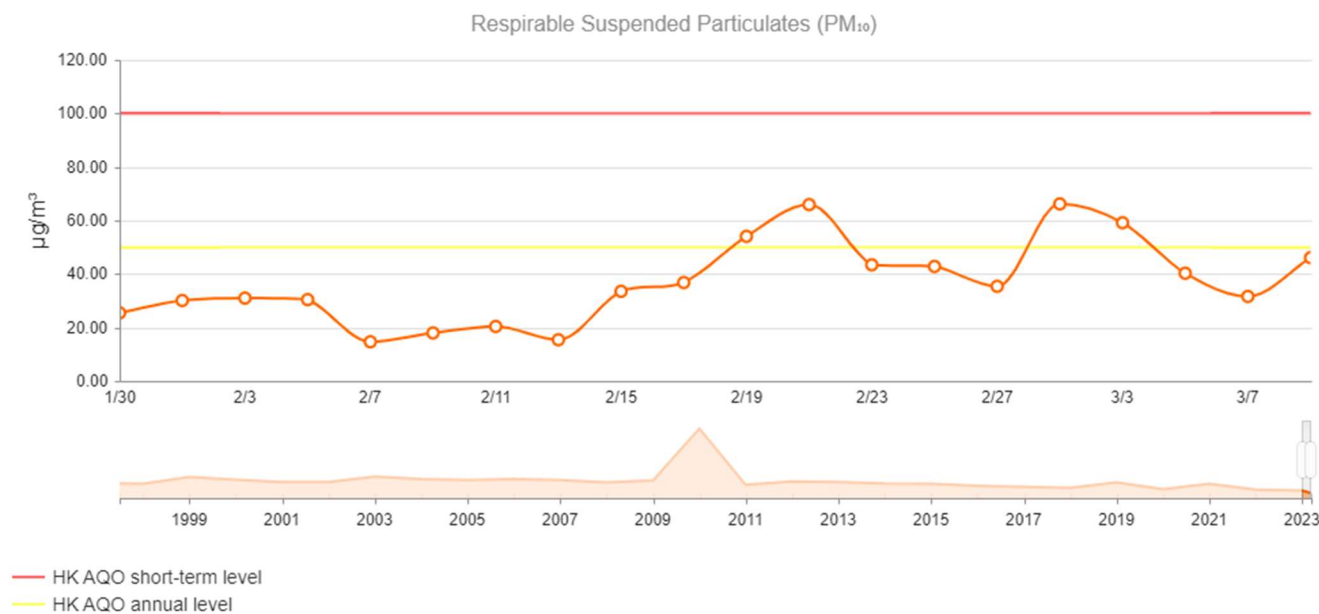


The planning additional mitigation measures will be implemented by contractor. Details are shown below:

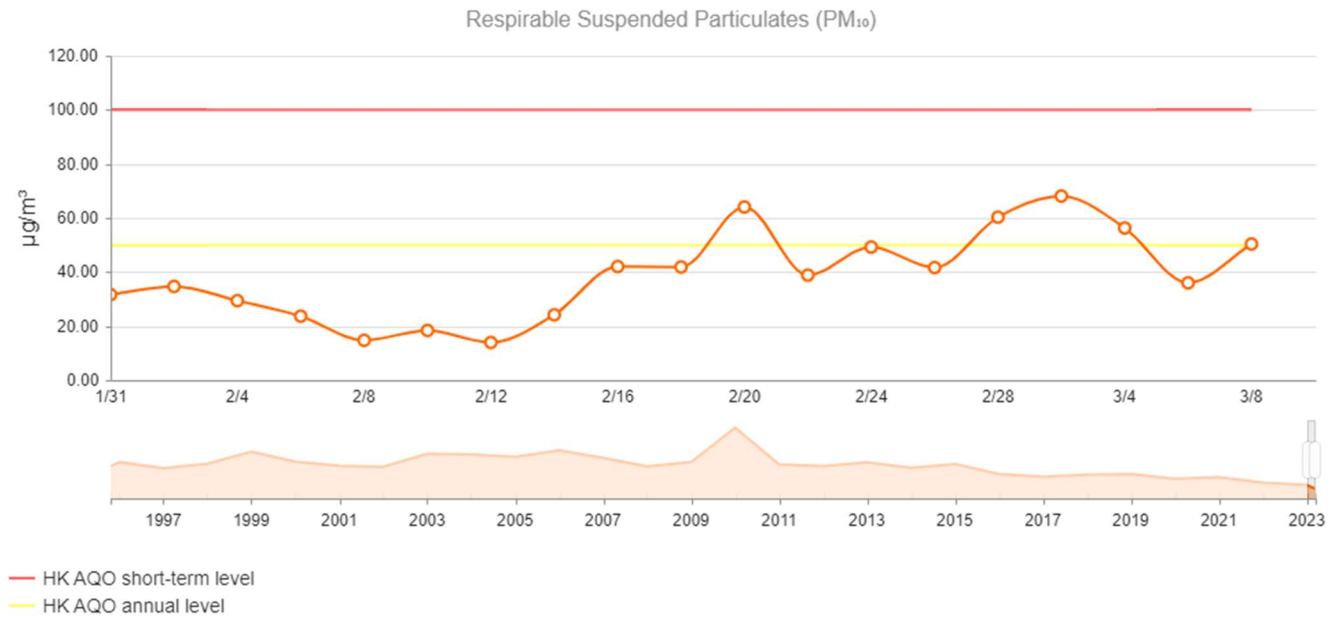
Planning Additional Mitigation Measures	Estimated Implementation Date
Installation of more sprinklers at Portion A	17 March 2023
Application of cement slurry on the slopes of Portion A	24 March 2023
Hard Paving of a 300 m section of haul road near the SBA	30 March 2023

In view of the press releases from the government on 1 March 2023, the health risk category for Air Quality Health Index (AQHIs) may reach the "Serious" level on 1 March 2023 (<https://www.info.gov.hk/qia/general/202303/01/P2023030100565.htm?fontSize=1>). Respirable Suspended Particulates (RSP)(PM₁₀) is one of monitoring parameter from AQHIs. The RSP concentration at EPD Tai Po & Yuen Long monitoring station are shown in below:

Tai Po Station




Yuen Long Station



Both the TSP and RSP are suspended particles but refer to different diameters. TSP refers to the total amount of suspended particulate matter (PM30) in the air, including both larger and smaller particles, while RSP refers explicitly to the smaller particles (PM10). As such, RSP concentration can be considered a component of TSP concentration since it represents a subset of the total suspended particulate matter in the air. Therefore, the high RSP concentration recorded will affect the monitoring results

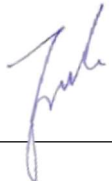
Based on no construction works of the Project causing high dust emission with the properly implemented dust mitigation measures as above mention. And the influence of high concentrations of regional background particulates was identified at EPD air quality monitoring stations during the monitoring period. Therefore, the exceedances at AM1 & AM3 were considered to be attributed to external factors and mostly unlikely to be related to the Project.

In conclusion, the 24hr-TSP Monitoring results at AM1 and AM3 exceeded the Action and Limit Levels continuously during the additional monitoring from 1 to 5 March 2023. The monitoring results at AM1 and AM3 remained at high concentration levels despite the contractor's continuous implementation enhance dust control measures. After the investigation, the monitoring results at AM1 & AM3 of the 24-hr TSP monitoring on 24 Mar 2023 and 24-hr TSP additional monitoring from 1 to 5 March 2023 are likely caused by external sources such as the high level of background air quality in Hong Kong during the monitoring period etc and not project related. Hence, the additional monitoring at AM1 & AM3 ceased on 5 March 2023.

Reviewed by: 
Keith Chau

Title: Deputy ET Leader

Date: 17 Mar 2023

Approved by: 
Fredrick Leong

Title: ET Leader

Date: 17 Mar 2023

Figure 1

Impact Monitoring Location

Legend

-  NENTX Project Site
-  Air Monitoring Location

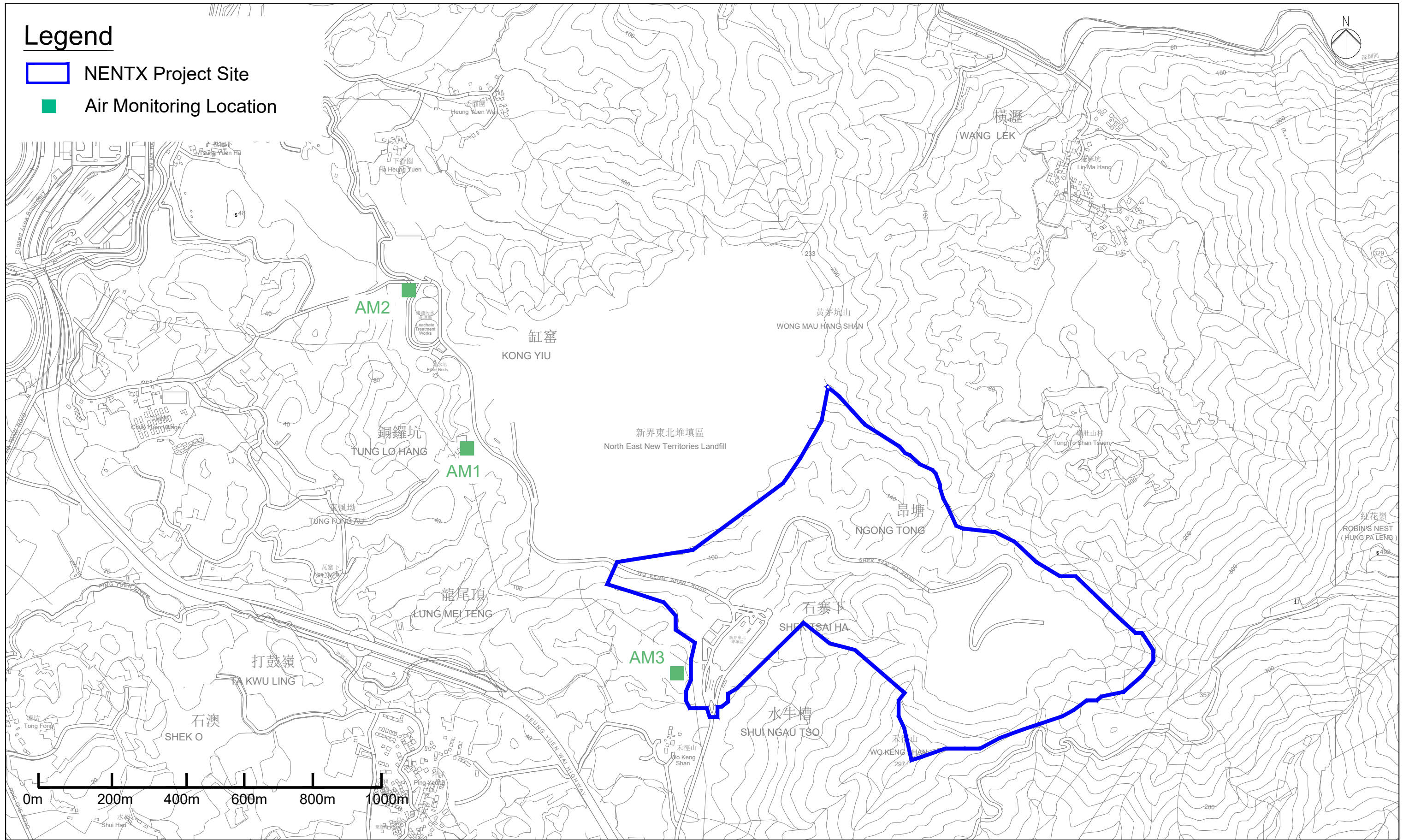
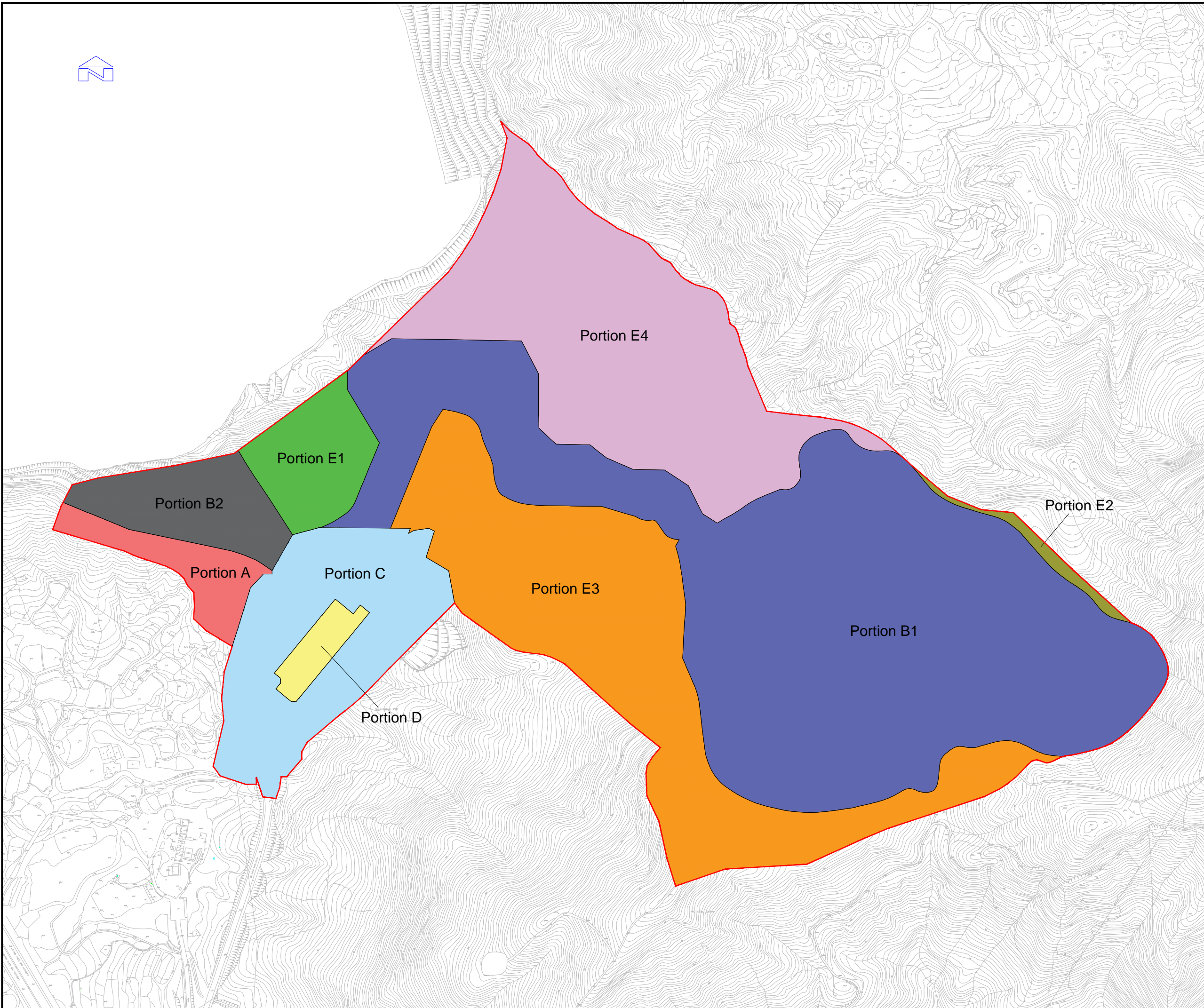


Figure 2

NENTX Portions Layout Plan



Maps Reproduced with Permission of the Director of Lands C Hong Kong Government



LEGEND :

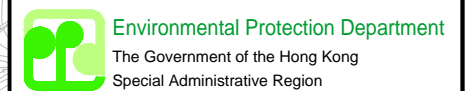
- SITE BOUNDARY
- PORTION BOUNDARY
- PORTION A
- PORTION B1
- PORTION B2
- PORTION C
- PORTION D
- PORTION E1
- PORTION E2
- PORTION E3
- PORTION E4

1	FIRST ISSUE	JN	22/3/23	WW
Rev.	Description	By	Date	Approved

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Design	JN	Approved	WW
Date	22/3/2023	Scale	N.T.S.

Contract
CONTRACT EP/SP/75/15
 DEVELOPMENT AND MANAGEMENT
 OF NORTH EAST NEW TERRITORIES
 LANDFILL EXTENSION (NENTX)





Drawing Title
PORTIONS LAYOUT PLAN

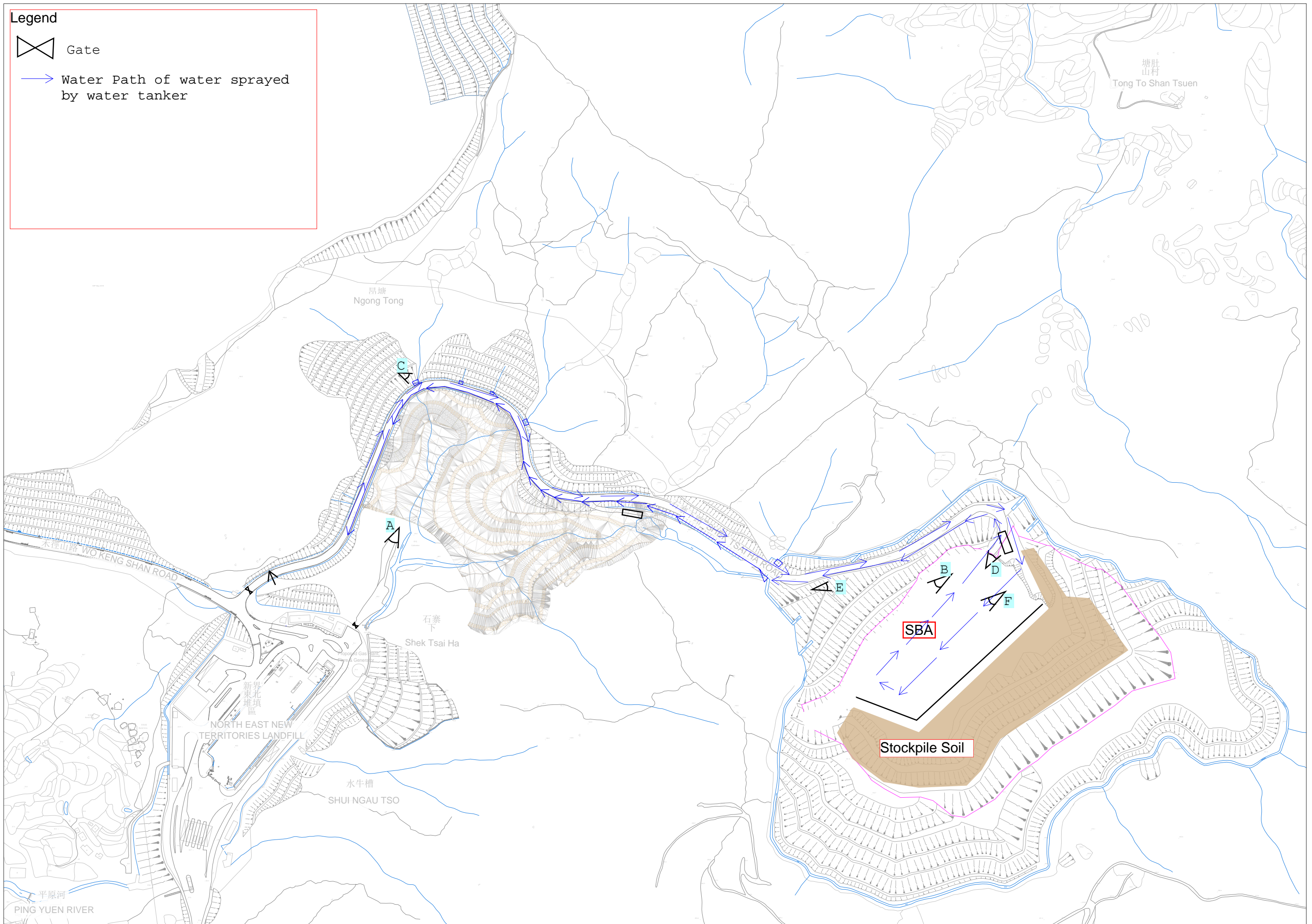
Drawing No. NENTX-VES-DW-E-ZZ-000	Rev. 1
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Appendix A

**Path of water spraying by water tanker & Water
spraying by water hose & water tanker
schedule**

Legend


-  Gate
-  Water Path of water sprayed by water tanker



NENTX Watering Schedule

Month Mar-23

Date	Time	Portion	Area	Watering			Arranged by
				Water Hose	Sprinkler	Tanker	
1/3/2023	900	A			✓		Cheong
1/3/2023	900	D		✓			Fung
1/3/2023	900	E	SBA			✓	Chuen
1/3/2023	1030	A			✓		Cheong
1/3/2023	1030	D		✓			Fung
1/3/2023	1030	E	SBA			✓	Chuen
1/3/2023	1330	A			✓		Cheong
1/3/2023	1330	D		✓			Fung
1/3/2023	1330	E	SBA			✓	Chuen
1/3/2023	1530	A			✓		Cheong
1/3/2023	1530	D		✓			Fung
1/3/2023	1530	E	SBA			✓	Chuen
2/3/2023	900	A			✓		Cheong
2/3/2023	900	D		✓			Fung
2/3/2023	900	E	SBA			✓	Chuen
2/3/2023	1030	A			✓		Cheong
2/3/2023	1030	D		✓			Fung
2/3/2023	1030	E	SBA			✓	Chuen
2/3/2023	1330	A			✓		Cheong
2/3/2023	1330	D		✓			Fung
2/3/2023	1330	E	SBA			✓	Chuen
2/3/2023	1530	A			✓		Cheong
2/3/2023	1530	D		✓			Fung
2/3/2023	1530	E	SBA			✓	Chuen
3/3/2023	900	A			✓		Cheong
3/3/2023	900	D		✓			Fung
3/3/2023	900	E	SBA			✓	Chuen
3/3/2023	1030	A			✓		Cheong
3/3/2023	1030	D		✓			Fung
3/3/2023	1030	E	SBA			✓	Chuen
3/3/2023	1330	A			✓		Cheong
3/3/2023	1330	D		✓			Fung
3/3/2023	1330	E	SBA			✓	Chuen
3/3/2023	1530	A			✓		Cheong
3/3/2023	1530	D		✓			Fung
3/3/2023	1530	E	SBA			✓	Chuen
4/3/2023	900	A			✓		Cheong
4/3/2023	900	D		✓			Fung
4/3/2023	900	E	SBA			✓	Chuen
4/3/2023	1030	A			✓		Cheong
4/3/2023	1030	D		✓			Fung
4/3/2023	1030	E	SBA			✓	Chuen
4/3/2023	1330	A			✓		Cheong
4/3/2023	1330	D		✓			Fung
4/3/2023	1330	E	SBA			✓	Chuen
4/3/2023	1530	A			✓		Cheong
4/3/2023	1530	D		✓			Fung
4/3/2023	1530	E	SBA			✓	Chuen

Reviewed by: 
 PYE EO

Monitoring Data Received date: 10 March 2023

Date of Notification: 10 March 2023 (by email)

Works Inspected: Project Site Area & Monitoring Station AM1 & AM3

Monitoring Location: AM1 –Tung Lo Hang

Parameter: Air Quality (Construction Dust) – 24-hr TSP

Action & Limit Levels

Measured Level

Time Period	Action Level	Limit Level	Monitoring Period:	
24 hours	> 164	> 260	Concentration ($\mu\text{g}/\text{m}^3$)	4 Mar 2023 15:03 to 5 Mar 2023 16:16 308

Monitoring Location: AM3 –Wo Keng Shan Tsuen

Parameter: Air Quality (Construction Dust) – 24-hr TSP

Action & Limit Levels

Measured Level

Time Period	Action Level	Limit Level	Monitoring Period:	
24 hours	> 163	> 260	Concentration ($\mu\text{g}/\text{m}^3$)	4 Mar 2023 14:36 to 5 Mar 2023 16:16 189

Possible reason for Action or Limit Level Non-compliance:

An exceedance in Action Level of 24-hr TSP air quality was recorded during impact monitoring at AM1 & AM3 from 4 to 5 March 2023. Based on the contractor's record, construction activities and mitigation measures conducted by contractor on 4 March 2023 [Photo 1 to Photo 10] were listed below:

Construction Activities on 4 March 2023	Mitigation Measures on 4 March 2023
Site formation at Portion A	Water spraying by water hose and sprinklers at Portion A
Permanent Building Foundation at Portion D	Water spraying by water hose at Portion D
	Water spraying by water tanker along the haul road between Portion A and the SBA
	Hydroseeding at bare slope at Portion E3-2

No construction activities of the project conducted on 5 March 2023 (Sunday). The path of water spraying by water tanker, the water spraying by water hose and the water tanker schedule are presented in **Appendix A**.

No high dusty construction works of the project were found by monitoring staff. The dust emission from vehicles was observed on the public road, Wo Keng Shan Road. The monitoring location & site area are presented in **Figure 1**. The NENTX portions layout plan is presented in **Figure 2**.

Based on the HKO's record (Hong Kong Observatory Automatic Weather Station – Ta Kwu Ling), the prevailing wind direction was from east to southeast wind during the monitoring period.

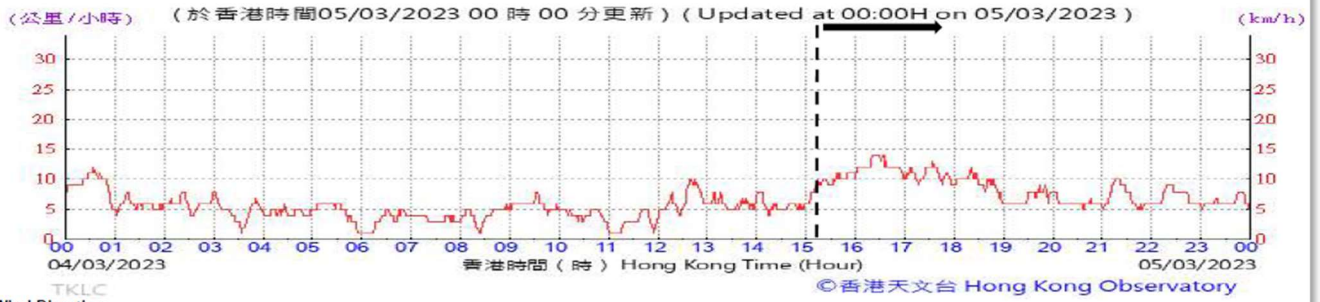
AM1

Although AM1 is located at downwind direction at Portion B1(including SBA) & Portion E2 to E4 (around 600 m of Portion A, 800 m of Portion B1, 900 m of Portion D & E4, 1000 km of Portion E3, 1700 m of SBA and Portion E2), the two natural barriers, where are the around 100 m height hill near Lung Mei Teng , and the around 150 m height hill between North East New Territories Landfill and Shek Tsai Ha Road, block part of the wind flow to the monitoring station. In addition, the appropriate dust control mitigation measures were implemented in construction area during the monitoring period. Therefore, the construction activities of the project may not cause the high level of concentration at AM1.

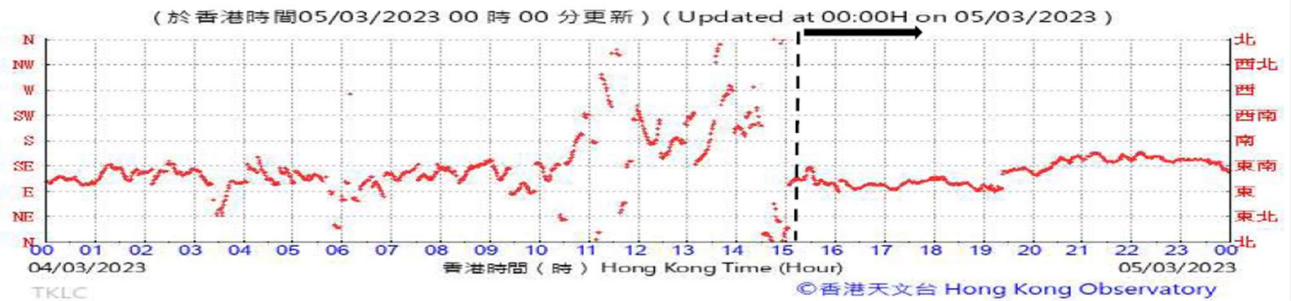
AM3

Although AM3 is located at downwind direction at Portion C, the Portion C was not the construction area from the project from commencement of construction to now. Therefore, the construction activities of the project may not cause the high level of concentration at AM3.

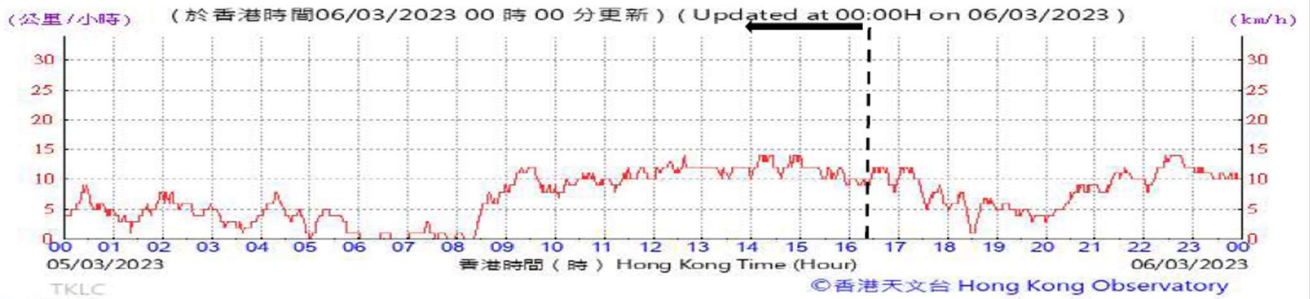
Wind Speed



Wind Direction



Wind Speed



Wind Direction

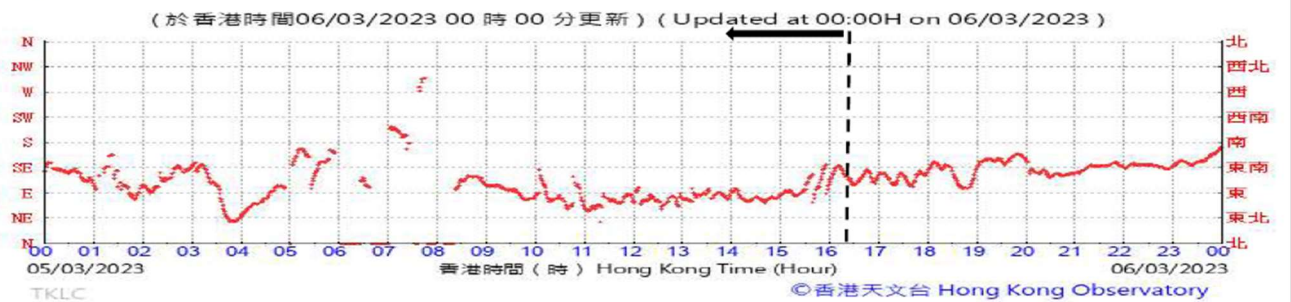


Photo 1 Site Formation at Portion A



Photo 2 Permanent Building Foundation at Portion D



Photo 3 Water sprinklers at Portion A



Photo 4 Water spraying by water hose at Portion A



Photo 5 Water spraying by water hose at Portion D



Photo 6 Water spraying by water hose at Portion D



Photo 7 Water spraying by water hose at Portion D

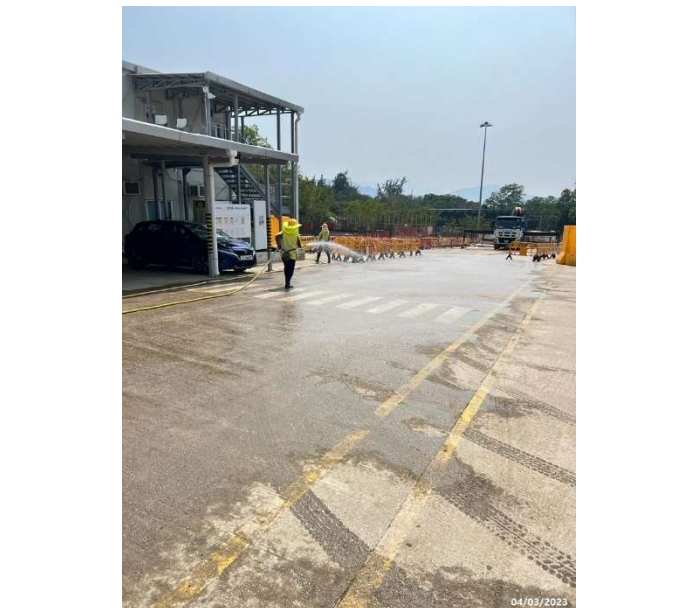


Photo 8 Water spraying by water tanker along the haul road between Portion A and the SBA



Photo 9 Hydroseeding at bare slope at Portion E3-2



Photo 10 Hydroseeding at bare slope at Portion E3-2



Follow Up

Based on the contractor's record, construction activities were observed within the site area which included site formation at Portion A & permanent building foundation at Portion D on 4 March 2023. No construction activities of the project on 5 March 2023. Appropriate dust control mitigation measures were implemented at construction area during the monitoring period. No construction works causing high dust emission was found during the monitoring period.

Actions taken/ to be taken:

Due to the measurement from 3 to 4 March 2023 exceeded the Limit Level at AM1, the actions taken by ET in accordance with the Event/ Action Plan for dust impact were listed below:

- ✓ Identify source
- ✓ Inform IEC and IC the causes and actions taken for the exceedances
- ✓ Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented
- ✓ Assess effectiveness of Contractor's remedial actions and keep IEC and IC informed of the results

Due to the measurement from 3 to 4 March 2023 exceeded the Action Level at AM3, the actions taken by ET in accordance with the Event/ Action Plan for dust impact were listed below:

- ✓ Identify source
- ✓ Inform IEC and Contractor
- ✓ Repeat measurement to confirm findings
- ✓ Increase monitoring frequency to daily
- ✓ Discuss with IEC/IC for remedial actions required
- ✓ If exceedance continues, arrange meeting with IEC

The monitoring frequency was increased to daily starting from 1 March 2023. The Construction Dust Control Mitigation Measures by the Environmental Mitigation Measure Implementation Schedule (EMIS) will continue to be implemented by the contractor. The additional mitigation measures [Photo 11 to 13] are implemented by contractor. Details are shown below:

Additional Mitigation Measures	Start Date
Application of cement slurry at Portion A	10 March 2023

Photo 11 Application of cement slurry at Portion A



Photo 12 Application of cement slurry at Portion A



Photo 13 Application of cement slurry at Portion A

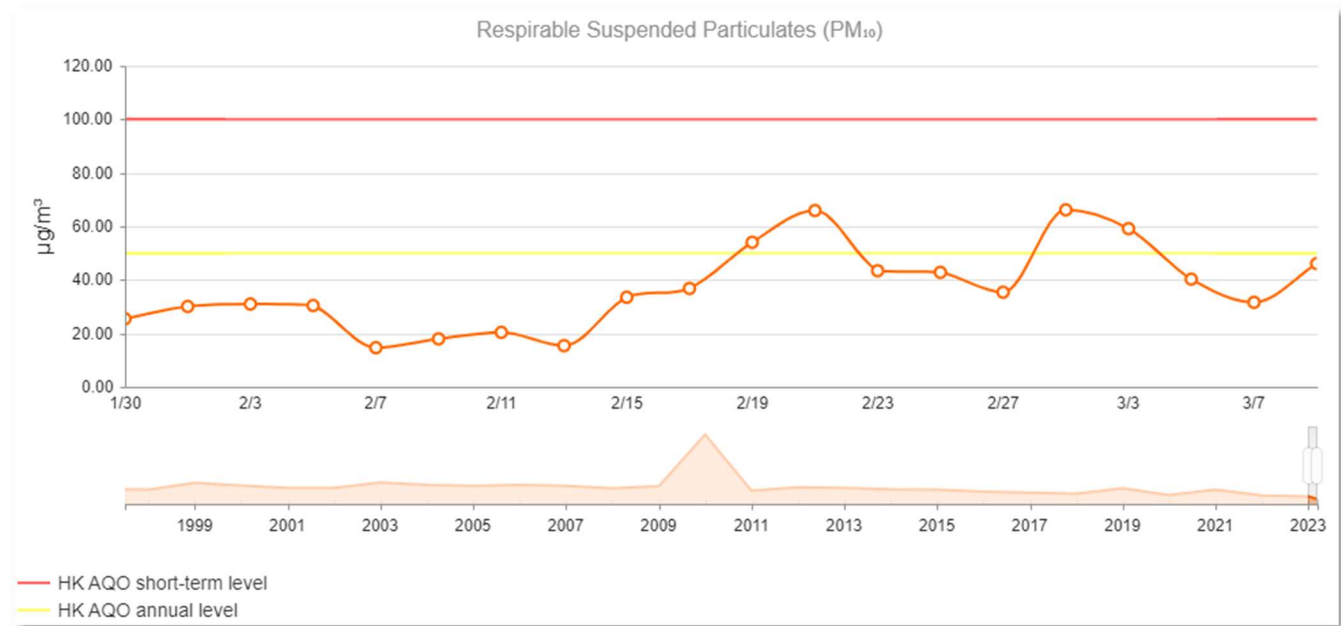


The planning additional mitigation measures will be implemented by contractor. Details are shown below:

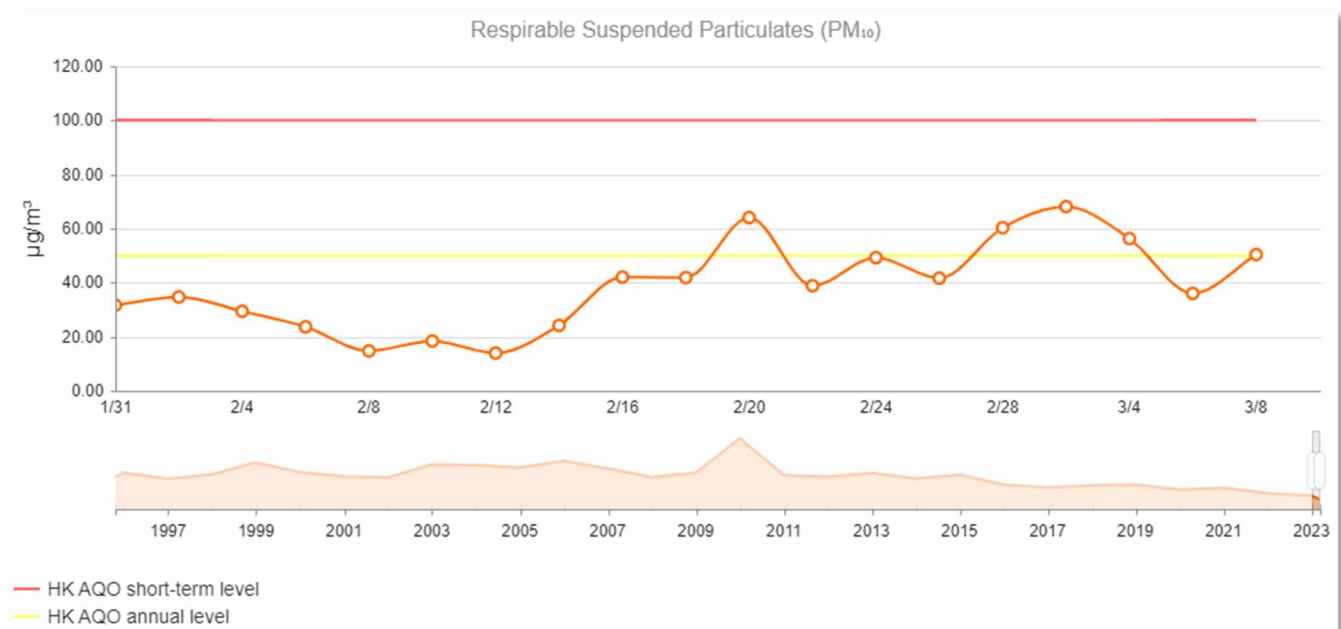
Planning Additional Mitigation Measures	Estimated Implementation Date
Installation of more sprinklers at Portion A	17 March 2023
Application of cement slurry on the slopes of Portion A	24 March 2023
Hard Paving of a 300 m section of haul road near the SBA	30 March 2023

In view of the press releases from the government on 1 March 2023, the health risk category for Air Quality Health Index (AQHIs) may reach the "Serious" level on 1 March 2023 (<https://www.info.gov.hk/gia/general/202303/01/P2023030100565.htm?fontSize=1>). Respirable Suspended Particulates (RSP)(PM₁₀) is one of monitoring parameter from AQHIs. The RSP concentration at EPD Tai Po & Yuen Long monitoring station are shown in below:

Tai Po Station




Yuen Long Station




Both the TSP and RSP are suspended particles but refer to different diameters. TSP refers to the total amount of suspended particulate matter (PM₃₀) in the air, including both larger and smaller particles, while RSP refers explicitly to the smaller particles (PM₁₀). As such, RSP concentration can be considered a component of TSP concentration since it represents a subset of the total suspended particulate matter in the air. Therefore, the high RSP concentration recorded will affect the monitoring results

Based on no construction works of the Project causing high dust emission with the properly implemented dust mitigation measures as above mention. And the influence of high concentrations of regional background particulates was identified at EPD air quality monitoring stations during the monitoring period. Therefore, the exceedances at AM1 & AM3 were considered to be attributed to external factors and mostly unlikely to be related to the Project.

In conclusion, the 24hr-TSP Monitoring results at AM1 and AM3 exceeded the Action and Limit Levels continuously during the additional monitoring from 1 to 5 March 2023. The monitoring results at AM1 and AM3 remained at high concentration levels despite the contractor's continuous implementation of enhanced dust control measures. After the investigation, the monitoring results at AM1 & AM3 of the 24-hr TSP monitoring on 24 Feb 2023 and 24-hr TSP additional monitoring from 1 to 5 March 2023 are likely caused by external sources such as the high level of background air quality in Hong Kong during the monitoring period etc and not project related. Hence, the additional monitoring at AM1 & AM3 ceased on 5 March 2023.

Reviewed by: 

Keith Chau

Approved by: 

Fredrick Leong

Title: Deputy ET Leader

Date: 17 Mar 2023

Title: ET Leader

Date: 17 Mar 2023

Figure 1

Impact Monitoring Location

Legend

-  NENTX Project Site
-  Air Monitoring Location

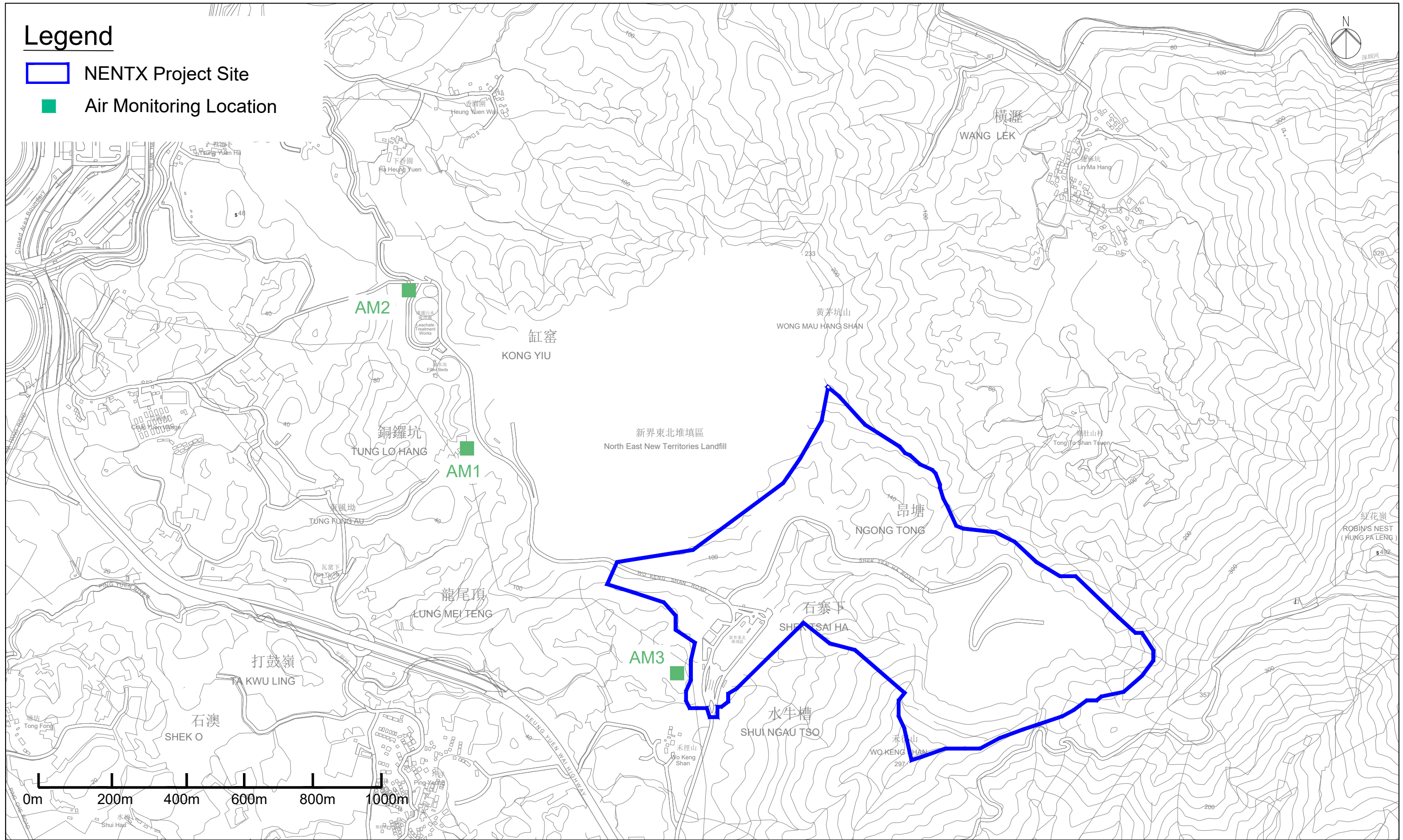
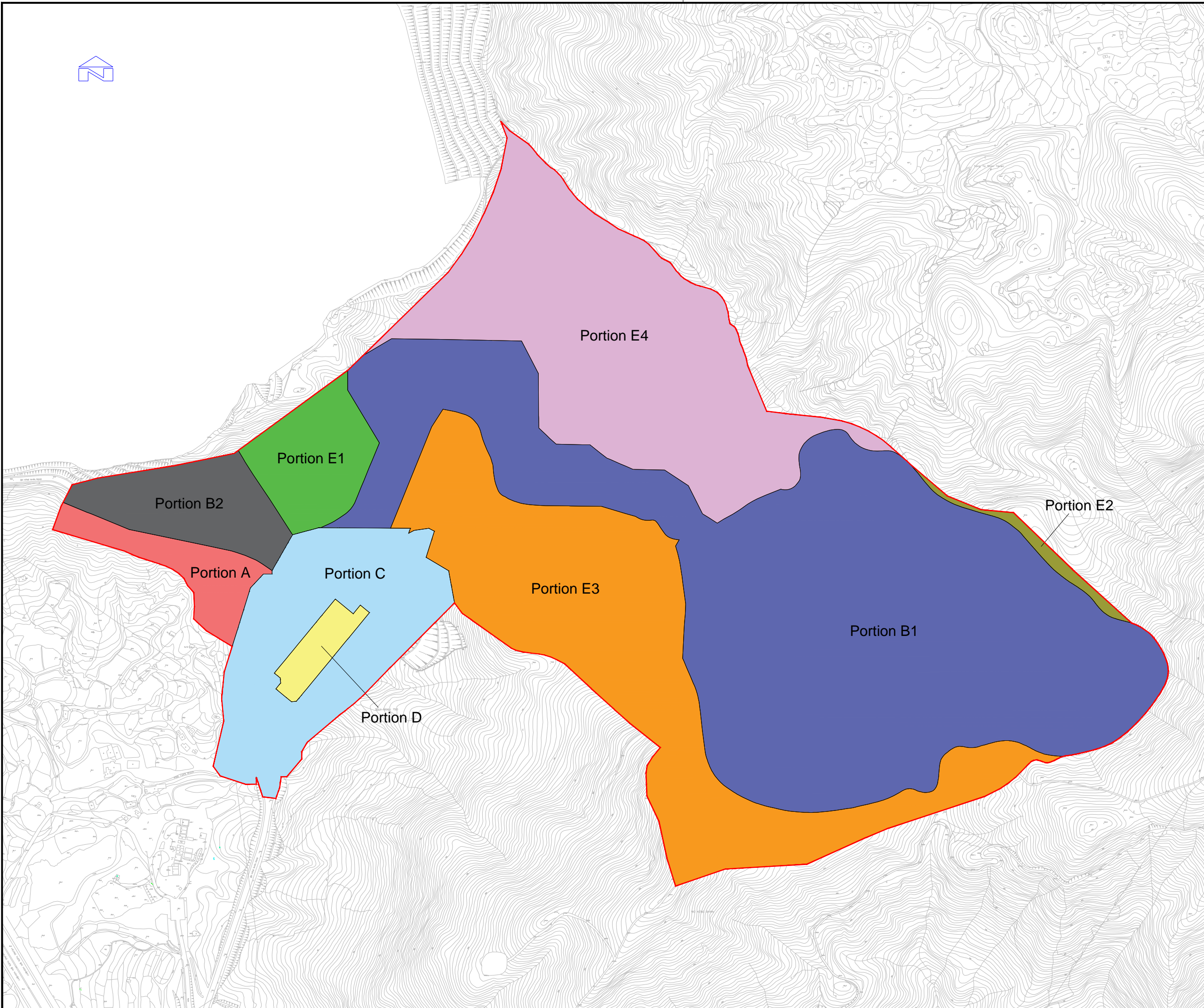


Figure 2












NENTX Portions Layout Plan



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LEGEND :

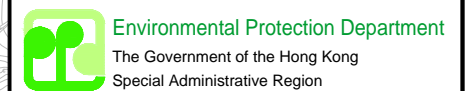
-  SITE BOUNDARY
-  PORTION BOUNDARY
-  PORTION A
-  PORTION B1
-  PORTION B2
-  PORTION C
-  PORTION D
-  PORTION E1
-  PORTION E2
-  PORTION E3
-  PORTION E4

1	FIRST ISSUE	JN	22/3/23	WW
Rev.	Description	By	Date	Approved

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Design	JN	Approved	WW
Date	22/3/2023	Scale	N.T.S.

Contract
CONTRACT EP/SP/75/15
 DEVELOPMENT AND MANAGEMENT
 OF NORTH EAST NEW TERRITORIES
 LANDFILL EXTENSION (NENTX)





Drawing Title
PORTIONS LAYOUT PLAN

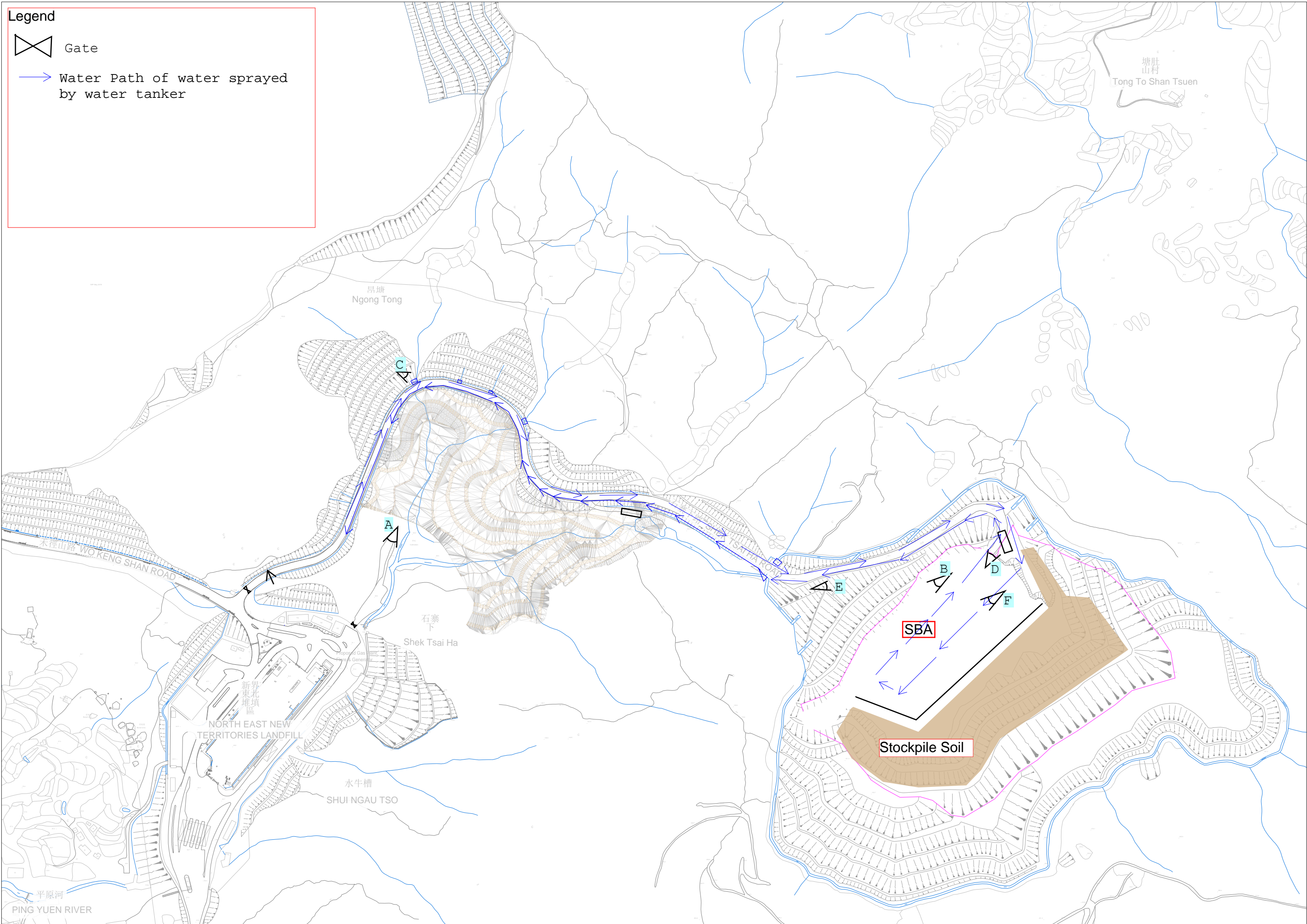
Drawing No.	NENTX-VES-DW-E-ZZ-000	Rev.	1
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Appendix A

**Path of water spraying by water tanker & Water
spraying by water hose & water tanker
schedule**

Legend


-  Gate
-  Water Path of water sprayed by water tanker



NENTX Watering Schedule

Month Mar-23

Date	Time	Portion	Area	Watering			Arranged by
				Water Hose	Sprinkler	Tanker	
1/3/2023	900	A			✓		Cheong
1/3/2023	900	D		✓			Fung
1/3/2023	900	E	SBA			✓	Chuen
1/3/2023	1030	A			✓		Cheong
1/3/2023	1030	D		✓			Fung
1/3/2023	1030	E	SBA			✓	Chuen
1/3/2023	1330	A			✓		Cheong
1/3/2023	1330	D		✓			Fung
1/3/2023	1330	E	SBA			✓	Chuen
1/3/2023	1530	A			✓		Cheong
1/3/2023	1530	D		✓			Fung
1/3/2023	1530	E	SBA			✓	Chuen
2/3/2023	900	A			✓		Cheong
2/3/2023	900	D		✓			Fung
2/3/2023	900	E	SBA			✓	Chuen
2/3/2023	1030	A			✓		Cheong
2/3/2023	1030	D		✓			Fung
2/3/2023	1030	E	SBA			✓	Chuen
2/3/2023	1330	A			✓		Cheong
2/3/2023	1330	D		✓			Fung
2/3/2023	1330	E	SBA			✓	Chuen
2/3/2023	1530	A			✓		Cheong
2/3/2023	1530	D		✓			Fung
2/3/2023	1530	E	SBA			✓	Chuen
3/3/2023	900	A			✓		Cheong
3/3/2023	900	D		✓			Fung
3/3/2023	900	E	SBA			✓	Chuen
3/3/2023	1030	A			✓		Cheong
3/3/2023	1030	D		✓			Fung
3/3/2023	1030	E	SBA			✓	Chuen
3/3/2023	1330	A			✓		Cheong
3/3/2023	1330	D		✓			Fung
3/3/2023	1330	E	SBA			✓	Chuen
3/3/2023	1530	A			✓		Cheong
3/3/2023	1530	D		✓			Fung
3/3/2023	1530	E	SBA			✓	Chuen
4/3/2023	900	A			✓		Cheong
4/3/2023	900	D		✓			Fung
4/3/2023	900	E	SBA			✓	Chuen
4/3/2023	1030	A			✓		Cheong
4/3/2023	1030	D		✓			Fung
4/3/2023	1030	E	SBA			✓	Chuen
4/3/2023	1330	A			✓		Cheong
4/3/2023	1330	D		✓			Fung
4/3/2023	1330	E	SBA			✓	Chuen
4/3/2023	1530	A			✓		Cheong
4/3/2023	1530	D		✓			Fung
4/3/2023	1530	E	SBA			✓	Chuen

Reviewed by: 
 PYE EO

Monitoring Data Received date: 13 March 2023

Date of Notification: 17 March 2023 (by email)

Works Inspected: Project Site Area & Monitoring Station AM1 & AM3

Monitoring Location: AM3 –Wo Keng Shan Tsuen

Parameter: Air Quality (Construction Dust) – 24-hr TSP

Action & Limit Levels			Measured Level		Repeat Measured Level	
Time Period	Action Level	Limit Level	Monitoring Period:		Monitoring Period:	
24 hours	> 163	> 260	Concentration (µg/m ³)	8 Mar 2023 18:26 to 9 Mar 2023 18:26 193	13 Mar 2023 10:00 to 14 Mar 2023 10:00 Concentration (µg/m ³) 147	

Possible reason for Action or Limit Level Non-compliance:

An exceedance in Action Level of 24-hr TSP air quality was recorded during impact monitoring at AM3 from 8 to 9 March 2023. Based on the contractor's record, construction activities and mitigation measures conducted by contractor from 8 to 9 March 2023 [Photo 1 to Photo 10] were listed below:

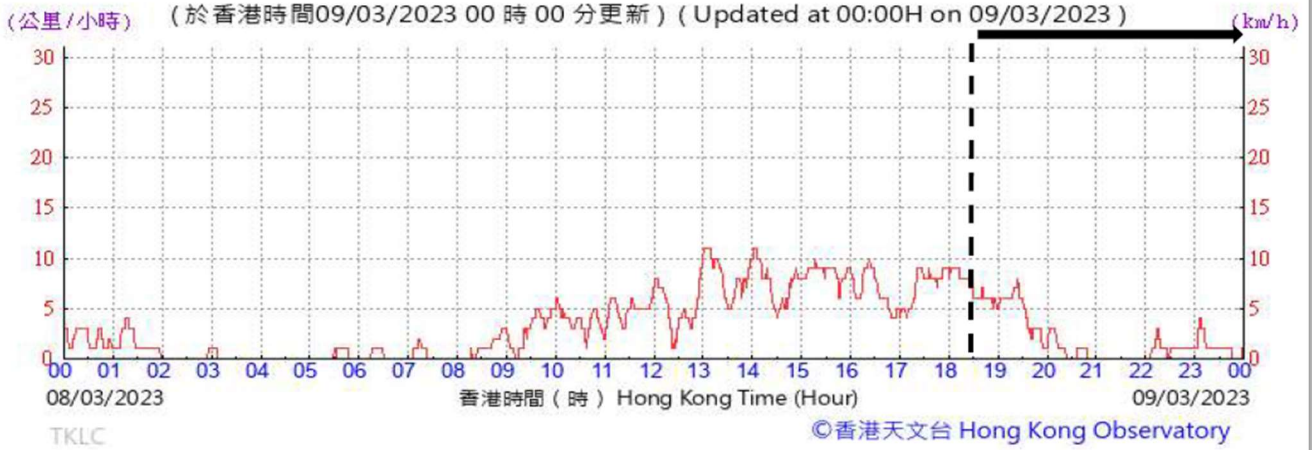
Construction Activities from 8 to 9 March 2023	Mitigation Measures from 8 to 9 March 2023
Site formation at Portion A	Water spraying by sprinklers & hose at Portion A
Permanent building foundation at Portion D	Water spraying by water hose at Portion D
Site formation at Portion E3	Water spraying by water tanker along the haul road between Portion A and the SBA
Site fencing at Portion E3	Hydroseeding at bare slope at Portion E3-2

The path of water spraying by water tanker, the water spraying by water hose and the water tanker schedule are presented in **Appendix A**.

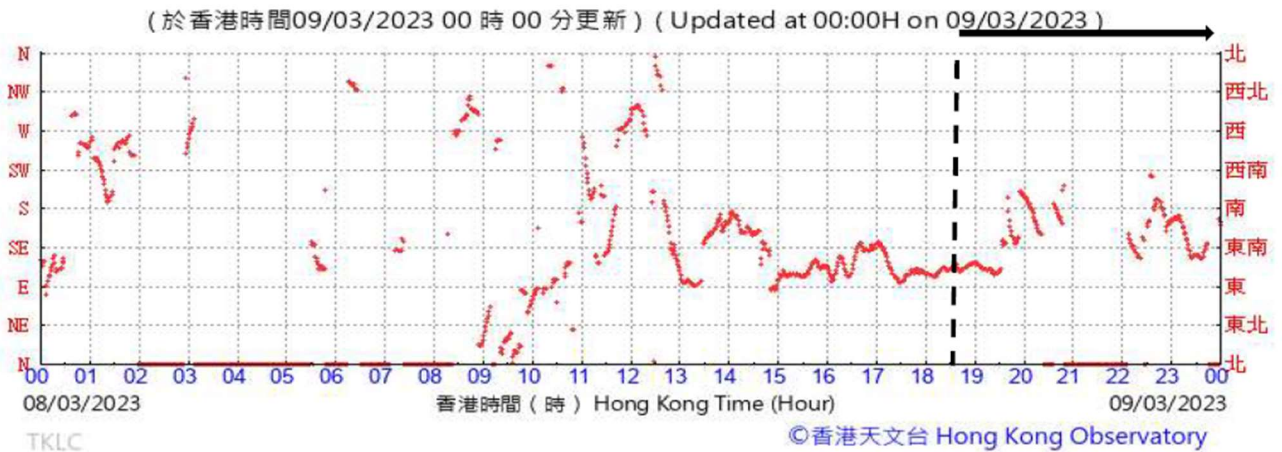
No high dusty construction works of the project were found by monitoring staff. The dust emission from vehicular was observed on the public road, Wo Keng Shan Road. The monitoring location & site area are presented in **Figure 1**. The NENTX portions layout plan is presented in **Figure 2**.

Based on the HKO's record (Hong Kong Observatory Automatic Weather Station – Ta Kwu Ling), the prevailing wind direction is from east-southeast wind during the monitoring period.

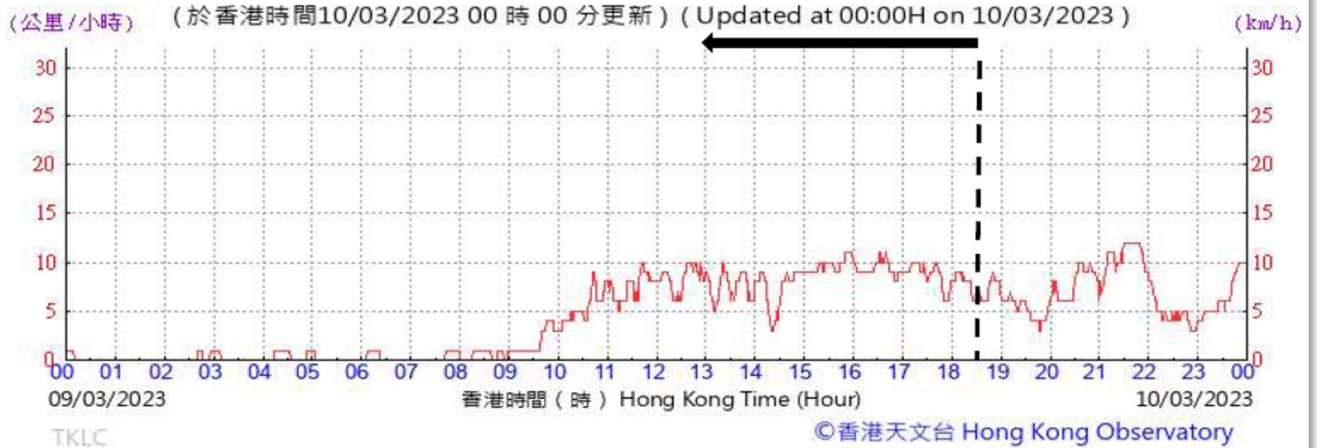
Wind Speed



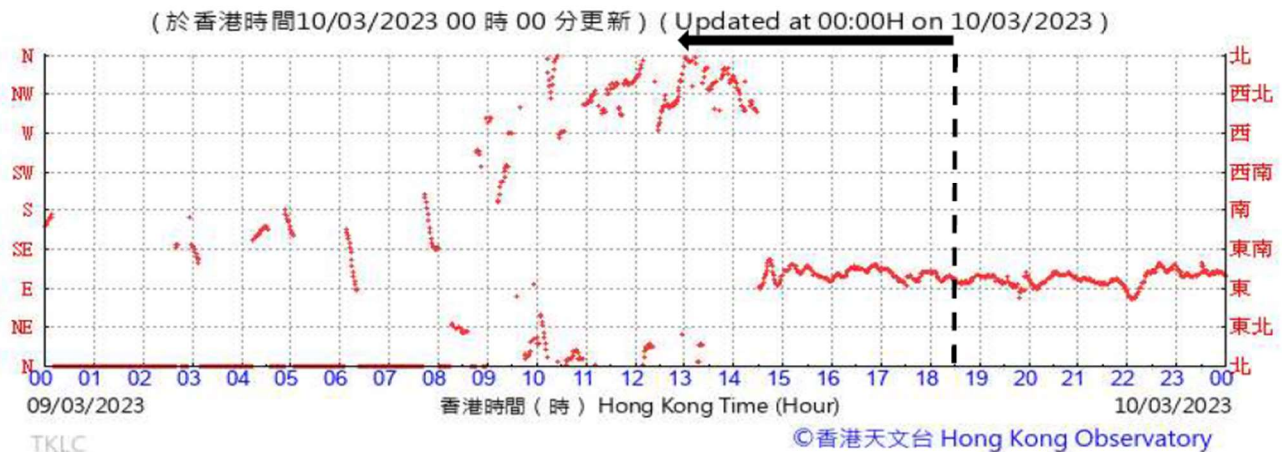
Wind Direction



Wind Speed



Wind Direction



AM3

Although AM3 is located at downwind direction at Portion C, the Portion C was not the construction area from the project from commencement of construction to now. Therefore, the construction activities of the project may not cause the high level of concentration at AM3.

Photo 1 Site formation at Portion A



Photo 2 Permanent building foundation at Portion D



Photo 3 Site Formation at Portion E3



Photo 4 Site Fencing at Portion E3



Photo 5 Water spraying by water sprinklers at Portion A



Photo 6 Water spraying by water hose at Portion D



Photo 7 Water spraying by water hose at Portion D



Photo 8 Water spraying by water tanker along the haul road between Portion A and the SBA



Photo 9 Hydroseeding at bare slope at Portion E3-2



Photo 10 Hydroseeding at bare slope at Portion E3-2



Follow Up

Based on the contractor's record, construction activities were observed within the site area which included site formation at Portion A, permanent building foundation at Portion D, site formation & site fencing at Portion E3 from 8 to 9 March 2023. Appropriate dust control mitigation measures were implemented at construction area during the monitoring period. No construction works causing high dust emission was found during the monitoring period. Following the Event and Action Plan, a repeat monitoring was undertaken from 13 to 14 March 2023 to confirm findings which showed that the no exceedance occurred at AM3.

Actions taken/ to be taken:

Due to the measurement from 8 to 9 March 2023 exceeded the Action Level at AM3, the actions taken by ET in accordance with the Event/ Action Plan for dust impact were listed below:

- ✓ Identify source
- ✓ Inform IEC and Contractor
- ✓ Repeat measurement to confirm findings
- ✓ Increase monitoring frequency to daily

The repeat measurement & monitoring frequency was increased to daily starting from 13 March 2023. Due to the monitoring result of the repeat measurement from 13 to 14 March 2023 was not exceeded the Action Level. Hence, the additional monitoring ceased from 14 March 2023 in accordance with the Event and Action Plan. The Construction Dust Control Mitigation Measures by the Environmental Mitigation Measure Implementation Schedule (EMIS) will continue to be implemented by the contractor. The additional mitigation measures [Photo 11 to 13] are implemented by contractor. Details are shown below:

Additional Mitigation Measures	Start Date
Application of cement slurry at Portion A	10 March 2023

Photo 11 Application of cement slurry at Portion A



Photo 12 Application of cement slurry at Portion A



Photo 13 Application of cement slurry at Portion A

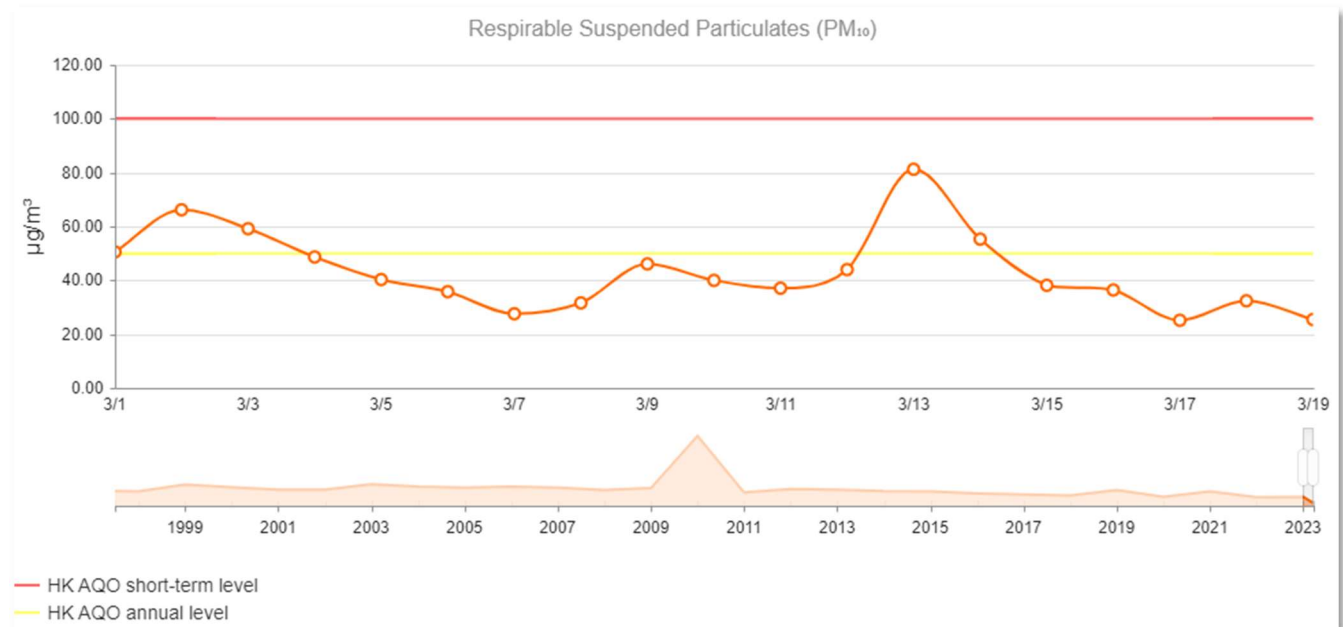


The planning additional mitigation measures will be implemented by contractor. Details are shown below:

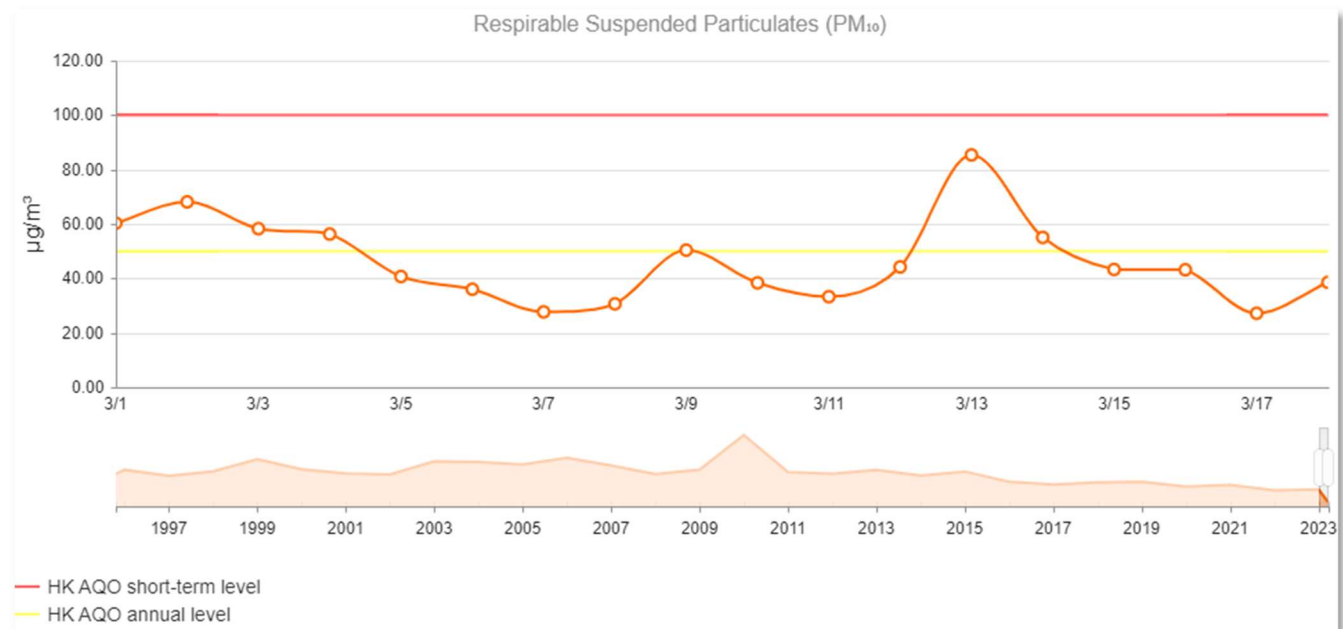
Planning Additional Mitigation Measures	Estimated Implementation Date
Installation of more sprinklers at Portion A	17 March 2023
Application of cement slurry on the slopes of Portion A	24 March 2023
Hard Paving of a 300 m section of haul road near the SBA	30 March 2023

The EPD Tai Po & Yuen Long monitoring stations were conducting during the same monitoring period. The monitoring results at EPD Tai Po & Yuen Long monitoring stations reflect the background RSP concentration during the monitoring period. Details RSP results are shown in below:

Tai Po Station



Yuen Long Station



Both the TSP and RSP are suspended particles but refer to different diameters. TSP refers to the total amount of suspended particulate matter (PM30) in the air, including both larger and smaller particles, while RSP refers explicitly to the smaller particles (PM10). As such, RSP concentration can be considered a component of TSP concentration since it represents a subset of the total suspended particulate matter in the air. Therefore, the high RSP concentration recorded will affect the monitoring results

Based on no construction works of the Project causing high dust emission with the properly implemented dust mitigation measures as above mention. Therefore, the exceedance at AM3 was not project related.

Reviewed by: _____

Keith Chau

Title: Deputy ET Leader

Date: 21 Mar 2023

Approved by: _____

Fredrick Leong

Title: ET Leader

Date: 21 Mar 2023

Figure 1

Impact Monitoring Location

Legend

-  NENTX Project Site
-  Air Monitoring Location

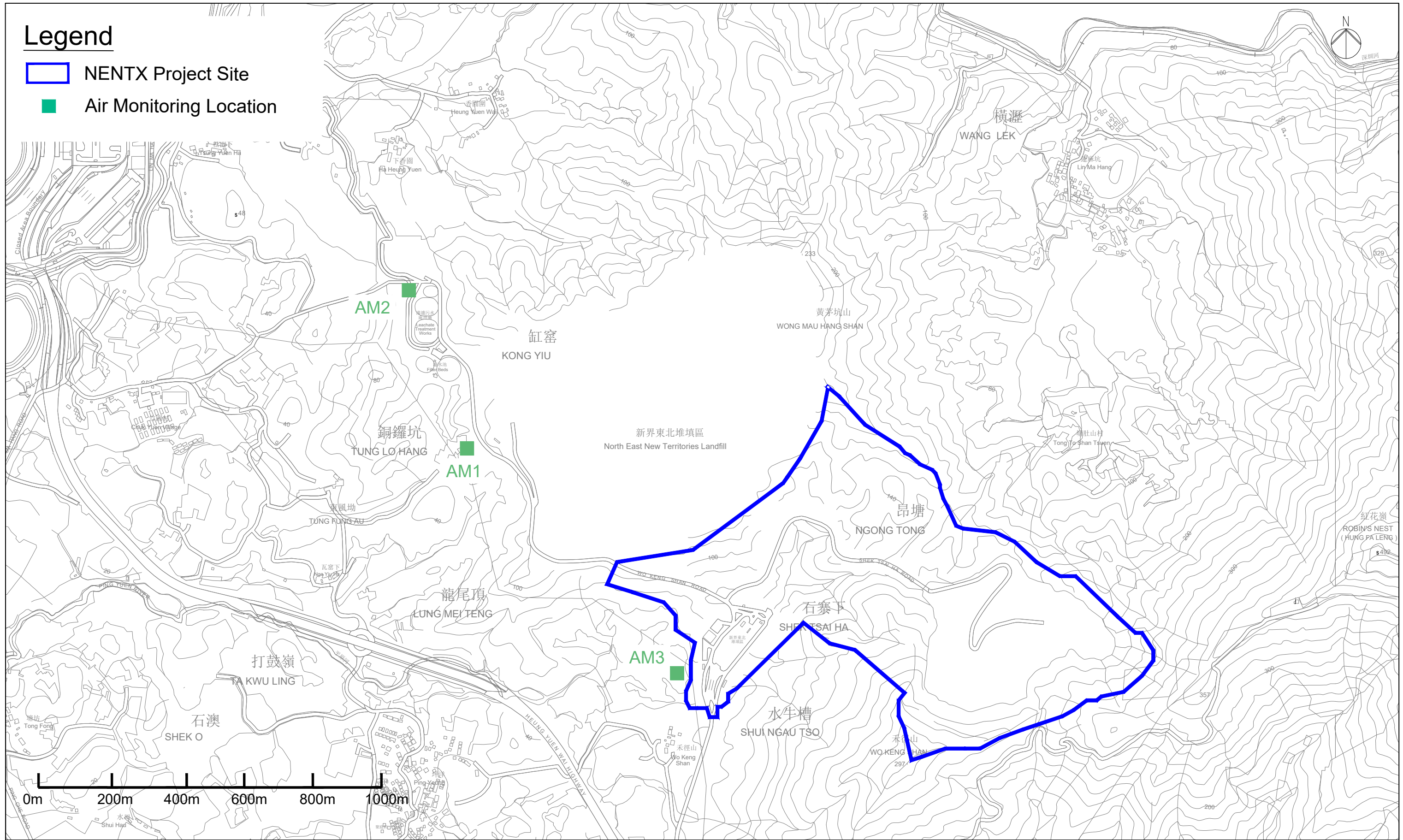
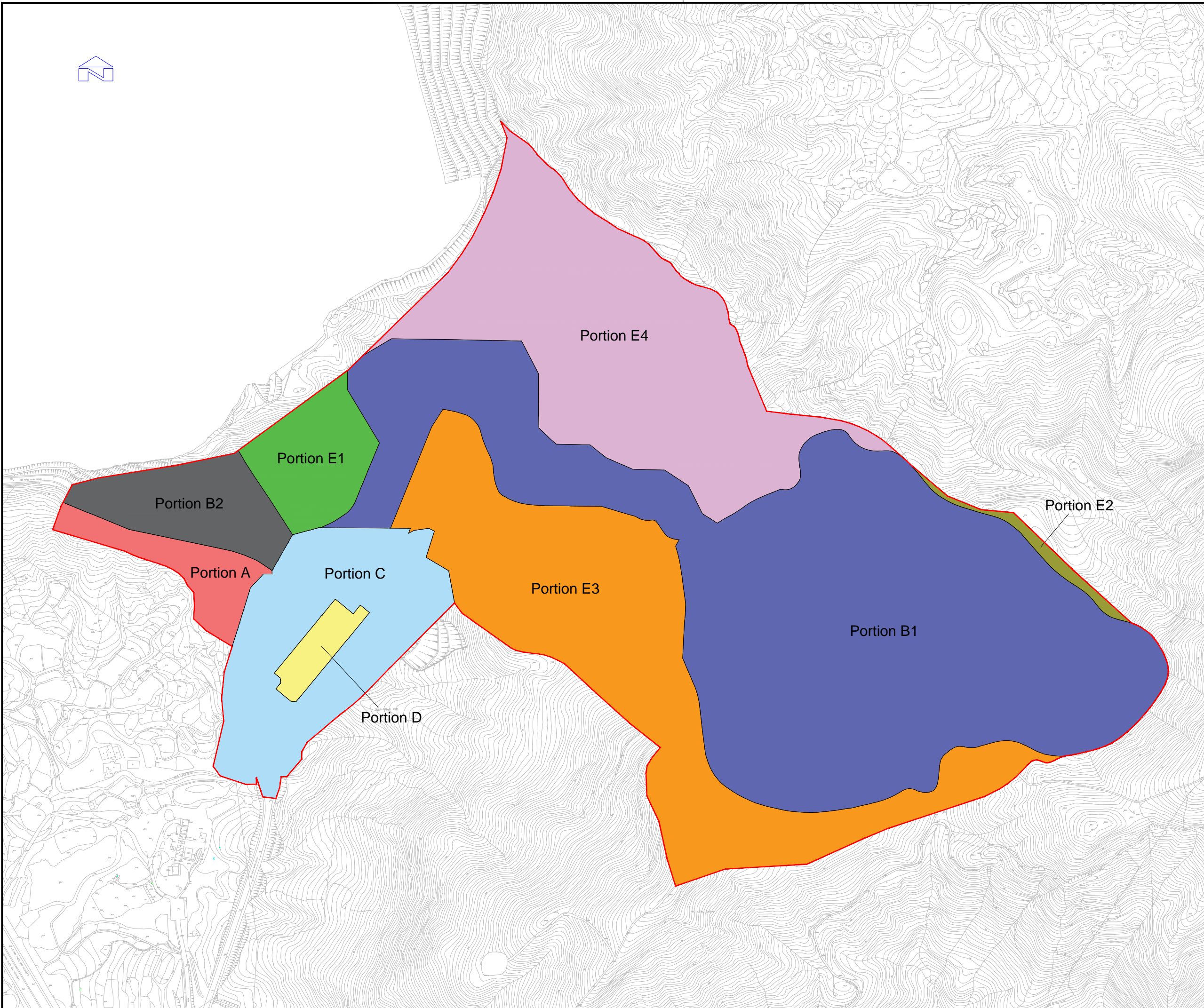


Figure 2

NENTX Portions Layout Plan



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LEGEND :

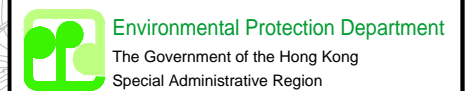
- SITE BOUNDARY
- PORTION BOUNDARY
- PORTION A
- PORTION B1
- PORTION B2
- PORTION C
- PORTION D
- PORTION E1
- PORTION E2
- PORTION E3
- PORTION E4

1	FIRST ISSUE	JN	22/3/23	WW
Rev.	Description	By	Date	Approved

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 OF NORTH EAST NEW TERRITORIES
 LANDFILL EXTENSION (NENTX)





Drawing Title
PORTIONS LAYOUT PLAN

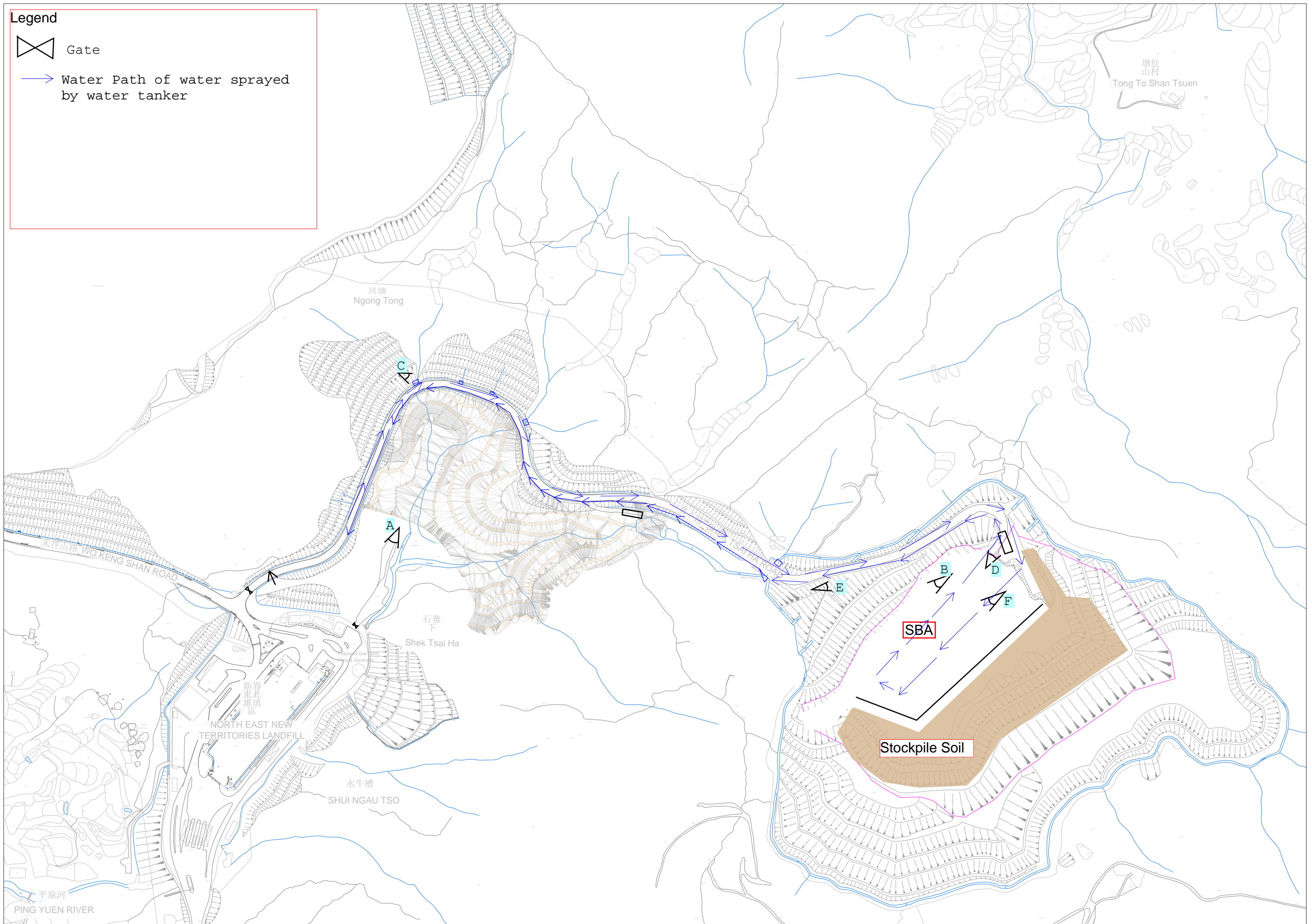
Drawing No. NENTX-VES-DW-E-ZZ-000	Rev. 1
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Appendix A

**Path of water spraying by water tanker & Water
spraying by water hose & water tanker
schedule**

Legend


-  Gate
-  Water Path of water sprayed by water tanker



NENTX Watering Schedule

Month Mar-23

Date	Time	Portion	Area	Watering			Arranged by
				Water Hose	Sprinkler	Tanker	
6/3/2023	900	A			✓		Cheong
6/3/2023	900	D		✓			Fung
6/3/2023	900	E	SBA			✓	Chuen
6/3/2023	1030	A			✓		Cheong
6/3/2023	1030	D		✓			Fung
6/3/2023	1030	E	SBA			✓	Chuen
6/3/2023	1330	A			✓		Cheong
6/3/2023	1330	D		✓			Fung
6/3/2023	1330	E	SBA			✓	Chuen
6/3/2023	1530	A			✓		Cheong
6/3/2023	1530	D		✓			Fung
6/3/2023	1530	E	SBA			✓	Chuen
7/3/2023	900	A			✓		Cheong
7/3/2023	900	D		✓			Fung
7/3/2023	900	E	SBA			✓	Chuen
7/3/2023	1030	A			✓		Cheong
7/3/2023	1030	D		✓			Fung
7/3/2023	1030	E	SBA			✓	Chuen
7/3/2023	1330	A			✓		Cheong
7/3/2023	1330	D		✓			Fung
7/3/2023	1330	E	SBA			✓	Chuen
7/3/2023	1530	A			✓		Cheong
7/3/2023	1530	D		✓			Fung
7/3/2023	1530	E	SBA			✓	Chuen
8/3/2023	900	A			✓		Cheong
8/3/2023	900	D		✓			Fung
8/3/2023	900	E	SBA			✓	Chuen
8/3/2023	1030	A			✓		Cheong
8/3/2023	1030	D		✓			Fung
8/3/2023	1030	E	SBA			✓	Chuen
8/3/2023	1330	A			✓		Cheong
8/3/2023	1330	D		✓			Fung
8/3/2023	1330	E	SBA			✓	Chuen
8/3/2023	1530	A			✓		Cheong
8/3/2023	1530	D		✓			Fung
8/3/2023	1530	E	SBA			✓	Chuen
9/3/2023	900	A			✓		Cheong
9/3/2023	900	D		✓			Fung
9/3/2023	900	E	SBA			✓	Chuen
9/3/2023	1030	A			✓		Cheong
9/3/2023	1030	D		✓			Fung
9/3/2023	1030	E	SBA			✓	Chuen
9/3/2023	1330	A			✓		Cheong
9/3/2023	1330	D		✓			Fung
9/3/2023	1330	E	SBA			✓	Chuen
9/3/2023	1530	A			✓		Cheong
9/3/2023	1530	D		✓			Fung
9/3/2023	1530	E	SBA			✓	Chuen

Reviewed by: 
 PYE EO

Appendix H Wind Data

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230301 0000	0.8	S
20230301 0010	1.4	SE
20230301 0020	1.1	SE
20230301 0030	1.1	SE
20230301 0040	1.4	SE
20230301 0050	1.1	SE
20230301 0100	1.4	ESE
20230301 0110	1.1	SE
20230301 0120	1.7	E
20230301 0130	1.4	ESE
20230301 0140	1.7	SE
20230301 0150	1.1	SE
20230301 0200	0.8	SE
20230301 0210	1.7	ESE
20230301 0220	1.1	ESE
20230301 0230	0.8	SE
20230301 0240	0.8	SSE
20230301 0250	1.1	SE
20230301 0300	1.1	SSE
20230301 0310	1.4	SSE
20230301 0320	1.7	SSE
20230301 0330	1.7	SSE
20230301 0340	1.4	SE
20230301 0350	0.8	ESE
20230301 0400	1.1	E
20230301 0410	0.3	NNE
20230301 0420	0.3	E
20230301 0430	0	N
20230301 0440	0.3	SSW
20230301 0450	0.3	-
20230301 0500	0.3	-
20230301 0510	0	N
20230301 0520	0.3	-
20230301 0530	0	N
20230301 0540	0	N
20230301 0550	0	N
20230301 0600	0	N
20230301 0610	0	N
20230301 0620	0	N
20230301 0630	0	N
20230301 0640	0	N
20230301 0650	0	N
20230301 0700	0	N
20230301 0710	0	N
20230301 0720	0	N
20230301 0730	0	N
20230301 0740	0	N
20230301 0750	0	N
20230301 0800	0	N
20230301 0810	0	N
20230301 0820	0	N
20230301 0830	0	N
20230301 0840	0.3	NE
20230301 0850	0	N
20230301 0900	0.3	-
20230301 0910	0.3	NE
20230301 0920	0.3	NNE
20230301 0930	0.8	NNE
20230301 0940	0.3	NNE
20230301 0950	0.3	-
20230301 1000	1.1	WNW
20230301 1010	0.8	W
20230301 1020	1.4	W
20230301 1030	0.8	W
20230301 1040	1.4	WNW
20230301 1050	1.7	W
20230301 1100	1.7	NNW
20230301 1110	2.2	NW
20230301 1120	2.5	N
20230301 1130	2.2	NW
20230301 1140	2.2	NW
20230301 1150	2.5	NW

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230301 1200	2.8	NW
20230301 1210	2.5	NW
20230301 1220	3.3	WNW
20230301 1230	3.3	NW
20230301 1240	2.8	WNW
20230301 1250	2.5	NW
20230301 1300	2.5	N
20230301 1310	2.2	WNW
20230301 1320	2.5	WNW
20230301 1330	1.7	W
20230301 1340	1.7	WSW
20230301 1350	1.7	WSW
20230301 1400	2.2	WNW
20230301 1410	1.7	NNW
20230301 1420	2.2	WNW
20230301 1430	1.7	NNE
20230301 1440	1.7	E
20230301 1450	1.7	-
20230301 1500	1.9	NNW
20230301 1510	1.7	NNW
20230301 1520	1.4	NNE
20230301 1530	1.4	NW
20230301 1540	1.4	NW
20230301 1550	2.5	N
20230301 1600	1.7	SE
20230301 1610	1.7	S
20230301 1620	2.8	SSE
20230301 1630	2.5	SSW
20230301 1640	1.9	SW
20230301 1650	1.7	SW
20230301 1700	1.9	SW
20230301 1710	2.2	SW
20230301 1720	1.1	SW
20230301 1730	1.7	WSW
20230301 1740	1.4	SW
20230301 1750	1.4	S
20230301 1800	0.3	SE
20230301 1810	1.1	ESE
20230301 1820	0.6	ESE
20230301 1830	0.6	SE
20230301 1840	0.3	SE
20230301 1850	0.3	SSW
20230301 1900	0.3	SSW
20230301 1910	0	N
20230301 1920	0	N
20230301 1930	0	N
20230301 1940	0	N
20230301 1950	0	N
20230301 2000	0.3	-
20230301 2010	0	N
20230301 2020	0	N
20230301 2030	0	N
20230301 2040	0	N
20230301 2050	0	N
20230301 2100	0	N
20230301 2110	0	N
20230301 2120	0	N
20230301 2130	0.3	SSE
20230301 2140	0.6	SE
20230301 2150	0	N
20230301 2200	0	N
20230301 2210	0	N
20230301 2220	0	N
20230301 2230	0	N
20230301 2240	0	N
20230301 2250	0	N
20230301 2300	0	N
20230301 2310	0	N
20230301 2320	0	N
20230301 2330	0	N
20230301 2340	0	N
20230301 2350	0	N

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230302 0000	0	N
20230302 0010	0	N
20230302 0020	0	N
20230302 0030	0	N
20230302 0040	0	N
20230302 0050	0	N
20230302 0100	0.3	-
20230302 0110	0.3	SE
20230302 0120	0.3	ENE
20230302 0130	0	N
20230302 0140	0.3	S
20230302 0150	0.3	-
20230302 0200	0.3	NNE
20230302 0210	0.6	SSE
20230302 0220	0.6	SSE
20230302 0230	0.3	SE
20230302 0240	0	N
20230302 0250	0	N
20230302 0300	0.3	SSE
20230302 0310	1.7	SSE
20230302 0320	1.4	SE
20230302 0330	0.8	S
20230302 0340	0.3	SSE
20230302 0350	0.3	NE
20230302 0400	0.3	NE
20230302 0410	0.3	-
20230302 0420	0.8	SE
20230302 0430	2.2	E
20230302 0440	1.7	ESE
20230302 0450	2.2	ESE
20230302 0500	2.5	E
20230302 0510	2.8	E
20230302 0520	3.1	E
20230302 0530	2.8	ESE
20230302 0540	2.8	ESE
20230302 0550	2.8	E
20230302 0600	3.1	ESE
20230302 0610	2.5	ESE
20230302 0620	2.8	ESE
20230302 0630	2.5	ESE
20230302 0640	2.2	ESE
20230302 0650	2.5	ESE
20230302 0700	2.2	ESE
20230302 0710	1.7	ESE
20230302 0720	1.7	ESE
20230302 0730	1.4	ESE
20230302 0740	1.4	ESE
20230302 0750	1.7	ESE
20230302 0800	1.7	ESE
20230302 0810	1.9	E
20230302 0820	2.2	E
20230302 0830	2.5	ESE
20230302 0840	2.8	E
20230302 0850	1.7	E
20230302 0900	2.2	ESE
20230302 0910	2.8	E
20230302 0920	2.5	E
20230302 0930	2.5	ESE
20230302 0940	2.5	ESE
20230302 0950	2.5	SE
20230302 1000	2.5	ESE
20230302 1010	2.5	ESE
20230302 1020	2.8	ESE
20230302 1030	3.1	ESE
20230302 1040	3.3	ESE
20230302 1050	3.1	ESE
20230302 1100	3.3	ESE
20230302 1110	3.3	ESE
20230302 1120	2.8	ESE
20230302 1130	2.5	ESE
20230302 1140	2.2	ESE
20230302 1150	2.5	E

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230302 1200	1.4	ESE
20230302 1210	2.2	SE
20230302 1220	2.5	SE
20230302 1230	2.5	E
20230302 1240	2.2	E
20230302 1250	2.8	SE
20230302 1300	2.5	ESE
20230302 1310	2.2	SE
20230302 1320	1.9	SE
20230302 1330	1.7	SSE
20230302 1340	2.8	ESE
20230302 1350	2.5	ESE
20230302 1400	2.2	ESE
20230302 1410	1.7	E
20230302 1420	2.8	ESE
20230302 1430	3.3	ESE
20230302 1440	2.8	E
20230302 1450	4.7	E
20230302 1500	4.2	E
20230302 1510	4.7	E
20230302 1520	4.4	E
20230302 1530	4.4	E
20230302 1540	4.7	E
20230302 1550	4.4	E
20230302 1600	4.2	E
20230302 1610	4.2	E
20230302 1620	4.4	E
20230302 1630	4.4	ESE
20230302 1640	3.9	ESE
20230302 1650	3.9	ESE
20230302 1700	4.2	ESE
20230302 1710	4.4	ESE
20230302 1720	3.3	ESE
20230302 1730	3.3	ESE
20230302 1740	4.2	ESE
20230302 1750	3.3	ESE
20230302 1800	3.9	ESE
20230302 1810	3.9	ESE
20230302 1820	4.7	ESE
20230302 1830	4.2	ESE
20230302 1840	4.2	ESE
20230302 1850	4.2	ESE
20230302 1900	3.6	ESE
20230302 1910	3.3	SE
20230302 1920	3.3	SE
20230302 1930	3.3	SE
20230302 1940	3.3	SE
20230302 1950	3.3	SE
20230302 2000	3.3	SE
20230302 2010	3.6	SE
20230302 2020	3.3	SE
20230302 2030	3.9	SE
20230302 2040	4.2	SE
20230302 2050	3.9	ESE
20230302 2100	3.9	SE
20230302 2110	4.7	SE
20230302 2120	3.9	SE
20230302 2130	3.9	SE
20230302 2140	3.3	SE
20230302 2150	4.2	SE
20230302 2200	4.2	SE
20230302 2210	3.9	SE
20230302 2220	4.2	SE
20230302 2230	3.6	SE
20230302 2240	3.3	SE
20230302 2250	3.3	SE
20230302 2300	3.3	SE
20230302 2310	4.2	SE
20230302 2320	4.4	SE
20230302 2330	3.9	SE
20230302 2340	4.4	ESE
20230302 2350	2.8	SE

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230303 0000	3.9	ESE
20230303 0010	4.2	ESE
20230303 0020	4.4	ESE
20230303 0030	4.4	ESE
20230303 0040	4.2	ESE
20230303 0050	4.4	ESE
20230303 0100	3.3	ESE
20230303 0110	3.9	ESE
20230303 0120	3.3	ESE
20230303 0130	3.1	ESE
20230303 0140	2.8	ESE
20230303 0150	2.5	ESE
20230303 0200	1.9	ESE
20230303 0210	1.7	ESE
20230303 0220	1.7	E
20230303 0230	1.7	E
20230303 0240	1.7	E
20230303 0250	1.7	E
20230303 0300	1.1	E
20230303 0310	1.1	ENE
20230303 0320	1.7	E
20230303 0330	2.2	E
20230303 0340	2.2	E
20230303 0350	2.2	ENE
20230303 0400	1.7	E
20230303 0410	1.7	E
20230303 0420	1.4	E
20230303 0430	1.4	ESE
20230303 0440	1.7	ESE
20230303 0450	1.7	ESE
20230303 0500	1.4	ESE
20230303 0510	1.1	SE
20230303 0520	0.8	SSE
20230303 0530	0.8	SSE
20230303 0540	1.1	SSE
20230303 0550	0.6	S
20230303 0600	1.1	SSE
20230303 0610	0.8	SE
20230303 0620	0.8	WNW
20230303 0630	1.1	WNW
20230303 0640	0.6	SW
20230303 0650	0.3	W
20230303 0700	0	N
20230303 0710	0.3	W
20230303 0720	0.3	-
20230303 0730	1.4	SE
20230303 0740	1.4	ESE
20230303 0750	2.5	ESE
20230303 0800	3.1	ESE
20230303 0810	2.5	ESE
20230303 0820	2.5	ESE
20230303 0830	2.2	ESE
20230303 0840	2.2	SE
20230303 0850	2.2	ESE
20230303 0900	3.1	ESE
20230303 0910	3.3	ESE
20230303 0920	3.3	E
20230303 0930	3.1	E
20230303 0940	3.3	ESE
20230303 0950	3.1	SE
20230303 1000	2.8	SE
20230303 1010	3.3	ESE
20230303 1020	2.8	ESE
20230303 1030	2.8	ENE
20230303 1040	2.8	E
20230303 1050	2.5	ESE
20230303 1100	2.2	ESE
20230303 1110	2.5	E
20230303 1120	2.8	E
20230303 1130	2.2	ESE
20230303 1140	2.2	E
20230303 1150	2.5	ESE

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230303 1200	2.8	ESE
20230303 1210	2.8	SE
20230303 1220	2.5	SE
20230303 1230	3.1	SSE
20230303 1240	2.5	SE
20230303 1250	2.2	ESE
20230303 1300	2.2	S
20230303 1310	1.4	SSE
20230303 1320	2.2	ENE
20230303 1330	1.7	ENE
20230303 1340	2.2	E
20230303 1350	2.5	ENE
20230303 1400	2.5	ESE
20230303 1410	1.7	E
20230303 1420	2.2	ENE
20230303 1430	2.8	E
20230303 1440	1.9	SSE
20230303 1450	2.5	E
20230303 1500	2.2	E
20230303 1510	3.3	E
20230303 1520	3.3	ESE
20230303 1530	3.3	E
20230303 1540	4.2	E
20230303 1550	3.1	ESE
20230303 1600	2.8	E
20230303 1610	3.1	E
20230303 1620	3.3	ESE
20230303 1630	3.3	ESE
20230303 1640	3.3	ESE
20230303 1650	3.6	ESE
20230303 1700	3.3	E
20230303 1710	3.6	E
20230303 1720	3.9	ESE
20230303 1730	3.6	ESE
20230303 1740	2.8	ESE
20230303 1750	2.5	ESE
20230303 1800	2.2	ESE
20230303 1810	3.1	ESE
20230303 1820	1.7	E
20230303 1830	1.7	E
20230303 1840	1.1	-
20230303 1850	0.3	E
20230303 1900	1.1	SE
20230303 1910	1.9	SSE
20230303 1920	1.7	SSE
20230303 1930	1.4	SSE
20230303 1940	1.4	SSE
20230303 1950	1.1	SSE
20230303 2000	1.4	SSE
20230303 2010	1.7	SSE
20230303 2020	2.5	SE
20230303 2030	3.1	SSE
20230303 2040	2.5	SSE
20230303 2050	1.7	SE
20230303 2100	2.2	SE
20230303 2110	2.8	SE
20230303 2120	1.9	SE
20230303 2130	1.7	SE
20230303 2140	1.7	SSE
20230303 2150	2.2	SE
20230303 2200	1.9	SSE
20230303 2210	1.7	SE
20230303 2220	2.5	SE
20230303 2230	2.8	SE
20230303 2240	2.5	SE
20230303 2250	2.2	SE
20230303 2300	1.7	SE
20230303 2310	1.4	ESE
20230303 2320	1.1	E
20230303 2330	1.4	SE
20230303 2340	1.4	SE
20230303 2350	1.7	SE

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230304 0000	1.9	ESE
20230304 0010	2.5	ESE
20230304 0020	2.5	ESE
20230304 0030	2.5	ESE
20230304 0040	2.8	ESE
20230304 0050	2.5	ESE
20230304 0100	1.4	ESE
20230304 0110	1.7	SE
20230304 0120	1.7	SE
20230304 0130	1.7	SE
20230304 0140	1.7	ESE
20230304 0150	1.4	SE
20230304 0200	1.7	SE
20230304 0210	1.7	ESE
20230304 0220	1.9	SE
20230304 0230	1.4	SE
20230304 0240	1.4	ESE
20230304 0250	1.7	ESE
20230304 0300	2.2	SE
20230304 0310	1.4	ESE
20230304 0320	1.4	ESE
20230304 0330	0.8	ENE
20230304 0340	0.8	E
20230304 0350	1.7	ESE
20230304 0400	1.1	ESE
20230304 0410	1.4	SE
20230304 0420	1.4	SE
20230304 0430	1.1	ESE
20230304 0440	1.4	ESE
20230304 0450	1.1	ESE
20230304 0500	1.4	ESE
20230304 0510	1.7	ESE
20230304 0520	1.7	ESE
20230304 0530	1.7	ESE
20230304 0540	1.4	ESE
20230304 0550	0.8	E
20230304 0600	0.3	ENE
20230304 0610	0.3	-
20230304 0620	0.8	ENE
20230304 0630	1.4	ESE
20230304 0640	0.8	ESE
20230304 0650	1.4	E
20230304 0700	1.1	ESE
20230304 0710	1.1	ESE
20230304 0720	0.8	SE
20230304 0730	0.8	SE
20230304 0740	0.8	ESE
20230304 0750	0.8	ESE
20230304 0800	0.8	SE
20230304 0810	1.4	SE
20230304 0820	0.6	-
20230304 0830	0.8	ESE
20230304 0840	1.4	SE
20230304 0850	1.4	SE
20230304 0900	1.7	SSE
20230304 0910	1.7	ESE
20230304 0920	1.7	SE
20230304 0930	1.7	E
20230304 0940	1.7	ESE
20230304 0950	1.4	E
20230304 1000	1.4	SE
20230304 1010	1.1	ESE
20230304 1020	1.1	SE
20230304 1030	0.8	NE
20230304 1040	1.4	SSE
20230304 1050	1.1	S
20230304 1100	0.3	SW
20230304 1110	0.3	N
20230304 1120	0.8	W
20230304 1130	0.8	-
20230304 1140	1.4	ENE
20230304 1150	0.8	SE

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230304 1200	1.1	SW
20230304 1210	1.4	S
20230304 1220	1.7	S
20230304 1230	1.4	SSE
20230304 1240	2.8	S
20230304 1250	2.2	S
20230304 1300	1.7	SW
20230304 1310	1.7	SE
20230304 1320	1.7	SSE
20230304 1330	1.4	SSW
20230304 1340	1.7	N
20230304 1350	1.7	W
20230304 1400	1.9	SSW
20230304 1410	1.7	S
20230304 1420	1.7	SSW
20230304 1430	1.4	SSW
20230304 1440	1.7	N
20230304 1450	1.4	NE
20230304 1500	1.7	NNE
20230304 1510	2.2	ESE
20230304 1520	2.8	ESE
20230304 1530	2.5	SE
20230304 1540	3.1	ESE
20230304 1550	3.1	ESE
20230304 1600	2.8	E
20230304 1610	3.3	ESE
20230304 1620	3.9	E
20230304 1630	3.9	E
20230304 1640	3.3	ESE
20230304 1650	3.3	E
20230304 1700	2.8	E
20230304 1710	3.1	E
20230304 1720	2.8	ESE
20230304 1730	3.3	ESE
20230304 1740	3.1	ESE
20230304 1750	3.1	ESE
20230304 1800	2.5	ESE
20230304 1810	2.8	ESE
20230304 1820	3.1	ESE
20230304 1830	2.5	E
20230304 1840	2.8	ESE
20230304 1850	2.5	E
20230304 1900	1.7	ESE
20230304 1910	1.7	E
20230304 1920	1.7	E
20230304 1930	2.2	SE
20230304 1940	1.9	SE
20230304 1950	2.5	SE
20230304 2000	2.2	ESE
20230304 2010	1.7	SE
20230304 2020	1.7	SE
20230304 2030	1.7	SE
20230304 2040	1.7	SE
20230304 2050	1.7	SSE
20230304 2100	1.7	SSE
20230304 2110	2.2	SSE
20230304 2120	2.8	SSE
20230304 2130	2.2	SE
20230304 2140	1.7	SE
20230304 2150	1.4	SSE
20230304 2200	1.7	SE
20230304 2210	1.7	SSE
20230304 2220	2.5	SSE
20230304 2230	2.2	SSE
20230304 2240	2.2	SE
20230304 2250	1.7	SE
20230304 2300	1.7	SSE
20230304 2310	1.7	SSE
20230304 2320	1.9	SE
20230304 2330	1.7	SE
20230304 2340	1.7	SE
20230304 2350	2.2	SE

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230305 0000	1.1	SE
20230305 0010	1.4	SE
20230305 0020	1.9	SE
20230305 0030	1.9	SE
20230305 0040	2.2	SE
20230305 0050	1.7	SE
20230305 0100	1.4	ESE
20230305 0110	0.8	-
20230305 0120	0.8	SSE
20230305 0130	0.8	ESE
20230305 0140	1.4	E
20230305 0150	1.4	E
20230305 0200	1.9	ESE
20230305 0210	2.2	E
20230305 0220	1.4	E
20230305 0230	1.7	ESE
20230305 0240	1.1	SE
20230305 0250	1.1	SE
20230305 0300	1.4	SE
20230305 0310	1.1	SE
20230305 0320	0.8	ESE
20230305 0330	0.6	ESE
20230305 0340	0.6	ENE
20230305 0350	0.8	NE
20230305 0400	1.1	NE
20230305 0410	1.7	ENE
20230305 0420	2.2	ENE
20230305 0430	1.4	E
20230305 0440	1.1	E
20230305 0450	1.1	ESE
20230305 0500	0	N
20230305 0510	0.8	SSE
20230305 0520	1.4	SSE
20230305 0530	1.1	ESE
20230305 0540	0.8	SE
20230305 0550	0.3	SSE
20230305 0600	0.3	-
20230305 0610	0	N
20230305 0620	0	N
20230305 0630	0.3	ESE
20230305 0640	0	N
20230305 0650	0	N
20230305 0700	0	N
20230305 0710	0.3	SSW
20230305 0720	0.3	SSW
20230305 0730	0.3	-
20230305 0740	0.3	W
20230305 0750	0	N
20230305 0800	0.3	-
20230305 0810	0	N
20230305 0820	0	N
20230305 0830	1.4	ESE
20230305 0840	2.2	ESE
20230305 0850	1.7	ESE
20230305 0900	2.5	ESE
20230305 0910	2.5	ESE
20230305 0920	3.1	E
20230305 0930	3.3	E
20230305 0940	2.8	E
20230305 0950	2.2	ENE
20230305 1000	2.5	E
20230305 1010	2.2	ESE
20230305 1020	2.5	ENE
20230305 1030	2.8	E
20230305 1040	3.1	ENE
20230305 1050	2.5	ESE
20230305 1100	2.8	ENE
20230305 1110	2.5	ENE
20230305 1120	2.5	NE
20230305 1130	3.1	E
20230305 1140	2.8	ENE
20230305 1150	3.1	E

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230305 1200	2.8	ENE
20230305 1210	3.1	ENE
20230305 1220	3.6	E
20230305 1230	3.3	ENE
20230305 1240	3.3	ENE
20230305 1250	3.3	E
20230305 1300	3.3	E
20230305 1310	3.3	ENE
20230305 1320	3.1	E
20230305 1330	3.1	E
20230305 1340	3.3	E
20230305 1350	3.3	E
20230305 1400	2.8	E
20230305 1410	3.9	E
20230305 1420	3.6	ENE
20230305 1430	3.3	E
20230305 1440	3.3	ENE
20230305 1450	3.3	E
20230305 1500	3.9	E
20230305 1510	3.3	E
20230305 1520	3.3	E
20230305 1530	2.8	E
20230305 1540	3.1	ENE
20230305 1550	3.3	ESE
20230305 1600	2.5	ESE
20230305 1610	2.5	SE
20230305 1620	2.5	ESE
20230305 1630	3.3	ESE
20230305 1640	3.3	ESE
20230305 1650	2.5	ESE
20230305 1700	2.8	ESE
20230305 1710	3.3	ESE
20230305 1720	2.8	ESE
20230305 1730	2.2	ESE
20230305 1740	1.9	ESE
20230305 1750	2.5	SE
20230305 1800	1.4	SE
20230305 1810	1.7	SE
20230305 1820	1.9	SE
20230305 1830	0.3	SE
20230305 1840	1.4	E
20230305 1850	1.7	E
20230305 1900	1.4	SE
20230305 1910	1.7	SSE
20230305 1920	1.4	SSE
20230305 1930	1.1	SSE
20230305 1940	1.1	SSE
20230305 1950	1.1	SSE
20230305 2000	0.8	SSE
20230305 2010	1.1	SE
20230305 2020	1.4	SE
20230305 2030	1.9	ESE
20230305 2040	2.5	ESE
20230305 2050	2.2	ESE
20230305 2100	2.5	SE
20230305 2110	2.2	SE
20230305 2120	2.8	SE
20230305 2130	3.1	SE
20230305 2140	3.1	SE
20230305 2150	2.8	SE
20230305 2200	2.8	SE
20230305 2210	2.5	SE
20230305 2220	3.3	SE
20230305 2230	3.6	SE
20230305 2240	3.9	SE
20230305 2250	3.3	SE
20230305 2300	3.3	SE
20230305 2310	3.3	SSE
20230305 2320	3.1	SE
20230305 2330	2.8	SE
20230305 2340	2.8	SSE
20230305 2350	2.8	SSE

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230306 0000	2.8	S
20230306 0010	2.8	SSE
20230306 0020	2.8	SSE
20230306 0030	2.8	SSE
20230306 0040	2.5	SSE
20230306 0050	2.5	SSE
20230306 0100	2.2	SSE
20230306 0110	1.7	SSE
20230306 0120	2.2	SE
20230306 0130	3.1	SE
20230306 0140	3.1	SE
20230306 0150	2.5	SE
20230306 0200	2.5	SE
20230306 0210	2.2	ESE
20230306 0220	2.2	ESE
20230306 0230	1.7	SE
20230306 0240	2.5	SE
20230306 0250	1.7	SE
20230306 0300	1.7	SSE
20230306 0310	1.7	SSE
20230306 0320	1.7	SSE
20230306 0330	1.4	SE
20230306 0340	2.2	SE
20230306 0350	1.7	ESE
20230306 0400	1.9	ESE
20230306 0410	1.7	E
20230306 0420	1.7	ESE
20230306 0430	1.7	ESE
20230306 0440	2.2	E
20230306 0450	1.7	E
20230306 0500	1.1	ESE
20230306 0510	1.1	SSE
20230306 0520	1.4	SE
20230306 0530	1.7	SE
20230306 0540	1.7	SE
20230306 0550	1.7	SE
20230306 0600	1.9	SE
20230306 0610	2.2	SE
20230306 0620	2.2	SE
20230306 0630	2.2	SE
20230306 0640	2.5	SE
20230306 0650	1.7	ESE
20230306 0700	2.2	ESE
20230306 0710	2.2	ESE
20230306 0720	1.7	ESE
20230306 0730	1.7	SE
20230306 0740	2.2	ESE
20230306 0750	1.9	ESE
20230306 0800	1.7	ESE
20230306 0810	1.7	SE
20230306 0820	1.7	ESE
20230306 0830	3.3	ESE
20230306 0840	3.3	ESE
20230306 0850	3.3	ESE
20230306 0900	3.3	ESE
20230306 0910	2.8	ESE
20230306 0920	2.8	ESE
20230306 0930	3.3	ESE
20230306 0940	3.6	ESE
20230306 0950	3.1	E
20230306 1000	3.3	E
20230306 1010	3.3	E
20230306 1020	3.3	E
20230306 1030	3.9	E
20230306 1040	3.3	E
20230306 1050	3.3	E
20230306 1100	3.3	E
20230306 1110	3.3	E
20230306 1120	3.1	E
20230306 1130	3.9	E
20230306 1140	3.3	E
20230306 1150	3.9	E

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230306 1200	3.3	E
20230306 1210	3.6	E
20230306 1220	3.3	E
20230306 1230	3.3	E
20230306 1240	3.6	ENE
20230306 1250	2.8	E
20230306 1300	3.6	E
20230306 1310	3.3	E
20230306 1320	3.6	E
20230306 1330	3.3	ESE
20230306 1340	3.1	E
20230306 1350	3.3	E
20230306 1400	3.3	ESE
20230306 1410	3.9	E
20230306 1420	3.9	E
20230306 1430	4.4	ENE
20230306 1440	3.3	ESE
20230306 1450	4.7	ESE
20230306 1500	3.9	E
20230306 1510	4.2	E
20230306 1520	3.9	ESE
20230306 1530	4.2	SE
20230306 1540	4.2	SE
20230306 1550	3.9	SE
20230306 1600	4.2	ESE
20230306 1610	4.2	SE
20230306 1620	3.9	SE
20230306 1630	4.2	ESE
20230306 1640	2.8	ESE
20230306 1650	3.1	E
20230306 1700	3.3	E
20230306 1710	4.2	ESE
20230306 1720	3.9	ESE
20230306 1730	3.3	ESE
20230306 1740	4.2	ESE
20230306 1750	3.9	ESE
20230306 1800	3.9	ESE
20230306 1810	3.1	ESE
20230306 1820	2.8	SE
20230306 1830	2.5	SE
20230306 1840	2.5	ESE
20230306 1850	3.3	ESE
20230306 1900	2.8	ESE
20230306 1910	1.4	ENE
20230306 1920	1.9	E
20230306 1930	2.8	E
20230306 1940	2.5	ESE
20230306 1950	3.1	ESE
20230306 2000	2.8	ESE
20230306 2010	2.8	ESE
20230306 2020	3.1	ESE
20230306 2030	1.7	ESE
20230306 2040	1.7	ESE
20230306 2050	1.7	SE
20230306 2100	1.7	ESE
20230306 2110	2.2	ESE
20230306 2120	2.2	ESE
20230306 2130	2.2	E
20230306 2140	2.2	ESE
20230306 2150	2.2	E
20230306 2200	1.7	E
20230306 2210	1.7	-
20230306 2220	2.5	E
20230306 2230	1.9	E
20230306 2240	2.5	ESE
20230306 2250	2.5	ESE
20230306 2300	2.5	ESE
20230306 2310	1.7	ESE
20230306 2320	1.7	SE
20230306 2330	1.7	SE
20230306 2340	1.7	SE
20230306 2350	1.4	SE

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
2023070000	1.4	ESE
2023070010	1.4	SE
2023070020	1.4	SE
2023070030	1.4	SE
2023070040	0.8	SE
2023070050	0.8	E
2023070100	0.3	SW
2023070110	0.3	ESE
2023070120	0.8	SSE
2023070130	0.6	S
2023070140	0.8	S
2023070150	0.8	S
2023070200	0.8	SSE
2023070210	1.1	SSE
2023070220	1.4	SSE
2023070230	1.7	SE
2023070240	1.1	ESE
2023070250	0.8	SE
2023070300	0.6	SE
2023070310	0.8	SSE
2023070320	0	N
2023070330	0	N
2023070340	0	N
2023070350	0	N
2023070400	0.3	-
2023070410	0.3	SE
2023070420	0	N
2023070430	0	N
2023070440	0	N
2023070450	0	N
2023070500	0	N
2023070510	0	N
2023070520	0	N
2023070530	0	N
2023070540	0	N
2023070550	0	N
2023070600	0	N
2023070610	0	N
2023070620	0	N
2023070630	0	N
2023070640	0	N
2023070650	0.3	ESE
2023070700	0.8	SE
2023070710	1.1	SE
2023070720	0.8	ESE
2023070730	0.3	E
2023070740	0	N
2023070750	0	N
2023070800	0.3	S
2023070810	0.8	SE
2023070820	1.1	SE
2023070830	1.7	ESE
2023070840	1.7	ESE
2023070850	1.7	ESE
2023070900	2.2	ESE
2023070910	2.2	ESE
2023070920	2.5	E
2023070930	3.3	E
2023070940	3.1	E
2023070950	3.3	E
2023071000	3.3	ENE
2023071010	3.3	E
2023071020	3.3	E
2023071030	3.1	E
2023071040	3.3	E
2023071050	3.3	E
2023071100	3.1	E
2023071110	2.5	E
2023071120	3.3	SE
2023071130	2.8	ESE
2023071140	2.2	ESE
2023071150	2.8	SSE

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
2023071200	2.5	E
2023071210	2.8	-
2023071220	2.2	E
2023071230	2.5	E
2023071240	3.1	E
2023071250	3.6	E
2023071300	3.3	E
2023071310	2.8	ESE
2023071320	3.1	ENE
2023071330	3.3	E
2023071340	2.8	ENE
2023071350	3.6	E
2023071400	3.3	E
2023071410	3.3	E
2023071420	3.9	E
2023071430	3.9	ESE
2023071440	3.3	ESE
2023071450	3.9	E
2023071500	3.9	E
2023071510	3.9	E
2023071520	3.9	E
2023071530	3.3	E
2023071540	3.3	E
2023071550	3.3	ESE
2023071600	4.2	E
2023071610	4.2	E
2023071620	3.6	E
2023071630	3.1	E
2023071640	3.3	ESE
2023071650	3.1	ESE
2023071700	3.3	ESE
2023071710	3.1	ESE
2023071720	2.2	ESE
2023071730	2.8	ESE
2023071740	2.5	SE
2023071750	2.2	ESE
2023071800	3.1	ESE
2023071810	2.5	ESE
2023071820	2.2	ESE
2023071830	1.7	SE
2023071840	1.7	SSE
2023071850	1.4	SE
2023071900	2.5	SE
2023071910	1.4	SE
2023071920	1.7	SE
2023071930	0.3	-
2023071940	0.3	SE
2023071950	1.1	SE
2023072000	1.7	SE
2023072010	1.7	SE
2023072020	1.1	ESE
2023072030	1.1	SE
2023072040	1.7	SE
2023072050	1.1	SE
2023072100	1.4	SSE
2023072110	1.4	SE
2023072120	1.9	SSE
2023072130	1.9	SSE
2023072140	2.2	SSE
2023072150	2.2	SE
2023072200	1.7	SE
2023072210	1.7	SE
2023072220	1.4	SE
2023072230	1.1	ESE
2023072240	1.9	SE
2023072250	1.4	SE
2023072300	0.8	SE
2023072310	1.4	SE
2023072320	1.1	SSE
2023072330	0.3	-
2023072340	0.3	WNW
2023072350	0.3	-

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
202308 0000	0.8	ESE
202308 0010	0.3	E
202308 0020	0.8	ESE
202308 0030	0.8	ESE
202308 0030	0.6	-
202308 0040	0.6	WNW
202308 0050	0.3	WSW
202308 0100	0.3	WSW
202308 0110	0.8	SW
202308 0120	0.8	SSW
202308 0130	0.3	WSW
202308 0140	0.3	WSW
202308 0150	0.3	WSW
202308 0200	0	N
202308 0210	0	N
202308 0220	0	N
202308 0230	0	N
202308 0240	0	N
202308 0250	0	N
202308 0300	0.3	W
202308 0310	0	N
202308 0320	0	N
202308 0330	0	N
202308 0340	0	N
202308 0350	0	N
202308 0400	0	N
202308 0410	0	N
202308 0420	0	N
202308 0430	0	N
202308 0440	0	N
202308 0450	0	N
202308 0500	0	N
202308 0510	0	N
202308 0520	0	N
202308 0530	0.3	SE
202308 0540	0.3	ESE
202308 0550	0	N
202308 0600	0	N
202308 0610	0	N
202308 0620	0.3	NW
202308 0630	0	N
202308 0640	0	N
202308 0650	0	N
202308 0700	0	N
202308 0710	0.3	-
202308 0720	0.3	SE
202308 0730	0	N
202308 0740	0	N
202308 0750	0	N
202308 0800	0	N
202308 0810	0	N
202308 0820	0	N
202308 0830	0.3	W
202308 0840	0.3	WNW
202308 0850	0.6	WNW
202308 0900	0.8	NNE
202308 0910	0	N
202308 0920	0.3	W
202308 0930	0.8	NNE
202308 0940	1.4	NNE
202308 0950	1.1	E
202308 1000	1.4	ENE
202308 1010	1.1	-
202308 1020	0.8	NNW
202308 1030	1.1	E
202308 1040	0.8	ESE
202308 1050	1.4	NE
202308 1100	0.6	SSE
202308 1110	1.7	SSW
202308 1120	1.1	ESE
202308 1130	1.4	SE
202308 1140	1.4	S
202308 1150	1.4	-

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
202308 1200	1.9	WNW
202308 1210	1.9	WNW
202308 1220	0.8	-
202308 1230	0.8	N
202308 1240	1.1	S
202308 1250	1.1	SE
202308 1300	2.8	ESE
202308 1310	2.8	E
202308 1320	2.5	E
202308 1330	1.4	SE
202308 1340	2.2	SSE
202308 1350	2.2	SSE
202308 1400	2.8	SSE
202308 1410	2.8	S
202308 1420	2.2	SSE
202308 1430	1.1	SSE
202308 1440	1.7	SE
202308 1450	2.2	SE
202308 1500	2.2	E
202308 1510	2.5	ESE
202308 1520	2.5	ESE
202308 1530	2.5	ESE
202308 1540	2.5	ESE
202308 1550	2.2	ESE
202308 1600	2.5	ESE
202308 1610	1.7	ESE
202308 1620	2.5	ESE
202308 1630	2.2	ESE
202308 1640	1.7	SE
202308 1650	1.1	SE
202308 1700	1.4	SE
202308 1710	1.4	SE
202308 1720	2.2	ESE
202308 1730	2.2	E
202308 1740	2.2	ESE
202308 1750	2.2	ESE
202308 1800	2.5	ESE
202308 1810	2.5	ESE
202308 1820	2.2	ESE
202308 1830	1.7	ESE
202308 1840	1.9	ESE
202308 1850	1.7	ESE
202308 1900	1.4	ESE
202308 1910	1.7	ESE
202308 1920	1.9	ESE
202308 1930	1.7	ESE
202308 1940	0.6	SSW
202308 1950	0.8	SE
202308 2000	0.3	SSW
202308 2010	0.8	S
202308 2020	0.3	SSE
202308 2030	0	N
202308 2040	0.3	S
202308 2050	0	N
202308 2100	0	N
202308 2110	0	N
202308 2120	0	N
202308 2130	0	N
202308 2140	0	N
202308 2150	0	N
202308 2200	0	N
202308 2210	0.3	SE
202308 2220	0.3	SE
202308 2230	0.3	SSE
202308 2240	0.3	S
202308 2250	0.3	S
202308 2300	0.3	SSE
202308 2310	0.8	S
202308 2320	0.3	SE
202308 2330	0.3	SE
202308 2340	0.3	SE
202308 2350	0	N

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230309 0000	0.3	SSE
20230309 0010	0	N
20230309 0020	0	N
20230309 0030	0	N
20230309 0030	0	N
20230309 0040	0	N
20230309 0050	0	N
20230309 0100	0	N
20230309 0110	0	N
20230309 0120	0	N
20230309 0130	0	N
20230309 0140	0	N
20230309 0150	0	N
20230309 0200	0	N
20230309 0210	0	N
20230309 0220	0	N
20230309 0230	0	N
20230309 0240	0.3	SE
20230309 0250	0	N
20230309 0300	0.3	SE
20230309 0310	0	N
20230309 0320	0	N
20230309 0330	0	N
20230309 0340	0	N
20230309 0350	0	N
20230309 0400	0	N
20230309 0410	0	N
20230309 0420	0.3	SSE
20230309 0430	0.3	SSE
20230309 0440	0	N
20230309 0450	0	N
20230309 0500	0.3	SSE
20230309 0510	0	N
20230309 0520	0	N
20230309 0530	0	N
20230309 0540	0	N
20230309 0550	0	N
20230309 0600	0	N
20230309 0610	0.3	SSE
20230309 0620	0.3	E
20230309 0630	0	N
20230309 0640	0	N
20230309 0650	0	N
20230309 0700	0	N
20230309 0710	0	N
20230309 0720	0	N
20230309 0730	0	N
20230309 0740	0	N
20230309 0750	0.3	SSE
20230309 0800	0	N
20230309 0810	0	N
20230309 0820	0.3	NE
20230309 0830	0.3	NE
20230309 0840	0	N
20230309 0850	0.3	WSW
20230309 0900	0.3	WNW
20230309 0910	0.3	-
20230309 0920	0.3	SW
20230309 0930	0.3	-
20230309 0940	0.8	-
20230309 0950	1.1	NNE
20230309 1000	0.8	NE
20230309 1010	1.1	NNE
20230309 1020	1.4	NNW
20230309 1030	1.4	W
20230309 1040	1.7	N
20230309 1050	1.7	NNE
20230309 1100	2.2	NW
20230309 1110	1.7	NW
20230309 1120	1.7	WNW
20230309 1130	2.2	NW
20230309 1140	2.5	WNW
20230309 1150	2.2	NNW

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230309 1200	2.2	NNW
20230309 1210	2.5	N
20230309 1220	1.7	NNE
20230309 1230	1.9	WNW
20230309 1240	2.8	WNW
20230309 1250	2.5	NW
20230309 1300	2.5	-
20230309 1310	1.4	N
20230309 1320	2.8	NNE
20230309 1330	1.7	NW
20230309 1340	2.2	-
20230309 1350	2.2	NNW
20230309 1400	2.2	NNW
20230309 1410	2.5	WNW
20230309 1420	0.8	NW
20230309 1430	1.7	-
20230309 1440	2.2	ESE
20230309 1450	2.5	E
20230309 1500	2.5	ESE
20230309 1510	2.5	ESE
20230309 1520	2.8	ESE
20230309 1530	2.8	ESE
20230309 1540	2.5	ESE
20230309 1550	3.1	ESE
20230309 1600	2.8	E
20230309 1610	2.5	ESE
20230309 1620	2.5	ESE
20230309 1630	2.8	ESE
20230309 1640	3.1	ESE
20230309 1650	2.2	ESE
20230309 1700	2.5	ESE
20230309 1710	2.8	ESE
20230309 1720	2.8	E
20230309 1730	2.2	E
20230309 1740	2.8	E
20230309 1750	1.9	ESE
20230309 1800	2.2	ESE
20230309 1810	2.5	E
20230309 1820	2.2	ESE
20230309 1830	1.7	E
20230309 1840	1.7	E
20230309 1850	2.5	E
20230309 1900	1.7	ESE
20230309 1910	1.7	ESE
20230309 1920	1.4	E
20230309 1930	1.7	E
20230309 1940	1.1	E
20230309 1950	1.1	E
20230309 2000	1.7	E
20230309 2010	1.7	E
20230309 2020	1.7	E
20230309 2030	2.2	ESE
20230309 2040	2.8	ESE
20230309 2050	2.5	ESE
20230309 2100	1.7	E
20230309 2110	3.1	E
20230309 2120	2.5	E
20230309 2130	3.3	E
20230309 2140	3.3	E
20230309 2150	3.3	E
20230309 2200	2.2	E
20230309 2210	1.4	E
20230309 2220	1.4	E
20230309 2230	1.1	ESE
20230309 2240	1.4	ESE
20230309 2250	1.1	ESE
20230309 2300	1.1	ESE
20230309 2310	1.4	ESE
20230309 2320	1.4	ESE
20230309 2330	1.7	ESE
20230309 2340	1.7	ESE
20230309 2350	2.8	ESE

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230310 0000	2.8	ESE
20230310 0010	2.8	ESE
20230310 0020	2.5	E
20230310 0030	2.5	E
20230310 0030	2.5	E
20230310 0040	2.2	ESE
20230310 0050	2.2	E
20230310 0100	2.2	E
20230310 0110	2.5	E
20230310 0120	2.5	E
20230310 0130	2.5	E
20230310 0140	1.9	E
20230310 0150	1.4	E
20230310 0200	1.7	ESE
20230310 0210	1.7	E
20230310 0220	1.4	E
20230310 0230	0.6	NE
20230310 0240	1.1	ENE
20230310 0250	1.4	ENE
20230310 0300	1.4	E
20230310 0300	1.7	ESE
20230310 0320	1.4	ESE
20230310 0330	1.7	ESE
20230310 0340	1.4	E
20230310 0350	1.7	E
20230310 0400	1.4	E
20230310 0410	1.4	E
20230310 0420	1.7	E
20230310 0430	2.2	ESE
20230310 0440	1.7	ESE
20230310 0450	1.4	ESE
20230310 0500	1.4	ENE
20230310 0510	0.8	ENE
20230310 0520	1.4	E
20230310 0530	1.7	E
20230310 0540	1.4	SE
20230310 0550	1.9	SE
20230310 0600	2.2	SE
20230310 0610	1.9	SE
20230310 0620	1.7	SE
20230310 0630	1.7	SE
20230310 0640	1.7	SE
20230310 0650	1.7	SSE
20230310 0700	1.1	-
20230310 0710	1.7	SE
20230310 0720	0.8	SE
20230310 0730	0.3	SSE
20230310 0740	1.7	SE
20230310 0750	1.7	SE
20230310 0800	1.7	SE
20230310 0810	2.5	SE
20230310 0820	2.5	SE
20230310 0830	2.8	SE
20230310 0840	2.8	SE
20230310 0850	2.2	ESE
20230310 0900	3.3	E
20230310 0910	2.8	ENE
20230310 0920	2.8	ESE
20230310 0930	2.8	E
20230310 0940	3.1	E
20230310 0950	3.1	E
20230310 1000	3.6	E
20230310 1010	3.6	E
20230310 1020	3.9	E
20230310 1030	3.1	ENE
20230310 1040	4.2	ENE
20230310 1050	4.4	E
20230310 1100	3.9	E
20230310 1110	4.4	E
20230310 1120	3.9	E
20230310 1130	3.9	E
20230310 1140	4.2	E
20230310 1150	4.2	E

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230310 1200	5	ENE
20230310 1210	3.9	E
20230310 1220	2.8	SE
20230310 1230	3.3	E
20230310 1240	4.2	E
20230310 1250	3.9	E
20230310 1300	4.2	E
20230310 1310	4.4	E
20230310 1320	5	E
20230310 1330	4.7	E
20230310 1340	3.9	E
20230310 1350	4.4	ENE
20230310 1400	4.4	E
20230310 1410	3.9	E
20230310 1420	3.9	E
20230310 1430	4.2	E
20230310 1440	4.4	E
20230310 1450	4.2	ESE
20230310 1500	3.9	E
20230310 1510	3.9	E
20230310 1520	3.9	ESE
20230310 1530	4.7	E
20230310 1540	3.6	SE
20230310 1550	3.9	ESE
20230310 1600	4.2	SE
20230310 1610	4.4	ESE
20230310 1620	3.3	SE
20230310 1630	3.3	ESE
20230310 1640	2.8	SE
20230310 1650	3.6	SE
20230310 1700	3.3	ESE
20230310 1710	4.7	ESE
20230310 1720	4.7	ESE
20230310 1730	4.2	ESE
20230310 1740	4.2	ESE
20230310 1750	3.9	ESE
20230310 1800	4.4	ESE
20230310 1810	3.9	ESE
20230310 1820	3.6	ESE
20230310 1830	4.2	ESE
20230310 1840	4.2	ESE
20230310 1850	3.9	ESE
20230310 1900	3.3	ESE
20230310 1910	3.9	SE
20230310 1920	4.4	ESE
20230310 1930	5	ESE
20230310 1940	5.3	ESE
20230310 1950	5	ESE
20230310 2000	4.2	ESE
20230310 2010	3.3	ESE
20230310 2020	4.2	ESE
20230310 2030	2.8	E
20230310 2040	3.6	ESE
20230310 2050	3.9	ESE
20230310 2100	3.3	ESE
20230310 2110	2.8	ESE
20230310 2120	3.3	ESE
20230310 2130	3.1	ESE
20230310 2140	3.3	ESE
20230310 2150	1.7	SE
20230310 2200	1.9	SSE
20230310 2210	1.4	SE
20230310 2220	1.1	SE
20230310 2230	2.5	SE
20230310 2240	2.2	SE
20230310 2250	2.5	E
20230310 2300	2.8	ESE
20230310 2310	2.2	ESE
20230310 2320	2.2	E
20230310 2330	1.9	ESE
20230310 2340	1.7	ESE
20230310 2350	1.4	E

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230311 0000	1.1	-
20230311 0010	0.8	ESE
20230311 0020	1.1	SE
20230311 0030	1.1	SE
20230311 0030	1.1	SE
20230311 0040	0.8	SE
20230311 0050	0.6	E
20230311 0100	0.8	ESE
20230311 0110	0.6	SSE
20230311 0120	0.3	-
20230311 0130	0.6	ESE
20230311 0140	1.4	ESE
20230311 0150	0.8	ESE
20230311 0200	0.8	SE
20230311 0210	0.3	SSE
20230311 0220	0.3	-
20230311 0230	0.3	S
20230311 0240	0.6	SSW
20230311 0250	0.3	SSW
20230311 0300	0.8	SSE
20230311 0310	1.9	SE
20230311 0320	2.5	SE
20230311 0330	2.8	SE
20230311 0340	2.8	SE
20230311 0350	2.5	SE
20230311 0400	2.8	SE
20230311 0410	2.5	SE
20230311 0420	2.8	SE
20230311 0430	2.2	SE
20230311 0440	1.4	ESE
20230311 0450	0.3	SE
20230311 0500	0.3	SSW
20230311 0510	0.3	SSE
20230311 0520	1.1	SE
20230311 0530	1.4	SE
20230311 0540	1.4	SE
20230311 0550	1.1	ESE
20230311 0600	0.6	ESE
20230311 0610	1.1	SE
20230311 0620	1.1	SE
20230311 0630	0.3	SE
20230311 0640	0.3	S
20230311 0650	0.3	S
20230311 0700	0	N
20230311 0710	0.8	S
20230311 0720	1.1	SSE
20230311 0730	0.8	SSE
20230311 0740	0.8	SE
20230311 0750	0.3	S
20230311 0800	0.6	SSW
20230311 0810	0.6	S
20230311 0820	1.7	SE
20230311 0830	1.7	SE
20230311 0840	1.4	ESE
20230311 0850	1.4	ESE
20230311 0900	2.2	E
20230311 0910	2.2	ESE
20230311 0920	2.5	ESE
20230311 0930	2.8	ESE
20230311 0940	2.8	E
20230311 0950	2.8	E
20230311 1000	2.8	E
20230311 1010	3.1	E
20230311 1020	2.5	E
20230311 1030	3.1	ESE
20230311 1040	2.2	-
20230311 1050	3.3	E
20230311 1100	3.1	E
20230311 1110	3.1	ESE
20230311 1120	3.1	E
20230311 1130	3.6	ESE
20230311 1140	3.6	E
20230311 1150	3.1	E

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230311 1200	3.3	E
20230311 1210	3.6	E
20230311 1220	4.2	ENE
20230311 1230	3.9	E
20230311 1240	3.3	E
20230311 1250	3.3	E
20230311 1300	3.3	E
20230311 1310	3.9	ENE
20230311 1320	3.9	E
20230311 1330	3.3	E
20230311 1340	4.7	ENE
20230311 1350	4.2	E
20230311 1400	3.3	E
20230311 1410	3.6	E
20230311 1420	3.3	E
20230311 1430	3.6	E
20230311 1440	4.2	E
20230311 1450	3.9	E
20230311 1500	3.6	E
20230311 1510	4.4	E
20230311 1520	4.2	E
20230311 1530	4.2	E
20230311 1540	3.9	E
20230311 1550	4.2	E
20230311 1600	3.9	E
20230311 1610	3.3	E
20230311 1620	3.3	E
20230311 1630	3.3	E
20230311 1640	3.3	E
20230311 1650	3.3	E
20230311 1700	3.1	E
20230311 1710	3.1	E
20230311 1720	3.3	ESE
20230311 1730	2.8	E
20230311 1740	2.5	E
20230311 1750	2.8	E
20230311 1800	3.3	E
20230311 1810	3.1	E
20230311 1820	2.8	E
20230311 1830	2.8	E
20230311 1840	2.8	ESE
20230311 1850	2.5	ESE
20230311 1900	2.2	ESE
20230311 1910	2.5	ESE
20230311 1920	2.2	ESE
20230311 1930	1.9	ESE
20230311 1940	1.9	ESE
20230311 1950	1.7	E
20230311 2000	1.7	E
20230311 2010	1.1	E
20230311 2020	1.1	E
20230311 2030	1.4	ESE
20230311 2040	1.7	E
20230311 2050	1.7	ESE
20230311 2100	1.4	E
20230311 2110	0.8	ENE
20230311 2120	0.3	ENE
20230311 2130	0.3	ESE
20230311 2140	0.3	ESE
20230311 2150	0.3	E
20230311 2200	0.3	E
20230311 2210	0	N
20230311 2220	0.6	SSE
20230311 2230	0.8	SSE
20230311 2240	0.6	S
20230311 2250	0.3	SSE
20230311 2300	0.3	S
20230311 2310	0.3	S
20230311 2320	0.3	S
20230311 2330	0.3	SSW
20230311 2340	0.3	SSE
20230311 2350	0.8	SSE

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230312 0000	0.8	SSE
20230312 0010	0.3	SE
20230312 0020	0.3	SE
20230312 0030	0.3	SE
20230312 0030	0.3	SSW
20230312 0040	0.6	S
20230312 0050	0.6	ESE
20230312 0100	0.3	ENE
20230312 0110	0	N
20230312 0120	0.3	SE
20230312 0130	0.3	SSW
20230312 0140	0.3	SW
20230312 0150	0.3	SW
20230312 0200	0.8	S
20230312 0210	0.3	SSE
20230312 0220	0.3	SSW
20230312 0230	0.3	SW
20230312 0240	0.3	ESE
20230312 0250	0.8	ESE
20230312 0300	0.3	SE
20230312 0310	0.3	SE
20230312 0320	0	N
20230312 0330	0.3	-
20230312 0340	0	N
20230312 0350	0	N
20230312 0400	0	N
20230312 0410	0.3	SE
20230312 0420	0.8	S
20230312 0430	0.6	S
20230312 0440	0	N
20230312 0450	0.3	N
20230312 0500	0	N
20230312 0510	0	N
20230312 0520	0	N
20230312 0530	0.3	SSW
20230312 0540	0.3	SSE
20230312 0550	0	N
20230312 0600	0	N
20230312 0610	0.3	-
20230312 0620	0	N
20230312 0630	0	N
20230312 0640	0	N
20230312 0650	0	N
20230312 0700	0	N
20230312 0710	0	N
20230312 0720	0	N
20230312 0730	0	N
20230312 0740	0.3	S
20230312 0750	0.3	S
20230312 0800	0.3	SSE
20230312 0810	0.3	SE
20230312 0820	0	N
20230312 0830	0	N
20230312 0840	0	N
20230312 0850	0	N
20230312 0900	0.3	SW
20230312 0910	0.8	WNW
20230312 0920	0.8	W
20230312 0930	0.6	NNW
20230312 0940	1.1	WNW
20230312 0950	0.6	-
20230312 1000	1.7	N
20230312 1010	1.7	NNE
20230312 1020	1.4	N
20230312 1030	1.9	N
20230312 1040	1.4	N
20230312 1050	0.8	NE
20230312 1100	2.2	NNE
20230312 1110	1.1	W
20230312 1120	1.7	WNW
20230312 1130	2.8	WNW
20230312 1140	1.7	NNW
20230312 1150	1.9	N

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230312 1200	1.7	N
20230312 1210	3.3	N
20230312 1220	2.2	NNE
20230312 1230	1.7	N
20230312 1240	2.5	NE
20230312 1250	1.7	NNW
20230312 1300	3.1	N
20230312 1310	3.9	NNE
20230312 1320	3.3	NE
20230312 1330	1.9	ENE
20230312 1340	1.7	ENE
20230312 1350	4.2	NNE
20230312 1400	3.9	NNE
20230312 1410	3.9	NNE
20230312 1420	3.3	NNE
20230312 1430	3.3	NNE
20230312 1440	4.7	NNE
20230312 1450	4.2	N
20230312 1500	4.7	N
20230312 1510	4.2	N
20230312 1520	3.9	N
20230312 1530	4.2	N
20230312 1540	5	NNE
20230312 1550	5	NNE
20230312 1600	5.3	NNE
20230312 1610	3.9	NNE
20230312 1620	4.2	N
20230312 1630	5.3	NNE
20230312 1640	4.2	NNE
20230312 1650	4.2	N
20230312 1700	4.2	NNE
20230312 1710	4.7	NNE
20230312 1720	4.2	NNE
20230312 1730	3.3	NNE
20230312 1740	3.1	NNE
20230312 1750	3.3	NNE
20230312 1800	3.9	NNE
20230312 1810	4.7	NNE
20230312 1820	2.2	NNE
20230312 1830	2.8	NNE
20230312 1840	2.8	NNE
20230312 1850	2.2	NNE
20230312 1900	2.2	NNE
20230312 1910	2.5	NNE
20230312 1920	5	NNE
20230312 1930	3.3	NNE
20230312 1940	2.5	NNE
20230312 1950	3.1	N
20230312 2000	3.3	NNE
20230312 2010	4.2	NNE
20230312 2020	3.3	NNE
20230312 2030	3.9	NNE
20230312 2040	4.2	NNE
20230312 2050	3.9	NE
20230312 2100	4.7	NE
20230312 2110	3.9	NE
20230312 2120	2.8	NE
20230312 2130	3.3	NE
20230312 2140	3.3	NE
20230312 2150	4.2	NE
20230312 2200	4.7	NE
20230312 2210	3.9	NE
20230312 2220	3.3	NE
20230312 2230	3.9	NE
20230312 2240	2.5	NNE
20230312 2250	4.2	NE
20230312 2300	4.7	NE
20230312 2310	3.9	NE
20230312 2320	4.2	NE
20230312 2330	3.1	NE
20230312 2340	5.3	NE
20230312 2350	3.9	NE

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230313 0000	4.2	NNE
20230313 0010	3.6	NE
20230313 0020	3.9	NNE
20230313 0030	3.9	NNE
20230313 0030	5	NNE
20230313 0040	4.2	NNE
20230313 0050	4.7	NNE
20230313 0100	4.2	NNE
20230313 0110	4.7	NNE
20230313 0120	4.2	NNE
20230313 0130	4.7	NNE
20230313 0140	3.3	NNE
20230313 0150	3.3	NE
20230313 0200	2.8	NNE
20230313 0210	3.1	NNE
20230313 0220	3.3	NNE
20230313 0230	4.2	NNE
20230313 0240	5.3	NE
20230313 0250	4.7	NE
20230313 0300	5	NE
20230313 0310	3.1	NE
20230313 0320	3.9	NE
20230313 0330	3.9	NNE
20230313 0340	4.2	NE
20230313 0350	3.3	NNE
20230313 0400	3.9	NE
20230313 0410	4.7	NNE
20230313 0420	5	NNE
20230313 0430	3.9	NNE
20230313 0440	3.1	NNE
20230313 0450	2.5	NNE
20230313 0500	1.7	NNE
20230313 0510	3.1	NNE
20230313 0520	2.5	NNE
20230313 0530	3.6	NNE
20230313 0540	4.4	NE
20230313 0550	4.7	NNE
20230313 0600	3.9	NNE
20230313 0610	4.2	NNE
20230313 0620	4.2	NNE
20230313 0630	3.3	NNE
20230313 0640	4.2	NNE
20230313 0650	4.7	NNE
20230313 0700	4.7	NNE
20230313 0710	3.3	NNE
20230313 0720	3.3	NNE
20230313 0730	3.1	NNE
20230313 0740	3.1	NNE
20230313 0750	3.3	NNE
20230313 0800	2.5	NNE
20230313 0810	2.5	NE
20230313 0820	1.4	NE
20230313 0830	0.6	NE
20230313 0840	0.8	N
20230313 0850	3.1	NNE
20230313 0900	2.5	NNE
20230313 0910	1.7	NE
20230313 0920	0.8	ESE
20230313 0930	1.4	ESE
20230313 0940	1.7	ESE
20230313 0950	1.4	E
20230313 1000	0.8	E
20230313 1010	1.7	NE
20230313 1020	1.7	NNE
20230313 1030	2.2	NNE
20230313 1040	2.2	NNE
20230313 1050	2.2	NNE
20230313 1100	2.2	NNE
20230313 1110	1.7	NNE
20230313 1120	1.4	NNE
20230313 1130	0.6	NE
20230313 1140	0.8	NNE
20230313 1150	1.1	NNE

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230313 1200	1.1	ENE
20230313 1210	1.1	NE
20230313 1220	1.1	NNE
20230313 1230	1.7	ENE
20230313 1240	0.8	S
20230313 1250	1.1	ESE
20230313 1300	1.4	SSE
20230313 1310	1.9	S
20230313 1320	1.7	SW
20230313 1330	1.1	SSW
20230313 1340	1.1	-
20230313 1350	0.8	N
20230313 1400	0.3	SE
20230313 1410	2.5	NNE
20230313 1420	3.3	NNE
20230313 1430	2.5	NE
20230313 1440	1.7	N
20230313 1450	1.7	NE
20230313 1500	1.7	NNW
20230313 1510	2.2	N
20230313 1520	1.9	NW
20230313 1530	1.7	NW
20230313 1540	1.7	N
20230313 1550	1.4	NNW
20230313 1600	1.4	N
20230313 1610	1.1	N
20230313 1620	1.4	N
20230313 1630	1.7	NNE
20230313 1640	1.4	NNE
20230313 1650	1.7	NE
20230313 1700	1.4	NE
20230313 1710	1.1	NNE
20230313 1720	1.1	ENE
20230313 1730	1.7	ENE
20230313 1740	0.3	NE
20230313 1750	0.3	ENE
20230313 1800	0.3	W
20230313 1810	0.6	SW
20230313 1820	0.8	SSW
20230313 1830	0.3	SW
20230313 1840	0	N
20230313 1850	0.3	SE
20230313 1900	1.1	ESE
20230313 1910	1.7	ESE
20230313 1920	2.5	ESE
20230313 1930	3.1	ESE
20230313 1940	3.3	ESE
20230313 1950	2.8	E
20230313 2000	1.7	E
20230313 2010	2.2	E
20230313 2020	1.7	E
20230313 2030	1.4	ESE
20230313 2040	1.7	ESE
20230313 2050	1.7	ESE
20230313 2100	1.4	ESE
20230313 2110	0.3	ESE
20230313 2120	0.8	E
20230313 2130	1.4	E
20230313 2140	1.7	ESE
20230313 2150	1.7	E
20230313 2200	1.1	ESE
20230313 2210	1.1	ESE
20230313 2220	0.8	ESE
20230313 2230	0.6	E
20230313 2240	0	N
20230313 2250	0.3	SSE
20230313 2300	0.8	ESE
20230313 2310	1.1	ESE
20230313 2320	0.3	SSE
20230313 2330	0.3	S
20230313 2340	1.4	SSE
20230313 2350	0.8	SE

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230314 0000	0.3	S
20230314 0010	0.8	ESE
20230314 0020	0.8	ESE
20230314 0030	0.8	ESE
20230314 0040	1.1	E
20230314 0050	1.1	ENE
20230314 0100	1.4	E
20230314 0110	1.4	E
20230314 0120	1.4	ESE
20230314 0130	1.4	ESE
20230314 0140	1.7	E
20230314 0150	1.4	E
20230314 0200	1.4	ESE
20230314 0210	1.4	ESE
20230314 0220	1.4	SE
20230314 0230	1.4	SE
20230314 0240	1.4	ESE
20230314 0250	1.7	ESE
20230314 0300	1.7	ESE
20230314 0310	1.7	ESE
20230314 0320	1.7	SE
20230314 0330	1.7	SE
20230314 0340	1.7	SE
20230314 0350	2.2	SE
20230314 0400	1.7	SE
20230314 0410	2.2	SE
20230314 0420	2.2	SE
20230314 0430	2.5	ESE
20230314 0440	1.9	ESE
20230314 0450	1.9	ESE
20230314 0500	1.7	ESE
20230314 0510	1.9	ESE
20230314 0520	1.7	ESE
20230314 0530	1.7	ESE
20230314 0540	2.2	ESE
20230314 0550	2.2	ESE
20230314 0600	1.7	ESE
20230314 0610	2.2	ESE
20230314 0620	1.7	ESE
20230314 0630	2.2	SE
20230314 0640	2.5	ESE
20230314 0650	1.7	ESE
20230314 0700	2.5	ESE
20230314 0710	2.2	ESE
20230314 0720	2.8	ESE
20230314 0730	3.1	ESE
20230314 0740	3.3	ESE
20230314 0750	2.5	ESE
20230314 0800	2.5	ESE
20230314 0810	2.8	ESE
20230314 0820	3.1	ESE
20230314 0830	2.8	ESE
20230314 0840	3.3	ESE
20230314 0850	2.8	ESE
20230314 0900	3.3	ESE
20230314 0910	3.3	ESE
20230314 0920	3.3	ESE
20230314 0930	2.5	ESE
20230314 0940	2.8	E
20230314 0950	3.6	ESE
20230314 1000	3.9	E
20230314 1010	3.3	E
20230314 1020	3.3	E
20230314 1030	3.3	ESE
20230314 1040	3.3	E
20230314 1050	3.3	E
20230314 1100	3.6	ESE
20230314 1110	3.9	ESE
20230314 1120	3.6	E
20230314 1130	3.1	ESE
20230314 1140	3.3	ESE
20230314 1150	3.3	E

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230314 1200	3.1	E
20230314 1210	3.3	E
20230314 1220	3.3	E
20230314 1230	2.8	E
20230314 1240	2.8	ESE
20230314 1250	2.2	SE
20230314 1300	2.2	SSE
20230314 1310	3.3	SSE
20230314 1320	2.8	SSE
20230314 1330	3.3	S
20230314 1340	3.1	S
20230314 1350	2.2	SSE
20230314 1400	2.5	SSW
20230314 1410	1.7	SSE
20230314 1420	1.4	SSW
20230314 1430	1.4	E
20230314 1440	1.7	E
20230314 1450	2.2	E
20230314 1500	2.8	E
20230314 1510	2.8	E
20230314 1520	2.8	E
20230314 1530	2.5	E
20230314 1540	2.5	ESE
20230314 1550	2.8	ESE
20230314 1600	2.8	E
20230314 1610	3.6	E
20230314 1620	3.3	E
20230314 1630	3.1	E
20230314 1640	3.3	E
20230314 1650	3.3	E
20230314 1700	3.1	E
20230314 1710	3.1	SE
20230314 1720	2.8	ESE
20230314 1730	2.8	ESE
20230314 1740	2.5	ESE
20230314 1750	2.2	ESE
20230314 1800	3.3	ESE
20230314 1810	2.8	ESE
20230314 1820	2.2	ESE
20230314 1830	1.9	SE
20230314 1840	1.7	SE
20230314 1850	1.4	SE
20230314 1900	0.8	SE
20230314 1910	1.1	SE
20230314 1920	1.4	E
20230314 1930	2.5	ESE
20230314 1940	2.8	SE
20230314 1950	2.5	ESE
20230314 2000	1.7	ESE
20230314 2010	1.4	SE
20230314 2020	1.1	SE
20230314 2030	1.1	SE
20230314 2040	1.1	ESE
20230314 2050	1.1	E
20230314 2100	1.4	E
20230314 2110	2.2	E
20230314 2120	2.2	ESE
20230314 2130	2.8	ESE
20230314 2140	2.2	ESE
20230314 2150	1.7	ESE
20230314 2200	1.7	ESE
20230314 2210	1.7	E
20230314 2220	1.7	E
20230314 2230	1.1	E
20230314 2240	1.4	E
20230314 2250	1.4	ESE
20230314 2300	1.7	ESE
20230314 2310	1.7	ESE
20230314 2320	0.8	SE
20230314 2330	0.6	SSE
20230314 2340	0.3	S
20230314 2350	0.8	SE

Date & Time (YYYYMMB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230315 0000	0.8	SE
20230315 0010	1.1	SE
20230315 0020	0.8	ESE
20230315 0030	0.8	ESE
20230315 0040	0.8	ESE
20230315 0050	0.3	SE
20230315 0100	0.8	SSE
20230315 0110	0.8	SSE
20230315 0120	0.3	SE
20230315 0130	0.3	SSE
20230315 0140	0.3	S
20230315 0150	0.3	SE
20230315 0200	0	N
20230315 0210	0.3	W
20230315 0220	0.3	WSW
20230315 0230	0.3	SSE
20230315 0240	0.8	SE
20230315 0250	0.8	SE
20230315 0300	0.6	SE
20230315 0310	0.3	SW
20230315 0320	0.3	S
20230315 0330	0.8	S
20230315 0340	1.1	S
20230315 0350	1.1	S
20230315 0400	1.1	S
20230315 0410	1.1	S
20230315 0420	0.8	S
20230315 0430	0.8	S
20230315 0440	0.8	SSW
20230315 0450	0.6	S
20230315 0500	0.3	S
20230315 0510	0.6	SSE
20230315 0520	2.5	SE
20230315 0530	2.5	SE
20230315 0540	2.2	SE
20230315 0550	1.4	ESE
20230315 0600	1.7	ESE
20230315 0610	0.8	ENE
20230315 0620	1.7	E
20230315 0630	1.9	E
20230315 0640	1.4	ENE
20230315 0650	1.1	E
20230315 0700	1.7	ESE
20230315 0710	2.2	SE
20230315 0720	1.7	ESE
20230315 0730	1.7	SE
20230315 0740	2.5	SE
20230315 0750	3.3	ESE
20230315 0800	4.4	SE
20230315 0810	3.6	ESE
20230315 0820	3.3	E
20230315 0830	2.2	E
20230315 0840	2.5	E
20230315 0850	2.8	E
20230315 0900	2.8	ENE
20230315 0910	1.7	E
20230315 0920	2.2	E
20230315 0930	1.7	ESE
20230315 0940	1.7	E
20230315 0950	1.9	ENE
20230315 1000	1.7	E
20230315 1010	1.7	E
20230315 1020	1.9	E
20230315 1030	2.2	ESE
20230315 1040	2.8	ESE
20230315 1050	2.8	ESE
20230315 1100	2.5	ESE
20230315 1110	2.5	E
20230315 1120	2.2	ESE
20230315 1130	2.2	ESE
20230315 1140	2.5	E
20230315 1150	2.2	ESE

Date & Time (YYYYMMB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230315 1200	2.2	SE
20230315 1210	2.2	E
20230315 1220	1.4	E
20230315 1230	2.5	ENE
20230315 1240	1.1	S
20230315 1250	1.7	E
20230315 1300	1.9	E
20230315 1310	2.2	E
20230315 1320	1.9	E
20230315 1330	1.9	SSE
20230315 1340	1.7	SSW
20230315 1350	1.7	SSE
20230315 1400	2.8	S
20230315 1410	2.5	SSE
20230315 1420	2.2	ESE
20230315 1430	2.8	E
20230315 1440	2.5	E
20230315 1450	2.5	E
20230315 1500	2.5	ESE
20230315 1510	2.8	E
20230315 1520	2.2	E
20230315 1530	2.8	E
20230315 1540	3.3	E
20230315 1550	3.1	E
20230315 1600	3.9	E
20230315 1610	3.3	E
20230315 1620	3.3	E
20230315 1630	3.6	E
20230315 1640	3.3	ESE
20230315 1650	3.1	ESE
20230315 1700	3.1	E
20230315 1710	2.8	E
20230315 1720	2.5	ESE
20230315 1730	2.5	ESE
20230315 1740	2.5	ESE
20230315 1750	2.5	E
20230315 1800	2.2	E
20230315 1810	2.2	E
20230315 1820	2.8	ESE
20230315 1830	2.2	ESE
20230315 1840	2.5	E
20230315 1850	1.7	E
20230315 1900	1.9	ESE
20230315 1910	2.2	ESE
20230315 1920	1.4	SE
20230315 1930	1.4	SE
20230315 1940	1.7	SE
20230315 1950	1.1	SE
20230315 2000	1.1	SE
20230315 2010	0.8	ESE
20230315 2020	0.8	SE
20230315 2030	0.3	SSW
20230315 2040	0.3	S
20230315 2050	0.8	SSE
20230315 2100	0.8	ESE
20230315 2110	0.8	S
20230315 2120	1.4	SE
20230315 2130	1.1	SE
20230315 2140	0.8	SE
20230315 2150	0.8	SSE
20230315 2200	1.7	SE
20230315 2210	1.4	SE
20230315 2220	1.7	SE
20230315 2230	1.4	SSE
20230315 2240	1.1	SE
20230315 2250	0.8	ESE
20230315 2300	1.1	SE
20230315 2310	0.6	SE
20230315 2320	0.3	ESE
20230315 2330	0.8	S
20230315 2340	0.8	S
20230315 2350	1.1	SSW

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230316 0000	1.9	S
20230316 0010	1.1	SE
20230316 0020	0.6	SE
20230316 0030	0.6	SE
20230316 0040	0.3	SE
20230316 0050	0.8	-
20230316 0100	1.4	SSE
20230316 0110	1.4	SSE
20230316 0120	1.1	SE
20230316 0130	1.4	ESE
20230316 0140	1.1	SE
20230316 0150	1.1	SE
20230316 0200	1.4	SE
20230316 0210	1.1	SSE
20230316 0220	1.4	SE
20230316 0230	1.1	SE
20230316 0240	0.8	SSE
20230316 0250	1.1	SSE
20230316 0300	1.1	SE
20230316 0310	1.4	SSE
20230316 0320	0.3	-
20230316 0330	0.3	SSW
20230316 0340	0.3	S
20230316 0350	0.3	W
20230316 0400	0.3	S
20230316 0410	0	N
20230316 0420	0.3	NE
20230316 0430	0	N
20230316 0440	0	N
20230316 0450	0	N
20230316 0500	0	N
20230316 0510	0	N
20230316 0520	0	N
20230316 0530	0	N
20230316 0540	0	N
20230316 0550	0	N
20230316 0600	0	N
20230316 0610	0	N
20230316 0620	0.3	SSE
20230316 0630	0	N
20230316 0640	0.3	SE
20230316 0650	0	N
20230316 0700	0	N
20230316 0710	0	N
20230316 0720	0.3	S
20230316 0730	0	N
20230316 0740	0	N
20230316 0750	0	N
20230316 0800	0	N
20230316 0810	0	N
20230316 0820	0	N
20230316 0830	0.3	NNE
20230316 0840	0	N
20230316 0850	0.3	N
20230316 0900	0.3	NNE
20230316 0910	0.3	SSE
20230316 0920	0.6	SSW
20230316 0930	2.2	ESE
20230316 0940	3.1	ESE
20230316 0950	3.3	E
20230316 1000	3.3	E
20230316 1010	3.3	E
20230316 1020	2.8	ESE
20230316 1030	3.3	ESE
20230316 1040	3.9	E
20230316 1050	3.3	E
20230316 1100	3.9	E
20230316 1110	3.3	E
20230316 1120	4.7	E
20230316 1130	4.7	ENE
20230316 1140	4.4	ENE
20230316 1150	3.3	E

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230316 1200	3.3	E
20230316 1210	2.8	E
20230316 1220	3.9	ENE
20230316 1230	3.9	ENE
20230316 1240	3.9	E
20230316 1250	4.2	E
20230316 1300	4.2	E
20230316 1310	3.9	ENE
20230316 1320	3.9	E
20230316 1330	3.9	E
20230316 1340	4.4	E
20230316 1350	3.9	E
20230316 1400	3.3	E
20230316 1410	3.9	E
20230316 1420	4.4	SSE
20230316 1430	3.9	SE
20230316 1440	3.3	SE
20230316 1450	3.3	ESE
20230316 1500	3.1	ESE
20230316 1510	3.9	SE
20230316 1520	4.7	ESE
20230316 1530	4.7	SE
20230316 1540	4.7	SE
20230316 1550	3.6	ESE
20230316 1600	4.7	ESE
20230316 1610	4.4	ESE
20230316 1620	4.7	ESE
20230316 1630	4.2	SE
20230316 1640	3.3	ESE
20230316 1650	2.8	ESE
20230316 1700	3.3	E
20230316 1710	3.1	ESE
20230316 1720	3.1	ESE
20230316 1730	3.1	ESE
20230316 1740	3.1	ESE
20230316 1750	2.5	ESE
20230316 1800	2.5	ESE
20230316 1810	2.2	SE
20230316 1820	1.9	SE
20230316 1830	1.7	SE
20230316 1840	2.5	SE
20230316 1850	1.9	SE
20230316 1900	1.7	ESE
20230316 1910	1.4	ESE
20230316 1920	1.7	ESE
20230316 1930	1.7	E
20230316 1940	1.7	ESE
20230316 1950	1.7	ESE
20230316 2000	2.2	ESE
20230316 2010	2.2	ESE
20230316 2020	2.2	ESE
20230316 2030	3.3	ESE
20230316 2040	2.2	ESE
20230316 2050	1.4	ESE
20230316 2100	2.2	ESE
20230316 2110	2.2	ESE
20230316 2120	1.7	ESE
20230316 2130	1.9	SE
20230316 2140	2.2	SE
20230316 2150	2.2	SSE
20230316 2200	1.7	SE
20230316 2210	2.5	SSE
20230316 2220	2.8	SSE
20230316 2230	2.8	SE
20230316 2240	2.8	SE
20230316 2250	2.5	SE
20230316 2300	2.8	SE
20230316 2310	3.3	SE
20230316 2320	2.8	SE
20230316 2330	3.3	SE
20230316 2340	3.1	ESE
20230316 2350	3.3	ESE

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230317 0000	2.5	ESE
20230317 0010	2.5	ESE
20230317 0020	2.5	ESE
20230317 0030	2.5	ESE
20230317 0040	2.8	ESE
20230317 0050	2.8	ESE
20230317 0100	3.1	ESE
20230317 0110	2.8	ESE
20230317 0120	3.3	ESE
20230317 0130	3.6	ESE
20230317 0140	3.9	E
20230317 0150	3.3	ESE
20230317 0200	3.1	ESE
20230317 0210	2.8	ESE
20230317 0220	3.3	ESE
20230317 0230	3.3	ESE
20230317 0240	4.2	ESE
20230317 0250	2.5	ESE
20230317 0300	3.1	E
20230317 0310	3.3	ESE
20230317 0320	3.3	ESE
20230317 0330	3.3	ESE
20230317 0340	3.3	ESE
20230317 0350	2.8	ESE
20230317 0400	2.8	ESE
20230317 0410	2.5	ESE
20230317 0420	3.3	ESE
20230317 0430	2.8	ESE
20230317 0440	3.3	ESE
20230317 0450	1.9	ESE
20230317 0500	2.8	ESE
20230317 0510	3.3	ESE
20230317 0520	3.3	ESE
20230317 0530	1.9	ESE
20230317 0540	2.5	SE
20230317 0550	2.8	ESE
20230317 0600	2.5	ESE
20230317 0610	2.8	ESE
20230317 0620	2.8	E
20230317 0630	1.7	ESE
20230317 0640	2.2	ESE
20230317 0650	1.9	ESE
20230317 0700	2.8	ESE
20230317 0710	2.2	E
20230317 0720	2.5	E
20230317 0730	1.7	E
20230317 0740	2.2	E
20230317 0750	1.9	E
20230317 0800	2.5	E
20230317 0810	2.5	E
20230317 0820	2.5	E
20230317 0830	2.2	E
20230317 0840	2.2	E
20230317 0850	2.8	ESE
20230317 0900	2.5	E
20230317 0910	2.2	E
20230317 0920	2.8	E
20230317 0930	2.5	E
20230317 0940	2.8	E
20230317 0950	2.8	E
20230317 1000	2.5	E
20230317 1010	2.8	E
20230317 1020	2.8	E
20230317 1030	3.3	E
20230317 1040	2.8	E
20230317 1050	2.2	ENE
20230317 1100	2.5	E
20230317 1110	1.9	E
20230317 1120	3.1	E
20230317 1130	3.3	E
20230317 1140	2.5	ESE
20230317 1150	1.9	SSE

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230317 1200	2.5	E
20230317 1210	1.9	SSE
20230317 1220	2.5	ESE
20230317 1230	2.5	SE
20230317 1240	3.3	E
20230317 1250	3.9	E
20230317 1300	2.8	ESE
20230317 1310	2.5	ESE
20230317 1320	3.1	E
20230317 1330	2.8	E
20230317 1340	3.3	ESE
20230317 1350	2.5	ESE
20230317 1400	2.5	ESE
20230317 1410	2.2	SE
20230317 1420	1.7	E
20230317 1430	2.8	ESE
20230317 1440	2.5	SE
20230317 1450	1.9	ESE
20230317 1500	2.5	ESE
20230317 1510	3.3	ESE
20230317 1520	3.3	E
20230317 1530	3.3	ESE
20230317 1540	3.1	ESE
20230317 1550	3.3	ESE
20230317 1600	3.3	ESE
20230317 1610	3.3	ESE
20230317 1620	3.9	ESE
20230317 1630	4.2	ESE
20230317 1640	3.3	ESE
20230317 1650	2.8	ESE
20230317 1700	3.6	ESE
20230317 1710	3.9	ESE
20230317 1720	3.1	ESE
20230317 1730	3.3	ESE
20230317 1740	3.1	ESE
20230317 1750	2.8	ESE
20230317 1800	3.1	ESE
20230317 1810	2.8	ESE
20230317 1820	3.1	ESE
20230317 1830	2.8	ESE
20230317 1840	2.8	ESE
20230317 1850	3.3	ESE
20230317 1900	2.8	ESE
20230317 1910	2.5	ESE
20230317 1920	1.7	ESE
20230317 1930	1.7	SE
20230317 1940	1.7	SE
20230317 1950	1.7	SE
20230317 2000	1.7	SE
20230317 2010	1.7	ESE
20230317 2020	1.4	SE
20230317 2030	1.4	ESE
20230317 2040	2.2	ESE
20230317 2050	1.7	E
20230317 2100	1.1	SE
20230317 2110	1.7	ESE
20230317 2120	2.2	ESE
20230317 2130	2.2	ESE
20230317 2140	2.2	SE
20230317 2150	2.2	SE
20230317 2200	2.5	SE
20230317 2210	2.5	SE
20230317 2220	2.2	SSE
20230317 2230	1.7	SSE
20230317 2240	2.2	SSE
20230317 2250	2.2	SSE
20230317 2300	2.2	SSE
20230317 2310	1.1	SE
20230317 2320	1.4	SSE
20230317 2330	1.4	SE
20230317 2340	1.7	SSE
20230317 2350	1.4	SSE

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230318 0000	1.4	SSE
20230318 0010	1.4	SSE
20230318 0020	1.7	SSE
20230318 0030	1.7	SSE
20230318 0040	1.9	SE
20230318 0050	1.1	ESE
20230318 0100	1.7	SE
20230318 0110	1.7	SE
20230318 0120	1.7	SSE
20230318 0130	1.9	SSE
20230318 0140	1.7	SSE
20230318 0150	1.7	SSE
20230318 0200	1.1	SE
20230318 0210	1.4	SE
20230318 0220	1.1	SE
20230318 0230	0.8	SSE
20230318 0240	0.8	SSE
20230318 0250	1.1	SSE
20230318 0300	0.8	SSE
20230318 0310	0.8	SSE
20230318 0320	0.3	SSE
20230318 0330	0	N
20230318 0340	0	N
20230318 0350	0	N
20230318 0400	0	N
20230318 0410	0	N
20230318 0420	0	N
20230318 0430	0	N
20230318 0440	0	N
20230318 0450	0	N
20230318 0500	0	N
20230318 0510	0	N
20230318 0520	0	N
20230318 0530	0	N
20230318 0540	0	N
20230318 0550	0	N
20230318 0600	0	N
20230318 0610	0	N
20230318 0620	0.3	SE
20230318 0630	0	N
20230318 0640	0	N
20230318 0650	0	N
20230318 0700	0	N
20230318 0710	0	N
20230318 0720	0	N
20230318 0730	0	N
20230318 0740	0	N
20230318 0750	0	N
20230318 0800	0	N
20230318 0810	0	N
20230318 0820	0	N
20230318 0830	0	N
20230318 0840	0	N
20230318 0850	0.3	-
20230318 0900	0.3	SSW
20230318 0910	0.3	WNW
20230318 0920	1.4	WNW
20230318 0930	0.6	W
20230318 0940	0.8	-
20230318 0950	1.1	WNW
20230318 1000	1.7	WNW
20230318 1010	1.1	WNW
20230318 1020	1.7	WNW
20230318 1030	1.1	NW
20230318 1040	1.4	W
20230318 1050	1.1	-
20230318 1100	1.4	NW
20230318 1110	1.7	N
20230318 1120	1.4	NNW
20230318 1130	1.4	W
20230318 1140	2.2	WNW
20230318 1150	1.1	N

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230318 1200	1.7	N
20230318 1210	0.8	NNW
20230318 1220	0.3	-
20230318 1230	1.1	NNW
20230318 1240	1.1	-
20230318 1250	1.1	SSW
20230318 1300	0.8	S
20230318 1310	1.7	ESE
20230318 1320	2.8	SE
20230318 1330	2.5	ESE
20230318 1340	3.3	E
20230318 1350	3.3	ESE
20230318 1400	3.1	ESE
20230318 1410	3.3	E
20230318 1420	3.9	E
20230318 1430	3.3	E
20230318 1440	3.6	E
20230318 1450	3.3	E
20230318 1500	3.9	E
20230318 1510	3.9	E
20230318 1520	3.1	ENE
20230318 1530	3.9	E
20230318 1540	3.9	E
20230318 1550	4.2	E
20230318 1600	3.1	ESE
20230318 1610	3.3	E
20230318 1620	2.8	ESE
20230318 1630	3.6	E
20230318 1640	3.3	ESE
20230318 1650	3.9	E
20230318 1700	4.2	E
20230318 1710	3.3	ESE
20230318 1720	3.3	E
20230318 1730	3.3	E
20230318 1740	3.3	E
20230318 1750	3.3	E
20230318 1800	2.2	E
20230318 1810	2.5	ESE
20230318 1820	1.7	ESE
20230318 1830	1.7	ESE
20230318 1840	1.7	ESE
20230318 1850	2.2	ESE
20230318 1900	1.7	SE
20230318 1910	2.2	SE
20230318 1920	2.5	SE
20230318 1930	3.3	SE
20230318 1940	2.8	ESE
20230318 1950	3.6	ESE
20230318 2000	3.3	ESE
20230318 2010	3.9	ESE
20230318 2020	3.9	ESE
20230318 2030	3.9	SE
20230318 2040	3.9	SE
20230318 2050	4.2	ESE
20230318 2100	3.9	SE
20230318 2110	3.6	ESE
20230318 2120	4.2	ESE
20230318 2130	3.9	ESE
20230318 2140	4.2	ESE
20230318 2150	3.9	ESE
20230318 2200	4.4	ESE
20230318 2210	3.9	ESE
20230318 2220	4.4	ESE
20230318 2230	3.3	ESE
20230318 2240	3.3	ESE
20230318 2250	3.3	ESE
20230318 2300	3.3	ESE
20230318 2310	2.5	ESE
20230318 2320	3.1	ESE
20230318 2330	3.3	ESE
20230318 2340	2.8	E
20230318 2350	2.5	E

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230319 0000	3.3	E
20230319 0010	3.3	E
20230319 0020	2.8	E
20230319 0030	2.8	E
20230319 0040	2.8	E
20230319 0050	3.3	E
20230319 0100	3.3	E
20230319 0110	3.3	E
20230319 0120	3.3	E
20230319 0130	3.6	E
20230319 0140	3.3	ESE
20230319 0150	3.3	ESE
20230319 0200	2.8	ESE
20230319 0210	3.3	ESE
20230319 0220	3.3	ESE
20230319 0230	3.1	ESE
20230319 0240	2.5	ESE
20230319 0250	2.8	E
20230319 0300	3.1	ESE
20230319 0310	2.5	ESE
20230319 0320	2.8	ESE
20230319 0330	4.2	ESE
20230319 0340	3.9	ESE
20230319 0350	3.9	ESE
20230319 0400	4.2	ESE
20230319 0410	4.7	ESE
20230319 0420	4.4	ESE
20230319 0430	4.4	ESE
20230319 0440	4.7	ESE
20230319 0450	5.3	ESE
20230319 0500	5	ESE
20230319 0510	4.2	ESE
20230319 0520	4.2	ESE
20230319 0530	4.2	ESE
20230319 0540	4.7	ESE
20230319 0550	4.4	ESE
20230319 0600	3.9	ESE
20230319 0610	4.4	ESE
20230319 0620	3.6	ESE
20230319 0630	5	ESE
20230319 0640	4.4	ESE
20230319 0650	4.4	ESE
20230319 0700	3.9	ESE
20230319 0710	3.9	ESE
20230319 0720	4.2	ESE
20230319 0730	4.2	ESE
20230319 0740	4.7	ESE
20230319 0750	4.4	ESE
20230319 0800	4.4	ESE
20230319 0810	4.7	ESE
20230319 0820	4.4	ESE
20230319 0830	3.3	ESE
20230319 0840	3.3	ESE
20230319 0850	3.3	ESE
20230319 0900	3.9	ESE
20230319 0910	3.9	ESE
20230319 0920	3.3	ESE
20230319 0930	3.9	ESE
20230319 0940	3.1	ESE
20230319 0950	3.3	ESE
20230319 1000	3.3	ESE
20230319 1010	3.9	ESE
20230319 1020	3.6	ESE
20230319 1030	3.3	ESE
20230319 1040	3.3	E
20230319 1050	3.6	E
20230319 1100	2.8	ESE
20230319 1110	2.5	E
20230319 1120	2.5	E
20230319 1130	2.8	E
20230319 1140	2.2	E
20230319 1150	3.1	E

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230319 1200	2.2	ESE
20230319 1210	2.8	ESE
20230319 1220	2.8	E
20230319 1230	3.1	E
20230319 1240	3.1	E
20230319 1250	3.3	E
20230319 1300	3.3	E
20230319 1310	2.8	E
20230319 1320	2.8	E
20230319 1330	3.1	E
20230319 1340	2.2	E
20230319 1350	3.1	ESE
20230319 1400	2.5	ESE
20230319 1410	3.1	ESE
20230319 1420	1.9	ESE
20230319 1430	2.2	E
20230319 1440	2.5	E
20230319 1450	3.3	E
20230319 1500	3.3	ESE
20230319 1510	3.3	ESE
20230319 1520	3.3	ESE
20230319 1530	2.5	E
20230319 1540	2.8	E
20230319 1550	3.1	ESE
20230319 1600	2.8	ESE
20230319 1610	3.3	E
20230319 1620	3.3	ESE
20230319 1630	3.9	ESE
20230319 1640	3.3	E
20230319 1650	3.3	ESE
20230319 1700	2.8	ESE
20230319 1710	3.1	ESE
20230319 1720	2.8	ESE
20230319 1730	2.2	ESE
20230319 1740	2.8	ESE
20230319 1750	3.3	ESE
20230319 1800	3.6	ESE
20230319 1810	3.9	ESE
20230319 1820	3.9	ESE
20230319 1830	3.9	ESE
20230319 1840	3.9	ESE
20230319 1850	3.3	ESE
20230319 1900	2.5	ESE
20230319 1910	2.2	ESE
20230319 1920	2.2	ESE
20230319 1930	2.5	ESE
20230319 1940	2.8	ESE
20230319 1950	2.2	ESE
20230319 2000	2.5	SE
20230319 2010	2.8	SE
20230319 2020	2.5	ESE
20230319 2030	2.5	ESE
20230319 2040	2.8	ESE
20230319 2050	2.8	ESE
20230319 2100	3.3	ESE
20230319 2110	3.1	ESE
20230319 2120	2.8	ESE
20230319 2130	2.8	ESE
20230319 2140	3.3	ESE
20230319 2150	2.5	ESE
20230319 2200	2.2	E
20230319 2210	2.5	E
20230319 2220	2.8	ESE
20230319 2230	2.5	ESE
20230319 2240	1.9	ESE
20230319 2250	1.7	SE
20230319 2300	2.5	SE
20230319 2310	2.8	ESE
20230319 2320	2.5	SE
20230319 2330	2.5	SE
20230319 2340	2.5	ESE
20230319 2350	2.8	ESE

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230320 0000	3.6	ESE
20230320 0010	2.8	ESE
20230320 0020	3.9	ESE
20230320 0030	3.9	ESE
20230320 0040	3.3	ESE
20230320 0050	3.3	ESE
20230320 0100	3.3	ESE
20230320 0110	3.6	ESE
20230320 0120	3.3	ESE
20230320 0130	4.2	ESE
20230320 0140	3.3	ESE
20230320 0150	3.3	ESE
20230320 0200	3.6	ESE
20230320 0210	3.3	ESE
20230320 0220	3.6	ESE
20230320 0230	3.1	ESE
20230320 0240	3.3	E
20230320 0250	3.1	E
20230320 0300	3.6	ESE
20230320 0310	2.8	ESE
20230320 0320	3.1	ESE
20230320 0330	3.3	E
20230320 0340	3.3	E
20230320 0350	3.3	E
20230320 0400	3.3	E
20230320 0410	3.3	E
20230320 0420	3.3	E
20230320 0430	3.9	ESE
20230320 0440	2.5	E
20230320 0450	3.3	ESE
20230320 0500	3.3	ESE
20230320 0510	3.3	E
20230320 0520	3.3	E
20230320 0530	3.1	E
20230320 0540	2.8	E
20230320 0550	2.8	E
20230320 0600	3.1	E
20230320 0610	3.1	E
20230320 0620	3.1	E
20230320 0630	2.8	E
20230320 0640	2.8	E
20230320 0650	3.1	E
20230320 0700	3.3	E
20230320 0710	3.9	E
20230320 0720	3.3	E
20230320 0730	3.6	ESE
20230320 0740	3.9	ESE
20230320 0750	3.9	ESE
20230320 0800	3.9	E
20230320 0810	5	E
20230320 0820	3.9	E
20230320 0830	4.2	ESE
20230320 0840	3.6	E
20230320 0850	3.3	E
20230320 0900	3.3	E
20230320 0910	3.9	E
20230320 0920	3.3	ESE
20230320 0930	4.2	ESE
20230320 0940	3.3	ESE
20230320 0950	3.1	ESE
20230320 1000	3.3	ESE
20230320 1010	3.3	ESE
20230320 1020	3.3	ESE
20230320 1030	4.2	E
20230320 1040	3.3	E
20230320 1050	2.8	E
20230320 1100	3.3	E
20230320 1110	2.8	E
20230320 1120	2.8	E
20230320 1130	3.3	E
20230320 1140	3.3	ESE
20230320 1150	2.5	ESE

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230320 1200	2.8	ESE
20230320 1210	3.3	E
20230320 1220	3.1	E
20230320 1230	3.3	E
20230320 1240	2.8	E
20230320 1250	3.3	E
20230320 1300	2.8	E
20230320 1310	3.3	E
20230320 1320	3.3	E
20230320 1330	3.9	E
20230320 1340	3.3	E
20230320 1350	3.9	E
20230320 1400	4.2	E
20230320 1410	3.6	E
20230320 1420	3.3	E
20230320 1430	3.1	ESE
20230320 1440	3.3	ESE
20230320 1450	2.8	ESE
20230320 1500	3.3	ESE
20230320 1510	2.8	ESE
20230320 1520	3.1	ESE
20230320 1530	2.8	ESE
20230320 1540	3.9	ESE
20230320 1550	3.6	ESE
20230320 1600	3.3	ESE
20230320 1610	3.3	ESE
20230320 1620	3.3	E
20230320 1630	3.3	E
20230320 1640	3.3	E
20230320 1650	3.3	ESE
20230320 1700	3.3	ESE
20230320 1710	3.3	ESE
20230320 1720	2.5	ESE
20230320 1730	2.8	ESE
20230320 1740	3.3	ESE
20230320 1750	3.3	ESE
20230320 1800	3.3	ESE
20230320 1810	2.8	ESE
20230320 1820	2.8	ESE
20230320 1830	2.2	ESE
20230320 1840	3.3	ESE
20230320 1850	2.5	ESE
20230320 1900	2.2	ESE
20230320 1910	1.4	ESE
20230320 1920	1.7	SE
20230320 1930	1.7	SE
20230320 1940	2.5	ESE
20230320 1950	2.2	SE
20230320 2000	2.5	SE
20230320 2010	1.7	SE
20230320 2020	1.4	SSE
20230320 2030	2.2	ESE
20230320 2040	1.7	ESE
20230320 2050	1.9	ESE
20230320 2100	1.7	ESE
20230320 2110	1.7	ESE
20230320 2120	2.2	ESE
20230320 2130	1.9	ESE
20230320 2140	1.9	SE
20230320 2150	1.7	SE
20230320 2200	1.7	SE
20230320 2210	1.7	SE
20230320 2220	1.7	ESE
20230320 2230	1.4	SE
20230320 2240	1.7	SE
20230320 2250	1.7	ESE
20230320 2300	2.2	ESE
20230320 2310	1.9	ESE
20230320 2320	1.9	ESE
20230320 2330	1.4	SE
20230320 2340	1.9	ESE
20230320 2350	1.4	SE

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230321 0000	1.7	SE
20230321 0010	1.7	ESE
20230321 0020	0.8	SE
20230321 0030	0.8	SE
20230321 0040	1.4	ESE
20230321 0050	0	N
20230321 0100	0.8	ESE
20230321 0110	0.6	ESE
20230321 0120	0.3	SSE
20230321 0130	0.8	SE
20230321 0140	0.3	SE
20230321 0150	1.1	SE
20230321 0200	1.4	SSE
20230321 0210	1.1	ESE
20230321 0220	1.4	ESE
20230321 0230	1.7	SE
20230321 0240	1.4	SE
20230321 0250	1.7	SE
20230321 0300	1.7	SE
20230321 0310	1.7	ESE
20230321 0320	1.9	ESE
20230321 0330	1.7	SE
20230321 0340	1.7	SE
20230321 0350	1.9	ESE
20230321 0400	1.7	SE
20230321 0410	2.5	SE
20230321 0420	2.2	ESE
20230321 0430	1.7	SE
20230321 0440	1.4	SE
20230321 0450	1.7	SE
20230321 0500	1.7	ESE
20230321 0510	1.4	SE
20230321 0520	2.2	SE
20230321 0530	1.4	SE
20230321 0540	1.4	SE
20230321 0550	1.7	SE
20230321 0600	1.7	SE
20230321 0610	2.2	ESE
20230321 0620	2.2	SE
20230321 0630	1.9	ESE
20230321 0640	1.9	ESE
20230321 0650	1.9	SE
20230321 0700	1.7	ESE
20230321 0710	1.7	ESE
20230321 0720	1.1	SE
20230321 0730	0.8	SE
20230321 0740	0.8	ESE
20230321 0750	1.7	SE
20230321 0800	2.2	SE
20230321 0810	1.7	ESE
20230321 0820	1.4	SE
20230321 0830	1.7	SE
20230321 0840	1.7	ESE
20230321 0850	1.7	ESE
20230321 0900	1.7	ESE
20230321 0910	1.7	ESE
20230321 0920	1.7	E
20230321 0930	1.7	ESE
20230321 0940	1.7	SE
20230321 0950	1.4	SE
20230321 1000	1.9	ESE
20230321 1010	1.7	SE
20230321 1020	0.8	SE
20230321 1030	1.1	SE
20230321 1040	1.7	SE
20230321 1050	1.1	ESE
20230321 1100	0.8	SSE
20230321 1110	0.8	SSE
20230321 1120	1.4	ESE
20230321 1130	1.7	ESE
20230321 1140	1.9	E
20230321 1150	1.7	E

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230321 1200	1.7	ESE
20230321 1210	1.1	ESE
20230321 1220	1.4	ESE
20230321 1230	1.1	E
20230321 1240	1.1	SE
20230321 1250	1.4	SSE
20230321 1300	3.1	SSW
20230321 1310	2.8	SW
20230321 1320	3.1	S
20230321 1330	3.3	SSW
20230321 1340	2.2	S
20230321 1350	1.7	SSW
20230321 1400	2.5	S
20230321 1410	2.5	S
20230321 1420	2.2	S
20230321 1430	1.7	SSW
20230321 1440	3.1	SSW
20230321 1450	2.2	SSW
20230321 1500	2.2	SSW
20230321 1510	2.8	SSW
20230321 1520	2.5	SSW
20230321 1530	2.2	SSW
20230321 1540	1.7	SSW
20230321 1550	2.5	SSW
20230321 1600	2.5	SW
20230321 1610	2.8	SSW
20230321 1620	3.3	SSW
20230321 1630	1.7	SSW
20230321 1640	1.7	SW
20230321 1650	3.1	SSW
20230321 1700	2.8	SSW
20230321 1710	2.5	SSW
20230321 1720	2.8	SSW
20230321 1730	3.3	SSW
20230321 1740	2.5	S
20230321 1750	3.9	S
20230321 1800	3.3	SSW
20230321 1810	2.2	SSW
20230321 1820	1.7	SSW
20230321 1830	1.4	S
20230321 1840	1.4	SW
20230321 1850	0.8	WSW
20230321 1900	0.6	W
20230321 1910	1.1	SSW
20230321 1920	0.8	E
20230321 1930	0.3	SSE
20230321 1940	1.4	ESE
20230321 1950	1.4	ESE
20230321 2000	1.1	SE
20230321 2010	0.6	SE
20230321 2020	0.3	SW
20230321 2030	0.8	S
20230321 2040	0.3	SSW
20230321 2050	0.6	SSE
20230321 2100	0.6	SE
20230321 2110	0	N
20230321 2120	0	N
20230321 2130	0.3	SW
20230321 2140	0.3	-
20230321 2150	0.3	-
20230321 2200	0.3	SE
20230321 2210	0.8	S
20230321 2220	0.3	SSW
20230321 2230	0.3	SE
20230321 2240	0.3	SE
20230321 2250	0	N
20230321 2300	0.3	S
20230321 2310	0.8	SSE
20230321 2320	1.1	ESE
20230321 2330	1.1	SE
20230321 2340	1.1	SE
20230321 2350	1.7	SSE

Date & Time (YYYYMMB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230322 0000	1.9	S
20230322 0010	1.1	S
20230322 0020	1.4	S
20230322 0030	1.4	SSW
20230322 0040	1.4	SSW
20230322 0050	1.7	SE
20230322 0100	0.3	SW
20230322 0110	0.3	NE
20230322 0120	0	N
20230322 0130	0.3	S
20230322 0140	0.3	SE
20230322 0150	0	N
20230322 0200	0.8	S
20230322 0210	1.1	SSW
20230322 0220	1.4	SSW
20230322 0230	0.6	WSW
20230322 0240	0.8	WSW
20230322 0250	0.8	SW
20230322 0300	1.7	SW
20230322 0310	2.2	SSW
20230322 0320	1.9	SW
20230322 0330	2.5	SW
20230322 0340	1.4	WSW
20230322 0350	1.4	WSW
20230322 0400	1.7	SW
20230322 0410	1.4	SW
20230322 0420	1.1	SSW
20230322 0430	1.4	S
20230322 0440	1.4	SSE
20230322 0450	1.1	ESE
20230322 0500	0.3	NE
20230322 0510	0.3	NNE
20230322 0520	0.3	E
20230322 0530	0.6	ESE
20230322 0540	0.8	ESE
20230322 0550	0.3	NE
20230322 0600	0	N
20230322 0610	0	N
20230322 0620	0.3	-
20230322 0630	0.3	S
20230322 0640	0.3	SE
20230322 0650	0.6	SW
20230322 0700	2.8	SSW
20230322 0710	2.2	SW
20230322 0720	2.2	SSW
20230322 0730	1.9	SW
20230322 0740	1.7	SSW
20230322 0750	1.4	SSW
20230322 0800	2.2	SSW
20230322 0810	2.2	S
20230322 0820	2.5	S
20230322 0830	2.5	S
20230322 0840	1.7	SSW
20230322 0850	2.2	SSW
20230322 0900	2.8	SW
20230322 0910	3.3	SW
20230322 0920	3.1	SW
20230322 0930	3.3	SW
20230322 0940	3.3	SW
20230322 0950	3.3	SW
20230322 1000	3.3	SW
20230322 1010	3.3	SW
20230322 1020	3.3	SW
20230322 1030	3.6	SSW
20230322 1040	3.9	SSW
20230322 1050	3.3	SW
20230322 1100	2.8	SSW
20230322 1110	2.8	SSW
20230322 1120	2.8	SW
20230322 1130	3.3	SW
20230322 1140	3.3	SW
20230322 1150	3.3	SW

Date & Time (YYYYMMB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230322 1200	3.6	SW
20230322 1210	3.1	SW
20230322 1220	3.1	SW
20230322 1230	2.8	SW
20230322 1240	1.9	WSW
20230322 1250	1.9	WSW
20230322 1300	2.2	SW
20230322 1310	2.8	SW
20230322 1320	3.3	SW
20230322 1330	3.1	SW
20230322 1340	3.3	SW
20230322 1350	3.3	SW
20230322 1400	3.3	SSW
20230322 1410	4.4	SSW
20230322 1420	3.9	SSW
20230322 1430	3.3	SSW
20230322 1440	3.3	SSW
20230322 1450	3.3	SSW
20230322 1500	3.6	SSW
20230322 1510	3.3	SSW
20230322 1520	3.3	SSW
20230322 1530	2.8	SSW
20230322 1540	2.2	SW
20230322 1550	2.5	SSW
20230322 1600	2.2	SW
20230322 1610	1.4	WSW
20230322 1620	1.4	SW
20230322 1630	1.7	SW
20230322 1640	1.7	WSW
20230322 1650	1.4	WSW
20230322 1700	1.7	SW
20230322 1710	1.7	SSW
20230322 1720	1.7	SW
20230322 1730	1.4	WSW
20230322 1740	1.4	WSW
20230322 1750	2.2	SW
20230322 1800	1.7	SW
20230322 1810	1.7	SW
20230322 1820	1.9	SW
20230322 1830	1.9	SSW
20230322 1840	2.5	S
20230322 1850	1.7	SSW
20230322 1900	1.7	SSW
20230322 1910	2.2	SW
20230322 1920	1.1	S
20230322 1930	0.3	SE
20230322 1940	0.3	ESE
20230322 1950	0.3	S
20230322 2000	0.3	NW
20230322 2010	0.3	NNE
20230322 2020	0.3	NE
20230322 2030	0.3	-
20230322 2040	0.6	E
20230322 2050	0.3	E
20230322 2100	0	N
20230322 2110	0.3	NNE
20230322 2120	0.3	NNE
20230322 2130	0.3	-
20230322 2140	0.6	WSW
20230322 2150	0.8	SSW
20230322 2200	1.7	SSE
20230322 2210	0.3	ENE
20230322 2220	0.3	-
20230322 2230	1.1	SSW
20230322 2240	0.3	ESE
20230322 2250	0.3	-
20230322 2300	1.1	SSW
20230322 2310	1.4	SSW
20230322 2320	0.8	SSE
20230322 2330	0.8	S
20230322 2340	1.4	SW
20230322 2350	2.5	SW

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230323 0000	2.5	SW
20230323 0010	2.5	SW
20230323 0020	2.2	SW
20230323 0030	2.2	SW
20230323 0040	3.3	SW
20230323 0050	2.8	SW
20230323 0100	2.8	SW
20230323 0110	2.2	SW
20230323 0120	3.3	SW
20230323 0130	2.2	SW
20230323 0140	2.5	SW
20230323 0150	1.7	SW
20230323 0200	1.1	SW
20230323 0210	0.8	WSW
20230323 0220	1.1	SW
20230323 0230	1.4	WSW
20230323 0240	1.4	SW
20230323 0250	0.8	SSW
20230323 0300	0.3	SSW
20230323 0310	0.8	S
20230323 0320	0	N
20230323 0330	0	N
20230323 0340	0.3	ENE
20230323 0350	0.3	SW
20230323 0400	0.8	SE
20230323 0410	0.3	NW
20230323 0420	0.3	ENE
20230323 0430	0.3	SE
20230323 0440	0.3	S
20230323 0450	0.6	SSW
20230323 0500	0.3	S
20230323 0510	0.6	SSW
20230323 0520	0.6	SSW
20230323 0530	0.3	S
20230323 0540	0.3	SW
20230323 0550	0.3	E
20230323 0600	0.3	S
20230323 0610	0.3	SSW
20230323 0620	0.3	WNW
20230323 0630	0.3	-
20230323 0640	0	N
20230323 0650	0.3	ENE
20230323 0700	0.3	-
20230323 0710	0.3	SSE
20230323 0720	0.8	SW
20230323 0730	0	N
20230323 0740	0.3	NW
20230323 0750	0.3	WNW
20230323 0800	0.3	WSW
20230323 0810	0	N
20230323 0820	0.3	SSE
20230323 0830	0.8	SE
20230323 0840	1.1	SE
20230323 0850	1.1	ESE
20230323 0900	1.7	SSW
20230323 0910	1.9	S
20230323 0920	2.2	SSW
20230323 0930	1.9	S
20230323 0940	1.7	S
20230323 0950	1.7	SSW
20230323 1000	2.2	SSW
20230323 1010	3.3	WSW
20230323 1020	3.9	SW
20230323 1030	3.3	SW
20230323 1040	3.3	SW
20230323 1050	4.2	SW
20230323 1100	4.2	SSW
20230323 1110	4.2	SW
20230323 1120	3.9	SW
20230323 1130	3.9	SW
20230323 1140	3.6	SW
20230323 1150	3.3	SW

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230323 1200	3.9	SSW
20230323 1210	4.2	SW
20230323 1220	3.9	WSW
20230323 1230	4.7	SW
20230323 1240	5.3	SW
20230323 1250	5	SSW
20230323 1300	5.3	SSW
20230323 1310	5	SSW
20230323 1320	4.7	SW
20230323 1330	5.3	SW
20230323 1340	4.7	SW
20230323 1350	4.4	SW
20230323 1400	4.2	SSW
20230323 1410	4.4	SW
20230323 1420	4.4	SW
20230323 1430	3.6	SW
20230323 1440	4.2	SW
20230323 1450	3.9	SW
20230323 1500	3.6	SW
20230323 1510	3.3	SW
20230323 1520	3.9	SW
20230323 1530	3.9	SW
20230323 1540	4.7	SW
20230323 1550	5	SW
20230323 1600	3.9	SW
20230323 1610	3.3	SW
20230323 1620	3.9	SSW
20230323 1630	4.2	SW
20230323 1640	4.4	SW
20230323 1650	4.2	SW
20230323 1700	4.4	SW
20230323 1710	4.4	SW
20230323 1720	3.9	SW
20230323 1730	2.8	SSW
20230323 1740	3.1	SSW
20230323 1750	2.5	SW
20230323 1800	2.8	SW
20230323 1810	2.8	SW
20230323 1820	3.3	SW
20230323 1830	3.3	SSW
20230323 1840	2.5	SSW
20230323 1850	1.7	SSW
20230323 1900	0.8	S
20230323 1910	0.3	SSE
20230323 1920	0	N
20230323 1930	0.3	ESE
20230323 1940	0	N
20230323 1950	0	N
20230323 2000	0	N
20230323 2010	0	N
20230323 2020	0	N
20230323 2030	0	N
20230323 2040	0.3	SSW
20230323 2050	0.8	SE
20230323 2100	1.7	ESE
20230323 2110	2.2	ESE
20230323 2120	2.8	ESE
20230323 2130	2.8	ESE
20230323 2140	2.8	ESE
20230323 2150	2.8	ESE
20230323 2200	2.8	ESE
20230323 2210	2.8	E
20230323 2220	2.5	ESE
20230323 2230	2.5	ESE
20230323 2240	2.5	ESE
20230323 2250	2.5	ESE
20230323 2300	2.5	ESE
20230323 2310	1.7	ESE
20230323 2320	2.2	ESE
20230323 2330	2.2	ESE
20230323 2340	1.4	ESE
20230323 2350	1.9	E

Date & Time (YYYYMMB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230324 0000	1.7	ESE
20230324 0010	1.1	ESE
20230324 0020	1.4	ESE
20230324 0030	1.4	ESE
20230324 0040	1.1	E
20230324 0050	0.8	ESE
20230324 0100	0.3	ESE
20230324 0110	0.8	ESE
20230324 0120	0.3	W
20230324 0130	0.3	SSE
20230324 0140	1.1	ESE
20230324 0150	1.1	SSE
20230324 0200	0.3	S
20230324 0210	1.1	ESE
20230324 0220	1.4	ESE
20230324 0230	2.2	ESE
20230324 0240	2.2	ESE
20230324 0250	1.7	ESE
20230324 0300	1.1	ESE
20230324 0310	1.1	SE
20230324 0320	1.9	ESE
20230324 0330	2.5	ESE
20230324 0340	2.8	ESE
20230324 0350	2.8	E
20230324 0400	2.2	ESE
20230324 0410	2.2	ESE
20230324 0420	2.2	ESE
20230324 0430	2.2	SE
20230324 0440	1.7	ESE
20230324 0450	1.7	ESE
20230324 0500	1.7	ESE
20230324 0510	1.7	ESE
20230324 0520	1.7	ESE
20230324 0530	1.9	ESE
20230324 0540	2.2	ESE
20230324 0550	1.9	ESE
20230324 0600	1.9	ESE
20230324 0610	2.2	ESE
20230324 0620	2.5	ESE
20230324 0630	2.2	ESE
20230324 0640	2.5	ESE
20230324 0650	2.5	ESE
20230324 0700	2.8	ESE
20230324 0710	2.2	ESE
20230324 0720	1.7	ESE
20230324 0730	1.7	ESE
20230324 0740	1.9	ESE
20230324 0750	1.4	E
20230324 0800	0.8	SSE
20230324 0810	0.6	SSE
20230324 0820	0.8	ESE
20230324 0830	1.4	ESE
20230324 0840	1.7	E
20230324 0850	1.9	ESE
20230324 0900	1.7	ESE
20230324 0910	1.7	SE
20230324 0920	2.2	SE
20230324 0930	1.7	SSE
20230324 0940	1.9	SE
20230324 0950	2.5	ESE
20230324 1000	3.3	SSE
20230324 1010	3.3	SSE
20230324 1020	3.9	SSE
20230324 1030	3.3	SSE
20230324 1040	3.3	SSE
20230324 1050	3.9	SSE
20230324 1100	2.8	SSE
20230324 1110	2.8	SSE
20230324 1120	2.5	SE
20230324 1130	3.1	SSE
20230324 1140	4.4	SSE
20230324 1150	3.3	SE

Date & Time (YYYYMMB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230324 1200	4.7	SE
20230324 1210	3.9	SE
20230324 1220	3.1	SE
20230324 1230	3.6	SSE
20230324 1240	3.9	SSE
20230324 1250	3.6	SSE
20230324 1300	3.9	SSE
20230324 1310	3.3	S
20230324 1320	2.8	SSE
20230324 1330	3.3	S
20230324 1340	3.3	SSE
20230324 1350	3.6	SSE
20230324 1400	4.4	S
20230324 1410	4.2	SSE
20230324 1420	3.3	SE
20230324 1430	4.2	SSE
20230324 1440	3.9	SE
20230324 1450	3.1	SE
20230324 1500	3.3	SE
20230324 1510	3.9	SSE
20230324 1520	4.4	SSE
20230324 1530	3.3	SE
20230324 1540	3.3	SE
20230324 1550	3.3	SE
20230324 1600	3.1	SE
20230324 1610	2.8	SE
20230324 1620	3.1	SSE
20230324 1630	2.5	SSE
20230324 1640	2.2	SSE
20230324 1650	2.5	SE
20230324 1700	2.2	SE
20230324 1710	1.7	ESE
20230324 1720	1.7	SE
20230324 1730	1.9	ESE
20230324 1740	2.8	SE
20230324 1750	1.7	ESE
20230324 1800	1.9	ESE
20230324 1810	1.9	ESE
20230324 1820	1.4	ESE
20230324 1830	1.7	E
20230324 1840	1.7	ESE
20230324 1850	1.4	ESE
20230324 1900	2.5	E
20230324 1910	2.2	ESE
20230324 1920	2.2	ESE
20230324 1930	2.2	ESE
20230324 1940	1.4	ESE
20230324 1950	1.4	ESE
20230324 2000	1.1	SE
20230324 2010	1.9	SE
20230324 2020	1.7	SSE
20230324 2030	1.4	SSE
20230324 2040	2.5	SE
20230324 2050	1.4	SE
20230324 2100	2.2	SSE
20230324 2110	1.7	SSE
20230324 2120	1.7	SSE
20230324 2130	2.2	SSE
20230324 2140	1.7	SSE
20230324 2150	1.7	SSE
20230324 2200	1.4	SSE
20230324 2210	2.8	SSE
20230324 2220	2.2	SSE
20230324 2230	1.7	SSE
20230324 2240	2.8	SSE
20230324 2250	2.2	SSE
20230324 2300	2.2	SSE
20230324 2310	2.5	SSE
20230324 2320	2.5	SSE
20230324 2330	2.5	SSE
20230324 2340	3.1	SSE
20230324 2350	2.8	SSE

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230325 0000	3.3	SE
20230325 0010	2.5	ESE
20230325 0020	1.7	SE
20230325 0030	1.1	SE
20230325 0040	1.4	ESE
20230325 0050	1.7	
20230325 0100	2.2	N
20230325 0110	2.5	ESE
20230325 0120	1.7	ESE
20230325 0130	2.2	SSE
20230325 0140	2.2	SE
20230325 0150	2.8	SE
20230325 0200	2.8	SE
20230325 0210	3.1	SSE
20230325 0220	2.8	ESE
20230325 0230	2.8	ESE
20230325 0240	3.3	SE
20230325 0250	2.8	SE
20230325 0300	2.2	SE
20230325 0310	2.8	SE
20230325 0320	2.8	ESE
20230325 0330	2.5	ESE
20230325 0340	2.5	SE
20230325 0350	3.3	SE
20230325 0400	3.3	ESE
20230325 0410	3.1	SE
20230325 0420	3.1	SE
20230325 0430	2.8	ESE
20230325 0440	2.8	SE
20230325 0450	2.8	SE
20230325 0500	2.2	SE
20230325 0510	2.2	ESE
20230325 0520	1.9	SE
20230325 0530	1.7	SE
20230325 0540	1.7	SE
20230325 0550	2.5	SE
20230325 0600	2.2	SE
20230325 0610	1.7	SE
20230325 0620	2.2	ESE
20230325 0630	2.2	SE
20230325 0640	1.7	ESE
20230325 0650	1.7	ESE
20230325 0700	1.1	SE
20230325 0710	1.7	ESE
20230325 0720	1.7	ESE
20230325 0730	1.7	SE
20230325 0740	2.2	SE
20230325 0750	2.8	ESE
20230325 0800	2.5	SE
20230325 0810	2.5	SE
20230325 0820	2.5	ESE
20230325 0830	2.5	SE
20230325 0840	2.5	SE
20230325 0850	2.5	ESE
20230325 0900	2.8	ESE
20230325 0910	3.6	ESE
20230325 0920	4.2	ESE
20230325 0930	3.9	E
20230325 0940	4.7	ESE
20230325 0950	3.9	SE
20230325 1000	4.2	SE
20230325 1010	4.7	ESE
20230325 1020	4.7	SE
20230325 1030	4.7	SE
20230325 1040	4.7	SE
20230325 1050	4.2	SE
20230325 1100	1.1	ESE
20230325 1110	0.8	SSE
20230325 1120	1.4	SSE
20230325 1130	0.6	ESE
20230325 1140	0.3	ESE
20230325 1150	1.1	E

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230325 1200	3.9	E
20230325 1210	4.2	SSE
20230325 1220	2.8	ESE
20230325 1230	3.6	SE
20230325 1240	3.3	E
20230325 1250	3.9	E
20230325 1300	5.8	ESE
20230325 1310	5.0	ESE
20230325 1320	0.8	E
20230325 1330	3.3	E
20230325 1340	3.9	ESE
20230325 1350	3.3	ESE
20230325 1400	3.1	ESE
20230325 1410	2.5	SE
20230325 1420	3.1	E
20230325 1430	2.2	ESE
20230325 1440	1.4	SE
20230325 1450	2.8	ESE
20230325 1500	1.4	ESE
20230325 1510	1.7	ESE
20230325 1520	1.9	E
20230325 1530	2.5	ESE
20230325 1540	2.5	ESE
20230325 1550	3.1	ESE
20230325 1600	2.8	ESE
20230325 1610	3.1	ESE
20230325 1620	3.3	ESE
20230325 1630	3.1	ESE
20230325 1640	2.8	ESE
20230325 1650	3.1	ESE
20230325 1700	3.1	ESE
20230325 1710	3.9	ESE
20230325 1720	3.3	ESE
20230325 1730	2.8	ESE
20230325 1740	2.2	ESE
20230325 1750	2.2	ESE
20230325 1800	2.2	ESE
20230325 1810	1.4	ESE
20230325 1820	3.1	ESE
20230325 1830	3.6	ESE
20230325 1840	3.3	ESE
20230325 1850	3.1	ESE
20230325 1900	1.7	ESE
20230325 1910	2.8	ESE
20230325 1920	2.8	ESE
20230325 1930	1.7	SE
20230325 1940	2.8	SE
20230325 1950	2.5	SE
20230325 2000	3.3	SE
20230325 2010	3.3	ESE
20230325 2020	3.3	SE
20230325 2030	3.3	ESE
20230325 2040	1.7	ESE
20230325 2050	2.2	E
20230325 2100	3.3	SE
20230325 2110	3.9	ESE
20230325 2120	2.8	ESE
20230325 2130	2.8	ESE
20230325 2140	1.4	SE
20230325 2150	1.1	SE
20230325 2200	1.7	SE
20230325 2210	1.9	SE
20230325 2220	1.9	SE
20230325 2230	1.1	SSE
20230325 2240	1.4	SSE
20230325 2250	2.8	SSE
20230325 2300	0.8	SSE
20230325 2310	1.1	SE
20230325 2320	1.1	SSE
20230325 2330	0.8	SE
20230325 2340	0.8	SSE
20230325 2350	0.8	SSE

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230326 0020	3.3	ESE
20230326 0030	4.2	SE
20230326 0040	4.4	ESE
20230326 0050	3.9	ESE
20230326 0100	4.2	ESE
20230326 0110	3.3	ESE
20230326 0120	3.6	ESE
20230326 0130	1.7	ESE
20230326 0140	2.5	ESE
20230326 0150	3.3	E
20230326 0200	3.1	E
20230326 0210	1.7	-
20230326 0220	1.1	ENE
20230326 0230	1.1	NE
20230326 0240	1.1	E
20230326 0250	1.1	E
20230326 0300	1.1	E
20230326 0310	0.8	ENE
20230326 0320	1.1	E
20230326 0330	0.8	E
20230326 0340	0.8	ESE
20230326 0350	1.4	SE
20230326 0400	1.7	ESE
20230326 0410	2.5	ESE
20230326 0420	3.3	SE
20230326 0430	1.7	SE
20230326 0440	2.8	ESE
20230326 0450	1.7	ENE
20230326 0500	2.2	E
20230326 0510	1.1	ESE
20230326 0520	1.9	ENE
20230326 0530	0.6	NE
20230326 0540	1.7	ESE
20230326 0550	2.5	E
20230326 0600	2.2	E
20230326 0610	2.2	ESE
20230326 0620	1.7	ENE
20230326 0630	2.8	NNE
20230326 0640	5.8	NNE
20230326 0650	3.9	N
20230326 0700	2.8	NNE
20230326 0710	1.4	ENE
20230326 0720	0.3	-
20230326 0730	1.1	SSE
20230326 0740	1.7	SSE
20230326 0750	2.2	SSW
20230326 0800	0.8	SSE
20230326 0810	1.1	SE
20230326 0820	1.7	ESE
20230326 0830	1.4	SE
20230326 0840	0.8	SW
20230326 0850	0.3	SSE
20230326 0900	0.8	S
20230326 0910	0.8	S
20230326 0920	0.3	E
20230326 0930	1.1	SSE
20230326 0940	0.8	SE
20230326 0950	0.8	SE
20230326 1000	1.1	E
20230326 1010	1.4	ENE
20230326 1020	0.3	ENE
20230326 1030	0.3	NE
20230326 1040	0.3	NE
20230326 1050	0.3	-
20230326 1100	1.1	NNE
20230326 1110	0.8	E
20230326 1120	1.4	E
20230326 1130	0.6	ESE
20230326 1140	0.3	SE
20230326 1150	1.1	SE

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230326 1200	1.4	E
20230326 1210	1.4	NE
20230326 1220	0.8	N
20230326 1230	0.8	N
20230326 1240	1.1	N
20230326 1250	1.4	NNE
20230326 1300	1.7	N
20230326 1310	1.7	N
20230326 1320	1.1	N
20230326 1330	1.4	NE
20230326 1340	2.5	E
20230326 1350	2.2	ESE
20230326 1400	2.2	ENE
20230326 1410	2.5	ENE
20230326 1420	1.9	NNE
20230326 1430	1.1	NE
20230326 1440	0.8	NE
20230326 1450	1.7	E
20230326 1500	2.2	ESE
20230326 1510	2.5	SE
20230326 1520	1.7	ESE
20230326 1530	1.7	SE
20230326 1540	1.7	SE
20230326 1550	1.7	SSE
20230326 1600	1.4	NNE
20230326 1610	1.7	NNE
20230326 1620	1.7	NNE
20230326 1630	2.2	NNE
20230326 1640	2.2	NNE
20230326 1650	2.2	NNE
20230326 1700	2.5	NNE
20230326 1710	1.9	NNE
20230326 1720	1.1	NNW
20230326 1730	0.8	N
20230326 1740	0.3	NNW
20230326 1750	1.1	NNW
20230326 1800	1.1	N
20230326 1810	0.6	NE
20230326 1820	0.6	NW
20230326 1830	0.6	NW
20230326 1840	0.8	NW
20230326 1850	1.1	NE
20230326 1900	0.3	NNW
20230326 1910	1.1	N
20230326 1920	0.8	N
20230326 1930	1.4	NNE
20230326 1940	1.7	N
20230326 1950	1.7	N
20230326 2000	1.7	N
20230326 2010	1.4	NNE
20230326 2020	1.1	N
20230326 2030	1.1	N
20230326 2040	1.4	N
20230326 2050	1.1	NNE
20230326 2100	1.1	N
20230326 2110	0.8	NNW
20230326 2120	0.6	NNW
20230326 2130	0.6	NNW
20230326 2140	0.3	N
20230326 2150	1.7	N
20230326 2200	1.4	N
20230326 2210	1.4	N
20230326 2220	1.1	N
20230326 2230	0.8	N
20230326 2240	1.1	NW
20230326 2250	0.3	WNW
20230326 2300	0.8	NW
20230326 2310	1.1	N
20230326 2320	1.1	NNW
20230326 2330	0.8	NW
20230326 2340	0.8	N
20230326 2350	0.8	N

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230327 0000	1.4	N
20230327 0010	1.1	NNW
20230327 0020	0.6	NNW
20230327 0030	0.6	NNW
20230327 0040	0.3	NNE
20230327 0050	0.3	N
20230327 0100	0.8	N
20230327 0110	0.8	N
20230327 0120	0.3	-
20230327 0130	1.1	-
20230327 0140	1.4	E
20230327 0150	0.8	W
20230327 0200	0.6	NW
20230327 0210	0.3	NNW
20230327 0220	0.6	N
20230327 0230	0.8	NNW
20230327 0240	1.4	WNW
20230327 0250	1.1	NW
20230327 0300	1.1	NNW
20230327 0310	0.8	NNE
20230327 0320	1.4	NNE
20230327 0330	1.4	NNW
20230327 0340	0.8	NNE
20230327 0350	1.7	E
20230327 0400	2.2	ESE
20230327 0410	3.3	E
20230327 0420	3.1	ENE
20230327 0430	2.5	E
20230327 0440	2.5	E
20230327 0450	2.5	E
20230327 0500	1.9	E
20230327 0510	1.7	E
20230327 0520	1.4	ENE
20230327 0530	1.4	E
20230327 0540	2.2	E
20230327 0550	3.3	E
20230327 0600	2.8	E
20230327 0610	3.3	ESE
20230327 0620	3.3	ESE
20230327 0630	2.5	ESE
20230327 0640	2.5	E
20230327 0650	2.8	E
20230327 0700	1.7	ESE
20230327 0710	2.2	ESE
20230327 0720	2.8	ESE
20230327 0730	3.3	ESE
20230327 0740	4.4	ESE
20230327 0750	3.3	ESE
20230327 0800	2.5	ESE
20230327 0810	2.5	ESE
20230327 0820	3.3	ESE
20230327 0830	3.3	ESE
20230327 0840	2.8	ESE
20230327 0850	3.3	ESE
20230327 0900	4.4	ESE
20230327 0910	4.2	ESE
20230327 0920	3.9	ESE
20230327 0930	3.1	E
20230327 0940	3.3	E
20230327 0950	2.8	E
20230327 1000	3.3	E
20230327 1010	2.8	ESE
20230327 1020	2.8	ESE
20230327 1030	2.5	E
20230327 1040	1.7	E
20230327 1050	1.7	E
20230327 1100	1.4	E
20230327 1110	1.7	E
20230327 1120	2.2	E
20230327 1130	1.7	E
20230327 1140	1.1	ENE
20230327 1150	0.8	E

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230327 1200	1.9	ENE
20230327 1210	1.9	NE
20230327 1220	1.7	E
20230327 1230	1.7	E
20230327 1240	1.4	E
20230327 1250	1.7	ENE
20230327 1300	1.7	ENE
20230327 1310	1.4	E
20230327 1320	1.4	NE
20230327 1330	2.5	NNE
20230327 1340	1.7	NNE
20230327 1350	1.4	NE
20230327 1400	1.4	NNE
20230327 1410	1.1	NNE
20230327 1420	1.1	NNE
20230327 1430	1.1	N
20230327 1440	0.8	NE
20230327 1450	0.8	NNE
20230327 1500	1.1	NNW
20230327 1510	1.7	N
20230327 1520	1.7	N
20230327 1530	2.2	NNE
20230327 1540	1.7	NNE
20230327 1550	1.4	NNE
20230327 1600	0.3	NNW
20230327 1610	0.6	NNW
20230327 1620	1.1	N
20230327 1630	1.7	N
20230327 1640	2.2	NNE
20230327 1650	1.7	N
20230327 1700	2.2	NNE
20230327 1710	1.7	N
20230327 1720	1.7	NNE
20230327 1730	1.7	NNE
20230327 1740	1.7	NNE
20230327 1750	1.7	NNE
20230327 1800	1.1	N
20230327 1810	1.4	N
20230327 1820	2.2	N
20230327 1830	1.7	N
20230327 1840	2.2	N
20230327 1850	2.8	NNE
20230327 1900	2.2	N
20230327 1910	1.7	NNE
20230327 1920	1.4	N
20230327 1930	1.1	NNE
20230327 1940	0.8	N
20230327 1950	0.6	NNW
20230327 2000	0.6	N
20230327 2010	0.8	N
20230327 2020	0.8	NE
20230327 2030	0.8	N
20230327 2040	0.8	N
20230327 2050	0.8	NNE
20230327 2100	0.8	NNW
20230327 2110	1.1	NNW
20230327 2120	1.1	N
20230327 2130	1.1	NNE
20230327 2140	0.8	N
20230327 2150	0.8	N
20230327 2200	0.3	NW
20230327 2210	0.6	N
20230327 2220	1.1	N
20230327 2230	1.1	N
20230327 2240	1.4	N
20230327 2250	1.4	N
20230327 2300	1.1	N
20230327 2310	0.3	-
20230327 2320	0.3	NNW
20230327 2330	0.3	NNW
20230327 2340	0	N
20230327 2350	0.3	NNW

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230328 0000	0.3	E
20230328 0010	0.3	NW
20230328 0020	0.3	-
20230328 0030	0.3	N
20230328 0040	0.3	NNE
20230328 0050	0.3	NNW
20230328 0100	0.3	N
20230328 0110	0.3	NW
20230328 0120	0.8	NW
20230328 0130	1.1	N
20230328 0140	0.8	NNW
20230328 0150	0.8	NW
20230328 0200	1.4	N
20230328 0210	1.1	NNW
20230328 0220	1.1	NNW
20230328 0230	1.1	N
20230328 0240	0.8	N
20230328 0250	1.1	N
20230328 0300	1.9	N
20230328 0310	1.9	NNE
20230328 0320	2.2	NNE
20230328 0330	1.7	NNE
20230328 0340	1.4	NNE
20230328 0350	1.1	NE
20230328 0400	1.1	NE
20230328 0410	0.3	-
20230328 0420	0.3	W
20230328 0430	0	N
20230328 0440	0.3	N
20230328 0450	0.3	N
20230328 0500	0.8	N
20230328 0510	0.8	N
20230328 0520	0.6	N
20230328 0530	0.3	N
20230328 0540	0.3	WNW
20230328 0550	1.1	NW
20230328 0600	0.8	NW
20230328 0610	1.1	NNE
20230328 0620	1.4	NNE
20230328 0630	0.8	N
20230328 0640	1.1	N
20230328 0650	1.4	NNE
20230328 0700	0.3	NNE
20230328 0710	0.3	NE
20230328 0720	0.3	NNE
20230328 0730	0.8	ESE
20230328 0740	1.7	ESE
20230328 0750	1.4	SE
20230328 0800	1.7	SE
20230328 0810	1.7	E
20230328 0820	1.7	ESE
20230328 0830	1.7	E
20230328 0840	1.1	ENE
20230328 0850	1.1	E
20230328 0900	1.4	ENE
20230328 0910	1.4	ENE
20230328 0920	1.4	E
20230328 0930	1.7	E
20230328 0940	1.7	ESE
20230328 0950	1.1	ESE
20230328 1000	1.7	ESE
20230328 1010	2.2	SE
20230328 1020	1.1	ESE
20230328 1030	1.9	ESE
20230328 1040	2.5	ESE
20230328 1050	1.9	ESE
20230328 1100	2.2	SE
20230328 1110	2.2	ESE
20230328 1120	2.8	E
20230328 1130	2.8	ESE
20230328 1140	1.4	ESE
20230328 1150	2.2	E

Date & Time (YYYYMMBB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230328 1200	2.2	E
20230328 1210	1.7	E
20230328 1220	1.7	E
20230328 1230	1.9	ESE
20230328 1240	1.9	E
20230328 1250	1.4	ESE
20230328 1300	1.4	ESE
20230328 1310	1.7	SE
20230328 1320	1.7	ESE
20230328 1330	1.4	ESE
20230328 1340	1.1	E
20230328 1350	1.7	ESE
20230328 1400	1.7	E
20230328 1410	1.4	ESE
20230328 1420	1.1	SE
20230328 1430	0.8	E
20230328 1440	0.8	ESE
20230328 1450	1.4	E
20230328 1500	1.1	E
20230328 1510	1.1	E
20230328 1520	1.1	E
20230328 1530	1.4	E
20230328 1540	0.8	ENE
20230328 1550	0.8	NNE
20230328 1600	1.1	NNE
20230328 1610	0.8	NNE
20230328 1620	1.1	NNE
20230328 1630	0.8	N
20230328 1640	0.6	N
20230328 1650	0.8	NNE
20230328 1700	0.8	N
20230328 1710	1.1	NNE
20230328 1720	1.1	N
20230328 1730	1.1	N
20230328 1740	1.1	N
20230328 1750	0.8	N
20230328 1800	0.8	NNE
20230328 1810	0.3	N
20230328 1820	0	N
20230328 1830	0	N
20230328 1840	0	N
20230328 1850	0	N
20230328 1900	0	N
20230328 1910	0	N
20230328 1920	0.8	ENE
20230328 1930	0.6	E
20230328 1940	0.8	ESE
20230328 1950	0.3	E
20230328 2000	0.8	E
20230328 2010	0.8	E
20230328 2020	0.8	ESE
20230328 2030	0.6	E
20230328 2040	0.8	E
20230328 2050	0.8	E
20230328 2100	0.8	ENE
20230328 2110	1.1	NE
20230328 2120	1.1	NE
20230328 2130	1.1	ENE
20230328 2140	1.4	E
20230328 2150	1.7	E
20230328 2200	1.7	E
20230328 2210	1.7	E
20230328 2220	1.7	E
20230328 2230	1.7	E
20230328 2240	1.1	E
20230328 2250	1.4	E
20230328 2300	1.7	E
20230328 2310	1.4	ESE
20230328 2320	2.2	ESE
20230328 2330	2.5	ESE
20230328 2340	2.8	ESE
20230328 2350	2.8	ESE

Date & Time (YYYYMMB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230329 0000	0.3	E
20230329 0010	0.3	NW
20230329 0020	0.3	-
20230329 0030	0.3	-
20230329 0040	0.3	N
20230329 0050	0.3	NNE
20230329 0100	0.3	NNW
20230329 0110	0.3	N
20230329 0120	0.8	NW
20230329 0130	1.1	N
20230329 0140	0.8	NNW
20230329 0150	0.8	NW
20230329 0200	1.4	N
20230329 0210	1.1	NNW
20230329 0220	1.1	NNW
20230329 0230	1.1	N
20230329 0240	0.8	N
20230329 0250	1.1	N
20230329 0300	1.9	N
20230329 0310	1.9	NNE
20230329 0320	2.2	NNE
20230329 0330	1.7	NNE
20230329 0340	1.4	NNE
20230329 0350	1.1	NE
20230329 0400	1.1	NE
20230329 0410	0.3	-
20230329 0420	0.3	W
20230329 0430	0	N
20230329 0440	0.3	N
20230329 0450	0.3	N
20230329 0500	0.8	N
20230329 0510	0.8	N
20230329 0520	0.6	N
20230329 0530	0.3	N
20230329 0540	0.3	WNW
20230329 0550	1.1	NW
20230329 0600	0.8	NW
20230329 0610	1.1	NNE
20230329 0620	1.4	NNE
20230329 0630	0.8	N
20230329 0640	1.1	N
20230329 0650	1.4	NNE
20230329 0700	0.3	NNE
20230329 0710	0.3	NE
20230329 0720	0.3	NNE
20230329 0730	0.8	ESE
20230329 0740	1.7	ESE
20230329 0750	1.4	SE
20230329 0800	1.7	SE
20230329 0810	1.7	E
20230329 0820	1.7	ESE
20230329 0830	1.7	E
20230329 0840	1.1	ENE
20230329 0850	1.1	E
20230329 0900	1.4	ENE
20230329 0910	1.4	ENE
20230329 0920	1.4	E
20230329 0930	1.7	E
20230329 0940	1.7	ESE
20230329 0950	1.1	ESE
20230329 1000	1.7	ESE
20230329 1010	2.2	SE
20230329 1020	1.1	ESE
20230329 1030	1.9	ESE
20230329 1040	2.5	ESE
20230329 1050	1.9	ESE
20230329 1100	2.2	SE
20230329 1110	2.2	ESE
20230329 1120	2.8	E
20230329 1130	2.8	ESE
20230329 1140	1.4	ESE
20230329 1150	2.2	E

Date & Time (YYYYMMB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230329 1200	2.2	E
20230329 1210	1.7	E
20230329 1220	1.7	E
20230329 1230	1.9	ESE
20230329 1240	1.9	E
20230329 1250	1.4	ESE
20230329 1300	1.4	ESE
20230329 1310	1.7	SE
20230329 1320	1.7	ESE
20230329 1330	1.4	ESE
20230329 1340	1.1	E
20230329 1350	1.7	ESE
20230329 1400	1.7	E
20230329 1410	1.4	ESE
20230329 1420	1.1	SE
20230329 1430	0.8	E
20230329 1440	0.8	ESE
20230329 1450	1.4	E
20230329 1500	1.1	E
20230329 1510	1.1	E
20230329 1520	1.1	E
20230329 1530	1.4	E
20230329 1540	0.8	ENE
20230329 1550	0.8	NNE
20230329 1600	1.1	NNE
20230329 1610	0.8	NNE
20230329 1620	1.1	NNE
20230329 1630	0.8	N
20230329 1640	0.6	N
20230329 1650	0.8	NNE
20230329 1700	0.8	N
20230329 1710	1.1	NNE
20230329 1720	1.1	N
20230329 1730	1.1	N
20230329 1740	1.1	N
20230329 1750	0.8	N
20230329 1800	0.8	NNE
20230329 1810	0.3	N
20230329 1820	0	N
20230329 1830	0	N
20230329 1840	0	N
20230329 1850	0	N
20230329 1900	0	N
20230329 1910	0	N
20230329 1920	0.8	ENE
20230329 1930	0.6	E
20230329 1940	0.8	ESE
20230329 1950	0.3	E
20230329 2000	0.8	E
20230329 2010	0.8	E
20230329 2020	0.8	ESE
20230329 2030	0.6	E
20230329 2040	0.8	E
20230329 2050	0.8	E
20230329 2100	0.8	ENE
20230329 2110	1.1	NE
20230329 2120	1.1	NE
20230329 2130	1.1	ENE
20230329 2140	1.4	E
20230329 2150	1.7	E
20230329 2200	1.7	E
20230329 2210	1.7	E
20230329 2220	1.7	E
20230329 2230	1.7	E
20230329 2240	1.1	E
20230329 2250	1.4	E
20230329 2300	1.7	E
20230329 2310	1.4	ESE
20230329 2320	2.2	ESE
20230329 2330	2.5	ESE
20230329 2340	2.8	ESE
20230329 2350	2.8	ESE

Date & Time (YYYYMMB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230330 0000	0.6	SSE
20230330 0010	0.8	SE
20230330 0020	0.3	SSE
20230330 0030	0.3	ESE
20230330 0040	0.6	SE
20230330 0050	0.3	SSW
20230330 0100	0.3	E
20230330 0110	0.8	ESE
20230330 0120	1.1	E
20230330 0130	1.4	ESE
20230330 0140	2.8	ESE
20230330 0150	3.3	ESE
20230330 0200	3.3	ESE
20230330 0210	2.8	ESE
20230330 0220	3.3	ESE
20230330 0230	2.8	ESE
20230330 0240	1.9	ESE
20230330 0250	2.2	ESE
20230330 0300	1.7	E
20230330 0310	1.4	ENE
20230330 0320	1.1	E
20230330 0330	0.6	E
20230330 0340	1.4	ESE
20230330 0350	1.1	ESE
20230330 0400	1.1	E
20230330 0410	1.1	E
20230330 0420	0.8	ESE
20230330 0430	0.8	ESE
20230330 0440	1.4	ESE
20230330 0450	1.7	ESE
20230330 0500	2.2	ESE
20230330 0510	2.5	ESE
20230330 0520	3.1	ESE
20230330 0530	3.3	ESE
20230330 0540	2.8	ESE
20230330 0550	1.9	ESE
20230330 0600	1.7	ESE
20230330 0610	1.4	E
20230330 0620	2.2	ESE
20230330 0630	2.2	ESE
20230330 0640	1.7	E
20230330 0650	2.8	ESE
20230330 0700	3.3	ESE
20230330 0710	3.3	ESE
20230330 0720	3.1	ESE
20230330 0730	3.3	ESE
20230330 0740	3.3	ESE
20230330 0750	3.1	ESE
20230330 0800	3.1	ESE
20230330 0810	3.3	ESE
20230330 0820	3.1	E
20230330 0830	3.3	E
20230330 0840	2.5	E
20230330 0850	2.5	ESE
20230330 0900	2.8	E
20230330 0910	2.5	ESE
20230330 0920	2.5	E
20230330 0930	2.8	ESE
20230330 0940	2.5	ESE
20230330 0950	2.8	ESE
20230330 1000	3.3	ESE
20230330 1010	3.1	E
20230330 1020	2.8	ESE
20230330 1030	3.1	ESE
20230330 1040	2.5	ESE
20230330 1050	2.5	E
20230330 1100	2.5	E
20230330 1110	3.3	ESE
20230330 1120	2.5	E
20230330 1130	2.5	E
20230330 1140	2.5	E
20230330 1150		

Date & Time (YYYYMMB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230330 1200	2.8	E
20230330 1210	2.8	E
20230330 1220	2.5	E
20230330 1230	2.2	ESE
20230330 1240	2.5	E
20230330 1250	2.5	E
20230330 1300	2.2	E
20230330 1310	2.2	E
20230330 1320	2.2	E
20230330 1330	2.5	E
20230330 1340	2.2	ESE
20230330 1350	1.7	E
20230330 1400	1.7	E
20230330 1410	2.5	E
20230330 1420	1.7	ESE
20230330 1430	2.2	E
20230330 1440	1.7	E
20230330 1450	2.2	E
20230330 1500	1.7	E
20230330 1510	2.5	E
20230330 1520	2.2	E
20230330 1530	1.7	ESE
20230330 1540	2.2	ESE
20230330 1550	2.5	E
20230330 1600	2.2	E
20230330 1610	2.2	E
20230330 1620	1.9	E
20230330 1630	2.5	ENE
20230330 1640	2.2	E
20230330 1650	2.2	ESE
20230330 1700	1.7	E
20230330 1710	1.4	ESE
20230330 1720	2.2	ESE
20230330 1730	1.4	ESE
20230330 1740	1.7	ESE
20230330 1750	1.7	ESE
20230330 1800	1.7	ESE
20230330 1810	1.7	ESE
20230330 1820	1.4	ESE
20230330 1830	1.9	E
20230330 1840	1.7	E
20230330 1850	1.9	ESE
20230330 1900	1.7	E
20230330 1910	1.9	ESE
20230330 1920	1.9	ESE
20230330 1930	1.7	SE
20230330 1940	1.7	ESE
20230330 1950	1.4	ESE
20230330 2000	1.7	E
20230330 2010	1.7	ESE
20230330 2020	1.4	E
20230330 2030	1.7	E
20230330 2040	1.4	ESE
20230330 2050	1.1	SE
20230330 2100	1.7	ESE
20230330 2110	1.7	E
20230330 2120	1.9	E
20230330 2130	1.1	ESE
20230330 2140	1.4	ESE
20230330 2150	2.2	ESE
20230330 2200	1.4	ESE
20230330 2210	1.7	ESE
20230330 2220	1.7	SE
20230330 2230	1.4	ESE
20230330 2240	1.4	SE
20230330 2250	1.4	ESE
20230330 2300	1.1	E
20230330 2310	1.7	ESE
20230330 2320	2.8	ESE
20230330 2330	2.2	ESE
20230330 2340	2.2	ESE
20230330 2350	1.9	ESE

Date & Time (YYYYMMB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230331 0000	1.7	ESE
20230331 0010	2.2	ESE
20230331 0020	2.5	ESE
20230331 0030	2.2	ESE
20230331 0040	2.2	ESE
20230331 0050	1.7	ESE
20230331 0100	1.7	ESE
20230331 0110	2.2	ESE
20230331 0120	1.9	SE
20230331 0130	2.8	ESE
20230331 0140	2.5	ESE
20230331 0150	2.5	E
20230331 0200	2.2	E
20230331 0210	2.2	E
20230331 0220	2.8	ESE
20230331 0230	1.7	ESE
20230331 0240	1.9	ESE
20230331 0250	2.2	ESE
20230331 0300	2.5	ESE
20230331 0310	2.5	ESE
20230331 0320	2.5	ESE
20230331 0330	2.8	ESE
20230331 0340	2.2	E
20230331 0350	2.2	ESE
20230331 0400	2.2	ESE
20230331 0410	2.2	ESE
20230331 0420	2.2	ESE
20230331 0430	2.8	E
20230331 0440	2.8	ESE
20230331 0450	3.3	ESE
20230331 0500	2.5	ESE
20230331 0510	2.8	ESE
20230331 0520	2.2	ESE
20230331 0530	2.2	ESE
20230331 0540	2.8	ESE
20230331 0550	3.3	ESE
20230331 0600	2.5	ESE
20230331 0610	3.1	ESE
20230331 0620	3.3	ESE
20230331 0630	2.5	ESE
20230331 0640	2.8	ESE
20230331 0650	2.8	ESE
20230331 0700	2.8	ESE
20230331 0710	3.3	ESE
20230331 0720	2.8	ESE
20230331 0730	3.1	ESE
20230331 0740	3.3	ESE
20230331 0750	3.9	ESE
20230331 0800	3.3	ESE
20230331 0810	2.2	ESE
20230331 0820	3.3	ESE
20230331 0830	3.3	ESE
20230331 0840	3.1	ESE
20230331 0850	3.9	E
20230331 0900	3.6	ESE
20230331 0910	3.6	ESE
20230331 0920	3.3	ESE
20230331 0930	2.8	ESE
20230331 0940	3.3	ESE
20230331 0950	3.9	ESE
20230331 1000	3.1	ESE
20230331 1010	2.8	ESE
20230331 1020	3.3	ESE
20230331 1030	3.9	ESE
20230331 1040	4.2	ESE
20230331 1050	4.2	ESE
20230331 1100	4.2	ESE
20230331 1110	3.3	ESE
20230331 1120	3.9	ESE
20230331 1130	4.2	ESE
20230331 1140	4.2	ESE
20230331 1150	4.2	ESE

Date & Time (YYYYMMB HHMM)	Wind Speed (m/s)	Wind Direction (From)
20230331 1200	3.9	ESE
20230331 1210	4.4	ESE
20230331 1220	4.7	ESE
20230331 1230	4.2	ESE
20230331 1240	4.4	ESE
20230331 1250	4.7	ESE
20230331 1300	5.3	ESE
20230331 1310	4.4	ESE
20230331 1320	3.9	ESE
20230331 1330	4.2	ESE
20230331 1340	5.3	ESE
20230331 1350	3.6	ESE
20230331 1400	3.9	ESE
20230331 1410	2.5	ESE
20230331 1420	3.3	ESE
20230331 1430	2.8	ESE
20230331 1440	3.9	ESE
20230331 1450	3.9	ESE
20230331 1500	3.3	SE
20230331 1510	2.8	ESE
20230331 1520	3.3	SE
20230331 1530	3.3	SE
20230331 1540	3.1	ESE
20230331 1550	2.8	ESE
20230331 1600	2.8	ESE
20230331 1610	2.5	ESE
20230331 1620	2.5	ESE
20230331 1630	2.8	ESE
20230331 1640	3.6	ESE
20230331 1650	3.3	ESE
20230331 1700	3.3	ESE
20230331 1710	3.9	ESE
20230331 1720	3.3	ESE
20230331 1730	3.3	ESE
20230331 1740	3.1	ESE
20230331 1750	3.9	ESE
20230331 1800	3.9	ESE
20230331 1810	3.9	ESE
20230331 1820	3.3	SE
20230331 1830	4.2	ESE
20230331 1840	3.9	ESE
20230331 1850	3.6	ESE
20230331 1900	3.6	ESE
20230331 1910	4.4	ESE
20230331 1920	3.3	ESE
20230331 1930	3.1	ESE
20230331 1940	2.8	E
20230331 1950	3.3	ESE
20230331 2000	3.3	ESE
20230331 2010	3.9	SE
20230331 2020	3.3	ESE
20230331 2030	3.1	ESE
20230331 2040	2.2	ESE
20230331 2050	3.3	ESE
20230331 2100	3.3	ESE
20230331 2110	3.3	SE
20230331 2120	3.3	SE
20230331 2130	3.3	SE
20230331 2140	3.1	ESE
20230331 2150	2.5	ESE
20230331 2200	3.1	ESE
20230331 2210	3.9	ESE
20230331 2220	3.3	ESE
20230331 2230	3.9	ESE
20230331 2240	4.2	ESE
20230331 2250	4.7	SE
20230331 2300	4.7	ESE
20230331 2310	4.7	ESE
20230331 2320	5	ESE
20230331 2330	4.4	ESE
20230331 2340	4.2	ESE
20230331 2350	3.9	ESE

Appendix I Waste Flow Table

Waste Flow Table

Month	Total Quantity Generated	Total Quantities of Inert C&D Materials to be Generated from the Contract					Total Quantities of Recyclables Generation				Total Quantities of C&D Materials to be Generated from the Contract	
		Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in Other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper / Cardboard Packaging	Plastics	Yard Waste (to Y-Park)	Chemical Waste	Others, e.g. general refuse, non-recyclable yard waste
	(in tonne)	(in tonne)	(in tonne)	(in tonne)	(in tonne)	(in tonne)	(in tonne)	(in tonne)	(in tonne)	(in tonne)	(in '000L)	(in tonne)
Dec-22	384.77	300	0	0	0	0	0	0	0	11.49	0	73.28
Jan-23	24.51	0	0	0	0	0	0	0	0	0	0	24.51
Feb-23	506.45	0	0	0	0	0	0	0	0	3.16	0	503.29
Mar-23	9,581	0	0	9,187	0	0	0	0	0	3.69	0	390.46
Total	10,497	300	0	9,187	0	0	0	0	0	18.34	0	991.54

Note:

1. The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
2. A total of 300 tonnes of hard rock and large broken concrete was generated from the contract in Dec 2022. Due to the hard rock and large broken concrete was stored in the project site, the contractor had not yet reused in the contract during reporting period. Therefore, the quantities do not count in "Reused in the Contract" between Dec-22 & Jan-23.
3. Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.
4. N/A equal to not applicable

Appendix J Joint Environmental Site Inspection Records

(Construction Phase)

Environmental Site Inspection Checklist (Rev. 2)

Inspection Date:	06 March 2023	Inspected By:	Jason Man
Time:	14:00	Weather Condition:	Sunny
Participants:	Sylvia Ho (ER), William Wan (Contractor), Jason Man (ET)		

A	Permits/Licenses	N/A or Not Observed	Yes	No	Remarks / Photo
A1	Are Environmental Permit, license/ other permit displayed at major site exit and vehicle access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EP No.: EP-292/2007 FEP No.: FEP-01/292/2007
A2	Are Construction Noise Permits/ Environmental license/ other permit available for inspection/posted at site entrance.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CNP No: GW-RN0131-23
A3	Is wastewater discharge licence available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
A4	Are trip tickets for chemical waste and construction waste disposal available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
A5	Are relevant licence/permit for disposal of construction waste or excavated materials available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

B	Air Quality	N/A or Not Observed	Yes	No	Remarks / Photo
B1	Is open burning avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B2	Are completed earthworks sealed as soon as practicable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B3	Are plant and equipment well maintained (i.e. without black smoke from powered plant)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B4	Any remedial action undertaken?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B5	Observed dust source(s)	<input checked="" type="checkbox"/> Wind erosion <input checked="" type="checkbox"/> Vehicle/ Equipment Movements <input type="checkbox"/> Loading/ unloading of materials <input type="checkbox"/> Others: _____			
B6	Are unpaved areas/ designated roads watered regularly to avoid dust generation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Refer to Reminder 1
B7	Are dusty materials covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B8	After removal of stockpile, are the remained dusty materials wetted with water and cleared from surface of roads?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B9	Is the stockpile of dusty materials avoid to be extend beyond the pedestrian barriers, fencing or traffic cones?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

(Construction Phase)

Environmental Site Inspection Checklist (Rev. 2)

B10	Are loaded dump trucks covered by impervious sheeting appropriately before leaving the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B11	Are wheel washing facilities with high pressure water jet provided at all site exits if practicable?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B12	Are all vehicles and plant cleaned before they leave the construction site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B13	Are hoarding \geq 2.4m tall provided beside roads or area with public access?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B14	Is the portion of any road leading only to construction site (within 30m of a vehicle entrance or exit) kept clear of dusty materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B15	Are surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operations takes place sprayed with water or a dust suppression chemical continuously?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No Observed
B16	Is the area involved demolition activities sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B17	Is scaffolding erected around the perimeter of a building under construction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B18	Are effective dust screens, sheeting or netting provided to enclose the scaffolding from the ground floor level of the building, or a canopy provided from the first floor level up to the highest level of the scaffolding?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B19	Is the skip for materials transport enclosed by impervious sheeting?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B20	Is every stock of more than 20 bags of cement or dry pulverized fuel ash (PFA) covered entirely by impervious sheeting or placed in an area sheltered on the top and 3 sides?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B21	Are the areas of washing facilities and the road section between the washing facilities and the exit point paved with concrete, bituminous materials or hardcores?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	In Progress at SBA
B22	Are the activities of loading, unloading, transfer, handing or storage of bulk cement or dry PFA carried out in a totally enclosed system or facility?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B23	Is any vent or exhaust fitted with an effective fabric filter or equipment air pollution control system?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B24	Is the exposed earth properly treated by compaction, turving, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shotcrete or other suitable surface stabilizer within six months after last construction activity on the construction site or part of the construction site where the exposed earth lies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B25	Are the worksites wetted with water regularly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Refer to Reminder 1
B26	Is generation of dust avoided during loading or unloading?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
B27	Are all trucks loaded to a level within the side and tail boards?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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Environmental Site Inspection Checklist (Rev. 2)

B28	Are appropriate speed limit sign displayed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B29	Are designated roads paved?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
8/B30	Are site vehicle movements confined to designated roads?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B31	Are NRMM labels properly affixed on the PMEs?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

C	Noise	N/A or Not Observed	Yes	No	Remarks / Photo
C1	Is well-maintained plant operated on-site and plant served regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
C2	Are vehicles and equipment switched off or throttled down while not in use?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
C3	Is the noise directed away from nearby NSRs?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
C4	Are the silencers or mufflers properly fitted on construction equipment and maintained regularly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
C5	Are mobile and/or noisy plant sited as far away from NSRs as possible and practicable and orientated so that the noise is directed away from nearby NSRs?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
C6	Are material stockpiles, mobile container office and other structures utilised to screen noisy activities?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
C7	Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
C8	Are noise barriers (typically density @14kg/m ²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
C9	Is the sequencing operation of construction plants where practicable?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
C10	Is the hoarding maintained properly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
C11	Air compressors (500 kPa or above) and hand held percussive breaker (mass of above 10 kg) with valid noise labels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
C12	Are compressor operated with doors closed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
C13	QPME used with valid noise labels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
C14	Major noise source(s)	<input checked="" type="checkbox"/> Traffic <input type="checkbox"/> Construction activities inside of site <input type="checkbox"/> Construction activities outside of site <input type="checkbox"/> Others:			

D	Water Quality	N/A or Not Observed	Yes	No	Remarks / Photo
Construction Activities					
D1	At the start of site establishment, are perimeter cut-off drains constructed to direct off-site water around the site with internal drainage works and erosion and sedimentation control facilities implemented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D2	Are channels, earth bunds or sandbag barriers provided on site to properly direct stormwater to such silt removal facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D3	Have dikes or embankments for flood protection implemented around the boundaries of earthwork areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D4	Have temporary ditches provided to facilitate the runoff discharge into an appropriate watercourse, through a site/ sediment trap?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D5	Are the sediment/ silt traps incorporated in the permanent drainage channels to enhance deposition rate?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D6	Are the retention time for silt/s and traps of the silt removal facilities be 5 minutes under maximum flow conditions?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D7	Is surface excavation works minimised during rainy seasons (April to September), as possible?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	To be implemented during wet season
D8	Are all exposed earth areas completed or vegetated as soon as possible after earthworks completed, or alternatively, within 14 days of the cessation of earthworks where practicable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
D9	Are exposed slope surfaces covered by tarpaulin sheets?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D10	Have the overall slope of the site should be kept a minimum?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D11	Are all trafficked areas and access roads protected by coarse stone ballast	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D12	Is wastewater from temporary site facilities controlled to prevent direct discharge to surface	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D13	Are the silt removal facilities, channels and manholes maintained regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D14	Is the deposit silt and grit removed regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D15	Have the excavation of trenches in wet periods be dug and backfilled in short sections?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
D16	Is rainwater pumped out from trenches discharged into storm drains via silt system?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
D17	Are open stockpiles of construction materials e.g. aggregates and sand of more than 50m ³ on site covered with tarpaulin or similar fabric during rainstorms?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
D18	Are manholes adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D19	Are the discharges of surface run-off into foul sewer always prevented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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D20	Is a wheel washing bay provided at every site exit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will be implemented in the exit of SBA at mid-March 2023
D21	Is the wheel wash overflow directed to silt removal facilities before being discharged to the storm drain?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D22	Is the section of construction road between the wheel washing bay and the public road surfaced with crushed stone or coarse gravel?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	In Progress at SBA
D23	Are the vehicle wash-water have sand and silt settled out and removed at least on a weekly basis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
D24	Are site drainage systems provided over the entire project site with sediment control facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D25	Are sedimentation tanks provided to treat the large amount of sediment-laden wastewater generated from wheel washing, site runoff and construction works?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D26	Is the treated wastewater reused for vehicle washing, dust suppression and general cleaning?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D27	Are portable chemical toilets and sewage holding tanks provided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D28	Is the sewage generated from toilets collected by licensed contractor and responsible for disposal and maintenance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D29	Is there any sediment plume observed in nearby watercourses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
D30	Are oil interceptors provided in the site drainage system downstream of any oil/ fuel pollution sources? And the oil interceptors are emptied and cleaned regularly? Has a bypass provided to prevent flushing during heavy rain?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
D31	Is chemical leakage or spillages contained and cleaned up immediately?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
D32	Service workshop and maintenance facilities located within a bunded area, and sumps and oil interceptors be provided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A

E	Waste / Chemical Management	N/A or Not Observed	Yes	No	Remarks / Photo
General Waste					
E1	Is the general waste generated on-site stored in enclosed bins or compaction units separately from the construction and chemical wastes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E2	Is the general waste collected properly by using the waste separation facilities for paper, aluminium cans, plastic bottles etc.?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E3	Does accumulation of waste avoid?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E4	Is waste disposed regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E5	Regular waste collection by approved waste collector in purpose-built vehicles?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E6	Burning of refuse on construction site prohibited?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Construction Waste					
E7	Are the temporary stockpiles maintained regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E8	Is the excavated fill material reused for backfilling and reinstatement?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E9	Are the C&D materials sorted and recycled on-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E10	Is there any contract documents provided to allow and promote the use of recycled aggregates where appropriate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
E11	Is the disposal of C&D materials avoided onto any sensitive locations e.g. agricultural lands etc.?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E12	Are the public fill and C&D waste segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E13	Is the durable formwork or plastic facing for construction works used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
E14	Do the wooden hoardings avoid to be used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
E15	Is metal hoarding used to enhance the possibility of recycling?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
E16	Is the segregation and storage of C&D wastes undertaken in designated area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E17	Are waste storage area properly cleaned and do not cause windblown litter and dust nuisance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E18	Do the excavated materials appear contaminated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
E19	If suspected contaminated, appropriate procedures followed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
E20	Is hydroseeding of the topsoil on the stockpile implemented to improve visual appearance and prevent soil erosion?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
Chemical / Fuel Storage Area					
E21	Are the fuel tanks and chemical storage areas provided with locks and sited on sealed areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E22	Are the storage area enclosed 3 sides by walls/ fence of ≥2m tall and bounded with adequate bund capacity (>110% of largest container) or do the storage area allow storage of 20% of total volume of waste?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E23	Are the storage areas labelled and separated (if needed)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E24	Do the storage areas have adequate ventilation and be covered to prevent rainfall entering?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
E25	Are the containers used for the storage of chemical wastes suitable for the substance that are holding, resist to corrosion, maintained in a good condition, and securely closed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
E26	If no specification has been approved by EPD, are container with <450L capacity provided for storage of chemicals waste?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
Chemical Waste / Waste Oil					

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E27	Is chemical waste or waste oil stored and labelled in English and Chinese properly in designated area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
E28	Are chemicals and waste oil recycled or disposed properly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
E29	Is chemical waste collected by licensed waste collectors and disposed of at licensed facility eg. Chemical Waste Treatment Centre?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Records					
E30	Is a licensed waste hauler used for waste collection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E31	Are the records of quantities of wastes generated, recycled and disposed properly kept?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E32	For the demolition material/ waste, is the number of loads for each day recorded as appropriate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A

F	LFG	N/A or Not Observed	Yes	No	Remarks / Photo
F1	Are special LFG precautions taken to avoid potential hazards of LFG exposure (ignition, explosion, asphyxiation, toxicity)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F2	Are prominent safety warning signs erected on-site to alert all personnel and visitors of LFG hazards during excavation works.?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F3	Is no smoking or burning permitted on-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F4	Are prominent 'No smoking' and 'No Naked Flames' signs erected on-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F5	Is no worker allowed to work alone at any time in excavated trenches or confined areas on-site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
F6	Is adequate fire fighting equipment provided on-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F7	Are construction equipment equipped with vertical exhaust at least 0.6m above ground installed with spark arrestors?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F8	Are electrical motors and extension cords explosion-proof and intrinsically safe for use on-site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F9	Is 'Permit to Work' system implemented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F10	Are welding, flame-cutting or other hot works conducted only under 'Permit to Work' system following clear safety requirements, gas monitoring procedures and presence of qualified persons to supervise the works?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F11a	For piping assembly or conduit construction, are all valves and seals closed immediately after installation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F11b	Are the pipe ends sealed on one side during installation if installation of large diameter pipes (diameter >600mm) is required?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F11c	Is forced ventilation implemented prior to operation of installed pipeline?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F11d	Is forced ventilation implemented for works inside trenches deeper than 1m?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed

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F12	Is frequency and location of LFG monitoring within excavation area determined prior to commencement of works? *LFG monitoring in excavations should be conducted at no more than 10mm from exposed ground surface.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F13	For excavation works, Is LFG monitoring conducted (1) at ground surface prior to excavation, (2) immediately before workers entering excavations, (3) at the beginning of each half-day work, and (4) periodically throughout the working day when workers are in the excavation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F14	Are LFG monitoring conducted periodically when any cracks on ground level encountered on-site? *Appropriate action should be taken in accordance with the action plan in Table 7.6 of EIA Report.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F15a	Are LFG precautionary measures involved in excavation and piping works provided in accordance with LFG Guidance Note and included in Safety Plan of construction phase?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F15b	Are temporary offices or buildings located where free LFG has been proven or raised clear of ground at a separation distance of at least 500mm?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F16	Is a Safety Officer trained in the use of gas detection equipment and LFG- related hazards present on-site throughout the groundwork phase? *The Safety Officer should be provided with an intrinsically safe portable instrument appropriately calibrated and capable of measuring the following gases: •CH ₄ : 0-100% and LEL: 0-100%/v •CO ₂ : 0-100% •O ₂ : 0-21%	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F17a	Periodically during groundwork construction, Is the works area monitored for CH ₄ CO ₂ and O ₂ using appropriately calibrated portable gas detection equipment? *The monitoring frequency and areas should be established prior to commencement of groundwork either by Safety Officer or appropriately qualified person.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not Observed
F17b	Is routine monitoring carried out in all excavations, manholes, created by temporary storage of building materials on-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F17c	Are all measurements in excavations made with monitoring tube located not more than 10mm from exposed ground surface?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F18	For excavations deeper than 1m, are measurements conducted? • At ground surface before excavation commences;	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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	<ul style="list-style-type: none"> Immediately before any worker enters the excavation; At the beginning of each working day for entire period the excavation remains open; and Periodically throughout the working day whilst workers are in excavation. 				
F19	For excavations between 300mm and 1m, are measurements conducted? <ul style="list-style-type: none"> Directly after excavation has been completed; and Periodic all whilst excavation remains open. 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F20	For excavations less than 300mm, are monitoring omitted at the discretion of Safety Officer or appropriately qualified person?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

G	Landscape and Visual Impacts	N/A or Not Observed	Yes	No	Remarks / Photo
G1	Is the work site confined within site boundaries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
G2	Is damage to surrounding areas avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
G3	Are the protective fencing erected along or beyond the perimeter of the tree protection zone of each individual tree?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
G4	Is early planting using fast growing plants at strategic locations within site implemented?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
G5	Is boundary green belt planting implemented around the site perimeter and the construction of temporary soil bunds?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
G6	Is temporary landscape treatment as green surface cover implemented?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
G7	Are existing and affected tree which identified as ecological significant preserved whenever possible?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed

H	Ecology	N/A or Not Observed	Yes	No	Remarks / Photo
H1	Is transplantation of the important plant species implemented? Is post-transplantation maintained and monitored regularly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed

I	Environmental Complaint	N/A or Not Observed	Yes	No	Remarks / Photo
I1	Environmental Complaint received during this week?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

J	General Housekeeping / Others	N/A or Not Observed	Yes	No	Remarks / Photo
J1	Are the defined boundaries of working areas identified to prevent loss of vegetation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
J2	Are the portable toilets maintained in a state, which will not deter the workers from utilizing these portable toilets?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Follow up action for previous Site Inspection:


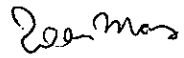

1. The Contractor has been reminded to schedule watering and to increase the frequency of watering if necessary in SBA and Portion D.
2. The Contractor has been reminded to implement vehicle washing at the exit of Portion.
3. The Contractor has been reminded to cover the cement bags entirely.
4. The Contractor has been reminded to ensure construction runoff shall be divided into silt removal facilities.

Reminder(s):

1. The Contractor is reminded to increase the frequency of watering at unpaved road and works area of SBA and Portion D.

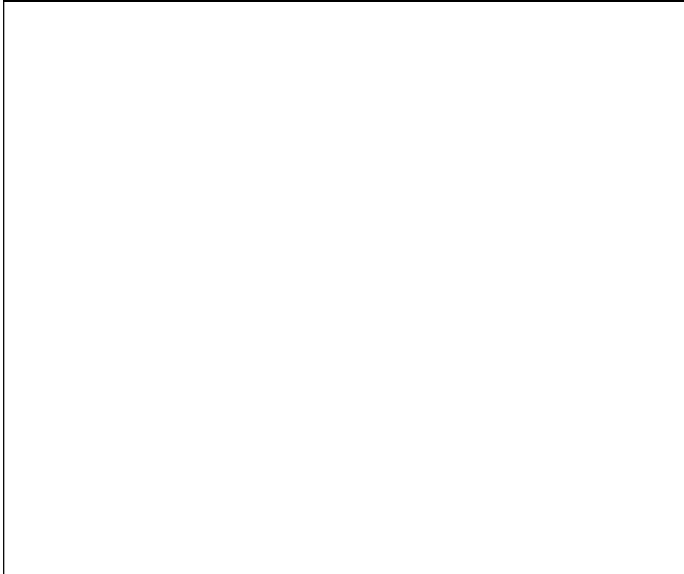
Corrective Actions – Mitigation Measures Implemented or Proposed (if any):

1. The frequency of watering at unpaved road and works area of SBA and Portion D should be increased.

	Environmental Team's Representative:	Independent Environmental Checker's Representative:	Contractor's Representative:	Employee's Representative
Signature:		/		
Name:	Jason Man	/	William Wan	Sylvia Ho
Date:	08 March 2023	/	08 March 2023	08 March 2023

PART I Follow-up status of the previous site inspection

Observation and Recommendation	Follow-up status
 <p>1. The site area in SBA was dry and fugitive dust was observed.</p>	 <p>The Contractor scheduled watering in SBA.</p>
 <p>2. Vehicle washing shall be implemented in SBA.</p>	 <p>The Vehicle washing was implemented in SBA</p>



The wheel washing facilities will be established in SBA at Mid-March 2023



3. More than 20 bags of cement were not covered entirely by impervious sheets in SBA.



The cement bags were removed.

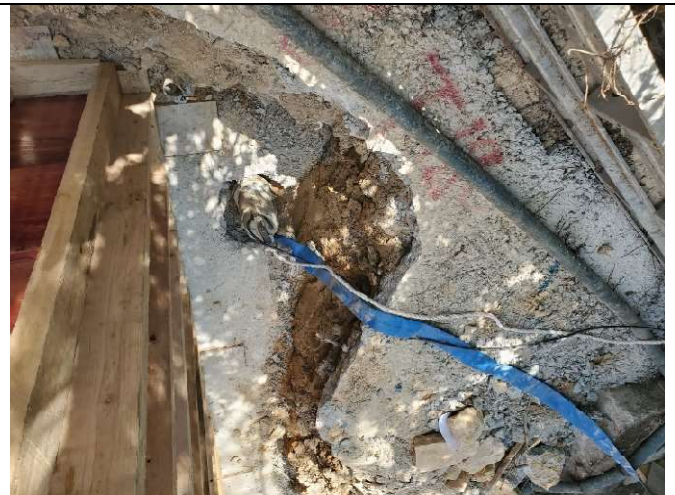


The Contractor scheduled watering in Portion D

4. The Contractor has been reminded to schedule watering for Portion D.



5. Construction runoff in the lower area at Portion D shall be collected and divided to silt removal facilities.



The Contractor has set up pit and pump for water collection at Portion D.

PART II Observation and recommendation identified during the environmental site inspection

Observation and Recommendation	Follow-up status
<p><u>Portion D</u></p>  <p><u>SBA</u></p>   <p>1. The frequency of watering at unpaved road and works area of SBA and Portion D should be increased.</p>	

(Construction Phase)

Environmental Site Inspection Checklist (Rev. 2)

Inspection Date:	13 March 2023	Inspected By:	Jason Man, Andy Ng
Time:	14:00	Weather Condition:	Overcast
Participants:	Sylvia Ho (ER), Kristy Wong (Contractor), Gloria Wong (Contractor), Jason Man (ET), Andy Ng (ET)		

A	Permits/Licenses	N/A or Not Observed	Yes	No	Remarks / Photo
A1	Are Environmental Permit, license/ other permit displayed at major site exit and vehicle access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EP No.: EP-292/2007 FEP No.: FEP-01/292/2007
A2	Are Construction Noise Permits/ Environmental license/ other permit available for inspection/posted at site entrance.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CNP No: GW-RN0131-23
A3	Is wastewater discharge licence available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
A4	Are trip tickets for chemical waste and construction waste disposal available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
A5	Are relevant licence/permit for disposal of construction waste or excavated materials available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

B	Air Quality	N/A or Not Observed	Yes	No	Remarks / Photo
B1	Is open burning avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B2	Are completed earthworks sealed as soon as practicable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B3	Are plant and equipment well maintained (i.e. without black smoke from powered plant)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B4	Any remedial action undertaken?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B5	Observed dust source(s)	<input type="checkbox"/> Wind erosion <input checked="" type="checkbox"/> Vehicle/ Equipment Movements <input type="checkbox"/> Loading/ unloading of materials <input checked="" type="checkbox"/> Others: <u>Breaking and excavation works</u>			
B6	Are unpaved areas/ designated roads watered regularly to avoid dust generation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Refer to Reminder 1
B7	Are dusty materials covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B8	After removal of stockpile, are the remained dusty materials wetted with water and cleared from surface of roads?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B9	Is the stockpile of dusty materials avoid to be extend beyond the pedestrian barriers, fencing or traffic cones?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

(Construction Phase)

Environmental Site Inspection Checklist (Rev. 2)

B10	Are loaded dump trucks covered by impervious sheeting appropriately before leaving the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B11	Are wheel washing facilities with high pressure water jet provided at all site exits if practicable?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B12	Are all vehicles and plant cleaned before they leave the construction site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B13	Are hoarding $\geq 2.4\text{m}$ tall provided beside roads or area with public access?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B14	Is the portion of any road leading only to construction site (within 30m of a vehicle entrance or exit) kept clear of dusty materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B15	Are surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operations takes place sprayed with water or a dust suppression chemical continuously?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Refer to Observation 1
B16	Is the area involved demolition activities sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B17	Is scaffolding erected around the perimeter of a building under construction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B18	Are effective dust screens, sheeting or netting provided to enclose the scaffolding from the ground floor level of the building, or a canopy provided from the first floor level up to the highest level of the scaffolding?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B19	Is the skip for materials transport enclosed by impervious sheeting?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B20	Is every stock of more than 20 bags of cement or dry pulverized fuel ash (PFA) covered entirely by impervious sheeting or placed in an area sheltered on the top and 3 sides?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B21	Are the areas of washing facilities and the road section between the washing facilities and the exit point paved with concrete, bituminous materials or hardcore?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	In Progress at SBA
B22	Are the activities of loading, unloading, transfer, handing or storage of bulk cement or dry PFA carried out in a totally enclosed system or facility?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B23	Is any vent or exhaust fitted with an effective fabric filter or equipment air pollution control system?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B24	Is the exposed earth properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shotcrete or other suitable surface stabilizer within six months after last construction activity on the construction site or part of the construction site where the exposed earth lies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B25	Are the worksites wetted with water regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B26	Is generation of dust avoided during loading or unloading?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
B27	Are all trucks loaded to a level within the side and tail boards?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

B28	Are appropriate speed limit sign displayed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B29	Are designated roads paved?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
8/B30	Are site vehicle movements confined to designated roads?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B31	Are NRMM labels properly affixed on the PMEs?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

C	Noise	N/A or Not Observed	Yes	No	Remarks / Photo
C1	Is well-maintained plant operated on-site and plant served regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
C2	Are vehicles and equipment switched off or throttled down while not in use?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
C3	Is the noise directed away from nearby NSRs?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
C4	Are the silencers or mufflers properly fitted on construction equipment and maintained regularly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
C5	Are mobile and/or noisy plant sited as far away from NSRs as possible and practicable and orientated so that the noise is directed away from nearby NSRs?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
C6	Are material stockpiles, mobile container office and other structures utilised to screen noisy activities?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
C7	Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
C8	Are noise barriers (typically density @14kg/m ²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
C9	Is the sequencing operation of construction plants where practicable?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
C10	Is the hoarding maintained properly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
C11	Air compressors (500 kPa or above) and hand held percussive breaker (mass of above 10 kg) with valid noise labels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
C12	Are compressor operated with doors closed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
C13	QPME used with valid noise labels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
C14	Major noise source(s)	<input checked="" type="checkbox"/> Traffic <input type="checkbox"/> Construction activities inside of site <input type="checkbox"/> Construction activities outside of site <input type="checkbox"/> Others:			

D	Water Quality	N/A or Not Observed	Yes	No	Remarks / Photo
Construction Activities					
D1	At the start of site establishment, are perimeter cut-off drains constructed to direct off-site water around the site with internal drainage works and erosion and sedimentation control facilities implemented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D2	Are channels, earth bunds or sandbag barriers provided on site to properly direct stormwater to such silt removal facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D3	Have dikes or embankments for flood protection implemented around the boundaries of earthwork areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D4	Have temporary ditches provided to facilitate the runoff discharge into an appropriate watercourse, through a site/ sediment trap?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D5	Are the sediment/ silt traps incorporated in the permanent drainage channels to enhance deposition rate?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D6	Are the retention time for silt/s and traps of the silt removal facilities be 5 minutes under maximum flow conditions?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D7	Is surface excavation works minimised during rainy seasons (April to September), as possible?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	To be implemented during wet season
D8	Are all exposed earth areas completed or vegetated as soon as possible after earthworks completed, or alternatively, within 14 days of the cessation of earthworks where practicable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
D9	Are exposed slope surfaces covered by tarpaulin sheets?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D10	Have the overall slope of the site should be kept a minimum?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D11	Are all trafficked areas and access roads protected by coarse stone ballast	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D12	Is wastewater from temporary site facilities controlled to prevent direct discharge to surface	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D13	Are the silt removal facilities, channels and manholes maintained regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D14	Is the deposit silt and grit removed regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D15	Have the excavation of trenches in wet periods be dug and backfilled in short sections?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
D16	Is rainwater pumped out from trenches discharged into storm drains via silt system?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
D17	Are open stockpiles of construction materials e.g. aggregates and sand of more than 50m ³ on site covered with tarpaulin or similar fabric during rainstorms?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
D18	Are manholes adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D19	Are the discharges of surface run-off into foul sewer always prevented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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D20	Is a wheel washing bay provided at every site exit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will be implemented in the exit of SBA at mid-March 2023
D21	Is the wheel wash overflow directed to silt removal facilities before being discharged to the storm drain?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D22	Is the section of construction road between the wheel washing bay and the public road surfaced with crushed stone or coarse gravel?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	In Progress at SBA
D23	Are the vehicle wash-water have sand and silt settled out and removed at least on a weekly basis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
D24	Are site drainage systems provided over the entire project site with sediment control facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D25	Are sedimentation tanks provided to treat the large amount of sediment-laden wastewater generated from wheel washing, site runoff and construction works?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D26	Is the treated wastewater reused for vehicle washing, dust suppression and general cleaning?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D27	Are portable chemical toilets and sewage holding tanks provided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D28	Is the sewage generated from toilets collected by licensed contractor and responsible for disposal and maintenance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D29	Is there any sediment plume observed in nearby watercourses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
D30	Are oil interceptors provided in the site drainage system downstream of any oil/ fuel pollution sources? And the oil interceptors are emptied and cleaned regularly? Has a bypass provided to prevent flushing during heavy rain?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
D31	Is chemical leakage or spillages contained and cleaned up immediately?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
D32	Service workshop and maintenance facilities located within a bunded area, and sumps and oil interceptors be provided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A

E	Waste / Chemical Management	N/A or Not Observed	Yes	No	Remarks / Photo
General Waste					
E1	Is the general waste generated on-site stored in enclosed bins or compaction units separately from the construction and chemical wastes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E2	Is the general waste collected properly by using the waste separation facilities for paper, aluminium cans, plastic bottles etc.?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E3	Does accumulation of waste avoid?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E4	Is waste disposed regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E5	Regular waste collection by approved waste collector in purpose-built vehicles?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E6	Burning of refuse on construction site prohibited?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Construction Waste					
E7	Are the temporary stockpiles maintained regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E8	Is the excavated fill material reused for backfilling and reinstatement?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E9	Are the C&D materials sorted and recycled on-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E10	Is there any contract documents provided to allow and promote the use of recycled aggregates where appropriate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
E11	Is the disposal of C&D materials avoided onto any sensitive locations e.g. agricultural lands etc.?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E12	Are the public fill and C&D waste segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E13	Is the durable formwork or plastic facing for construction works used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
E14	Do the wooden hoardings avoid to be used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
E15	Is metal hoarding used to enhance the possibility of recycling?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
E16	Is the segregation and storage of C&D wastes undertaken in designated area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E17	Are waste storage area properly cleaned and do not cause windblown litter and dust nuisance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E18	Do the excavated materials appear contaminated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
E19	If suspected contaminated, appropriate procedures followed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
E20	Is hydroseeding of the topsoil on the stockpile implemented to improve visual appearance and prevent soil erosion?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
Chemical / Fuel Storage Area					
E21	Are the fuel tanks and chemical storage areas provided with locks and sited on sealed areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E22	Are the storage area enclosed 3 sides by walls/fence of ≥2m tall and bounded with adequate bund capacity (>110% of largest container) or do the storage area allow storage of 20% of total volume of waste?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E23	Are the storage areas labelled and separated (if needed)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E24	Do the storage areas have adequate ventilation and be covered to prevent rainfall entering?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
E25	Are the containers used for the storage of chemical wastes suitable for the substance that are holding, resist to corrosion, maintained in a good condition, and securely closed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
E26	If no specification has been approved by EPD, are container with <450L capacity provided for storage of chemicals waste?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
Chemical Waste / Waste Oil					

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E27	Is chemical waste or waste oil stored and labelled in English and Chinese properly in designated area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E28	Are chemicals and waste oil recycled or disposed properly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
E29	Is chemical waste collected by licensed waste collectors and disposed of at licensed facility eg. Chemical Waste Treatment Centre?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Records					
E30	Is a licensed waste hauler used for waste collection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E31	Are the records of quantities of wastes generated, recycled and disposed properly kept?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E32	For the demolition material/ waste, is the number of loads for each day recorded as appropriate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A

F	LFG	N/A or Not Observed	Yes	No	Remarks / Photo
F1	Are special LFG precautions taken to avoid potential hazards of LFG exposure (ignition, explosion, asphyxiation, toxicity)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F2	Are prominent safety warning signs erected on-site to alert all personnel and visitors of LFG hazards during excavation works.?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F3	Is no smoking or burning permitted on-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F4	Are prominent 'No smoking' and 'No Naked Flames' signs erected on-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F5	Is no worker allowed to work alone at any time in excavated trenches or confined areas on-site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
F6	Is adequate fire fighting equipment provided on-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F7	Are construction equipment equipped with vertical exhaust at least 0.6m above ground installed with spark arrestors?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F8	Are electrical motors and extension cords explosion-proof and intrinsically safe for use on-site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F9	Is 'Permit to Work' system implemented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F10	Are welding, flame-cutting or other hot works conducted only under 'Permit to Work' system following clear safety requirements, gas monitoring procedures and presence of qualified persons to supervise the works?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F11a	For piping assembly or conduit construction, are all valves and seals closed immediately after installation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F11b	Are the pipe ends sealed on one side during installation if installation of large diameter pipes (diameter >600mm) is required?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F11c	Is forced ventilation implemented prior to operation of installed pipeline?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F11d	Is forced ventilation implemented for works inside trenches deeper than 1m?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed

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F12	Is frequency and location of LFG monitoring within excavation area determined prior to commencement of works? *LFG monitoring in excavations should be conducted at no more than 10mm from exposed ground surface.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F13	For excavation works, Is LFG monitoring conducted (1) at ground surface prior to excavation, (2) immediately before workers entering excavations, (3) at the beginning of each half-day work, and (4) periodically throughout the working day when workers are in the excavation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F14	Are LFG monitoring conducted periodically when any cracks on ground level encountered on-site? *Appropriate action should be taken in accordance with the action plan in Table 7.6 of EIA Report.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F15a	Are LFG precautionary measures involved in excavation and piping works provided in accordance with LFG Guidance Note and included in Safety Plan of construction phase?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F15b	Are temporary offices or buildings located where free LFG has been proven or raised clear of ground at a separation distance of at least 500mm?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F16	Is a Safety Officer trained in the use of gas detection equipment and LFG- related hazards present on-site throughout the groundwork phase? *The Safety Officer should be provided with an intrinsically safe portable instrument appropriately calibrated and capable of measuring the following gases: •CH ₄ : 0-100% and LEL: 0-100%/v •CO ₂ : 0-100% •O ₂ : 0-21%	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F17a	Periodically during groundwork construction, Is the works area monitored for CH ₄ CO ₂ and O ₂ using appropriately calibrated portable gas detection equipment? *The monitoring frequency and areas should be established prior to commencement of groundwork either by Safety Officer or appropriately qualified person.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F17b	Is routine monitoring carried out in all excavations, manholes, created by temporary storage of building materials on-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F17c	Are all measurements in excavations made with monitoring tube located not more than 10mm from exposed ground surface?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F18	For excavations deeper than 1m, are measurements conducted? • At ground surface before excavation commences;	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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	<ul style="list-style-type: none"> Immediately before any worker enters the excavation; At the beginning of each working day for entire period the excavation remains open; and Periodically throughout the working day whilst workers are in excavation. 				
F19	For excavations between 300mm and 1m, are measurements conducted? <ul style="list-style-type: none"> Directly after excavation has been completed; and Periodic all whilst excavation remains open. 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F20	For excavations less than 300mm, are monitoring omitted at the discretion of Safety Officer or appropriately qualified person?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

G	Landscape and Visual Impacts	N/A or Not Observed	Yes	No	Remarks / Photo
G1	Is the work site confined within site boundaries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
G2	Is damage to surrounding areas avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
G3	Are the protective fencing erected along or beyond the perimeter of the tree protection zone of each individual tree?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
G4	Is early planting using fast growing plants at strategic locations within site implemented?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
G5	Is boundary green belt planting implemented around the site perimeter and the construction of temporary soil bunds?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
G6	Is temporary landscape treatment as green surface cover implemented?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
G7	Are existing and affected tree which identified as ecological significant preserved whenever possible?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed

H	Ecology	N/A or Not Observed	Yes	No	Remarks / Photo
H1	Is transplantation of the important plant species implemented? Is post-transplantation maintained and monitored regularly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed

I	Environmental Complaint	N/A or Not Observed	Yes	No	Remarks / Photo
I1	Environmental Complaint received during this week?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

J	General Housekeeping / Others	N/A or Not Observed	Yes	No	Remarks / Photo
J1	Are the defined boundaries of working areas identified to prevent loss of vegetation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
J2	Are the portable toilets maintained in a state, which will not deter the workers from utilizing these portable toilets?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Follow up action for previous Site Inspection:

1. The Contractor scheduled watering at unpaved road and works area of SBA and Portion D.

Observation(s):


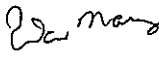

1. Fugitive dust is observed from the breaking and excavation works in Portion E3-1.
2. Paint containers are observed without drip tray.

Reminder(s):

1. The Contractor has been reminded to increase the frequency of watering at unpaved road and works area of Portion A.

Corrective Actions – Mitigation Measures Implemented or Proposed (if any):


1. The Contractor has been reminded to spray water on surface or the dusty material during breaking and excavation works.
2. Drip tray shall be provided to the paint containers.
3. The frequency of watering at unpaved road and works area of Portion A should be increased.

	Environmental Team Representative:	IEC's Representative:	Contractor's Representative:	Engineer's Representative
Signature:		/		
Name:	Jason Man	/	William Wan	Sylvia Ho
Date:	13 March 2023	/	13 March 2023	13 March 2023

PART I Follow-up status of the previous site inspection

Observation and Recommendation	Follow-up status
<p><u>Portion D</u></p>  <p><u>SBA</u></p>   <p>1. The frequency of watering at unpaved road and works area of SBA and Portion D should be increased.</p>	<p><u>Portion D</u></p>   <p><u>SBA</u></p>  <p>The Contractor scheduled watering at unpaved road and works area of SBA and Portion D.</p>

PART II Observation and recommendation identified during the environmental site inspection

Observation and Recommendation	Follow-up status
 <p>1. Fugitive dust is observed from the breaking and excavation works in Portion E3-1.</p>	 <p>The Contractor has arranged dust suppression mist cannon for Portion E3-1.</p>
 <p>2. Paint containers are observed without drip tray.</p>	 <p>The paint containers are removed.</p>
 <p>3. The Contractor has been reminded to increase the frequency of watering at the workarea in Portion A.</p>	 <p>The Contractor has scheduled watering for the workarea in Portion A.</p>

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Inspection Date:	20 March 2023	Inspected By:	Jason Man, Andy Ng
Time:	14:00	Weather Condition:	Cloudy
Participants:	Sylvia Ho (ER), Kristy Wong (Contractor), Gloria Wong (Contractor), Jimmy Lui(IEC), Echo Hung(IEC), Jason Man (ET), Andy Ng (ET)		

A	Permits/Licenses	N/A or Not Observed	Yes	No	Remarks / Photo
A1	Are Environmental Permit, license/ other permit displayed at major site exit and vehicle access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EP No.: EP-292/2007 FEP No.: FEP-01/292/2007
A2	Are Construction Noise Permits/ Environmental license/ other permit available for inspection/posted at site entrance.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CNP No: GW-RN0131-23
A3	Is wastewater discharge licence available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
A4	Are trip tickets for chemical waste and construction waste disposal available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
A5	Are relevant licence/permit for disposal of construction waste or excavated materials available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

B	Air Quality	N/A or Not Observed	Yes	No	Remarks / Photo
B1	Is open burning avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B2	Are completed earthworks sealed as soon as practicable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B3	Are plant and equipment well maintained (i.e. without black smoke from powered plant)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B4	Any remedial action undertaken?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B5	Observed dust source(s)	<input checked="" type="checkbox"/> Wind erosion <input checked="" type="checkbox"/> Vehicle/ Equipment Movements <input type="checkbox"/> Loading/ unloading of materials <input type="checkbox"/> Others: _____			
B6	Are unpaved areas/ designated roads watered regularly to avoid dust generation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Refer to Reminder 1
B7	Are dusty materials covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Refer to Observation 2
B8	After removal of stockpile, are the remained dusty materials wetted with water and cleared from surface of roads?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B9	Is the stockpile of dusty materials avoid to be extend beyond the pedestrian barriers, fencing or traffic cones?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

(Construction Phase)

Environmental Site Inspection Checklist (Rev. 2)

B10	Are loaded dump trucks covered by impervious sheeting appropriately before leaving the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B11	Are wheel washing facilities with high pressure water jet provided at all site exits if practicable?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B12	Are all vehicles and plant cleaned before they leave the construction site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B13	Are hoarding $\geq 2.4\text{m}$ tall provided beside roads or area with public access?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B14	Is the portion of any road leading only to construction site (within 30m of a vehicle entrance or exit) kept clear of dusty materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B15	Are surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operations takes place sprayed with water or a dust suppression chemical continuously?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
B16	Is the area involved demolition activities sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B17	Is scaffolding erected around the perimeter of a building under construction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B18	Are effective dust screens, sheeting or netting provided to enclose the scaffolding from the ground floor level of the building, or a canopy provided from the first floor level up to the highest level of the scaffolding?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B19	Is the skip for materials transport enclosed by impervious sheeting?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B20	Is every stock of more than 20 bags of cement or dry pulverized fuel ash (PFA) covered entirely by impervious sheeting or placed in an area sheltered on the top and 3 sides?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B21	Are the areas of washing facilities and the road section between the washing facilities and the exit point paved with concrete, bituminous materials or hardcore?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	In Progress at SBA
B22	Are the activities of loading, unloading, transfer, handing or storage of bulk cement or dry PFA carried out in a totally enclosed system or facility?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B23	Is any vent or exhaust fitted with an effective fabric filter or equipment air pollution control system?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B24	Is the exposed earth properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shotcrete or other suitable surface stabilizer within six months after last construction activity on the construction site or part of the construction site where the exposed earth lies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B25	Are the worksites wetted with water regularly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Refer to Reminder 1
B26	Is generation of dust avoided during loading or unloading?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
B27	Are all trucks loaded to a level within the side and tail boards?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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B28	Are appropriate speed limit sign displayed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B29	Are designated roads paved?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
8/B30	Are site vehicle movements confined to designated roads?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B31	Are NRMM labels properly affixed on the PMEs?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

C	Noise	N/A or Not Observed	Yes	No	Remarks / Photo
C1	Is well-maintained plant operated on-site and plant served regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
C2	Are vehicles and equipment switched off or throttled down while not in use?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
C3	Is the noise directed away from nearby NSRs?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
C4	Are the silencers or mufflers properly fitted on construction equipment and maintained regularly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
C5	Are mobile and/or noisy plant sited as far away from NSRs as possible and practicable and orientated so that the noise is directed away from nearby NSRs?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
C6	Are material stockpiles, mobile container office and other structures utilised to screen noisy activities?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
C7	Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
C8	Are noise barriers (typically density @14kg/m ²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
C9	Is the sequencing operation of construction plants where practicable?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
C10	Is the hoarding maintained properly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
C11	Air compressors (500 kPa or above) and hand held percussive breaker (mass of above 10 kg) with valid noise labels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
C12	Are compressor operated with doors closed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
C13	QPME used with valid noise labels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
C14	Major noise source(s)	<input checked="" type="checkbox"/> Traffic <input type="checkbox"/> Construction activities inside of site <input type="checkbox"/> Construction activities outside of site <input type="checkbox"/> Others:			

D	Water Quality	N/A or Not Observed	Yes	No	Remarks / Photo
Construction Activities					
D1	At the start of site establishment, are perimeter cut-off drains constructed to direct off-site water around the site with internal drainage works and erosion and sedimentation control facilities implemented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D2	Are channels, earth bunds or sandbag barriers provided on site to properly direct stormwater to such silt removal facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D3	Have dikes or embankments for flood protection implemented around the boundaries of earthwork areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D4	Have temporary ditches provided to facilitate the runoff discharge into an appropriate watercourse, through a site/ sediment trap?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D5	Are the sediment/ silt traps incorporated in the permanent drainage channels to enhance deposition rate?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D6	Are the retention time for silt/s and traps of the silt removal facilities be 5 minutes under maximum flow conditions?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D7	Is surface excavation works minimised during rainy seasons (April to September), as possible?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	To be implemented during wet season
D8	Are all exposed earth areas completed or vegetated as soon as possible after earthworks completed, or alternatively, within 14 days of the cessation of earthworks where practicable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
D9	Are exposed slope surfaces covered by tarpaulin sheets?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D10	Have the overall slope of the site should be kept a minimum?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D11	Are all trafficked areas and access roads protected by coarse stone ballast	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D12	Is wastewater from temporary site facilities controlled to prevent direct discharge to surface	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D13	Are the silt removal facilities, channels and manholes maintained regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D14	Is the deposit silt and grit removed regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D15	Have the excavation of trenches in wet periods be dug and backfilled in short sections?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
D16	Is rainwater pumped out from trenches discharged into storm drains via silt system?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
D17	Are open stockpiles of construction materials e.g. aggregates and sand of more than 50m ³ on site covered with tarpaulin or similar fabric during rainstorms?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
D18	Are manholes adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D19	Are the discharges of surface run-off into foul sewer always prevented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

D20	Is a wheel washing bay provided at every site exit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will be implemented in the exit of SBA at the end of March 2023
D21	Is the wheel wash overflow directed to silt removal facilities before being discharged to the storm drain?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D22	Is the section of construction road between the wheel washing bay and the public road surfaced with crushed stone or coarse gravel?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	In Progress at SBA
D23	Are the vehicle wash-water have sand and silt settled out and removed at least on a weekly basis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
D24	Are site drainage systems provided over the entire project site with sediment control facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D25	Are sedimentation tanks provided to treat the large amount of sediment-laden wastewater generated from wheel washing, site runoff and construction works?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D26	Is the treated wastewater reused for vehicle washing, dust suppression and general cleaning?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D27	Are portable chemical toilets and sewage holding tanks provided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D28	Is the sewage generated from toilets collected by licensed contractor and responsible for disposal and maintenance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D29	Is there any sediment plume observed in nearby watercourses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
D30	Are oil interceptors provided in the site drainage system downstream of any oil/ fuel pollution sources? And the oil interceptors are emptied and cleaned regularly? Has a bypass provided to prevent flushing during heavy rain?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
D31	Is chemical leakage or spillages contained and cleaned up immediately?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
D32	Service workshop and maintenance facilities located within a bunded area, and sumps and oil interceptors be provided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A

E	Waste / Chemical Management	N/A or Not Observed	Yes	No	Remarks / Photo
General Waste					
E1	Is the general waste generated on-site stored in enclosed bins or compaction units separately from the construction and chemical wastes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E2	Is the general waste collected properly by using the waste separation facilities for paper, aluminium cans, plastic bottles etc.?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E3	Does accumulation of waste avoid?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E4	Is waste disposed regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E5	Regular waste collection by approved waste collector in purpose-built vehicles?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E6	Burning of refuse on construction site prohibited?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Construction Waste					
E7	Are the temporary stockpiles maintained regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E8	Is the excavated fill material reused for backfilling and reinstatement?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E9	Are the C&D materials sorted and recycled on-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E10	Is there any contract documents provided to allow and promote the use of recycled aggregates where appropriate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
E11	Is the disposal of C&D materials avoided onto any sensitive locations e.g. agricultural lands etc.?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E12	Are the public fill and C&D waste segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E13	Is the durable formwork or plastic facing for construction works used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
E14	Do the wooden hoardings avoid to be used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
E15	Is metal hoarding used to enhance the possibility of recycling?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
E16	Is the segregation and storage of C&D wastes undertaken in designated area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E17	Are waste storage area properly cleaned and do not cause windblown litter and dust nuisance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E18	Do the excavated materials appear contaminated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
E19	If suspected contaminated, appropriate procedures followed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
E20	Is hydroseeding of the topsoil on the stockpile implemented to improve visual appearance and prevent soil erosion?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
Chemical / Fuel Storage Area					
E21	Are the fuel tanks and chemical storage areas provided with locks and sited on sealed areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E22	Are the storage area enclosed 3 sides by walls/fence of ≥2m tall and bounded with adequate bund capacity (>110% of largest container) or do the storage area allow storage of 20% of total volume of waste?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E23	Are the storage areas labelled and separated (if needed)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E24	Do the storage areas have adequate ventilation and be covered to prevent rainfall entering?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
E25	Are the containers used for the storage of chemical wastes suitable for the substance that are holding, resist to corrosion, maintained in a good condition, and securely closed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
E26	If no specification has been approved by EPD, are container with <450L capacity provided for storage of chemicals waste?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
Chemical Waste / Waste Oil					

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E27	Is chemical waste or waste oil stored and labelled in English and Chinese properly in designated area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E28	Are chemicals and waste oil recycled or disposed properly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
E29	Is chemical waste collected by licensed waste collectors and disposed of at licensed facility eg. Chemical Waste Treatment Centre?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Records					
E30	Is a licensed waste hauler used for waste collection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E31	Are the records of quantities of wastes generated, recycled and disposed properly kept?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E32	For the demolition material/ waste, is the number of loads for each day recorded as appropriate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A

F	LFG	N/A or Not Observed	Yes	No	Remarks / Photo
F1	Are special LFG precautions taken to avoid potential hazards of LFG exposure (ignition, explosion, asphyxiation, toxicity)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F2	Are prominent safety warning signs erected on-site to alert all personnel and visitors of LFG hazards during excavation works.?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F3	Is no smoking or burning permitted on-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F4	Are prominent 'No smoking' and 'No Naked Flames' signs erected on-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F5	Is no worker allowed to work alone at any time in excavated trenches or confined areas on-site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
F6	Is adequate fire fighting equipment provided on-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F7	Are construction equipment equipped with vertical exhaust at least 0.6m above ground installed with spark arrestors?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F8	Are electrical motors and extension cords explosion-proof and intrinsically safe for use on-site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F9	Is 'Permit to Work' system implemented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F10	Are welding, flame-cutting or other hot works conducted only under 'Permit to Work' system following clear safety requirements, gas monitoring procedures and presence of qualified persons to supervise the works?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F11a	For piping assembly or conduit construction, are all valves and seals closed immediately after installation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F11b	Are the pipe ends sealed on one side during installation if installation of large diameter pipes (diameter >600mm) is required?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F11c	Is forced ventilation implemented prior to operation of installed pipeline?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F11d	Is forced ventilation implemented for works inside trenches deeper than 1m?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed

(Construction Phase)

Environmental Site Inspection Checklist (Rev. 2)

F12	Is frequency and location of LFG monitoring within excavation area determined prior to commencement of works? *LFG monitoring in excavations should be conducted at no more than 10mm from exposed ground surface.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F13	For excavation works, Is LFG monitoring conducted (1) at ground surface prior to excavation, (2) immediately before workers entering excavations, (3) at the beginning of each half-day work, and (4) periodically throughout the working day when workers are in the excavation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F14	Are LFG monitoring conducted periodically when any cracks on ground level encountered on-site? *Appropriate action should be taken in accordance with the action plan in Table 7.6 of EIA Report.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F15a	Are LFG precautionary measures involved in excavation and piping works provided in accordance with LFG Guidance Note and included in Safety Plan of construction phase?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F15b	Are temporary offices or buildings located where free LFG has been proven or raised clear of ground at a separation distance of at least 500mm?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F16	Is a Safety Officer trained in the use of gas detection equipment and LFG- related hazards present on-site throughout the groundwork phase? *The Safety Officer should be provided with an intrinsically safe portable instrument appropriately calibrated and capable of measuring the following gases: •CH ₄ : 0-100% and LEL: 0-100%/v •CO ₂ : 0-100% •O ₂ : 0-21%	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F17a	Periodically during groundwork construction, Is the works area monitored for CH ₄ CO ₂ and O ₂ using appropriately calibrated portable gas detection equipment? *The monitoring frequency and areas should be established prior to commencement of groundwork either by Safety Officer or appropriately qualified person.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F17b	Is routine monitoring carried out in all excavations, manholes, created by temporary storage of building materials on-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F17c	Are all measurements in excavations made with monitoring tube located not more than 10mm from exposed ground surface?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F18	For excavations deeper than 1m, are measurements conducted? • At ground surface before excavation commences;	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

(Construction Phase)

Environmental Site Inspection Checklist (Rev. 2)

	<ul style="list-style-type: none"> Immediately before any worker enters the excavation; At the beginning of each working day for entire period the excavation remains open; and Periodically throughout the working day whilst workers are in excavation. 				
F19	For excavations between 300mm and 1m, are measurements conducted? <ul style="list-style-type: none"> Directly after excavation has been completed; and Periodic all whilst excavation remains open. 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F20	For excavations less than 300mm, are monitoring omitted at the discretion of Safety Officer or appropriately qualified person?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

G	Landscape and Visual Impacts	N/A or Not Observed	Yes	No	Remarks / Photo
G1	Is the work site confined within site boundaries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
G2	Is damage to surrounding areas avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
G3	Are the protective fencing erected along or beyond the perimeter of the tree protection zone of each individual tree?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
G4	Is early planting using fast growing plants at strategic locations within site implemented?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
G5	Is boundary green belt planting implemented around the site perimeter and the construction of temporary soil bunds?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
G6	Is temporary landscape treatment as green surface cover implemented?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
G7	Are existing and affected tree which identified as ecological significant preserved whenever possible?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed

H	Ecology	N/A or Not Observed	Yes	No	Remarks / Photo
H1	Is transplantation of the important plant species implemented? Is post-transplantation maintained and monitored regularly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed

I	Environmental Complaint	N/A or Not Observed	Yes	No	Remarks / Photo
I1	Environmental Complaint received during this week?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

J	General Housekeeping / Others	N/A or Not Observed	Yes	No	Remarks / Photo
J1	Are the defined boundaries of working areas identified to prevent loss of vegetation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
J2	Are the portable toilets maintained in a state, which will not deter the workers from utilizing these portable toilets?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Follow up action for previous Site Inspection:

1. The Contractor arranged dust suppression mist cannon for Portion E3-1.
2. The paint containers were removed.
3. The Contractor scheduled watering for the work area in Portion A.

Observation(s):

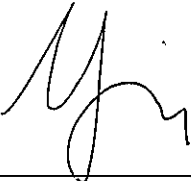

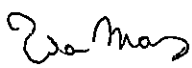

1. Chemical containers in SBA are observed without drip tray.
2. Stockpiles of dusty material are not covered with impervious sheets.

Reminder(s):







1. The Contractor has been reminded to increase the frequency of watering in construction site to prevent dust dispersion.

Corrective Actions – Mitigation Measures Implemented or Proposed (if any):

1. Drip tray shall be provided to all chemical containers.
2. The Contractor has been reminded to fully cover the stockpiles of dusty material with impervious sheets.
3. Frequency of watering in the construction site should be increased to prevent dust dispersion.

	Environmental Team's Representative:	Independent Environmental Checker's Representative:	Contractor's Representative:	Employee's Representative
Signature:				
Name:	Andy Ng	Jimmy Lui	William Wan	Sylvia Ho
Date:	20 March 2023	20 March 2023	20 March 2023	20 March 2023

PART I Follow-up status of the previous site inspection

Observation and Recommendation	Follow-up status
 <p>1. Fugitive dust was observed from the breaking and excavation works in Portion E3-1.</p>	 <p>The Contractor arranged dust suppression mist cannon for Portion E3-1.</p>
 <p>2. Paint containers were observed without drip tray.</p>	 <p>The paint containers were removed.</p>
 <p>3. The Contractor was reminded to increase the frequency of watering at the work area in Portion A.</p>	 <p>The Contractor scheduled watering for the work area in Portion A.</p>

PART II Observation and recommendation identified during the environmental site inspection

Observation and Recommendation	Follow-up status
 <p>1. Chemical containers in SBA are observed without drip tray.</p>	
 <p>2. Stockpiles of dusty material in SBA are not covered with impervious sheets.</p>	

Portion A



SBA



Portion D



3. The Contractor has been reminded to increase the frequency of watering in the construction site to prevent dust dispersion.

(Construction Phase)

Environmental Site Inspection Checklist (Rev. 2)

Inspection Date:	27 March 2023	Inspected By:	Andy Ng
Time:	14:00	Weather Condition:	Rainy
Participants:	Sylvia Ho (ER), Kristy Wong (Contractor), Andy Ng (ET)		

A	Permits/Licenses	N/A or Not Observed	Yes	No	Remarks / Photo
A1	Are Environmental Permit, license/ other permit displayed at major site exit and vehicle access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EP No.: EP-292/2007 FEP No.: FEP-01/292/2007
A2	Are Construction Noise Permits/ Environmental license/ other permit available for inspection/posted at site entrance.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CNP No: GW-RN0131-23
A3	Is wastewater discharge licence available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
A4	Are trip tickets for chemical waste and construction waste disposal available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
A5	Are relevant licence/permit for disposal of construction waste or excavated materials available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

B	Air Quality	N/A or Not Observed	Yes	No	Remarks / Photo
B1	Is open burning avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B2	Are completed earthworks sealed as soon as practicable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B3	Are plant and equipment well maintained (i.e. without black smoke from powered plant)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B4	Any remedial action undertaken?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B5	Observed dust source(s)	<input type="checkbox"/> Wind erosion <input type="checkbox"/> Vehicle/ Equipment Movements <input type="checkbox"/> Loading/ unloading of materials <input checked="" type="checkbox"/> Others: <u>Not Observed</u>			
B6	Are unpaved areas/ designated roads watered regularly to avoid dust generation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B7	Are dusty materials covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B8	After removal of stockpile, are the remained dusty materials wetted with water and cleared from surface of roads?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B9	Is the stockpile of dusty materials avoid to be extend beyond the pedestrian barriers, fencing or traffic cones?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

(Construction Phase)

Environmental Site Inspection Checklist (Rev. 2)

B10	Are loaded dump trucks covered by impervious sheeting appropriately before leaving the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B11	Are wheel washing facilities with high pressure water jet provided at all site exits if practicable?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B12	Are all vehicles and plant cleaned before they leave the construction site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B13	Are hoarding $\geq 2.4\text{m}$ tall provided beside roads or area with public access?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B14	Is the portion of any road leading only to construction site (within 30m of a vehicle entrance or exit) kept clear of dusty materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Refer to Observation 1
B15	Are surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operations takes place sprayed with water or a dust suppression chemical continuously?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B16	Is the area involved demolition activities sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B17	Is scaffolding erected around the perimeter of a building under construction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B18	Are effective dust screens, sheeting or netting provided to enclose the scaffolding from the ground floor level of the building, or a canopy provided from the first floor level up to the highest level of the scaffolding?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B19	Is the skip for materials transport enclosed by impervious sheeting?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B20	Is every stock of more than 20 bags of cement or dry pulverized fuel ash (PFA) covered entirely by impervious sheeting or placed in an area sheltered on the top and 3 sides?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B21	Are the areas of washing facilities and the road section between the washing facilities and the exit point paved with concrete, bituminous materials or hardcores?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	In Progress at SBA
B22	Are the activities of loading, unloading, transfer, handing or storage of bulk cement or dry PFA carried out in a totally enclosed system or facility?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B23	Is any vent or exhaust fitted with an effective fabric filter or equipment air pollution control system?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
B24	Is the exposed earth properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shotcrete or other suitable surface stabilizer within six months after last construction activity on the construction site or part of the construction site where the exposed earth lies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B25	Are the worksites wetted with water regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B26	Is generation of dust avoided during loading or unloading?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
B27	Are all trucks loaded to a level within the side and tail boards?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B28	Are appropriate speed limit sign displayed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

B29	Are designated roads paved?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B30	Are site vehicle movements confined to designated roads?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B31	Are NRMM labels properly affixed on the PME's?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

C	Noise	N/A or Not Observed	Yes	No	Remarks / Photo
C1	Is well-maintained plant operated on-site and plant served regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
C2	Are vehicles and equipment switched off or throttled down while not in use?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
C3	Is the noise directed away from nearby NSRs?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
C4	Are the silencers or mufflers properly fitted on construction equipment and maintained regularly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
C5	Are mobile and/or noisy plant sited as far away from NSRs as possible and practicable and orientated so that the noise is directed away from nearby NSRs?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
C6	Are material stockpiles, mobile container office and other structures utilised to screen noisy activities?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
C7	Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
C8	Are noise barriers (typically density @14kg/m ²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
C9	Is the sequencing operation of construction plants where practicable?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
C10	Is the hoarding maintained properly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
C11	Air compressors (500 kPa or above) and hand held percussive breaker (mass of above 10 kg) with valid noise labels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
C12	Are compressor operated with doors closed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
C13	QPME used with valid noise labels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
C14	Major noise source(s)	<input type="checkbox"/> Traffic <input checked="" type="checkbox"/> Construction activities inside of site <input type="checkbox"/> Construction activities outside of site <input type="checkbox"/> Others: _____			

D	Water Quality	N/A or Not Observed	Yes	No	Remarks / Photo
Construction Activities					
D1	At the start of site establishment, are perimeter cut-off drains constructed to direct off-site water around the site with internal drainage works and erosion and sedimentation control facilities implemented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D2	Are channels, earth bunds or sandbag barriers provided on site to properly direct stormwater to such silt removal facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D3	Have dikes or embankments for flood protection implemented around the boundaries of earthwork areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D4	Have temporary ditches provided to facilitate the runoff discharge into an appropriate watercourse, through a site/ sediment trap?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D5	Are the sediment/ silt traps incorporated in the permanent drainage channels to enhance deposition rate?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D6	Are the retention time for silt/s and traps of the silt removal facilities be 5 minutes under maximum flow conditions?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D7	Is surface excavation works minimised during rainy seasons (April to September), as possible?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	To be implemented during wet season
D8	Are all exposed earth areas completed or vegetated as soon as possible after earthworks completed, or alternatively, within 14 days of the cessation of earthworks where practicable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
D9	Are exposed slope surfaces covered by tarpaulin sheets?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D10	Have the overall slope of the site should be kept a minimum?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D11	Are all trafficked areas and access roads protected by coarse stone ballast	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D12	Is wastewater from temporary site facilities controlled to prevent direct discharge to surface	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D13	Are the silt removal facilities, channels and manholes maintained regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D14	Is the deposit silt and grit removed regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D15	Have the excavation of trenches in wet periods be dug and backfilled in short sections?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
D16	Is rainwater pumped out from trenches discharged into storm drains via silt system?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
D17	Are open stockpiles of construction materials e.g. aggregates and sand of more than 50m ³ on site covered with tarpaulin or similar fabric during rainstorms?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
D18	Are manholes adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D19	Are the discharges of surface run-off into foul sewer always prevented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

D20	Is a wheel washing bay provided at every site exit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will be implemented in the exit of SBA at the end of March 2023
D21	Is the wheel wash overflow directed to silt removal facilities before being discharged to the storm drain?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D22	Is the section of construction road between the wheel washing bay and the public road surfaced with crushed stone or coarse gravel?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	In Progress at SBA
D23	Are the vehicle wash-water have sand and silt settled out and removed at least on a weekly basis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
D24	Are site drainage systems provided over the entire project site with sediment control facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D25	Are sedimentation tanks provided to treat the large amount of sediment-laden wastewater generated from wheel washing, site runoff and construction works?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D26	Is the treated wastewater reused for vehicle washing, dust suppression and general cleaning?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D27	Are portable chemical toilets and sewage holding tanks provided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D28	Is the sewage generated from toilets collected by licensed contractor and responsible for disposal and maintenance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D29	Is there any sediment plume observed in nearby watercourses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
D30	Are oil interceptors provided in the site drainage system downstream of any oil/ fuel pollution sources? And the oil interceptors are emptied and cleaned regularly? Has a bypass provided to prevent flushing during heavy rain?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
D31	Is chemical leakage or spillages contained and cleaned up immediately?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
D32	Service workshop and maintenance facilities located within a bunded area, and sumps and oil interceptors be provided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A

E	Waste / Chemical Management	N/A or Not Observed	Yes	No	Remarks / Photo
General Waste					
E1	Is the general waste generated on-site stored in enclosed bins or compaction units separately from the construction and chemical wastes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E2	Is the general waste collected properly by using the waste separation facilities for paper, aluminium cans, plastic bottles etc.?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E3	Does accumulation of waste avoid?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E4	Is waste disposed regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E5	Regular waste collection by approved waste collector in purpose-built vehicles?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E6	Burning of refuse on construction site prohibited?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Construction Waste					
E7	Are the temporary stockpiles maintained regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E8	Is the excavated fill material reused for backfilling and reinstatement?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E9	Are the C&D materials sorted and recycled on-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E10	Is there any contract documents provided to allow and promote the use of recycled aggregates where appropriate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
E11	Is the disposal of C&D materials avoided onto any sensitive locations e.g. agricultural lands etc.?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E12	Are the public fill and C&D waste segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E13	Is the durable formwork or plastic facing for construction works used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
E14	Do the wooden hoardings avoid to be used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
E15	Is metal hoarding used to enhance the possibility of recycling?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
E16	Is the segregation and storage of C&D wastes undertaken in designated area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E17	Are waste storage area properly cleaned and do not cause windblown litter and dust nuisance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E18	Do the excavated materials appear contaminated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
E19	If suspected contaminated, appropriate procedures followed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
E20	Is hydroseeding of the topsoil on the stockpile implemented to improve visual appearance and prevent soil erosion?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
Chemical / Fuel Storage Area					
E21	Are the fuel tanks and chemical storage areas provided with locks and sited on sealed areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Refer to Observation 2
E22	Are the storage area enclosed 3 sides by walls/ fence of $\geq 2\text{m}$ tall and bounded with adequate bund capacity ($>110\%$ of largest container) or do the storage area allow storage of 20% of total volume of waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Refer to Observation 2
E23	Are the storage areas labelled and separated (if needed)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E24	Do the storage areas have adequate ventilation and be covered to prevent rainfall entering?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Refer to Observation 2
E25	Are the containers used for the storage of chemical wastes suitable for the substance that are holding, resist to corrosion, maintained in a good condition, and securely closed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
E26	If no specification has been approved by EPD, are container with $<450\text{L}$ capacity provided for storage of chemicals waste?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
Chemical Waste / Waste Oil					

(Construction Phase)

Environmental Site Inspection Checklist (Rev. 2)

E27	Is chemical waste or waste oil stored and labelled in English and Chinese properly in designated area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E28	Are chemicals and waste oil recycled or disposed properly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
E29	Is chemical waste collected by licensed waste collectors and disposed of at licensed facility eg. Chemical Waste Treatment Centre?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Records					
E30	Is a licensed waste hauler used for waste collection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E31	Are the records of quantities of wastes generated, recycled and disposed properly kept?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E32	For the demolition material/ waste, is the number of loads for each day recorded as appropriate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A

F	LFG	N/A or Not Observed	Yes	No	Remarks / Photo
F1	Are special LFG precautions taken to avoid potential hazards of LFG exposure (ignition, explosion, asphyxiation, toxicity)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F2	Are prominent safety warning signs erected on-site to alert all personnel and visitors of LFG hazards during excavation works.?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F3	Is no smoking or burning permitted on-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F4	Are prominent 'No smoking' and 'No Naked Flames' signs erected on-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F5	Is no worker allowed to work alone at any time in excavated trenches or confined areas on-site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
F6	Is adequate fire fighting equipment provided on-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F7	Are construction equipment equipped with vertical exhaust at least 0.6m above ground installed with spark arrestors?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F8	Are electrical motors and extension cords explosion-proof and intrinsically safe for use on-site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F9	Is 'Permit to Work' system implemented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F10	Are welding, flame-cutting or other hot works conducted only under 'Permit to Work' system following clear safety requirements, gas monitoring procedures and presence of qualified persons to supervise the works?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F11a	For piping assembly or conduit construction, are all valves and seals closed immediately after installation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F11b	Are the pipe ends sealed on one side during installation if installation of large diameter pipes (diameter >600mm) is required?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F11c	Is forced ventilation implemented prior to operation of installed pipeline?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F11d	Is forced ventilation implemented for works inside trenches deeper than 1m?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed

(Construction Phase)

Environmental Site Inspection Checklist (Rev. 2)

F12	Is frequency and location of LFG monitoring within excavation area determined prior to commencement of works? *LFG monitoring in excavations should be conducted at no more than 10mm from exposed ground surface.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F13	For excavation works, Is LFG monitoring conducted (1) at ground surface prior to excavation, (2) immediately before workers entering excavations, (3) at the beginning of each half-day work, and (4) periodically throughout the working day when workers are in the excavation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F14	Are LFG monitoring conducted periodically when any cracks on ground level encountered on-site? *Appropriate action should be taken in accordance with the action plan in Table 7.6 of EIA Report.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F15a	Are LFG precautionary measures involved in excavation and piping works provided in accordance with LFG Guidance Note and included in Safety Plan of construction phase?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F15b	Are temporary offices or buildings located where free LFG has been proven or raised clear of ground at a separation distance of at least 500mm?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F16	Is a Safety Officer trained in the use of gas detection equipment and LFG- related hazards present on-site throughout the groundwork phase? *The Safety Officer should be provided with an intrinsically safe portable instrument appropriately calibrated and capable of measuring the following gases: •CH ₄ : 0-100% and LEL: 0-100%/v •CO ₂ : 0-100% •O ₂ : 0-21%	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F17a	Periodically during groundwork construction, Is the works area monitored for CH ₄ CO ₂ and O ₂ using appropriately calibrated portable gas detection equipment? *The monitoring frequency and areas should be established prior to commencement of groundwork either by Safety Officer or appropriately qualified person.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed
F17b	Is routine monitoring carried out in all excavations, manholes, created by temporary storage of building materials on-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F17c	Are all measurements in excavations made with monitoring tube located not more than 10mm from exposed ground surface?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F18	For excavations deeper than 1m, are measurements conducted? • At ground surface before excavation commences;	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

(Construction Phase)

Environmental Site Inspection Checklist (Rev. 2)

	<ul style="list-style-type: none"> Immediately before any worker enters the excavation; At the beginning of each working day for entire period the excavation remains open; and Periodically throughout the working day whilst workers are in excavation. 				
F19	For excavations between 300mm and 1m, are measurements conducted? <ul style="list-style-type: none"> Directly after excavation has been completed; and Periodic all whilst excavation remains open. 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F20	For excavations less than 300mm, are monitoring omitted at the discretion of Safety Officer or appropriately qualified person?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

G	Landscape and Visual Impacts	N/A or Not Observed	Yes	No	Remarks / Photo
G1	Is the work site confined within site boundaries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
G2	Is damage to surrounding areas avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
G3	Are the protective fencing erected along or beyond the perimeter of the tree protection zone of each individual tree?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
G4	Is early planting using fast growing plants at strategic locations within site implemented?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
G5	Is boundary green belt planting implemented around the site perimeter and the construction of temporary soil bunds?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
G6	Is temporary landscape treatment as green surface cover implemented?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
G7	Are existing and affected tree which identified as ecological significant preserved whenever possible?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed

H	Ecology	N/A or Not Observed	Yes	No	Remarks / Photo
H1	Is transplantation of the important plant species implemented? Is post-transplantation maintained and monitored regularly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not Observed

I	Environmental Complaint	N/A or Not Observed	Yes	No	Remarks / Photo
I1	Environmental Complaint received during this week?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

J	General Housekeeping / Others	N/A or Not Observed	Yes	No	Remarks / Photo
J1	Are the defined boundaries of working areas identified to prevent loss of vegetation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
J2	Are the portable toilets maintained in a state, which will not deter the workers from utilizing these portable toilets?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Follow up action for previous Site Inspection:

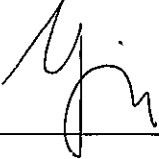
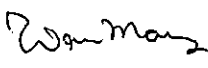

1. The chemical containers were removed.
2. The Contractor scheduled watering in the construction site.

Observation(s):





1. Sand and silt are observed at the vehicle entrance in SBA.
2. Chemical containers are observed in the open area and some of them are not placed inside the drip tray.

Corrective Actions – Mitigation Measures Implemented or Proposed (if any):

1. The vehicle entrance shall be kept clear.
2. The Contractor has been recommended to storage chemical containers properly and chemical container shall be placed inside the drip tray when it is in outdoor.

	Environmental Team Representative:	IEC's Representative:	Contractor's Representative:	Engineer's Representative
Signature:		/		
Name:	Andy Ng	/	William Wan	Sylvia Ho
Date:	27 March 2023	/	27 March 2023	27 March 2023

PART I Follow-up status of the previous site inspection

Observation and Recommendation	Follow-up status
 <p>1. Chemical containers in SBA are observed without drip tray.</p>	 <p>The chemical containers were removed.</p>
  <p>2. Stockpiles of dusty material in SBA are not covered with impervious sheets.</p>	  <p>The dusty stockpiles were covered with impervious sheets.</p>

Portion A



SBA








Portion D




The Contractor scheduled watering in construction site.

3. The Contractor has been reminded to increase the frequency of watering in the construction site to prevent dust dispersion.

PART II Observation and recommendation identified during the environmental site inspection

Observation and Recommendation	Follow-up status
 <p>1. Sand and silt are observed at the vehicle entrance in SBA.</p>	  <p>The paved road was cleaned near the vehicle entrance in SBA.</p>
	 <p>The chemical containers were placed in the drip and covered with impervious sheets.</p>

Observation and Recommendation	Follow-up status
 <p data-bbox="134 730 695 786">2. Chemical containers are observed in the open area and some of them are not placed inside the drip tray.</p>	

Appendix K Environmental Mitigation Implementation Schedule (EMIS)

North East New Territories (NENT) Landfill Extension
 Environmental Mitigation Implementation Schedule (EMIS) Construction Phase

EIA Ref.	EM&A Log Ref.	Recommended Precautionary/Mitigation Measures (to be implemented when the trigger level is exceeded, where necessary)	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	What requirement or standards for the measures to achieve?	Status
Air Quality							
S3.8.1	S3.1.8	The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation. <ul style="list-style-type: none"> Dust emission from construction vehicle movement is confined within the worksites area. Watering facilities will be provided at every designated vehicular exit point. Good site practice is recommended during construction phase. 	Good construction site practices to control the dust impact at the nearby sensitive receivers to within the relevant criteria.	Contractor	Entire NENT Landfill Extension site	To control the dust impact to within the HKAQO and TM - EIA criteria (Ref. 1-hr and 24hr TSP levels are 500 µg/m ³ and 260 µg/m ³ , respectively)	✓
Construction Noise							
S4	S4.9	1) Use of good site practices to limit noise emissions by considering the following: <ul style="list-style-type: none"> Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme; Machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; Plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs; Silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works; Mobile plant should be sited as far away from NSRs as possible and practicable; Material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities. 	Control construction airborne noise by means of good site practices	Contractor	Entire construction site	Noise Control Ordinance	✓
S4	S4.9	2) Select "Quiet plants" which comply with the BS 5228 Part 1 or TM standards.	Reduce the noise levels of plant items	Contractor	Entire construction site	Noise Control Ordinance & its TM Annex 5, TM-EIA	✓

North East New Territories (NENT) Landfill Extension
 Environmental Mitigation Implementation Schedule (EMIS) Construction Phase

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Construction Runoff							
S5.8.1	S5.2.1	<p>Construction on Site Runoff</p> <ul style="list-style-type: none"> At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilities. The dikes or embankments for flood protection should be implemented around the boundaries of earthwork areas. Temporary ditches should be provided to facilitate the runoff discharge into an appropriate watercourse, through a silt/sediment trap. The sediment/silt traps should be incorporated in the permanent drainage channels to enhance deposition rates. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94, which states that the retention time for silts and sediment traps should be 5 minutes under maximum flow conditions. Construction works should be programmed to minimize surface excavation works during the rainy seasons (April to September). All exposed earth areas should be completed and vegetated as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means. The overall slope of the site should be kept to a minimum to reduce the erosive potential of surface water flows, and all traffic areas and access roads protected by coarse stone ballast. An additional advantage accruing from the use of crushed stone is the positive traction gained during prolonged periods of inclement weather and the reduction of surface sheet flows. All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms. Deposited silt and grit should be removed regularly and disposed of by spreading evenly over stable, vegetated areas. 	Control construction runoff and erosion from site surface, drainage channel, stockpiles, wheel washing facilities, etc to minimize water quality during construction stage	Contractor	Entire construction site	ProPECC PN 1/94 Water Pollution Control Ordinance	✓

North East New Territories (NENT) Landfill Extension
 Environmental Mitigation Implementation Schedule (EMIS) Construction Phase

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Construction Runoff (Cont'd)							
S5.8.1	S5.2.1	<ul style="list-style-type: none"> Measures should be taken to minimise the ingress of site drainage into excavations. If the excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities. Open stockpiles of construction materials (for example, aggregates, sand and fill material) of more than 50 m³ should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system. Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers. Precautions to be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecasted, and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes. All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing bay should be provided at every construction site exit. Wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains. Oil interceptors should be provided in the site drainage system downstream of any oil/fuel pollution sources. The oil interceptors should be emptied and cleaned regularly to prevent the release of oil and grease into the storm water drainage system after accidental spillage. A bypass should be provided for the oil interceptors to prevent flushing during heavy rain. 	Control construction runoff and erosion from site surface, drainage channel, stockpiles, wheel washing facilities, etc to minimize water quality during construction stage	Contractor	Entire Construction site	ProPECC PN 1/94 Water Pollution Control Ordinance	✓

North East New Territories (NENT) Landfill Extension
Environmental Mitigation Implementation Schedule (EMIS) Construction Phase

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Construction Runoff							
S5.8.1	S5.2.1	<ul style="list-style-type: none"> Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts. Requirements for solid waste management are detailed in Section 6 of this Report. All fuel tanks and storage areas should be provided with docks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby. To prevent pollution risks arising from works area (waste reception area) and haul roads, intercepting bund or barrier along the roadside should be constructed. 	Control construction runoff and erosion from site surface, drainage channel, stockpiles, wheel washing facilities, etc to minimize water quality during construction stage	Contractor	Entire construction site	ProPECC PN 1/94 Water Pollution Control Ordinance	✓
S5.8.1	S5.2.1	<p><u>Sewage Effluent from Workforce</u></p> <ul style="list-style-type: none"> Portable chemical toilets and sewage holding tanks are recommended for handling the construction sewage generated by the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance. Notices will be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction phase of the Project. Regular environmental audit on the construction site can provide an effective control of any malpractices and can achieve continual improvement of environmental performance on site. 	Control sewage effluent arising from the sanitary facilities provided for the on-site construction workforce	Contractor	On-site sanitary facilities	ProPECC PN 1/94 Water Pollution Control Ordinance Waste Disposal Ordinance	✓
S5.8.1	S5.2.1	<p><u>Accidental Spillage of Chemical</u></p> <p>Any service workshop and maintenance facilities shall be located within a bunded area, and sumps and oil interceptors shall be provided. Maintenance of equipment involving activities with potential for leakage and spillage will only be undertaken within the areas.</p>	Control of chemical leakage	Contractor	Service workshop and maintenance facilities	ProPECC PN 1/94 Water Pollution Control Ordinance Waste Disposal Ordinance	✓

North East New Territories (NENT) Landfill Extension
 Environmental Mitigation Implementation Schedule (EMIS) Construction Phase

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Erosion Control Measures							
S5.8.2	S5.2.2	<p><u>Erosion Control /Measures</u></p> <p>a. Preserve Natural Vegetation This Best Management Practices will involve preserving natural vegetation to the greatest extent possible during the construction process. and after construction where appropriate. Maintaining natural vegetation is the most effective and inexpensive form of erosion prevention control.</p> <p>b. Provision of Buffer Zone A buffer zone consists of an undisturbed area or strip of natural vegetation or an established suitable planting adjacent to a disturbed area that reduces erosion and runoff. The rooted vegetation holds soils acts as a wind break and filters runoff that may leave the site.</p> <p>c. Seeding (Temporary/Permanent) A well-established vegetative cover is one of the most effective methods of reducing erosion. Vegetation should be established on construction sites as the slopes are finished, rather than waiting until all the grading is complete. Besides, Hydroseeding will be applied on the surface of stockpiled soil and on temporary soil covers for inactive tipping areas to prevent soil erosion during rainy season.</p> <p>d. Ground Cover Ground Cover is a protective layer of straw or other suitable material applied to the soil surface. Straw mulch and/or hydromulch are also used in conjunction with seeding of critical areas for the establishment of temporary or permanent vegetation. Ground cover provides immediate temporary protection from erosion. Mulch also enhances plant establishment by conserving moisture, holding fertilizer, seed, and topsoil in place, and moderating soil temperatures.</p>	Erosion control	Contractor	Drainage system	ProPECC PN 1/94 Water Pollution Control Ordinance	✓

North East New Territories (NENT) Landfill Extension
 Environmental Mitigation Implementation Schedule (EMIS) Construction Phase

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Erosion Control Measures							
S5.8.2	S5.2.2	<p>e. Hydraulic Application Hydraulic application is a mechanical method of applying erosion control materials to bare soil in order to establish erosion-resistant vegetation on disturbed areas and critical slopes. By using hydraulic equipment, soil amendments, mulch, tackifying agents, Bonded Fiber Matrix (BFM) and liquid co-polymers can be uniformly broadcast, as homogenous slurry, onto the soil. These erosion and dust control materials can often be applied in one operation.</p> <p>f. Sod Establishes permanent turf for immediate erosion protection and stabilizes rainageways.</p> <p>g. Matting There are numerous erosion control products available that can be described in various ways, such as matting, blankets, fabric and nets. These products are referred as matting. A wide range of materials and combination of materials are used to produce matting including, but not limited to: straw, jute, wood fiber, coir (coconut fiber), plastic netting, and Bonded Fiber Matrix. The selection of matting materials for a site can make a significant difference in the effectiveness of the Best Management Practices.</p> <p>h. Plastic Sheeting Plastic Sheeting will provide immediate protection to slopes and stockpiles. However, it has been known to transfer erosion problems because water will sheet flow off the plastic at high velocity. This is usually attributable to poor application, installation and maintenance.</p> <p>i. Dust Control Dust Control is one preventative measure to minimize the wind transport of soil, prevent traffic hazards and reduce sediment transported by wind and deposited in water resources.</p>	Erosion control	Contractor	Drainage system	ProPECC PN 1/94 Water Pollution Control Ordinance	✓

North East New Territories (NENT) Landfill Extension
 Environmental Mitigation Implementation Schedule (EMIS) Construction Phase

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Surface Water Drainage System							
S5.8.2	S5.2.2	<p>Temporary surface water drainage system will be provided to manage runoff during construction and operation. This system will consist of channels as constructed around the perimeter of the site area. This system will collect surface water from the areas of higher elevations to those of lower elevations and ultimately to the point of discharge. Erosion will therefore be minimised.</p> <p>The temporary surface water drainage system will include the use of a silt fence around the soil stockpile areas to prevent sediment from entering the system. Regular cleaning will be carried out to prevent blockage of the passage of water flow in silt fence.</p> <p>Intermediate drainage system will be installed for filled cell/phase. The major purpose of the intermediate drainage system is to prevent the clean surface water run-off from the filled phases coming into contact with the waste mass in active cell and to prevent excessive surface water infiltration through the intermediate cover, thus contribute to increasing volume of leachate. The intermediate drainage system will collect the clean surface water run-off and divert it to the permanent discharge channels connected to the public drainage system.</p> <p>In addition, surface flow from the haul road (especially near the wheel washing facility) will be collected to a dry weather flow interceptor and conveyed to the on-site leachate treatment plant for further treatment.</p>	Surface Water Management/ Control run off	Contractor	Surface water system Construction	Water Pollution Control Ordinance TM-water	✓

North East New Territories (NENT) Landfill Extension
 Environmental Mitigation Implementation Schedule (EMIS) Construction Phase

EIA Ref.	EM&A Log Ref	Recommended Precautionary/Mitigation Measures (to be implemented when the trigger level is exceeded, where necessary)	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	What requirement or standards for the measures to achieve?	Status
Waste Management							
S6	WM1	<p><u>C&D Materials</u></p> <p>Implement proper waste management measures during construction phase as stipulated in the Environmental Management Plan (EMP) in accordance with the ETWB TC(W) No. 19/2005 Environmental Management in Construction Sites.</p> <p>Implement a trip-ticket system to ensure that the movement of C&D materials are properly documented and verified in accordance with DEVB TC(W) No. 6/2010. Copies/counterfoils from trip-tickets (with quantities of C&D Materials off-site) should be kept for record purposes.</p> <p>Appropriate waste management should be implemented in accordance with the ETWB TC(W) No. 19/2005.</p> <p>Make provisions in Contract documents to allow and promote the use of recycled aggregates where appropriate. Ensure material balance in terms of excavated C&D materials in the design of NENT landfill extension project. The contract specifications should specify no excavated materials should be removed from the landfill extension site, but should be fully reused.</p> <p>Careful design, planning and good site management to minimise over-ordering and waste materials such as concrete, mortars and cement grouts. The design of formwork should maximise the use of standard wooden panels so that high reuse levels can be achieved. Alternatives such as steel formwork or plastic fencing should be considered to increase the potential for reuse.</p> <p>The Contractor should recycle as much as possible the C&D waste on-site through proper waste segregation on-site. Concrete and masonry should be used as general fill and steel reinforcement bars can be used by scrap steel mills. Proper areas should be designated for waste segregation and storage wherever site conditions permit. Maximise the use of reusable steel formwork to reduce the amount of C&D material.</p> <p>Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement. On-site sorting and segregation facility of all type of wastes is considered as one of the best practice in waste management and hence, should be implemented in all projects generating construction waste. The sorted public fill and C&D waste should be properly reused.</p>	Good site practice to minimise C&D waste generation and reuse/recycle all C&D on-site as far as possible	Contractor	Entire construction site	Waste Disposal Ordinance ETWB TC(W) No. 19/2005 DEVB TC(W) No. 6/2010	✓

North East New Territories (NENT) Landfill Extension
Environmental Mitigation Implementation Schedule (EMIS) Construction Phase

EIA Ref.	EM&A Log Ref	Recommended Precautionary/Mitigation Measures (to be implemented when the trigger level is exceeded, where necessary)	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	What requirement or standards for the measures to achieve?	Status
S6	WM1	<p><u>C&D Materials (Cont'd)</u> Excavated slope, stockpiled material and bund walls should be covered by tarpaulin until used in order to prevent wind-blown dust during dry weather, and to reduce muddy runoff during wet weather. Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers.</p> <p>If any topsoil-like materials need to be stockpiled for any length of time, consideration should be given to hydroseeding of the topsoil on the stockpile to improve its visual appearance and prevent soil erosion.</p> <p>Nomination of approved personnel to be responsible for good site practices and making arrangements for collection of all wastes generated on-site and effective disposal.</p> <p>Training of site personnel for cleanliness, proper waste management procedures including chemical waste handling, and waste reduction, reuse and recycling concepts.</p> <p>Regular cleaning and maintenance programme systems, sumps and oil interceptors. Prior to disposal of C&D waste, wood, steel and other metals should be separated for re-use and/or recycling to minimise the quantity of waste to be disposed of to landfill. Proper storage and site practices should be implemented to minimise the potential for damage or contamination of construction materials.</p> <p>Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste. Minimise excessive ordering of concrete, mortars and cement grout by doing careful check before ordering.</p>	Good site practice to minimise C&D waste generation and reuse/recycle all C&D on-site as far as possible	Contractor	Entire construction site	<p>Waste Disposal Ordinance</p> <p>ETWB TC(W) No. 19/2005</p> <p>DEVB TC(W) No. 6/2010</p>	✓
S6	WM2	<p><u>Chemical Waste</u> Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, should be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.</p> <p>Plant/equipment maintenance schedule should be designed to optimise maintenance effectiveness and to minimise the generation of chemical wastes. Where possible, chemical wastes (e.g. waste lube oil) should be recycled by licensed treatment facilities</p>	Ensure proper disposal of chemical waste generated on-site to minimise the associated hazards on human health and environment	Contractor	Entire construction site	<p>Waste Disposal (Chemical Waste) General Regulation</p> <p>Code of Practice on the Packaging, Labelling and Storage of Chemical Waste</p>	✓

North East New Territories (NENT) Landfill Extension
Environmental Mitigation Implementation Schedule (EMIS) Construction Phase

EIA Ref.	EM&A Log Ref	Recommended Precautionary/Mitigation Measures (to be implemented when the trigger level is exceeded, where necessary)	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	What requirement or standards for the measures to achieve?	
S6	WM2	<p><u>Chemical Waste (Cont'd)</u> Containers used for storage of chemical wastes should be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; have a capacity of less than 450 liters unless the specification has been approved by the EPD. Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulation.</p> <p>The storage area for chemical wastes should be clearly labelled and used solely for storage of chemical waste, enclosed with at least 3 sides, having an impermeable floor and bund of sufficient capacity to accommodate 110% of volume of the largest container or 20 % of total volume of waste stored in that area, whichever is the greatest, having adequate ventilation, being covered to prevent rainfall entering, and being arranged so that incompatible materials are adequately separated.</p> <p>Chemical waste should be collected by licensed waste collectors and disposed of at licensed facility, e.g. Chemical Waste Treatment Centre.</p>	Ensure proper disposal of chemical waste generated on-site to minimise the associated hazards on human health and environment.	Contractor	Entire construction site	<p>Waste Disposal (Chemical Waste) General Regulation</p> <p>Code of Practice on the Packaging, Labelling and Storage of Chemical Waste</p>	✓
S6	WM3	<p><u>General Refuse</u> General refuse generated on-site should be properly stored in enclosed bins or compaction units separately from construction and chemical wastes.</p> <p>All recyclable materials (separated from the general waste) should be stored on-site in appropriate containers with cover prior to collection by a local recycler for subsequent reuse and recycling. Residual, non-recyclable, general waste should be stored in appropriate containers to avoid odour. Regular collection should be arranged by an approved waste collector in purpose-built vehicles that minimise environmental impacts during transportation</p> <p>Reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimise odour, pest and litter impacts. Burning of refuse on construction sites is prohibited by law.</p> <p>Aluminium cans should be separated from general waste stream and collected by recyclers. Proper collection bins should be provided on-site to facilitate the waste sorting.</p>	Minimise generation of general refuse to avoid odour, pest and visual nuisance	Contractor	Entire construction site	Waste Disposal Ordinance	✓

North East New Territories (NENT) Landfill Extension
 Environmental Mitigation Implementation Schedule (EMIS) Construction Phase

EIA Ref.	EM&A Log Ref	Recommended Precautionary/Mitigation Measures (to be implemented when the trigger level is exceeded, where necessary)	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	What requirement or standards for the measures to achieve?	
S6	WM3	<u>General Refuse (Cont'd)</u> Office waste paper should be recycled if the volume warrants collection by recyclers. Participation in community waste paper recycling programme should be considered by the Contractor, including waste paper, aluminium cans, plastic bottles, waste batteries, etc.	Minimise generation of general refuse to avoid odour, pest and visual nuisance	Contractor	Entire construction site	Waste Disposal Ordinance	✓

North East New Territories (NENT) Landfill Extension
Environmental Mitigation Implementation Schedule (EMIS) Construction Phase

EIA Ref.	EM&A Log Ref	Recommended Precautionary/Mitigation Measures (to be implemented when the trigger level is exceeded, where necessary)	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	What requirement or standards for the measures to achieve?	Status
LFG							
Within NENT Landfill Extension							
S7	LFG1	Special LFG precautions should be taken due to close proximity of NENT landfill extension site to existing landfill to avoid potential hazards of LFG exposure (ignition, explosion, asphyxiation, toxicity).	To minimise the risk of LFG hazards to personnel in construction site	Contractor	Entire construction site	Landfill Gas Hazard Assessment Guidance Note (EPD/TR8/97) F&IU (Confined Spaces) Regulations Code of Practice on Safety and Health at Work in Confined Spaces	✓
S7	LFG2	Prominent safety warning signs should be erected on-site to alert all personnel and visitors of LFG hazards during excavation works.					✓
S7	LFG3	No smoking or burning should be permitted on-site.					✓
S7	LFG4	Prominent 'No smoking' and 'No Naked Flames' signs should be erected on-site.					✓
S7	LFG5	No worker should be allowed to work alone at any time in excavated trenches or confined areas on-site.					✓
S7	LFG6	Adequate fire fighting equipment should be provided on-site.					✓
S7	LFG7	Construction equipment should be equipped with vertical exhaust at least 0.6m above ground installed with spark arrestors.					✓
S7	LFG8	Electrical motors and extension cords should be explosion-proof and intrinsically safe for use on-site.					✓
S7	LFG9	'Permit to Work' system should be implemented.					✓
S7	LFG10	Welding, flame-cutting or other hot works should be conducted only under 'Permit to Work' system following clear safety requirements, gas monitoring procedures and presence of qualified persons to supervise the works.					✓
S7	LFG11	For piping assembly or conduit construction, all valves and seals should be closed immediately after installation to avoid accumulation and migration of LFG. If installation of large diameter pipes (diameter >600mm) is required, the pipe ends should be sealed on one side during installation. Forced ventilation is required prior to operation of installed pipeline. Forced ventilation should also be required for works inside trenches deeper than 1m.	To minimise the risk of LFG hazards to personnel in construction site	Contractor	Entire construction site	Landfill Gas Hazard Assessment Guidance Note (EPD/TR8/97) F&IU (Confined Spaces) Regulations Code of Practice on Safety and Health at Work in Confined Spaces	✓
S7	LFG12	Frequency and location of LFG monitoring within excavation area should be determined prior to commencement of works. LFG monitoring in excavations should be conducted at no more than 10mm from exposed ground surface.					✓

North East New Territories (NENT) Landfill Extension
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LFG							
Within NENT Landfill Extension							
S7	LFG13	For excavation works, LFG monitoring should be conducted (1) at ground surface prior to excavation, (2) immediately before workers entering excavations, (3) at the beginning of each half-day work, and (4) periodically throughout the working day when workers are in the excavation.	To minimise the risk of LFG hazards to personnel in construction site	Contractor	Entire construction site	Landfill Gas Hazard Assessment Guidance Note (EPD/TR8/97) F&IU (Confined Spaces) Regulations Code of Practice on Safety and Health at Work in Confined Spaces	✓
S7	LFG14	Any cracks on ground level encountered on-site should be monitored for LFG periodically. Appropriate action should be taken in accordance with the action plan in Table 7.6 of EIA Report.					✓
S7	LFG15	LFG precautionary measures involved in excavation and piping works should be provided in accordance with LFG Guidance Note and included in Safety Plan of construction phase. Temporary offices or buildings should be located where free LFG has been proven or raised clear of ground at a separation distance of at least 500mm.					✓
S7	LFG16	For large development such as NENT landfill extension, a Safety Officer trained in the use of gas detection equipment and LFG-related hazards should be present on-site throughout the groundwork phase. The Safety Officer should be provided with an intrinsically safe portable instrument appropriately calibrated and capable of measuring the following gases: •CH ₄ : 0-100% and LEL: 0-100%/v •CO ₂ : 0-100% •O ₂ : 0-21%					✓
S7	LFG17	Periodically during groundwork construction, the works area should be monitored for CH ₄ CO ₂ and O ₂ using appropriately calibrated portable gas detection equipment. The monitoring frequency and areas should be established prior to commencement of groundwork either by Safety Officer or appropriately qualified person. Routine monitoring should be carried out in all excavations, manholes, created by temporary storage of building materials on-site. All measurements in excavations should be made with monitoring tube located not more than 10mm from exposed ground surface.					✓

North East New Territories (NENT) Landfill Extension
 Environmental Mitigation Implementation Schedule (EMIS) Construction Phase

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Within NENT Landfill Extension (Cont'd)							
S7	LFG18	For excavations deeper than 1m, measurements should be conducted: <ul style="list-style-type: none"> At ground surface before excavation commences; Immediately before any worker enters the excavation; At the beginning of each working day for entire period the excavation remains open; and Periodically throughout the working day whilst workers are in excavation. 	To minimise the risk of LFG hazards to personnel in construction site	Contractor	Entire construction site	Landfill Gas Hazard Assessment Guidance Note (EPD/TR8/97) F&IU (Confined Spaces) Regulations Code of Practice on Safety and Health at Work in Confined Spaces	✓
S7	LFG19	For excavations between 300mm and 1m, measurements should be conducted: <ul style="list-style-type: none"> Directly after excavation has been completed; and Periodic all whilst excavation remains open. 					✓
S7	LFG20	For excavations less than 300mm, monitoring may be omitted at the discretion of Safety Officer or appropriately qualified person.					✓

North East New Territories (NENT) Landfill Extension
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Landscape and Visual Phases							
S8	LV1	<u>Advanced screening tree planting</u> <ul style="list-style-type: none"> Early planting using fast growing trees and tall shrubs at strategic locations within site to block major view corridors to the site from the VSRs, and to locally screen haul roads, excavation works and site preparation works. Roadside planter and shrub planting design in front of Cheung Shan Temple. 	To minimise the impact on existing vegetation retained by personnel in construction To provide initiation on permanent landscape and visual mitigation measures	Contractor	Entire construction site	DEVB TC(W) No. 4/2020 - Tree Preservation DEVB TC(W)) No. 6/2015 - Maintenance of Vegetation and Hard Landscape Features DEVB TC(W) No. 6/2011 - Maintenance of Man-made Slopes and Emergency Repair on Stability of Land	Advanced screen tree planting is under planning.
S8	LV2	<u>Boundary Green Belt planting</u> <ul style="list-style-type: none"> Considerable planting belts proposed around the site perimeter and the construction of temporary soil bunds will screen the landfill operations to a certain degree. Fast growing and fire resistant plant species will be used. 					To be implemented during operation phase
S8	LV3	<u>Temporary landscape treatment as green surface cover</u> <ul style="list-style-type: none"> For certain areas where landfilling operations would have to be suspended temporarily for periods of years, simple temporary landscape treatment such as hydroseeding should be considered. During construction and operational phases, grass hydroseeding or synthetic covering material of green colour should also be used as a temporary slope cover if applicable. 					Grass hydroseeding will be applied at Portion E3-2.
S8	LV4	<u>Existing tree preservation</u> <ul style="list-style-type: none"> Transplant existing trees and vegetation, which are identified as ecologically significant in Ecological Impact Assessment and as rare tree species recorded in the tree survey, under circumstances where technically feasible. For all affected trees, the principle of avoidance of tree felling and tree transplanting of tree before felling should apply whenever possible. A tree felling application should be submitted to DEVB-GLTMS and be approved before any trees are felled or transplanted. 					✓







North East New Territories (NENT) Landfill Extension
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Ecology							
General Protection Measures:							
S10	E1	Restriction of construction activities to the work areas that would be clearly demarcated.	To minimise environmental impacts and therefore potential ecological impacts within and near the construction site	Contractor	Entire construction site	Practice Note for Professional Persons (ProPECC), Construction Site Drainage (PN1/94) Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes, EPD (1992) ETWB TC(W) No. 33/2002 Management of Construction and Demolition Material Including Rock DEVB TC(W) No. 6/2010 Trip Ticket System for Disposal of Construction and Demolition Materials ETWB TC(W)No.19/2005 Environmental Management on Construction Sites	✓
S10	E2	Reinstatement of the work areas immediately after completion of the works.					✓
S10	E3	Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme.					✓
S10	E4	Machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.					✓
S10	E5	Plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs.					✓
S10	E6	Silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works.					To be implemented
S10	E7	Mobile plant should be sited as far away from NSRs as possible and practicable.					✓
S10	E8	Material stockpiles, site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.					✓
S10	E9	Use of "quiet" plant and working methods.					✓
S10	E10	Construction phase mitigation measures in the Practice Note for Professional Persons on Construction Site Drainage.					✓

North East New Territories (NENT) Landfill Extension
 Environmental Mitigation Implementation Schedule (EMIS) Construction Phase

EIA Ref.	EM&A Log Ref	Recommended Precautionary/Mitigation Measures (to be implemented when the trigger level is exceeded, where necessary)	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	What requirement or standards for the measures to achieve?	Status
Ecology							
General Protection Measures:							
S10	E11	Design and set up of the temporary on-site drainage system will be undertaken by the contractor prior to the commencement of construction.	To minimise environmental impacts and therefore potential ecological impacts within and near the construction site	Contractor	Entire construction	WBTC No. 12/2002, Specifications Facilitating the Use of Recycled Aggregates WBTC Nos. 25/99,25/99A and 25/99C. Incorporation of Information on Construction and Demolition Material Management in Public Works Subcommittee Papers	✓
S10	E12	Design and incorporation of silt/sediment traps in the permanent drainage channels to enhance deposition rates and regular removal of repositied silt and grit.					✓
S10	E13	Minimization of surface excavation works during the rainy seasons (April to September), and in particular,control of silty surface runoff during storm events, especially for areas located near steep slopes.					To be implemented during rainy seasons
S10	E14	Regular inspection and maintenance of all drainage facilities and erosion and sediment control structures to ensure proper and efficient operation at all times and particularly following rainstorms.					✓
S10	E15	Provision of oil interceptors in the drainage system downstream of any oil/fuel pollution sources					✓

Appendix L Construction Site Activities

Construction Activities	Photos	When	Where	Who	What - ENV Impacts	Mitigation Measures
Material loading and unloading, site traffic		Dec 22 to Dec 23	Portion A to SBA	PYE	Dust	Speed limit, covering of materials and water spraying
Permanent site office foundation works with pouring of concrete		Dec 22 to June 23	Portion D	PYE	Washout flowing to site water discharge point, dust emissions	Avoid the spillage of concrete, lorry washing at designated area, operation and maintenance of water treatment facility at discharge point
Site clearance		Dec 22 to June 23	Portion A, Portion E3-1	PYE	Wash out going to surface water channel and site water discharge point, generation of yard waste	Cover exposed slope by tarpaulin, diversion of surface water, operation and maintenance of water treatment facility at discharge point, implementation of trip ticket system
Installation of permanent fencing		Dec 22 to June 23	Portion A, Portion B1, Portion E4	PYE	Dust	Covering of cement storage area, enclosure of mixing area
Site formation		Dec 22 to Dec 23	Portion A	PYE	Generation of C&D waste	Implementation of trip ticket system, waste recycling, internal waste transfer
Tree Felling		Dec 22 to June 23	Portion A (until Feb 23), Portion E3-1 (until June 23)	PYE	Generation of yard waste	Implementation of trip ticket system, waste recycling, internal waste transfer

Remark:

PYE is the Sub-contractor for this project.

Appendix M Mitigation Measures of Cultural Landscape Features

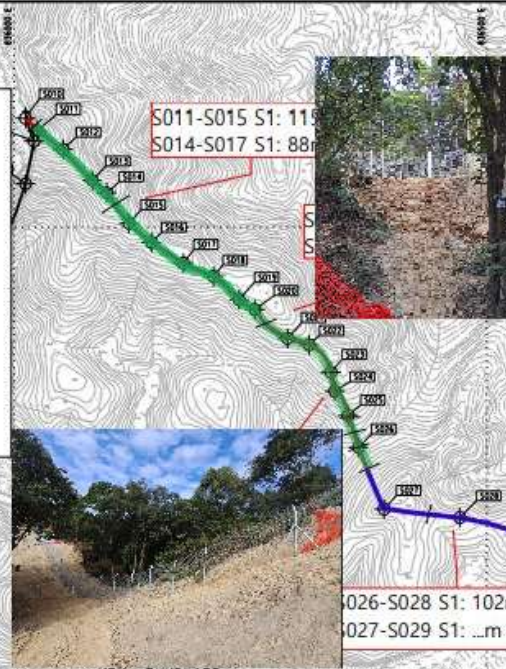
DO NOT SCALE DRAWING. CHECK ALL DIMENSIONS ON SITE.
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SB Fencing Progress Report as @ 13.3.2023

Start Date: 11.1.2023

Legend

- Proposed fencing length = 3055 m
- Completed footing 1252/3055 m = 41%
- Completed chain link fence 1006/3055 m = 33%



CO-ORDINATES FOR SITE BOUNDARY

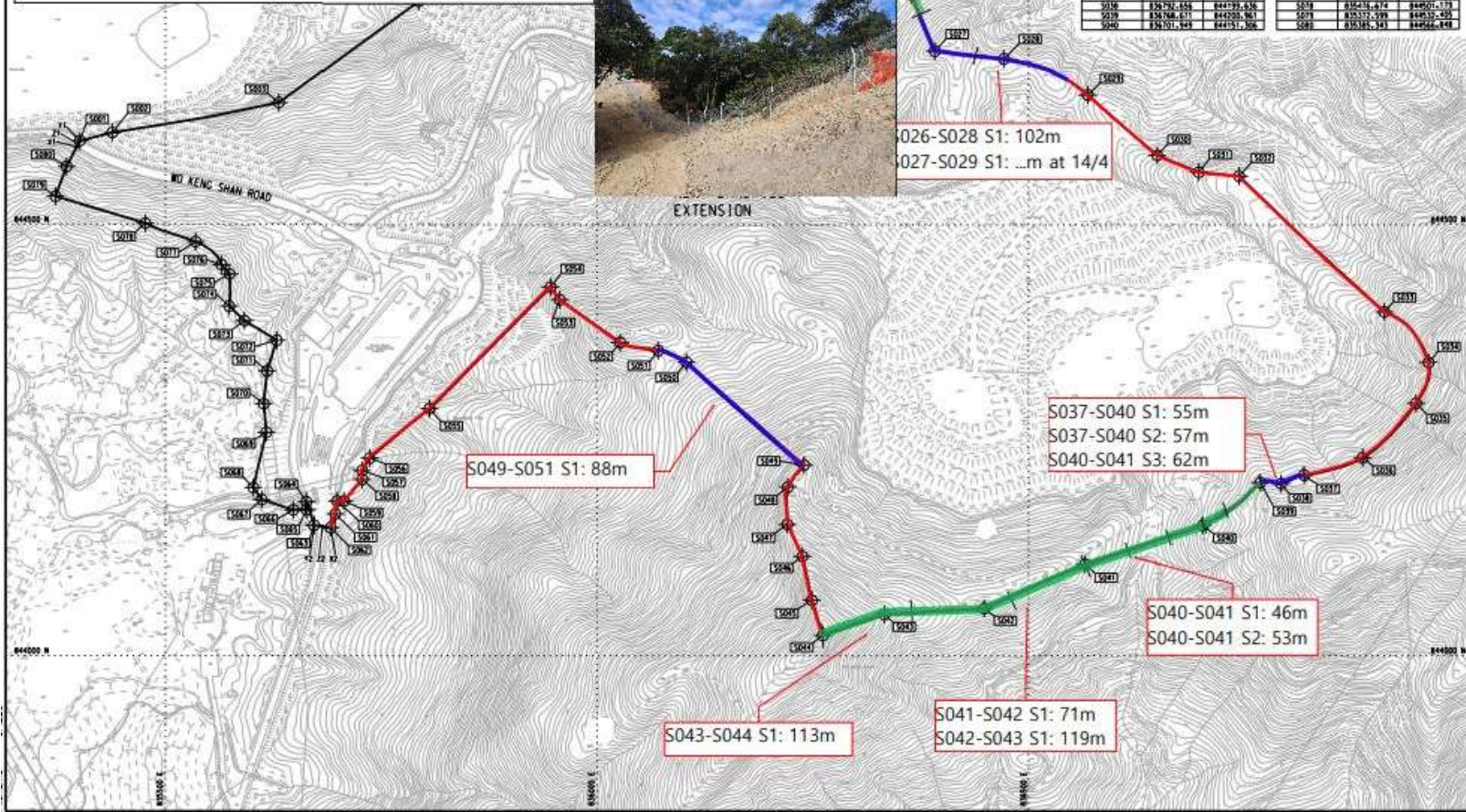
SETTING OUT POINT	EASTING	NORTHING	SETTING OUT POINT	EASTING	NORTHING
S001	835800.183	844906.681	S041	836268.887	844906.358
S002	835236.425	844626.249	S042	836448.643	844906.836
S003	835631.468	844641.024	S043	836332.773	844906.000
S004	835733.641	844755.086	S044	836265.595	844907.118
S005	835875.993	844839.110	S045	836249.041	844906.518
S006	835936.645	844898.988	S046	836218.383	844911.482
S007	835971.578	844943.833	S047	836220.666	844912.538
S008	836012.222	844948.603	S048	836211.176	844916.388
S009	836021.222	845001.012	S049	836233.876	844921.258
S010	836012.220	845011.203	S050	836103.697	844934.647
S011	836026.335	845021.135	S051	836020.891	844938.089
S012	836025.016	845082.450	S052	836025.843	844935.527
S013	836003.084	845074.440	S053	836006.235	844931.528
S014	836008.744	845076.234	S054	836006.240	844928.234
S015	836121.889	845053.591	S055	836002.938	844926.112
S016	836195.485	844985.801	S056	836136.615	844928.425
S017	836175.295	844976.950	S057	836127.882	844916.130
S018	836211.023	844947.723	S058	836128.112	844924.403
S019	836236.814	844925.211	S059	836106.253	844916.372
S020	836254.173	844912.615	S060	836008.903	844916.130
S021	836285.337	844882.150	S061	836006.825	844916.517
S022	836312.248	844910.467	S062	836001.580	844916.382
S023	836315.305	844916.718	S063	836012.232	844911.583
S024	836359.385	844826.426	S064	836063.311	844918.478
S025	836353.384	844825.700	S065	836063.441	844916.937
S026	836366.671	844796.615	S066	836044.026	844916.937
S027	836391.434	844701.466	S067	836041.614	844911.678
S028	836411.240	844697.580	S068	836007.742	844916.382
S029	836468.673	844650.710	S069	836014.811	844916.937
S030	836495.132	844580.626	S070	836041.806	844916.937
S031	836497.274	844561.038	S071	836021.736	844916.937
S032	836748.096	844556.492	S072	836001.896	844916.937
S033	836812.313	844398.086	S073	836001.507	844916.937
S034	836865.885	844345.637	S074	836001.889	844916.937
S035	836878.113	844329.092	S075	836001.896	844916.937
S036	836887.282	844228.642	S076	836001.896	844916.937
S037	836816.335	844209.662	S077	836001.896	844916.937
S038	836736.656	844195.636	S078	836001.896	844916.937
S039	836748.611	844203.961	S079	836001.896	844916.937
S040	836707.649	844191.308	S080	836001.896	844916.937

CO-ORDINATES FOR VEHICULAR ACCESS

SETTING OUT POINT	EASTING	NORTHING
V1	835991.308	844906.614
V2	836006.761	844906.681
V3	836008.934	844933.147
V4	836012.232	844948.182
V5	836012.232	844915.163
V6	836001.806	844926.961

LEGEND

- SITE BOUNDARY
- SETTING OUT POINT



0	ISSUE FOR TENDER	SS	12/20
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Rev.	Description	By	Date
Consultant			
ARUP 奧雅納工程顧問 One Asia & Partners Hong Kong Limited			

Project title
Contract No. EP/SP/77/15
North East New Territories
Landfill Extension

Drawing title
**SETTING OUT DETAILS
OF SITE BOUNDARY**

Drawing No.	215523/01/016	Rev.	0
Scale	1:2500 (as)	Status	TENDER
Drawn by	TD	Checked by	PE
Date	08/20	Approved by	FB



Appendix N Ecological Monitoring Record

Post-translocation monitoring photo record extracted from post-translocation report (March 2023)



Site photos of the monitoring area



Hand Netting to search for *S. zanklon*



Kick-netting to search for *S. zanklon*



Direct Observation to search for *S. zanklon*

B.1 Incense Tree *Aquilaria sinensis*



Photo B.1.1 : General view of the transplanted individual AS-03.



Photo B.1.2 : Stem condition of the transplanted individual AS-03.



Photo B.1.3 : General view of the transplanted individual AS-02.



Photo B.1.4 : Branch condition of the transplanted individual AS-02.

B.2 Lamb of Tartary *Cibotium barometz*



Photo B.2.1 : General view of the transplanted individual CB-01.



Photo B.2.2 : New sprouts of the transplanted individual CB-01.



Photo B.2.3 : Leaf condition of the new sprout.



Photo B.2.4 : Leaf condition of the new sprout.

B.3 **Bottlebrush Orchid *Goodyera procera***



Photo B.3.1: Individual GP-01. Flowering.



Photo B.3.2: Individual GP-02.



Photo B.3.3: Individual GP-03. Perforated leaves.



Photo B.3.4: Individual GP-03. Beginning to flower.



Photo B.3.5: Individual GP-04.



Photo B.3.6: Individual GP-04. Flowering.



Photo B.3.7: Individual GP-05.



Photo B.3.8: Individual GP-05. Flowering.



Photo B.3.9: Individual GP-06.

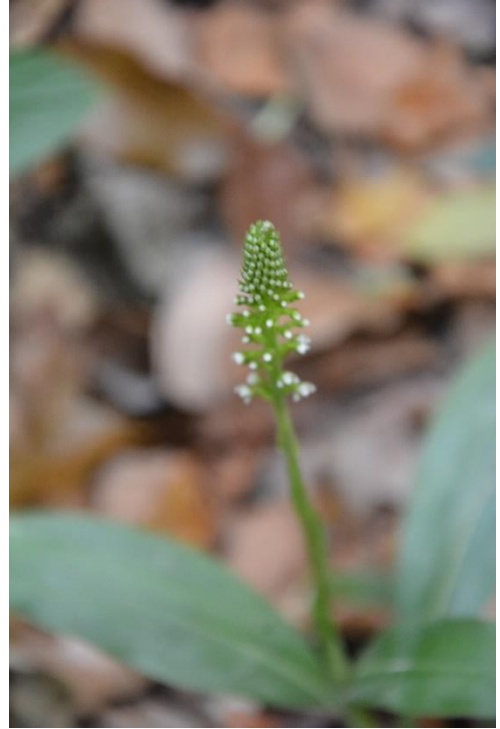


Photo B.3.10: Individual GP-06. Flowering.



Photo B.3.11: Individual GP-07.

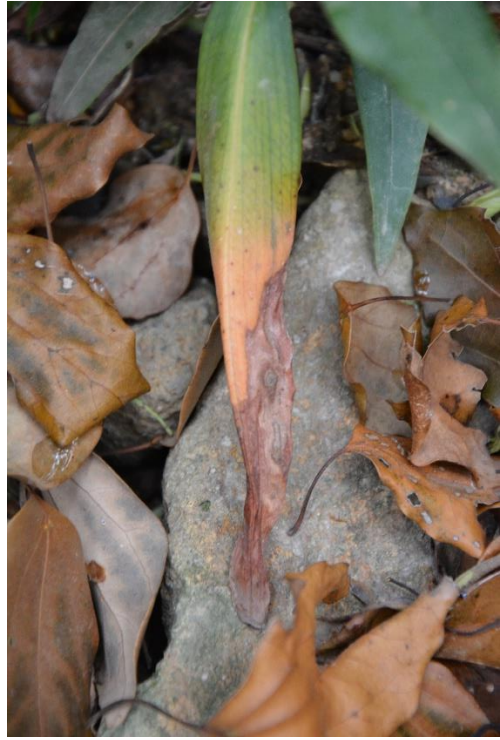


Photo B.3.12: Individual GP-07. Partially wilted leaf.



Photo B.3.13: Individual GP-08.



Photo B.3.14: Individual GP-08. Beginning to flower.



Photo B.3.15: Individual GP-09. Beginning to flower.



Photo B.3.16: Individual GP-10. Flowering.



Photo B.3.17: Individual GP-11. Flowering.



Photo B.3.18: Individual GP-11. Flowering.



Photo B.3.19: Individual GP-12. Flowering.



Photo B.3.20: Individual GP-13. Flowering.



Photo B.3.21: Individual GP-14.



Photo B.3.22: Individual GP-14. Flowering.



Photo B.3.23: Individual GP-15.



Photo B.3.24: Individual GP-15. Flowering.



Photo B.3.25: Individual GP-16.



Photo B.3.26: Individual GP-16. Flowering.



Photo B.3.27: Individual GP-17.



Photo B.3.28: Individual GP-18. Flowering.



Photo B.3.29: Individual GP-18. Flowering.



Photo B.3.30: Individual GP-19. Flowering.



Photo B.3.31: Individual GP-19. Flowering

Appendix O Detail Status of EP Submission

Detail Status of Submissions required under the FEP & EP

FEP Condition	EP Condition	Submission / Measures	Status
2.1	2.3	Management Organization of Main Construction Companies	Submission Date (12 Oct 2022)
2.2	2.4	Setting up of Community Liaison Group (CLG)	Submission Date (12 Oct 2022) 1 st CLG meeting (12 Jan 2023)
2.3	2.5	Submission of EM&A Manual	Submission Date (12 Oct 2022)
2.4	2.6	Submission of Preservation of Cultural Landscape Features	Survey and Preservation of Grave Records: Submission Date (15 Oct 2022) Survey and Preservation of Boulder Paths: Submission Date (12 Oct 2022)
2.5	2.7	Submission of Vegetation Survey (Transplantation Proposal)	Submission Date (2 September 2022)
2.6	2.8	Submission of translocation proposal	Submission Date (8 July 2022)
2.7	2.9	Submission of Transplantation Report and Transplantation Monitoring	Submission Date (19 Jan 2023) 1 st monitoring (24 Nov 2022) 2 nd monitoring (9 Dec 2022) 3 rd monitoring (21 Dec 2022) 4 th monitoring (13 Jan 2023) 5 th monitoring (26 Jan 2023) 6 th monitoring (8 Feb 2023) 7 th monitoring (24 Feb 2023) 8 th monitoring (20 Mar 2023)
2.8	2.10	Submission of Translocation Report and Translocation Monitoring	Translocation was carried out in July 2022 Submission Date (27 December 2022) 1 st monitoring (29 Aug 2022) 2 nd monitoring (28 Sep 2022) 3 rd monitoring (28 Oct 2022) 4 th monitoring (28 Oct 2022) 5 th monitoring (29 Dec 2022) 6 th monitoring (30 Jan 2023) 7 th monitoring (24 Feb 2023) 8 th monitoring (20 Mar 2023)

FEP Condition	EP Condition	Submission / Measures	Status
2.9	2.11	Submission of Detailed Landfill Gas Hazard Assessment Report	Submission Date (6 Oct 2022)
2.10	2.12	Submission of Waste Management Plan	Submission Date (30 December 2022)
3.2	3.2	Submission of Baseline Monitoring Report	Submission Date (30 Nov 2022)

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