SERVICE CONTRACT NO: EDO/01/2017

ENVIRONMENTAL TEAM FOR DEVELOPMENT OF ANDERSON ROAD QUARRY SITE - ROAD IMPROVEMENT WORKS

UNDER ENVIRONMENTAL PERMIT NO. EP-513/2016

MONTHLY ENVIRONMENTAL MONITORING & AUDIT REPORT

OCTOBER 2024

CLIENTS:

Civil Engineering and Development Department

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CERTIFIED BY:

Eunice Chui
Environmental Team Leader

DATE:

12 November 2024

ANEWR

Civil Engineering and Development Department
East Development Office
8/F, South Tower, West Kowloon Government Offices
11 Hoi Ting Road
Yau Ma Tei
Kowloon

Your reference:

Our reference: HKCEDD12/50/110119

Date: 11 November 2024

Attention: Mr Lee Ming Keung

BY POST

Dear Sirs

Agreement No. EDO/04/2017
Independent Environmental Checker (IEC) for Development of Anderson Road Quarry Site – Road Improvement Works
Monthly Environmental Monitoring & Audit Report (October 2024)

We refer to emails dated 8 and 11 November 2024 from Environmental Team, Lam Environmental Services Limited attaching a Monthly Environmental Monitoring and Audit Report (October 2024) for the captioned project.

We have no comment and hereby verify the abovementioned report in accordance with Clause 3.4 of the Environmental Permit no. EP-513/2016.

Should you have any queries, please do not hesitate to contact the undersigned or our Mr Chris Ip on 2618 2831.

Yours faithfully
ANEWR CONSULTING LIMITED

James Choi
Independent Environmental Checker

CPSJ/LCCR/ICHC/thy

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EXECUTIVE SUMMARY

i. This is the Environmental Monitoring and Audit (EM&A) Monthly Report – October 2024 of Development of Anderson Road Quarry Site – Road Improvement Works under Environmental Permit no. EP-513/2016 (Hereafter as "the Project"). The construction works of the Project was commenced on 2 November 2018 and this is the 72th EM&A report presenting the environmental monitoring findings and information recorded during the period of 1 to 31 October 2024. The cut-off date of reporting is the end of each reporting month.

ii. In the reporting month, the principal work activities conducted are as follow:

Works in Road Improvement Works 1 (RIW1)

- Construct RC works & backfilling at RWC2 Type 2 are in-progress.
- Backfilling works at RWC2 Type 3 and Type 5 are in-progress.
- ELS works at RWC2 Type 4 is in-progress.
- Backfilling works at Type 6 to 8 is in-progress.
- Backfilling works at FE1-PC1b is in-progress.
- Trial pits excavation at CT5 are in-progress.
- Construction of Mini Piling works at CT6.

Works in Road Improvement Works 2 (RIW2)

- Remaining Utilities, Drainage Works, and Road Works are in-progress at Portion B (U-turn Bay remaining area).
- Utilities, backfilling & road works at CT4 / SE2 Bay 1 to 21 are in-progress.
- ELS works at SE2 PC1 to PC5.

Works in Road Improvement Works 3 (RIW3)

- ELS works and watermain connection works at Sau Mun Ping Road / Hiu Kwong Street Sitting-out Area for watermain connection is in-progress. Installation of water-mains along SE2 in-progress.
- Rock excavation using drill & split method, drainage works and road works at Slope D3/ Lin Tak Road are in-progress.
- Excavation works & installation of soil nail works at Slope D4 is in-progress.
- Construction of RC pier at Bridge F1-4 is in-progress.
- Construction of bored-piles works at pile cap F1-3 is in-progress.

Air Quality Monitoring

iii. 1-hour Total Suspended Particulates (TSP) monitoring was conducted at eight monitoring stations. The sampling frequency is 3 times in every 6 days in the reporting month.

iv. No action or limit level exceedance was recorded in this reporting period.

Noise Monitoring

v. Noise monitoring was conducted at five noise monitoring stations once per week in the reporting month.

vi. No action or limit level exceedance was recorded in this reporting period.

Water Quality Monitoring

vii. Water quality monitoring was conducted at four monitoring stations three days per week in the reporting month.

viii. No water samples can be collected at Stations E, AC1 and AC3 during this reporting period as the station was dried out during the monitoring.

ix. No action or limit level exceedance was recorded in this reporting period.

Site Inspections and Audit

x. The Environmental Team (ET) conducted weekly site inspections during October 2024. No non-compliance was found during the site inspection while reminders and observations on environmental measures were recommended and recorded. Details can be referred to Section 7.

xi. The Environmental Team (ET) conducted biweekly landscape site inspections October 2024. No non-compliance was found during the site inspection while reminders and observation on environmental measures were recommended and recorded. Details can be referred to Section 7.

Complaints, Notifications of Summons and Successful Prosecutions

xii. No documented environmental complaints were received by the ET during the reporting month. The investigation summary for all the complaint cases were reported in the Complaint Log in in **Appendix 8.1**.

Reporting Changes

xiii. There are no changes to be reported.

Future Key Issues

xiv. In coming reporting 2 months, the scheduled construction activities and the recommended mitigation measures are listed in ***Table 9.1***.

1 Introduction

1.1 Scope of the Report

1.1.1. Lam Environmental Services Limited (LES) has been appointed to work as the Environmental Team (ET) under Environmental Permit (EP) no. EP-513/2016 to implement the Environmental Monitoring and Audit (EM&A) programme as stipulated in the EM&A Manual of the approved Environmental Impact Assessment (EIA) Report for Development of Anderson Road Quarry site - Road Improvement Works (Register No.: AEIAR-195/2016).

1.1.2. In accordance with Clause 3.4 stated in EP-513/2016, four hard copy and one electronic copy of the monthly EM&A Report shall be submitted to the Director within 2 weeks after the end of each reporting month throughout the entire construction period.

1.1.3. In accordance with Section 11.3.1 of the Project EM&A Manual, the first Monthly EM&A Report should be prepared and submitted to EPD within a month after the major construction works commences with the subsequently Monthly EM&A Reports due in 10 works day of the end of each reporting month.

1.2 Structure of the Report

Section 1 ***Introduction*** – details the scope and structure of the report.

Section 2 ***Project Background*** – summarizes background and scope of the project, site description, project organization and contact details of key personnel during the reporting period.

Section 3 ***Status of Regulatory Compliance*** – summarizes the status of valid Environmental Permits / Licenses during the reporting period.

Section 4 ***Monitoring Requirements*** – summarizes all monitoring parameters, monitoring methodology and equipment, monitoring locations, monitoring frequency, criteria and respective event and action plan and monitoring programmes.

Section 5 ***Monitoring Results*** – summarizes the monitoring results obtained in the reporting period.

Section 6 ***Compliance Audit*** – summarizes the auditing of monitoring results, all exceedances environmental parameters.

Section 7 **Environmental Site Audit** – summarizes the findings of weekly site inspections undertaken within the reporting period, with a review of any relevant follow-up actions within the reporting period.

Section 8 ***Complaints, Notification of summons and Prosecution*** – summarizes the cumulative statistics on complaints, notification of summons and prosecution

Section 9 ***Conclusion***

2 Project Background

2.1 Background

2.1.1. The Development of Anderson Road Quarry (ARQ) Site is to provide land and the associated infrastructures for the proposed land uses at the existing ARQ site at the north-eastern of East Kowloon.

2.1.2. In addition to the site formation and infrastructure works within the ARQ site, a new bus-to-bus interchange (BBI) at the toll plaza of Tseung Kwan O Tunnel and a series of associated off-site road improvement works and pedestrian connectivity facilities are also proposed to mitigate the potential cumulative traffic impact arising from the proposed ARQ development.

2.1.3. The Project under Environmental Permit (EP) (EP No. EP-513/2016) is intended for three associated off-site road improvement works which comprises: (i) improvement of junction of (J/O) Lin Tak Road / Sau Mau Ping Road (RIW3) (ii) widening and improvement of sections of Clear Water Bay Road and On Sau Road (RIW2); and (iii) widening and improvement of sections of New Clear Water Bay Road and Shun Lee Tsuen Road (RIW1). The location of the Project is shown ***Figure 2.1***.

2.2 Scope of the Project and Site Description

2.2.1. The project contains various Schedule 2 Designated Projects (DPs) that, under the EIAO, require EPs to be granted by the DEP before they may be either constructed or operated. ***Table 2.1*** summarises the DPs under this Project.

Table 2.1 Schedule 2 Designated Projects under this Project

Item	Designated Project	EIAO Reference
DP2	A road which is an expressway, trunk road, primary distributor road or district distributor road including new roads, and major extensions or improvements to existing road	Schedule 2, Part I, A.1

2.3 Project Organization and Contact Personnel

2.3.1 Civil Engineering and Development Department is the overall project controllers for the Project. For the construction phase of the Project, Project Engineer, Contractor(s), Environmental Team and Independent Environmental Checker are appointed to manage and control environmental issues.

2.3.2 The proposed project organization and lines of communication with respect to environmental protection works are shown in ***Figure 2.2***. Key personnel and contact particulars are summarized in ***Table 2.2***:

Table 2.2 Contact Details of Key Personnel

Party	Role	Post	Name	Contact No.	Contact Fax
AECOM	Engineer's Representative	Senior Resident Engineer	Mr. Brad Chan	5506 0068	2473 3221
Chun Wo – China Metallurgical Group Corporation Joint Venture	Contractor	Site Agent	Mr. Tak Yu Leung	3696 1833	3965 9854
		Deputy Environmental Officer	Mr. Diana Lee	9124 5619	
ANewR Consulting Limited	Independent Environmental Checker (IEC)	Independent Environmental Checker (IEC)	Mr. James Choi	2618 2836	3007 8648
Lam Environmental Services Limited	Environmental Team (ET)	Environmental Team Leader (ETL)	Ms. Eunice Chui	3765 0649	2882 3331

2.4 Construction Activities

2.4.1 In coming reporting 2 months, the scheduled construction activities are listed as follows:

- Construct RC works & backfilling at RWC2 Type 2 are in-progress.
- Backfilling works at RWC2 Type 3 and Type 5 are in-progress.
- ELS works at RWC2 Type 4 is in-progress.
- Backfilling works at Type 6 to 8 is in-progress.
- Backfilling works at FE1-PC1b is in-progress.
- Trial pits excavation at CT5 are in-progress.
- Construction of Mini Piling works at CT6.
- Remaining Utilities, Drainage Works, and Road Works are in-progress at Portion B (U-turn Bay remaining area).
- Utilities, backfilling & road works at CT4 / SE2 Bay 1 to 21 are in-progress.
- ELS works at SE2 PC1 to PC5.
- ELS works and watermain connection works at Sau Mun Ping Road / Hiu Kwong Street Sitting-out Area for watermain connection is in-progress. Installation of water-mains along SE2 in-progress.
- Rock excavation using drill & split method, drainage works and road works at Slope D3/ Lin Tak Road are in-progress.
- Excavation works & installation of soil nail works at Slope D4 is in-progress.
- Construction of RC pier at Bridge F1-4 is in-progress.
- Construction of bored-piles works at pile cap F1-3 is in-progress.

3 Status of Regulatory Compliance

3.1 Status of Environmental Licensing and Permitting under the Project

3.1.1. A summary of the current status on licences and/or permits on environmental protection pertinent to the Project is shown in ***Table 3.1***.

Table 3.1 Summary of the current status on licences and/or permits on environmental protection pertinent to the Project

Permits and/or Licences	**Permit. No. / Account No.**	**Valid From**	**Expiry Date**	**Status**
Notification pursuant to Air Pollution Control (Construction Dust) Regulation	Form NA submitted to EPD on 29 May 2018.			
Environmental Permit	EP-513/2016	20 Jul 2016	N/A	Valid
Billing Account for Disposal				
Billing Account for Disposal of Construction Waste	7031075	20 Jun 2018	End of the Project	Valid
Chemical Waste Registration				
Registration as a Waste Producer for Sau Mau Ping Road to Lin Tak Road	5213-294-C4239-04	6 Aug 2018	N/A	Valid
Registration as a Waste Producer for New Clear Water Bay Road (Start from 46 Clear Water Bay Road, End at Shun Lee Tsuen Road and San Lee Street	5213-291-C4239-02	13 Aug 2018	N/A	Valid
Registration as a Waste Producer for South Part of Hiu Ming Street Playground	5213-294-C4239-03	6 Aug 2018	N/A	Valid
Registration as a Waste Producer for Clear Water Bay Road and New Clear Water Bay Road (From the intersection of Fei Ngo Shan Road to Tai Pan Court) and on Sau Road (From the intersection of New Clear Water Bay Road to 9 Anderson Road	5213-831-C4239-08	6 Aug 2018	N/A	Valid
Water Discharge Licence				
Water Pollution Ordinance Licence for Clear Water Bay Road, Shun Lee Tsuen Road and San Lee Street	WT10003315-2024	3 Jul 2024	31 Jul 2029	Valid
Water Pollution Ordinance Licence for intersection of Fei Ngo Shan Road to Tai Pan Court and on Sau Road (From the intersection of New Clear Water Bay Road to 9 Anderson Road	WT10002686-2023	2 Apr 2024	31 Mar 2029	Valid
Water Pollution Ordinance Licence for Lin Tak Road to Sau Mau Ping Road including Tseung Kwan O Tunnel Toll Plaza	WT10002261-2023	30 Jan 2024	31 Jan 2029	Valid

Construction Noise Permit				
CNP for construction work and performing prescribed construction work at Tseung Kwan O Road and Lin Tak Road	GW-RE1182-24	4 Oct 24	28 Jan 25	Valid
CNP for road marking and water barrier relocation at Clear Water Bay Road near On Sau Road	GW-RE1248-24	20 Oct 24	24 Nov 24	Valid
CNP for road marking at New Clear Water Bay Road and Shun Ching Street near Shun Lee Estate	GW-RE1191-24	30 Sep 24	31 Oct 24	Valid
CNP for Water Pumping at Pik Wan Road near Lin Tak Road	GW-RE1062-24	4 Sep 24	26 Feb 25	Valid
Formwork erection and reinforcement fixing at Lin Tak Road, Sau Mau Ping Road and Tseung Kwan O Road	GW-RE1250-24	16 Oct 24	7 Apr 25	Valid
Watermains Connection at Anderson Road near On Sau Road	GW-RE1324-24	28 Oct 24	27 Jan 25	Valid

3.2 Status of Submission under the EP-513/2016

3.2.1. A summary of the current status on submission under EP-513/2016 is shown in ***Table 3.2***.

Table 3.2 Summary of submission status under EP-513/2016

EP Condition	Submission	Date of Submission
Condition 1.12	Notification of Commencement Date of Works	24 September 2018
Condition 2.10	Management Organization of Main Construction Companies	27 September 2018
Condition 2.11	Submission of Design Drawing(s) of the Project	28 September 2018
Condition 2.12	Submission of Landscape and Visual Mitigation Plan(s)	28 September 2018
Condition 2.14 (a) and 2.15	Submission of Detailed Vegetation Survey Report (2nd submission)	7 December 2018
Condition 2.14 (b) and 2.15	Submission of Transplantation Proposal	7 December 2018
Condition 3.3	Submission of Baseline Environmental Monitoring Report (2nd submission)	18 December 2018
Condition 2.14 (c)	Transplantation Completion Report	3 May 2019
Condition 3.4	Monthly EM&A Report (August 2024)	16 September 2024
Condition 2.14(d)	Post-Transplantation Monitoring Report	6 April 2022

4 Monitoring Requirements

4.1 Noise Monitoring

NOISE MONITORING STATIONS

4.1.1. The noise monitoring stations for the Project are listed and shown in ***Table 4.1*** and ***Figure 4.1 & 4.2***.

Table 4.1 Noise Monitoring Station

Monitoring Station ID	Monitoring Location	Measurement Type	Level (in terms of no. of floor)
NMC01	Kei Shun Special School	Façade	G/F
NMC02	Shun Lee Disciplined Services Quarters Block 6	Façade	3/F podium
NMC03	Sienna Garden Block 6	Free-field	G/F
NMC04	Po Tat Estate Tat Kai House	Free-field	3/F podium
NMC05	Hong Wah Court Block B Yee Hong House	Façade	G/F

NOISE MONITORING PARAMETERS, FREQUENCY AND DURATION

4.1.2. Noise monitoring shall be carried out at all the designated monitoring stations. The monitoring frequency shall depend on the scale of the construction activities. The following is an initial guide on the regular monitoring frequency for each station on a weekly basis when noise generating activities are underway:

- One set of measurements between 0700-1900 hours on normal weekdays (six consecutive Leq/5min readings);
- One set of measurements between 1900-2300 hours;
- One set of measurements between 2300-0700 hours of next day; and
- One set of measurements between 0700-2300 hours on holidays (three consecutive Leq/5min readings).

4.1.3. For the latter 3 sets of measurements specified in Section 4.1.2 above, one set of measurements shall at least include 3 consecutive Leq (5min) results.

4.1.4. Supplementary information for data auditing, statistical results such as L10 and L90 shall also be obtained for reference.

4.1.5. If a school exists near the construction activity, noise monitoring shall be carried out at the monitoring stations for the schools during the examination periods. The ET leader shall liaise with the school's personnel and the examination authority to ascertain the exact dates and times of all examination periods during the course of the contract.

MONITORING EQUIPMENT

4.1.6. Noise monitoring was performed using sound level meter at the designated monitoring locations. The sound level meters shall comply with the International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1) specifications. Acoustic calibrator shall be deployed to check the sound level meters at a known sound pressure level. Brand and model of the equipment is given in ***Table 4.2***.

Table 4.2 Noise Monitoring Equipment

Equipment	Brand and Model	Series Number
Integrated Sound Level Meter	Nti XL2	A2A-15360-E0
Acoustic Calibrator	Larson Davis CAL200	13128

4.1.7. The calibration certificates of the noise monitoring equipment are attached in ***Appendix 4.2***.

SAMPLING PROCEDURE AND MONITORING EQUIPMENT

4.1.8. Monitoring Procedure

(a) The monitoring station shall normally be at a point 1m from the exterior of the sensitive receiver's building façade and be at a position 1.2m above the ground.
(b) Façade measurements were made at the monitoring locations. For free-field measurement, a correction factor of +3 dB (A) would be applied.
(c) The battery condition was checked to ensure the correct functioning of the meter.
(d) Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
(e) Frequency weighting: A, Time weighting: Fast, Measurement time set: continuous 5 mins
(f) Prior and after to the noise measurement, the meter was checked using the acoustic calibrator for 94dB (A) at 1000 Hz. If the difference in the calibration level before and after measurement was more than ±1 dB (A), the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
(g) Noise measurements shall not be made in fog, rain, wind with a steady speed exceeding 5m/s or wind with gusts exceeding 10m/s. The wind speed shall be checked with a portable wind speed meter capable of measuring the wind speed in m/s.

4.1.9. Maintenance and Calibration

(a) The microphone head of the sound level meter was cleaned with soft cloth at regular intervals.
(b) The sound level meter and calibrator were calibrated at yearly intervals.

EVENT AND ACTION PLAN

4.1.10. Noise Standards for Daytime Construction Activities are specified under EIAO-TM. The Action and Limit levels for construction noise are defined in ***Table 4.3*** and ***Appendix 4.1***. Should non-compliance of the criteria occurs, action in accordance with the Event and Action Plan in **Appendix 6.1** shall be carried out.

Table 4.3 Action and Limit Level for Noise Monitoring

Monitoring Station	Action Level	Limit Level (dB(A))		
		0700-1900 hrs on normal weekdays	0700-2300 hrs on holidays (including Sundays); and 1900-2300 hrs on all days [2]	2300-0700 hrs of all days [2]
NMC01	When one documented complaint is received	65 / 70 [1]	60 / 65 / 70 [3]	45 / 50 / 55 [3]
NMC02		75		
NMC03		75		
NMC04		75		
NMC05		75		

Remark 1: Limit level of NMC01 - Kei Shun Special School reduce to 65 dB (A) during examination periods if any.
Remark 2: Construction noise during restricted hours is under the control of Noise Control Ordinance Limit Level to be selected based on Area Sensitivity Rating.
Remark 3: Limit Level for restricted hour monitoring shall act as reference level only. Investigation would be conducted on CNP compliance if exceedance recorded during restricted hour noise monitoring period.

4.2 Air Monitoring

AIR QUALITY MONITORING STATIONS

4.2.1. The air monitoring stations for the Project are listed and shown in ***Table 4.4*** and ***Figure 4.3 & 4.4***.

Table 4.4 Air Monitoring Station

Monitoring Station ID	Monitoring Location	Level (in terms of no. of floor)
NCWBR_AMS-1	Shun Lee Fire Station	2/F Roof
NCWBR_AMS-2	Shun Lee Estate Lee Hang House	G/F
NCWBR_AMS-3	Shun Lee Disciplined Services Quarters (Block 6)	4/F podium
NCWBR_AMS-4	Sienna Garden	G/F
NCWBR_AMS-5	Shun Chi Court Shun Fung House	Roof
LTR_AMS-1	St Edward's Catholic Primary School	G/F
LTR_AMS-2	Environmental Protection Department's Restored Landfill Site Office	G/F
LTR_AMS-3	Po Tat Estate Tat Kai House	3/F podium

AIR MONITORING PARAMETERS, FREQUENCY AND DURATION

4.2.2. One-hour TSP levels should be measured to indicate the impacts of construction dust on air quality.

4.2.3. The sampling frequency of at least three times in every six-days should be undertaken when the highest dust impact occurs.

SAMPLING PROCEDURE AND MONITORING EQUIPMENT

4.2.4. Monitoring Procedures

(a) Check the calibration period of portable direct reading dust meter prior to monitoring (The direct reading dust meter was calibrated at 2-years interval and checked with High Volume Sampler (HVS) yearly.)
(b) Record the site condition near / around the monitoring stations.
(c) Install the portable direct reading dust meter to the monitoring location.
(d) Slide the power switch to turn the power on.
(e) Check of portable direct reading dust meter to ensure the equipment operation in normal condition.
(f) Select the period of measurement to 60mins.
(g) Check and set the correct time.
(h) Select the appropriate unit display for the equipment.
(i) Slide the power switch to turn the power off when the monitoring period ended (3 times 1 hour TSP monitoring per day).
(j) Uninstall the portable direct reading dust meter
(k) Collected the sampled data for analysis.
(l) Remark: Procedures (c) to (h) may be different subject to the brands and models of portable direct reading dust meter

4.2.5. Maintenance and Calibration

(a) The direct reading dust meter was calibrated at 2-years interval and checked with High Volume Sampler (HVS) yearly to determine the accuracy and validity of the results measured.
(b) Checking of direct reading dust meter will be carried out in order to determine the conversion factor between the direct reading dust meter and the standard equipment, HVS. The comparison check is to be considered valid based on correlation coefficient checked by HOKLAS laboratory.

4.2.6. The 1-hour TSP air quality monitoring was performed by using portable direct reading dust meters at each designated monitoring station. The brand and model of the equipment are given in **Table 4.5**.

Table 4.5 Air Quality Monitoring Equipment

Equipment	Brand and model	Series Number
Portable direct reading dust meter	Met One BT- 645	B17940 B17942 C15625 R22586 X19298 X19299
	Met One AEROCET 831	B19128 W16848 Y23160

4.2.7. The calibration certificate of the air quality monitoring equipment are attached in ***Appendix 4.2***.

WIND DATA

4.2.8. The representative wind data from Tate's Cairn and Tseung Kwan O HKO Automatic weather Stations were obtained for the 1-hr TSP monitoring periods and shown in ***Appendix 4.3***.

EVENT AND ACTION PLAN

4.2.9. The Action and Limit levels for construction air quality are defined in ***Table 4.6*** and ***Appendix 4.1***. The Event and Action Plan as shown in ***Appendix 6.1*** shall be implemented if non-compliance of the air quality criteria is identified.

Table 4.6 Action and Limit Level for Air Quality Monitoring

Monitoring Locations	1-hour TSP Level in µg/m3	
	Action Level	Limit Level
NCWBR_AMS-1	284.4	500.0
NCWBR_AMS-2	282.4	500.0
NCWBR_AMS-3	287.9	500.0
NCWBR_AMS-4	281.6	500.0
NCWBR_AMS-5	270.0	500.0
LTR_AMS-1	272.1	500.0
LTR_AMS-2	281.1	500.0
LTR_AMS-3	285.1	500.0

4.3 Water Quality Monitoring

WATER QUALITY MONITORING STATIONS

4.3.1. Water quality monitoring was undertaken at 7 monitoring stations in the reporting month. The proposed water quality monitoring stations of the Project are shown in ***Table 4.7*** and ***Figure 4.5 & 4.6***.

Table 4.7 Marine Water Quality Stations for Water Quality Monitoring

Inland Water	Stations	Description	Easting	Northing
Channelized streams across the Project site	E	Upstream Control Station	841329	821753
	F	Downstream Impact Station	841469	821635
	AC1	Upstream Reference Station	-	-
	AC2	Upstream Reference Station	-	-
	AC3	Upstream Reference Station	-	-
Ma Yau Tong Stream	H	Upstream Control Station	843008	819880
	I	Downstream Impact Station	842652	819573

WATER QUALITY PARAMETERS, FREQUENCY AND DURATION

4.3.2. The levels of dissolved oxygen (DO), turbidity and pH shall be measured in situ while suspended solids (SS) is determined by laboratory analysis at all the designated monitoring stations.

4.3.3. In association with the water quality parameters, other relevant data shall also be recorded, such as monitoring location / position, time, water temperature, salinity, DO saturation, weather conditions, and any special phenomena underway near the monitoring station.

4.3.4. The sampling frequency of at least three days per week should be undertaken when the highest dust impact occurs. Upon completion of the construction works, the monitoring exercise at the designated monitoring locations should be continued for four weeks in the same manner as the impact monitoring.

4.3.5. The interval between two sets of monitoring should not be less than 36 hours except where there are exceedances of Action and/or Limit Levels, in which case the monitoring frequency will be increased.

4.3.6. Replicate in-situ measurements should be carried out in each sampling event.

SAMPLING PROCEDURES AND MONITORING EQUIPMENT

Dissolved Oxygen and Temperature Measuring Equipment

4.3.7. The instrument should be a portable, weatherproof dissolved oxygen measuring instrument complete with cable, sensor, comprehensive operation manuals, and use a DC power source. It should be capable of measuring:

- a dissolved oxygen level in the range of 0-20 mg/l and 0-200% saturation
- a temperature of 0-45 degree Celsius

4.3.8. It should have a membrane electrode with automatic temperature compensation complete with a cable. Sufficient stocks of spare electrodes and cables should be available for replacement where necessary. (e.g. YSI model 59 meter, YSI 5739 probe, YSI 5795A submersible stirrer with reel and cable or an approved similar instrument).

4.3.9. Should salinity compensation not be build-in in the DO equipment, in-situ salinity shall be measured to calibrate the DO equipment prior to each DO measurement.

Turbidity Measurement Instrument

4.3.10. The instrument should be a portable, weatherproof turbidity-measuring instrument complete with comprehensive operation manual. The equipment should use a DC power source. It should have a photoelectric sensor capable of measuring turbidity between 0-1000 NTU and be complete with a cable (e.g. Hach model 2100P or an approved similar instrument).

Sampler

4.3.11. Due to low water level as mentioned in Section 6.4.3 of the EIA report, bucket sampler (Approximate 1L) will be use instead of water sampler in order to obtain surface water sample without disturb the stream sediment and collect representative results.

Salinity

4.3.12. A portable salinometer capable of measuring salinity in the range of 0-70 ppt shall be provided for measuring salinity of the water at each of monitoring location.

MONITORING METHODOLOGY

4.3.13. Monitoring Procedure

(a) The condition near the monitoring stations shall be observed and recorded on the data log sheet.
(b) Check of sensors and electrodes with certified standard solutions before each use.
(c) Wet bulb calibration for a DO meter should be carried out before measurement.
(d) Sample would be taken using bucket sampler at surface level.
(e) Transfer the sampled water carefully into cleaned water bottles (2x 1000ml) provided by the laboratory at the spot after the collection of the water sample for the subsequent laboratory Suspended Solid testing.
(f) Transfer the sampled water from the bucket sampler to the rinsed water container for in-situ measurement (In case of the in-situ measurement cannot be carried at spot due to safety and adverse weather condition, sampled water from the bucket sampler will be transfer to cleaned water bottles provided by laboratory. Then, In-situ measurement will be conducted at a safe location which sampled water inside cleaned water bottle will be transfer to the rinsed water container for in-situ measurement) In-situ

measurement shall be measured in duplicate.

(g) Parameters including Water Temperature (°C), pH (units), Salinity (ppt), DO (mg/L), DO saturation (%) will be measured by the Multifunctional Meter and Turbidity (NTU) will be measured by turbid meter. (Water Temperature and Salinity will be measured as reference parameters)

(h) Record the result on the data log sheet and record any special finding during / after in-situ measurement.

(i) The water sample bottles will be stored in a cool box (at cooled to 4℃ without being frozen), which shall be delivered to HOKLAS laboratory (ALS Technichem (HK) Pty Ltd) for further testing to determine the level of SS.

4.3.14. Maintenance and Calibration

(a) The responses of sensors and electrodes of the water quality monitoring equipment were cleaned and checked at regular intervals.

(b) DO meter (Multifunctional Meter) and turbid meter was certified by a laboratory accredited under HOKLAS or any other international accreditation scheme, and subsequently re-calibrated at three monthly intervals.

4.3.15. Brand and model of the equipment are given in ***Table 4.8***.

Table 4.8 Water Quality Monitoring Equipment

Equipment	Brand and model	Series Number
Multifunctional Meter	YSI Professional Plus	14E101065
Turbid meter	Xin Rui WGZ-3B	2202020

4.3.16. The calibration certificates of the water quality monitoring equipment are attached in ***Appendix 4.2***.

LABORATORY MEASUREMENT / ANALYSIS

4.3.17. Analysis of suspended solids has been carried out in a HOKLAS accredited laboratory, which is ALS Technichem (HK) Pty Ltd.

EVENT AND ACTION PLAN

4.3.18. The Action and Limit levels for construction water quality are defined in ***Table 4.9*** and ***Appendix 4.1***. Should the monitoring results of the water quality parameters at any designated monitoring station exceed the water quality criteria, action in accordance with the Event and Action Plan in ***Appendix 6.1*** shall be carried out.

Table 4.9 Action and Limit Level for Water Quality Monitoring

Monitoring Station	Surface pH		Surface DO (mg/L)		Surface Turbidity (NTU)		Surface SS (mg/L)	
	Action Level	Limit Level	Action Level	Limit Level	Action Level	Limit Level	Action Level	Limit Level
E	-	-	-	-	-	-	-	-
F	Beyond the range of 6.6-8.4	Beyond the range of 6.5-8.5	5.8	5.5	24.4	32.7	17.0	23.8
AC1	-	-	-	-	-	-	-	-
AC2	-	-	-	-	-	-	-	-
AC3	-	-	-	-	-	-	-	-
H	-	-	-	-	-	-	-	-
I	Beyond the range of 6.6-8.4	Beyond the range of 6.5-8.5	5.5	5.4	206.9	214.2	172.8	201.4

* Remarks:

The value of 1.0mg/L was taken as the value for measurement with suspended solid level of <1.0mg/L for Action and Limit level calculation.

It is recommended that upstream monitoring station (monitoring station E, AC1, AC2, AC3 and H) would be taken as control reference for exceedance investigation only. Action and limit level would not be establish using the baseline data.

If the SS and Turbidity recorded from the Control Stations (E, H, AC1, AC2, AC3) are higher than the Impact Stations (I and F) on the same day of measurement, 120% and 130% of the Control Stations' results would be referenced as the Action and Limit Levels.

5. Monitoring Results

5.0.1 The environmental monitoring will be implemented based on the division of works areas of each designed projects. Overall layout showing work areas and monitoring stations is shown in ***Figure 2.1*** and ***Figure 4.1 – 4.6*** respectively.

5.0.2 The environment monitoring schedules for reporting month and coming month are presented in ***Appendix 5.1*****.**

5.1 Noise Monitoring Results

5.1.1 No action or limit level exceedance was recorded in this reporting period.

5.1.2 Noise monitoring results measured in this reporting period are reviewed and summarized. Details of noise monitoring results and graphical presentation can be referred in ***Appendix 5.2***.

5.2 Air Monitoring Results

5.2.1 All 1-hour TSP monitoring was conducted as scheduled in the reporting month.

5.2.2 No action or limit level exceedance was recorded in this reporting month.

5.2.3 Air quality monitoring results measured in this reporting period are reviewed and summarized. Details of air monitoring results and graphical presentation can be referred in ***Appendix 5.3***.

5.3 Water Quality Monitoring Results

5.3.1 No water samples can be collected at Stations E, AC1 and AC3 during this reporting period as the station was dried out during the monitoring.

5.2.4 No action or limit level exceedance was recorded in this reporting period.

5.3.2 Water quality monitoring results measured in this reporting period are reviewed and summarized. Details of water quality monitoring results and graphical presentation can be referred in ***Appendix 5.4***.

5.4 Waste Management

5.4.1 The quantities of waste for disposal in the Reporting Period are summarized in ***Table 5.1*** and ***Table 5.2***. The Monthly Summary Waste Flow Table is shown in ***Appendix 5.5***. Whenever possible, materials were reused on-site as far as practicable.

Table 5.1 Summary of Quantities of Inert C&D Materials

Waste Type	Hard Rock and Large Broken Concrete (Inert) (in'000m3)	Reused in this Contract (Inert) (in '000m3)	Reused in other Projects (Inert) (in '000m3)	Disposal as Public Fill (Inert) (in '000m3)
Quantity (this month)	0.000	0.000	0.000	0.859
Quantity (Project commencement to the end of last month)	0.000	13.679	30.189	110.040
Cumulative Quantity-to-Date	0.000	13.679	30.189	110.899
Disposal Location	Nil	Nil	Nil	TKO137

Table 5.2 Summary of Quantities of C&D Wastes

Waste Type	Metals (in '000kg)	Paper / Cardboard Packing (in '000kg)	Plastics (in '000kg)	Chemical Wastes (in '000kg)	General Refuses (in '000m3)
Quantity (this month)	0.004	0.031	0.002	0.000	0.122
Quantity (Project commencement to the end of last month)	0.083	2.686	25.430	0.197	2.808
Cumulative Quantity-to-Date*	0.087	2.717	25.432	0.197	2.930
Disposal Location	Nil	Nil	waste recycle was arranged	Nil	SENT

6. Compliance Audit

6.0.1. The Event Action Plan for construction noise, air quality and water quality are presented in ***Appendix 6.1***.

6.0.2. The summary of exceedance is presented in ***Appendix 6.2***.

6.1 Noise Monitoring.

6.1.1 No action or limit level exceedances was recorded in this reporting period.

6.2 Air Quality Monitoring

6.2.1 No action or limit level exceedance was recorded in this reporting period.

6.3 Water Quality Monitoring

6.4 No action or level exceedance was recorded in this reporting period.

6.5 Review of the Reasons for and the Implications of Non-compliance

6.5.1 No environmental non-compliance was recorded in the reporting month.

6.6 Summary of follow-up action on non-compliance

6.6.1 There was no particular follow-up action taken and recorded in the reporting period.

7. Environmental Site Audit

7.0.1. Within this reporting month, weekly environmental site audits were conducted on 4, 10, 18 and 25 October 2024. IEC attended the joint site inspection on 18 October 2024.

7.0.2. No non-compliance was found during the site inspection while reminders and observations on environmental measures were recommended and recorded. Results and findings of these inspections in this reporting month are listed below in ***Table 7.1*****.**

Table 7.1 Summary of Environmental Inspections

Date	Reminder(s)/ Observation(s)	Action taken by Contractor	Outcome
4 Oct 2024	Nil	-	-
10 Oct 2024	To maintain the dust suppression measures.	Water spraying was provides in the works area.	Item was improved in October 2024.
10 Oct 2024	The surface runoff control and drainage system should be reviewed.	The surface runoff control and drainage system was reviewed.	Item was improved in October 2024.
10 Oct 2024	Chemical containers should be placed properly in drip drays.	Chemical containers on site were removed.	Item was improved in October 2024.
18 Oct 2024	Noise barriers should be installed properly in active working area.	Noise barriers were installed properly in active working area.	Item was improved in October 2024.
18 Oct 2024	To review the operation sequence of PMEs on site.	The operation sequence of PMEs on site was reviewed.	Item was improved in October 2024.
25 Oct 2024	To maintain the noise barriers.	Noise barriers were maintained.	Item was improved in October 2024.
25 Oct 2024	Debris generated from construction work should be collected and cleared.	Debris generated from construction work was cleared.	Item was improved in October 2024

7.0.3. Within this reporting month, biweekly landscape site audits were conducted on 4 and 18 October 2024.

7.0.4. No non-compliance was found during the landscape site inspection. Results and findings of these inspections in this reporting month are listed below in ***Table 7.2*****.**

Table 7.2 Summary of Landscape site inspections

Date	Reminder(s)/ Observation(s)	Action taken by Contractor	Outcome
-	-	-	-

8. Complaints, Notification of Summons and Prosecution

8.0.1. No documented environmental complaint was reported in the reporting month.

8.0.2. The cumulative complaint log and updated summary of complaints are presented in **Appendix 8.1**.

8.0.3. Cumulative statistic on complaints and successful prosecutions are summarized in ***Table 8.1*** and ***Table 8.2*** respectively.

Table 8.1 Cumulative Statistics on Complaints

Reporting Period	No. of Complaints
October 2024	0
Total	**55**

Table 8.2 Cumulative Statistics on Successful Prosecutions

Environmental Parameters	Cumulative No. Brought Forward	No. of Successful Prosecutions this month (Offence Date)	Cumulative No. Project-to-Date
Air	-	0	0
Noise	-	0	0
Water	-	0	0
Waste	-	0	0
Total	**-**	**0**	**0**

8.0.4. QPME was observed on site at the slope of Lin Tak Road at RIW3. The contractor was recommended to review the implementation of QPMEs from time to time and considering using quieter PMEs whenever possible. Details of QPMEs are as shown in ***Table 8.4***.

Table 8.4 QPME used for construction works

Type of construction equipment	Brand	Model no.	QPME ID	SWL [dB(A)]
Excavator	335FLCR	CAT0335FCSGJ20540	QPME, EPD-08379	104
Excavator	SK200-8	YN12-65530	QPME, EPD-06168	99

9. Conclusion

9.0.1. The EM&A programme was carried out in accordance with the EM&A Manual requirements, minor alterations to the programme proposed were made in response to changing circumstances.

9.0.2. The performance of the environmental management system of the previous three months (quarter) was generally satisfied. Mitigation measures according to the environmental mitigation implementation schedule and the EIA were generally implemented by the Contractor. Hence, the EM&A programme was considered effective and shall be maintained.

9.0.3. The scheduled construction activities and the recommended mitigation measures for the coming 2 months are listed in **Table 9.1**. The construction programmes of the Project are provided in ***Appendix 9.1***.

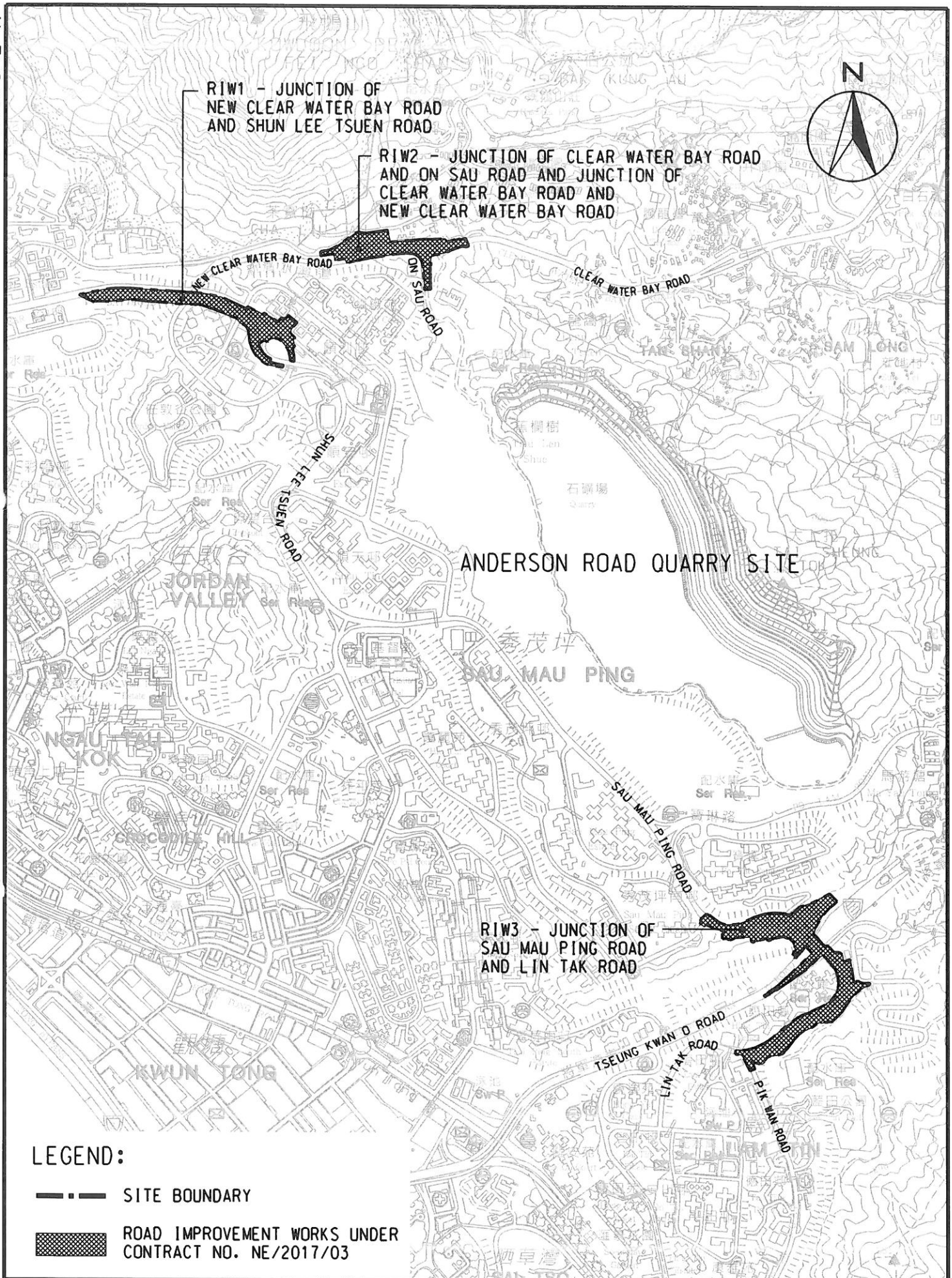
Table 9.1 Construction Activities and Recommended Mitigation Measures in Coming Reporting 2 Months

Key Construction Works	Recommended Mitigation Measures
• Construct RC works & backfilling at RWC2 Type 2 are in-progress. • Backfilling works at RWC2 Type 3 and Type 5 are in-progress. • ELS works at RWC2 Type 4 is in-progress. • Backfilling works at Type 6 to 8 is in-progress. • Backfilling works at FE1-PC1b is in-progress. • Trial pits excavation at CT5 are in-progress. • Construction of Mini Piling works at CT6. • Remaining Utilities, Drainage Works, and Road Works are in-progress at Portion B (U-turn Bay remaining area). • Utilities, RC works & backfilling & road works at CT4 / SE2 Bay 1 to 21 are in-progress. • ELS works at SE2 PC1 to PC5. • ELS works and watermain connection works at Sau Mun Ping Road / Hiu Kwong Street Sitting-out Area for watermain connection is in-progress. Installation of water-mains along SE2 in-progress. • Rock excavation using drill & split method, drainage works and road works at Slope D3 / Lin Tak Road are in-progress. • Excavation works & installation of soil nail works at Slope D4 is in-progress. • Construction of RC pier at Bridge F1-4 is in-progress. • Construction of bored-piles works at pile F1-3 is in-progress.	• To minimize the dust impact to the surrounding ASRs, dust suppression measures stipulated in the Air Pollution Control (Construction Dust) Regulation should be incorporated to control dust emission from the site; • To reduce the noise impacts at the affected NSRs during normal daytime working hours, mitigation measures such as adopting quiet PME and construction noise barriers are recommended. • To alleviate the construction noise impact on the affected NSRs, construction noise barriers or enclosures would be erected to provide screening from the construction plant. • Surface run-off from construction sites should be discharged into storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sedimentation basins. • Silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be removed regularly, at the onset of and after each rainstorm to prevent local flooding.

Figure 2.1

Project Layout

ENCLOSURE A



GENERAL LAYOUT PLAN OF
ROAD IMPROVEMENT WORKS
UNDER CONTRACT NO. NE/2017/03

Figure 2.1
Project Layout

P:*Projects*60328348*DRAWING*SKETCH*SK0175.dgn

Figure 2.2

Project Organization Chart

Project Organization Chart

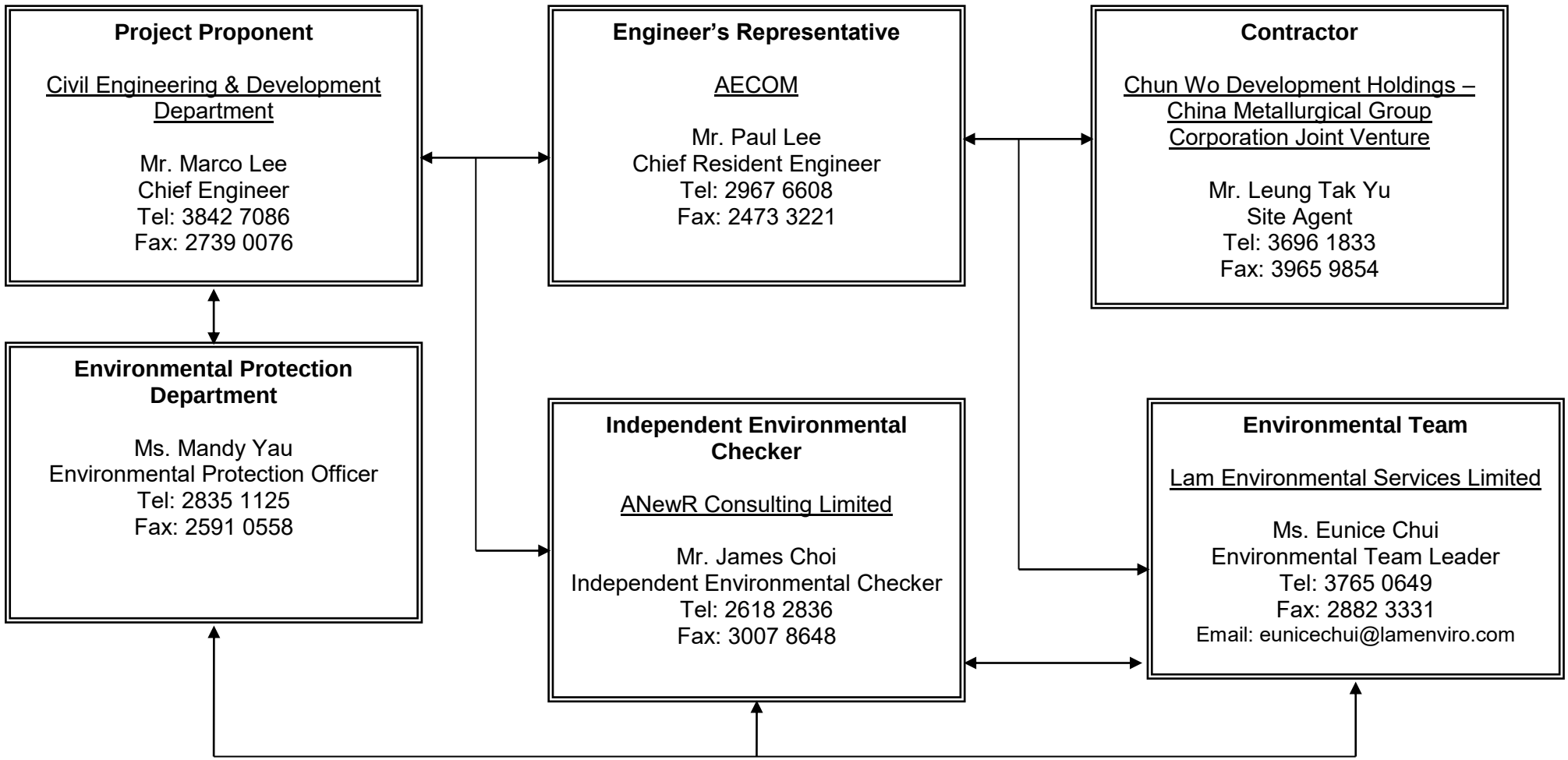
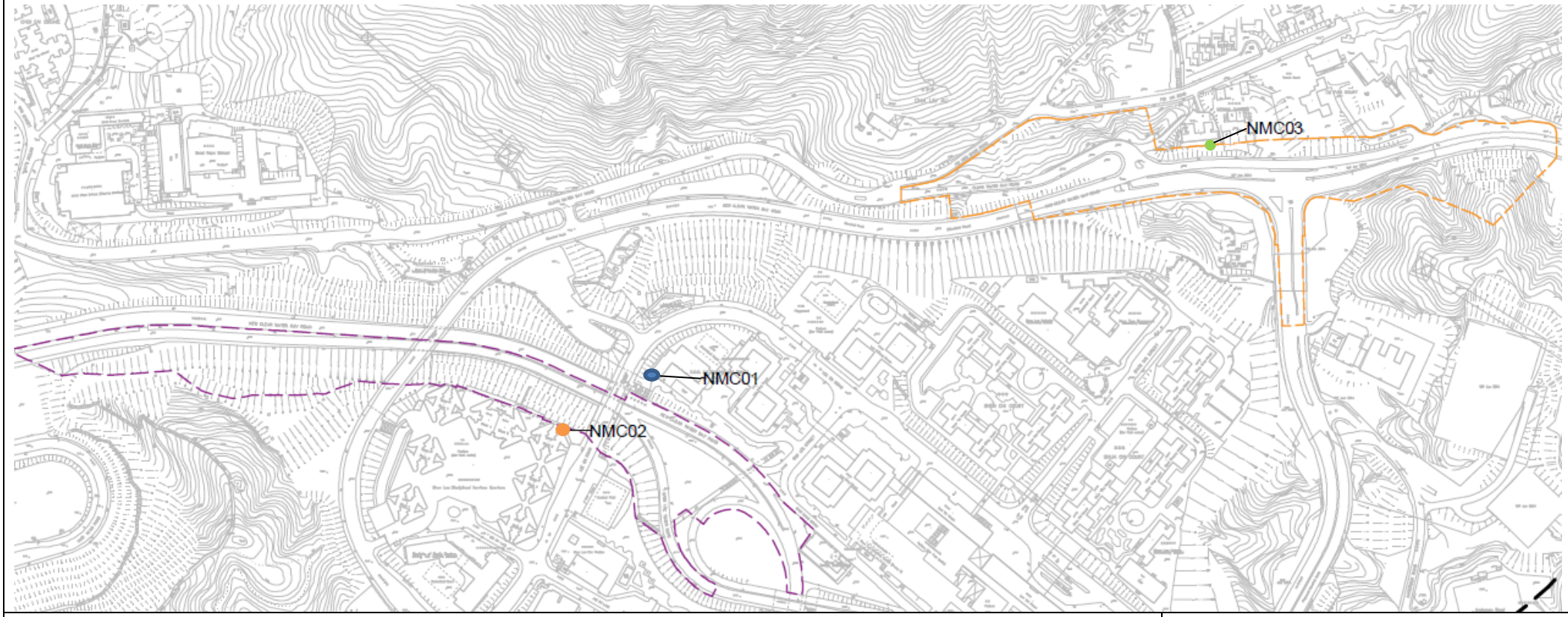


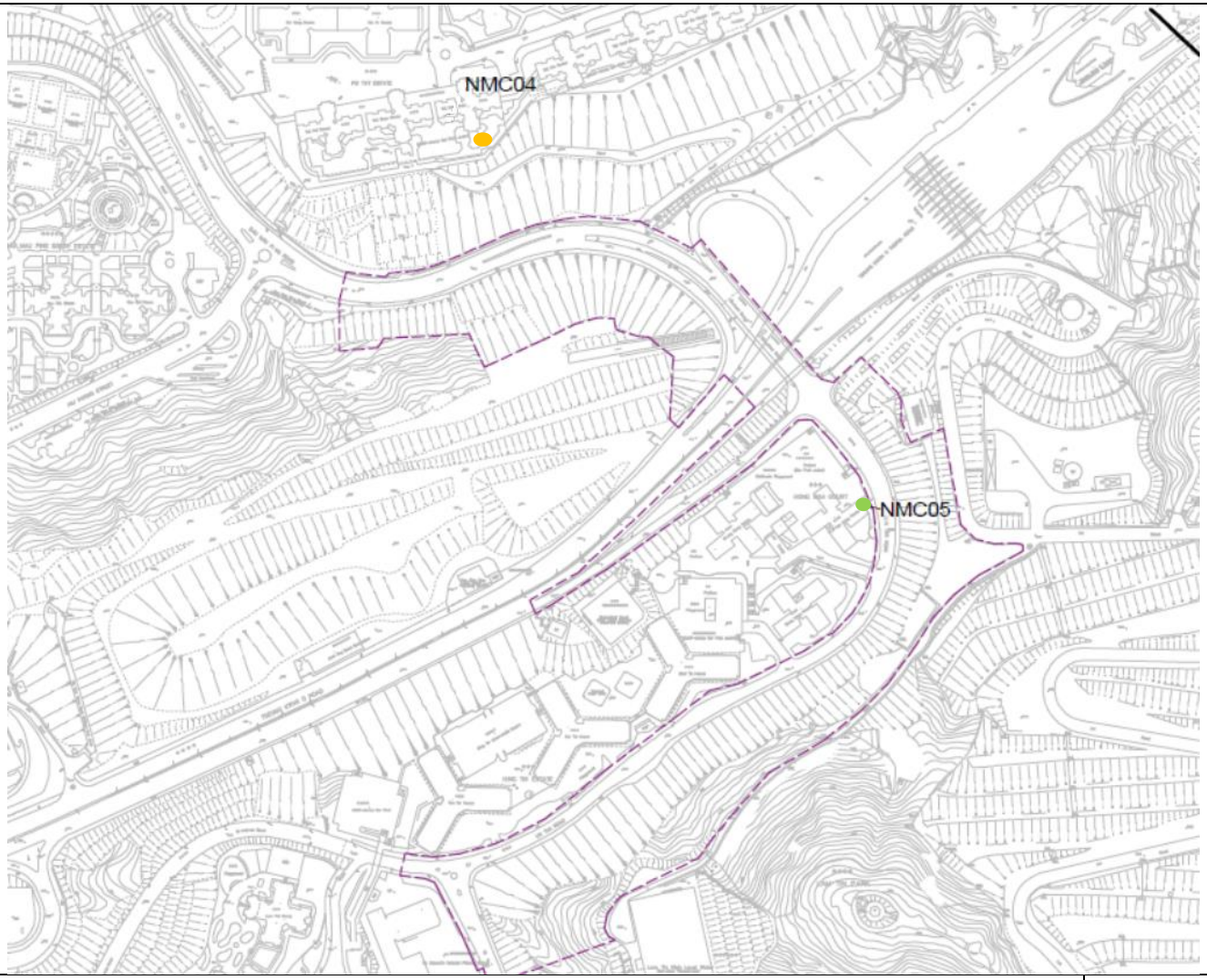
Figure 4.1 to Figure 4.6

Locations of Monitoring Stations



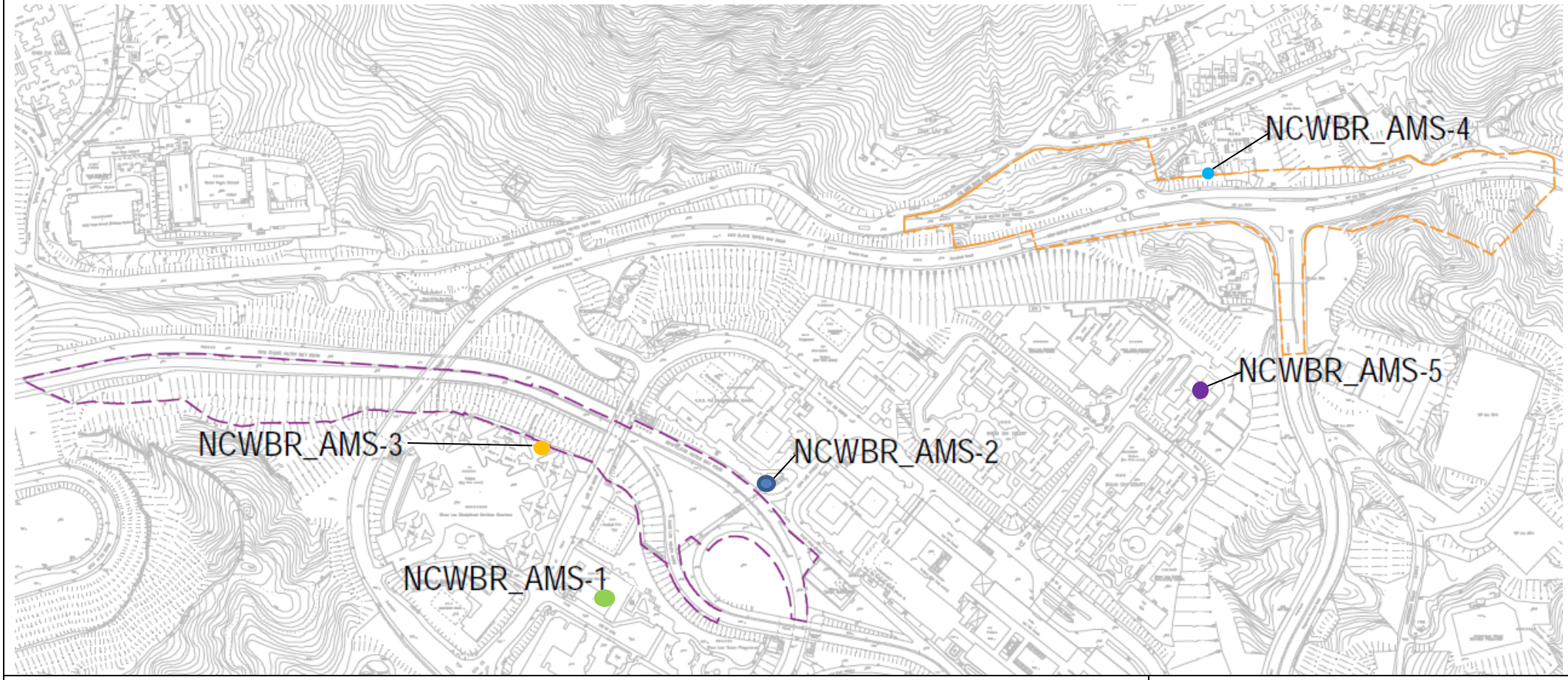
Monitoring Location ID	Description
Noise Monitoring Station (Construction Phase)	
NMC01	Kei Shun Special School
NMC02	Shun Lee Disciplined Services Quarters Block 6
NMC03	Sienna Garden Block 6

Figure 4.1
Location of Noise Monitoring Station
(Construction Phase)
(for Road Improvement Work 1 & 2)



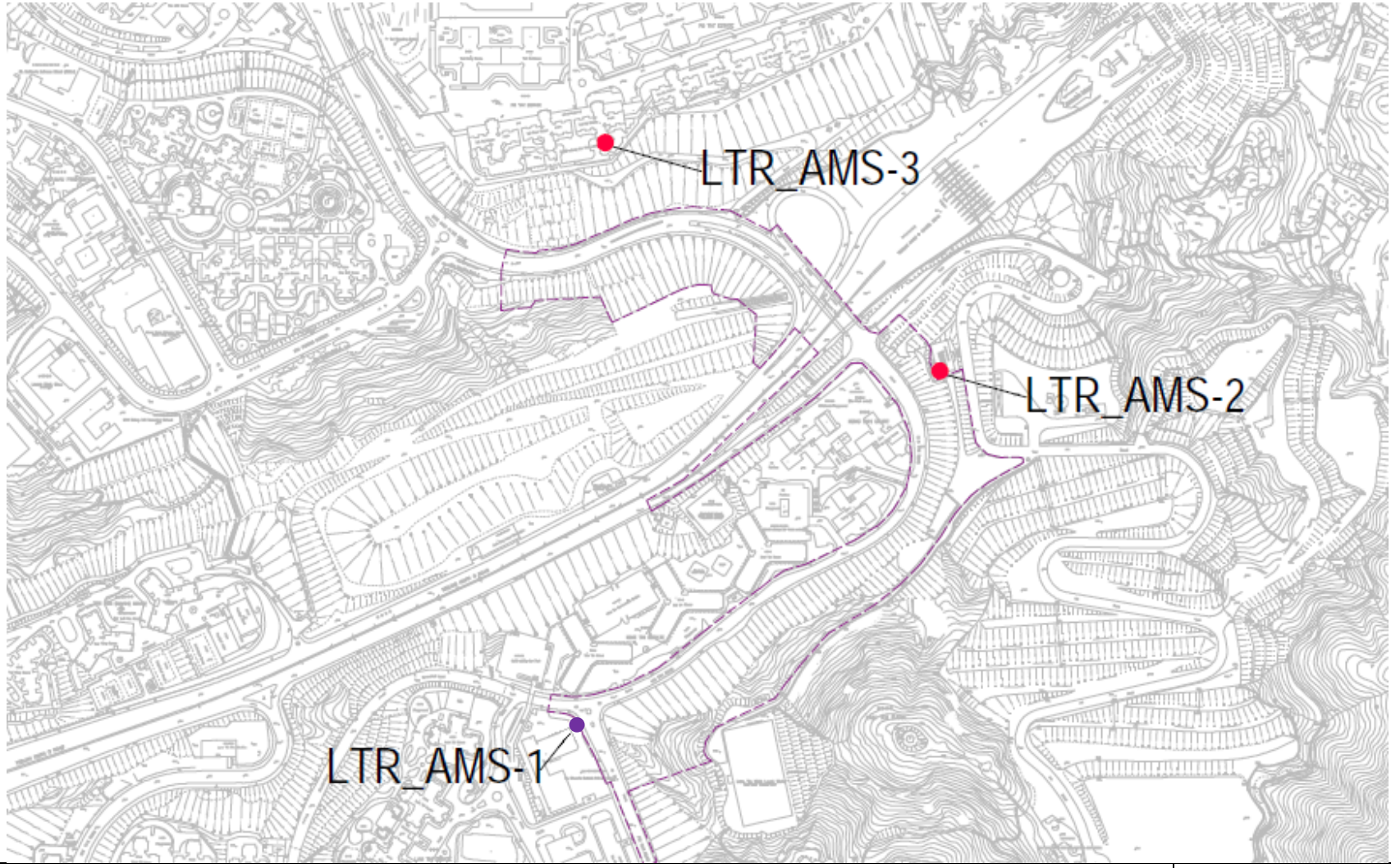
Monitoring Location ID	Description
NMC04	Po Tat Estate Tat Kai House
NMC05	Hong Wah Court Block B Yee Hong House

Figure 4.2
Location of Noise Monitoring Station
(Construction Phase)
(for Road Improvement Work 3)



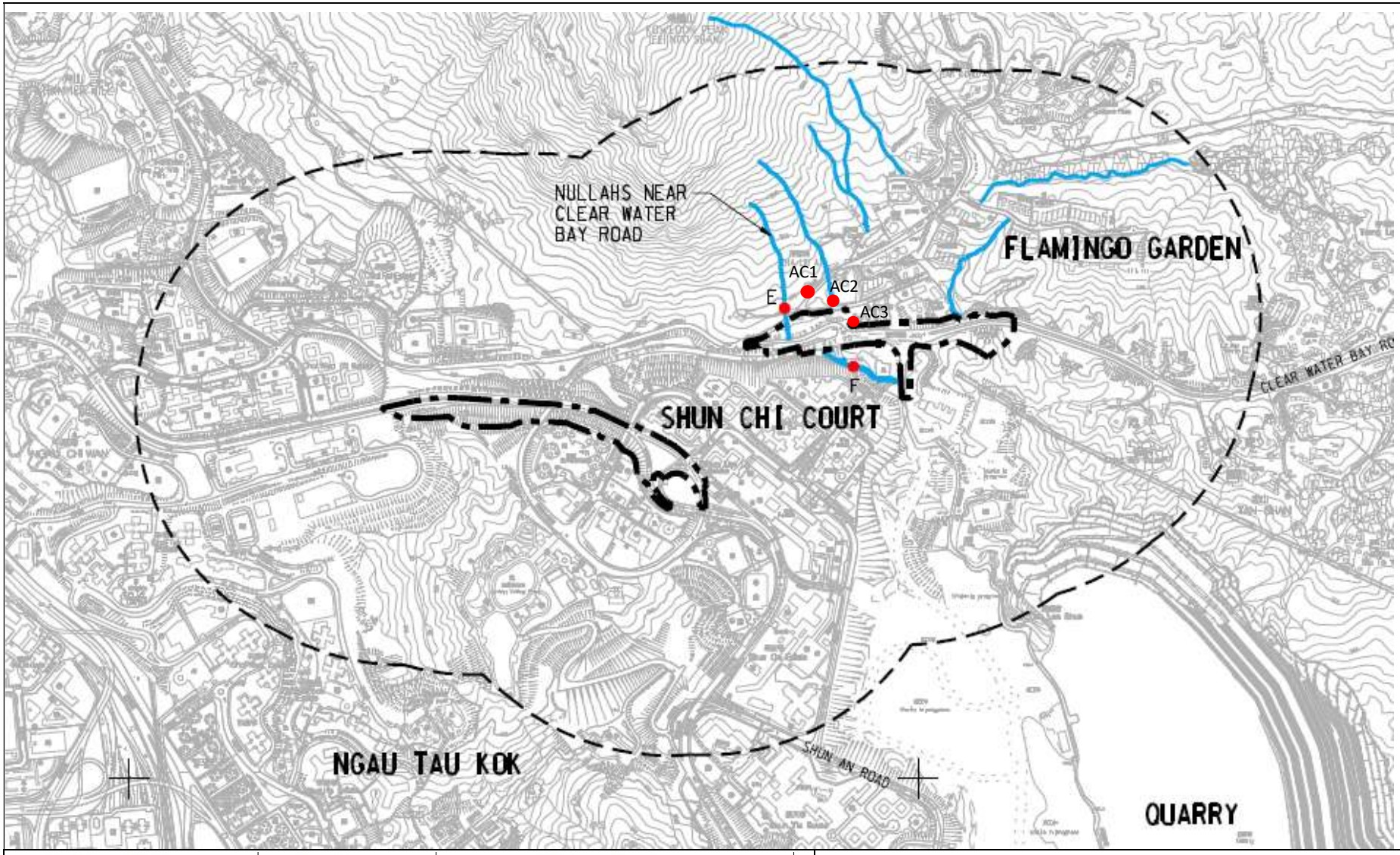
Monitoring Station ID	EIA ID	Location
NCWBR RIW		
NCWBR_AMS-1	ASLF-1	Shun Lee Fire Station
NCWBR_AMS-2	ASLE-21	Shun Lee Estate Lee Hang House
NCWBR_AMS-3	ASLD-10	Shun Lee Disciplined Services Quarters (Block 6)
NCWBR_AMS-4	AFNS-3	Sienna Garden
NCWBR_AMS-5	ASCC-05	Shun Chi Court Shun Fung House

Figure 4.3
Location of Air Quality Monitoring Station
(for Road Improvement Work 1 & 2)



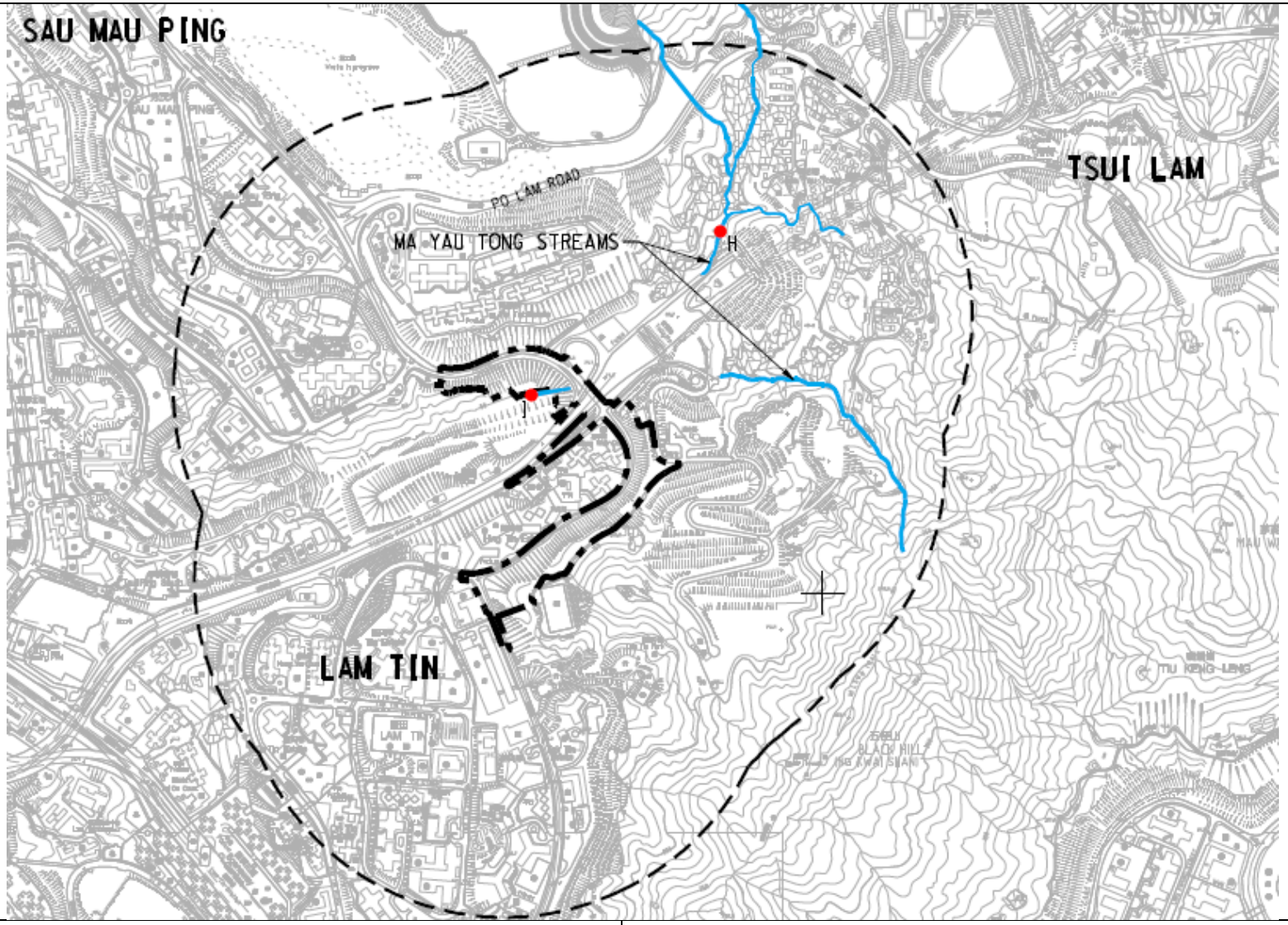
Monitoring Station ID	EIA ID	Location
LTR RIW		
LTR_AMS-1	ASECP-2	St Edward's Catholic Primary School
LTR_AMS-2	AEPD-01	Environmental Protection Department's Restored Landfill Site Office
LTR_AMS-3	APTE-14	Po Tat Estate Tat Kai House

Figure 4.4
Location of Air Quality Monitoring Station (for Road Improvement Work 3)



Inland Water	Stations	Description
Channelized nullah across the Project site	E	Upstream Control Station
	F	Downstream Impact Station
	AC1	Upstream Reference Station
	AC2	Upstream Reference Station
	AC3	Upstream Reference Station

Figure 4.5
Location of Water Quality Monitoring Station
(for Road Improvement Work 1 & 2)



Inland Water	Stations	Description
Ma Yau Tong Stream	H	Upstream Control Station
	I	Downstream Impact Station

Figure 4.6
Location of Water Quality Monitoring Station
(for Road Improvement Work 3)

Appendix 3.1

Environmental Mitigation Implementation Schedule

APPENDIX C - IMPLEMENTATION SCHEDULE OF MITIGATION MEASURES

Introduction

This chapter presents the implementation schedule of mitigation measures for the Project. **Table C.1** summarizes the details of the recommended mitigation measures for all works areas. For each recommended mitigation measure, both the location and timing for the mitigation measures have clearly been identified as well as the parties responsible for implementing the mitigation measures and for maintenance (where applicable).

Table C.1 Implementation Schedule of Mitigation Measures

EIA Ref.	Recommeded Mitigation Measures	Location of the Measures	Implementation Agent	Implementation Stage[(1)]				Relevant Legislation and Guidelines
				Des	C	O	Dec	
Air Quality Impact (Construction Phase)								
4.7.1	Hourly watering with intensity of 0.0455 L/m^2 (tentatively) on the active construction area so as to achieve a dust removal efficiency of 87.5%.	Active works areas	CEDD/Contractor		✓			EIAO-TM, AQOs
4.7.2	• To minimize the dust impact to the surrounding ASRs, dust suppression measures stipulated in the Air Pollution Control (Construction Dust) Regulation should be incorporated to control dust emission from the site. Major control measures relevant to this Project are listed below, and they are recommended to be included in relevant contract documents. - Any excavated or stockpile of dusty material should be 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; - Any dusty material remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads; - A stockpile of dusty material should not extend beyond the pedestrian barriers, fencing or traffic cones; - The load of dusty materials on a vehicles leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak form the vehicle;	All works areas	CEDD/Contractor		✓			Air Pollution Control (Construction Dust) Regulation

EIA Ref.	Recommeded Mitigation Measures	Location of the Measures	Implementation Agent	Implementation Stage[(1)]				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	- Where practicable, vehicles washing facilities including a high pressure water jet should be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the road section between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores; - When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided as far as practicable along the site boundary with provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period; - The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials; - Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously; - Any area that involves demolition activities should be 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; - Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding; - Any skip hoist for material transport should be totally enclosed by impervious sheeting; - Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the three sides;							

EIA Ref.	Recommeded Mitigation Measures	Location of the Measures	Implementation Agent	Implementation Stage[(1)]				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	- Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed; and - Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shortcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies.							
Air Quality Impact (Operational Phase)								
N/A	N/A	N/A	N/A					N/A
Noise Impact (Construction Phase)								
5.8.1 – 5.8.4	<u>Adoption of Quiet PMEs</u> • To reduce the noise impacts at the affected NSRs during normal daytime working hours, mitigation measures such as adopting quiet PME and construction noise barriers are recommended. <u>Construction Noise Barriers</u> • To alleviate the construction noise impact on the affected NSRs, construction noise barriers or enclosures would be erected to provide screening from the construction plant.	All works areas	CEDD/Contractor		✓			EIAO-TM
Noise Impact (Operational Phase)								
5.8.5	Direct mitigation measures in the form of Vertical Noise Barriers, Cantilevered Noise Barriers, Semi-Enclosures and Full Enclosures are proposed on the Project Roads such that the noise level would be reduced to fulfil the EIAO requirements for RIW sites at: • Sau Mau Ping Road and Lin Tak Road, • J/O Clear Water Bay Road and On Sau Road and • New Clear Water Bay Road and Shun Lee Tsuen Road	Project roads	CEDD/Contractor			✓		EIAO-TM

EIA Ref.	Recommeded Mitigation Measures	Location of the Measures	Implementation Agent	Implementation Stage[(1)]				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	•							
Water Quality Impact (Construction Phase)								
6.9.1 - 6.9.13	<u>Construction Site Run-off and General Construction Activities</u> *Boring and Drilling Water* • Water used in ground boring and drilling for site investigation or rock / soil anchoring should as far as practicable be re-circulated after sedimentation. When there is a need for final disposal, the wastewater should be discharged into storm drains via silt removal facilities. *Wheel Washing Water* • All vehicles and plant should be cleaned before they leave a construction site to minimize the deposition of earth, mud, debris on roads. A wheel washing bay should be provided at every site exit if practicable and wash-water should have sand and silt settled out or removed before discharging into storm drains. The section of construction road between the wheel washing bay and the public road should be paved with backfill to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains. *Rubbish and Litter* • Good site practices should be adopted to remove rubbish and litter from construction sites so as to prevent the rubbish and litter from spreading from the site area. It is recommended to clean the construction sites on a regular basis. *Construction Site Run-off* • The site practices outlined in ProPECC PN 1/94 “Construction Site Drainage” should be followed as far as practicable to minimise surface run-off and the chance of erosion. The following measures are recommended to protect water quality and sensitive uses of the coastal area, and when properly implemented should be sufficient to adequately control site discharges so as to avoid water quality impact. • Surface run-off from construction sites should be discharged into storm drains via adequately designed sand/silt removal facilities	All works areas	CEDD/Contractor		✓			ProPECC PN 1/94 Construction Site Drainage TM-DSS Water Pollution Control Ordinance

EIA Ref.	Recommeded Mitigation Measures	Location of the Measures	Implementation Agent	Implementation Stage[(1)]				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	such as sand traps, silt traps and sedimentation basins. Channels or earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Perimeter channels at site boundaries should be provided on site boundaries where necessary to intercept storm run-off from outside the site so that it will not wash across the site. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks. • Silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be removed regularly, at the onset of and after each rainstorm to prevent local flooding. Any practical options for the diversion and re-alignment of drainage should comply with both engineering and environmental requirements in order to provide adequate hydraulic capacity of all drains. Minimum distance of 100m should be maintained between the discharge points of construction site run-off and the existing saltwater intakes. No effluent will be discharged into typhoon shelter. • Construction works should be programmed to minimize soil excavation works in rainy seasons (April to September). If excavation in soil cannot be avoided in these months or at any time of year when rainstorms are likely, for the purpose of preventing soil erosion, temporary exposed slope surfaces should be covered e.g. by tarpaulin, and temporary access roads should be protected by crushed stone or gravel, as excavation proceeds. Intercepting channels should be provided (e.g. along the crest / edge of excavation) to prevent storm runoff from washing across exposed soil surfaces. Arrangements should always be in place in such a way that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm. • Earthworks final surfaces should be well compacted and the subsequent permanent work or surface protection should be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate drainage like intercepting channels should be provided where necessary. • Measures should be taken to minimize the ingress of rainwater into trenches. If excavation of trenches in wet seasons is necessary, they should be dug and backfilled in short sections. Rainwater							

EIA Ref.	Recommeded Mitigation Measures	Location of the Measures	Implementation Agent	Implementation Stage[(1)]				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities. • Construction materials (e.g. aggregates, sand and fill material) on sites should be covered with tarpaulin or similar fabric during rainstorms. • Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers. Discharge of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system. • Good site practices should be adopted to remove rubbish and litter from construction sites so as to prevent the rubbish and litter from spreading from the site area. It is recommended to clean the construction sites on a regular basis. *Site Effluent* • There is a need to apply to EPD for a discharge licence for discharge of effluent from the construction site under the WPCO. The discharge quality must meet the requirements specified in the discharge licence. All the runoff and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the TM-DSS. The beneficial uses of the treated effluent for other on-site activities such as dust suppression, wheel washing and general cleaning etc., can minimise water consumption and reduce the effluent discharge volume. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the relevant WPCO licence which is under the ambit of regional office (RO) of EPD.							
6.9.14 - 6.9.16	<u>Accidental Spillage and Potential Contamination of Surface Water and Groundwater</u> • Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations	All works areas	CEDD/Contractor		✓			Waste Disposal Ordinance Waste Disposal (Chemical Waste)

EIA Ref.	Recommeded Mitigation Measures	Location of the Measures	Implementation Agent	Implementation Stage[(1)]				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	in particular the Waste Disposal (Chemical Waste) (General) Regulation, should be observed and complied with for control of chemical wastes. • Any service shop and maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges. • Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows: - Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport; - Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents; and - Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.							(General) Regulation The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes
6.9.17 - 6.9.18	<u>Sewage Effluent from Construction Workforce</u> • The construction workforce on site will generate sewage. It is recommended to provide sufficient chemical toilets in the works areas. A licensed waste collector should be deployed to clean the chemical toilets on a regular basis. • Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the surrounding environment. Regular environmental audit of the construction site will provide an effective control of any malpractices and can encourage continual improvement of environmental performance on site. It is anticipated that sewage generation during the construction phase of the project would not cause water	All works areas	CEDD/Contractor		✓			Water Pollution Control Ordinance

EIA Ref.	Recommeded Mitigation Measures	Location of the Measures	Implementation Agent	Implementation Stage[(1)]				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	pollution problem after undertaking all required measures.							
6.9.19	<u>Construction Works in Close Proximity of Inland Waters</u> • The practices outlined in ETWB TC (Works) No. 5/2005 "Protection of natural streams/rivers from adverse impacts arising from construction works" should also be adopted where applicable to minimize the water quality impacts upon any natural streams or surface water systems. Relevant mitigation measures from the ETWB TC (Works) No. 5/2005 are listed below: - Construction works close to the inland waters should be carried out in dry season as far as practicable where the flow in the surface channel or stream is low. - The use of less or smaller construction plants may be specified in areas close to the water courses to reduce the disturbance to the surface water. - Temporary storage of materials (e.g. equipment, chemicals and fuel) and temporary stockpile of construction materials should be located well away from any water courses during carrying out of the construction works. - Stockpiling of construction materials and dusty materials should be covered and located away from any water courses. - Construction debris and spoil should be covered up and/or disposed of as soon as possible to avoid being washed into the nearby water receivers. - Proper shoring may need to be erected in order to prevent soil or mud from slipping into the watercourses.	All works areas	CEDD/Contractor		✓			Water Pollution Control Ordinance
Water Quality Impact (Operational Phase)								
6.9.20 - 6.9.23	• Best Management Practices (BMPs) to reduce storm water and non-point source pollution have been proposed for the RIW as follows: *Design Measures* • Exposed surface shall be avoided within the RIW sites to minimize soil erosion. The development site shall be either hard paved or	All works areas	CEDD/HyD	✓		✓		Water Pollution Control Ordinance

EIA Ref.	Recommeded Mitigation Measures	Location of the Measures	Implementation Agent	Implementation Stage[(1)]				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	covered by landscaping area where appropriate. • The streams and channelized nullahs near the RIW sites will be retained to maintain the original flow path. The drainage system will be designed to avoid flooding. • Green areas / tree / shrub planting etc. will be introduced along roadside amenity strips and central dividers as far as possible, which can help to reduce soil erosion. • Evergreen trees species, which in general generate relatively smaller amount of fallen leaves, should be selected where possible. *Devices/ Facilities to Control Pollution* • Screening facilities such as standard gully grating and trash grille, with spacing which is capable of screening off large substances such as fallen leaves and rubbish should be provided at the inlet of drainage system. • Road gullies with standard design and silt traps and oil interceptors should be incorporated during the detailed design to remove particles present in stormwater runoff, where appropriate. *Administrative Measures* • Good management measures such as regular cleaning and sweeping of road surface/ open areas are suggested. The road surface/ open area cleaning should also be carried out prior to occurrence rainstorm. • Manholes, as well as stormwater gullies, ditches provided at the Project sites should be regularly inspected and cleaned (e.g. monthly). Additional inspection and cleansing should be carried out before forecast heavy rainfall.							
Waste Management Implication (Construction Phase)								
7.6.1 – 7.6.3	<u>Good Site Practices</u> • Appropriate waste handling, transportation and disposal methods for all waste arising generated during the construction works for the Project should be implemented to ensure that construction wastes do not enter the nearby streams or drainage channel. • It is anticipated that adverse impacts would not arise on the	All works areas	CEDD/Contractor		✓			Waste Disposal Ordinance DEVB TCW No. 6/2010, ETWB TCW No. 19/2005

EIA Ref.	Recommeded Mitigation Measures	Location of the Measures	Implementation Agent	Implementation Stage[(1)]				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	construction site, provided that good site practices are strictly followed. Recommendations for good site practices during the construction activities include: - Nomination of approved personnel, such as a site manager, to be responsible for good site practices, and making arrangements for collection of all wastes generated at the site and effective disposal to an appropriate facility. - Training of site personnel in proper waste management and chemical waste handling procedures. - Provision of sufficient waste reception/ disposal points, of a suitable vermin-proof design that minimises windblown litter. - Arrangement for regular collection of waste for transport off-site and final disposal. - Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers. - Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors. - A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be proposed. - A Waste Management Plan should be prepared and should be submitted to the Engineer for approval. One may make reference to *ETWB TCW No. 19/2005* for details. • In order to monitor the disposal of C&D materials at landfills and public filling areas, as appropriate, and to control fly tipping, a trip-ticket system should be included as one of the contractual requirements to be implemented by an Environmental Team undertaking the Environmental Monitoring and Audit work. One may take reference to DEVB TCW No.6/2010 for details.							
7.6.4 – 7.6.5	<u>Waste Reduction Measures</u> • Good management and control of construction site activities/	All works areas	CEDD/Contractor	✓	✓			Waste Disposal Ordinance

EIA Ref.	Recommeded Mitigation Measures	Location of the Measures	Implementation Agent	Implementation Stage[(1)]				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	processes can minimise the generation of waste. Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include: - Segregate and store different types of construction related waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal. - Provide separate labelled bins to segregate recyclable waste such as aluminium cans from other general refuse generated by the work force, and to encourage collection by individual collectors. - Any unused chemicals or those with remaining functional capacity shall be recycled. - Maximising the use of reusable steel formwork to reduce the amount of C&D materials. - Prior to disposal of C&D waste, it is recommended that wood, steel and other metals shall be separated for re-use and / or recycling to minimise the quantity of waste to be disposed of to landfill. - Adopt proper storage and site practices to minimise the potential for damage to, or contamination of, construction materials. - Plan the delivery and stock of construction materials carefully to minimise the amount of waste generated. - Minimize over ordering of concrete, mortars and cement grout by doing careful check before ordering. • In addition to the above measures, other specific mitigation measures are recommended below to minimise environmental impacts during handling, transportation and disposal of wastes.							ETWB TCW No. 19/2005
7.6.6 – 7.6.8	<u>Construction and Demolition Materials</u> • The C&D materials generated from site clearance, demolition of existing roads, slope excavation works, and construction of new	All works areas	CEDD/Contractor		✓			Waste Disposal Ordinance Waste Disposal

EIA Ref.	Recommeded Mitigation Measures	Location of the Measures	Implementation Agent	Implementation Stage[(1)]				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	roads, retaining wall and piling works should be sorted on-site into inert C&D materials (that is, public fill) and C&D waste. To minimise the impact resulting from collection and transportation of C&D materials as far as practicable. C&D waste, such as wood, plastic, steel and other metals should be reused or recycled and, as a last resort, disposed to landfill. A suitable area should be designated within the site for temporary stockpiling of C&D materials and to facilitate the sorting process. Within the stockpile areas, the following measures should be taken to control potential environmental impacts or nuisance: - Waste such as soil should be handled and stored well to ensure secure containment; - Covering material during heavy rainfall; - Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; - Locating stockpiles to minimise potential visual impacts; and - Minimising land intake of stockpile areas as far as possible. <u>General Refuse</u> • General refuse should be stored in enclosed bins or compaction units separate from C&D materials. A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D materials. An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light material. <u>Chemical Wastes</u> • If chemical wastes were to be produced at the construction site, the Contractor would be required to register with the EPD as a Chemical Waste Producer, and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the							(Chemical Waste) (General) Regulation Public Health and Municipal Services Ordinance (Cap. 132) - Public Cleansing and Prevention of Nuisances Regulation Land (Miscellaneous Provisions) Ordinance Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes Packaging, Labelling and Storage of Chemical Wastes

EIA Ref.	Recommeded Mitigation Measures	Location of the Measures	Implementation Agent	Implementation Stage[(1)]				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	corresponding chemical characteristics of the waste such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed collector to transport the chemical wastes. The licensed collector shall deliver the waste to the Chemical Waste Treatment Centre at Tsing Yi, or other licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.							
Waste Management Implication (Operational Phase)								
N/A	N/A	N/A	N/A					
Land Contamination (Construction Phase)								
N/A	N/A	N/A	N/A					
Land Contamination (Operational Phase)								
N/A	N/A	N/A	N/A					
Ecological Impact (Terrestrial) (Construction Phase)								
9.13.2-9.13.5	Measures to Avoid/ Minimize Impacts to Flora Species of Conservation Importance • Within the Project Site boundary, two flora species of conservation importance (Incense Tree and Luofushan Joint-fir) would be subject to direct impacts. A detailed vegetation survey should be conducted by a qualified ecologist / botanist within the Project Site boundary. • A Transplantation Proposal should be prepared by a qualified ecologist / botanist with detailed findings of the vegetation survey (i.e. number and locations of the affected individuals, assessment of the suitability and / or practicality of the transplantation) and locations of receptor site(s), transplantation methodology, implementation programme of transplantation, post-transplantation monitoring and maintenance programme. The proposal should be submitted to and approved by AFCD prior to commencement of any works (including ground investigation. The approved transplantation works should be supervised by a qualified botanist / horticulturist / Certified Arborist with relevant experience in transplanting flora species of conservation importance. After transplantation, a 3-year monitoring and maintenance programme	All works areas	CEDD/Contractor		✓			EIAO-TM

EIA Ref.	Recommeded Mitigation Measures	Location of the Measures	Implementation Agent	Implementation Stage[(1)]				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	of the transplanted species should be conducted to ensure the establishment of the transplanted trees. • Hoarding or fencing should be erected around the works areas during the construction phase to restrict access, to adjacent habitats supporting flora species of conservation importance, by site workers and to reduce human disturbance.							
9.13.6-9.13.8	Measures to Avoid/ Minimize Habitat Loss to Woodland and Plantation • Habitat loss could be avoided in the first instance by retaining existing vegetation wherever possible, particularly mature and semi-mature trees present within the works areas. Any trees retained should be adequately protected during construction phase to promote their health and longevity. Areas which would be temporarily affected by construction activities (i.e. slope works) should be reinstated after completing the construction works. • Hoarding or fencing should be erected around the works areas during construction phase to restrict access to natural habitats adjacent to works areas by site workers.	All works areas	CEDD/Contractor	✓	✓			EIAO-TM
9.13.9-9.13.12	Measures to Minimise Disturbance from Construction Activities • Construction dust should be suppressed to avoid and minimize the dust covering leaves of plants that would affect their photosynthesis, and thus their health and growth: - Regular spraying of haul roads. - Proper storage of construction materials. - Covering trucks or transporting wastes in enclosed containers to minimize windblown litter and dust during transportation of waste. • Noise impact during construction phase should be avoided and minimized to reduce the disturbance to the habitats adjacent to the works areas: - Machines and plant (e.g. trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum. - Machines and plants known to emit strong directional noise	All works areas	CEDD/Contractor		✓			EIAO-TM

EIA Ref.	Recommeded Mitigation Measures	Location of the Measures	Implementation Agent	Implementation Stage[(1)]				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	should, wherever possible, be orientated so that the noise is directed away from the nearby habitats. - Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities. - Using Quiet Mechanical Plant (QMP) to limit noise emissions at source. - QMP and other machines and plants (e.g. air compressors, concrete pumps) should be covered by noise enclosure to further reduce noise impact. • Through night-time lighting control during construction phase, glare disturbance to wildlife would be controlled.							
9.13.13	Measures to Minimise Pollution to Watercourses • Good site practices should be adopted to avoid any pollution from entering the watercourses. Practices to minimize surface runoff and to reduce suspended solid levels should be undertaken. - Drainage arrangements should include sediment traps to collect and control construction run-off. - All works and storage area should be restricted to the site boundary. - General refuse and construction wastes should be collected and disposed of in a timely and appropriate manner. - Regular check of the construction boundary to avoid unmitigated impacts imposed on nearby watercourse.	All works areas	CEDD/Contractor		✓			EIAO-TM
Ecological Impact (Terrestrial) (Operational Phase)								
9.13.14	Measures to Minimize Impacts from Noise Barriers • During the operational phase, the road networks and associated noise barriers may result in bird collision and mortality. Mitigation measures such as use of tinted materials and superimposing dark patterns or strips on the barrier, as per EPD / Highways Department requirements would be employed to minimise incidents	All works areas	CEDD/Contractor			✓		EIAO-TM

EIA Ref.	Recommeded Mitigation Measures	Location of the Measures	Implementation Agent	Implementation Stage[(1)]				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	of mortality from collision.							
Landscape and Visual (Construction Phase)								
10.10.4 (Table 10.9)	All existing trees to be retained shall be carefully protected during construction.	All works areas	CEDD/Contractor	✓	✓			DEVB TC (W) No.10/2013
10.10.4 (Table 10.9)	Tree Transplantation Detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWB TCW No. 29/2004, **DEVB TC (W) No.7/2015** and **"Guidelines on Tree Transplanting", GLTMS of DEVB**.	All works areas	CEDD/Contractor	✓	✓			ETWB TCW No. 29/2004 DEVB TC (W) No.7/2015 Guidelines on Tree Transplanting, GLTMS of DEVB
10.10.4 (Table 10.9)	Erection of decorative screen hoarding for reducing visual impacts	All works areas	CEDD/Contractor		✓			EIAO-TM
10.10.4 (Table 10.9)	Measures to avoid / minimize impacts to flora species of conservation importance.	All works areas	CEDD/Contractor	✓	✓			EIAO-TM
Landscape and Visual (Operational Phase)								
10.10.4 (Table 10.10)	Compensatory tree planting for loss of existing trees (Compensation for loss of road side amenity)	All works areas	Design and Construction Stage - CEDD Operational Stage – HyD/LCSD	✓	✓	✓		DEVB TC (W) No.7/2015 GEO publication No. 1/2011
10.10.4 (Table 10.10)	Compensatory woodland planting	All works areas	Design and Construction Stage - CEDD Operational Stage – HyD/ArchSD	✓	✓	✓		DEVB TC (W) No.7/2015 GEO publication No. 1/2011

EIA Ref.	Recommeded Mitigation Measures	Location of the Measures	Implementation Agent	Implementation Stage[(1)]				Relevant Legislation and Guidelines
				Des	C	O	Dec	
10.10.4 (Table 10.10)	Compensatory shrub mix planting	All works areas	Design and Construction Stage - CEDD Operational Stage – HyD	✓	✓	✓		DEVB TC (W) No.7/2015 GEO publication No. 1/2011
10.10.4 (Table 10.10)	Hydro-seeding planting with shrub seed mix	All works areas	Design and Construction Stage - CEDD Operational Stage – HyD	✓	✓	✓		DEVB TC (W) No.7/2015 GEO publication No. 1/2011
10.10.4 (Table 10.10)	Tall buffer advance screen tree / shrub / climber planting	All works areas	Design and Construction Stage - CEDD Operational Stage – HyD	✓	✓	✓		DEVB TC (W) No.7/2015 GEO publication No. 1/2011
10.10.4 (Table 10.10)	Planting of road verges, central divider and around structures	All works areas	Design and Construction Stage - CEDD Operational Stage – HyD, LCSD	✓	✓	✓		ETWB(W) No. 2/2004 Subject to ACABAS approval
10.10.4 (Table 10.10)	Reinstate modified watercourse	All works areas	Design and Construction Stage - CEDD Operational Stage - DSD	✓	✓	✓		EIAO-TM
10.10.4 (Table 10.10)	Provision of visually pleasing aesthetic treatment on noise barriers (with climbers provided if space available) and enclosures	All works areas	Design and Construction Stage - CEDD Operational Stage - HyD	✓	✓	✓		ETWB(W) No. 2/2004 Subject to ACABAS approval
10.10.4 (Table 10.10)	Hard Landscape Treatment Carriageway, Structures and Roadside Furniture (for example, pleasing aesthetic finishing of retaining wall)	All works areas	Design and Construction Stage - CEDD	✓	✓	✓		ETWB(W) No. 10/2005 Subject to

EIA Ref.	Recommeded Mitigation Measures	Location of the Measures	Implementation Agent	Implementation Stage[(1)]				Relevant Legislation and Guidelines
				Des	C	O	Dec	
			Operational Stage – HyD/LCSD/ArchSD					ACABAS approval
10.10.4 (Table 10.10)	Planting of toe planters for slope enhancement	All works areas	Design and Construction Stage - CEDD Operational Stage – LCSD	✓	✓	✓		EIAO-TM GEO publication No. 1/2011
10.10.4 (Table 10.10)	Planting of berm planters/ planting strips for slope enhancement	All works areas	Design and Construction Stage - CEDD Operational Stage – HyD	✓	✓	✓		EIAO-TM GEO publication No. 1/2011
Landfill Gas Hazard (Construction Phase)								
11.9.2 - 11.9.4	• Contractors shall note the possible presence of landfill gas in the ground (even if it is unlikely) and shall take this into account in the design, construction of the proposed works. • A Safety Officer or an appropriately qualified person, trained in the use of gas detection equipment, landfill gas related hazards and the appropriate actions to take in the event of adverse circumstances, shall be present on site throughout the works, in particular, when works are undertaken below ground. • The contractor shall take cognizance of the presence of surface water and leachate management system and landfill gas management systems near the proposed works area. The contractor shall take all reasonable care to avoid any damage, loss, injury, interruption or impairment of the integrity of the landfill facilities within the works limits, storage area and across road area. The contractor shall also liaise and seek EPD and their landfill contractor – Hong Kong Landfill Restoration Group Limited (HKLRG) agreement on site arrangement before carrying out the proposed work.	Works areas within landfill consultation zones	CEDD/Contractor		✓	✓		EPD's Landfill Gas Hazard Assessment Guidance Note
11.9.5 - 11.9.11	<u>Safety Measures</u> • The contractor shall be aware of, and inform all workers accordingly, that methane and carbon dioxide is always likely to be	Works areas within landfill consultation zones	CEDD/Contractor		✓			EPD's Landfill Gas Hazard Assessment

EIA Ref.	Recommeded Mitigation Measures	Location of the Measures	Implementation Agent	Implementation Stage[(1)]				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	present in the soil voids. • All personnel working on site and all visitors to the site be informed of the nearby landfill site and the possibility of landfill gas in the vicinity of the proposed works area. Safety warning notices shall be posted. • No worker shall be allowed to work alone at any time inside the trenches or joint bays or near to any excavation. At least one other worker shall be available to assist in a rescue in an emergency case. • Smoking and naked flames shall be strictly prohibited within the site or confined space if any. 'No Smoking' and 'No Naked Flame' notices shall be posted prominently at the site entrance and other conspicuous locations. • All electrical equipment, such as motors and extension cords, shall be intrinsically safe. • Adequate safely equipment shall be available at all times. This includes but is not limited to fire extinguishing equipment, breathing apparatus and personal protective equipment. • In the event of working inside a confined space is required, sufficient approved resuscitation equipment, breathing apparatus and safety torches shall be available. Persons involved in or supervising such work shall be trained and practiced for the use of such equipment. A permit-to-work system for entry into confined space shall be established by an approved qualified person and consistently enforced. All relevant Ordinances, Legislations, Guidelines and Codes of Practice pertaining to work in confined space must be strictly adhered to.							Guidance Note Labour Department's Code of Practice for Safety and Health at Work in Confined Space
11.9.12-11.9.16	<u>Monitoring</u> • The works area shall be monitored periodically during construction for the presence of methane, carbon dioxide and oxygen using gas detection equipment. The gas detection equipment shall be an intrinsically safe portable instrument, appropriately calibrated and capable of measuring the following gases in the ranges indicated below: – Methane 0 – 100% LEL and 0 – 100% v/v;	Works areas within landfill consultation zones	CEDD/Contractor		✓			EPD's Landfill Gas Hazard Assessment Guidance Note

EIA Ref.	Recommeded Mitigation Measures	Location of the Measures	Implementation Agent	Implementation Stage[(1)]				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	– Carbon dioxide 0 – 100%; and – Oxygen 0 – 21%. • During construction, monitoring of excavations shall be undertaken as follows: • For excavation deeper than 1 m, measurements shall be made: – At the ground surface before excavation commences; – Immediately before any worker enters an 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 300 mm and 1 m deep, measurements shall be made: – Directly after the excavation has been completed; and – Periodically whilst the excavation remains open. • For excavation less than 300 mm, monitoring may be omitted at the discretion of the Safety Officer or other appropriate qualified person. • The monitoring frequency and area to be monitored shall be set down prior to commencement of ground works either by the Safety Officer or by an appropriately qualified person. • Monitoring should be undertaken by the Safety Officer or by an appropriately qualified person. The monitoring results shall be recorded and kept on site and shall be readily available at all times for inspection by the relevant authority. • Depending upon the results of measurements, actions will vary. Actions shall be set down by the Safety Officer or other appropriately qualified person prior to commencement of occupancy of the proposed works area.							
Landfill Gas Hazard (Operational Phase)								

EIA Ref.	Recommeded Mitigation Measures	Location of the Measures	Implementation Agent	Implementation Stage[(1)]				Relevant Legislation and Guidelines
				Des	C	O	Dec	
11.10.2 – 11.10.3	• The presence of landfill gas should be assumed at all times by maintenance workers. • All maintenance workers inspecting any manhole should be fully trained in the issue of landfill gas hazard. • Any manhole which is large enough to permit to access to personnel should be subject to safe entry procedures. • Working in confined spaces is controlled by the Factories and Industrial Undertakings (Confined Spaces) Regulations of the Factories and Industrial Undertakings Ordinance. Following the Code of Practice on Safety and Health at Work in Confined Spaces (Labour Department, Hong Kong) maintains compliance with the above regulations. • A strictly regulated "work permit procedure" should be implemented and the relevant safety procedures must be rigidly followed. • Adequate communication with maintenance staff should be maintained with respect to landfill gas hazard. • Utility companies should undertake a landfill gas surveillance exercise at the utility manholes/inspection chambers. • Undertaken using an intrinsically safe portable instrument, appropriately calibrated and capable of measuring the following gases in the ranges indicated: – Methane 0 – 100% LEL and 0 – 100% v/v; – Carbon dioxide 0 – 100%; and – Oxygen 0 – 21%. • Undertaken for the duration of the site occupancy, or until such time that EPD agrees that surveillance is no longer required. • Depending on the results of the measurements, actions required will vary and should be set down by appropriately qualified person.	Works areas within landfill consultation zones	Maintenance contractor/Utility companies			✓		EPD's Landfill Gas Hazard Assessment Guidance Note Labour Department's Code of Practice for Safety and Health at Work in Confined Space

Note:
(1) Des = Design; C = Construction; O = Operation; Dec = Decommissioning

Appendix 4.1

Action and Limit Level

Action and Limit Level

Action and Limit Level for Noise Monitoring

Monitoring Station	Action Level	Limit Level (dB(A))		
		0700-1900 hrs on normal weekdays	0700-2300 hrs on holidays (including Sundays); and 1900-2300 hrs on all days [2]	2300-0700 hrs of all days [2]
NMC01	When one documented complaint is received	65 / 70 [1]	60 / 65 / 70 [3]	45 / 50 / 55 [3]
NMC02		75		
NMC03		75		
NMC04		75		
NMC05		75		

Remark 1: Limit level of NMC01 - Kei Shun Special School reduce to 65 dB (A) during examination periods if any.
Remark 2: Construction noise during restricted hours is under the control of Noise Control Ordinance Limit Level to be selected based on Area Sensitivity Rating.
Remark 3: Limit Level for restricted hour monitoring shall act as reference level only. Investigation would be conducted on CNP compliance if exceedance recorded during restricted hour noise monitoring period.

Baseline Level for Noise Monitoring
(For reference and calculation of Construction Noise Levels (CNLs))

Monitoring Station	Action Level	Baseline Level (dB(A))		
		0700-1900 hrs on normal weekdays	0700-2300 hrs on holidays (including Sundays); and 1900-2300 hrs on all days	2300-0700 hrs of all days
NMC01	When one documented complaint is received	69.3	69.0	66.6
NMC02		72.0	66.3	68.6
NMC03		78.2	77.9	73.8
NMC04		66.6	64.0	62.1
NMC05		61.8	59.8	57.9

All the Construction Noise Levels (CNLs) reported in this report were adjusted with the corresponding baseline level (i.e. Measured Leq – Baseline Leq = CNL), in order to facilitate the interpretation of the noise exceedance.

Action and Limit Level for Air Quality Monitoring

Monitoring Locations	1-hour TSP Level inμg/m3	
	Action Level	Limit Level
NCWBR_AMS-1	284.4	500.0
NCWBR_AMS-2	282.4	500.0
NCWBR_AMS-3	287.9	500.0
NCWBR_AMS-4	281.6	500.0
NCWBR_AMS-5	270.0	500.0
LTR_AMS-1	272.1	500.0
LTR_AMS-2	281.1	500.0
LTR_AMS-3	285.1	500.0

Action and Limit Level for Water Monitoring

Monitoring Station	Surface pH		Surface DO (mg/L)		Surface Turbidity (NTU)		Surface SS (mg/L)	
	Action Level	Limit Level	Action Level	Limit Level	Action Level	Limit Level	Action Level	Limit Level
E	-	-	-	-	-	-	-	-
F	Beyond the range of 6.6-8.4	Beyond the range of 6.5-8.5	5.8	5.5	24.4	32.7	17.0	23.8
H	-	-	-	-	-	-	-	-
I	Beyond the range of 6.6-8.4	Beyond the range of 6.5-8.5	5.5	5.4	206.9	214.2	172.8	201.4

*Remarks:
- The value of 1.0mg/L was taken as the value for measurement with suspended solid level of <1.0mg/L for Action and Limit level calculation.
- It is recommended that upstream monitoring station (monitoring station E and H) would be taken as control reference for exceedance investigation only. Action and limit level would not be establish using the baseline data.
- In the event that the SS and Turbidity recorded from the Control Stations (E and H) are higher than the Impact Stations (I and F) on the same day of measurement, 120% and 130% of the Control Stations' results should be referenced as the Action and Limit Levels.

Appendix 4.2

Copies of Calibration Certificates

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SOILS & MATERIALS ENGINEERING CO., LTD.
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Tel: (852) 2873 6860 Fax: (852) 2555 7533 E-mail: smec@cigismec.com Website: www.cigismec.com

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CERTIFICATE OF CALIBRATION

Certificate No.: 24CA0419 01-01 **Page** 1 **of** 2

Item tested

Description:	Sound Level Meter (Type 1)	,	Microphone	Preamp
Manufacturer:	Nti	,	Nti Andio	Nti Andio
Type/Model No.:	XL2	,	MC230A	MA220
Serial/Equipment No.:	A2A-15360-EO	,	A14232	6830
Adaptors used:	-	,		

Item submitted by

Customer Name:	Lam Environmental Services Limited.
Address of Customer:	-
Request No.:	-
Date of receipt:	19-Apr-2024

Date of test: 22-Apr-2024

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Multi function sound calibrator	B&K 4226	2288444	28-Aug-2024	CIGISMEC
Signal generator	DS 360	61227	28-Jun-2024	CEPREI

Ambient conditions

Temperature:	21 ± 1 °C
Relative humidity:	55 ± 10 %
Air pressure:	1005 ± 5 hPa

Test specifications

1, The Sound Level Meter has been calibrated in accordance with the requirements as specified in BS 7580: Part 1: 1997 and the lab calibration procedure SMTP004-CA-152.

2, The electrical tests were performed using an electrical signal substituted for the microphone which was removed and replaced by an equivalent capacitance within a tolerance of ±20%.

3, The acoustic calibration was performed using an B&K 4226 sound calibrator and corrections was applied for the difference between the free-field and pressure responsess of the Sound Level Meter.

Test results

This is to certify that the Sound Level Meter conforms to BS 7580: Part 1: 1997 for the conditions under which the test was performed.

Details of the performed measurements are presented on page 2 of this certificate.

Actual Measurement data are documented on worksheets.

Approved Signatory: Feng Junqi **Date:** 23-Apr-2024 **Company Chop:** SOILS & MATERIALS ENGINEERING COMPANY LTD. 綜合試驗有限公司

Comments: The results reported in this certificate refer to the condition of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument. The results apply to the item as received.

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CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.: 24CA0419 01-01 **Page** 2 **of** 2

1, Electrical Tests

The electrical tests were perfomed using an equivalent capacitance substituted for the microphone. The results are given in below with test status and the estimated uncertainties. The "Pass" means the result of the test is inside the tolerances stated in the test specifications. The "-" means the result of test is outside these tolerances.

Test:	Subtest:	Status:	Expanded Uncertainty (dB)	Coverage Factor
Self-generated noise	A	Pass	0.3	
	C	Pass	0.8	2.1
	Lin	Pass	1.6	2.2
Linearity range for Leq	At reference range , Step 5 dB at 4 kHz	Pass	0.3	
	Reference SPL on all other ranges	Pass	0.3	
	2 dB below upper limit of each range	Pass	0.3	
	2 dB above lower limit of each range	Pass	0.3	
Linearity range for SPL	At reference range , Step 5 dB at 4 kHz	Pass	0.3	
Frequency weightings	A	Pass	0.3	
	C	Pass	0.3	
	Lin	Pass	0.3	
Time weightings	Single Burst Fast	Pass	0.3	
	Single Burst Slow	Pass	0.3	
Peak response	Single 100μs rectangular pulse	Pass	0.3	
R.M.S. accuracy	Crest factor of 3	Pass	0.3	
Time weighting I	Single burst 5 ms at 2000 Hz	Pass	0.3	
	Repeated at frequency of 100 Hz	Pass	0.3	
Time averaging	1 ms burst duty factor $1/10^3$ at 4kHz	Pass	0.3	
	1 ms burst duty factor $1/10^4$ at 4kHz	Pass	0.3	
Pulse range	Single burst 10 ms at 4 kHz	Pass	0.4	
Sound exposure level	Single burst 10 ms at 4 kHz	Pass	0.4	
Overload indication	SPL	Pass	0.3	
	Leq	Pass	0.4	

2, Acoustic tests

The complete sound level meter was calibrated on the reference range using a B&K 4226 acoustic calibrator with 1000Hz and SPL 94 dB. The sensitivity of the sound level meter was adjusted. The test result at 125 Hz and 8000 Hz are given in below with test status and the estimated uncertainties.

Test:	Subtest	Status	Expanded Uncertainty (dB)	Coverage Factor
Acoustic response	Weighting A at 125 Hz	Pass	0.3	
	Weighting A at 8000 Hz	Pass	0.5	

3, Response to associated sound calibrator

N/A

The expanded uncertainties have been calculated in accordance with the ISO Publication "Guide to the expression of uncertainty in measurement", and gives an interval estimated to have a level of confidence of 95%. A coverage factor of 2 is assumed unless explicitly stated.

- End -

Calibrated by: Fung Chi Yip **Date:** 22-Apr-2024

Checked by: Chan Yuk Yiu **Date:** 23-Apr-2024

The standard(s) and equipment used in the calibration are traceable to national or international recognised standards and are calibrated on a schedule to maintain the required accuracy level.

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SMECLab

Sound level meter type:	XL2	Serial No.	A2A-15360-EO	Date	22-Apr-2024
Microphone type:	MC230A	Serial No.	A14232		
				Report:	24CA0419 01-01

SELF GENERATED NOISE TEST

The noise test is performed in the most sensitive range of the SLM with the microphone replaced by an equivalent impedance.

Noise level in A weighting	11.1	dB
Noise level in C weighting	14.5	dB
Noise level in Lin	20.4	dB

LINEARITY TEST

The linearity is tested relative to the reference sound pressure level using a continuous sinusoidal signal of frequency 4 kHz. The measurement is made on the reference range for indications at 5 dB intervals starting from the 94 dB reference sound pressure level. And until within 5 dB of the upper and lower limits of the reference range, the measurements shall be made at 1 dB intervals.(SLM set to LEQ/SPL)

Reference/Expected level	Actual level		Tolerance	Deviation	
	non-integrated	integrated		non-integrated	integrated
dB	dB	dB	+/- dB	dB	dB
94.0	94.0	94.0	0.7	0.0	0.0
99.0	99.0	99.0	0.7	0.0	0.0
104.0	104.0	104.0	0.7	0.0	0.0
109.0	109.0	109.0	0.7	0.0	0.0
114.0	114.0	114.0	0.7	0.0	0.0
115.0	115.0	115.0	0.7	0.0	0.0
116.0	116.0	116.0	0.7	0.0	0.0
117.0	117.0	117.0	0.7	0.0	0.0
118.0	118.0	118.0	0.7	0.0	0.0
119.0	119.0	119.0	0.7	0.0	0.0
120.0	120.0	120.0	0.7	0.0	0.0
89.0	89.0	89.0	0.7	0.0	0.0
84.0	84.0	84.0	0.7	0.0	0.0
79.0	79.0	79.0	0.7	0.0	0.0
74.0	74.0	74.0	0.7	0.0	0.0
69.0	69.0	69.0	0.7	0.0	0.0
64.0	64.0	64.0	0.7	0.0	0.0
59.0	59.0	59.0	0.7	0.0	0.0
54.0	54.0	54.0	0.7	0.0	0.0
49.0	49.0	49.0	0.7	0.0	0.0
44.0	44.0	44.0	0.7	0.0	0.0
39.0	39.0	39.0	0.7	0.0	0.0
34.0	34.1	34.1	0.7	0.1	0.1
33.0	33.1	33.1	0.7	0.1	0.1

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SMECLab

Sound level meter type: XL2 Serial No. A2A-15360-EO Date 22-Apr-2024
Microphone type: MC230A Serial No. A14232
Report: 24CA0419 01-01

32.0	32.2	32.2	0.7	0.2	0.2
31.0	31.2	31.2	0.7	0.2	0.2
30.0	30.2	30.2	0.7	0.2	0.2

Measurements for an indication of the reference SPL on all other ranges which include it

Other ranges	Expected level	Actual level	Tolerance	Deviation
dB	dB	dB	+/- dB	dB
40-140	94.0	94.0	0.7	0.0
20-120	94.0	94.0	0.7	0.0
0-100	94.0	94.0	0.7	0.0

Measurements on all level ranges for indications 2 dB below the upper limit and 2 dB above the lower limit

Ranges	Reference/Expected level	Actual level	Tolerance	Deviation
dB	dB	dB	+/- dB	dB
40-140	51.0	51.7	0.7	0.7
	138.0	138.0	0.7	0.0
20-120	30.0	30.2	0.7	0.2
	118.0	118.0	0.7	0.0
0-100	30.0	30.0	0.7	0.0
	98.0	98.0	0.7	0.0

FREQUENCY WEIGHTING TEST

The frequency response of the weighting netwoks are tested at octave intervals over the frequency ranges 31.5 Hz to 12500 Hz. The signal level at 1000 Hz is set to give an indication of the reference SPL.

Frequency weighting A:

Frequency	Ref. level	Expected level	Actual level	Tolerance(dB)		Deviation
Hz	dB	dB	dB	+	-	dB
1000.0	94.0	94.0	94.0	0.0	0.0	0.0
31.6	94.0	54.6	54.4	1.5	1.5	-0.2
63.1	94.0	67.8	67.7	1.5	1.5	-0.1
125.9	94.0	77.9	77.9	1.0	1.0	0.0
251.2	94.0	85.4	85.4	1.0	1.0	0.0
501.2	94.0	90.8	90.7	1.0	1.0	-0.1
1995.0	94.0	95.2	95.2	1.0	1.0	0.0
3981.0	94.0	95.0	95.0	1.0	1.0	0.0
7943.0	94.0	92.9	92.9	1.5	3.0	0.0
12590.0	94.0	89.7	89.6	3.0	6.0	-0.1

Frequency weighting C:

Frequency	Ref. level	Expected level	Actual level	Tolerance(dB)		Deviation
Hz	dB	dB	dB	+	-	dB

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SMECLab

Sound level meter type: XL2 Serial No. A2A-15360-EO Date 22-Apr-2024
Microphone type: MC230A Serial No. A14232
Report: 24CA0419 01-01

1000.0	94.0	94.0	94.0	0.0	0.0	0.0
31.6	94.0	91.0	90.9	1.5	1.5	-0.1
63.1	94.0	93.2	93.1	1.5	1.5	-0.1
125.9	94.0	93.8	93.8	1.0	1.0	0.0
251.2	94.0	94.0	94.0	1.0	1.0	0.0
501.2	94.0	94.0	94.0	1.0	1.0	0.0
1995.0	94.0	93.8	93.8	1.0	1.0	0.0
3981.0	94.0	93.2	93.2	1.0	1.0	0.0
7943.0	94.0	91.0	91.0	1.5	3.0	0.0
12590.0	94.0	87.8	87.6	3.0	6.0	-0.2

Frequency weighting Lin:

Frequency	Ref. level	Expected level	Actual level	Tolerance(dB)		Deviation
Hz	dB	dB	dB	+	-	dB
1000.0	94.0	94.0	94.0	0.0	0.0	0.0
31.6	94.0	94.0	93.9	1.5	1.5	-0.1
63.1	94.0	94.0	93.9	1.5	1.5	-0.1
125.9	94.0	94.0	94.0	1.0	1.0	0.0
251.2	94.0	94.0	94.0	1.0	1.0	0.0
501.2	94.0	94.0	94.0	1.0	1.0	0.0
1995.0	94.0	94.0	94.0	1.0	1.0	0.0
3981.0	94.0	94.0	94.0	1.0	1.0	0.0
7943.0	94.0	94.0	94.0	1.5	3.0	0.0
12590.0	94.0	94.0	94.0	3.0	6.0	0.0

Note: No corrections for the frequency response of the microphone, instrument case and windshield are made to the sound level meter.

TIME WEIGHTING FAST TEST

Time weighting F is tested on the reference range with a single sinusoidal burst of duration 200 ms at a frequency 2000 Hz and an amplitude which produces an indication 4 dB below the upper limit of the primary indicator range when the signal is continuous. (Weight A, Maximum hold)

Ref. level	Expected level	Actual level	Tolerance(dB)		Deviation
dB	dB	dB	+	-	dB
116.0	115.0	115.0	1.0	1.0	0.0

TIME WEIGHTING SLOW TEST

Time weighting S is tested on the reference range with a single sinusoidal burst of duration 500 ms at a frequency 2000 Hz and an amplitude which produces an indication 4 dB below the upper limit of the primary indicator range when the signal is continuous. (Weight A, Maximum hold)

Ref. level	Expected level	Actual level	Tolerance(dB)		Deviation
dB	dB	dB	+	-	dB
116.0	111.9	111.9	1.0	1.0	0.0

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SMECLab

Sound level meter type: XL2 Serial No. A2A-15360-EO Date 22-Apr-2024
Microphone type: MC230A Serial No. A14232
Report: 24CA0419 01-01

PEAK RESPONSE TEST

The onset time of the peak detector is tested on the reference range by comparing the response to a 100 us rectangular test pulse with the response to a 10 ms reference pulse of the same amplitude. The amplitude of the 10 ms reference pulse is such as to produce an indication 1 dB below the upper limit of the primary indicator range.

Positive polarities: (Weighting Z, set the generator signal to single, Lzpeak)

Ref. level	Response to 10 ms	Response to 100 us	Tolerance	Deviation
dB	dB	dB	+/- dB	dB
119.0	119.0	119.5	2.0	0.5

Negative polarities:

Ref. level	Response to 10 ms	Response to 100 us	Tolerance	Deviation
dB	dB	dB	+/- dB	dB
119.0	119.0	119.5	2.0	0.5

RMS ACCURACY TEST

The RMS detector accuracy is tested on the reference range for a crest factor of 3.

Test frequency: 2000 Hz
Amplitude: 2 dB below the upper limit of the primary indicator range.
Burst repetition frequency: 40 Hz
Tone burst signal: 11 cycles of a sine wave of frequency 2000 Hz. (Set to INT)

	Ref. Level	Expected level	Tone burst signal	Tolerance	Deviation
Time wighting	dB	dB	indication(dB)	+/- dB	dB
Slow	118.0+6.6	118.0	118.0	0.5	0.0

TIME WEIGHTING IMPULSE TEST

Time weighting I is tested on the reference range (Set the SLM to LAImax)
Test frequency: 2000 Hz
Amplitude: The upper limit of the primary indicator range.

Single sinusoidal burst of duration 5 ms:

Ref. Level	Single burst indication		Tolerance	Deviation
dB	Expected (dB)	Actual (dB)	+/- dB	dB
120.0	111.2	111.2	2.0	0.0

Repeated at 100 Hz

Ref. Level	Repeated burst indication		Tolerance	Deviation
dB	Expected (dB)	Actual (dB)	+/- dB	dB
120.0	117.3	117.2	1.0	-0.1

TIME AVERAGING TEST

This test compares the SLM reading for continuous sine signals with readings obtained from a sine tone burst sequence having the same RMS level. The test level is 30 dB below the upper limit of the linearity range and repeated for Type 1 SLM with 40 dB below the upper limit of the linearity.

Frequency of tone burst: 4000 Hz
Duration of tone burst: 1 ms

Repetition Time	Level of tone burst	Expected Leq	Actual Leq	Tolerance	Deviation	Remarks

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SMECLab

Sound level meter type: XL2 Serial No. A2A-15360-EO Date 22-Apr-2024
Microphone type: MC230A Serial No. A14232
Report: 24CA0419 01-01

msec	dB	dB	dB	+/- dB	dB	
1000	90.0	90.0	90.0	1.0	0.0	60s integ.
10000	80.0	80.0	80.0	1.0	0.0	6min. integ.

PULSE RANGE AND SOUND EXPOSURE LEVEL TEST

The test tone burst signal is superimposed on a baseline signal corresponding to the lower limit of reference range

Test frequency: 4000 Hz

Integration time: 10 sec

The integrating sound level meter set to Leq:

Duration	Rms level of	Expected	Actual	Tolerance	Deviation
msec	tone burst (dB)	dB	dB	+/- dB	dB
10	88.0	58.0	58.0	1.7	0.0

The integrating sound level meter set to SEL:

Duration	Rms level of	Expected	Actual	Tolerance	Deviation
msec	tone burst (dB)	dB	dB	+/- dB	dB
10.0	88.0	68.0	68.0	1.7	0.0

OVERLOAD INDICATION TEST

For SLM capable of operating in a non-integrating mode.

Test frequency: 2000 Hz
Amplitude: 2 dB below the upper limit of the primary indicator range.
Burst repetition frequency: 40 Hz
Tone burst signal: 11 cycles of a sine wave of frequency 2000 Hz.

Level	Level reduced by	Further reduced	Difference	Tolerance	Deviation
at overload (dB)	1 dB	3 dB	dB	dB	dB
122.3	121.3	118.3	3.0	1.0	0.0

For integrating SLM, with the instrument indicating Leq.

For integrating SLM, with the instrument indicating Leq and set to the reference range. The test signal as following:
The test tone burst signal is superimposed on a baseline signal corresponding to the lower limit of reference range

Test frequency: 4000 Hz
Integration time: 10 sec
Single burst duration: 1 msec

Rms level	Level reduced by	Expected level	Actual level	Tolerance	Deviation
at overload (dB)	1 dB	dB	dB	dB	dB
128.3	127.3	87.3	87.3	2.2	0.0

ACOUSTIC TEST

The acoustic test of the complete SLM is tested at the frequency 125 Hz and 8000 Hz using a B&K type 4226 Multifunction Acoustic Calibrator. The test is performed in A weighting.

Frequency	Expected level	Actual level	Tolerance (dB)		Deviation
Hz	dB	Measured (dB)	+	-	dB

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SMECLab

Test Data for Sound Level Meter

Sound level meter type: XL2 Serial No. A2A-15360-EO Date 22-Apr-2024
Microphone type: MC230A Serial No. A14232
Report: 24CA0419 01-01

1000	94.0	94.0	0.0	0.0	0.0
125	77.9	77.9	1.0	1.0	0.0
8000	92.9	90.3	1.5	3.0	-2.6

---------END---------

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HOKLAS 028
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CERTIFICATE OF CALIBRATION

Certificate No.: 24CA0205 01-02 **Page:** 1 **of** 2

Item tested

Description:	Acoustical Calibrator (Class 1)
Manufacturer:	Larson Davis
Type/Model No.:	CAL200
Serial/Equipment No.:	13128
Adaptors used:	-

Item submitted by

Curstomer:	Lam Environmental Services Ltd.
Address of Customer:	-
Request No.:	-
Date of receipt:	05-Feb-2024

Date of test: 06-Feb-2024

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Lab standard microphone	B&K 4180	3257888	15-Aug-2024	SCL
Preamplifier	B&K 2673	3353200	13-Jun-2024	CEPREI
Measuring amplifier	B&K 2610	2346941	13-Jun-2024	CEPREI
Signal generator	DS 360	61227	28-Jun-2024	CEPREI
Digital multi-meter	34401A	US36087050	01-Jun-2024	CEPREI
Audio analyzer	8903B	GB41300350	13-Jun-2024	CEPREI
Universal counter	53132A	MY40003662	07-Jun-2024	CEPREI

Ambient conditions

Temperature:	21 ± 1 °C
Relative humidity:	55 ± 10 %
Air pressure:	1005 ± 5 hPa

Test specifications

1, The Sound Calibrator has been calibrated in accordance with the requirements as specified in IEC 60942 1997 Annex B and the lab calibration procedure SMTP004-CA-156.

2, The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.

3, The results are rounded to the nearest 0.01 dB and 0.1 Hz and have not been corrected for variations from a reference pressure of 1013.25 hectoPascals as the maker's information indicates that the instrument is insensitive to pressure changes.

Test results

This is to certify that the sound calibrator conforms to the requirements of annex B of IEC 60942: 1997 for the conditions under which the test was performed. This does not imply that the sound calibrator meets IEC 60942 under any other conditions.

Details of the performed measurements are presented on **page 2** of this certificate.

Approved Signatory: Feng Junqi **Date:** 07-Feb-2024 **Company Chop:** SOILS AND MATERIALS ENGINEERING COMPANY LTD. 綜合試驗有限公司

Comments: The results reported in this certificate refer to the conditon of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument. The results apply to the item as received.

綜合試驗有限公司
SOILS & MATERIALS ENGINEERING CO., LTD.
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Good Ba Ba Hitech Building, Nos. 22-24 Wing Kei Road, Kwai Chung, New Territories, Hong Kong
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CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.: 24CA0205 01-02 **Page:** 2 **of** 2

1, Measured Sound Pressure Level

The output Sound Pressure Level in the calibrator head was measured at the setting and frequency shown using a calibrated laboratory standard microphone and insert voltage technique. The results are given in below with the estimated uncertainties.

(Output level in dB re 20 μPa)

Frequency Shown Hz	Output Sound Pressure Level Setting dB	Measured Output Sound Pressure Level dB	Estimated Expanded Uncertainty dB
1000	94.00	93.74	0.10

2, Sound Pressure Level Stability - Short Term Fluctuations

The Short Term Fluctuations was determined by measuring the maximum and minimum of the fast weighted DC output of the B&K 2610 measuring amplifier over a 20 second time interval as required in the standard. The Short Term Fluctuation was found to be:

At 1000 Hz **STF = 0.016 dB**

Estimated expanded uncertainty 0.005 dB

3, Actual Output Frequency

The determination of actual output frequency was made using a B&K 4180 microphone together with a B&K 2673 preamplifier connected to a B&K 2610 measuring amplifier. The AC output of the B&K 2610 was taken to an universal counter which was used to determine the frequency averaged over 20 second of operation as required by the standard. The actual output frequency at 1 KHz was:

At 1000 Hz **Actual Frequency = 999.4 Hz**

Estimated expanded uncertainty 0.1 Hz Coverage factor k = 2.2

4, Total Noise and Distortion

For the Total Noise and Distortion measurement, the unfiltered AC output of the B&K 2610 measuring amplifier was connected to an Agilent Type 8903 B distortion analyser. The TND result at 1 KHz was:

At 1000 Hz **TND = 0.8%**

Estimated expanded uncertainty 0.7 %

The expanded uncertainties have been calculated in accordance with the ISO Publication "Guide to the expression of uncertainty in measurement", and gives an interval estimated to have a level of confidence of 95%. A coverage factor of 2 is assumed unless explicitly stated.

- End -

Calibrated by: Fung Chi Yip **Date:** 06-Feb-2024

Checked by: Chan Yuk Yiu **Date:** 07-Feb-2024

The standard(s) and equipment used in the calibration are traceable to national or international recognised standards and are calibrated on a schedule to maintain the required accuracy level.

Lam Environmental Services Limited

Portable Dust Meter Performance Check Record

Portable Dust Meter

Type	:	Particulare Monitor
Manufacturer	:	MET ONE INSTRUMENTS
Model Number	:	BT-645
Serial Number	:	B17940
Performance Check Date	:	6-May-24

Standard Equipment

Type	:	High Volume Sampler
Manufacturer	:	TISCH
Model Number	:	TE-5170
Equipment Number	:	2493
Last Calibration Date	:	17-Apr-24

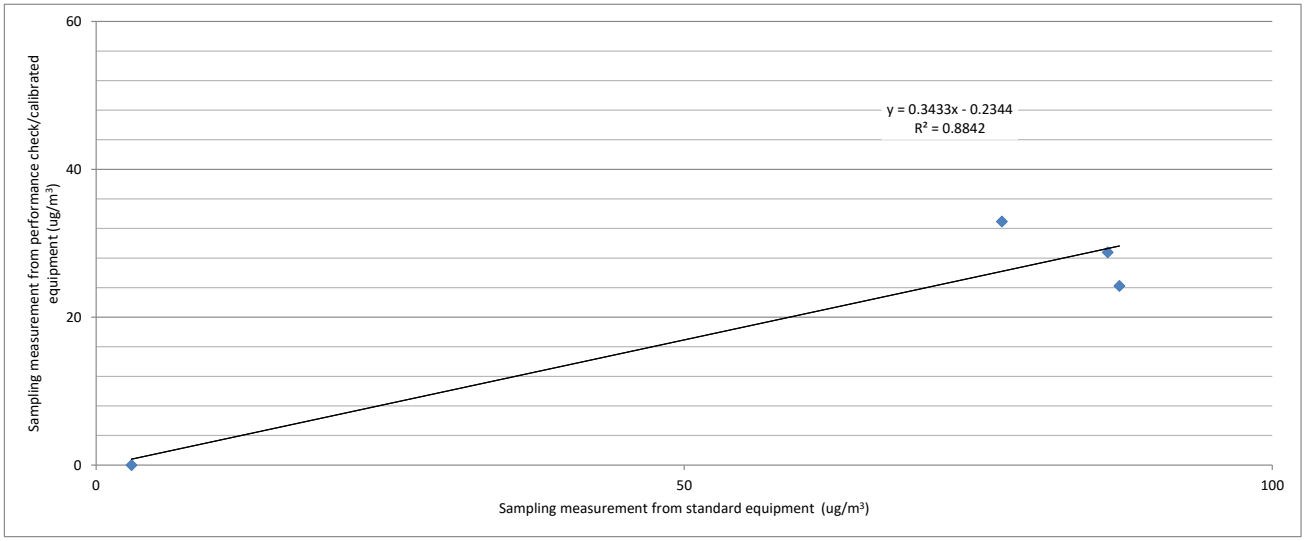
Portable Dust Meter Performance Check Results

Trial no. in 1-hr period	Time	Mean Temp (°C)	Mean Pressure (hPa)	Concentration in ug/m^3 (Standard equipment) (Y - Axis)	Concentration in ug/m^3 (Performance Check / Calibrated equipment) (X - Axis)
1	6/5/2024 8:40 -9:40	28	1012	86	29
2	6/5/2024 9:42 -10:42	28	1012	77	33
3	6/5/2024 10:44 -11:44	28	1012	87	24

* Filter paper weighting was conducted by HOKLAS accredited laboratory.

Linear Regression of Y on X

Slope (K- factor)	:	2.6000
Correlation Coefficient	:	0.9403
Validity of Performance Check / Calibration Record	:	6/5/2025



Operator:	Alan Ng	Date:	10/5/2024
Checked by:	Derek Lo	Date:	10/5/2024

Lam Environmental Services Limited

Portable Dust Meter Performance Check Record

Portable Dust Meter

Type	:	Particulare Monitor
Manufacturer	:	MET ONE INSTRUMENTS
Model Number	:	BT-645
Serial Number	:	B17942
Performance Check Date	:	6-May-24

Standard Equipment

Type	:	High Volume Sampler
Manufacturer	:	TISCH
Model Number	:	TE-5170
Equipment Number	:	2493
Last Calibration Date	:	17-Apr-24

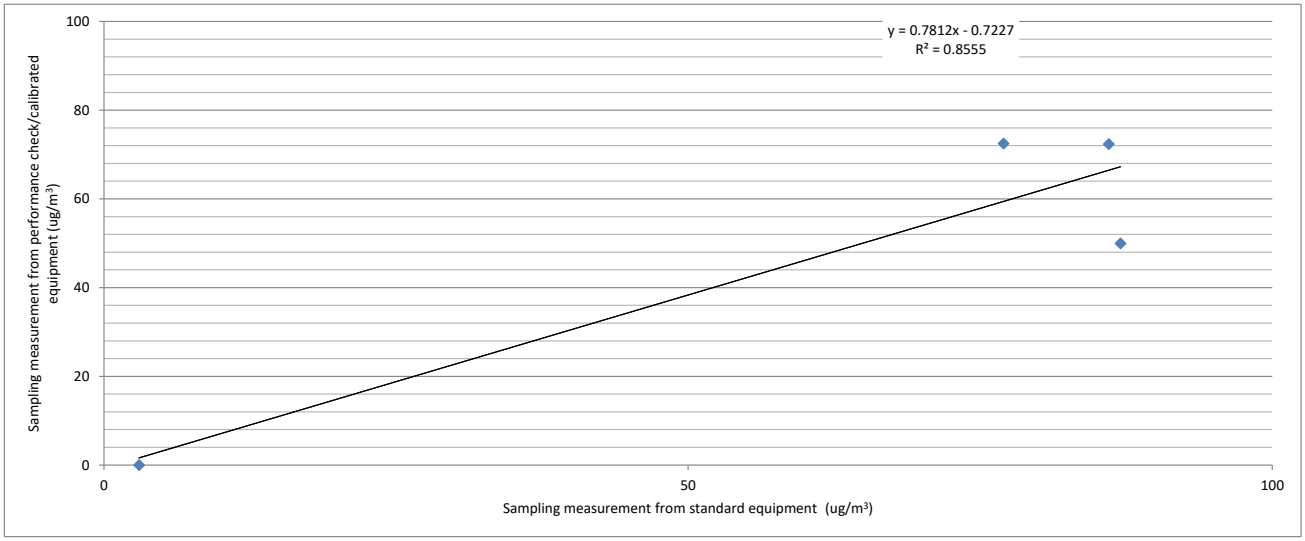
Portable Dust Meter Performance Check Results

Trial no. in 1-hr period	Time	Mean Temp (°C)	Mean Pressure (hPa)	Concentration in ug/m^3 (Standard equipment) (Y - Axis)	Concentration in ug/m^3 (Performance Check / Calibrated equipment) (X - Axis)
1	6/5/2024 8:40 -9:40	28	1012	86	72
2	6/5/2024 9:42 -10:42	28	1012	77	72
3	6/5/2024 10:44 -11:44	28	1012	87	50

* Filter paper weighting was conducted by HOKLAS accredited laboratory.

Linear Regression of Y on X

Slope (K- factor)	:	1.1000
Correlation Coefficient	:	0.9249
Validity of Performance Check / Calibration Record	:	6/5/2025



Operator:	Alan Ng	Date:	10/5/2024
Checked by:	Derek Lo	Date:	10/5/2024

Lam Environmental Services Limited

Portable Dust Meter Performance Check Record

Portable Dust Meter

Type	:	Particulare Monitor
Manufacturer	:	MET ONE INSTRUMENTS
Model Number	:	BT-645
Serial Number	:	C15625
Performance Check Date	:	17-Apr-24

Standard Equipment

Type	:	High Volume Sampler
Manufacturer	:	TISCH
Model Number	:	TE-5170
Equipment Number	:	2493
Last Calibration Date	:	17-Apr-24

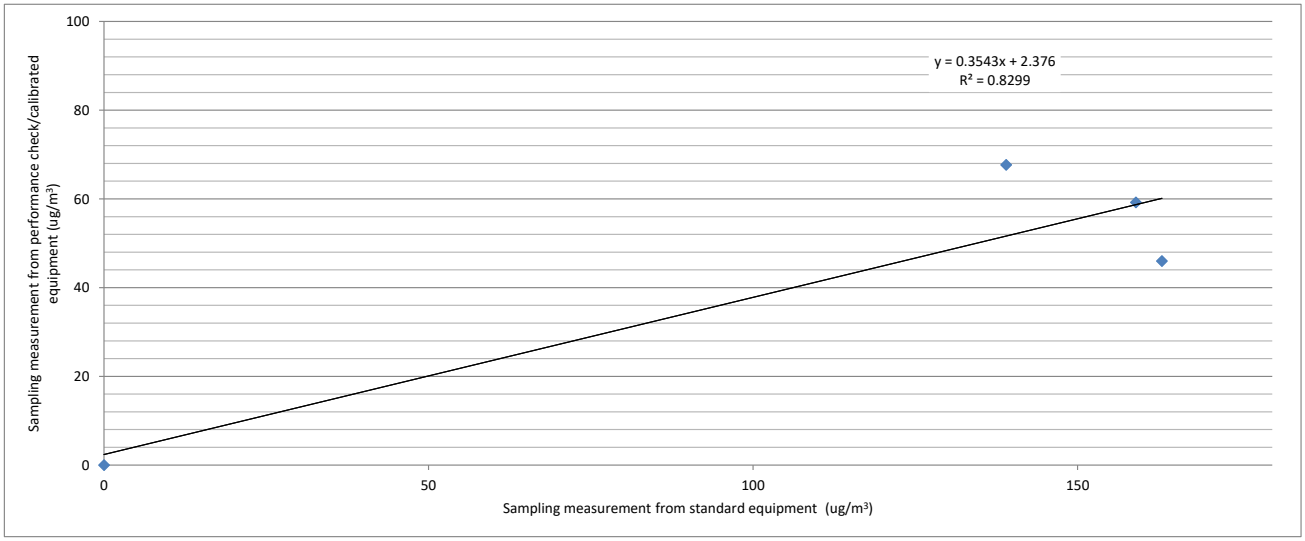
Portable Dust Meter Performance Check Results

Trial no. in 1-hr period	Time	Mean Temp (°C)	Mean Pressure (hPa)	Concentration in ug/m^3 (Standard equipment) (Y - Axis)	Concentration in ug/m^3 (Performance Check / Calibrated equipment) (X - Axis)
1	17/4/2024 9:50 -10:50	28	1010	163	46
2	17/4/2024 10:52 -11:52	28	1010	159	59
3	17/4/2024 11:54 -12:54	28	1010	139	68

* Filter paper weighting was conducted by HOKLAS accredited laboratory.

Linear Regression of Y on X

Slope (K- factor)	:	2.4000
Correlation Coefficient	:	0.9110
Validity of Performance Check / Calibration Record	:	17/4/2025



Operator:	Alan Ng	Date:	19/4/2024
Checked by:	Derek Lo	Date:	19/4/2024

Lam Environmental Services Limited

Portable Dust Meter Performance Check Record

Portable Dust Meter

Type	:	Particulare Monitor
Manufacturer	:	MET ONE INSTRUMENTS
Model Number	:	BT-645
Serial Number	:	R22586
Performance Check Date	:	8-Jul-24

Standard Equipment

Type	:	High Volume Sampler
Manufacturer	:	TISCH
Model Number	:	TE-5170
Equipment Number	:	2493
Last Calibration Date	:	8-Jul-24

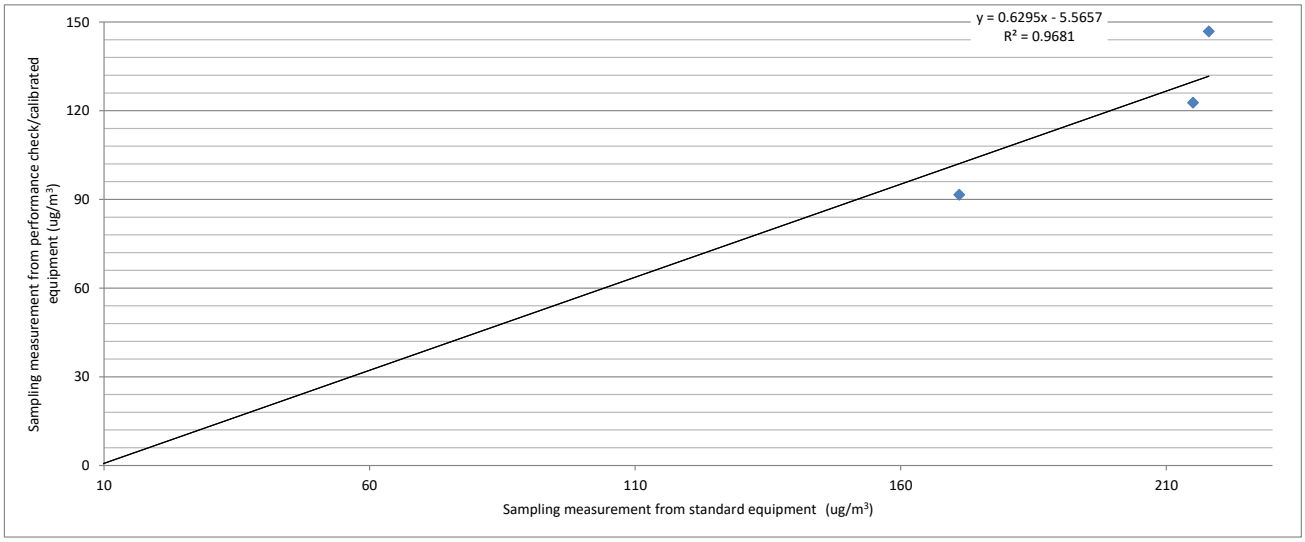
Portable Dust Meter Performance Check Results

Trial no. in 1-hr period	Time	Mean Temp (°C)	Mean Pressure (hPa)	Concentration in ug/m^3 (Standard equipment) (Y - Axis)	Concentration in ug/m^3 (Performance Check / Calibrated equipment) (X - Axis)
1	8/7/2024 10:30 -11:30	32	1008	215	123
2	8/7/2024 11:32 -12:32	32	1008	171	92
3	8/7/2024 12:34 -13:34	32	1008	218	147

* Filter paper weighting was conducted by HOKLAS accredited laboratory.

Linear Regression of Y on X

Slope (K- factor)	:	1.6000
Correlation Coefficient	:	0.9839
Validity of Performance Check / Calibration Record	:	8/7/2025



Operator:	William Cheung	Date:	11/7/2024
Checked by:	Derek Lo	Date:	11/7/2024

Lam Environmental Services Limited

Portable Dust Meter Performance Check Record

Portable Dust Meter

Type	:	Particulare Monitor
Manufacturer	:	MET ONE INSTRUMENTS
Model Number	:	BT-645
Serial Number	:	X19298
Performance Check Date	:	6-May-24

Standard Equipment

Type	:	High Volume Sampler
Manufacturer	:	TISCH
Model Number	:	TE-5170
Equipment Number	:	2493
Last Calibration Date	:	17-Apr-24

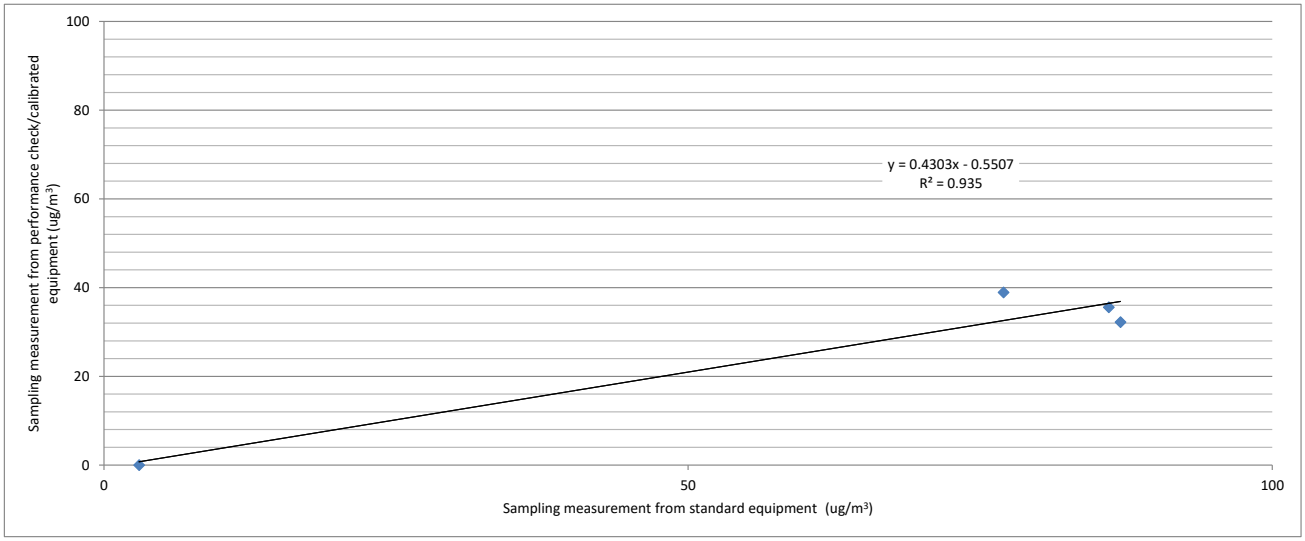
Portable Dust Meter Performance Check Results

Trial no. in 1-hr period	Time	Mean Temp (°C)	Mean Pressure (hPa)	Concentration in ug/m^3 (Standard equipment) (Y - Axis)	Concentration in ug/m^3 (Performance Check / Calibrated equipment) (X - Axis)
1	6/5/2024 8:40 -9:40	28	1012	86	36
2	6/5/2024 9:42 -10:42	28	1012	77	39
3	6/5/2024 10:44 -11:44	28	1012	87	32

* Filter paper weighting was conducted by HOKLAS accredited laboratory.

Linear Regression of Y on X

Slope (K- factor)	:	2.2000
Correlation Coefficient	:	0.9670
Validity of Performance Check / Calibration Record	:	6/5/2025



Operator:	Alan Ng	Date:	10/5/2024
Checked by:	Derek Lo	Date:	10/5/2024

Lam Environmental Services Limited

Portable Dust Meter Performance Check Record

Portable Dust Meter

Type	:	Particulare Monitor
Manufacturer	:	MET ONE INSTRUMENTS
Model Number	:	BT-645
Serial Number	:	X19299
Performance Check Date	:	8-Jul-24

Standard Equipment

Type	:	High Volume Sampler
Manufacturer	:	TISCH
Model Number	:	TE-5170
Equipment Number	:	2493
Last Calibration Date	:	8-Jul-24

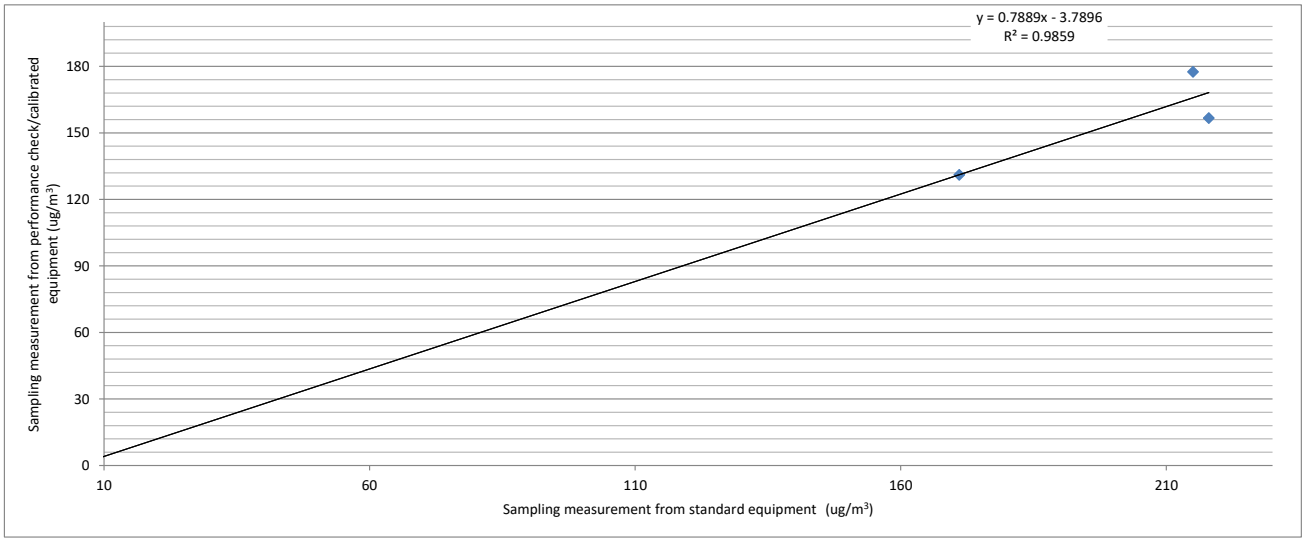
Portable Dust Meter Performance Check Results

Trial no. in 1-hr period	Time	Mean Temp (°C)	Mean Pressure (hPa)	Concentration in ug/m^3 (Standard equipment) (Y - Axis)	Concentration in ug/m^3 (Performance Check / Calibrated equipment) (X - Axis)
1	8/7/2024 10:30 -11:30	32	1008	215	178
2	8/7/2024 11:32 -12:32	32	1008	171	131
3	8/7/2024 12:34 -13:34	32	1008	218	157

* Filter paper weighting was conducted by HOKLAS accredited laboratory.

Linear Regression of Y on X

Slope (K- factor)	:	1.3000
Correlation Coefficient	:	0.9929
Validity of Performance Check / Calibration Record	:	8/7/2025



Operator: William Cheung Date: 11/7/2024

Checked by: Derek Lo Date: 11/7/2024

Lam Environmental Services Limited

Portable Dust Meter Performance Check Record

Portable Dust Meter

Type	:	Particulare Monitor
Manufacturer	:	MET ONE INSTRUMENTS
Model Number	:	Metone AEROCET 831
Serial Number	:	B19128
Performance Check Date	:	17-Apr-24

Standard Equipment

Type	:	High Volume Sampler
Manufacturer	:	TISCH
Model Number	:	TE-5170
Equipment Number	:	2493
Last Calibration Date	:	17-Apr-24

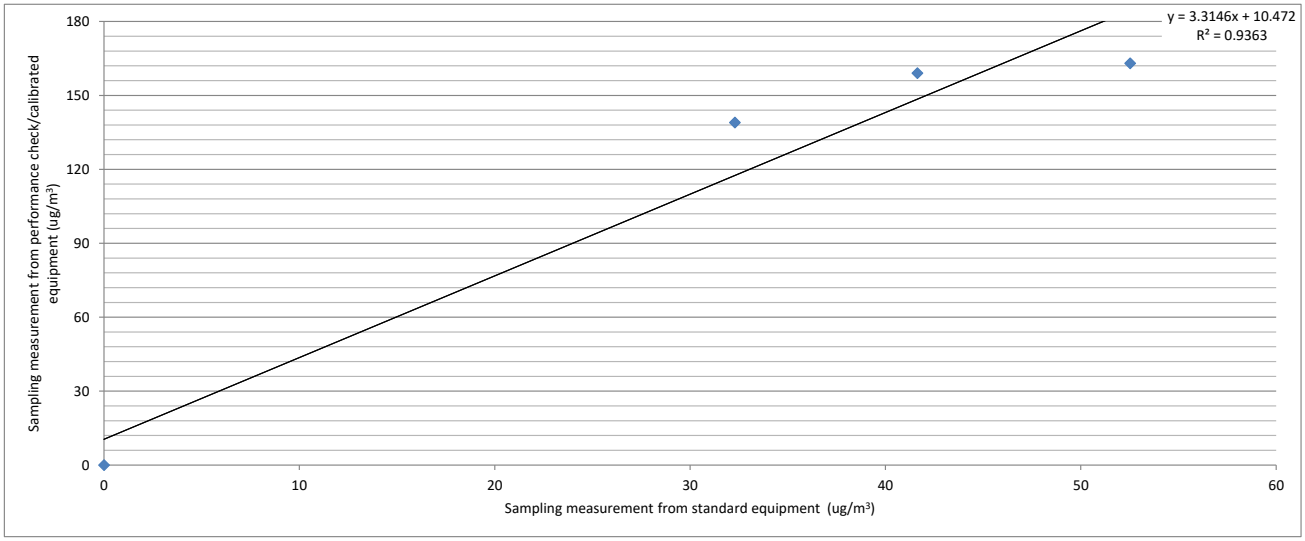
Portable Dust Meter Performance Check Results

Trial no. in 1-hr period	Time	Mean Pressure (hPa)	Mean Temp (˚C)	Concentration in ug/m^3 (Standard equipment) (Y - Axis)	Concentration in ug/m^3 (Performance Check / Calibrated equipment) (X - Axis)
1	17/4/2024 9:50 -10:50	1010	28	163	53
2	17/4/2024 10:52 -11:52	1010	28	159	42
3	17/4/2024 11:54 -12:54	1010	28	139	32

* Filter paper weighting was conducted by HOKLAS accredited laboratory.

Linear Regression of Y on X

Slope (K- factor)	:	3.4000
Correlation Coefficient	:	0.9676
Validity of Performance Check / Calibration Record	:	17/4/2025



Operator:	Alan Ng	Date:	19/4/2024
Checked by:	Derek Lo	Date:	19/4/2024

Lam Environmental Services Limited

Portable Dust Meter Performance Check Record

Portable Dust Meter

Type	:	Particulare Monitor
Manufacturer	:	MET ONE INSTRUMENTS
Model Number	:	Metone AEROCET 831
Serial Number	:	W16848
Performance Check Date	:	17-Apr-24

Standard Equipment

Type	:	High Volume Sampler
Manufacturer	:	TISCH
Model Number	:	TE-5170
Equipment Number	:	2493
Last Calibration Date	:	17-Apr-24

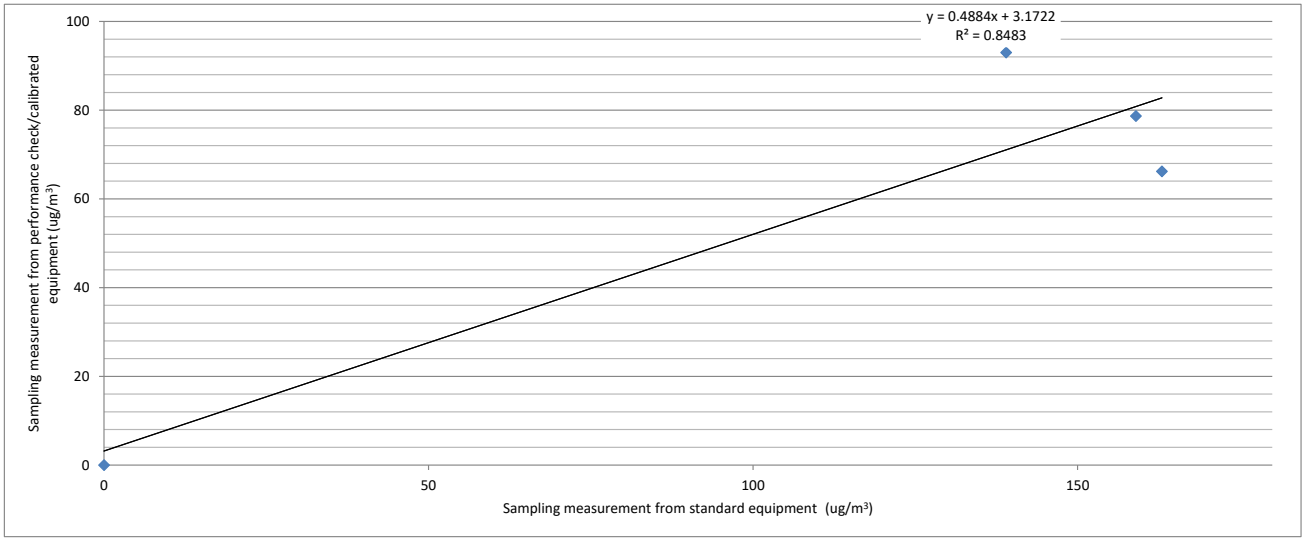
Portable Dust Meter Performance Check Results

Trial no. in 1-hr period	Time	Mean Temp (°C)	Mean Pressure (hPa)	Concentration in ug/m^3 (Standard equipment) (Y - Axis)	Concentration in ug/m^3 (Performance Check / Calibrated equipment) (X - Axis)
1	17/4/2024 9:50 -10:50	28	1010	163	66
2	17/4/2024 10:52 -11:52	28	1010	159	79
3	17/4/2024 11:54 -12:54	28	1010	139	93

* Filter paper weighting was conducted by HOKLAS accredited laboratory.

Linear Regression of Y on X

Slope (K- factor)	:	1.8000
Correlation Coefficient	:	0.9210
Validity of Performance Check / Calibration Record	:	17/4/2025



Operator:	Alan Ng	Date:	19/4/2024
Checked by:	Derek Lo	Date:	19/4/2024

Lam Environmental Services Limited

Portable Dust Meter Performance Check Record

Portable Dust Meter

Type	:	Particulare Monitor
Manufacturer	:	MET ONE INSTRUMENTS
Model Number	:	Metone AEROCET 831
Serial Number	:	Y23160
Performance Check Date	:	23-Aug-24

Standard Equipment

Type	:	High Volume Sampler
Manufacturer	:	TISCH
Model Number	:	TE-5170
Equipment Number	:	2493
Last Calibration Date	:	8-Jul-24

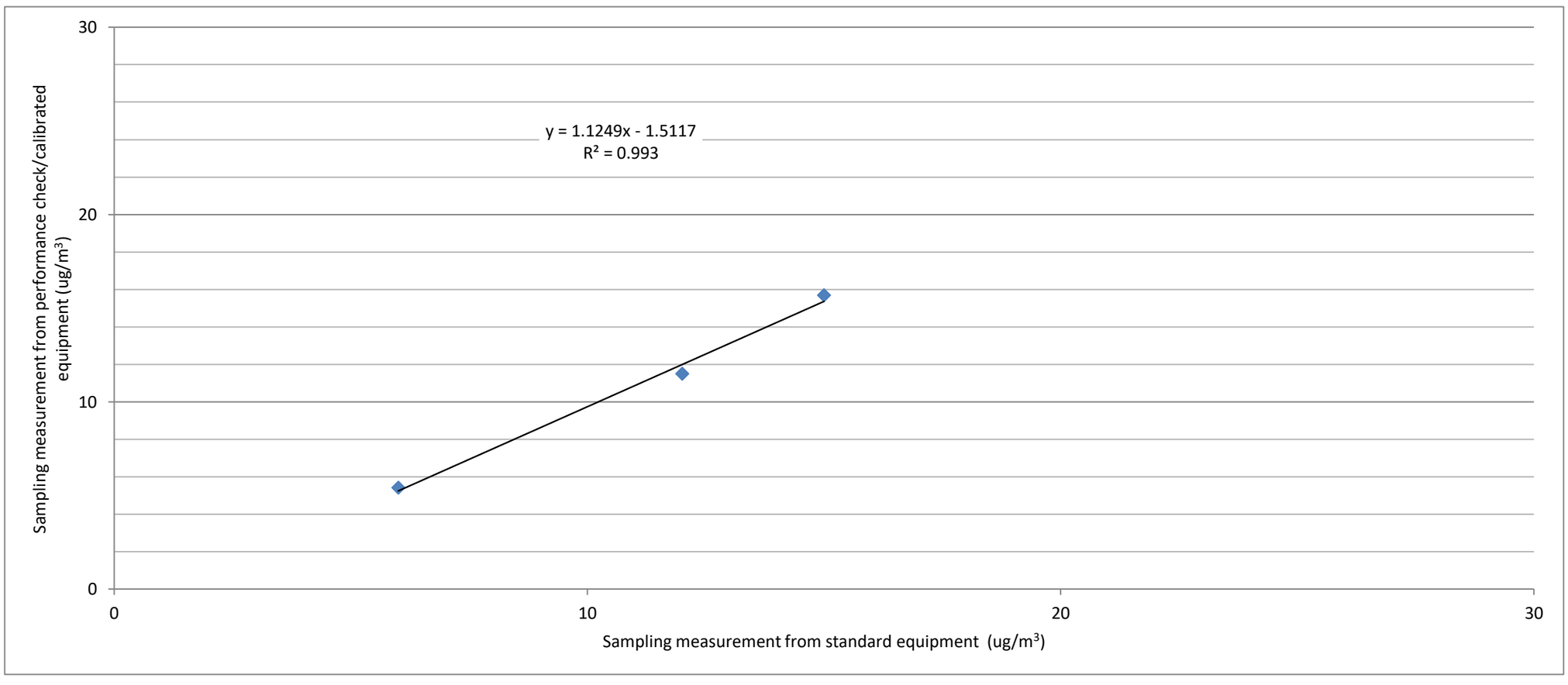
Portable Dust Meter Performance Check Results

Trial no. in 1-hr period	Time	Mean Temp (˚C)	Mean Pressure (hPa)	Concentration in ug/m^3 (Standard equipment) (Y - Axis)	Concentration in ug/m^3 (Performance Check / Calibrated equipment) (X - Axis)
1	23/8/2024 11:17 -12:17	29	1011	6	5
2	23/8/2024 12:19 -13:19	29	1011	15	16
3	23/8/2024 13:21 -14:21	29	1011	12	11

* Filter paper weighting was conducted by HOKLAS accredited laboratory.

Linear Regression of Y on X

Slope (K- factor)	:	1.0000
Correlation Coefficient	:	0.9968
Validity of Performance Check / Calibration Record	:	23/8/2025



Operator: Alan Ng Date: 26/8/2024

Checked by: Derek Lo Date: 26/8/2024

Hong Kong Calibration Ltd.
香 港 校 正 有限公司

Calibration Certificate

Certificate No. **402819** Page 1 of 2 Pages

Customer : Lam Environmental Services Limited

Address : 19/F, Remex Centre, 42 Wong Chuk Hang Road, Hong Kong

Order No. : Q41168 **Date of receipt :** 5-Apr-24

Item Tested

Description : Particulate Monitor

Manufacturer : Met One **I.D.** : --

Model : BT-645 **Serial No.** : B17940

Test Conditions

Date of Test : 15-Apr-24 **Supply Voltage** : --

Ambient Temperature : (23 ± 3)°C **Relative Humidity :** (50 ± 25) %

Test Specifications

Calibration check.

Calibration procedure : Manufacturer recommended method (gravimetric), Z28.

Test Results

All results were within the tolerance(s).

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

Main Test equipment used:

Equipment No.	Description	Cert. No.	Traceable to
S136A	Stop Watch	402292	SCL-HKSAR
S238	Micro Balance	108228	NIM-PRC
S201	Std. Test Dust	61291	NIST
S207B	Std. Flowmeter	LL-2104002489	NIM-PRC

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 : Steve Kwan

Date: 15-Apr-24

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

Calibration Certificate

Results :

1. General

Internal Filters : checked and found clean.

2. Timer

Reference Value	UUT Reading	Tolerance	Uncertainty
10′ 00″ 72	10 min	± 0.5 sec/min	± 0.2 sec/min

3. Dust Particle (TSP)

Applied Value ($\mu g/m^3$)	UUT Reading ($\mu g/m^3$) K Factor : 2.0	Tolerance	Uncertainty
880	877	± 20 %	± 10 %

Remark : 1. UUT: Unit-Under-Test
2. The uncertainty claimed is for a confidence probability of not less than 95%.
3. ISO 12103-1 A1 respirable standard test dust was used for the calibration.
4. The K Factor had been adjusted from 1.0 to 2.0

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Hong Kong Calibration Ltd.
香 港 校 正 有限公司

Calibration Certificate

Certificate No. 402817 Page 1 of 2 Pages

Customer : Lam Environmental Services Limited

Address : 19/F, Remex Centre, 42 Wong Chuk Hang Road, Hong Kong

Order No. : Q41168 **Date of receipt :** 5-Apr-24

Item Tested

Description : Particulate Monitor

Manufacturer : Met One **I.D.** : --

Model : BT-645 **Serial No.** : B17942

Test Conditions

Date of Test : 15-Apr-24 **Supply Voltage** : --

Ambient Temperature : (23 ± 3)°C **Relative Humidity :** (50 ± 25) %

Test Specifications

Calibration check.

Calibration procedure : Manufacturer recommended method (gravimetric), Z28.

Test Results

All results were within the tolerance(s).

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

Main Test equipment used:

Equipment No.	Description	Cert. No.	Traceable to
S136A	Stop Watch	402292	SCL-HKSAR
S238	Micro Balance	108228	NIM-PRC
S201	Std. Test Dust	61291	NIST
S207B	Std. Flowmeter	LL-2104002489	NIM-PRC

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 : Steve Kwan

Date: 15-Apr-24

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 8301 Fax 2425 8646

Calibration Certificate

Results :

1. General

Internal Filters : checked and found clean.

2. Timer

Reference Value	UUT Reading	Tolerance	Uncertainty
9′ 59″ 83	10 min	± 0.5 sec/min	± 0.2 sec/min

3. Dust Particle (TSP)

Applied Value ($\mu g/m^3$)	UUT Reading ($\mu g/m^3$) K Factor : 2.0	Tolerance	Uncertainty
1 040	1 094	± 20 %	± 10 %

Remark : 1. UUT: Unit-Under-Test
2. The uncertainty claimed is for a confidence probability of not less than 95%.
3. ISO 12103-1 A1 respirable standard test dust was used for the calibration.
4. The K Factor had been adjusted from 1.0 to 2.0

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Hong Kong Calibration Ltd.
香 港 校 正 有限公司

Calibration Certificate

Certificate No. **406807** Page 1 of 2 Pages

Customer : Lam Environmental Services Limited

Address : 19/F, Remex Centre, 42 Wong Chuk Hang Road, Hong Kong

Order No. : Q42568 **Date of receipt :** 15-Jul-24

Item Tested

Description : Particulate Monitor

Manufacturer : Met One **I.D.** : 1

Model : BT-645 **Serial No.** : C15625

Test Conditions

Date of Test : 31-Jul-24 **Supply Voltage** : --

Ambient Temperature : (23 ± 3)°C **Relative Humidity :** (50 ± 25) %

Test Specifications

Calibration check.

Calibration procedure : Manufacturer recommended method (gravimetric), Z28.

Test Results

All results were within the tolerance(s).

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

Main Test equipment used:

Equipment No.	Description	Cert. No.	Traceable to
S136B	Stop Watch	402293	SCL-HKSAR
S238	Micro Balance	108228	NIM-PRC
S201	Std. Test Dust	61291	NIST
S207B	Std. Flowmeter	LL-2104002489	NIM-PRC

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 : _____
Steve Kwan

Date: 31-Jul-24

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

Calibration Certificate

Results :

1. Timer

Reference Value	UUT Reading (min : sec)	Tolerance	Uncertainty
9′ 59″ 68	10 : 00	± 2 sec/hr	± 0.5 sec/hr

2. Dust Particle (TSP)

Applied Value ($\mu g/m^3$)	UUT Reading ($\mu g/m^3$)	Tolerance	Uncertainty
220	216	± 20 %	± 10 %

Remark : 1. UUT: Unit-Under-Test
2. The uncertainty claimed is for a confidence probability of not less than 95%.
3. ISO 12103-1 A1 respirable standard test dust was used for the calibration.
4. K Factor had been adjusted from 1.0 to 1.8.

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Hong Kong Calibration Ltd.
香 港 校 正 有限公司

Calibration Certificate

Certificate No. 404187

Customer : Lam Environmental Services Limited

Address : 19/F, Remex Centre, 42 Wong Chuk Hang Road, Hong Kong

Order No. : Q41652 **Date of receipt :** 9-May-24

Item Tested

Description : Particulate Monitor

Manufacturer : Met One **I.D.** : 3

Model : BT-645 **Serial No.** : R22586

Test Conditions

Date of Test : 17-May-24 **Supply Voltage** : --

Ambient Temperature : (23 ± 3)°C **Relative Humidity :** (50 ± 25) %

Test Specifications

Calibration check.

Calibration procedure : Manufacturer recommended method (gravimetric), Z28.

Test Results

All results were within the tolerance(s).

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

Main Test equipment used:

Equipment No.	Description	Cert. No.	Traceable to
S136A	Stop Watch	402292	SCL-HKSAR
S238	Micro Balance	108228	NIM-PRC
S201	Std. Test Dust	61291	NIST
S207B	Std. Flowmeter	LL-2104002489	NIM-PRC

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 : Steve Kwan

Date: 17-May-24

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

Calibration Certificate

Results :

1. General

Internal Filters : checked and found clean.

2. Timer

Reference Value	UUT Reading	Tolerance	Uncertainty
9′ 59″ 42	10 min	± 0.5 sec/min	± 0.2 sec/min

3. Dust Particle (TSP)

Applied Value ($\mu g/m^3$)	UUT Reading ($\mu g/m^3$) K Factor : 2.0	Tolerance	Uncertainty
180	172	± 20 %	± 10 %

Remark : 1. UUT: Unit-Under-Test
2. The uncertainty claimed is for a confidence probability of not less than 95%.
3. ISO 12103-1 A1 respirable standard test dust was used for the calibration.
4. The K Factor had been adjusted from 1.0 to 2.0

---------- END ----------

Hong Kong Calibration Ltd.
香 港 校 正 有限公司

Calibration Certificate

Certificate No. 402818 Page 1 of 2 Pages

Customer : Lam Environmental Services Limited

Address : 19/F, Remex Centre, 42 Wong Chuk Hang Road, Hong Kong

Order No. : Q41168 **Date of receipt :** 5-Apr-24

Item Tested

Description : Particulate Monitor

Manufacturer : Met One **I.D.** : --

Model : BT-645 **Serial No.** : X19298

Test Conditions

Date of Test : 15-Apr-24 **Supply Voltage** : --

Ambient Temperature : (23 ± 3)°C **Relative Humidity :** (50 ± 25) %

Test Specifications

Calibration check.

Calibration procedure : Manufacturer recommended method (gravimetric), Z28.

Test Results

All results were within the tolerance(s).

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

Main Test equipment used:

Equipment No.	Description	Cert. No.	Traceable to
S136A	Stop Watch	402292	SCL-HKSAR
S238	Micro Balance	108228	NIM-PRC
S201	Std. Test Dust	61291	NIST
S207B	Std. Flowmeter	LL-2104002489	NIM-PRC

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 : Steve Kwan

Date: 15-Apr-24

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

O

Hong Kong Calibration Ltd.
香 港 校 正 有限公司

Calibration Certificate

Results :

1. General

Internal Filters : checked and found clean.

2. Timer

Reference Value	UUT Reading	Tolerance	Uncertainty
10′ 00″ 08	10 min	± 0.5 sec/min	± 0.2 sec/min

3. Dust Particle (TSP)

Applied Value ($\mu g/m^3$)	UUT Reading ($\mu g/m^3$) K Factor : 1.1	Tolerance	Uncertainty
370	383	± 20 %	± 10 %

Remark : 1. UUT: Unit-Under-Test
2. The uncertainty claimed is for a confidence probability of not less than 95%.
3. ISO 12103-1 A1 respirable standard test dust was used for the calibration.
4. The K Factor had been adjusted from 1.0 to 1.1

---------- END ----------

Hong Kong Calibration Ltd.
香港校正有限公司

Calibration Certificate

Certificate No. 404188

Customer : Lam Environmental Services Limited

Address : 19/F, Remex Centre, 42 Wong Chuk Hang Road, Hong Kong

Order No. : Q41652 **Date of receipt :** 9-May-24

Item Tested

Description : Particulate Monitor
Manufacturer : Met One
Model : BT-645
I.D. : 2
Serial No. : X19299

Test Conditions

Date of Test : 17-May-24
Ambient Temperature : (23 ± 3)°C
Supply Voltage : --
Relative Humidity : (50 ± 25) %

Test Specifications

Calibration check.
Calibration procedure : Manufacturer recommended method (gravimetric), Z28.

Test Results

All results were within the tolerance(s).
The results are shown in the attached page(s).

Main Test equipment used:

Equipment No.	Description	Cert. No.	Traceable to
S136A	Stop Watch	402292	SCL-HKSAR
S238	Micro Balance	108228	NIM-PRC
S201	Std. Test Dust	61291	NIST
S207B	Std. Flowmeter	LL-2104002489	NIM-PRC

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 : Steve Kwan

Date: 17-May-24

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

Calibration Certificate

Results :

1. General

Internal Filters : checked and found clean.

2. Timer

Reference Value	UUT Reading	Tolerance	Uncertainty
10′ 00″ 76	10 min	± 0.5 sec/min	± 0.2 sec/min

3. Dust Particle (TSP)

Applied Value ($\mu g/m^3$)	UUT Reading ($\mu g/m^3$) K Factor : 2.6	Tolerance	Uncertainty
260	248	± 20 %	± 10 %

Remark : 1. UUT: Unit-Under-Test
2. The uncertainty claimed is for a confidence probability of not less than 95%.
3. ISO 12103-1 A1 respirable standard test dust was used for the calibration.
4. The K Factor had been adjusted from 1.0 to 2.6

---------- END ----------

Hong Kong Calibration Ltd.
香港校正有限公司

Calibration Certificate

Certificate No. 406811 Page 1 of 2 Pages

Customer : Lam Environmental Services Limited

Address : 19/F, Remex Centre, 42 Wong Chuk Hang Road, Hong Kong

Order No. : Q42568 **Date of receipt :** 15-Jul-24

Item Tested

Description : Aerosol Mass Monitor

Manufacturer : Met One **I.D.** : --

Model : Aerocet 831 **Serial No.** : B19128

Test Conditions

Date of Test : 31-Jul-24 **Supply Voltage** : --

Ambient Temperature : (23 ± 3)°C **Relative Humidity :** (50 ± 25) %

Test Specifications

Calibration check.

Calibration procedure : Manufacturer recommended method (gravimetric), Z28.

Test Results

All results were within the tolerance(s).

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

Main Test equipment used:

Equipment No.	Description	Cert. No.	Traceable to
S136B	Stop Watch	402293	SCL-HKSAR
S238	Micro Balance	108228	NIM-PRC
S201	Std. Test Dust	61291	NIST
S207B	Std. Flowmeter	LL-2104002489	NIM-PRC

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 : Steve Kwan

Date: 31-Jul-24

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

Calibration Certificate

Results :

1. General

Internal Filters : checked and found clean.

2. Flow Meter

UUT Nominal Value (LPM)	Measured Value (LPM)	Tolerance (LPM)
2.83	2.85	± 0.15

Uncertainty : ± 0.05 LPM

3. Timer

Reference Value	UUT Reading	Tolerance	Uncertainty
9′ 59″ 79	16 min	± 2 sec/hr	± 0.5 sec/hr

4. Dust Particle (TSP)

Applied Value ($\mu g/m^3$)	UUT Reading ($\mu g/m^3$) K Factor : 0.72	Tolerance	Uncertainty
310	319	± 20 %	± 10 %

Remark : 1. UUT: Unit-Under-Test
2. The uncertainty claimed is for a confidence probability of not less than 95%.
3. ISO 12103-1 A1 respirable standard test dust was used for the calibration.
4. The K Factor had been adjusted from 1.00 to 0.72.

---------- END ----------

Hong Kong Calibration Ltd.
香 港 校 正 有限公司

Calibration Certificate

Certificate No. **401105** Page 1 of 2 Pages

Customer : Lam Environmental Services Limited

Address : 19/F, Remex Centre, 42 Wong Chuk Hang Road, Hong Kong

Order No. : Q40468 **Date of receipt :** 5-Feb-24

Item Tested

Description : Aerosol Mass Monitor

Manufacturer : Met One **I.D.** : --

Model : Aerocet 831 **Serial No.** : W16848

Test Conditions

Date of Test : 1-Mar-24 **Supply Voltage** : --

Ambient Temperature : (23 ± 3)°C **Relative Humidity :** (50 ± 25) %

Test Specifications

Calibration check.

Calibration procedure : Manufacturer recommended method (gravimetric), Z28.

Test Results

All results were within the tolerance(s).

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

Main Test equipment used:

Equipment No.	Description	Cert. No.	Traceable to
S136B	Stop Watch	303117	SCL-HKSAR
S238	Micro Balance	108228	NIM-PRC
S201	Std. Test Dust	61291	NIST
S207B	Std. Flowmeter	LL-2104002489	NIM-PRC

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 : _____
Steve Kwan

Date: 1-Mar-24

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

Calibration Certificate

Results :

1. General

Internal Filters : checked and found clean.

2. Flow Meter

UUT Nominal Value (LPM)	Measured Value (LPM)	Tolerance (LPM)	Uncertainty
2.83	2.90	± 0.15	± 0.05

3. Timer

Reference Value	UUT Reading	Tolerance	Uncertainty
10′ 00″ 04	10 min	± 2 sec/hr	± 0.5 sec/hr

4. Dust Particle (TSP)

Applied Value ($\mu g/m^3$)	UUT Reading ($\mu g/m^3$) K Factor : 1.50	Tolerance	Uncertainty
450	471	± 20 %	± 10 %

Remark : 1. UUT: Unit-Under-Test
2. The uncertainty claimed is for a confidence probability of not less than 95%.
3. ISO 12103-1 A1 respirable standard test dust was used for the calibration.
4. The K Factor had been adjusted from 1.32 to 1.50..

---------- END ----------

Hong Kong Calibration Ltd.
香港校正有限公司

Calibration Certificate

Certificate No. 406810 Page 1 of 2 Pages

Customer : Lam Environmental Services Limited

Address : 19/F, Remex Centre, 42 Wong Chuk Hang Road, Hong Kong

Order No. : Q42568 **Date of receipt :** 15-Jul-24

Item Tested

Description : Aerosol Mass Monitor

Manufacturer : Met One **I.D.** : --

Model : Aerocet 831 **Serial No.** : Y23160

Test Conditions

Date of Test : 31-Jul-24 **Supply Voltage :** --

Ambient Temperature : (23 ± 3)°C **Relative Humidity :** (50 ± 25) %

Test Specifications

Calibration check.

Calibration procedure : Manufacturer recommended method (gravimetric), Z28.

Test Results

All results were within the tolerance(s).

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

Main Test equipment used:

Equipment No.	Description	Cert. No.	Traceable to
S136B	Stop Watch	402293	SCL-HKSAR
S238	Micro Balance	108228	NIM-PRC
S201	Std. Test Dust	61291	NIST
S207B	Std. Flowmeter	LL-2104002489	NIM-PRC

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 : _____
Steve Kwan

Date: 31-Jul-24

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

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Calibration Certificate

Results :

1. General

Internal Filters : checked and found clean.

2. Flow Meter

UUT Nominal Value (LPM)	Measured Value (LPM)	Tolerance (LPM)
2.83	2.85	± 0.15

Uncertainty : ± 0.05 LPM

3. Timer

Reference Value	UUT Reading	Tolerance	Uncertainty
9′ 59″ 82	10 min	± 2 sec/hr	± 0.5 sec/hr

4. Dust Particle (TSP)

Applied Value ($\mu g/m^3$)	UUT Reading ($\mu g/m^3$) K Factor : 1.00	Tolerance	Uncertainty
375	359	± 20 %	± 10 %

Remark : 1. UUT: Unit-Under-Test
2. The uncertainty claimed is for a confidence probability of not less than 95%.
3. ISO 12103-1 A1 respirable standard test dust was used for the calibration.
4. The K Factor setting : 1.00

---------- END ----------

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-BD090012
Date of Issue : 05 September 2024

PART A - CUSTOMER INFORMATION

Lam Environmental Services Limited

PART B - SAMPLE INFORMATION

Name of Equipment :	YSI Professional Plus Multi Parameters
Manufacturer :	YSI
Serial Number :	14E101065
Date of Received :	03 September 2024
Date of Calibration :	04 September 2024
Date of Next Calibration :	03 December 2024
Request No. :	D-BD090012

PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Test Parameter	Reference Method
pH value	APHA 21e 4500-H^+ B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure
Dissolved oxygen	APHA 23e 4500-O G (Membrane Electrode Method)
Salinity	APHA 21e 2520 B

PART D - CALIBRATION RESULT

(1) pH value

Target (pH unit)	Display Reading (pH unit)	Tolerance	Result
4.00	3.90	-0.10	Satisfactory
7.42	7.26	-0.16	Satisfactory
10.01	9.84	-0.17	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
19.0	17.1	-1.9	Satisfactory
27.0	25.5	-1.5	Satisfactory
36.5	35.2	-1.3	Satisfactory

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

(3) Dissolved oxygen

Expected Reading (mg/L)	Display Reading (mg/L)	Tolerance	Result
6.87	6.75	-0.12	Satisfactory
5.58	5.28	-0.30	Satisfactory
3.66	3.64	-0.02	Satisfactory
0.56	0.35	-0.21	Satisfactory

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

--- CONTINUED ON NEXT PAGE ---

AUTHORIZED SIGNATORY:

LEE Chun-ning
Assistant Manager

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-BD090012
Date of Issue : 05 September 2024

(4) Salinity

Expected Reading (g/L)	Display Reading (g/L)	Tolerance (%)	Result
10	10.29	2.90	Satisfactory
20	20.88	4.40	Satisfactory
30	32.09	6.97	Satisfactory

Tolerance of Salinity 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 from 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 from relevant international standards.

--- END OF REPORT ---

FT Laboratories Ltd
科達測檢試驗所有限公司

Calibration Report

Calibration No.	:	60408001-G02E2401
Laboratory	:	FT LaboratoriesLtd.
Address	:	Lot No. DD77 Section 1552 S.Ass 1RP, Ng Chow South Road, Ping Che, Fanling, New Territories
Telephone	:	(852) 2758 4861
Facsimile	:	(852) 2758 8962
Customer	:	**Lam Environmental Services Limited**
Address	:	**19/F., Remex Centre, 42 Wong Chuk Hang Road, Hong Kong**
Item Calibrated	:	Name/Description: Turbidimeter
		Manufacturer: Shanghai Xinrui Instruments & Meters co.,Ltd
		Model no: WGZ-3B
		Equipment no.: 2202020
Reference Standard / Major Measurement Equipment	:	C23/01 under NCRM reference material number GBW(E) 120125. Standard Solution of Formazine Turbidity
Calibration Method	:	In-house calibration method according to Ref: APHA22nd ed 213 OB
Date of item received	:	02 Jul.,2024
Date of Calibration	:	05 Jul.,2024
Location of Calibration	:	Chemical Laboratory of FT LaboratoriesLtd.
Calibration Conditions		
Temperature	:	20 ± 3 °C
Relative Humidity	:	30% to 80%
Test Results	:	The test results are detailed in the subsequent page(s).

Certified by : _____ Date of Issue: 5 JUL 2024

☑ CHAN Joseph Nicolas (Senior Technical Engineer)

Notes: (1) **The above equipment has been calibrated against standards which are traceable to internationally recognized standards.**

(2) **This certificate shall not be reproduced, except in full, without the written approval of FT LaboratoriesLtd.**

FT Laboratories Ltd
科達測檢試驗所有限公司

Calibration Report

Calibration No. : 60408001-G02E2401

Results

Turbidity of standard solution used (NTU)	Measured value (NTU)	Error (%)
0	0	---
4	3.99	-0.25%
10	9.98	-0.20%
40	39.97	-0.08%
100	99.50	-0.50%
400	398.0	-0.50%
1000	997.0	-0.30%

Remarks:

(A) Each reported result is the mean of three measurements on UUT (unit-under-test).

(B) The values given in this Calibration Report only relate to the unit-under-test and the values measured at the time of the test. Any uncertainties quoted will not include allowances for the environmental changes, variation and shock during transportation, or the capability of any other laboratory to repeat the measurement.

(C) Before calibration, UUT and reference equipment was placed in the laboratory for at least one hour.

< End of Report >

Calibrated by: CH Cheung
Date: 05 Jul.,2024

Checked by: Joseph Chan
Date: - 5 JUL 2024

FT Laboratories Ltd
科達測檢試驗所有限公司

Calibration Report

Calibration No.	:	60408001-K04E3001
Laboratory	:	FT LaboratoriesLtd.
Address	:	Lot No. DD77 Section 1552 S.Ass 1RP, Ng Chow South Road, Ping Che, Fanling, New Territories
Telephone	:	(852) 2758 4861
Facsimile	:	(852) 2758 8962
Customer	:	**Lam Environmental Services Limited**
Address	:	**19/F., Remex Centre, 42 Wong Chuk Hang Road, Hong Kong**
Item Calibrated	:	Name/Description: Turbidimeter
		Manufacturer: Shanghai Xinrui Instruments & Meters co.,Ltd
		Model no: WGZ-3B
		Equipment no.: 2202020
Reference Standard / Major Measurement Equipment	:	C23/01 under NCRM reference material number GBW(E) 120125. Standard Solution of Formazine Turbidity
Calibration Method	:	In-house calibration method according to Ref: APHA22nd ed 213 OB
Date of item received	:	04 Oct.,2024
Date of Calibration	:	08 Oct.,2024
Location of Calibration	:	Chemical Laboratory of FT LaboratoriesLtd.
Calibration Conditions		
Temperature	:	20 ± 3 °C
Relative Humidity	:	30% to 80%
Test Results	:	The test results are detailed in the subsequent page(s).

Certified by : _____ Date of Issue: -8 OCT 2024

☑ CHAN Joseph Nicolas (Senior Technical Engineer)

Notes: **(1) The above equipment has been calibrated against standards which are traceable to internationally recognized standards.**

(2) This certificate shall not be reproduced, except in full, without the written approval of FT LaboratoriesLtd.

FT Laboratories Ltd
科達測檢試驗所有限公司

Calibration Report

Calibration No. : 60408001-K04E3001

Results

Turbidity of standard solution used (NTU)	Measured value (NTU)	Error (%)
0	0	---
4	4.00	0.00%
10	10.00	0.00%
40	39.96	-0.10%
100	99.60	-0.40%
400	399.0	-0.25%
1000	997.0	-0.30%

Remarks:

(A) Each reported result is the mean of three measurements on UUT (unit-under-test).

(B) The values given in this Calibration Report only relate to the unit-under-test and the values measured at the time of the test. Any uncertainties quoted will not include allowances for the environmental changes, variation and shock during transportation, or the capability of any other laboratory to repeat the measurement.

(C) Before calibration, UUT and reference equipment was placed in the laboratory for at least one hour.

< End of Report >

Calibrated by: CH Cheung
Date: 08 Oct.,2024

Checked by: Joseph Chan
Date: 8 OCT 2024

Appendix 4.3

Wind data extracted from HKO Automatic Weather Station

Tate's Cairn - HKO Automatic Weather Station

Date	Time	Wind Speed (km/h)	Prevailing Wind Direction (degrees)
4/10/2024	0:00	27	20
4/10/2024	1:00	24	18
4/10/2024	2:00	23	16
4/10/2024	3:00	23	19
4/10/2024	4:00	24	10
4/10/2024	5:00	27	15
4/10/2024	6:00	26	10
4/10/2024	7:00	23	9
4/10/2024	8:00	23	29
4/10/2024	9:00	22	14
4/10/2024	10:00	22	9
4/10/2024	11:00	19	352
4/10/2024	12:00	17	350
4/10/2024	13:00	18	333
4/10/2024	14:00	15	336
4/10/2024	15:00	18	335
4/10/2024	16:00	17	31
4/10/2024	17:00	16	358
4/10/2024	18:00	19	2
4/10/2024	19:00	24	10
4/10/2024	20:00	28	26
4/10/2024	21:00	27	23
4/10/2024	22:00	26	33
4/10/2024	23:00	26	37
10/10/2024	0:00	19	70
10/10/2024	1:00	21	37
10/10/2024	2:00	23	12
10/10/2024	3:00	17	7
10/10/2024	4:00	21	5
10/10/2024	5:00	21	12
10/10/2024	6:00	22	14
10/10/2024	7:00	19	8
10/10/2024	8:00	19	8
10/10/2024	9:00	16	26
10/10/2024	10:00	9	360
10/10/2024	11:00	11	344
10/10/2024	12:00	12	327
10/10/2024	13:00	11	12
10/10/2024	14:00	14	99
10/10/2024	15:00	19	106
10/10/2024	16:00	23	106
10/10/2024	17:00	19	105
10/10/2024	18:00	19	108
10/10/2024	19:00	13	99
10/10/2024	20:00	12	96
10/10/2024	21:00	12	99
10/10/2024	22:00	12	94
10/10/2024	23:00	16	102

Tseung Kwan O - HKO Automatic Weather Station

Date	Time	Wind Speed (km/h)	Prevailing Wind Direction (degrees)
4/10/2024	0:00	5	-
4/10/2024	1:00	6	18
4/10/2024	2:00	6	359
4/10/2024	3:00	5	348
4/10/2024	4:00	6	38
4/10/2024	5:00	5	46
4/10/2024	6:00	3	64
4/10/2024	7:00	5	351
4/10/2024	8:00	9	9
4/10/2024	9:00	5	-
4/10/2024	10:00	6	41
4/10/2024	11:00	8	70
4/10/2024	12:00	5	55
4/10/2024	13:00	9	55
4/10/2024	14:00	10	31
4/10/2024	15:00	9	-
4/10/2024	16:00	6	-
4/10/2024	17:00	5	350
4/10/2024	18:00	3	326
4/10/2024	19:00	5	359
4/10/2024	20:00	9	48
4/10/2024	21:00	7	73
4/10/2024	22:00	5	354
4/10/2024	23:00	4	351
10/10/2024	0:00	3	352
10/10/2024	1:00	2	33
10/10/2024	2:00	5	-
10/10/2024	3:00	4	76
10/10/2024	4:00	5	-
10/10/2024	5:00	4	348
10/10/2024	6:00	3	51
10/10/2024	7:00	1	61
10/10/2024	8:00	9	86
10/10/2024	9:00	12	65
10/10/2024	10:00	6	61
10/10/2024	11:00	6	50
10/10/2024	12:00	5	-
10/10/2024	13:00	9	31
10/10/2024	14:00	12	145
10/10/2024	15:00	5	-
10/10/2024	16:00	5	54
10/10/2024	17:00	3	-
10/10/2024	18:00	4	135
10/10/2024	19:00	4	10
10/10/2024	20:00	4	50
10/10/2024	21:00	1	115
10/10/2024	22:00	1	35
10/10/2024	23:00	5	14

Tate's Cairn - HKO Automatic Weather Station

Date	Time	Wind Speed (km/h)	Prevailing Wind Direction (degrees)
16/10/2024	0:20	19	86
16/10/2024	1:20	18	92
16/10/2024	2:20	25	105
16/10/2024	3:20	30	105
16/10/2024	4:20	30	95
16/10/2024	5:20	28	99
16/10/2024	6:20	29	82
16/10/2024	7:20	31	92
16/10/2024	8:20	36	82
16/10/2024	9:20	33	83
16/10/2024	10:20	32	92
16/10/2024	11:20	33	105
16/10/2024	12:20	32	107
16/10/2024	13:20	33	107
16/10/2024	14:20	24	111
16/10/2024	15:20	24	116
16/10/2024	16:20	32	107
16/10/2024	17:20	33	107
16/10/2024	18:20	30	105
16/10/2024	19:20	34	105
16/10/2024	20:20	32	105
16/10/2024	21:20	32	105
16/10/2024	22:20	37	105
16/10/2024	23:20	31	98
22/10/2024	0:00	15	87
22/10/2024	1:00	19	90
22/10/2024	2:00	17	82
22/10/2024	3:00	17	62
22/10/2024	4:00	22	67
22/10/2024	5:00	19	78
22/10/2024	6:00	19	57
22/10/2024	7:00	21	59
22/10/2024	8:00	18	41
22/10/2024	9:00	12	7
22/10/2024	10:00	16	360
22/10/2024	11:00	22	359
22/10/2024	12:00	20	339
22/10/2024	13:00	18	350
22/10/2024	14:00	22	346
22/10/2024	15:00	24	350
22/10/2024	16:00	29	34
22/10/2024	17:00	32	18
22/10/2024	18:00	34	18
22/10/2024	19:00	41	25
22/10/2024	20:00	55	19
22/10/2024	21:00	55	10
22/10/2024	22:00	45	14
22/10/2024	23:00	46	6
28/10/2024	0:00	19	355
28/10/2024	1:00	31	6
28/10/2024	2:00	27	353
28/10/2024	3:00	27	351
28/10/2024	4:00	30	358
28/10/2024	5:00	28	360
28/10/2024	6:00	35	3
28/10/2024	7:00	37	353
28/10/2024	8:00	37	352
28/10/2024	9:00	37	1
28/10/2024	10:00	33	354
28/10/2024	11:00	33	11
28/10/2024	12:00	19	13
28/10/2024	13:00	32	11
28/10/2024	14:00	24	24

Tseung Kwan O - HKO Automatic Weather Station

Date	Time	Wind Speed (km/h)	Prevailing Wind Direction (degrees)
16/10/2024	0:00	7	34
16/10/2024	1:00	10	29
16/10/2024	2:00	10	96
16/10/2024	3:00	6	-
16/10/2024	4:00	8	96
16/10/2024	5:00	4	-
16/10/2024	6:00	11	27
16/10/2024	7:00	10	51
16/10/2024	8:00	12	68
16/10/2024	9:00	12	87
16/10/2024	10:00	11	75
16/10/2024	11:00	13	64
16/10/2024	12:00	15	75
16/10/2024	13:00	12	69
16/10/2024	14:00	12	70
16/10/2024	15:00	14	140
16/10/2024	16:00	9	159
16/10/2024	17:00	7	-
16/10/2024	18:00	8	140
16/10/2024	19:00	4	141
16/10/2024	20:00	3	-
16/10/2024	21:00	8	70
16/10/2024	22:00	6	-
16/10/2024	23:00	8	138
22/10/2024	0:00	6	23
22/10/2024	1:00	6	24
22/10/2024	2:00	6	38
22/10/2024	3:00	4	330
22/10/2024	4:00	5	51
22/10/2024	5:00	6	43
22/10/2024	6:00	5	-
22/10/2024	7:00	3	345
22/10/2024	8:00	4	67
22/10/2024	9:00	12	71
22/10/2024	10:00	7	350
22/10/2024	11:00	6	16
22/10/2024	12:00	8	31
22/10/2024	13:00	12	78
22/10/2024	14:00	6	71
22/10/2024	15:00	8	89
22/10/2024	16:00	8	69
22/10/2024	17:00	6	338
22/10/2024	18:00	6	-
22/10/2024	19:00	11	1
22/10/2024	20:00	8	1
22/10/2024	21:00	9	22
22/10/2024	22:00	9	35
22/10/2024	23:00	9	357
28/10/2024	0:00	9	69
28/10/2024	1:00	11	69
28/10/2024	2:00	9	67
28/10/2024	3:00	11	79
28/10/2024	4:00	6	-
28/10/2024	5:00	9	66
28/10/2024	6:00	8	-
28/10/2024	7:00	12	75
28/10/2024	8:00	10	66
28/10/2024	9:00	7	7
28/10/2024	10:00	8	30
28/10/2024	11:00	11	66
28/10/2024	12:00	6	21
28/10/2024	13:00	8	46
28/10/2024	14:00	5	-

Tate's Cairn - HKO Automatic Weather Station

Date	Time	Wind Speed (km/h)	Prevailing Wind Direction (degrees)
28/10/2024	15:00	21	54
28/10/2024	16:00	19	65
28/10/2024	17:00	24	83
28/10/2024	18:00	26	32
28/10/2024	19:00	26	39
28/10/2024	20:00	27	55
28/10/2024	21:00	18	6
28/10/2024	22:00	19	52
28/10/2024	23:00	12	352

Tseung Kwan O - HKO Automatic Weather Station

Date	Time	Wind Speed (km/h)	Prevailing Wind Direction (degrees)
28/10/2024	15:00	8	353
28/10/2024	16:00	2	-
28/10/2024	17:00	10	72
28/10/2024	18:00	3	25
28/10/2024	19:00	8	66
28/10/2024	20:00	6	58
28/10/2024	21:00	9	73
28/10/2024	22:00	11	69
28/10/2024	23:00	1	-

Appendix 5.1

Monitoring Schedules for Reporting Month

SERVICE CONTRACT NO. EDO/01/2017
ENVIRONMENTAL TEAM FOR DEVELOPMENT OF
ANDERSON ROAD QUARRY SITE - ROAD IMPROVEMENT WORKS
Tentative Impact Water Quality, Air Quality and Noise Monitoring Schedule
October 2024

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

Remark:

1. WQM: Water Quality Monitoring
   AQM: Air Quality Monitoring
   NM: Noise monitoring is scheduled at the beginning of each week

2. Monitoring Location:

Inland Water	Station	Description
Channelized nullah across the project site	E	Upstream Control Station
	F	Downstream Impact Station
	AC1	Upstream Control Station
	AC2	Upstream Control Station
	AC3	Upstream Control Station
Ma Yau Tong Stream	H	Upstream Control Station
	I	Downstream Impact Station

3. The interval between 2 sets of monitoring should not be less than 36 hours

SERVICE CONTRACT NO. EDO/01/2017
ENVIRONMENTAL TEAM FOR DEVELOPMENT OF
ANDERSON ROAD QUARRY SITE - ROAD IMPROVEMENT WORKS
Tentative Impact Water Quality, Air Quality and Noise Monitoring Schedule
November 2024

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

Remark:

1. WQM: Water Quality Monitoring
   AQM: Air Quality Monitoring
   NM: Noise monitoring is scheduled at the beginning of each week

2. Monitoring Location:

Inland Water	Station	Description
Channelized nullah across the project site	E	Upstream Control Station
	F	Downstream Impact Station
	AC1	Upstream Control Station
	AC2	Upstream Control Station
	AC3	Upstream Control Station
Ma Yau Tong Stream	H	Upstream Control Station
	I	Downstream Impact Station

3. The interval between 2 sets of monitoring should not be less than 36 hours

Appendix 5.2

Noise Monitoring Results and Graphical Presentations

Noise Monitoring Result

Day Time (0700 - 1900hrs on normal weekdays)

Location: NMC-01 - G/F, Kei Shun Special School

Date	Weather	Time	Measurement Noise Level			Average Noise Level	Baseline Level	Construction Noise Level	Limit Level
			Leq	L10	L90	Leq	Leq	Leq	Leq
			Unit: dB(A), (5-min)			Unit: dB(A), (30-min)			
3 Oct 2024	Fine	13:35	70.5	72.9	66.2	70.1	69.3	62	70
		13:40	70.1	72.4	66.1				
		13:45	70.6	72.9	66.3				
		13:50	69.9	71.5	66.5				
		13:55	69.8	71.9	66.4				
		14:00	69.5	71.6	66.1				
9 Oct 2024	Fine	13:05	66.5	69.1	62.5	66.7	69.3	<Baseline Level	70
		13:10	66.4	69.5	62.6				
		13:15	66.8	69.5	62.4				
		13:20	67.1	69.4	62.9				
		13:25	66.2	69.2	62.7				
		13:30	67.3	69.3	62.1				
15 Oct 2024	Fine	13:45	68.1	70.5	63.1	68.2	69.3	<Baseline Level	70
		13:50	67.9	70.1	62.9				
		13:55	68.2	70.5	63.1				
		14:00	68.4	70.6	63.2				
		14:05	68.5	70.8	62.8				
		14:10	67.9	69.9	62.9				
22 Oct 2024	Fine	9:15	65.6	68.9	61.2	66.6	69.3	<Baseline Level	70
		9:20	66.5	69.1	61.6				
		9:25	66.4	69.2	62.5				
		9:30	66.8	69.2	62.6				
		9:35	67.1	69.6	62.7				
		9:40	66.9	69.3	62.6				
29 Oct 2024	Fine	14:00	66.8	69.4	63.5	67.0	69.3	<Baseline Level	70
		14:05	66.4	69.5	63.2				
		14:10	66.5	69.8	63.0				
		14:15	67.0	69.4	63.1				
		14:20	66.9	69.2	63.2				
		14:25	68.1	69.5	63.2				

Remarks:
Underline denotes exceedance over Limit Level.

Noise Monitoring Result

Day Time (0700 - 1900hrs on normal weekdays)

Location: NMC-02 - 3/F podium, Shun Lee Disciplined Services Quarters Block 6

Date	Weather	Time	Measurement Noise Level			Average Noise Level	Baseline Level	Construction Noise Level	Limit Level
			Leq	L10	L90	Leq	Leq	Leq	Leq
			Unit: dB(A), (5-min)			Unit: dB(A), (30-min)			
3 Oct 2024	Fine	11:00	69.2	73.2	63.5	69.4	72.0	<Baseline Level	75
		11:05	69.5	73.5	63.4				
		11:10	69.8	73.4	63.5				
		11:15	69.4	73.6	63.8				
		11:20	69.2	73.4	63.5				
		11:25	69.5	73.9	63.6				
9 Oct 2024	Fine	11:05	68.4	72.5	62.5	68.7	72.0	<Baseline Level	75
		11:10	69.2	73.1	62.4				
		11:15	68.4	72.6	62.8				
		11:20	69.2	73.6	62.6				
		11:25	68.4	72.9	62.8				
		11:30	68.2	72.8	62.6				
15 Oct 2024	Fine	11:10	65.1	69.2	61.8	65.7	72.0	<Baseline Level	75
		11:15	65.8	68.9	61.6				
		11:20	65.8	68.4	61.4				
		11:25	65.6	68.9	61.6				
		11:30	65.8	68.6	61.6				
		11:35	65.9	68.7	61.5				
22 Oct 2024	Fine	10:00	66.5	69.1	62.0	66.2	72.0	<Baseline Level	75
		10:05	66.2	69.5	62.1				
		10:10	66.5	69.7	61.9				
		10:15	65.8	69.6	61.9				
		10:20	66.3	69.5	62.4				
		10:25	65.9	69.2	61.8				
29 Oct 2024	Fine	13:00	67.5	70.1	63.5	67.5	72.0	<Baseline Level	75
		13:05	67.4	70.2	63.4				
		13:10	67.6	70.0	63.5				
		13:15	67.5	70.1	63.4				
		13:20	67.6	70.1	63.5				
		13:25	67.5	70.1	63.8				

Remarks:
Underline denotes exceedance over Limit Level.

Noise Monitoring Result

Day Time (0700 - 1900hrs on normal weekdays)

Location: NMC-03 - G/F, Sienna Garden Block 6

Date	Weather	Time	Measurement Noise Level			Average Noise Level	Baseline Level	Construction Noise Level	Limit Level
			Leq	L10	L90	Leq	Leq	Leq	Leq
			Unit: dB(A), (5-min)			Unit: dB(A), (30-min)			
3 Oct 2024	Fine	9:55	77.2	80.1	66.2	77.2	78.2	<Baseline Level	75
		10:00	77.4	80.6	66.4				
		10:05	77.6	80.4	66.3				
		10:10	77.0	81.0	66.5				
		10:15	76.8	81.2	66.7				
		10:20	77.1	81.2	66.3				
9 Oct 2024	Fine	10:10	74.5	79.5	64.2	74.7	78.2	<Baseline Level	75
		10:15	75.0	79.4	64.8				
		10:20	74.3	79.3	64.6				
		10:25	75.2	79.6	64.8				
		10:30	74.4	79.1	64.1				
		10:35	74.6	79.3	64.3				
15 Oct 2024	Fine	10:05	72.5	76.2	62.2	72.9	78.2	<Baseline Level	75
		10:10	73.0	76.4	62.0				
		10:15	72.5	76.6	63.1				
		10:20	72.6	76.8	62.5				
		10:25	73.1	76.9	62.6				
		10:30	73.5	76.2	63.0				
22 Oct 2024	Fine	10:50	75.1	79.5	64.5	75.4	78.2	<Baseline Level	75
		10:55	75.2	80.2	64.9				
		11:00	75.1	79.1	64.7				
		11:05	75.6	79.2	64.6				
		11:10	75.6	79.6	64.2				
		11:15	75.9	80.3	64.3				
29 Oct 2024	Fine	10:00	78.0	81.2	70.2	78.5	78.2	66	75
		10:05	78.5	81.4	70.0				
		10:10	78.4	81.5	70.0				
		10:15	78.5	81.2	70.2				
		10:20	78.6	81.0	70.1				
		10:25	78.8	81.3	70.0				

Remarks:
Underline denotes exceedance over Limit Level.

Noise Monitoring Result

Day Time (0700 - 1900hrs on normal weekdays)

Location: NMC-04 - 3/F Podium, Po Tat Estate Tat Kai House

Date	Weather	Time	Measurement Noise Level			Average Noise Level	Baseline Level	Construction Noise Level	Limit Level
			Leq	L10	L90	Leq	Leq	Leq	Leq
			Unit: dB(A), (5-min)			Unit: dB(A), (30-min)			
3 Oct 2024	Fine	9:00	63.2	65.6	61.0	63.2	66.6	<Baseline Level	75
		9:05	63.5	65.4	60.2				
		9:10	63.4	65.6	61.1				
		9:15	62.8	65.8	60.5				
		9:20	63.0	65.2	60.6				
		9:25	63.1	65.6	61.5				
9 Oct 2024	Fine	9:10	64.5	66.6	62.0	64.2	66.6	<Baseline Level	75
		9:15	64.6	66.0	61.9				
		9:20	63.8	66.2	62.2				
		9:25	64.3	66.4	62.5				
		9:30	64.0	66.3	62.0				
		9:35	63.8	66.5	62.1				
15 Oct 2024	Fine	9:05	65.1	67.6	62.6	65.0	66.6	<Baseline Level	75
		9:10	64.9	68.0	63.0				
		9:15	64.8	67.6	62.4				
		9:20	65.2	68.1	63.1				
		9:25	65.0	68.4	62.8				
		9:30	65.1	68.0	63.1				
22 Oct 2024	Fine	13:55	63.5	66.2	61.1	64.0	66.6	<Baseline Level	75
		14:00	64.7	67.0	62.0				
		14:05	63.8	66.5	61.5				
		14:10	64.2	66.8	62.0				
		14:15	63.8	67.1	61.3				
		14:20	64.0	66.8	62.2				
29 Oct 2024	Fine	8:55	61.8	65.4	60.4	61.9	66.6	<Baseline Level	75
		9:00	61.8	654.6	60.5				
		9:05	61.9	65.6	60.2				
		9:10	62.0	65.2	60.0				
		9:15	62.1	65.6	60.0				
		9:20	61.9	65.9	60.5				

Remarks:
Underline denotes exceedance over Limit Level.

Noise Monitoring Result

Day Time (0700 - 1900hrs on normal weekdays)

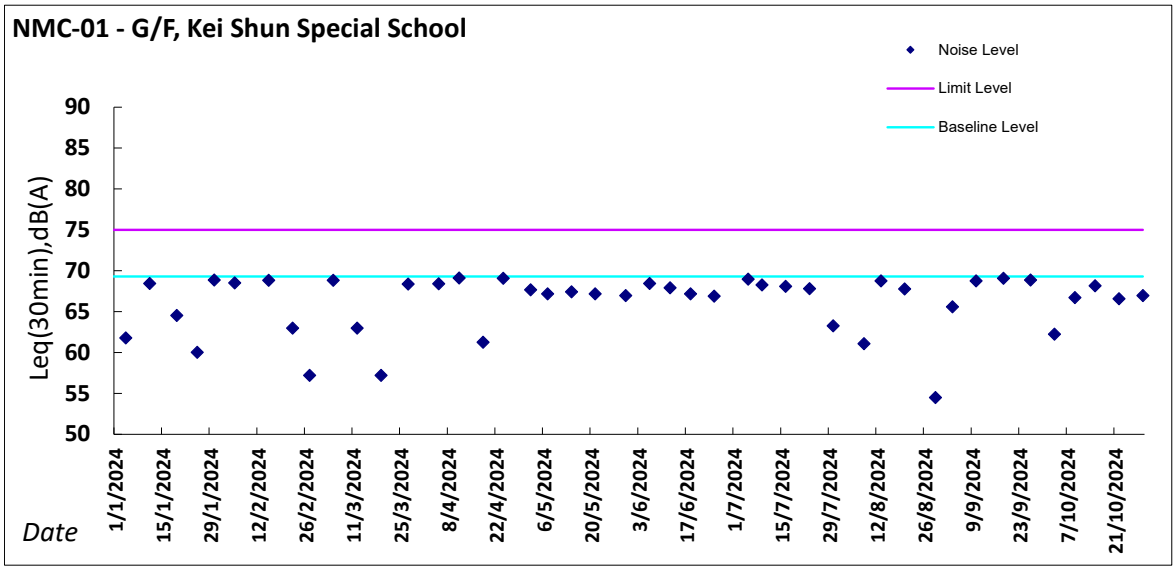
Location: NMC-05 - G/F, Hong Wah Court Block B Yee Hong House

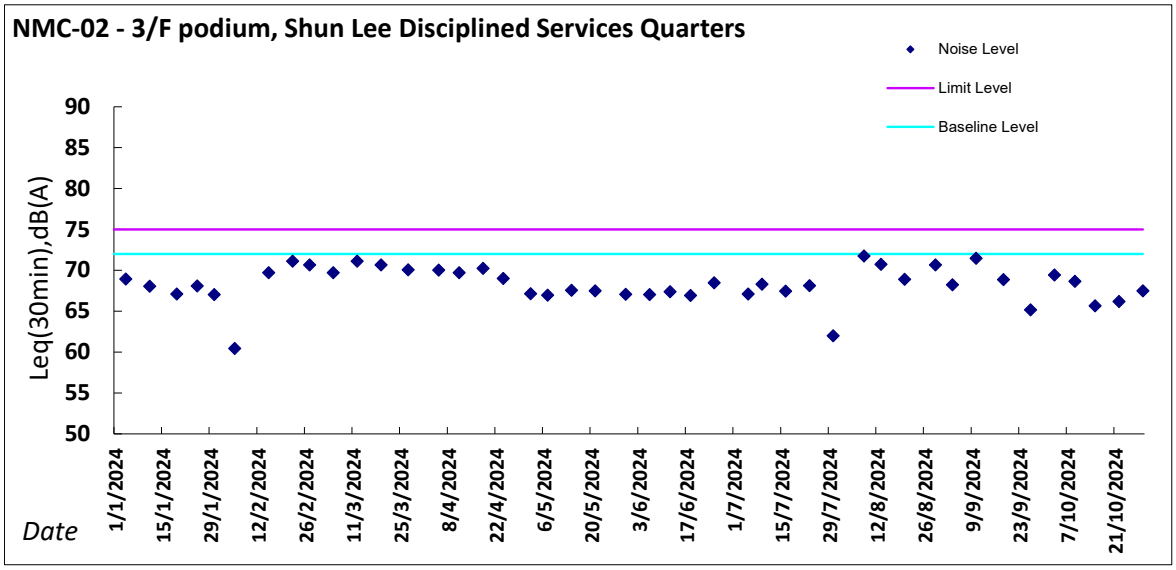
Date	Weather	Time	Measurement Noise Level			Average Noise Level	Baseline Level	Construction Noise Level	Limit Level
			Leq	L10	L90	Leq	Leq	Leq	Leq
			Unit: dB(A), (5-min)			Unit: dB(A), (30-min)			
3 Oct 2024	Fine	8:05	72.5	75.4	69.2	72.9	61.8	72.6	75
		8:10	72.6	74.8	69.4				
		8:15	73.0	75.2	69.2				
		8:20	73.1	75.6	69.4				
		8:25	73.5	75.6	69.6				
		8:30	72.9	75.9	69.3				
9 Oct 2024	Fine	8:15	69.5	72.1	67.1	69.2	61.8	68.3	75
		8:20	69.8	71.9	67.0				
		8:25	68.9	71.8	67.6				
		8:30	68.7	72.5	66.9				
		8:35	68.8	72.6	66.8				
		8:40	69.1	72.0	67.1				
15 Oct 2024	Fine	8:10	72.0	74.6	69.0	70.8	61.8	70.3	75
		8:15	71.0	74.8	68.7				
		8:20	70.5	74.2	68.5				
		8:25	70.2	74.1	69.5				
		8:30	69.8	72.6	67.9				
		8:35	71.2	74.0	69.2				
22 Oct 2024	Fine	13:00	68.5	70.5	67.2	68.5	61.8	67.4	75
		13:05	68.4	70.9	66.9				
		13:10	67.9	69.8	66.7				
		13:15	68.2	70.2	66.2				
		13:20	68.5	71.0	66.5				
		13:25	69.2	71.2	66.9				
29 Oct 2024	Fine	8:05	67.2	69.0	63.2	67.2	61.8	65.7	75
		8:10	67.1	69.2	63.0				
		8:15	67.0	69.5	63.4				
		8:20	67.5	69.3	63.2				
		8:25	67.2	69.2	63.5				
		8:30	67.3	69.1	63.1				

Remarks:
Underline denotes exceedance over Limit Level.

Graphic Presentation of Noise Monitoring Result

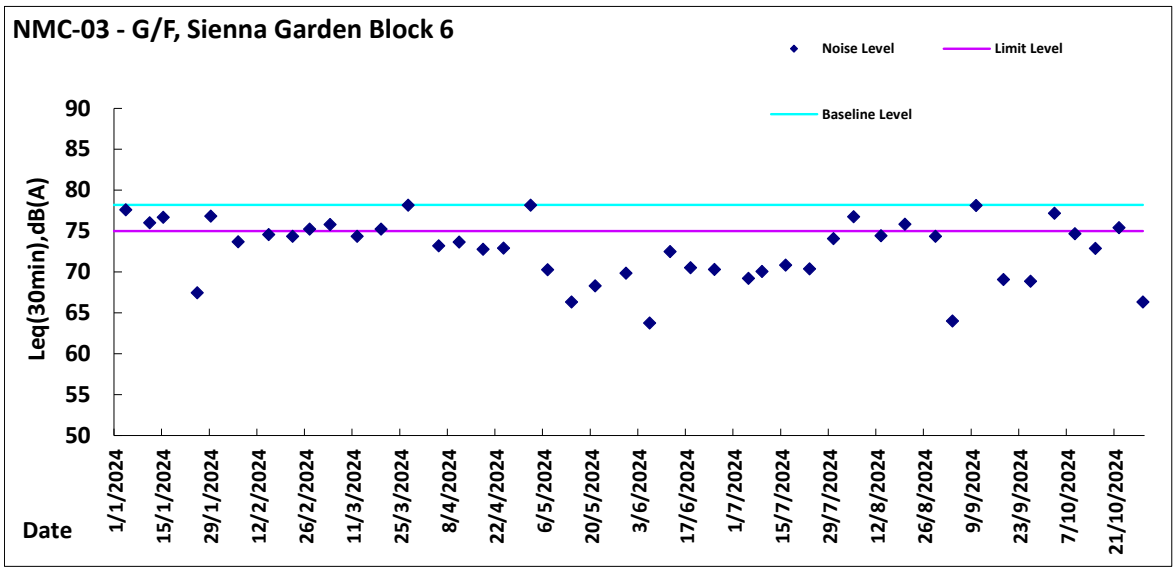
Day Time (0700 - 1900hrs on normal weekdays)

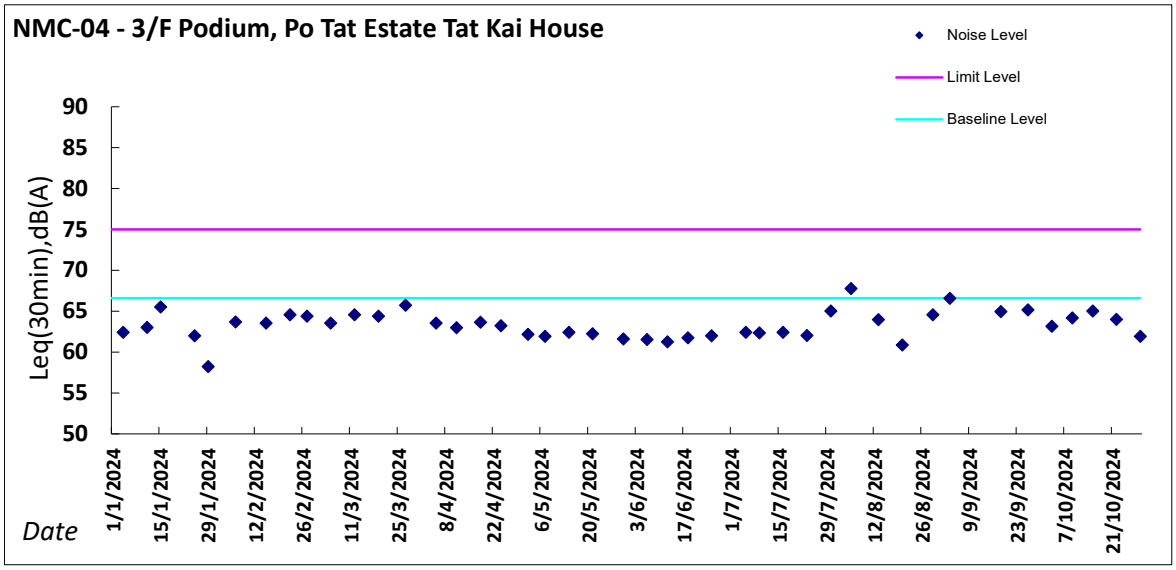




Graphic Presentation of Noise Monitoring Result

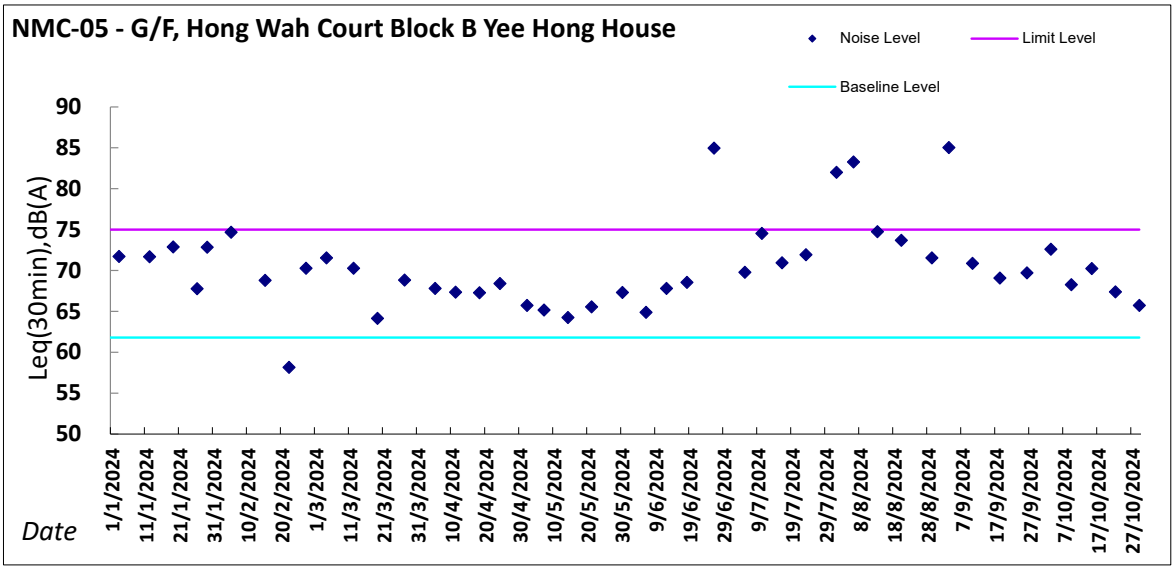
Day Time (0700 - 1900hrs on normal weekdays)





Graphic Presentation of Noise Monitoring Result

Day Time (0700 - 1900hrs on normal weekdays)



Appendix 5.3

Air Quality Monitoring Results and Graphical Presentations

Report on 1-hour TSP monitoring at NCWBR_AMS-1 - Shun Lee Fire Station

Action Level (μg/m3) - 284.4
Limit Level (μg/m3) - 500.0

Date	Weather Condition	Time	Mass Concentration (μg/m3)
4-Oct-24	Fine	8:18	75.2
4-Oct-24	Fine	9:19	65.3
4-Oct-24	Fine	10:20	82.6
10-Oct-24	Fine	8:39	60.9
10-Oct-24	Fine	9:40	44.2
10-Oct-24	Fine	10:41	42.5
16-Oct-24	Fine	8:10	113.7
16-Oct-24	Fine	9:11	108.1
16-Oct-24	Fine	10:11	117.0
22-Oct-24	Fine	8:12	53.5
22-Oct-24	Fine	9:13	46.2
22-Oct-24	Fine	10:14	46.2
28-Oct-24	Fine	8:42	90.2
28-Oct-24	Fine	9:43	77.8
28-Oct-24	Fine	10:43	65.7

Remarks:
Single underline denotes exceedance over Action Level.
Double underline denotes exceedance over Limit Level.

Report on 1-hour TSP monitoring at NCWBR_AMS-2 - Shun Lee Estate Lee Hang House

Action Level (μg/m3) - 282.4
Limit Level (μg/m3) - 500.0

Date	Weather Condition	Time	Mass Concentration (μg/m3)
4-Oct-24	Fine	8:25	62.1
4-Oct-24	Fine	9:26	43.9
4-Oct-24	Fine	10:27	39.5
10-Oct-24	Fine	8:23	40.3
10-Oct-24	Fine	9:24	30.5
10-Oct-24	Fine	10:25	30.0
16-Oct-24	Fine	8:09	39.9
16-Oct-24	Fine	9:10	42.3
16-Oct-24	Fine	10:11	44.4
22-Oct-24	Fine	8:04	49.7
22-Oct-24	Fine	9:05	39.3
22-Oct-24	Fine	10:06	41.7
28-Oct-24	Fine	8:21	52.9
28-Oct-24	Fine	9:22	58.6
28-Oct-24	Fine	10:23	60.0

Remarks:
Single underline denotes exceedance over Action Level.
Double underline denotes exceedance over Limit Level.

Report on 1-hour TSP monitoring at NCWBR_AMS-3 - Shun Lee Disciplined Services Quarters (Block 6)
Action Level (μg/m3) - 287.9
Limit Level (μg/m3) - 500.0

Date	Weather Condition	Time	Mass Concentration (μg/m3)
4-Oct-24	Fine	8:01	71.1
4-Oct-24	Fine	9:02	74.5
4-Oct-24	Fine	10:03	35.3
10-Oct-24	Fine	8:41	98.3
10-Oct-24	Fine	9:42	103.4
10-Oct-24	Fine	10:43	102.3
16-Oct-24	Fine	8:22	117.4
16-Oct-24	Fine	9:23	113.5
16-Oct-24	Fine	10:24	116.7
22-Oct-24	Fine	8:35	40.5
22-Oct-24	Fine	9:36	39.9
22-Oct-24	Fine	10:36	39.8
28-Oct-24	Fine	8:56	57.1
28-Oct-24	Fine	9:57	50.0
28-Oct-24	Fine	10:58	40.2

Remarks:
Single underline denotes exceedance over Action Level.
Double underline denotes exceedance over Limit Level.

Report on 1-hour TSP monitoring at NCWBR_AMS-4 - Sienna Garden

Action Level (μg/m3) - 281.6
Limit Level (μg/m3) - 500.0

Date	Weather Condition	Time	Mass Concentration (μg/m3)
4-Oct-24	Fine	8:18	46.0
4-Oct-24	Fine	9:19	49.4
4-Oct-24	Fine	10:20	34.3
10-Oct-24	Fine	8:23	89.2
10-Oct-24	Fine	9:24	67.4
10-Oct-24	Fine	10:25	64.0
16-Oct-24	Fine	8:44	74.6
16-Oct-24	Fine	9:45	54.6
16-Oct-24	Fine	10:46	54.8
22-Oct-24	Fine	8:08	22.2
22-Oct-24	Fine	9:09	18.4
22-Oct-24	Fine	10:10	20.6
28-Oct-24	Fine	8:39	83.6
28-Oct-24	Fine	9:40	82.2
28-Oct-24	Fine	10:40	69.1

Remarks:
Single underline denotes exceedance over Action Level.
Double underline denotes exceedance over Limit Level.

Report on 1-hour TSP monitoring at NCWBR_AMS-5 - Shun Chi Court Shun Fung House
Action Level (μg/m3) - 270.0
Limit Level (μg/m3) - 500.0

Date	Weather Condition	Time	Mass Concentration (μg/m3)
4-Oct-24	Fine	8:33	151.4
4-Oct-24	Fine	9:34	173.3
4-Oct-24	Fine	10:35	91.2
10-Oct-24	Fine	8:00	80.5
10-Oct-24	Fine	9:01	89.1
10-Oct-24	Fine	10:02	83.2
16-Oct-24	Fine	8:06	26.0
16-Oct-24	Fine	9:07	24.3
16-Oct-24	Fine	10:08	28.7
22-Oct-24	Fine	8:46	186.3
22-Oct-24	Fine	9:47	136.1
22-Oct-24	Fine	10:48	135.3
28-Oct-24	Fine	8:48	116.8
28-Oct-24	Fine	9:49	94.8
28-Oct-24	Fine	10:49	80.0

Remarks:
Single underline denotes exceedance over Action Level.
Double underline denotes exceedance over Limit Level.

Report on 1-hour TSP monitoring at LTR_AMS-1 - St Edward's Catholic Primary School

Action Level (μg/m3) - 272.1
Limit Level (μg/m3) - 500.0

Date	Weather Condition	Time	Mass Concentration (μg/m3)
4-Oct-24	Fine	8:41	81.3
4-Oct-24	Fine	9:42	54.4
4-Oct-24	Fine	10:43	46.0
10-Oct-24	Fine	8:11	64.7
10-Oct-24	Fine	9:12	47.9
10-Oct-24	Fine	10:13	42.6
16-Oct-24	Fine	8:33	30.8
16-Oct-24	Fine	9:34	41.7
16-Oct-24	Fine	10:35	43.3
22-Oct-24	Fine	8:55	31.8
22-Oct-24	Fine	9:56	25.0
22-Oct-24	Fine	10:56	35.6
28-Oct-24	Fine	8:30	19.2
28-Oct-24	Fine	9:31	18.7
28-Oct-24	Fine	10:32	19.8

Remarks:
Single underline denotes exceedance over Action Level.
Double underline denotes exceedance over Limit Level.

Report on 1-hour TSP monitoring at LTR_AMS-2 - Environmental Protection Department's Restored Landfill Site Office
Action Level (μg/m3) - 281.1
Limit Level (μg/m3) - 500.0

Date	Weather Condition	Time	Mass Concentration (μg/m3)
4-Oct-24	Fine	8:18	89.5
4-Oct-24	Fine	9:19	99.9
4-Oct-24	Fine	10:20	64.3
10-Oct-24	Fine	8:27	103.6
10-Oct-24	Fine	9:28	84.9
10-Oct-24	Fine	10:29	73.3
16-Oct-24	Fine	8:47	62.3
16-Oct-24	Fine	9:48	68.3
16-Oct-24	Fine	10:49	68.7
22-Oct-24	Fine	8:53	59.1
22-Oct-24	Fine	9:54	46.2
22-Oct-24	Fine	10:55	66.3
28-Oct-24	Fine	8:23	205.2
28-Oct-24	Fine	9:24	151.4
28-Oct-24	Fine	10:24	135.0

Remarks:
Single underline denotes exceedance over Action Level.
Double underline denotes exceedance over Limit Level.

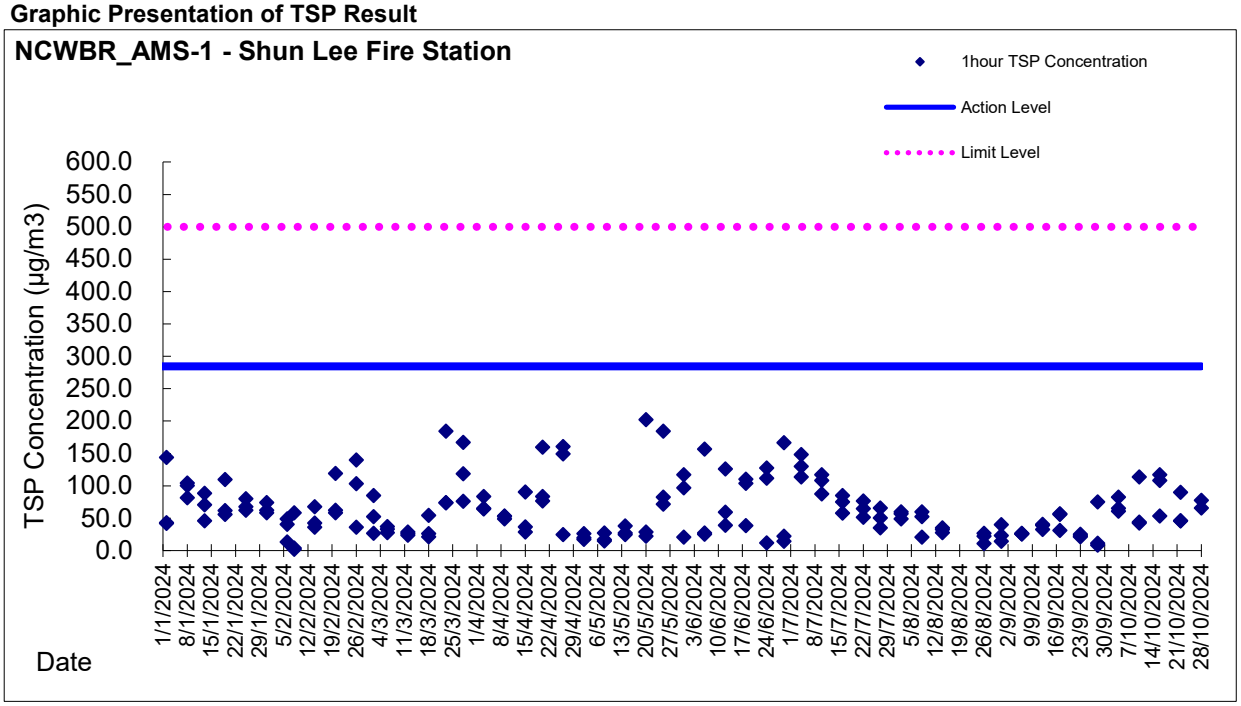
Report on 1-hour TSP monitoring at LTR_AMS-3 - Po Tat Estate Tat Kai House

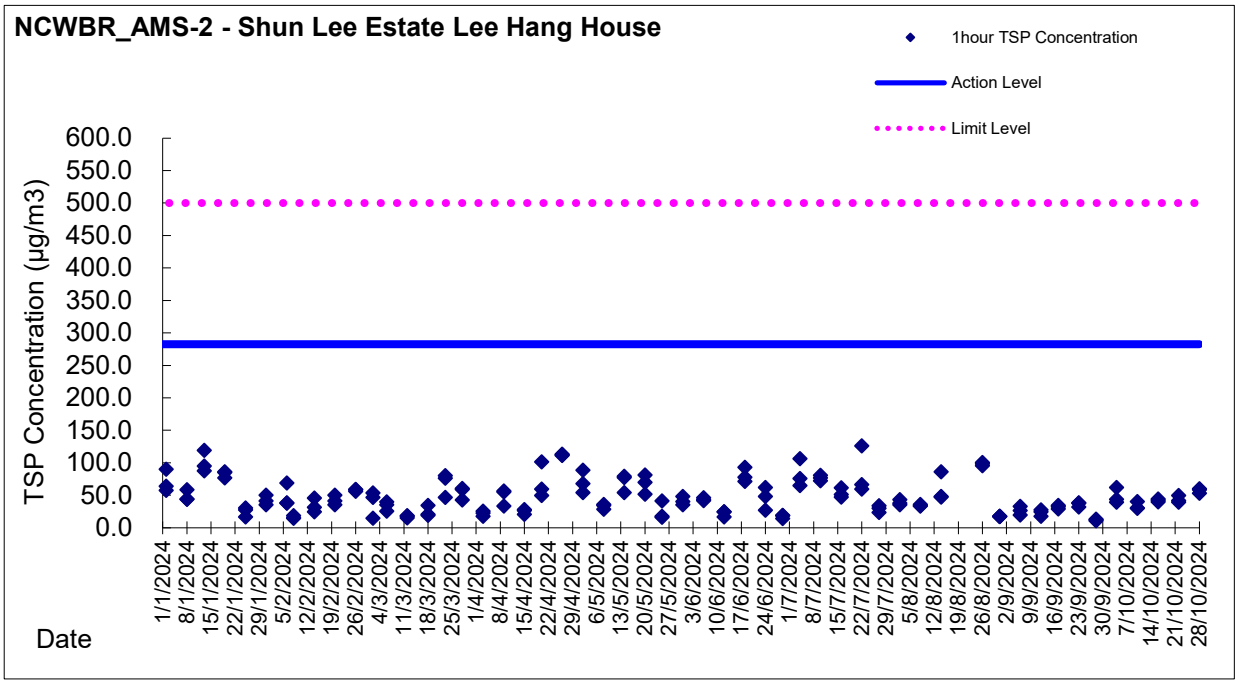
Action Level (μg/m3) - 285.1
Limit Level (μg/m3) - 500.0

Date	Weather Condition	Time	Mass Concentration (μg/m3)
4-Oct-24	Fine	8:55	143.5
4-Oct-24	Fine	9:56	109.1
4-Oct-24	Fine	10:57	95.6
10-Oct-24	Fine	8:55	134.1
10-Oct-24	Fine	9:56	102.1
10-Oct-24	Fine	10:57	97.3
16-Oct-24	Fine	8:10	26.8
16-Oct-24	Fine	9:11	27.1
16-Oct-24	Fine	10:11	27.3
22-Oct-24	Fine	8:36	28.4
22-Oct-24	Fine	9:37	29.6
22-Oct-24	Fine	10:38	30.2
28-Oct-24	Fine	8:07	32.3
28-Oct-24	Fine	9:08	32.7
28-Oct-24	Fine	10:09	33.3

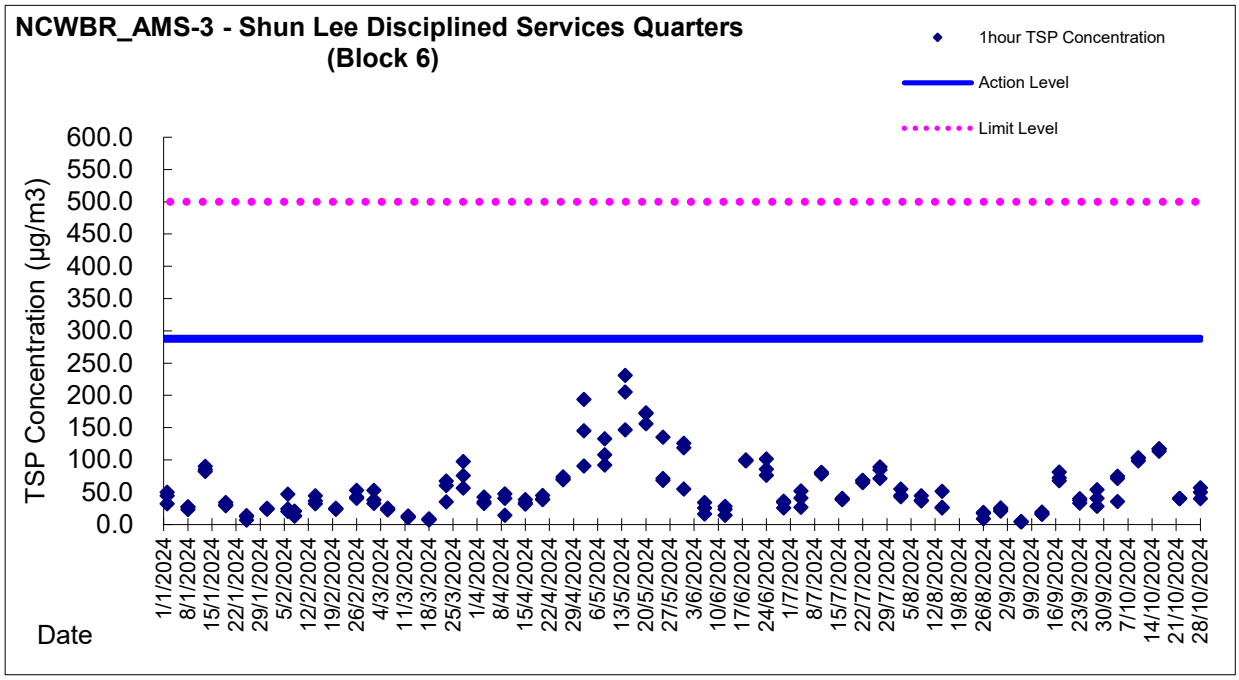
Remarks:
Single underline denotes exceedance over Action Level.
Double underline denotes exceedance over Limit Level.

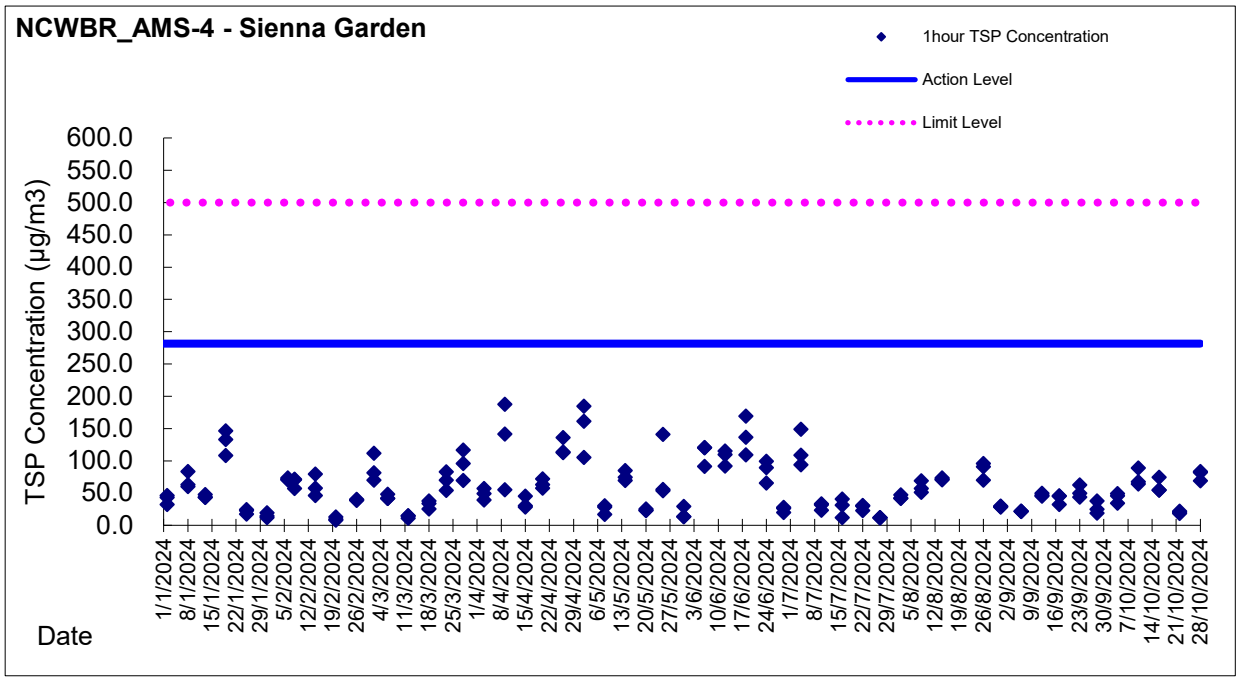
Graphic Presentation of TSP Result



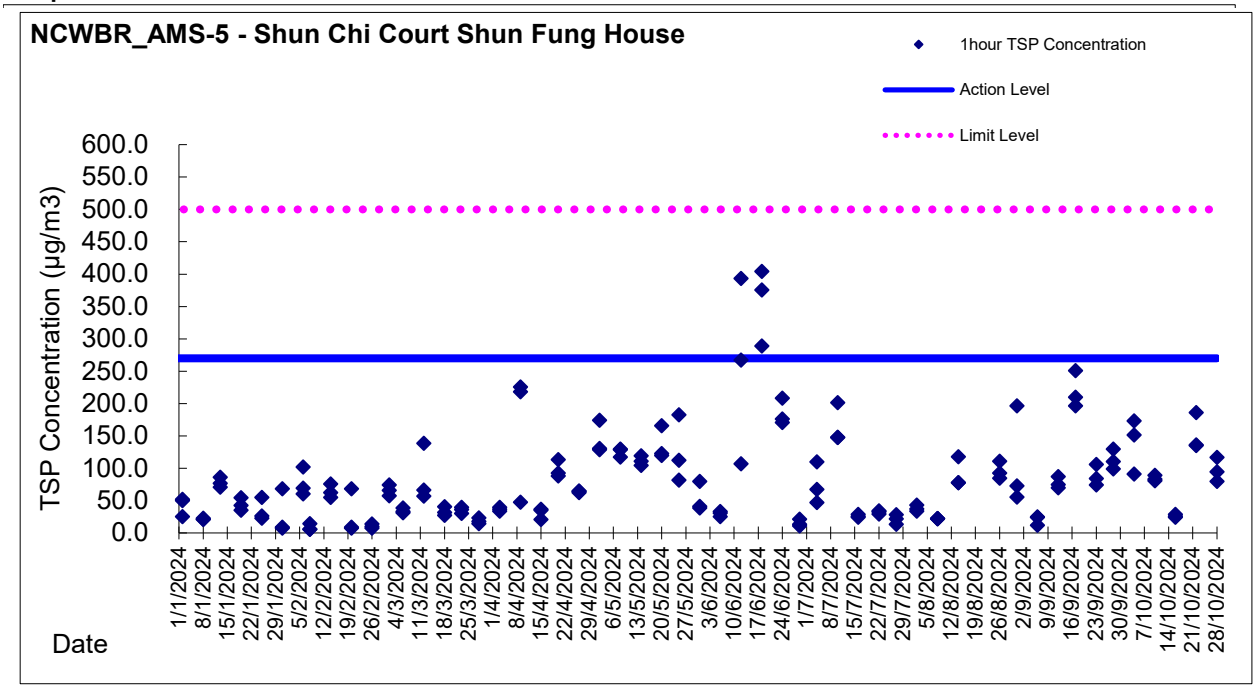


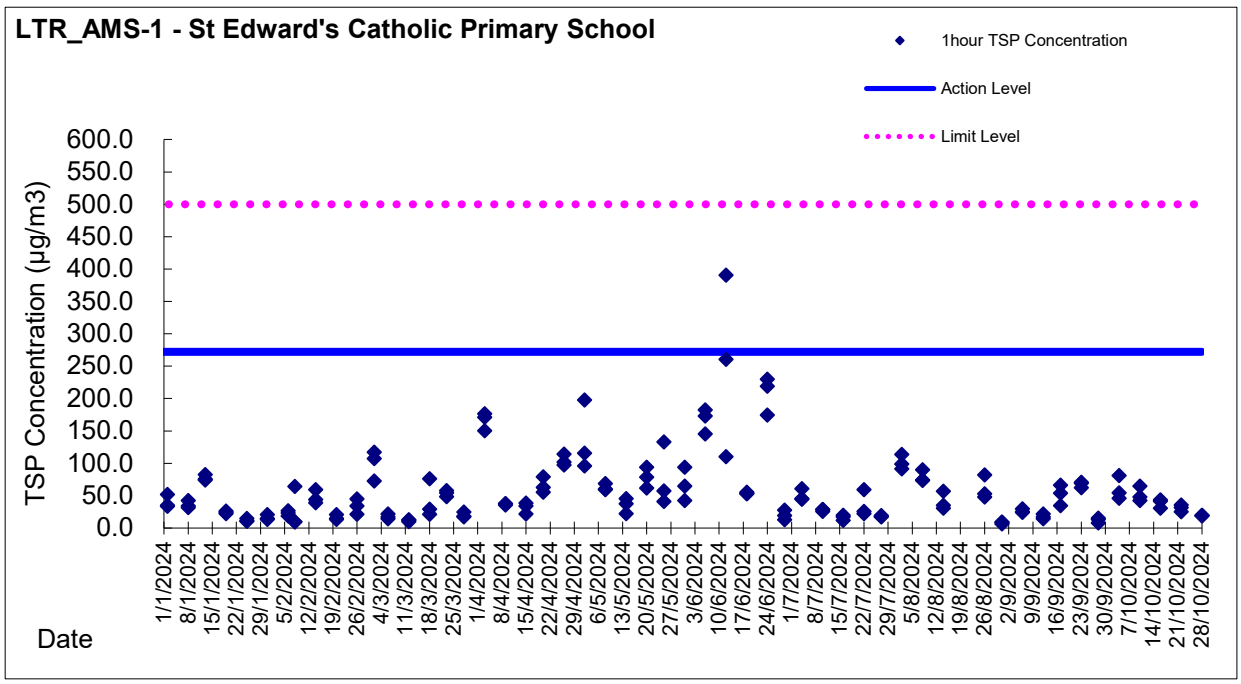
Graphic Presentation of TSP Result



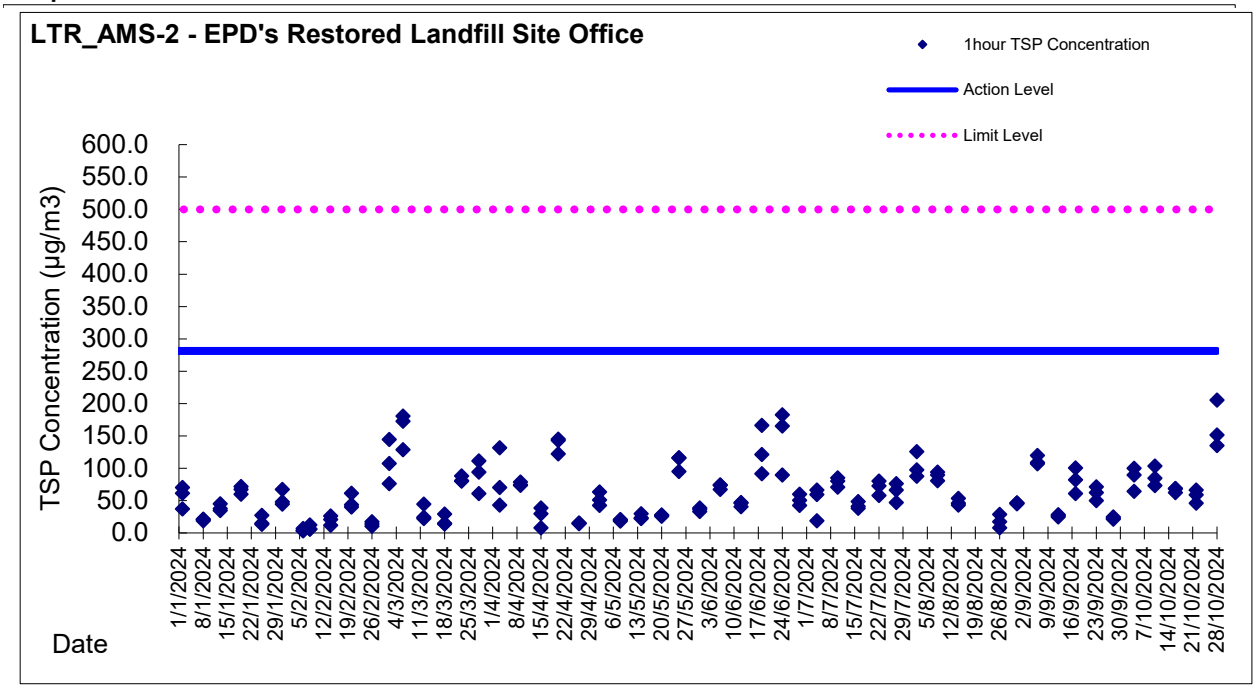


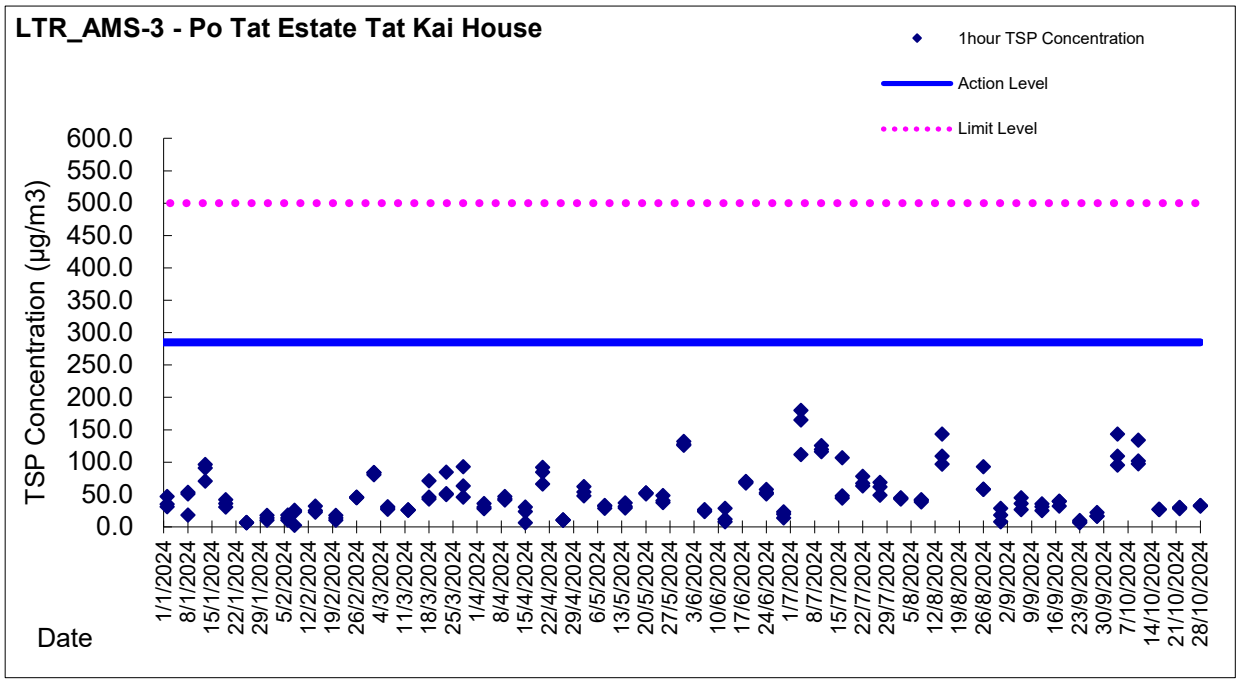
Graphic Presentation of TSP Result





Graphic Presentation of TSP Result





Appendix 5.4

Water Quality Monitoring Results and Graphical Presentations

Water Monitoring Result at Monitoring Station E - Channelized nullah across the Project site (Upstream Control Station)

Date	Time	Weater Condition	Sampling Depth	Water Temperature			pH			Salinity			DO Saturation			DO			Turbidity			Suspended Solids	
			m	°C			-			ppt			%			mg/L			NTU			mg/L	
				Value		Average	Value		Average	Value		Average	Value		Average	Value		Average	Value		Average	Value	Average
2/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
4/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
8/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
10/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
12/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
14/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
16/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
18/10/2024	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
21/10/2024	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
23/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
25/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
28/10/2024	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
30/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	

Remarks:
Upstream Monitoring Station (Monitoring Station E) would be taken as control reference for exceedance investigation only.

Water Monitoring Result at Monitoring Station F - Channelized nullah across the Project site (Downstream Impact Station)

Date	Time	Weater Condition	Sampling Depth	Water Temperature			pH			Salinity			DO Saturation			DO			Turbidity			Suspended Solids	
			m	°C			-			ppt			%			mg/L			NTU			mg/L	
				Value		Average	Value		Average	Value		Average	Value		Average	Value		Average	Value		Average	Value	Average
2/10/2024	9:20	Fine	Surface	23.10	23.10	23.10	7.85	7.85	7.9	0.06	0.06	0.06	109.90	109.90	109.83	9.40	9.40	9.4	8.24	8.23	8.3	2.7	2.8
	9:22			23.10	23.10		7.85	7.85		0.06	0.06		109.80	109.70		9.40	9.39		8.32	8.32		2.8	
4/10/2024	9:25	Fine	Surface	22.70	22.70	22.70	7.88	7.88	7.9	0.04	0.04	0.04	119.80	118.70	118.75	10.33	10.23	10.3	8.94	8.69	8.6	4.1	5.8
	9:27			22.70	22.70		7.88	7.88		0.04	0.04		118.50	118.00		10.21	10.23		8.47	8.34		7.5	
8/10/2024	10:29	Fine	Surface	24.00	24.00	24.00	7.87	7.87	7.9	0.08	0.08	0.08	109.20	109.00	108.93	9.18	9.16	9.2	3.82	3.80	3.8	5.8	7.4
	10:31			24.00	24.00		7.87	7.87		0.08	0.08		108.80	108.70		9.14	9.14		3.80	3.80		9.0	
10/10/2024	9:47	Fine	Surface	23.50	23.50	23.50	7.75	7.75	7.8	0.08	0.08	0.08	100.30	99.70	99.90	8.52	8.47	8.5	3.56	3.55	3.5	3.8	3.8
	9:49			23.50	23.50		7.75	7.75		0.08	0.08		99.90	99.70		8.49	8.47		3.52	3.50		3.7	
12/10/2024	9:35	Fine	Surface	23.70	23.70	23.70	7.69	7.69	7.7	0.08	0.08	0.08	97.10	98.20	97.88	8.27	8.31	8.3	6.30	6.66	6.6	8.2	8.1
	9:37			23.70	23.70		7.69	7.69		0.08	0.08		98.30	97.90		8.32	8.29		6.69	6.72		8.0	
14/10/2024	9:40	Fine	Surface	24.10	24.10	24.10	7.87	7.87	7.9	0.09	0.09	0.09	113.50	113.20	112.98	9.52	9.50	9.5	3.62	3.62	3.6	7.3	6.5
	9:42			24.10	24.10		7.87	7.87		0.09	0.09		112.70	112.50		9.45	9.45		3.62	3.62		5.7	
16/10/2024	9:35	Fine	Surface	24.20	24.20	24.20	7.90	7.90	7.9	0.11	0.11	0.11	97.90	97.80	97.73	8.20	8.19	8.2	3.29	9.28	4.8	4.8	5.0
	9:37			24.20	24.20		7.90	7.90		0.11	0.11		97.70	97.50		8.18	8.16		3.27	3.22		5.2	
18/10/2024	9:40	Cloudy	Surface	24.40	24.40	24.40	7.99	7.99	8.0	0.16	0.16	0.16	113.80	113.90	113.18	9.50	9.46	9.4	7.77	7.76	7.8	9.7	13.7
	9:42			24.40	24.40		7.99	7.99		0.16	0.16		113.00	112.00		9.42	9.34		7.75	7.72		17.6	
21/10/2024	9:56	Cloudy	Surface	23.80	23.80	23.80	7.79	7.79	7.8	0.08	0.08	0.08	103.00	102.00	102.23	8.70	8.62	8.6	4.44	4.44	4.4	4.8	4.0
	9:58			23.80	23.80		7.79	7.79		0.08	0.08		102.00	101.90		8.61	8.61		4.45	4.42		3.2	
23/10/2024	9:22	Fine	Surface	23.70	23.70	23.70	7.45	7.45	7.5	0.08	0.08	0.08	109.60	109.70	109.50	9.08	9.09	9.1	3.99	9.95	5.5	11.5	7.8
	9:24			23.70	23.70		7.45	7.45		0.08	0.08		109.50	109.20		9.07	9.04		3.98	3.97		4.0	
25/10/2024	10:20	Fine	Surface	22.40	22.40	22.40	8.00	8.00	8.0	0.06	0.06	0.06	100.40	100.70	100.38	8.71	8.74	8.7	4.27	4.24	4.3	1.9	3.7
	10:22			22.40	22.40		8.00	8.00		0.06	0.06		100.40	100.00		8.71	8.67		4.26	4.24		5.5	
28/10/2024	9:46	Cloudy	Surface	21.30	21.30	21.30	8.02	8.02	8.0	0.07	0.07	0.07	104.60	104.40	104.28	9.25	9.23	9.2	6.63	6.66	6.7	14.9	15.6
	9:48			21.30	21.30		8.02	8.02		0.07	0.07		104.20	103.90		9.21	9.18		6.79	6.72		16.2	
30/10/2024	9:30	Fine	Surface	20.70	20.70	20.70	7.96	7.96	8.0	0.08	0.08	0.08	119.60	117.70	117.93	10.72	10.54	10.6	13.82	13.83	13.6	15.6	14.9
	9:32			20.70	20.70		7.96	7.96		0.08	0.08		117.10	117.30		10.49	10.52		12.84	13.88		14.1	

Remarks:
Single underline denotes exceedance over Action Level.
Double underline denotes exceedance over Limit Level.

Water Monitoring Result at Monitoring Station H - Ma Yau Tong Stream (Upstream Control Station)

Date	Time	Weater Condition	Sampling Depth	Water Temperature			pH			Salinity			DO Saturation			DO			Turbidity			Suspended Solids	
			m	°C			-			ppt			%			mg/L			NTU			mg/L	
				Value		Average	Value		Average	Value		Average	Value		Average	Value		Average	Value		Average	Value	Average
2/10/2024	8:48	Fine	Surface	23.70	23.70	23.70	7.85	7.85	7.9	0.78	0.78	0.78	117.70	117.90	117.73	9.89	9.90	9.4	31.31	31.76	31.5	39.7	39.6
	8:50			23.70	23.70		7.85	7.85		0.78	0.78		117.70	117.60		9.88	7.98		31.47	31.36		39.4	
4/10/2024	8:45	Fine	Surface	23.80	23.80	23.80	7.50	7.50	7.5	0.80	0.80	0.62	105.70	105.00	105.53	10.33	10.23	10.3	6.21	6.20	6.2	3.6	4.2
	8:47			23.80	23.80		7.50	7.50		0.08	0.80		105.70	105.70		10.21	10.23		6.18	6.12		4.7	
8/10/2024	9:55	Fine	Surface	24.30	24.30	24.30	7.34	7.34	7.3	2.42	2.42	4.92	112.80	113.00	112.23	9.29	9.30	9.2	4.57	4.55	4.6	8.9	9.1
	9:57			24.30	24.30		7.34	7.34		7.42	7.42		111.50	111.60		9.19	9.20		4.56	4.55		9.3	
10/10/2024	8:50	Fine	Surface	23.90	23.90	23.90	7.42	7.42	7.4	3.05	3.05	3.05	114.10	113.10	113.48	9.46	9.37	9.4	6.77	6.75	6.7	5.7	5.4
	8:52			23.90	23.90		7.42	7.42		3.05	3.05		113.20	113.50		9.38	9.41		6.75	6.72		5.1	
12/10/2024	8:50	Fine	Surface	23.00	923.90	248.68	7.39	7.39	7.4	2.85	2.85	2.85	96.30	95.80	95.70	7.97	7.93	7.9	7.77	7.75	7.7	3.9	4.2
	8:52			23.90	23.90		7.39	7.39		2.85	2.85		95.50	95.20		7.91	7.87		7.73	7.70		4.5	
14/10/2024	8:45	Fine	Surface	25.30	25.30	25.30	7.30	7.30	7.3	4.22	4.22	4.22	113.70	113.10	113.28	9.12	9.07	9.1	15.27	15.25	15.2	34.6	26.3
	8:47			25.30	25.30		7.30	7.30		4.22	4.22		113.20	113.10		9.08	9.07		15.22	15.20		18.0	
16/10/2024	8:50	Fine	Surface	25.20	25.20	25.20	7.47	7.47	7.5	3.03	3.03	3.33	115.30	113.60	114.18	9.28	9.17	9.2	7.52	7.52	7.5	5.6	6.2
	8:52			25.20	25.20		7.47	7.47		3.63	3.63		113.80	114.00		9.16	9.18		7.54	7.56		6.7	
18/10/2024	9:05	Cloudy	Surface	25.40	25.40	25.40	7.38	7.38	7.4	3.73	3.73	3.73	117.40	117.50	116.95	9.42	9.43	9.4	10.39	10.38	10.4	5.3	5.0
	9:07			25.40	25.40		7.38	7.38		3.73	3.73		116.50	116.40		9.35	9.34		10.35	10.33		4.6	
21/10/2024	9:15	Cloudy	Surface	25.10	25.10	25.10	7.40	7.40	7.4	1.74	1.74	1.74	110.00	109.80	109.53	8.98	8.97	8.9	171.80	167.10	167.9	202.0	186.0
	9:17			25.10	25.10		7.40	7.40		1.74	1.74		109.30	109.00		8.92	8.90		166.40	166.20		170.0	
23/10/2024	8:45	Fine	Surface	24.50	24.50	24.50	7.45	7.45	7.5	1.80	1.80	1.80	111.70	111.50	111.45	9.35	9.33	9.3	5.72	5.70	5.7	9.6	9.5
	8:47			24.50	24.50		7.45	7.45		1.80	1.80		111.20	111.40		9.30	9.32		5.65	5.65		9.3	
25/10/2024	9:45	Fine	Surface	22.80	22.80	22.80	7.46	7.46	7.5	0.70	0.70	0.70	113.41	113.20	113.20	9.71	9.69	9.7	5.29	5.28	5.3	4.4	4.0
	9:47			22.80	22.80		7.46	7.46		0.70	0.70		113.00	113.20		9.67	9.69		5.28	5.28		3.5	
28/10/2024	9:05	Cloudy	Surface	22.00	22.00	22.00	7.32	7.32	7.3	1.12	1.12	1.12	110.20	110.00	110.08	9.58	9.56	9.6	8.87	8.86	8.8	6.2	6.5
	9:07			22.00	22.00		7.32	7.32		1.12	1.12		110.10	110.00		9.56	9.56		8.80	8.80		6.7	
30/10/2024	8:50	Fine	Surface	20.70	21.80	21.25	7.39	7.39	7.4	1.15	1.15	1.15	114.70	114.80	114.70	10.00	10.00	10.0	6.35	6.32	6.3	5.3	4.9
	8:52			20.70	21.80		7.39	7.39		1.15	1.15		114.50	114.80		9.99	9.98		6.30	6.28		4.5	

Remarks:
Upstream Monitoring Station (Monitoring Station H) would be taken as control reference for exceedance investigation only.

Water Monitoring Result at Monitoring Station I - Ma Yau Tong Stream (Downstream Impact Station)

Date	Time	Weater Condition	Sampling Depth	Water Temperature			pH			Salinity			DO Saturation			DO			Turbidity			Suspended Solids	
			m	°C			-			ppt			%			mg/L			NTU			mg/L	
				Value		Average	Value		Average	Value		Average	Value		Average	Value		Average	Value		Average	Value	Average
2/10/2024	8:20	Fine	Surface	24.00	24.00	24.00	7.80	7.80	7.8	0.85	0.85	0.85	111.90	111.80	111.73	9.36	9.35	9.3	27.54	27.78	27.8	40.7	39.1
	8:22			24.00	24.00		7.80	7.80		0.85	0.85		111.70	111.50		9.35	9.33		27.84	27.98		37.4	
4/10/2024	8:15	Fine	Surface	23.60	23.60	23.60	7.56	7.56	7.6	0.97	0.97	0.97	115.90	115.80	115.45	9.75	9.73	9.7	7.58	7.57	7.5	9.1	6.5
	8:17			23.60	23.60		7.56	7.56		0.97	0.97		115.10	115.00		9.67	9.66		7.50	7.52		3.9	
8/10/2024	9:05	Fine	Surface	24.50	24.50	24.50	7.55	7.55	7.6	0.82	0.82	0.82	105.40	105.50	104.80	8.68	8.68	8.6	8.28	8.30	8.3	9.3	9.6
	9:07			24.50	24.50		7.55	7.55		0.82	0.82		104.00	104.30		8.56	8.59		8.35	8.40		9.9	
10/10/2024	8:20	Fine	Surface	24.00	24.00	24.00	7.40	7.40	7.4	0.85	0.85	0.85	103.50	103.20	103.20	8.57	8.54	8.5	8.28	8.29	8.3	5.5	5.3
	8:22			24.00	24.00		7.40	7.40		0.85	0.85		103.00	103.10		8.52	8.51		8.30	8.32		5.1	
12/10/2024	8:30	Fine	Surface	24.10	24.10	24.10	7.30	7.30	7.3	0.80	0.80	0.80	94.00	94.00	93.85	7.78	7.78	7.8	6.35	6.32	6.3	32.1	33.0
	8:32			24.10	24.10		7.30	7.30		0.80	0.80		93.70	93.70		7.76	7.75		6.30	6.32		33.8	
14/10/2024	8:05	Fine	Surface	25.50	25.50	25.50	7.25	7.25	7.5	0.85	0.85	0.85	107.10	106.20	106.95	8.56	8.49	8.5	26.82	26.80	26.8	25.3	24.2
	8:07			25.50	25.50		7.75	7.75		0.85	0.85		107.10	107.40		8.56	8.58		26.82	26.80		23.1	
16/10/2024	8:15	Fine	Surface	25.40	25.40	25.40	7.38	7.38	7.4	0.85	0.85	0.85	108.40	108.50	108.43	8.70	8.71	8.7	11.25	11.24	11.2	54.0	29.8
	8:17			25.40	25.40		7.38	7.38		0.85	0.85		108.50	108.30		8.71	8.70		11.20	11.18		5.5	
18/10/2024	8:20	Cloudy	Surface	25.40	25.40	25.40	7.33	7.33	7.3	0.80	0.80	0.80	112.50	112.20	111.93	9.03	9.00	9.0	11.71	11.72	11.7	4.4	4.4
	8:22			25.40	25.40		7.33	7.33		0.80	0.80		111.70	111.30		8.96	8.92		11.70	11.65		4.3	
21/10/2024	8:30	Cloudy	Surface	25.00	25.00	25.00	7.34	7.81	7.5	0.85	0.85	0.85	105.30	105.40	104.85	8.60	8.60	8.6	55.80	55.80	55.8	174.0	168.5
	8:32			25.00	25.00		7.34	7.34		0.85	0.85		104.90	103.80		8.56	8.47		55.80	55.80		163.0	
23/10/2024	8:05	Fine	Surface	24.80	24.80	24.80	7.35	7.35	7.4	0.85	0.85	0.85	111.00	109.80	110.15	9.25	9.23	9.2	4.44	4.46	4.4	9.3	9.5
	8:07			24.80	24.80		7.35	7.35		0.85	0.85		109.90	109.90		9.23	9.23		4.45	4.44		9.6	
25/10/2024	9:00	Fine	Surface	22.90	22.90	22.90	7.39	7.39	7.4	0.85	0.85	0.85	108.60	108.10	108.13	9.29	9.25	9.3	6.66	6.67	6.7	4.2	4.2
	9:02			22.90	22.90		7.39	7.39		0.86	0.85		108.00	107.80		9.24	9.22		6.66	6.66		4.1	
28/10/2024	8:15	Cloudy	Surface	22.00	22.00	22.00	7.39	7.39	7.4	0.80	0.80	0.80	108.70	108.80	108.58	9.48	9.49	9.5	12.17	12.16	12.1	6.3	6.4
	8:17			22.00	22.00		7.34	7.34		0.80	0.80		108.50	108.30		9.46	9.44		12.10	12.09		6.5	
30/10/2024	8:05	Fine	Surface	21.80	22.00	21.90	7.35	7.35	7.4	0.85	0.85	0.85	111.50	111.40	111.23	9.72	9.71	9.7	8.16	8.15	8.1	5.2	5.0
	8:07			21.80	22.00		7.35	7.35		0.85	0.85		110.70	111.30		9.66	9.71		8.10	8.12		4.8	

Remarks:
Single underline denotes exceedance over Action Level.
Double underline denotes exceedance over Limit Level.

Water Monitoring Result at Monitoring Station AC1 - Channelized nullah across the Project site (Upstream Reference Station)

Date	Time	Weater Condition	Sampling Depth	Water Temperature			pH			Salinity			DO Saturation			DO			Turbidity			Suspended Solids	
			m	°C			-			ppt			%			mg/L			NTU			mg/L	
				Value		Average	Value		Average	Value		Average	Value		Average	Value		Average	Value		Average	Value	Average
2/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
4/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
8/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
10/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
12/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
14/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
16/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
18/10/2024	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
21/10/2024	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
23/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
25/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
28/10/2024	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
30/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	

Remarks:
Upstream Monitoring Station (Monitoring Station AC1) would be taken as reference for exceedance investigation only.

Water Monitoring Result at Monitoring Station AC2 - Channelized nullah across the Project site (Upstream Reference Station)

Date	Time	Weater Condition	Sampling Depth	Water Temperature			pH			Salinity			DO Saturation			DO			Turbidity			Suspended Solids	
			m	°C			-			ppt			%			mg/L			NTU			mg/L	
				Value		Average	Value		Average	Value		Average	Value		Average	Value		Average	Value		Average	Value	Average
2/10/2024	9:10	Fine	Surface	22.90	22.90	22.90	7.90	7.90	7.9	0.06	0.06	0.06	121.00	120.70	120.58	10.38	10.35	10.3	8.47	8.43	8.5	3.5	3.3
	9:12			22.90	22.90		7.90	7.90		0.06	0.06		120.40	120.20		10.34	10.32		8.47	8.46		3.1	
4/10/2024	9:15	Fine	Surface	22.40	224.00	72.80	7.82	7.82	7.8	0.04	0.04	0.04	127.80	126.80	126.95	11.06	10.98	11.0	10.17	10.18	10.3	17.3	16.8
	9:17			22.40	22.40		7.82	7.82		0.04	0.04		126.70	126.50		10.97	10.95		10.42	10.41		16.3	
8/10/2024	10:19	Fine	Surface	23.90	23.90	23.90	7.94	7.94	7.9	0.08	0.08	0.08	117.50	117.30	117.25	9.88	9.86	9.9	4.55	4.56	4.6	5.2	5.4
	10:21			23.90	23.90		7.94	7.94		0.08	0.08		117.20	117.00		9.86	9.84		4.62	4.65		5.6	
10/10/2024	9:37	Fine	Surface	23.30	23.30	23.30	7.79	7.79	7.8	0.09	0.09	0.09	108.60	108.60	108.40	9.24	9.24	9.0	4.42	4.45	4.4	3.8	9.1
	9:39			23.30	23.30		7.79	7.79		0.09	0.09		108.30	108.10		9.21	8.20		4.40	4.42		14.4	
12/10/2024	9:25	Fine	Surface	23.60	23.60	23.60	7.67	7.67	7.7	0.08	0.08	0.08	98.80	98.90	98.70	8.38	8.38	8.4	4.72	4.70	4.7	9.3	6.6
	9:27			23.60	23.60		7.67	7.67		0.08	0.08		98.50	98.60		8.35	8.36		4.77	4.78		3.8	
14/10/2024	9:10	Fine	Surface	23.90	23.90	23.90	7.95	7.95	8.0	0.10	0.10	0.10	125.20	125.00	124.98	10.54	10.52	10.5	5.22	5.25	5.3	4.2	6.2
	9:12			23.90	23.90		7.95	7.95		0.10	0.10		124.80	124.90		10.50	10.50		5.28	5.30		8.2	
16/10/2024	9:25	Fine	Surface	23.90	23.90	23.90	7.92	7.92	7.9	0.12	0.12	0.12	97.40	98.10	98.23	8.19	8.24	8.2	4.80	4.82	4.8	6.3	5.6
	9:27			23.90	23.90		7.92	7.92		0.12	0.12		98.70	98.70		8.28	8.28		4.85	4.88		4.8	
18/10/2024	9:30	Cloudy	Surface	24.20	24.20	24.20	8.04	8.04	8.0	0.17	0.17	0.17	117.80	117.50	117.68	9.85	9.82	9.8	8.65	8.64	8.7	10.8	15.4
	9:32			24.20	24.20		8.04	8.04		0.17	0.17		117.50	117.90		9.82	9.81		8.66	8.67		20.0	
21/10/2024	9:46	Cloudy	Surface	23.70	23.70	23.70	7.81	7.81	7.8	0.08	0.08	0.08	112.20	112.10	112.15	9.49	9.49	9.5	5.62	5.63	5.6	3.5	3.9
	9:48			23.70	23.70		7.81	7.81		0.08	0.08		112.00	112.30		9.48	9.50		5.65	5.68		4.3	
23/10/2024	9:12	Fine	Surface	23.80	23.80	23.80	7.50	7.50	7.5	0.08	0.08	0.08	108.20	108.00	108.50	8.92	8.90	8.9	4.56	4.55	4.6	5.9	11.9
	9:14			23.80	23.80		7.50	7.50		0.08	0.08		108.50	109.30		8.95	8.93		4.60	4.65		17.9	
25/10/2024	10:10	Fine	Surface	22.20	22.20	22.20	8.09	8.09	8.1	0.06	0.06	0.06	108.10	108.00	107.90	9.38	9.37	9.4	5.35	5.36	5.3	5.8	4.1
	10:12			22.20	22.20		8.09	8.09		0.06	0.06		107.80	107.70		9.35	9.34		5.36	5.32		2.3	
28/10/2024	9:36	Cloudy	Surface	21.50	21.50	21.50	8.37	8.37	8.4	0.08	0.08	0.08	111.00	110.60	110.63	9.82	9.79	9.8	7.82	7.80	7.8	30.0	33.7
	9:38			21.50	21.50		8.37	8.37		0.08	0.08		110.50	110.40		9.78	9.77		7.80	7.82		37.3	
30/10/2024	9:20	Fine	Surface	20.60	20.60	20.60	7.97	7.97	8.0	0.09	0.09	0.09	121.80	121.70	121.58	10.91	10.90	10.9	11.25	11.26	11.3	31.4	34.5
	9:22			20.60	20.60		7.97	7.97		0.09	0.09		121.60	121.20		10.89	10.85		11.26	11.28		37.5	

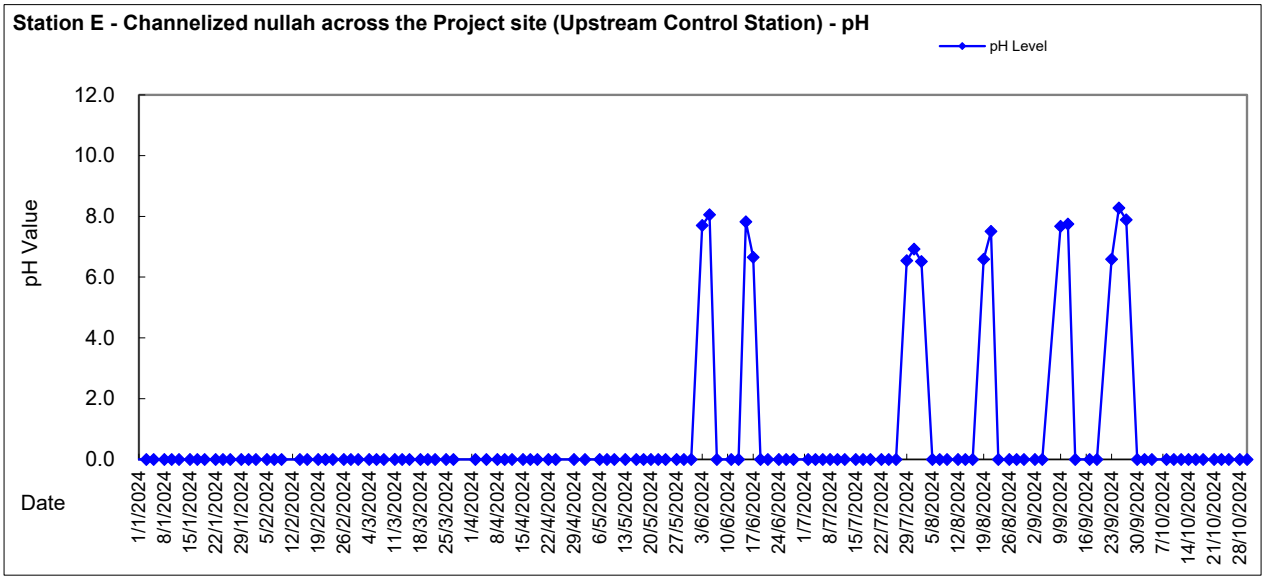
Remarks:
Upstream Monitoring Station (Monitoring Station AC2) would be taken as reference for exceedance investigation only.

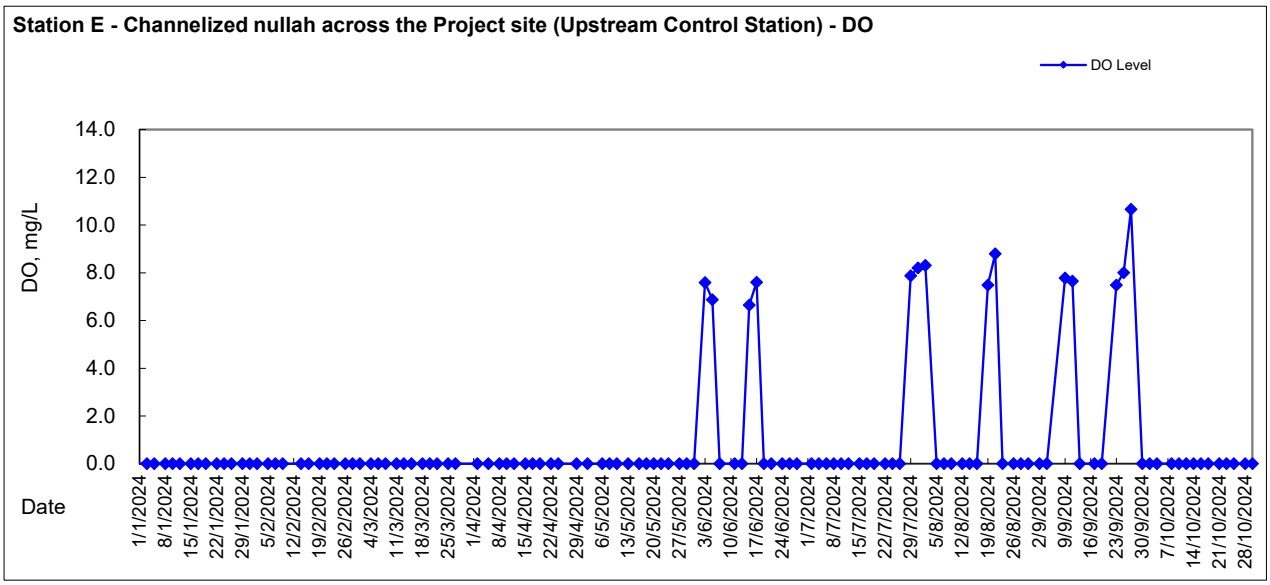
Water Monitoring Result at Monitoring Station AC3 - Channelized nullah across the Project site (Upstream Reference Station)

Date	Time	Weater Condition	Sampling Depth	Water Temperature			pH			Salinity			DO Saturation			DO			Turbidity			Suspended Solids	
			m	°C			-			ppt			%			mg/L			NTU			mg/L	
				Value		Average	Value		Average	Value		Average	Value		Average	Value		Average	Value		Average	Value	Average
2/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
4/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
8/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
10/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
12/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
14/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
16/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
18/10/2024	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
21/10/2024	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
23/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
25/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
28/10/2024	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	
30/10/2024	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-			-	-		-	-		-	-		-	-		-	-		-	-		-	

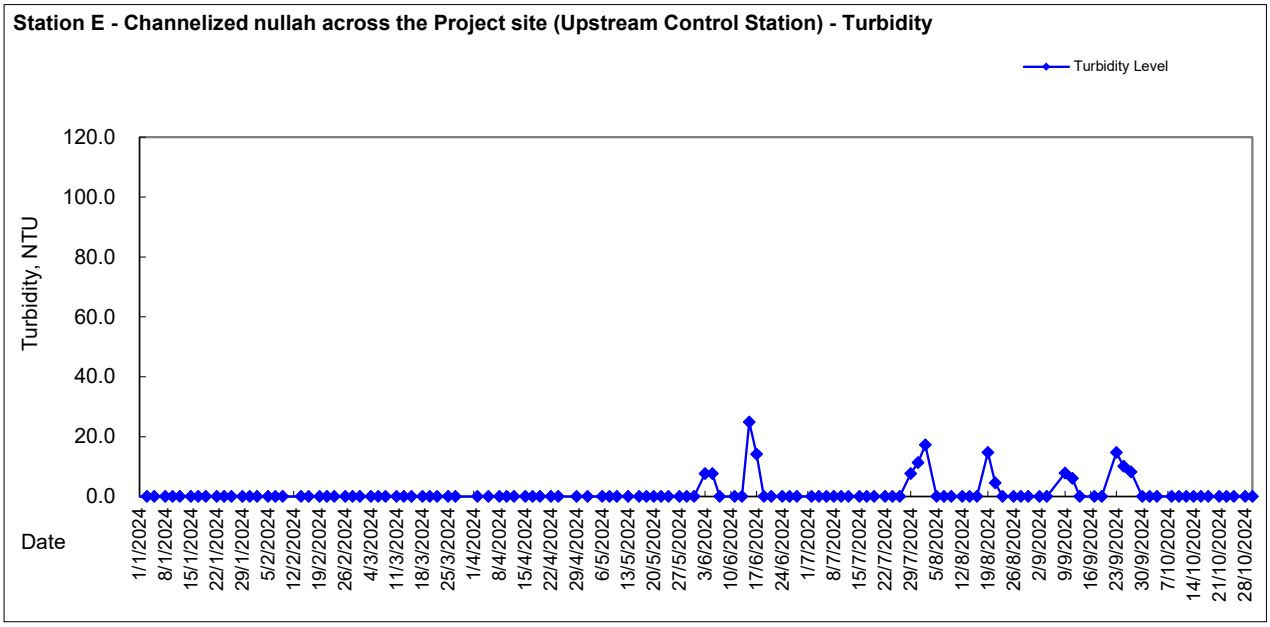
Remarks:
Upstream Monitoring Station (Monitoring Station AC3) would be taken as reference for exceedance investigation only.

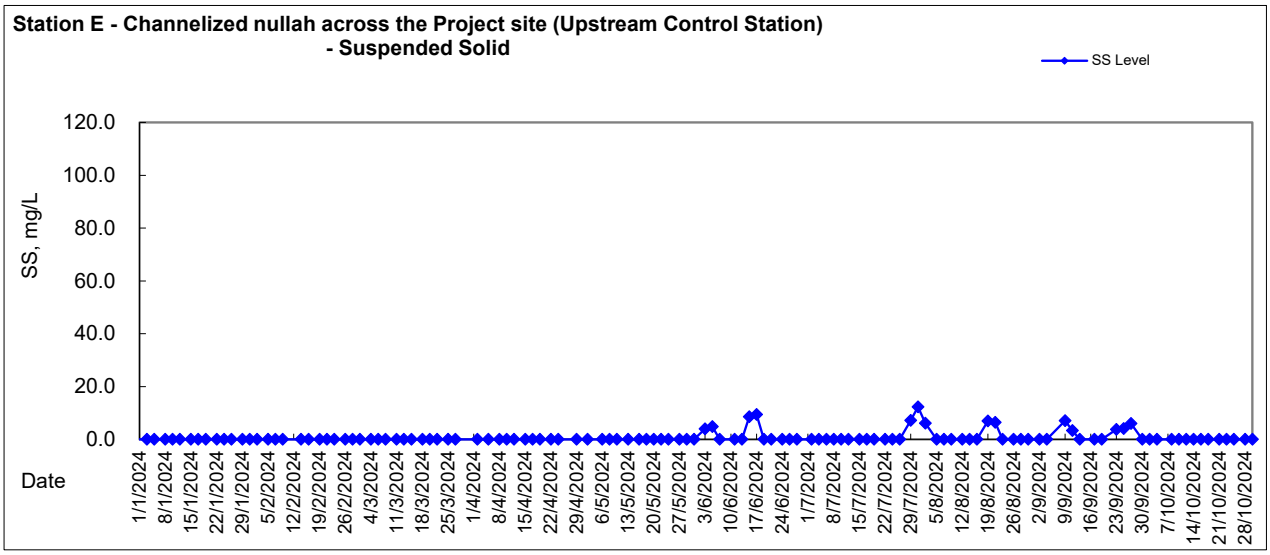
Graphic Presentation of WQM Result



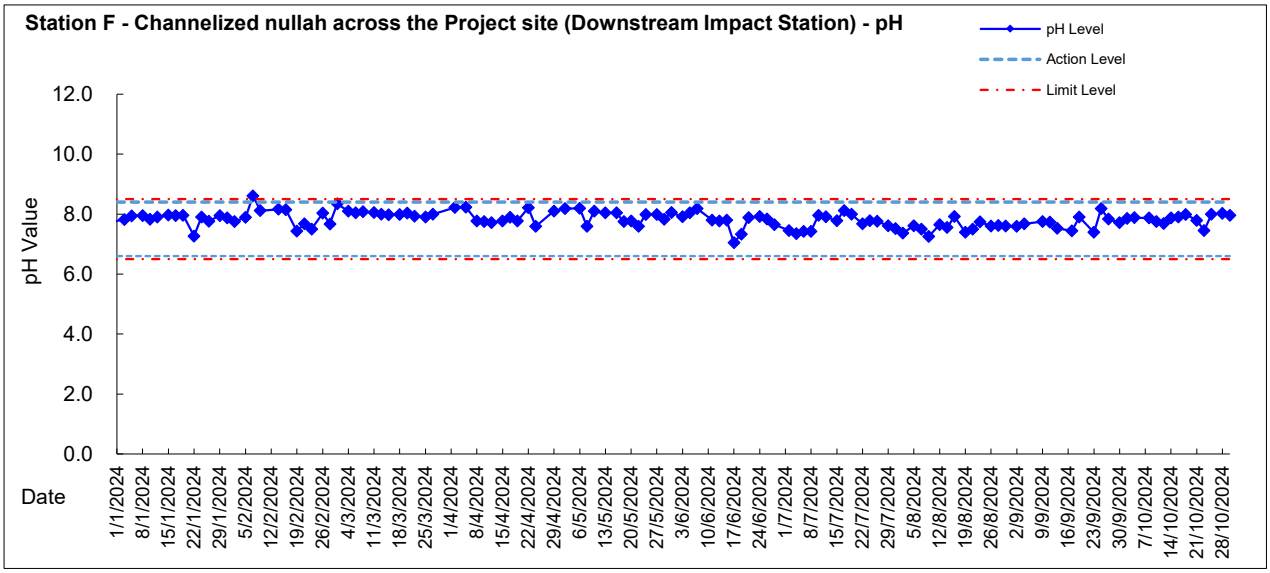


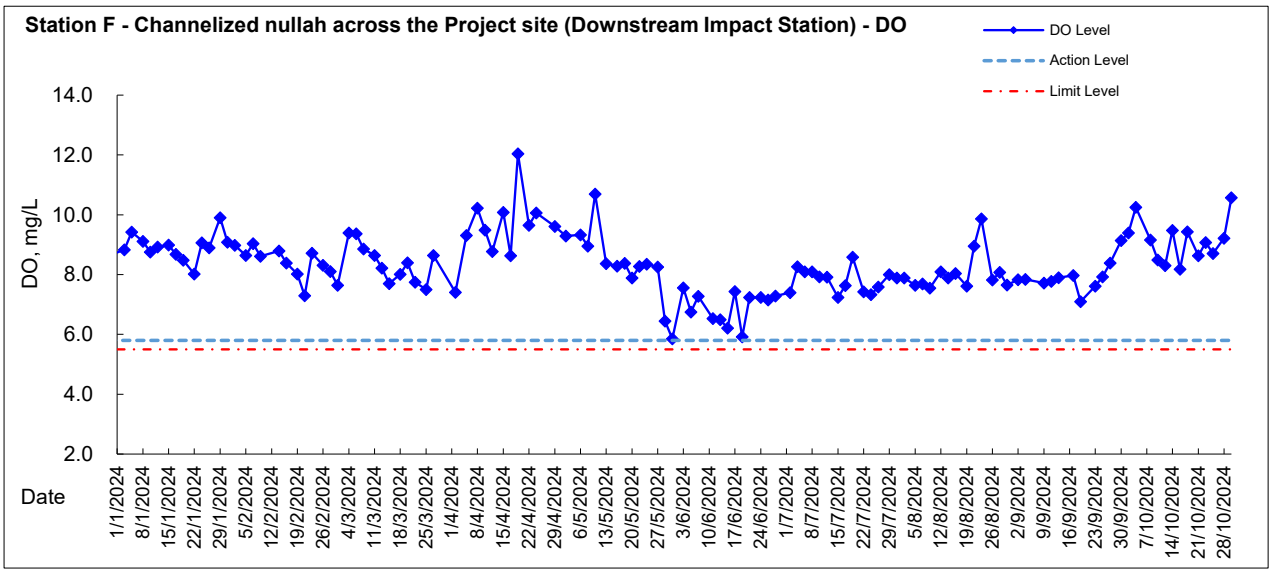
Graphic Presentation of WQM Result



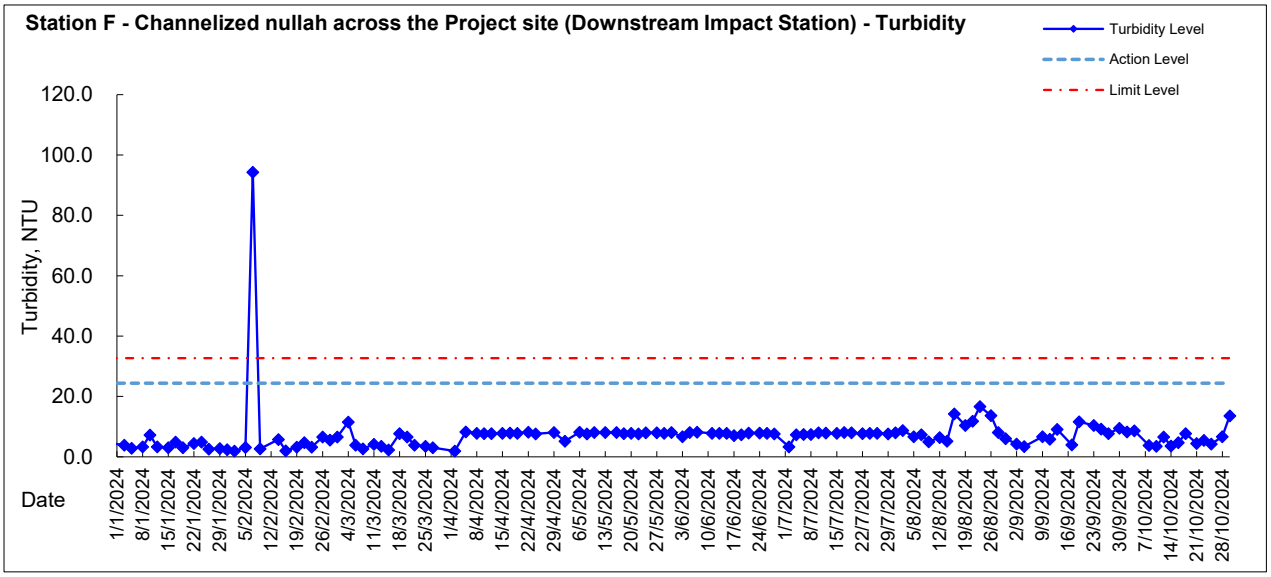


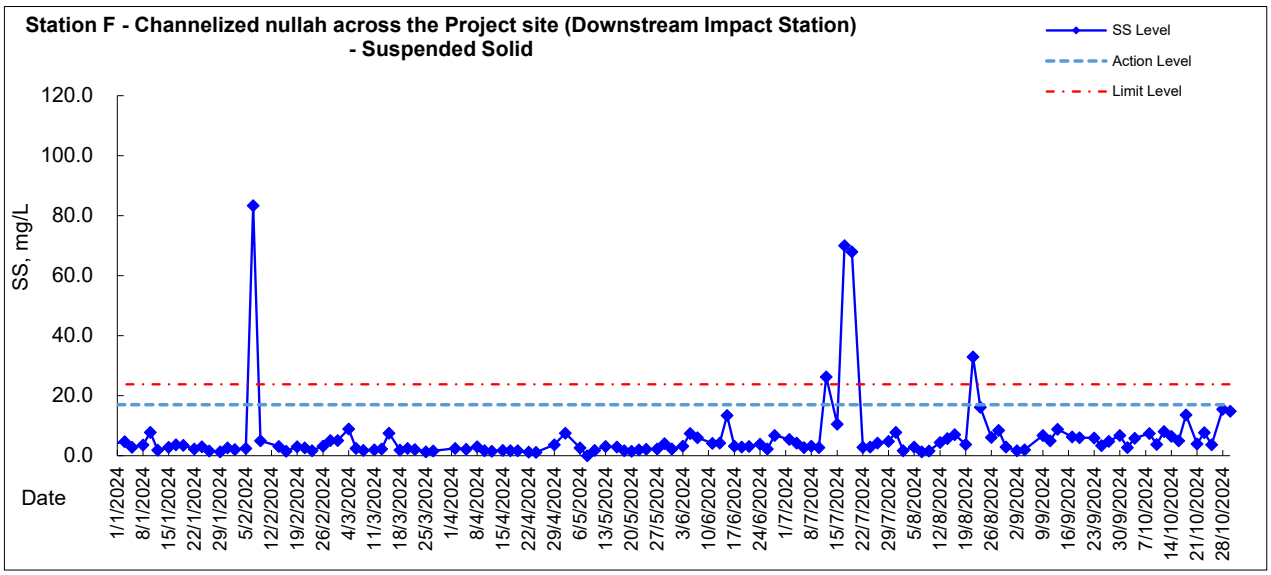
Graphic Presentation of WQM Result





Graphic Presentation of WQM Result





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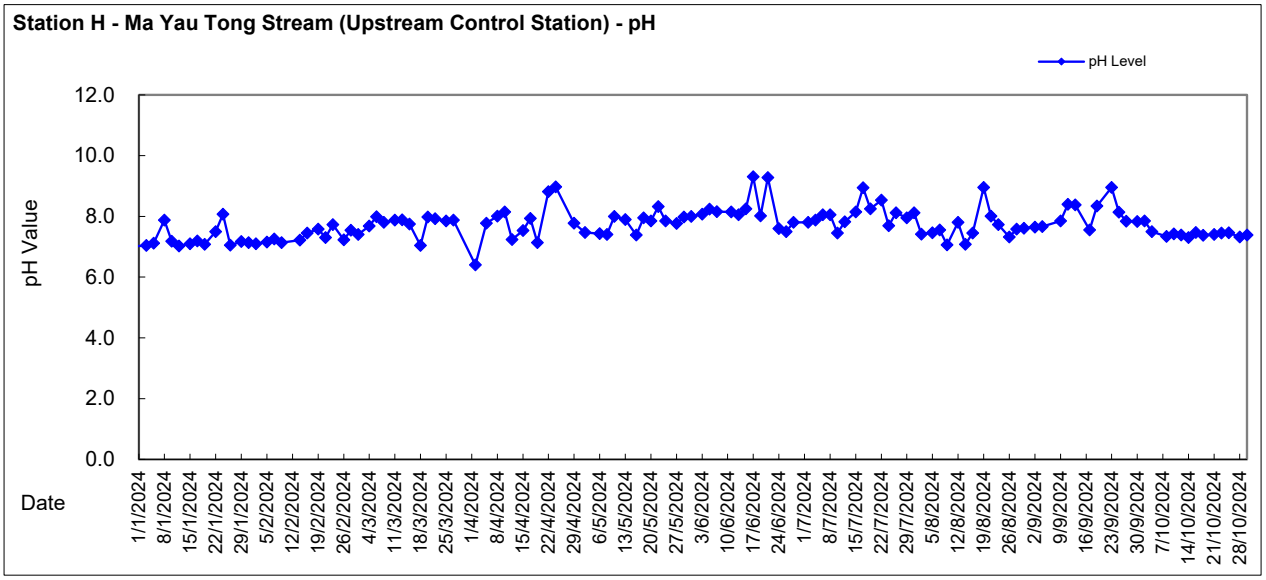

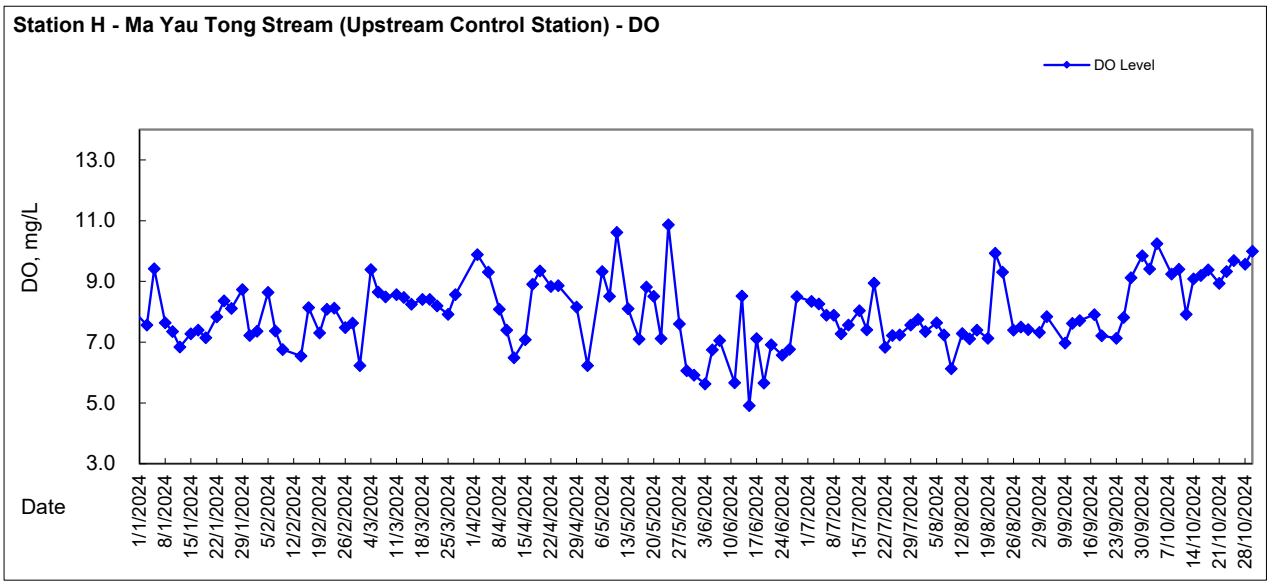

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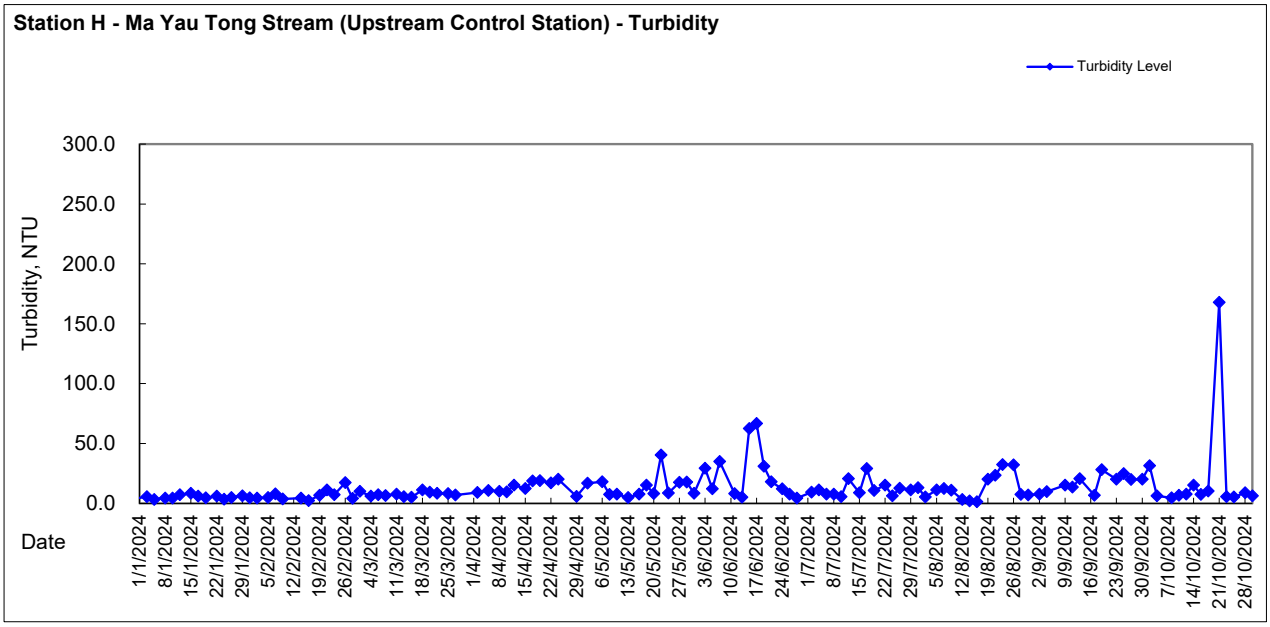

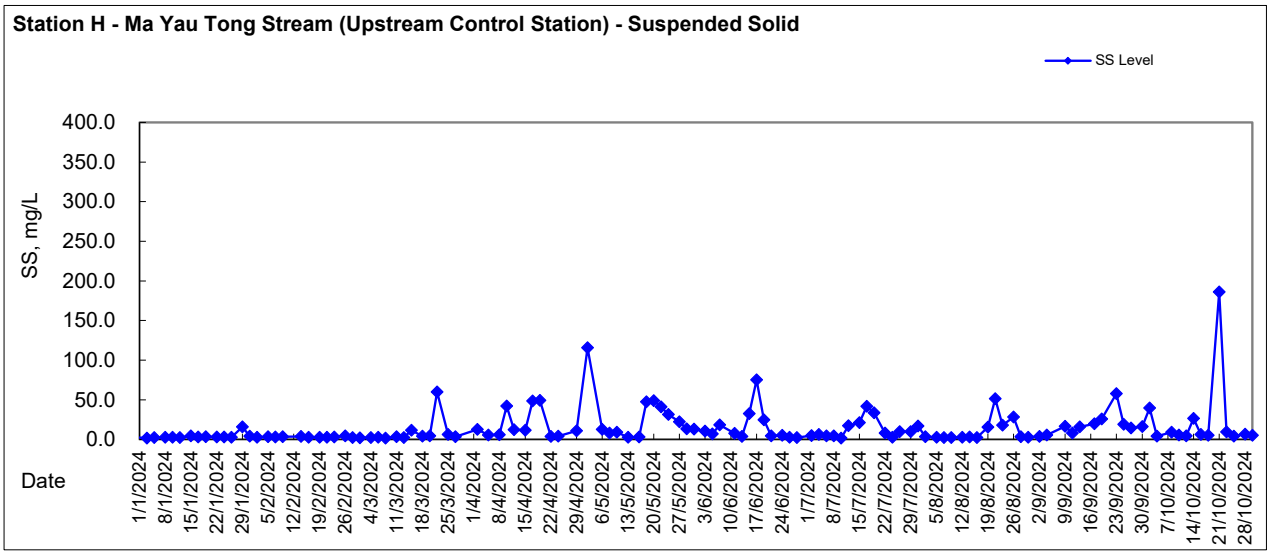

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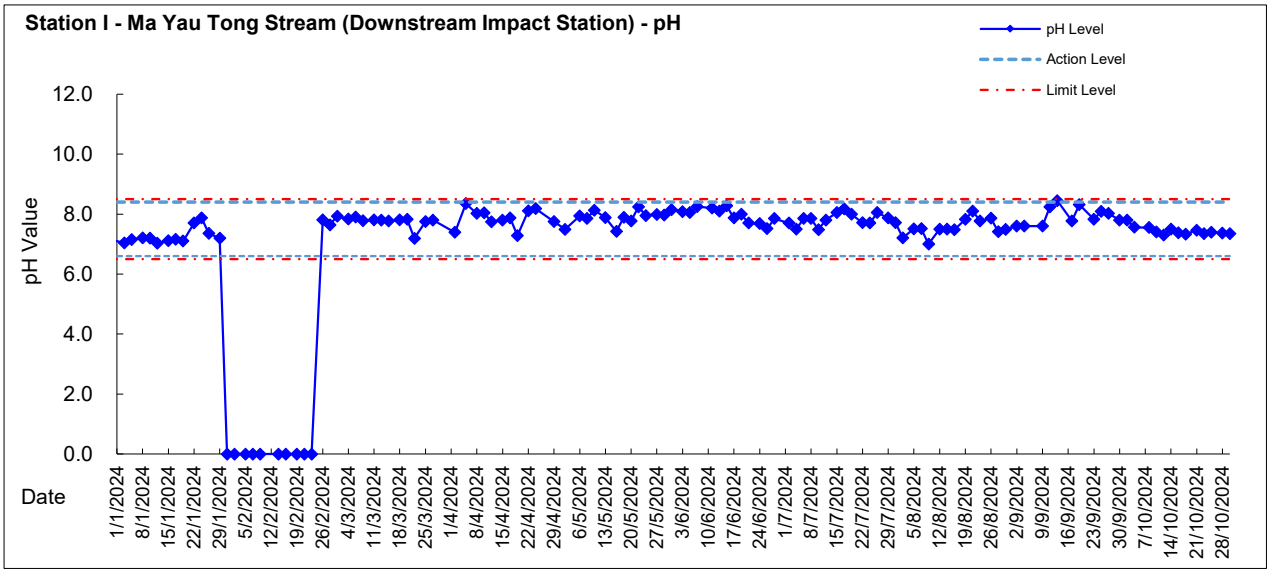

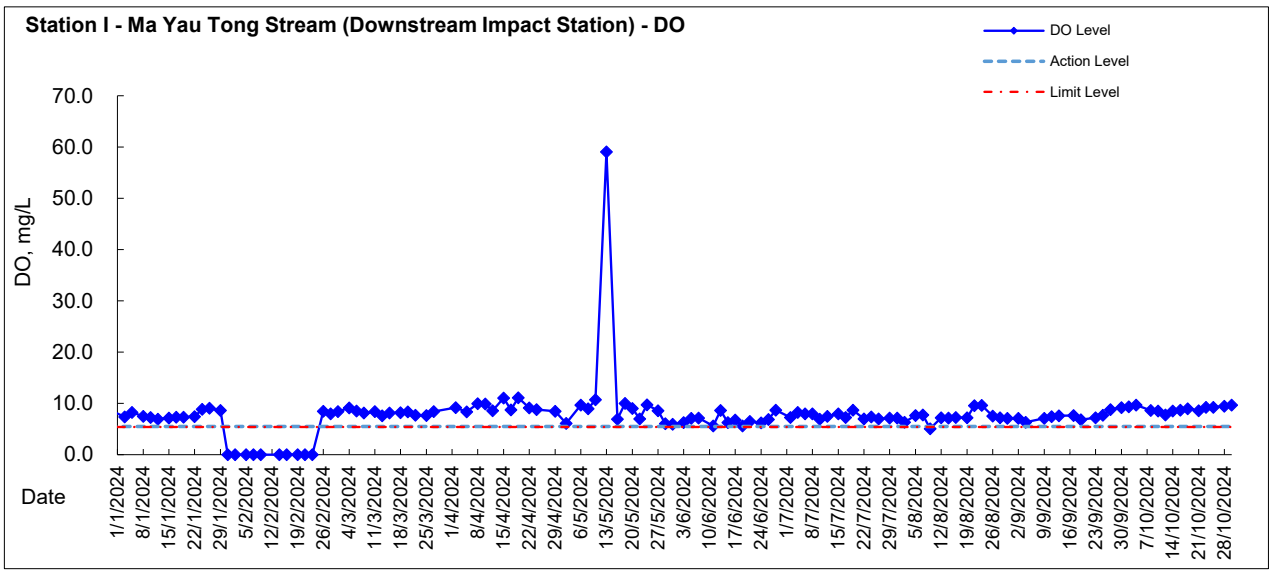

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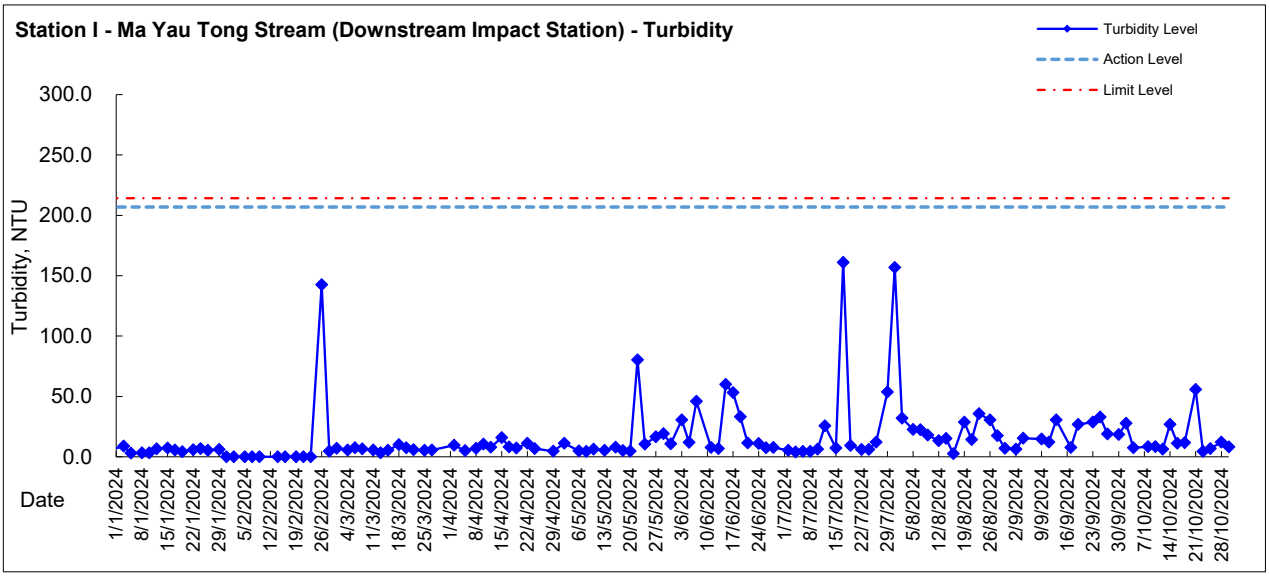

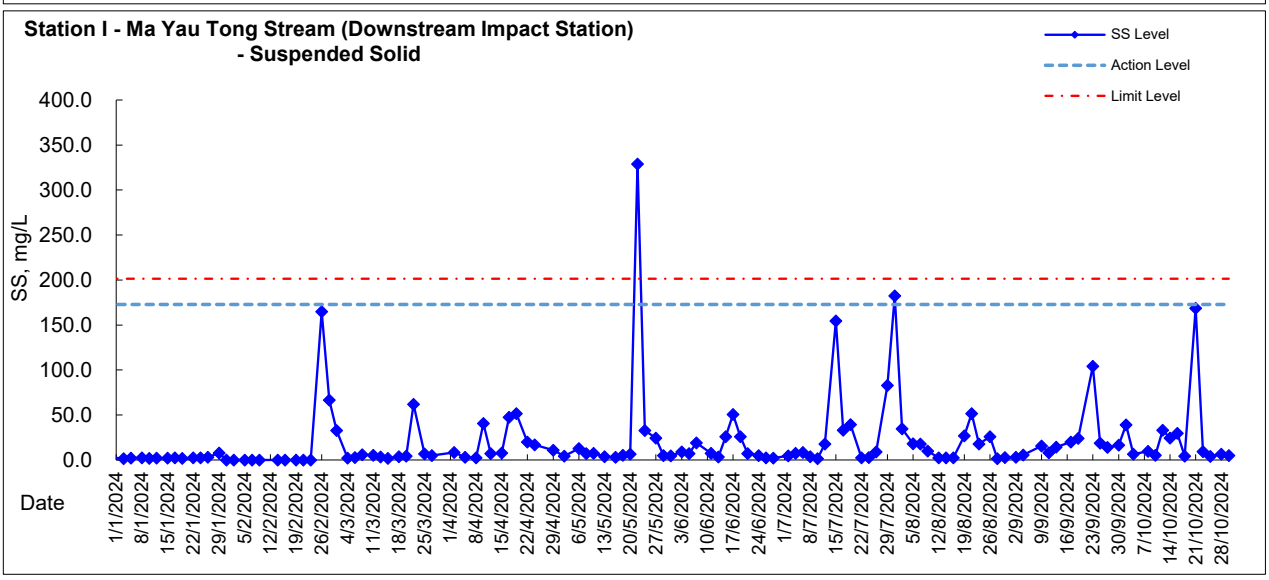

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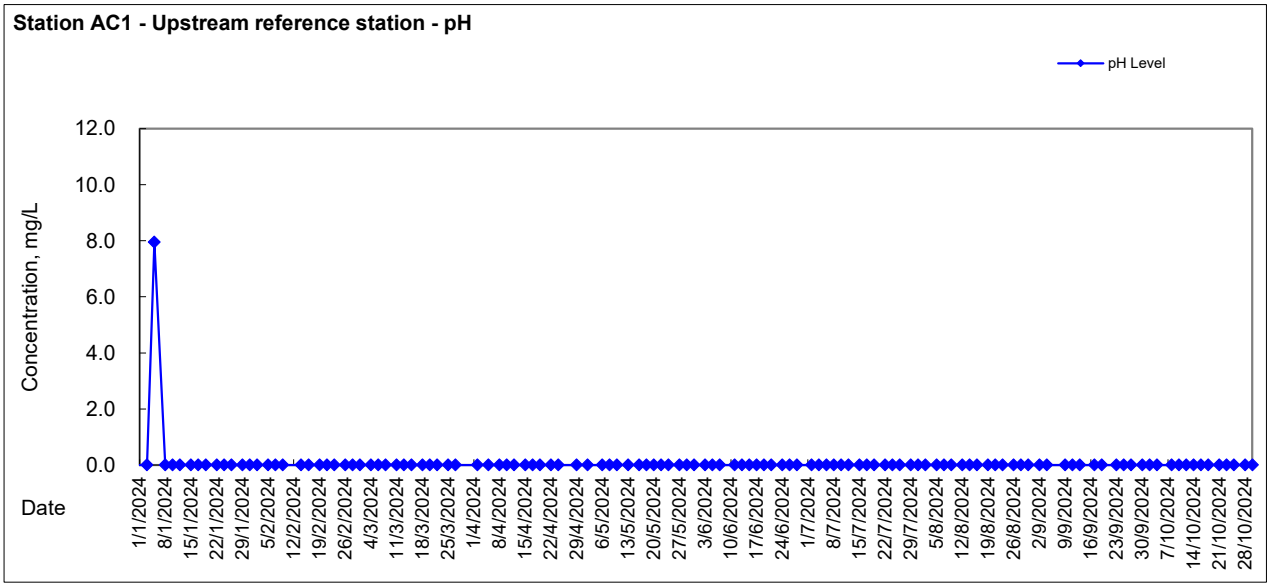

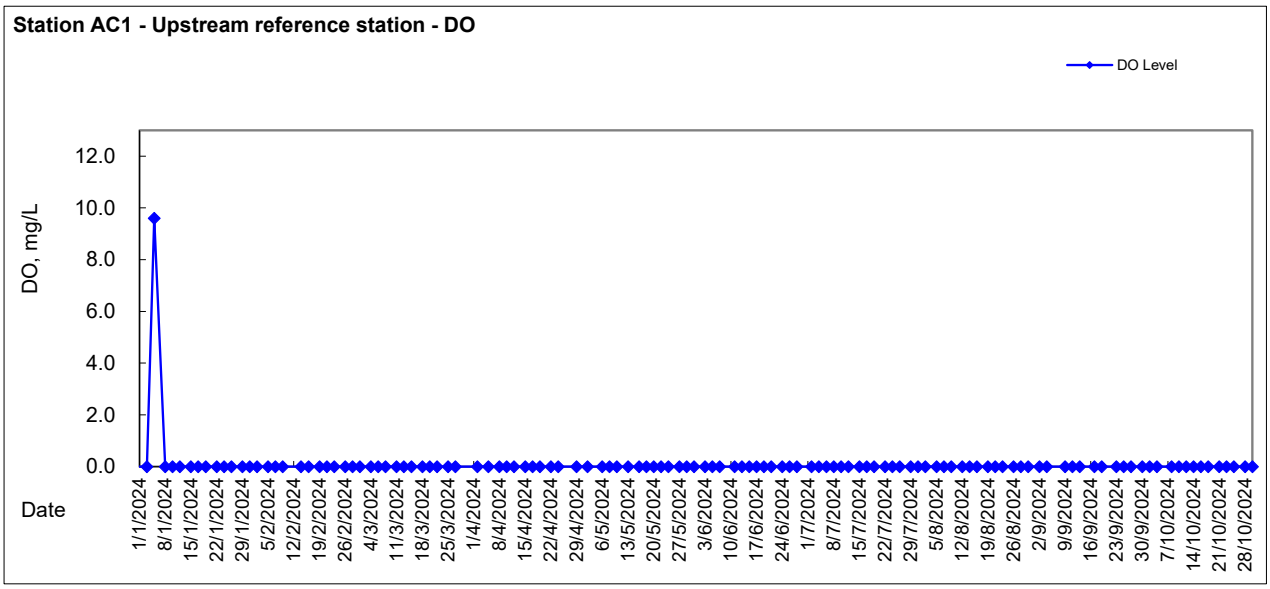

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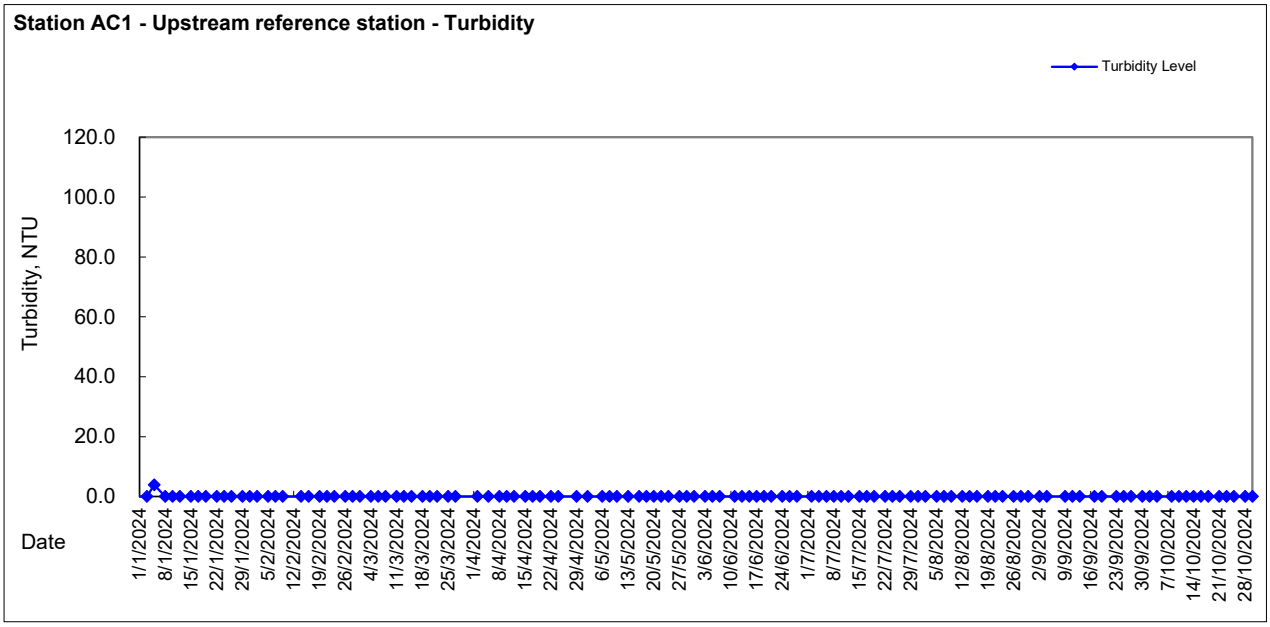

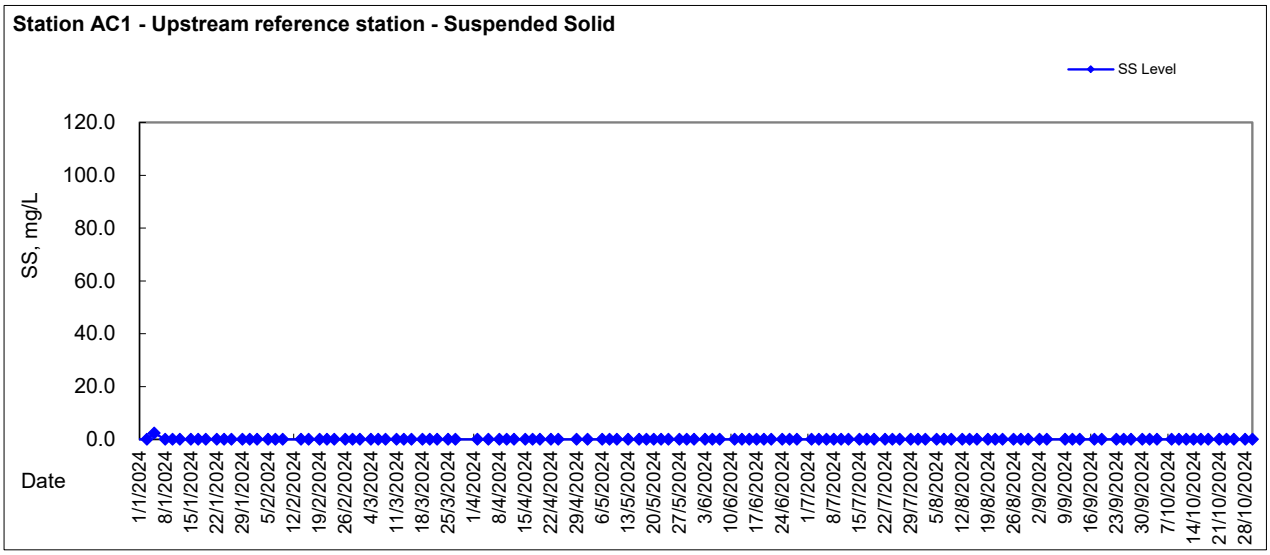

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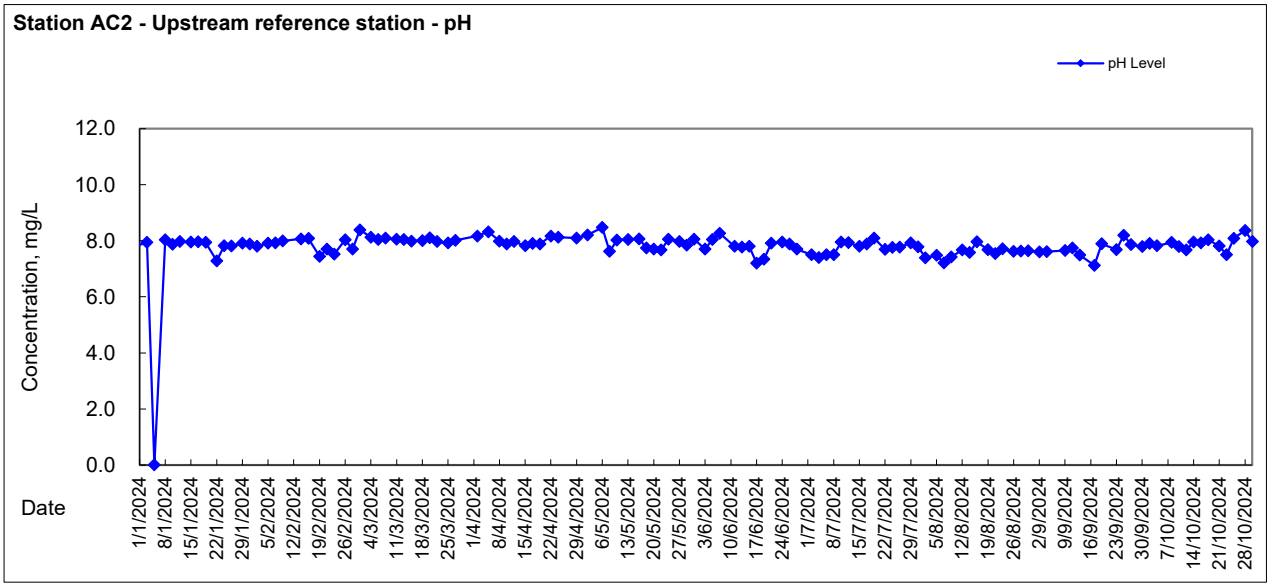
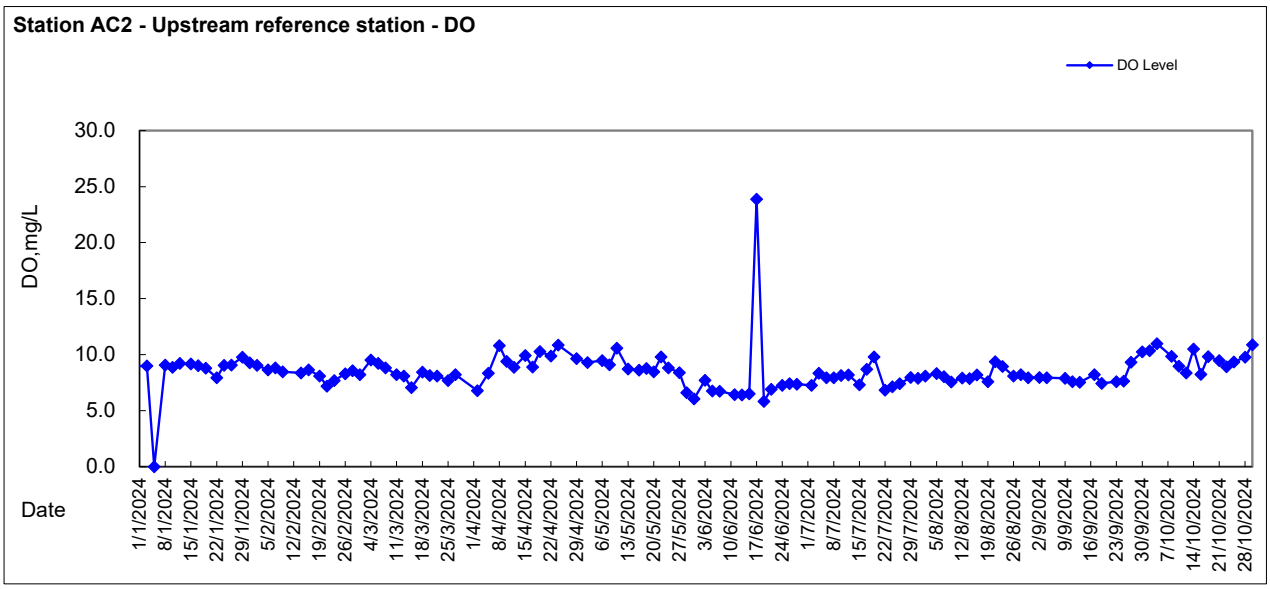
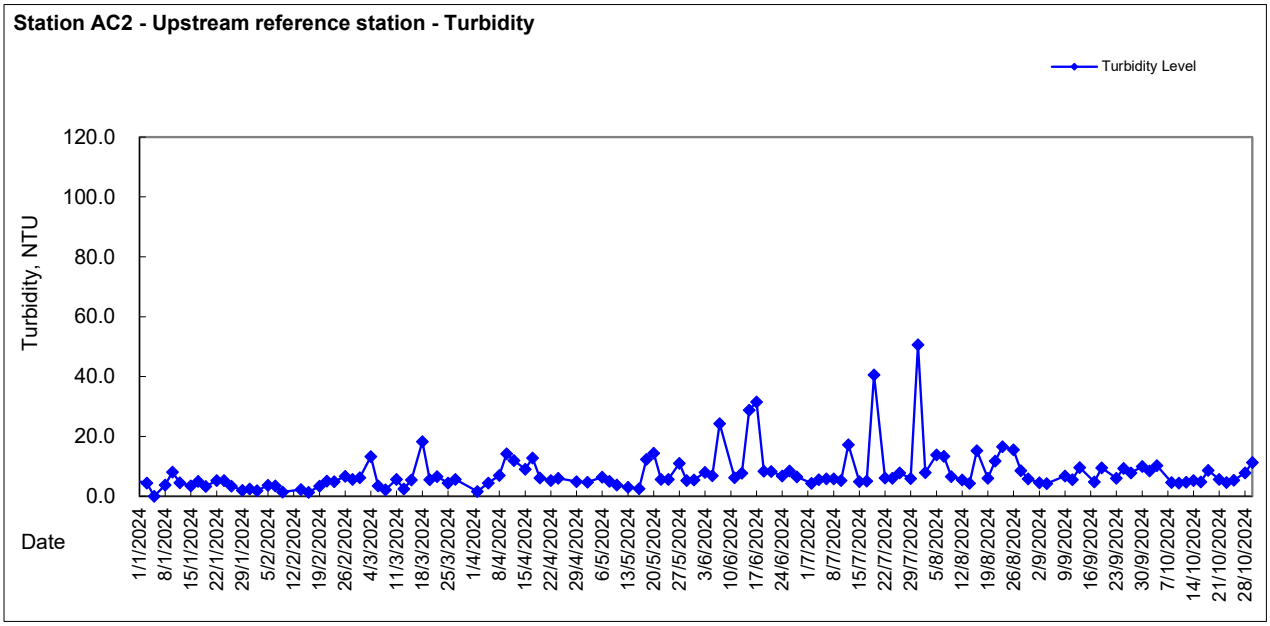


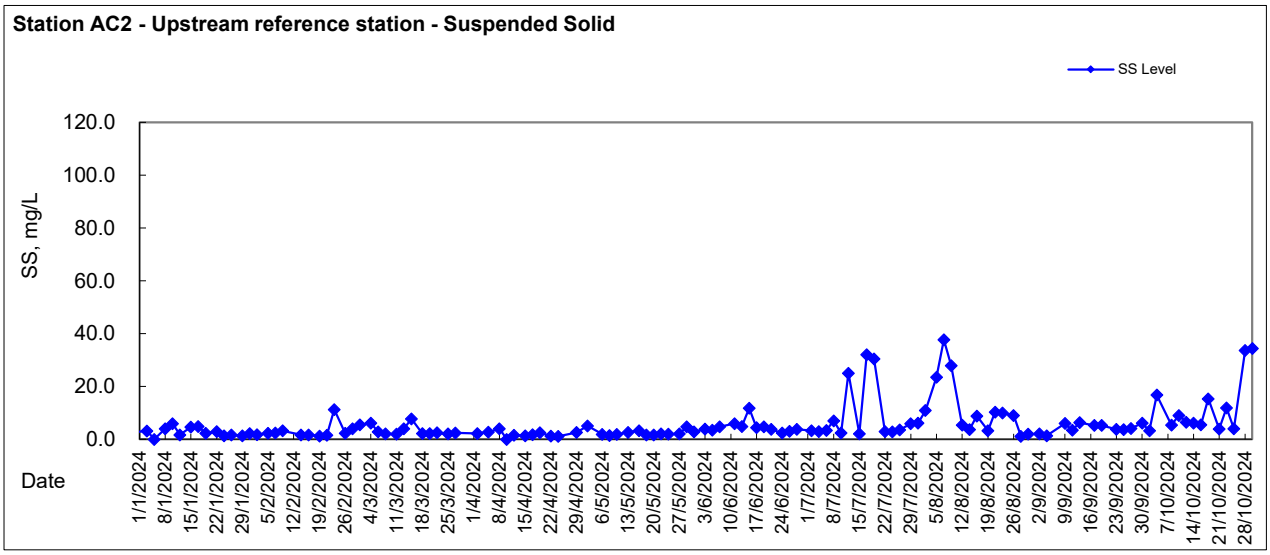


Graphic Presentation of WQM Result

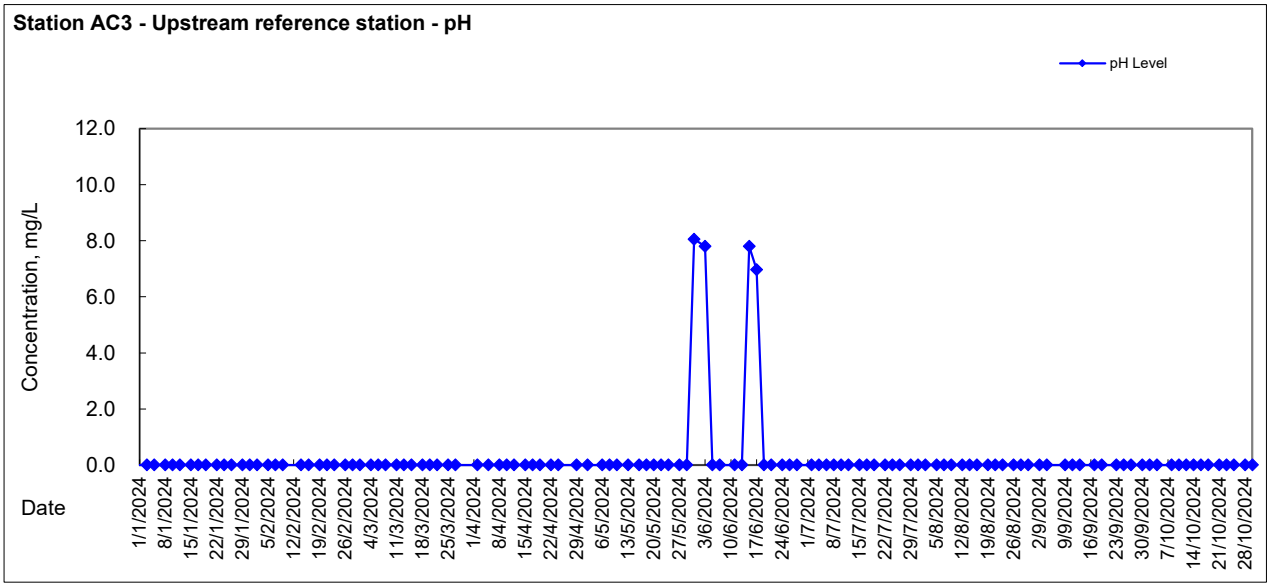
Station AC2 - Upstream reference station - Turbidity

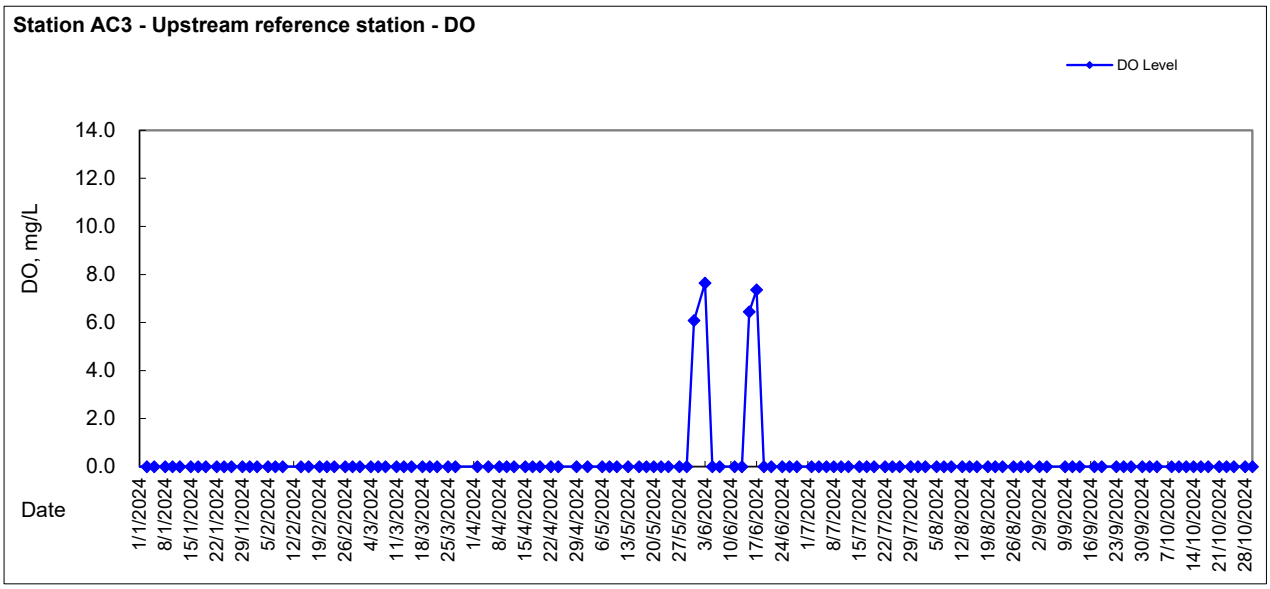


Station AC2 - Upstream reference station - Suspended Solid



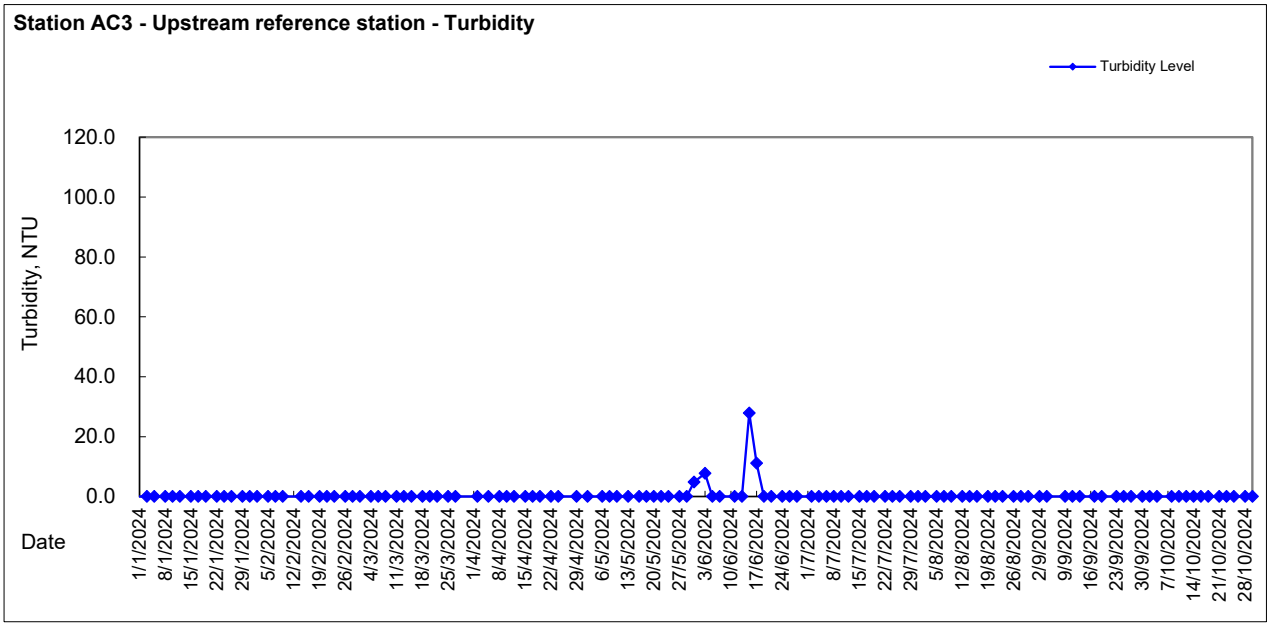
Graphic Presentation of WQM Result



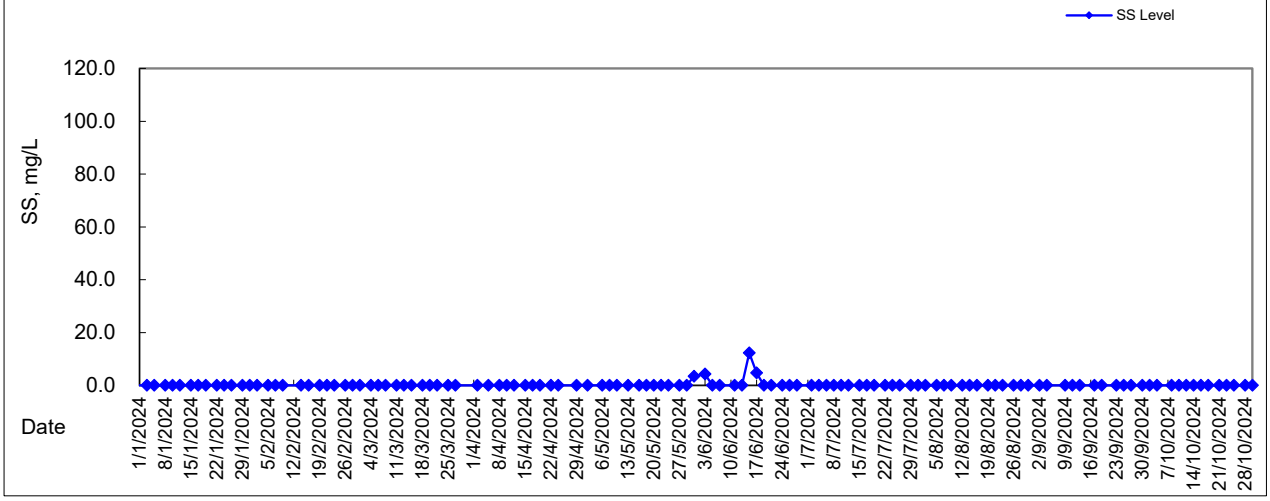


Graphic Presentation of WQM Result

Station AC3 - Upstream reference station - Turbidity



Station AC3 - Upstream reference station - Suspended Solid



Appendix 5.5

Monthly Summary Waste Flow Table

Monthly Summary Waste Flow Table for 2024 (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract (see Note 6)	Reused in other Projects (see Note 6)	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste (see Note 5)	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
Jan	2.305	0.000	0.000	0.401	1.904	0.000	0.000	0.000	0.000	0.000	0.030
Feb	1.356	0.000	0.000	0.241	1.115	0.000	0.001	0.090	0.004	0.000	0.024
Mar	2.656	0.000	0.000	0.331	2.325	0.000	0.000	0.000	0.000	0.000	0.050
Apr	2.498	0.000	0.000	0.425	2.073	0.000	0.000	0.000	0.000	0.000	0.039
May	1.912	0.000	0.000	0.000	1.912	0.000	0.000	0.000	0.000	0.000	0.059
June	1.803	0.000	0.000	0.090	1.712	0.000	0.000	0.000	0.000	0.000	0.055
Sub-total	12.530	0.000	0.000	1.488	11.042	0.000	0.001	0.090	0.004	0.000	0.258
Jul	3.297	0.000	0.000	1.267	2.029	0.000	0.000	0.000	0.000	0.000	0.057
Aug	1.228	0.000	0.000	0.029	1.199	0.000	0.0013	0.009	0.003	0.000	0.046
Sep	0.420	0.000	0.000	0.000	0.420	0.000	0.000	0.000	0.000	0.000	0.098
Oct	0.859	0.000	0.000	0.000	0.859	0.000	0.0039	0.031	0.002	0.000	0.122
Nov											
Dec											
Total	18.333	0.000	0.000	2.784	15.549	0.000	0.006	0.130	0.009	0.000	0.580

Notes:

(1) The performance targets are given in PS Clause 1.129 (4).

(2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.

(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material and waste will be collected by recycler for recycling.

(4) Use the conversion factor, density of general refuse (1 t/m^3) and inert C&D materials (2 t/m^3).

(5) Use the conversion factor for chemical waste (0.88kg/L).

(6) Assume a dump truck delivers 7.5 m^3 material in 1 trip.

Appendix 6.1

Event Action Plans

Event and Action Plan for Construction Noise

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

Event and Action Plan for Construction Air Quality

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
ACTION LEVEL				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform Contractor, IEC and ER; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; and 3. Review and advise the ET and ER on the effectiveness of the proposed remedial measures.	1. Notify Contractor.	1. Identify source(s), investigate the causes of exceedance and propose remedial measures; 2. Implement remedial measures; and 3. Amend working methods agreed with the ER as appropriate
2. Exceedance for two or more consecutive samples	1. Identify source; 2. Inform Contractor, IEC and ER; 3. Advise the Contractor and ER on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with Contractor, IEC and ER; 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET, ER and Contractor on possible remedial measures; 4. Advise the ET and ER on the effectiveness of the proposed remedial measures; 5. Supervise Implementation of remedial measures.	1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented. 4. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Identify source and investigate the causes of exceedance; 2. Submit proposals for remedial measures to the ER with a copy to ET and IEC within three working days of notification; 3. Implement the agreed proposals; and 4. Amend proposal as appropriate.

Event and Action Plan for Construction Air Quality (Con't)

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
LIMIT LEVEL				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform Contractor, IEC, ER, and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Identify source(s) and investigate the causes of exceedance; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial measures to ER with a copy to ET and IEC within three working days of notification; 4. Implement the agreed proposals; and 5. Amend proposal if appropriate.
2. Exceedance for two or more consecutive samples	1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working 6. procedures to determine possible mitigation to be implemented; 7. Arrange meeting with IEC and ER to discuss the remedial actions to be taken; 8. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 9. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by the ET; 2. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 3. Review Contractor' s remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 4. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of exceedance in writing; 2. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented; 3. Supervise the implementation of remedial measures; and 4. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Identify source(s) and investigate the causes of exceedance; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial measures to the ER with a copy to the IEC and ET within three working days of notification; 4. Implement the agreed proposals; 5. Revise and resubmit proposals if problem still not under control; and 6. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event and Action Plan for Water Quality

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
ACTION LEVEL				
Action level being exceeded by one sampling day	1. Repeat in situ measurement to confirm findings; 2. Identify reasons for noncompliance and source(s) of impact; 3. Inform IEC and Contractor; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, ER and Contractor; 6. Repeat measurement on next day of exceedance.	1. Discuss with ET, ER and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures.	1. Discuss with ET, IEC and Contractor on the proposed mitigation measures; 2. Make agreement on the mitigation measures to be implemented. 3. Supervise the implementation of remedial measures.	1. Inform the ER and confirm notification of the noncompliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET, ER and IEC and propose mitigation measures to IEC and ER; 6. Implement the agreed mitigation measures.
Action level being exceeded by more than one consecutive sampling days	1. Repeat in situ measurement to confirm findings; 2. Identify reasons for noncompliance and source(s) of impact; 3. Inform IEC and Contractor; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, ER and Contractor; 6. Ensure mitigation measures are implemented; 7. Prepare to increase the monitoring frequency to daily; 8. Repeat measurement on next day of exceedance.	1. Discuss with ET, ER and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures.	1. Discuss with ET, IEC and Contractor on the proposed mitigation measures; 2. Make agreement on the mitigation measures to be implemented; 3. Supervise the implementation of remedial measures.	1. Inform the ER and confirm notification of the noncompliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET, ER and IEC and propose mitigation measures to IEC and ER within three working days; 6. Implement the agreed mitigation measures.

Event and Action Plan for Water Quality (cont'd)

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
LIMIT LEVEL				
Limit level being exceeded by one sampling day	1. Repeat in situ measurement to confirm findings; 2. Identify reasons for noncompliance and source(s) of impact; 3. Inform IEC Contractor and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, ER and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Limit level.	1. Discuss with ET, ER and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures.	1. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 2. Request Contractor to critically review the working methods; 3. Make agreement on the mitigation measures to be implemented; 4. Supervise the implementation of remedial measures.	1. Inform the ER and confirm notification of the noncompliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within three working days; 6. Implement the agreed mitigation measures.
Limit level being exceeded by more than one consecutive sampling days	1. Repeat in situ measurement to confirm findings; 2. Identify reasons for noncompliance and source(s) of impact; 3. Inform IEC Contractor and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, ER and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days.	1. Discuss with ET, ER and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures.	1. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 2. Request Contractor to critically review the working methods; 3. Make agreement on the mitigation measures to be implemented; 4. Supervise the implementation of remedial measures; 5. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the construction activities until no exceedance of Limit level.	1. Inform the ER and confirm notification of the noncompliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within three working days; 6. Implement the agreed mitigation measures; 7. As directed by the ER, to slow down or to stop all or part of the construction activities.

Event and Action Plan for Landscape and Visual

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
LIMIT LEVEL				
Nonconformity on one occasion	1. Identify source(s); 2. Inform the Contractor, IEC and ER; 3. Discuss remedial actions with IEC, ER and Contractor; 4. Monitor remedial actions until rectification has been completed	1. Check inspection report; 2. Check contractor's working method; 3. Discuss with ET, ER and Contractor on possible remedial measures; 4. Advise ER on effectiveness of proposed remedial measures; 5. Check implementation of remedial measures	1. Confirm receipt of notification of non-conformity in writing 2. Review and agree on the remedial measures proposed by the Contractor; 3. Supervise implementation of remedial	1. Identify source and investigate the non- conformity 2. Implement remedial measures 3. Amend working methods agreed with ER as appropriate 4. Rectify damage and undertake any necessary replacement
Repeated Nonconformity	1. Identify source(s) 2. Inform the Contractor, IEC and ER; 3. Discuss inspection frequency 4. Discuss remedial actions with IEC, ER and Contractor 5. Monitor remedial actions until rectification has been completed; 6. If non- conformity stops, cease additional monitoring	1. Check inspection report 2. Check Contractor's working method 3. Discuss with ET, ER and Contractor on possible remedial measures 4. Advise ER on effectiveness of proposed remedial measures 5. Supervise implementation of remedial measures	1. Notify the Contractor 2. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented 3. Supervise implementation of remedial measures	1. Identify source and investigate the non- conformity 2. Implement remedial measures 3. Amend working methods agreed with ER as appropriate 4. Rectify damage and undertake any necessary replacement. Stop relevant portion of works as determined by ER until the non- conformity is abated.

Appendix 6.2

Summary for Notification of Exceedance

No Exceedances were recorded during the Reporting Month

Appendix 8.1

Complaint Log

Environmental Complaints Log

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
20190902	2 September 2019	DSD	A portion of Clear Water Bay Road, near the junction of Fei Ngo Shan Road	The complainant reported that muddy water was improperly overflown from the construction site under Contract NE/2017/03 at Clear Water Bay Road and eventually to the downstream public storm water drainage system on 02 September 2019	The investigation report from contractor has revealed that the gaps between sand bags at site boundary would be the potential source of muddy water leakage. Remedial action taken according to the investigation report conducted by Contractor: 1. The sand bags were replaced by cement sand mortar which filled the gaps between water-filled barriers along the site boundary to block the leakage point. 2. Additional sedimentation tank has been added to increase buffer for further treatment by the wastewater treatment facility. 3. Concrete ramp was provided at the site entrance to mitigate against potential surface runoff related impact. 4. Specific training for the subcontractor and front-line staff has been provided to enhance their knowledge on the requirements of discharge license. ET recorded WQM exceedance on SS on 06 Sept 2019 and 09 Sept 2019, effectiveness of remedial measures under rainy days requires close monitoring. Regular joint site inspections on 06 &19 September 2019 had observed that wastewater treatment facilities required further improvement particularly in rainy days. ET and IEC recommended contractor to provide proper protection to the nearby gullies like membrane or sandbags. ET reminded Contractor/RSS to inform ET and IEC upon the receipt of environmental complaint to allow timely investigation.	Closed
20200315	15 March 2020	Resident of Hong Wah Court	Slope at Lin Tak Road, Opposite to Hong Wah Court	The complainant, resident of Hong Wah Court, reported to CEDD by email dated on 15 March 2020 that the resident at Hong Wah Court was affected by the noise nuisance from the construction site under Contract NE/2017/03 at Lin Tak Road since the construction activities started for approximately one year especially for the period under the attack of coronavirus-19 recently.	Remedial action taken according to the observations by ET: 1. Noise barriers have been setup along the haul road and working area as much as possible. 2. The head of the drillers and breakers has been wrapped with noise absorption materials during operation.	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
					3. The contractor has made different combination of group of plants to avoid multiple noisy works operating at the same time. 4. Moveable noise barrier was observed in place for breaking works.	
20200403	3 April 2020	Resident of Hong Wah Court	Slope at Lin Tak Road, Opposite to Hong Wah Court	The complainant, a resident of Hong Wah Court, reported to AECOM through the hotline dated on 3 April 2020 that the resident at Hong Wah Court was affected by the noise nuisance from the construction site under Contract NE/2017/03 at Lin Tak Road. She claimed that the slope cutting works have been carried out from 8:00 to 18:00, which was very annoying and made her anxious especially under the situation that the government called citizen to stay at home avoiding the infection of coronavirus-19. The complaint regarding the construction noise at Lin Tak Road referred by AECOM was received by ET on 7 April 2020. According to the information provided by the contractor, and also reported in EM&A monthly report, that slope works using drill and split method were conducted under contract NE/2017/03 at RIW3 of Lin Tak Road starting from August 2019. Based on the observation of recent monitorings, slope cutting with breaker and driller were the major sources of the construction noise.	Remedial action taken according to the observations by ET: 1. Noise barriers have been setup along the haul road and working area, and only partially covered the works area and plants due to limited site conditions. 2. The head of the drillers and breakers had been wrapped with noise absorption materials during operation.	Closed
20200420	20 April 2020	Resident of Hong Wah Court	Slope at Lin Tak Road, Opposite to Hong Wah Court	The complainant, a resident of Hong Wah Court, reported to AECOM through the hotline dated on 20 April 2020 that the noise level generated from the construction site at the slope of Lin Tak Road reached 80-90 dB consecutively from 8:00 to 18:30 and affecting their health. Moreover, the district councilor has reflected the complaint from resident of Hong Wah Court and query about the implementation of the noise barrier.	Remedial action taken according to the observations by ET: 1. Sequencing of works to avoid the operation of breaker and driller at the same time 2. No remedial action was taken by contractor on improving the setting up of noise barriers for the covering of working area and the plant. 3. No remedial action was taken by contractor on deploying movable noise barrier at drilling works or wrapping noise reductive materials at the head of the driller.	Closed
0200518	18 May 2020	Public	New Clear Water Bay	The complainant reported through the 1823 electronic form dated on 18 May 2020 that silty water was discharged to public road, New Clear Water Bay Road,	Remedial action taken according to the observations by ET:	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
			Road from the construction site at the slope under Shun Lee Disciplined Services Quarters	from the construction site at the slope under Shun Lee Disciplined Services Quarters. The complaint concerned on the silty runoff at New Clear Water Bay Road was referred by AECOM to ET on 21 May 2020. According to the information provided by the contractor, silty runoff to public road was due to the damaged pipe at the top of the slope Shun Lee Disciplined Services Quarters, water leaked from the pipe flew along the exposed down slope and became silty.	1. Placing sand bags at the perimeter of the site and the site exit as bunds. 2. Repairing the damaged pipe to stop the water leakage.	
20200525	25 May 2020	Public	New Clear Water Bay Road from the construction site at the slope under Shun Lee Disciplined Services Quarters	The complainant reported through the1823 electronic form dated on 25 May 2020 that silty water was discharged to public road, New Clear Water Bay Road from the construction site at the slope under Shun Lee Disciplined Services Quarters. The complaint concerned on the silty runoff at New Clear Water Bay Road was referred by AECOM to ET on 3 June 2020 respectively. According to the observation and inspection, the silty runoff should be caused by the large volume of water flow through the soil surface of the construction site after heavy rainfall.	Remedial action taken according to the observations by ET: 1. Placing sand bags at the site boundary and the site exit as bunds. 2. Deployed one more set of sedimentation tank and wastewater treatment facilities. 3. Diversion of part of the runoff from the top of the slope to avoid flowing through soil surface.	Closed
202007007	7 July 2020	Resident of Hong Wah Court	Slope at Lin Tak Road, Opposite to Hong Wah Court	The complainant, District Councilor, reported to AECOM through the hotline dated on 7 July 2020 that the resident complaint the construction noise generated from the construction site at the slope of Lin Tak Road was annoying and no mitigation measures for the construction noise was implemented. The complaints regarding the construction noise at Lin Tak Road referred by AECOM was received by ET on 7 July 2020 respectively. According to the information provided by the contractor, and also reported in EM&A monthly report, that slope works using drill and split method were conducted under contract NE/2017/03 at RIW3 of Lin Tak Road starting from August 2019. Based on the observation of recent monitoring, slope cutting with breaker and driller were the major sources of the construction noise.	Remedial action taken according to the observations by ET: 1. Setting up of noise barriers for the covering of working area and the plant was observed since 15 June 2020. 2. Quieter breaker, claimed by the contractor, was observed installed. 3. The plant and working area were covered by noise barrier most of the time during the monitoring and inspections.	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
20200718	18 July 2020	Public	Slope at Lin Tak Road, Opposite to Hong Wah Court	The complainant, District Councilor, reported to AECOM through the hotline dated on 18 July 2020 that no water spraying was carried out by contractor during dusty construction works at the slope of Lin Tak Road and fugitive dust was observed and cause dust impact to the complainant's property. The complaints regarding the construction noise at Lin Tak Road referred by AECOM was received by ET on 20 July 2020 respectively. According to the information provided by the contractor, and also reported in EM&A monthly report, that slope works using drill and split method were conducted under contract NE/2017/03 at RIW3 of Lin Tak Road starting from August 2019. Based on the observation of recent monitoring, slope cutting with breaker and driller were the major sources of dust emissions.	Remedial action taken according to the observations by ET: 1. Facilities for water spraying was observed being setup at the slope of Lin Tak Road.	Closed
20200718	18 July 2020	Public	Slope at Lin Tak Road, Opposite to Hong Wah Court	The complainant, District Councilor, reported to AECOM through the hotline dated on 18 July 2020 that the resident of block C complained the construction noise generated from the construction site at the slope of Lin Tak Road was causing noise nuisance. The complaint regarding the construction noise at Lin Tak Road referred by AECOM was received by ET on 20 July 2020. According to the information provided by the contractor, and also reported in EM&A monthly report, that slope works using drill and split method were conducted under contract NE/2017/03 at RIW3 of Lin Tak Road starting from August 2019. Based on the observation of recent monitoring, slope cutting with breaker and driller were the major sources of the construction noise.	Remedial action taken according to the observations by ET: 1. Setting up of noise barriers for the covering of working area and the plant was observed since 15 June 2020. 2. Quieter breaker, claimed by the contractor, was observed installed. 3. The plant and working area were covered by noise barrier in most of the time during noise monitoring and site inspections. 4. Sequencing of works was observed that the driller and breaker were operated alternatively to avoid concurrent noisy works.	Closed
20200724	24 July 2020	Public	New Clear Water Bay Road near Sienna Garden	The complainant, resident of Sienna Garden, reported to AECOM through the hotline dated on 24 July 2020 that the noise generated from the air compressor at the construction site of New Clear Wter Bay Road Road was annoying.	Remedial action taken according to the observation during inspection conducted by ET: 1. Setting up of noise barriers for screening up the air compressor was observed since 30 July 2020.	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
				The complaints regarding the construction noise at New Clear Water Bay Road referred by AECOM was received by ET on 27 July 2020 respectively. According to the observation on-site and information provided by the contractor, piling work was conducting near Sienna Garden at New Clear Water Bay Road.		
20200729	29 July 2020	Public	Slope at Lin Tak Road, Opposite to Hong Wah Court	The complainant, Resident of Hong Wah Court, reported to AECOM through the hotline dated on 29 July 2020 that the construction noise generated from the construction site at the slope of Lin Tak Road was causing noise nuisance to upper level of the building and the phone call of the complainant was influenced. The complaint regarding the construction noise at Lin Tak Road referred by AECOM was received by ET on 30 July 2020. According to the information provided by the contractor, and also reported in EM&A monthly report, that slope works using drill and split method were conducted under contract NE/2017/03 at RIW3 of Lin Tak Road starting from August 2019. Based on the observation of recent monitoring, slope cutting with breaker and driller were the major sources of the construction noise.	Remedial action taken according to the observations by ET: 1. Setting up of noise barriers for the covering of working area and the plant was observed since 15 June 2020. 2. Quieter breaker, claimed by the contractor, was observed installed. 3. The plant and working area were covered by noise barrier in most of the time during noise monitoring and site inspections. 4. Sequencing of works was observed that the driller and breaker were operated alternatively to avoid concurrent noisy works.	Closed
20200825	25 August 2020	Public	New Clear Water Bay Road near Choi Wan Estate	The complainant reported to 1823 online dated on 25 August 2020 that the construction noise generated from the construction site at New Clear Water Bay Road adjacent to Choi Wan Estate was causing noise nuisance to complainant's apartment. Construction activities starting from 8:30 to dusk and even on Sunday. The construction activities have been conducted for a year especially for drilling works. The complainant has measured the construction noise with mobile app and obtained 64dB in average for one driller. The complainant said the condition was worse when two to three drillers operated at the same time. The complainant asked the completion date of the construction works and whether the construction noise would affect the health of people as the complainant was seriously influenced by the noise and causing insomnia.	Remedial action taken according to the observations by ET: No further mitigation measure for construction noise was implemented at the moment as no drilling works were observed recently.	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
				The complaint regarding the construction noise at New Clear Water Bay Road referred by CEDD and AECOM was received by ET on 30 August 2020. According to the information provided by the contractor, and also reported in EM&A monthly report, that ELS to RW pile cap and construct RW footing were the major construction works conducted under contract NE/2017/03 at the photo record provided by the complaint at RIW1 near New Clear Water Bay Road adjacent to Choi Wan Estate starting from June 2020 to August 2020. Based on the observation of recent monitoring, excavation, grouting, welding and loading and unloading of materials were the major sources of the construction noise. Pre-drilling works have been conducted at the section near New Clear Water Bay Road adjacent to the Shun Lee Disciplined Services Quarters which is distance from the area that the complainant mentioned.		
20200831	31 August 2020	Public	Slope at Lin Tak Road, Opposite to Hong Wah Court	The complainant, Resident of Hong Wah Court, reported to AECOM through the hotline dated on 31 August 2020 that the construction noise generated from the construction site at the slope of Lin Tak Road was causing noise nuisance and also causing air quality impact. The complaint regarding the construction noise at Lin Tak Road referred by AECOM was received by ET on 2 September 2020. According to the information provided by the contractor, and also reported in EM&A monthly report, that slope works using drill and split method were conducted under contract NE/2017/03 at RIW3 of Lin Tak Road starting from August 2019. Based on the observation of recent monitoring, slope cutting with breaker and driller were the major sources of the construction noise. Besides, breaking, drilling and loading and unloading of dusty materials were the major sources spreading dust.	Remedial action taken according to the observations by ET: 1. Setting up of noise barriers for the covering of working area and the plant was observed since 15 June 2020. 2. Quieter breaker, claimed by the contractor, was observed installed. 3. The plant and working area were covered by noise barrier in most of the time during noise monitoring and site inspections. 4. Sequencing of works was observed that the driller and breaker were operated alternatively to avoid concurrent noisy works. 5. Water spraying for breaking works was observed.	Closed
20200925_1	25 Sep 2020	Public	Slope at Lin Tak Road, opposite to	The complainant, district councillor, reported to AECOM through the hotline dated on 25 and 26 September 2020 that the residents from Block B and C have complaint	Remedial action taken according to the observations by ET: 1. The condition of noise barriers was improved on 30	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
			Hong Wah Court	the construction noise generated from the construction site at the slope of Lin Tak Road was causing noise nuisance and queried about the standard level of construction level and the limit level set for the project. The measurement from the resident reached 107dB. The complaint regarding the construction noise at Lin Tak Road referred by AECOM was received by ET on 28 September 2020. According to the information provided by the contractor, and also reported in EM&A monthly report, that slope works using drill and split method were conducted under contract NE/2017/03 at RIW3 of Lin Tak Road starting from August 2019. Based on the observation of recent monitoring, breaking works and drilling works were the major sources of the construction noise.	September 2020 and extended the coverage on 8 October 2020. 2. Quieter breaker, claimed by the contractor, was observed installed. 3. The plant and working area were covered by noise barrier in most of the time during noise monitoring and site inspections.	
20200925_2	25 Sep 2020	EPD	Slope at Lin Tak Road, opposite to Hong Wah Court	The complainant reported to EPD dated on 25 September 2020 that the contractor did not comply with the commitment of using silent equipment and the noise barriers were not placed properly. The complainant complaint about the equipment generated noise reaching 60dB to 80dB, which has exceeded the limit stated in EIAO. The complainant was also unsatisfied with the improper use of noise barriers, for example, the plant was not covered by noise barrier and the noise barriers were not relocated according to the change in working area. The complaint regarding the construction noise at Lin Tak Road referred by EPD was received by ET on 28 September 2020. According to the information provided by the contractor, and also reported in EM&A monthly report, that slope works using drill and split method were conducted under contract NE/2017/03 at RIW3 of Lin Tak Road starting from August 2019. Based on the observation of recent monitoring, breaking works and drilling works were the major sources of the construction noise.	Remedial action taken according to the observations by ET: 1. The condition of noise barriers was improved on 30 September 2020 and extended the coverage on 8 October 2020. 2. Quieter breaker, claimed by the contractor, was observed installed. 3. The plant and working area were covered by noise barrier in most of the time during noise monitoring and site inspections.	Closed
20200926	26 Sep 2020	EPD	Slope at Lin Tak Road, opposite to Hong Wah Court	The complainant reported to EPD dated on 26 September 2020 that the contractor did not comply with the commitment of paying extra effort in noise blocking and delay the starting time to 10:00 and end at 17:00. The construction noise generated reaching 80dB consecutively from 10:00 to 18:30.	Remedial action taken according to the observations by ET: 1. The condition of noise barriers was improved on 30 September 2020 and extended the coverage on 8 October 2020.	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
				The complaint regarding the construction noise at Lin Tak Road referred by EPD was received by ET on 28 September 2020. According to the information provided by the contractor, and also reported in EM&A monthly report, that slope works using drill and split method were conducted under contract NE/2017/03 at RIW3 of Lin Tak Road starting from August 2019. Based on the observation of recent monitoring, breaking works and drilling works were the major sources of the construction noise.	2. Quieter breaker, claimed by the contractor, was observed installed. 3. The plant and working area were covered by noise barrier in most of the time during noise monitoring and site inspections.	
20200927_1	27 Sep 2020	EPD	Slope at Lin Tak Road, opposite to Hong Wah Court	The complainant reported to EPD dated on 27 September 2020 that the contractor did not comply with the commitment of paying extra effort in noise blocking and delay the starting time to 10:00 and end at 17:00. The complaint regarding the construction noise at Lin Tak Road referred by EPD was received by ET on 28 September 2020. According to the information provided by the contractor, and also reported in EM&A monthly report, that slope works using drill and split method were conducted under contract NE/2017/03 at RIW3 of Lin Tak Road starting from August 2019. Based on the observation of recent monitoring, breaking works and drilling works were the major sources of the construction noise.	Remedial action taken according to the observations by ET: 1. The condition of noise barriers was improved on 30 September 2020 and extended the coverage on 8 October 2020. 2. Quieter breaker, claimed by the contractor, was observed installed. 3. The plant and working area were covered by noise barrier in most of the time during noise monitoring and site inspections.	Closed
20200927_2	27 Sep 2020	EPD	Slope at Lin Tak Road, opposite to Hong Wah Court	The complainant reported to EPD dated on 26 September 2020 that the contractor did not comply with the commitment of paying extra effort in noise blocking and delay the starting time to 10:00 and end at 17:00. The construction noise generated reaching 80dB consecutively from 10:00 to 18:30. The complaint regarding the construction noise at Lin Tak Road referred by EPD was received by ET on 28 September 2020. According to the information provided by the contractor, and also reported in EM&A monthly report, that slope works using drill and split method were conducted under contract NE/2017/03 at RIW3 of Lin Tak Road starting from August 2019. Based on the observation of recent monitoring, breaking works and drilling works were the major sources of the construction noise.	Remedial action taken according to the observations by ET: 1. The condition of noise barriers was improved on 30 September 2020 and extended the coverage on 8 October 2020. 2. Quieter breaker, claimed by the contractor, was observed installed. 3. The plant and working area were covered by noise barrier in most of the time during noise monitoring and site inspections.	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
20200928	28 Sep 2020	EPD	Slope at Lin Tak Road, opposite to Hong Wah Court	The complainant reported to EPD dated on 28 September 2020 that the construction noise level was within 50dB to 60dB and was acceptable from May 2020 to 21 September 2020. Starting from 21 September 2020, slope works have moved towards the estate to under 50m in distance. Moreover, the noise barriers were not erected properly by the workers and the construction noise level reached 80dB to 100dB. The restriction due to level difference of the construction site was understood by the considerate area was at relatively flat ground and should have enough space for setting up noise barrier. The contractor should follow the EIAO to minimize the construction noise and comply with the commitment of using quieter method or exploring other methods, hence, the residents do not have to suffer the high construction noise environment, The contractor may consider using quieter breaker and better materials for reducing the construction noise. The complaint regarding the construction noise at Lin Tak Road referred by EPD was received by ET on 28 September 2020. According to the information provided by the contractor, and also reported in EM&A monthly report, that slope works using drill and split method were conducted under contract NE/2017/03 at RIW3 of Lin Tak Road starting from August 2019. Based on the observation of recent monitoring, breaking works and drilling works were the major sources of the construction noise.	Remedial action taken according to the observations by ET: 1. The condition of noise barriers was improved on 30 September 2020 and extended the coverage on 8 October 2020. 2. Quieter breaker, claimed by the contractor, was observed installed. 3. The plant and working area were covered by noise barrier in most of the time during noise monitoring and site inspections.	Closed
20201105	5 Nov 2020	EPD	Slope at Lin Tak Road, Opposite to Hong Wah Court	The complainant, general public, reported to EPD dated on 5 November 2020 that noise nuisance was generated from the construction site of Chun Wo. The complaint regarding the construction noise at Lin Tak Road referred by AECOM was received by ET on 10 November 2020. According to the information provided by the contractor, and also reported in EM&A monthly report, that slope works using drill and split method were conducted under contract NE/2017/03 at RIW3 of Lin Tak Road starting from August 2019. Based on the observation of recent monitoring, breaking works and drilling works were the major sources of the construction noise.	Remedial action taken according to the observations by ET: 1. The plant and working area were covered by noise barrier in most of the time during noise monitoring and site inspections. 2. Noise absorption material was observed installed at the upper level. 3. Additional noise barrier was observed installed at lower level on 9 November 2020. 4. Sequencing of noisy works to be not operating at the same time for most of the time during inspection. 5. Grouping of PME and scheduled working time	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
					have been set by the contractor shown on site.	
20201106	6 Nov 2020	EPD	Slope at Lin Tak Road, Opposite to Hong Wah Court	The complainant, general public, reported to EPD dated on 6 November 2020 that the incident of construction noise from Lin Tak Road have happened for more than two months. The residents at Hong Wah Court have complaint to the contractor, consultant and CEDD as well as the distrct councilor but no improvement was observed and the noise generated were very disturbing. The complaint regarding the construction noise at Lin Tak Road referred by AECOM was received by ET on 10 November 2020. According to the information provided by the contractor, and also reported in EM&A monthly report, that slope works using drill and split method were conducted under contract NE/2017/03 at RIW3 of Lin Tak Road starting from August 2019. Based on the observation of recent monitoring, breaking works and drilling works were the major sources of the construction noise.	Remedial action taken according to the observations by ET: 1. The plant and working area were covered by noise barrier in most of the time during noise monitoring and site inspections. 2. Noise absorption material was observed installed at the upper level since 20 October 2020. 3. Additional noise barrier was observed installed at lower level on 9 November 2020. 4. Sequencing of noisy works to be not operating at the same time for most of the time during inspection. 5. Grouping of PME and scheduled working time have been set by the contractor shown on site.	Closed
20201109	9 Nov 2020	EPD	Slope at Lin Tak Road, Opposite to Hong Wah Court	The complainant, general public, reported to EPD dated on 9 November 2020 that the use of quiet equipment and the noise barriers were not installed properly. The noise generated by the plants using on site have reached 60dB to 80dB and exceeded the limit stated in EIAO. The improper installation of noise barriers was the most unsatisfactory for the resident that the plant always worked beyond the coverage of noise barriers and the noise barriers were not setup according to the working progress. The complaint regarding the construction noise at Lin Tak Road referred by EPD was received by ET on 9 November 2020. According to the information provided by the contractor, and also reported in EM&A monthly report, that slope works using drill and split method were conducted under contract NE/2017/03 at RIW3 of Lin Tak Road starting from August 2019. Based on the observation of recent monitoring, breaking works and drilling works were the major sources of the construction noise.	Remedial action taken according to the observations by ET: 1. The plant and working area were covered by noise barrier in most of the time during noise monitoring and site inspections. 2. Noise absorption material was observed installed at the upper level since 20 October 2020. 3. Additional noise barrier was observed installed at lower level on 9 November 2020. 4. Sequencing of noisy works to be not operating at the same time for most of the time during inspection. 5. Grouping of PME and scheduled working time have been set by the contractor shown on site.	Closed
20201111	11 Nov 2020	EPD	Tseung Kwan O Road near	The complainant reported to EPD that effluent discharge was observed from the construction site of CEDD near	Remedial action taken according to the observations by	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
			Tseung Kwan O Tunnel	the Tseung Kwan O Tunnel dated on 11 November 2020. The incident has been observed for 6 months. The complaint concerned on the effluent discharge at Tseung Kwan O Road was referred by EPD to ET on 16 November 2020. According to the observation and inspection, the incident was caused by the overflow of runoff due to the blockage of gully and no connection of temporary drainage system was observed between the site and the gully at Tseung Kwan O Road and no discharge was observed from the site to the nearby gully.	ET: 1. No remedial action is needed	
20210123	23 Jan 2021	EPD	Slope at Lin Tak Road, Opposite to Hong Wah Court	The complainant, general public, reported to EPD dated on 23 January 2021 that the construction noise was serious and the work period was predicted to be end in 2023 was considered to be long. The complainant has also mentioned the noise barrier was observed but not efficient in noise reduction. The complainant request the contractor to wrap the driller head during drilling works; cover the drilling area entirely by noise barrier till the line of sight of all levels could be blocked; setting up noise monitoring station at different floors at Hong Wah Court; increase number of inspection; setting up limit in length of noisy works in future. The complaint regarding the construction noise at Lin Tak Road referred by EPD was received by ET on 11 February 2021. According to the information provided by the contractor, and also reported in EM&A monthly report, that slope works using drill and split method were conducted under contract NE/2017/03 at RIW3 of Lin Tak Road starting from August 2019. Based on the observation of recent monitoring, drilling works were the major sources of the construction noise.	Remedial action taken according to the observations by ET: 1. The plant and working area were covered by noise barrier in most of the time during noise monitoring and site inspections. 2. Noise absorption material was observed installed at the upper level since 20 October 2020. 3. Additional noise barrier was observed installed at lower level on 9 November 2020. 4. Cantilever was observed at middle level since 12 January 2021. 5. Sequencing of noisy works to be not operating at the same time for most of the time during inspection. 6. Grouping of PME and scheduled working time have been set by the contractor shown on site.	Closed
20210205	05 Feb 2021	Public	Slope at Lin Tak Road, Opposite to Hong Wah Court	The complainant, district councilor, reported to AECOM through project hotline dated on 05 February 2021 that the residents reflected the noise mitigation measures were not efficient, around 70% of time the driller worked outside the noise barriers coverage, making noise.	Remedial action taken according to the observations by ET: 1. The plant and working area were covered by noise barrier in most of the time during noise monitoring and site inspections. 2. Noise absorption material was observed installed	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
				The complaint regarding the construction noise at Lin Tak Road referred by AECOM was received by ET on 05 February 2021. According to the information provided by the contractor, and also reported in EM&A monthly report, that slope works using drill and split method were conducted under contract NE/2017/03 at RIW3 of Lin Tak Road starting from August 2019. Based on the observation of recent monitoring, drilling works were the major sources of the construction noise.	at the upper level since 20 October 2020. 3. Additional noise barrier was observed installed at lower level on 9 November 2020. 4. Cantilever was observed at middle level since 12 January 2021. 5. Sequencing of noisy works to be not operating at the same time for most of the time during inspection. 6. Grouping of PME and scheduled working time have been set by the contractor shown on site.	
20210206	06 Feb 2021	Public	Slope at Lin Tak Road, Opposite to Hong Wah Court	The complainant, resident of Hong Wah Court, reported to AECOM through project hotline dated on 06 February 2021 that the residents reflected that one excavator was in operation from 08:20 and one driller was in operation later from 08:40 on 06 February 2021. The complaint regarding the construction noise at Lin Tak Road referred by AECOM was received by ET on 01 March 2021. According to the information provided by the contractor, and also reported in EM&A monthly report, that slope works using drill and split method were conducted under contract NE/2017/03 at RIW3 of Lin Tak Road starting from August 2019.	Remedial action taken according to the observations by ET: 1. The plant and working area were covered by noise barrier in most of the time during noise monitoring and site inspections. 2. Noise absorption material was observed installed at the upper level since 20 October 2020. 3. Additional noise barrier was observed installed at lower level on 9 November 2020. 4. Cantilever was observed at middle level since 12 January 2021. 5. Sequencing of noisy works to be not operating at the same time for most of the time during inspection. 6. Grouping of PME and scheduled working time have been set by the contractor shown on site.	Closed
20210310	10 Mar 2021	Public	New Clear Water Bay Road near Choi Wan Estate	The complainant reported to 1823 online dated on 10 March 2021 that the construction noise generated from the construction site at New Clear Water Bay Road adjacent to Choi Wan Estate was causing noise nuisance to complainant's apartment. The complaint regarding the construction noise at New	Remedial action taken according to the observations by ET: 1. No further mitigation measure for construction noise was implemented at the moment.	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
				Clear Water Bay Road near Choi Wan Estate referred by CEDD and AECOM was received by ET on 15 March 2021. According to the information provided by the contractor, and also reported in EM&A monthly report, that earth works temporary soil nail, form working platform, reinforced concrete works and no-fine concrete construction were the major construction works conducted under contract NE/2017/03 in the past three months at RIW1 near New Clear Water Bay Road. Based on the observation of recent monitoring, excavation and loading and unloading of materials were the major sources of the construction noise.		
210427_1	27 Apr 2021	Public	Clear Water Bay Road, near Sienna Garden block 6	The complainant, resident of No.8 Fei Ha Road, reported to AECOM through the hotline dated on 27 April 2021 that the construction activities were commenced around 7:00 am, making big noise “boom boom” from the construction site under Contract NE/2017/03 at Clear Water Bay Road. Nearby residents were affected by the noise nuisance and the complainant asked Contractor to commence the construction activities after 9:00 am. In addition, the complainant also reflected that the windows need to be closed all the time due to the fugitive dust from the construction works at RIW2. Contractor was required to review and enhance the dust mitigation measures. The complaints regarding the construction noise and dust at Clear Water Bay Road referred by AECOM was received by ET on 27 April 2021. According to the information provided by the contractor, and recent site inspections, that breaking, excavation, and mini-pile works were conducted under contract NE/2017/03 at RIW2 of Clear Water Bay Road. Based on the observation of recent monitoring, breaking and piling were the major noise source.	Remedial action taken according to the observations by ET: 1. Noise barriers have been setup for noise mitigation measure. 2. QPME was observed on site. 3. Work sequence at Clear Water Bay Road near residential estate was re-arranged, piling works will be commenced after 09:00am in order to minimize the nuisance to the residents and commencement time of other site activities will be remained unchanged. 4. Water spraying has been applied and cylindrical tarpaulin was used to enclose the piling area for dust suppression measures.	Closed
210427_2	27 Apr 2021	Public	Clear Water	The complainant, reported to AECOM through the	Remedial action taken according to the observations by	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
			Bay Road, near Sienna Garden block 6	hotline dated on 27 April 2021 that they were affected by the noise nuisance from the construction site under Contract NE/2017/03 at Clear Water Bay Road in the early morning. The complaints regarding the construction noise at Clear Water Bay Road referred by AECOM was received by ET on 27 April 2021. According to the information provided by the contractor, and recent site inspections, that breaking, excavation, and mini-pile works were conducted under contract NE/2017/03 at RIW2 of Clear Water Bay Road. Based on the observation of recent monitoring, breaking and piling were the major noise source.	ET: 1. Noise barriers have been setup for noise mitigation measure. 2. QPME was observed on site. 3. Work sequence at Clear Water Bay Road near residential estate was re-arranged, piling works will be commenced after 09:00am in order to minimize the nuisance to the residents and commencement time of other site activities will be remained unchanged.	
210508	08 & 10 May 2021	Public	Clear Water Bay Road, near Sienna Garden block 6	The complainant, resident of No. 8 Fei Ha Road, reported to AECOM through the hotline dated on 08 and 10 May 2021 that they were severely affected by the noise nuisance and fugitive dust from the construction site under Contract NE/2017/03 at Clear Water Bay Road. The complaints regarding the construction noise and fugitive dust at Clear Water Bay Road referred by AECOM was received by ET on 12 May 2021. According to the information provided by the contractor, and recent site inspections, that breaking, excavation, and mini-pile works were conducted under contract NE/2017/03 at RIW2 of Clear Water Bay Road. Based on the observation of recent monitoring, breaking and piling were the major noise source.	Remedial action taken according to the observations by ET: 1. Noise barriers have been setup for noise mitigation measure. 2. QPME was observed on site. 3. Work sequence at Clear Water Bay Road near residential estate was re-arranged, piling works will be commenced after 09:00am in order to minimize the nuisance to the residents and commencement time of other site activities will be remained unchanged. 4. Water spraying has been applied and cylindrical tarpaulin was used to enclose the piling area for dust suppression measures.	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
210614	14 June 2021	Public	Slope at Lin Tak Road, Opposite to Hong Wah Court	The complainant, general public, reported to EPD dated on 14 June 2021 that nearby residents were affected by the construction noise generated from the driller in relation to the site area at Lin Tak Road in the early morning The complaint regarding the construction noise at Lin Tak Road referred by EPD was received by ET on 24 June 2021. According to the information provided by the contractor, and also reported in EM&A monthly report, that slope works using drill and split method were conducted under contract NE/2017/03 at RIW3 of Lin Tak Road starting from August 2019. Based on the observation of recent monitoring, drilling and breaking works were the major sources of the construction noise.	Remedial action taken according to the observations by ET: 1. The plant and working area were covered by noise barrier in most of the time during noise monitoring and site inspections. 2. Noise absorption material was observed installed at the upper level since 20 October 2020. 3. Additional noise barrier was observed installed at lower level on 9 November 2020. 4. Sequencing of noisy works to be not operating at the same time for most of the time during inspection. 5. Grouping of PME and scheduled working time have been set by the contractor shown on site.	Closed
210831	31 August 2021	Public	Slope at Lin Tak Road, Opposite to Hong Wah Court	The complainant, general public, reported to EPD dated on 31 August 2021 that nearby residents were affected by the construction noise generated from the driller in relation to the site area at Lin Tak Road in the morning. The complaint regarding the construction noise at Lin Tak Road referred by EPD was received by ET on 03 September 2021. According to the information provided by the contractor, and also reported in EM&A monthly report, that slope works using drill and split method were conducted under contract NE/2017/03 at RIW3 of Lin Tak Road starting from August 2019. Based on the observation of recent monitoring and construction site diary on August 2021, drilling and rock splitting work were the major sources of the construction noise.	Remedial action taken according to the observations by ET: 4. The plant and working area were covered by noise barrier in most of the time during noise monitoring and site inspections. 5. Noise absorption material was observed installed at the upper level since 20 October 2020. 6. Additional noise barrier was observed installed at lower level on 9 November 2020. 7. Sequencing of noisy works to be not operating at the same time for most of the time during inspection. 8. Grouping of PME and scheduled working time have been set by the contractor shown on site.	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
210916	16 September 2021	Public	At New Clear Water Bay Road near Choi Wan Estate	The complainant reported to 1823 online dated on 16 September 2021 that the construction noise generated from the construction site at New Clear Water Bay Road adjacent to Choi Wan Estate was causing noise nuisance to complainant's apartment. Construction activities starting from 8:30 to dusk and even on Sunday. The construction activities have been conducted for a year especially for drilling works. The complainant has measured the construction noise with mobile app and obtained 64dB in average for one driller. The complainant said the condition was worse when two to three drillers operated at the same time. The complainant asked the completion date of the construction works and whether the construction noise would affect the health of people as the complainant was seriously influenced by the noise and causing insomnia. The complaint regarding the construction noise at Lin Tak Road referred by CEDD and AECOM was received by ET on 23 September 2021. According to the information provided by the contractor, and also reported in EM&A monthly report, that ELS to RW pile cap and construct RW footing were the major construction works conducted under contract NE/2017/03 at the photo record provided by the complaint at RIW1 near New Clear Water Bay Road adjacent to Choi Wan Estate. Based on the observation of recent monitoring, excavation, piling, grouting, welding and loading and unloading of materials were the major sources of the construction noise.	Remedial action taken according to the observations by ET: 1. Noisy equipment such as rock breakers were installed with noise barrier and absorptive material during operation. 2. QPMEs and site activities rescheduling have been installed and planned by the contractor as mitigation measures.	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
210930	30 September 2021	Public	Slope at Lin Tak Road, Opposite to Hong Wah Court	The complainant, reported to AECOM through project hotline dated on 30 September 2021 that the residents reflected that the construction noise generated from the construction site at the slope of Lin Tak Road causing large noise nuisance from 8 am to 6 pm during working days. The complaint regarding the construction noise at Lin Tak Road referred by AECOM was received by ET on 30 September 2021. According to the information provided by the contractor, and also reported in EM&A monthly report, that slope works using drill and split method were conducted under contract NE/2017/03 at RIW3 of Lin Tak Road starting from August 2019.	Remedial action taken according to the observations by ET: 1. The plant and working area were covered by noise barrier in most of the time during noise monitoring and site inspections. 2. Noise absorption material was observed installed at the upper level since 20 October 2020. 3. Additional noise barrier was observed installed at lower level on 9 November 2020. 4. Cantilever was observed at middle level since 12 January 2021. 5. Sequencing of noisy works to be not operating at the same time for most of the time during inspection. 6. Grouping of PME and scheduled working time have been set by the contractor shown on site.	Closed
211013	13 October 2021	Public	Slope at Lin Tak Road	The complainant reported through Project hotline that muddy runoff was observed from the construction site of CEDD near Lin Tak Road dated on 13 October 2021. The complaint concerned on the muddy runoff at Lin Tak Road was referred by RSS to ET on 18 October 2021. According to the observation and inspection, muddy runoff was caused by the adverse weather, Amber Rainstorm Warning Signal and Strong Wind Signal no.8 came into force on 13 October 2021. Heavy rainfall flowed down the slope and became muddy.	Remedial action taken according to the observations by ET: The Contractor has reinforced the bundings in the site area to prevent any potential muddy runoff from leaking outside the site area.	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
220214	14 February 2022	Public	New Clear Water Bay Road, near the Shun Lee Disciplined Services Quarters	The complainant reported to 1823 hotline on 14 February 2022 regarding construction noise and air pollution generated from the RIW2 construction sites. The case was referred to the ET on 4 March 2022. According to the Contractor's information, erection of formwork, piling excavation, sheet piling and grouting were conducted at RIW2 during February 2022. According to the monitoring records and inspections, there were no noise and air quality exceedances recorded at the monitoring stations at RIW2 during January, February and March 2022. Noise barriers around PMEs and water spraying as dust suppression were observed to be implemented by the Contractor.	Remedial actions to the Contractor as recommended by ET: 1. Turn off any noisy equipment in idle. 2. Provide regular water spraying in the site area during dry period.	Closed
220801	1 August 2022	EPD	New Clear Water Bay Road, near the Shun Lee Disciplined Services Quarters	The complainant has contacted EPD before August 2022 who noticed a 24 hour low frequency mechanical noise such as grouting noise and drilling noise emanating from the construction site (RIW1) at New Clear Water Bay Road since early June 2022. The case was referred to the ET on 1 August 2022. According to Contractor's information, pilling works were being conducted at RIW1 during day times in this time period. No major works with PMEs were scheduled between 19:00 and 07:00. No recent CNP was applied to the complained section of the site area.	Remedial actions to the Contractor as recommended by ET: 1. Turn off any PMEs after 19:00 on each working days. Inspections should be conducted by the Contractor to ensure compliances.	Closed
221010	10 October 2022	Public	Slope at Lin Tak Road, Opposite to Hong Wah Court	The complainant, resident of Hong Wah Court, reported to AECOM through project hotline on 10 October 2022 regarding the inadequate noise barrier for the rock breaker at Slope D3 during its operation at 8:40am, 8 Oct 2022 and 10:05am, 10 Oct 2022. According to Contractor's and complainant's information, rock breaking works were being conducted at Slope D3 during this time period. Noise barrier was presented at the slope near the breaker but was considered to be inadequate.	The complaint is considered to be project related. Remedial actions to the Contractor as recommended by ET: 1. Grouping of the PMEs and works schedule should be further reviewed to reduce the noise impact to the residents. The Contractor should provide the works schedule and notifications at the site entrance. 2. Additional noise barriers should be provided around the rock breaker by the Contractor to mitigate the noise impact.	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
221014	14 October 2022	Public	Slope at Lin Tak Road, Opposite to Hing Tin Estate	The complainant, resident of Hing Tin Estate, reported to AECOM through project hotline on 14 October 2022 regarding the inadequate noise barrier for the rock breaker at Slope D4 during its operation at 10:15am, 14 Oct 2022. According to Contractor's and complainant's information, rock breaking works were being conducted at Slope D4 during this time period. Noise barrier was presented at the slope near the breaker but was considered to be inadequate.	The complaint is considered to be project related. Remedial actions to the Contractor as recommended by ET: 1. Grouping of the PMEs and works schedule should be further reviewed to reduce the noise impact to the residents. The Contractor should provide the works schedule and notifications at the site entrance. 2. Additional noise barriers should be provided around the rock breaker by the Contractor to mitigate the noise impact.	Closed
230210	10 February 2023	EPD	Slope D3 at Lin Tak Road	The complainant, resident of Hong Wah Court, contacted EPD in February 2023 regarding the inadequate noise barrier for the rock breaker at Slope D3 during its operation in day time. The case was referred to the ET on 15 March 2023. According to Contractor's and complainant's information, rock breaking works were being conducted at Slope D3 during this time period. Noise barrier was presented at the slope near the breaker but was considered to be inadequate.	The complaint is considered to be project related. Additional noise monitoring were subsequently conducted by the ET to ensure compliance of the construction noise level in this works area. Remedial actions to the Contractor as recommended by ET: 1. Grouping of the PMEs and works schedule should be further reviewed to reduce the noise impact to the residents. The Contractor should reduce the amount of PMEs working at the same time to reduce the impact. 2. Additional noise barriers were provided around the rock breaker by the Contractor to mitigate the noise impact.	Closed
230311	11 March 2023	Public	Slope D3 at Lin Tak Road	The complainant, resident of Hong Wah Court, reported to AECOM through project hotline on 11 March 2023 regarding the inadequate noise barrier for the rock breaker at Slope D3 during its operation at 9:00am, 11 March 2023. According to Contractor's and complainant's information, rock breaking works were being conducted at Slope D3 during this time period. Noise barrier was presented at the slope near the breaker but was considered to be inadequate.	The complaint is considered to be project related. Additional noise monitoring were subsequently conducted by the ET to ensure compliance of the construction noise level in this works area. Remedial actions to the Contractor as recommended by ET: 1. Grouping of the PMEs and works schedule should be further reviewed to reduce the noise impact to the residents. The Contractor should reduce the amount of PMEs working at the same time to reduce the	Closed

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					impact. 2. Additional noise barriers were provided around the rock breaker by the Contractor to mitigate the noise impact.	
230320	20 March 2023	Public	Near New Clear Water Bay Road	The complainant reported to DR through project hotline on 20 March 2023 regarding the noise of the construction works from the site RIW1 at New Clear Water Bay Road in the morning. According to Contractor's information, pilling works were being conducted at RIW1 during this time period. Noise level exceedance was not recorded in this works area for the past year.	The complaint is considered to be project related. Additional noise monitoring were subsequently conducted by the ET to ensure compliance of the construction noise level in this works area. Remedial actions to the Contractor as recommended by ET: 1. Grouping of the PMEs and works schedule should be further reviewed to reduce the noise impact to the residents. The Contractor should reduce the amount of PMEs working at the same time to reduce the impact. 2. Additional noise barriers should be provided around the PMEs by the Contractor to mitigate the noise impact.	Closed
240105	5 January 2024	Public	Slope D3 at Lin Tak Road	The complainant, resident of Hong Wah Court, reported to ER through 1823 hotline regarding the excessive noise from the site area at Slope D3 during construction between 8:00 and 18:00 on 5 January 2024. According to site observations and complainant's information, rock breaking and slope drilling works were being conducted at Slope D3 during this time period. Noise barrier was presented at the slope near the breaker but was considered to be inadequate and require further review for improvement.	The complaint is considered to be project related. While further noise exceedances were not recorded in the area, remedial actions are recommended by ET to the Contractor to improve the mitigation measures: 1. Grouping of the PMEs and works schedule should be further reviewed to reduce the noise impact to the residents. The Contractor should reduce the amount of PMEs working at the same time to reduce the impact. 2. Additional noise barriers shall be installed around the breakers by the Contractor to mitigate the noise impact.	Closed
240127	27 January 2024	Public	Slope D3 at Lin Tak Road	The complainant, resident of Hong Wah Court, reported to ER through project hotline, stating that noisy construction works had begun in the site area at Slope D3 at 8:30am on 27 January 2024. According to complainant's information, rock sorting works via excavator were being conducted at Slope D3 at the time.	The complaint is considered to be project related. While the major noise generated construction works of rock breaking and drilling were not conducted at the time of the complaint. The Contractor should nevertheless review the work schedule of the Project to suit the nearby residents in order to avoid any noise nuisance.	Closed
240127	9 February	EPD	Lin Tak Road,	The complainant reported to EPD that the site area at	The contractor has provided a temporary drainage	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
	2024		Hing Tin Estate	Lin Tak Road near Hing Tin Estate had leakage of waste water. Based on complainant's information, the area of concern is Slope D4 at Site RIW3. During ET's regular site inspection, no potential source of construction waste water discharge was observed from this area. Therefore, it's likely that surface runoff occurred during rainstorm could be the source of any potential waste water.	channel along the site boundary to divert the surface runoff within the site towards the waste water treatment tank prior to the discharge of public drainage system. Further repair works on the drainage channel was conducted and completed on 3 February 2024. No further leakage of waste water was observed from the site area. Regular site inspections shall be conducted to ensure no waste water leakage would be occurred.	
240424a	24 April 2024	EPD	Lin Tak Road	The complainant reported to EPD that the site area at Lin Tak Road had excessive construction noise during late April 2024. According to complainant's information, rock sorting works via excavator were being conducted at Slope D3 at the time.	The complaint is considered to be project related. While further noise exceedances were not recorded in the area, remedial actions are recommended by ET to the Contractor to improve the mitigation measures: 1. Grouping of the PMEs and works schedule should be further reviewed to reduce the noise impact to the residents. The Contractor should reduce the amount of PMEs working at the same time to reduce the impact. 2. Additional noise barriers shall be installed around the breakers by the Contractor to mitigate the noise impact.	Closed
240424b	24 April 2024	EPD	Lin Tak Road	The complainant reported to EPD that the site area at Lin Tak Road had leakage of waste water during late April 2024. During ET's regular site inspection, no potential source of construction waste water discharge was observed from this area. Therefore, it's likely that surface runoff occurred during rainstorm could be the source of any potential waste water.	The contractor has provided a temporary drainage channel along the site boundary to divert the surface runoff within the site towards the waste water treatment tank prior to the discharge of public drainage system. Further repair works on the drainage channel and water barrier inspection were conducted on 29 April 2024. No leakage of waste water was observed from the site area. Regular site inspections shall be conducted to ensure no waste water leakage would be occurred.	Closed
240522	22 May 2024	EPD	Lin Tak Road	The complainant, resident of Hong Wah Court, reported to EPD regarding the excessive noise from the opposite site area constructing bridge. According to Contractor's information, drilling and breaking works were being conducted during this time period.	The complaint is considered to be project related. While further noise exceedances were not recorded in the area, remedial actions are recommended by ET to the Contractor to improve the mitigation measures: 1. Grouping of the PMEs and works schedule should be further reviewed to reduce the noise impact to the residents. The Contractor should reduce the amount of PMEs working at the same time to reduce the impact. 2. Additional noise barriers shall be installed around	Closed

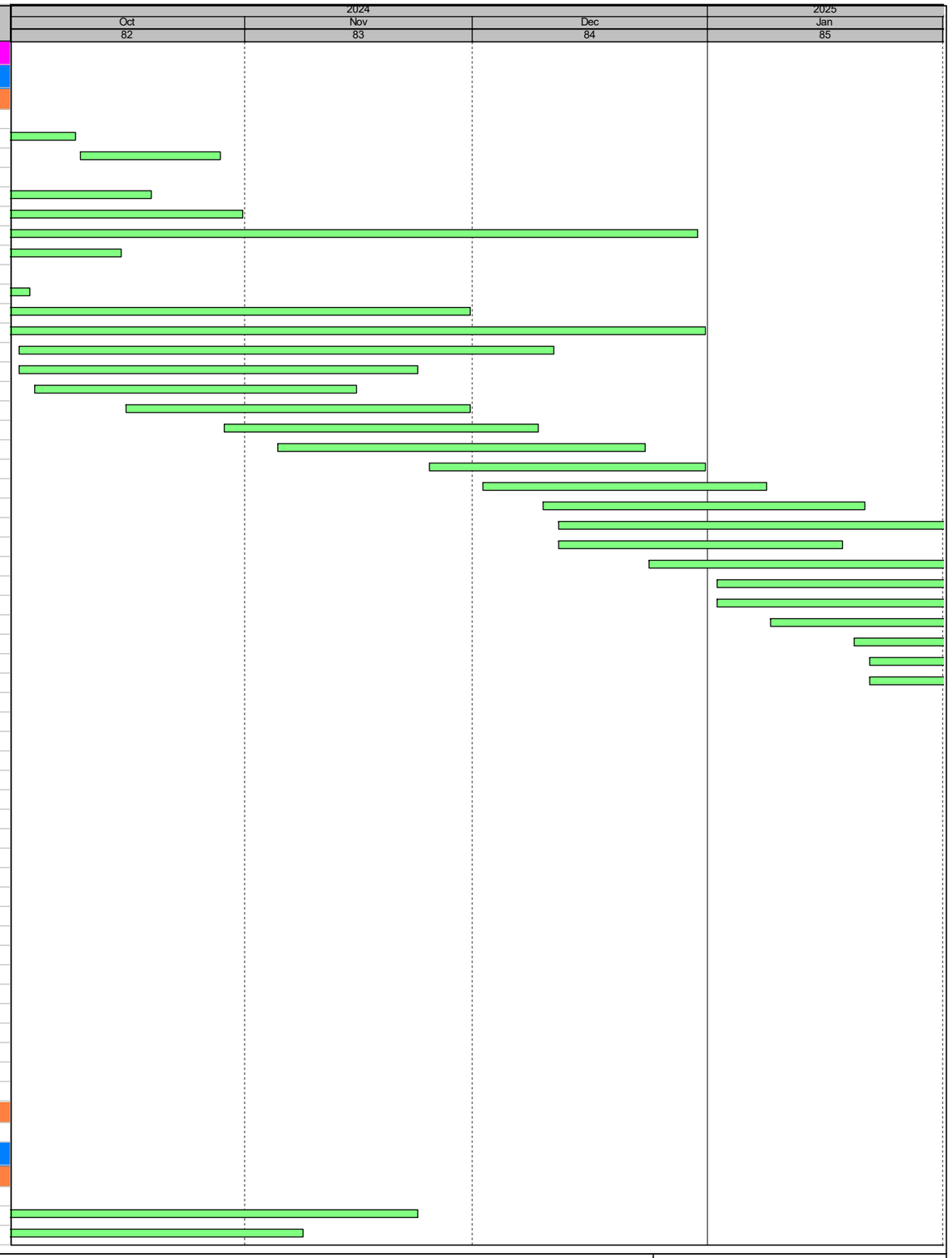
Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
					the drilling machine/ breakers by the Contractor to mitigate the noise impact.	
240613	13 June 2024	EPD	Lin Tak Road	EPD received several public complaints on the adverse construction noise emanating from the subject construction site at Lin Tak Road during non-restricted hours, and expressed concern that the noisy construction works, especially the rock breaking and excavation works, have persisted for a long time which affected their daily life. Moreover, some of the complainants voiced out that (1) noise barriers / noise insulation sheets were not positioned effectively to screen-off the breaking works location and other noisy works area, and (2) although additional noise screening structures will be put up nearer to Power Mechanical Equipment (PME) and works location after lodging complaints, these additional screening structures would usually be removed shortly. According to Contractor's information, drilling, breaking works, excavation and loading of inert material and site hoarding modification work were being conducted during this time period.	The complaint is considered to be project related. Remedial actions are recommended by ET to the Contractor to improve the mitigation measures: 1. Grouping of the PMEs and works schedule should be further reviewed to reduce the noise impact to the residents. The Contractor should reduce the amount of PMEs working at the same time to reduce the impact. 2. Additional noise barriers shall be installed around the drilling machine/ breakers and positioned effectively to screen-off the construction noise by the Contractor to mitigate the noise impact.	Closed
240702	2 July 2024	EPD	Lin Tak Road	EPD received complaint for non-restricted hour construction noise in relation to the construction site area at Lin Tak Road. The complainant has explicitly highlighted the extraneous noise from a malfunctioning splitter used during rock breaking.	The complaint is considered to be project related. Site check was conducted and no malfunctioning of machines was observed. No splitter was applied on site. Remedial actions are recommended by ET to the Contractor to improve the mitigation measures: Grouping of the PMEs and works schedule should be further reviewed to reduce the noise impact to the residents. The Contractor should reduce the amount of PMEs working at the same time to reduce the impact.	Closed
240925	25 September 2024	EPD	Lin Tak Road	EPD received several public complaints regarding non-restricted hour construction noise emanating from Construction Site at Lin Tak Road. Some complainants mentioned that (i) rock breaking activities by breakers caused adverse noise impact, in particular in early morning, and, (ii) noise barriers / noise insulation sheets were not positioned effectively to screen-off the breaking works location and machineries.	The complaint is considered to be project related. The contractor reported that breaking works have been started after 0900 am. Remedial actions are recommended by ET to the Contractor to improve the mitigation measures: 1. Grouping of the PMEs and works schedule should be further reviewed to reduce the noise impact to the residents. The Contractor should reduce the amount of PMEs working at the same time to	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
					reduce the impact. 2. Noise barriers shall be positioned near to breaking/ drilling works location and PMEs to effectively screen-off noise to nearby residential buildings. 3. Breaker tips of beakers shall be positioned properly at rock surface during breaking works to avoid slipping from rock surface and result in adverse noise nuisance.	

Appendix 9.1

Construction Programme of Individual Contracts

Activity ID	Activity Name	Duration	Start	Finish
NE2017/03 - ARQ PHASE 2A - Monthly Programme Update (202408 Rev A)-1 _241031		1247	01-Dec-2023 A	30-Apr-2027
Road Improvement Works Location 1 (RIW1)		1171	15-Jan-2024 A	30-Apr-2027
Construction Works		629	15-Jan-2024 A	28-Mar-2026
CON11328D	Subletting works - socketed H-pile at CT5	36	15-Jan-2024 A	20-Sep-2024
CON10276	(CE[TBA]) Reprovision of WSD Permanent Watermain & ASD Sewerage	97	15-Jun-2024 A	09-Oct-2024
CON10512	Construct RW footing (RWC2 type 3a Bay 37 to Bay 31)	60	09-Jul-2024 A	28-Oct-2024
CON10654	Construct RW wall (RWC2 type 2)	48	16-Jul-2024 A	30-Sep-2024
CON10810	Construct RW wall (RWC2 type 3, stage 2), 1 team	60	22-Jul-2024 A	19-Oct-2024
CON106561	TTA & construct 1200mm dia & 1050mm dia drainage pipe along NCWBR	90	22-Jul-2024 A	31-Oct-2024
CON11532	Construct piling foundation on CT6 Type 2 (21nos, 4.3d/no, 1 team)	90	01-Aug-2024 A	30-Dec-2024
CON12132	Drainage, utilities works & backfilling (RWC2 type 6, 7, 8) (Stage 2)	60	01-Aug-2024 A	15-Oct-2024
CON12150	Road re-alignment at KS27	30	05-Aug-2024 A	10-Sep-2024
CON12210	Drainage, utilities works & backfilling (RWC2 type 5)	36	21-Aug-2024	03-Oct-2024
CON12140	Backfilling for Retaining Wall RWC2 Type 6 - 8	75	02-Sep-2024	30-Nov-2024
CON11330	Construct CT5 piling foundation (15nos, 7.2d/no, 1 team + setup)	83	21-Sep-2024	31-Dec-2024
CON12170	Drainage, utilities works & backfilling (RWC2 type 1a, 1, 2)	60	02-Oct-2024	11-Dec-2024
CON12250	Drainage, utilities works & backfilling (RWC2 type 3)	45	02-Oct-2024	23-Nov-2024
CON12230	Road works (RWC2 type 5)	36	04-Oct-2024	15-Nov-2024
CON12136	Road works (RWC2 type 6, 7, 8) (Stage 2)	40	16-Oct-2024	30-Nov-2024
CON10514	Construct RW footing (RWC2 type 3a Bay 37 to Bay 31)	36	29-Oct-2024	09-Dec-2024
CON11872	ELS works (FE1-F4a to FE1-F7a, 1 team)	42	05-Nov-2024	23-Dec-2024
CON12270	Road works (RWC2 type 3)	30	25-Nov-2024	31-Dec-2024
CON12138	Construct street furniture & lighting (RWC2 type 4, 6, 7, 8)	30	02-Dec-2024	08-Jan-2025
CON12240A	Drainage, utilities works & backfilling (RWC2 type 3a) (Stage 2)	34	10-Dec-2024	21-Jan-2025
CON12190	Road works (RWC2 type 1a, 1, 2)	60	12-Dec-2024	26-Feb-2025
CON12198	Construct street furniture & lighting (RWC2 type 1a, 1, 2)	30	12-Dec-2024	18-Jan-2025
CON11874	Construct NB RC footing (FE1-F4a to FE1-F7a, 1 team)	42	24-Dec-2024	17-Feb-2025
CON12274	Install stone facing for wall (RWC2 type 3)	30	02-Jan-2025	08-Feb-2025
CON12278	Construct street furniture & lighting (RWC2 type 3)	30	02-Jan-2025	08-Feb-2025
CON10490	Slope reinstatement works (RWC2 type 4, 5, 6, 7, 8)	30	09-Jan-2025	15-Feb-2025
CON10670	Slope reinstatement works (RWC2 type 1a, 1, 2)	30	20-Jan-2025	26-Feb-2025
CON12240B	Road works (RWC2 type 3a)	30	22-Jan-2025	28-Feb-2025
CON12240D	Construct street furniture & lighting (RWC2 type 3a)	30	22-Jan-2025	28-Feb-2025
CON11350	Construct NB pile cap (CT5-PC1 ~ CT5-PC3)	30	17-Feb-2025	22-Mar-2025
CON10510	Slope drainage works (RWC2 type 4, 5, 6, 7, 8)	30	17-Feb-2025	22-Mar-2025
CON11876	Construct NB RC wall (FE1-F4a to FE1-F7a, 1 team)	42	18-Feb-2025	08-Apr-2025
CON12194	Install stone facing for wall (RWC2 type 1a, 1, 2)	30	27-Feb-2025	02-Apr-2025
CON12240C	Install stone facing for wall (RWC2 type 3a)	30	01-Mar-2025	05-Apr-2025
CON10516	Slope drainage works (RWC2 type 3a Bay 37 to Bay 31)	30	01-Mar-2025	05-Apr-2025
CON11892	Drainage, utilities works, backfilling & road paving (West Bound, FE1-F4a to FE	60	07-Mar-2025	22-May-2025
CON11370	Construct NB RC tie beam / wall (CT5-PC1 ~ CT5-PC3)	30	24-Mar-2025	02-May-2025
CON10518	Slope reinstatement works (RWC2 type 3a Bay 37 to Bay 31)	30	07-Apr-2025	16-May-2025
CON10520	Slope drainage works (RWC2 type 3a Bay 37 to Bay 31)	30	07-Apr-2025	16-May-2025
CON11890	Drainage, utilities works, backfilling & road paving (East Bound, FE1-F4a to FE	60	09-Apr-2025	24-Jun-2025
CON11750	Erect steel column (CT6-PC1)	48	02-May-2025	28-Jun-2025
CON11390	Drainage, utilities works, backfilling & road paving (CT5-PC1 ~ CT5-PC3)	30	03-May-2025	09-Jun-2025
CON11410	Erect steel column (CT5-PC1 ~ CT5-PC3)	48	10-Jun-2025	05-Aug-2025
CON12030	Erect steel column (FE1-PC1a ~ FE1-PC7a)	72	25-Jun-2025	17-Sep-2025
CON11730	Erect steel column (FE1-F4b to FE1-F7b & FE1-PC1b)	72	06-Aug-2025	31-Oct-2025
CON12010	Drainage, utilities works, backfilling & road paving (FE1-PC1b ~ FE1-PC2b)	36	20-Sep-2025	04-Nov-2025
CON11752	Erect steel column (CT6-PC2 ~ CT6-PC3)	48	02-Oct-2025	28-Nov-2025
CON12050	Erect steel column (FE1-PC1b ~ FE1-PC2b)	48	05-Nov-2025	02-Jan-2026
CON12070	Erect roof steel beam (FE1)	60	31-Dec-2025	14-Mar-2026
CON12090	Erect panel (FE1, CT5 & CT6)	60	15-Jan-2026	28-Mar-2026
Works in Section 1B		365	01-May-2026	30-Apr-2027
CON12630	Establishment Landscaping works at Portion AI & AII	365	01-May-2026	30-Apr-2027
Road Improvement Works Location 2 (RIW2)		652	28-Feb-2024 A	10-Dec-2025
Construction Works in Slope C3 (Portion B)		270	28-Feb-2024 A	23-Nov-2024
CON21116B	(NCE255) Road works at new U-turn bay (Remaining part)	30	28-Feb-2024 A	27-Aug-2024
CON20370	Fabrication of NB Acoustic panels - central median along new clean water bay	182	26-May-2024 A	23-Nov-2024
CON21150	Construct hard landscape works at Portion B (Part 1)	60	28-Aug-2024	08-Nov-2024



Actual Work
Remaining Work
Milestone

NE/2017/03 Development of Anderson Road Quarry Site - Investigation Design & Construction
Development of Anderson Road Quarry Site Road - Improvement Works & Pedestrian Connectivity Facilities Works Phase 2A
3-Month Rolling Programme

Activity ID	Activity Name	Duration	Start	Finish
CON21170	Construct hard landscape works at Portion B (Part 2)	60	28-Aug-2024	08-Nov-2024
CON21190	Construct hard landscape works at Portion B (Part 3)	60	28-Aug-2024	08-Nov-2024
Construction Noise Semi-Enclosure SE2 (Portion C)		527	03-Jul-2024 A	10-Dec-2025
CON220721C	(NCE301) Additional Laying utilities	60	03-Jul-2024 A	03-Sep-2024
CON21750	Backfilling, construct road drainage & road paving (CT4, SE2 Bay4 to Bay12; I	54	06-Jul-2024 A	13-Sep-2024
CON22090	Backfilling, construct road drainage & road paving (SE2 Bay13 to Bay21; L=85	54	06-Jul-2024 A	13-Sep-2024
CON22430	Erect steel column (phase 3: SE2 Bay13 to Bay21)	42	14-Sep-2024	05-Nov-2024
CON22590	Road lighting, irrigation system & utilities works	264	20-Sep-2024	12-Aug-2025
CON22570	Slope implovement Works (pit-by-pit method) (CT4 & SE2 fount part, 250nos p	120	20-Sep-2024	15-Feb-2025
CON22610	Application for power supply & energization (RIW2)	156	20-Sep-2024	29-Mar-2025
CON22150	Excavate trial trench, SLG meeting & UU protection works (SE2 PC5 to PC6)	30	23-Sep-2024	29-Oct-2024
CON22310	Erect steel column (phase 1: CT4, SE2 Bay4 to Bay12)	42	23-Sep-2024	12-Nov-2024
CON22152	Pre-drill works (SE2 PC5 to PC6)	36	30-Oct-2024	10-Dec-2024
CON22530	Erect vertical panel (phase 3: SE2 Bay13 to Bay21)	42	06-Nov-2024	24-Dec-2024
CON21830	Construct mini pile (PC1 to PC4, 50no, 2 teams)	90	13-Nov-2024	04-Mar-2025
CON22330	Erect vertical panel (phase 1: CT4, SE2 Bay4 to Bay12)	42	13-Nov-2024	03-Jan-2025
CON22690	Construct hard landscape works at Portion C	150	13-Nov-2024	20-May-2025
CON22170	Construct mini pile works (SE2 PC5 to PC6, 40nos, 2 teams)	54	11-Dec-2024	18-Feb-2025
CON22630	Slope implovement Works (pit-by-pit method) (SE2 remaining, 150nos pit, 1wk	120	17-Feb-2025	15-Jul-2025
CON22650	Construct baffle wall @on sau road	60	19-Feb-2025	06-May-2025
CON22210	Excavate & install lateral support (SE2 PC5 to PC6; L=60m)	30	07-Mar-2025	15-Apr-2025
CON21870	Excavate & install lateral support (SE2 PC1 to PC4; L=75m)	30	21-Mar-2025	29-Apr-2025
CON22230	Construct NB footing (SE2 PC5 to PC6; L=60m)	30	16-Apr-2025	22-May-2025
CON21890	Construct NB footing (SE2 PC1 to PC4; L=75m)	36	30-Apr-2025	13-Jun-2025
CON22250	Construct NB RC tie beam / wall (SE2 PC5 to PC6; L=60m)	30	23-May-2025	27-Jun-2025
CON21910	Construct NB RC tie beam / wall (SE2 PC1 to PC4; L=75m)	36	14-Jun-2025	26-Jul-2025
CON22270	Backfilling, construct road drainage & road paving (40m, 0.6m/d, 1 team)	60	28-Jun-2025	06-Sep-2025
CON21930	Backfilling, construct road drainage & road paving (SE2 PC1 to PC4; L=75m)	84	28-Jul-2025	05-Nov-2025
CON22290	Remaining road works at on sau road	30	06-Nov-2025	10-Dec-2025
CON22670	T&C and Statutory Inspection _RIW2 slope works, NMW and road works	30	06-Nov-2025	10-Dec-2025
Road Improvement Works Location 3 (RIW3)		1066	01-Dec-2023 A	31-Oct-2026
(CE No. 595) Acceleration for Works in RIW3		643	01-Dec-2023 A	31-Jan-2026
CON60930	Completion of Contract C5 works then handover back the site boundary to C3	270	01-Dec-2023 A	30-Oct-2024
CON61430	Additional rock cutting	180	06-Feb-2024 A	14-Sep-2024
CON61630	(CE[TBA]) additional Slope works	120	02-May-2024 A	23-Sep-2024
CON61650	DN225 Drainage + Gullies	104	02-May-2024 A	03-Sep-2024
CON61770	Berm 4 (the lowest berm) upto CH185	138	02-May-2024 A	16-Oct-2024
CON61810	Berm 2 (the middle upper berm) upto CH210	138	02-May-2024 A	16-Oct-2024
CON61790	Berm 3 (the middle lower berm) upto CH195	138	03-May-2024 A	17-Oct-2024
CON61830	Berm 1 (the highest berm) upto CH225	138	03-May-2024 A	17-Oct-2024
CON36390	Fabrication of Form Traveler 2 at mainland	98	24-Jun-2024 A	19-Oct-2024
CON61850	Slope works	248	05-Jul-2024 A	06-May-2025
CON34030	Watermain A installation of connection point at Hiu Kwong Street (Unchart DN	34	06-Aug-2024 A	13-Sep-2024
CON34170	Watermain B installation of connection point adjacent to Pier F1-3 (UU+sewer i	52	30-Aug-2024*	01-Nov-2024
CON34770	Mini Piles piling (2nos./day)	57	31-Aug-2024	08-Nov-2024
CON60870	No fine concrete & planter at slope	280	19-Sep-2024*	29-Aug-2025
CON61870	DN225 Drainage + Gullies	70	27-Sep-2024	19-Dec-2024
CON61150	Berm 3 (the middle lower berm) upto CH195	220	17-Oct-2024	16-Jul-2025
CON61190	Berm 1 (the highest berm) upto CH210	220	17-Oct-2024	16-Jul-2025
CON61130	Berm 4 (the lowest berm) upto CH185	220	18-Oct-2024	17-Jul-2025
CON61170	Berm 2 (the middle upper berm) upto CH210	220	18-Oct-2024	17-Jul-2025
CON36410	Fabrication of Form Traveler 2 on site (E11)	38	21-Oct-2024	03-Dec-2024
CON60970	SE1 & CT1 RC works	200	30-Nov-2024	06-Aug-2025
CON61210	Walkway & u-channel & down pipe	200	07-May-2025	03-Jan-2026
CON61270	DN225 Drainage + Gullies	120	17-Jul-2025	06-Dec-2025
CON60890	Planting (CE)	120	30-Aug-2025	23-Jan-2026
CON61230	No-fine concrete	65	01-Nov-2025	19-Jan-2026
CON61370	New Footpath, UU & street furiture	72	03-Nov-2025	28-Jan-2026
CON61110	SE1 noise enclosure installation (subject to TTA implementation full closure)	74	04-Nov-2025	31-Jan-2026
CON61050	SE1 & CT1 RC works (3 bays)	59	04-Nov-2025	14-Jan-2026
CON61250	Stone mesh	65	14-Nov-2025	31-Jan-2026

Actual Work
Remaining Work
Milestone

Activity ID	Activity Name	Duration	Start	Finish
Works in Section 5A		365	01-Nov-2025	31-Oct-2026
CON32710	Establishment Landscaping works at Section 5A	365	01-Nov-2025	31-Oct-2026
Pedestrian Connectivity Facility System B (SYB)		239	15-Feb-2024 A	02-Dec-2024
Construction Works		239	15-Feb-2024 A	02-Dec-2024
CON52390	Construct deck slab, planter wall and roofing PC8 to PC7 (P8 to P7)	30	15-Feb-2024 A	27-Aug-2024
CON52410	Construct deck slab, planter wall and roofing PC7 to PC6 (P7 to P6)	30	15-Feb-2024 A	27-Aug-2024
CON52810	ABWF works @ escalator pit P4 to P3	48	21-Mar-2024 A	17-Sep-2024
CON51192	ABWF works @SYB-LT1 (other than lift shart area)	60	28-Mar-2024 A	30-Sep-2024
CON52670	ABWF works @ steel frame footbridge P8 to P7	48	28-Mar-2024 A	30-Sep-2024
CON52690	ABWF works @ steel frame footbridge P7 to P6	48	28-Mar-2024 A	30-Sep-2024
CON52710	ABWF works @ steel frame footbridge P6 to P5	48	28-Mar-2024 A	30-Sep-2024
CON52730	ABWF works @ steel frame footbridge P5 to LT1	48	28-Mar-2024 A	30-Sep-2024
CON52770	ABWF works @ steel frame footbridge P1 to connect ex. footbridge	48	28-Mar-2024 A	30-Sep-2024
CON51492	E&M works @SYB-LT1 (other than lift shaft area)	48	08-May-2024 A	03-Sep-2024
CON52210	Install steel roof P2 to LT1	48	13-May-2024 A	09-Sep-2024
CON52370	Construct deck slab, planter wall and roofing SYB-A1 to PC8 (A1 to P8)	30	23-May-2024 A	27-Aug-2024
CON53190	E&M works @ escalator pit P3 to LT1	42	03-Jun-2024 A	28-Sep-2024
CON53010	E&M works @ steel frame footbridge P8 to P7	48	06-Jun-2024 A	24-Sep-2024
CON53050	E&M works @ steel frame footbridge P7 to P6	48	06-Jun-2024 A	24-Sep-2024
CON53110	E&M works @ steel frame footbridge P6 to P5	48	06-Jun-2024 A	24-Sep-2024
CON53170	E&M works @ steel frame footbridge P5 to LT1	48	06-Jun-2024 A	24-Sep-2024
CON53130	E&M works @ steel frame footbridge P1 to connect ex. footbridge	48	06-Jun-2024 A	24-Sep-2024
CON52830	ABWF works @ escalator pit P3 to LT1	36	21-Jun-2024 A	30-Sep-2024
CON53410	Install steel works at LT1 / ST1	48	24-Jun-2024 A	30-Sep-2024
CON53430	Install hand railing at ST1	48	24-Jun-2024 A	30-Sep-2024
CON51810	Construct underground drainage pipe	36	06-Jul-2024 A	24-Sep-2024
CON52650	ABWF works @ steel frame footbridge A1 to P8	48	06-Jul-2024 A	30-Sep-2024
CON52510	Construct above ground drainage pipe	36	06-Jul-2024 A	24-Oct-2024
CON52950	Install escalators SYB-ES01 & SYB-ES02 (LT1 to P3)	48	08-Jul-2024 A	14-Oct-2024
CON52872	Lifts repair due to heavy rain	36	22-Jul-2024 A	28-Oct-2024
CON52990	E&M works @ steel frame footbridge A1 to P8	48	28-Aug-2024	25-Oct-2024
CON53030	E&M works @ LT1 & RC footbridge LT1 to P2	36	10-Sep-2024	24-Oct-2024
CON51530	Slope works - slope B1 (Remaining part)	36	17-Sep-2024	31-Oct-2024
CON51550	Slope works - slope B2	36	17-Sep-2024	31-Oct-2024
CON53232	Install pillar box (SYB)	30	19-Sep-2024	25-Oct-2024
CON51590	Slope reinstatement works for additional access near PC3	36	30-Sep-2024	12-Nov-2024
CON53070	E&M works @ steel frame footbridge P2 to P1	48	04-Oct-2024	29-Nov-2024
CON52890	T&C and Statutory Inspection to 2nos lift _SYB	30	29-Oct-2024	02-Dec-2024
CON52970	T&C and Statutory Inspection to 6nos escalator _SYB	30	29-Oct-2024	02-Dec-2024