# 95th Consolidated Monthly EM&A Report (September 2024)

0087/16/ED/1236 [00]

**Contact No. KLN/2016/05 - Independent Environmental Checker for Contract No. KL/2015/02 Kai Tak Development- Stage 5A Infrastructure at Former North Apron Area**

# Document Control

## Document Information

| | |
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| Project Title | Contact No. KLN/2016/05 - Independent Environmental Checker for Contract No. KL/2015/02 Kai Tak Development- Stage 5A Infrastructure at Former North Apron Area |
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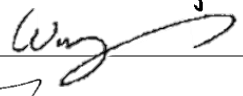
## Client Information

| | |
|---|---|
| Client | Civil Engineering and Development Department |
| Client Address | East Development Office, East Division 4,<br>8/F, South Tower, West Kowloon Government Offices, 11 Hoi Ting Road, Yau Ma Tei, Kowloon |

## Project Team

| Initials | Name | Role | Signature |
|---|---|---|---|
| CL | Calvin M.P. Leung | Independent Environmental Checker |  |
| WS | Wingo H.W. So | Environmental Consultant |  |
| EC | Eric T. Chan | Assistant Environmental Consultant |  |

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## Appendices

# Executive Summary

i. This is the 95th Consolidated Monthly EM&A Report which summaries the EM&A works undertaken by respective contract under EP-337/2009 within the period between 1 September and 30 September 2024.

ii. The construction activities undertaken in the reporting month are summarized as follow:

**Contract No. KL/2015/02:**

- Construction of Subway SW6 Lift LT2
- Trial Pit works at Road D1 Layby
- Construction of Road D1 footway

**Contract No. ED/2018/01:**

- Underground services (e.g. watermains, storm drain, sewer laying works)
- Road works and utilities works at Road D3 (MPS) and Road L12d
- Outstanding works and rectification works along Road D3 (MPS)
- Backfilling at Elevated Landscape Deck
- Construction of Toilet cum Changing Room; Construction of Outfall and Harbour Steps
- Waterproofing works Box Culvert under section 8 (confined space)
- Construction of Pumping Stations
- Construction of inspection shaft for Seawater Intake Box Culvert
- Installation of lift cart and E&M works for Lift LT-1 & LT-2
- Testing & commissioning for Lift LT-4

**Breaches of the Action and Limit Levels**

iii. No Action / Limit Level exceedance was recorded for 24-hr TSP monitoring in the reporting month.

iv. No Action / Limit Level exceedance was recorded for 1-hr TSP monitoring in the reporting month.

v. No Limit Level exceedance was recorded for noise monitoring in the reporting month.

**Complaint, Notification of Summons and Successful Prosecution**

vi. No complaint, notification of summons or prosecution was received for Contract No. Contract No. KL/2015/02 and Contract No. ED/2018/01 in this reporting month.

**Reporting Changes**

vii. There was no reporting change in the reporting month.

**Future Key Issues**

viii. The potential environmental impacts for the coming month and the control measures are shown in Table I:

Table I Summary of Key Issues for the Coming Month and Control Measures

| Major Environmental Impact | Control Measures |
|---|---|
| **Contract No. KL/2015/02:** | |
| Noise, dust impact, water quality and waste generation | Air quality impact (dust)<br>• Frequent watering of haul road and unpaved/exposed areas;<br>• Frequent watering or covering stockpiles with impervious materials or maintained wet; and<br>• Watering of any earth moving activities.<br><br>Water quality impact (surface runoff)<br>• Diversion of the collected effluent to de-silting facilities for treatment prior to discharge to public storm water drains;<br>• Provision of adequate de-silting facilities for treating surface run-off and other collected effluents prior to discharge;<br>• Provision of perimeter protection such as sealing of hoarding footings to avoid run-off from entering the existing storm water drainage system via public road; and<br><br>Noise Impact<br>• Machines and Plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum;<br>• Regular maintenance of machines; and<br>• Use of movable noise barriers if necessary.<br><br>Waste /Chemical Management<br>• Avoided oil leakage from PME<br>• Provided drip tray with adequate capacity and well maintained to chemical and oil containers |
| **Contract No. ED/2018/01:** | |
| The mitigation measures for environmental impact including Air Quality, Construction Noise, Water Quality, Chemical and Waste Management, Landscape and Visual shall be implemented: | • Sufficient watering of the works site with the active dust emitting activities,<br>• Limitation of the speed for vehicles on unpaved site roads,<br>• Properly cover the stockpiles,<br>• Good maintenance to the plant and equipment,<br>• Use of quieter plant and Quality Powered Mechanical Equipment (QPME),<br>• Provide movable noise barriers,<br>• Appropriate desilting/ sedimentation devices provided on site for treatment before discharge, |

| Major Environmental Impact | Control Measures |
|---|---|
| | • Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall,<br>• Onsite waste sorting and implementation of trip ticket system,<br>• Good management and control on construction waste reduction,<br>• Erection of decorative screen hoarding,<br>• Strictly following the Environmental Permits and Licenses, and<br>• Provide sufficient mitigation measures as recommended in Approved EIA Reports. |

# 1. Introduction

## 1.1 Background

1.1.1 The Kai Tak Development is located in the south-eastern part of Kowloon Peninsula of the HKSAR, comprising the apron and runway areas of the former Kai Tak Airport and existing waterfront areas at To Kwa Wan, Ma Tau Kok, Kowloon Bay, Kwun Tong and Cha Kwo Ling.

1.1.2 A study of environmental impact assessment (EIA) was undertaken to consider the key issues of air quality, noise, water quality, waste, land contamination, cultural heritage and landscape and visual impact, and identify possible mitigation measures associated with the works. EIA Report (Register No. AEIAR-130/2009) was approved by the Environmental Protection Department (EPD) on 4 March 2009.

1.1.3 The EP-337/2009 was issued on 23 April 2009 for the new distributor roads serving the planned Kai Tak Development to the following scale and slope:

a. Road D1 – a dual 2-lane carriageway of approximately 1.3 km long.
b. Road D2 – a dual 3-lane carriageway of approximately 1.1 km long.
c. Road D3 – a dual 2-lane carriageway of approximately 2.3 km long.
d. Road D4 – a dual 2-lane carriageway of approximately 0.9 km long.

1.1.4 The Civil Engineering and Development Department HKSAR has appointed Fugro Technical Services Limited (FTS) to undertake the role of Independent Environmental Checker (IEC) for the Contract No. KL/2015/02.

1.1.5 This is the 95th Consolidated Monthly EM&A Report which summaries the EM&A works undertaken by respective contract under EP-337/2009 within the period between 1 September and 30 September 2024.

## 1.2 Summary of relevant Contract Information of Key Personnel

| Party | Position | Name | Telephone | Fax/ E-mail |
|---|---|---|---|---|
| **Contract No. KL/2015/02:** | | | | |
| Project Proponent (CEDD) | Senior Engineer | Mr. Ricky Chan | 3579 2452 | 2739 0076 |
| Engineer's Representative (AECOM) | SRE | Mr. Vincent Lee | 2798 0771 | 2210 6110 |
| IEC (FTS) | IEC | Mr. Calvin Leung | 3565 4441 | 2450 8032 |
| ET (Cinotech) | ET Leader | Mr. K.S Lee | 2151 2091 | 3107 1388 |
| | Audit Team Leader | Ms. Betty Choy | 2151 2072 | |
| Main Contractor (PWHJV) | Deputy Site Agent | Mr. W. M. Chen | 9736 4284 | 2398 8301 |
| **Contract No. ED/2018/01:** | | | | |
| Project Proponent (CEDD) | Senior Engineer | Mr. Jason Wong | 3579 2453 | 2739 0076 |
| | Engineer | Ms. Chan Ka Yan | 3579 2458 | 2739 0076 |
| Engineer's Representative (AECOM) | CRE | Ms. Fanny Lau | 3911 4201 | 3911 4288 |
| IEC (Ramboll) | IEC | Mr. Y H Hui | 3465 2850 | 3465 2899 |
| ET (Ka Shing) | ET Leader | Mr. Chan Pang | 6082 2973 | 2120 7752 |

| Party | Position | Name | Telephone | Fax/ E-mail |
|---|---|---|---|---|
| Main Contractor (Penta-Ocean) | EO | Mr. Tony Tang | 9433 2628 | 3465 8898 |

## 1.3 Summary of Construction Programme and Activities

1.3.1 The construction programme of each Contract is summarized in the appendices of the corresponding Monthly EM&A report.

1.3.2 The major construction activities undertaken in the reporting month are summarized as follow:

**Contract No. KL/2015/02:**

- Construction of Subway SW6 Lift LT2
- Trial Pit works at Road D1 Layby
- Construction of Road D1 footway

**Contract No. ED/2018/01:**

- Underground services (e.g. watermains, storm drain, sewer laying works)
- Road works and utilities works at Road D3 (MPS) and Road L12d
- Outstanding works and rectification works along Road D3 (MPS)
- Backfilling at Elevated Landscape Deck
- Construction of Toilet cum Changing Room; Construction of Outfall and Harbour Steps
- Waterproofing works Box Culvert under section 8 (confined space)
- Construction of Pumping Stations
- Construction of inspection shaft for Seawater Intake Box Culvert
- Installation of lift cart and E&M works for Lift LT-1 & LT-2
- Testing & commissioning for Lift LT-4

## 1.4 Summary of Inter-relationship with the environmental protection/ mitigation measures with the construction programme

1.4.1 The summary of inter-relationship with environmental protection/mitigation measures are presented as follow:

| Major Environmental Impact | Control Measures |
|---|---|
| **Contract No. KL/2015/02:** | |
| Noise, dust impact, water quality and waste generation | • Sufficient watering of the works site with active dust emitting activities;<br>• Properly cover the stockpiles by impervious materials;<br>• On-site waste sorting and implementation of trip ticket system<br>• Appropriate desilting/sedimentation devices provided on site for treatment before discharge;<br>• Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall;<br>• Provide drip trays with adequate capacity and well maintained to chemicals<br>• Provide sufficient mitigation measures as recommended in Approved EIA Report/Lease requirement. |
| **Contract No. ED/2018/01:** | |
| The mitigation measures for environmental impact including Air Quality, Construction Noise, Water Quality, Chemical and Waste Management, Landscape and Visual shall be implemented: | • Sufficient watering of the works site with the active dust emitting activities,<br>• Limitation of the speed for vehicles on unpaved site roads,<br>• Properly cover the stockpiles,<br>• Good maintenance to the plant and equipment,<br>• Use of quieter plant and Quality Powered Mechanical Equipment (QPME),<br>• Provide movable noise barriers,<br>• Appropriate desilting/ sedimentation devices provided on site for treatment before discharge,<br>• Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall,<br>• Onsite waste sorting and implementation of trip ticket system,<br>• Good management and control on construction waste reduction,<br>• Erection of decorative screen hoarding,<br>• Strictly following the Environmental Permits and Licenses, and<br>• Provide sufficient mitigation measures as recommended in Approved EIA Reports. |

## 1.5 Summary Status of Environmental Licences, Notifications and Permits

1.5.1 Detailed relevant environmental licenses, permits and/or notifications on environmental protection for this EP are presented in the appendices of the corresponding Monthly EM&A report.

# 2. Environmental Monitoring and Audit

## 2.1 Results and Observations

**Air Quality**

2.1.1 The schedule of air quality monitoring in reporting month is provided in the appendices of the corresponding Monthly EM&A report.

2.1.2 The weather conditions during the monitoring are provided in the appendices of the corresponding Monthly EM&A report.

2.1.3 The monitoring data of 24-hr TSP and 1 hour TSP are summarized in Table 2.1. Detailed monitoring data are presented in the appendices of the corresponding Monthly EM&A report.

Table 2.1 Summary of 24-hr and 1 hour TSP Monitoring Results

| Parameter | Monitoring Station | Average (μg/m$^3$) | Range (μg/ m$^3$) | Action Level (μg/ m$^3$) | Limit Level (μg/ m$^3$) |
|---|---|---|---|---|---|
| **Contract No. KL/2015/02:** | | | | | |
| 1-hr TSP | AM2 | 63.1 | 16.2 – 199.5 | 346 | 500 |
| 24-hr TSP | AM2(A) | 38.1 | 8.6 – 72.6 | 157 | 260 |
| **Contract No. ED/2018/01:** | | | | | |
| 24-hr TSP | AM3 | 56 | 33 – 86 | 182 | 260 |
| | AM4(A) | / | / – / | 187 | |
| | AM7 | 47 | 27 – 65 | 181 | |
| 1-hr TSP | AM3 | 57 | 31 – 92 | 297 | 500 |
| | AM4(A) | 75 | 54 – 111 | 326 | |
| | AM7 | 53 | 34 – 72 | 315 | |

2.1.4 No Action / Limit Level exceedance was recorded for 24-hr TSP monitoring in the reporting month.

2.1.5 No Action / Limit Level exceedance was recorded for 1-hr TSP monitoring in the reporting month.

2.1.6 The monitoring data of 24-hr TSP was compared with the EIA predictions are presented in the appendices of the corresponding Monthly EM&A report.

2.1.7 The Event and Action Plan for air quality is given in the appendices of the corresponding Monthly EM&A report.

**Noise**

2.1.8 The schedule of noise monitoring in reporting month is provided in in the appendices of the corresponding Monthly EM&A report.

2.1.9 The noise monitoring data are summarized in Table 2.2. Detailed monitoring data are presented in the appendices of the corresponding Monthly EM&A report.

Table 2.2 Summary of Noise Impact Monitoring Results

| Monitoring Stations | Construction Noise Level Leq $_{(30min)}$ dB(A) (Range) | Action Level | Limit Level dB (A) |
|---|---|---|---|
| **Contract No. KL/2015/02:** | | When one documented complaint is received. | |
| M3(A) | 55.4 – 72.5# | | 75 |
| M4 | 72.8 – 76.0# | | 70* |
| M5(C) | 60.4 – 76.8# | | 75 |
| **Contract No. ED/2018/01:** | | | |
| M11 | 72.7 – 74.1 | | 75 |
| M12 | 61.4 – 64.9 | | 75 |

*(*) Noise Limit Level is 65 dB(A) during school examination periods.*
*(#) Measured noise level ≦ background / baseline noise level, detailed data refer to the corresponding Monthly EM&A report.*

2.1.10 The noise monitoring data was compared with the EIA predictions are presented in the appendices of the corresponding Monthly EM&A report.

2.1.11 No Action / Limit Level exceedance was recorded for noise monitoring in the reporting month.

2.1.12 The Event and Action Plan for noise is given in in the appendices of the corresponding Monthly EM&A report.

**Landscape and Visual**

2.1.13 Site audits were carried out on a weekly basis to monitor and audit the landscape and visual mitigation measures within the site boundaries of this Project. Detailed of observations are presented in the appendices of the corresponding Monthly EM&A report.

# 3. Site Inspection

## 3.1 Site Inspection

3.1.1 Site inspections were carried out weekly to monitor the implementation of proper environmental pollution control and mitigation measures for the Project.

3.1.2 Detailed of observation, recommendation of site inspections and summary of the mitigation measures implementation schedule is provided in the appendices of the corresponding Monthly EM&A Report.

# 4. Environmental Complaint and Non-Compliance

## 4.1 Complaints, Notification of Summons and Prosecution

4.1.1 The summary of complaints, notification of summons and prosecution in the reporting month are shown as Table 4.1.

Table 4.1 Summary of Complaints, Notification of Summons and Prosecution

| Event | No. of Event This Month | Remark |
|---|---|---|
| **Contract No. KL/2015/02:** | | |
| Complaint received | 0 | NA |
| Notifications of any summons & prosecutions received | 0 | NA |
| **Contract No. ED/2018/01:** | | |
| Complaint received | 0 | NA |
| Notifications of any summons & prosecutions received | 0 | NA |

4.1.2 Detailed records are presented in the appendices of the corresponding Monthly EM&A report.

# 5. Implementation Status of Environmental Mitigation Measures

## 5.1 Implementation Status

5.1.1 The Contractor has implemented environmental mitigation measures and requirements as stated in the EIA Reports, the EP and the EM&A Manuals. The implementation status of the mitigation measures during the reporting month are presented in the appendices of the corresponding Monthly EM&A report.

## 5.2 Waste Management

5.2.1 The amount of wastes generated of this Project during the reporting month is shown in the appendices of the corresponding Monthly EM&A report.

# 6. Future Key Issues

## 6.1 Construction Programme for the Next Two Months

6.1.1 The major site activities undertaken for the coming two months are summarized in follow:

**Contract No. KL/2015/02:**

- Backfilling works of Subway SW6
- Construction of Road D1 footway
- Reinstatement work of beam barrier and light post near PERE
- Construction of Layby

**Contract No. ED/2018/01:**

- Construction of Observation Deck
- Construction of Back-of-House
- Construction of Theater, Dry Fountain and Floating Stage
- Rising main laying works
- Installation of Type A railing
- Installation of metal roofing system to Observation Deck
- E&M and ABWF related works at Pumping Stations
- Construction of Toilet Cum Changing Room & Temporary Management Office

6.1.2 The potential environmental impacts arising from the above construction activities and the control measures are shown in Table 6.1:

Table 6.1 Summary of Key Issues for the Coming Month and Control Measures

| Major Environmental Impact | Control Measures |
|---|---|
| **Contract No. KL/2015/02:** | |
| | Air quality impact (dust)<br>• Frequent watering of haul road and unpaved/exposed areas;<br>• Frequent watering or covering stockpiles with impervious materials or maintained wet; and<br>• Watering of any earth moving activities. |
| Noise, dust impact, water quality and waste generation | Water quality impact (surface runoff)<br>• Diversion of the collected effluent to de-silting facilities for treatment prior to discharge to public storm water drains;<br>• Provision of adequate de-silting facilities for treating surface run-off and other collected effluents prior to discharge;<br>• Provision of perimeter protection such as sealing of hoarding footings to avoid run-off from entering the |

| Major Environmental Impact | Control Measures |
|---|---|
| | existing storm water drainage system via public road; and<br><br><u>Noise Impact</u><br>• Machines and Plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum;<br>• Regular maintenance of machines; and<br>• Use of movable noise barriers if necessary.<br><br><u>Waste /Chemical Management</u><br>• Avoided oil leakage from PME<br>• Provided drip tray with adequate capacity and well maintained to chemical and oil containers |
| **<u>Contract No. ED/2018/01:</u>** | |
| The mitigation measures for environmental impact including Air Quality, Construction Noise, Water Quality, Chemical and Waste Management, Landscape and Visual shall be implemented: | • Sufficient watering of the works site with the active dust emitting activities,<br>• Limitation of the speed for vehicles on unpaved site roads,<br>• Properly cover the stockpiles,<br>• Good maintenance to the plant and equipment,<br>• Use of quieter plant and Quality Powered Mechanical Equipment (QPME),<br>• Provide movable noise barriers,<br>• Appropriate desilting/ sedimentation devices provided on site for treatment before discharge,<br>• Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall,<br>• Onsite waste sorting and implementation of trip ticket system,<br>• Good management and control on construction waste reduction,<br>• Erection of decorative screen hoarding,<br>• Strictly following the Environmental Permits and Licenses, and<br>• Provide sufficient mitigation measures as recommended in Approved EIA Reports. |

## 6.2 Monitoring Schedules for the Next Month

6.2.1 The tentative schedules for environmental monitoring in the coming month are provided in the appendices of the corresponding Monthly EM&A.

# 7. Conclusions

7.1.1 No Action / Limit Level exceedance was recorded for 24-hr TSP monitoring in the reporting month.

7.1.2 No Action / Limit Level exceedance was recorded for 1-hr TSP monitoring in the reporting month.

7.1.3 No Limit Level exceedance was recorded for noise monitoring in the reporting month.

7.1.4 No complaint, notification of summons or prosecution was received for Contract No. Contract No. KL/2015/02 and Contract No. ED/2018/01 in this reporting month.

7.1.5 The potential environmental impacts arising from the coming two months of major construction activities and the control measures are shown in Table 6.1.

# Appendix A

## Monthly EM&A Report For Contract No. KL/2015/02 Kai Tak Development - Stage 5A Infrastructure at Former North Apron Area

# Civil Engineering and Development Department

**EP-337/2009 – New Distributor Roads Serving the Planned KTD**

**Contract No. KLN/2016/04**
**Environmental Monitoring Works for**
**Contract No. KL/2015/02**
**Kai Tak Development – Stage 5A Infrastructure at Former North Apron Area**

Monthly EM&A Report

September 2024

(Version 1.0)

Certified By _____

(Environmental Team Leader)

REMARKS:

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

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

**CINOTECH CONSULTANTS LTD**
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong
Tel: (852) 2151 2083 Fax: (852) 3107 1388
Email: info@cinotech.com.hk

**FUGRO TECHNICAL SERVICES LIMITED**
19/F, Fugro House – KCC2
1 Kwai On Road, Kwai Chung
New Territories, Hong Kong

Date 8 October 2024
Our Ref. MCL/ED/0298/2024/C

Cinotech Consultants Limited
Rm 1710, Technology Park,
18 On Lai Street, Shatin,
New Territories,
Hong Kong

BY EMAIL

Attn.: Mr. K.S Lee

Dear Sir,

**Contract No. KL/2015/02**
**Kai Tak Development –Stage 5A Infrastructure at Former North Apron**
**Verification of Monthly EM&A Report for September 2024**

We refer to your emails dated 7 October 2024 for the captioned report prepared by the ET.

We have no further comment and hereby verify the Report in accordance with Clause 3.3 of Environmental Permit no. EP-337/2009.

Should you require further information, please do not hesitate to contact the undersigned at 3565 4441.

Assuring you of our best attention at all times.

Yours faithfully,
For and on behalf of
FUGRO TECHNICAL SERVICES LIMITED

Calvin Leung
Independent Environmental Checker

CL/ ws/ ec

c.c. CEDD – Attn.: Mr. Ricky Chan
Attn.: Mr. Michael So
AECOM – Attn.: Mr. Vincent Lee
Attn.: Mr. Teddy Shih

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# EXECUTIVE SUMMARY

## Introduction

1. This is the 93rd Monthly Environmental Monitoring and Audit Report prepared by Cinotech Consultants Ltd. for "Contract No. KL/2015/02 - Kai Tak Development – Stage 5A Infrastructure at Former North Apron Area" (Hereafter referred to as "the Project"). This contract comprises one Schedule 2 designated project (DP), namely the new distributor road D1 serving the planned KTD. The DP is part of the designated project under Environmental Permit (EP) No.: EP-337/2009 ("New distributor roads serving the planned Kai Tak Development") respectively. This report documents the findings of EM&A Works conducted during September 2024.

2. With reference to the same principle of EIA report of the Project, air quality monitoring stations within 500m and noise monitoring stations within 300m from the boundary of this Project are considered as relevant monitoring locations. In such regard, the relevant air quality and noise monitoring locations are tabulated in **Table I** (see **Figure 2 and 3** for their locations).

**Table I – Air Quality and Noise Monitoring Stations for this Project**

| Locations | Monitoring Stations In accordance with EM&A Manual | Alternative Monitoring Stations |
|---|---|---|
| **Air Quality Monitoring Stations** | | |
| AM2 - Lee Kau Yan Memorial School | Yes (1-hour TSP) | N/A |
| | No (24-hour TSP) | AM2(A) – Ng Wah Catholic Secondary School |
| **Noise Monitoring Stations** | | |
| M3 - Cognitio College | No | M3(A) – The Bridge connecting The Latitude |
| M4 - Lee Kau Yan Memorial School | Yes | N/A |
| M5 – Nam Yuen | No | M5(C) – Mercy Grace's Home |

3. The major site activities undertaken in the reporting month included:

- Construction of Subway SW6 Lift LT2
- Trial Pit works at Road D1 Layby
- Construction of Road D1 footway

**Environmental Monitoring Works**

4. Environmental monitoring for the Project was performed in accordance with the EM&A Manual and the monitoring results were checked and reviewed. Site Inspections/Audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.

5. Summary of the non-compliance in the reporting month for the Project is tabulated in **Table II**.

**Table II Non-compliance Recorded for the Project in the Reporting Month**

| Parameter | No. of Project-related Exceedance | | Action Taken |
|---|---|---|---|
| | Action Level | Limit Level | |
| 1-hr TSP | 0 | 0 | N/A |
| 24-hr TSP | 0 | 0 | N/A |
| Noise | 0 | 0 | N/A |

*1-hour & 24-hour TSP Monitoring*

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

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

*Construction Noise Monitoring*

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

**Environmental Licenses and Permits**

9. Licenses/Permits granted to the Project include the Environmental Permit (EP) for the Project, EP-337/2009 issued on 23 April 2009. All valid Licenses/Permits for this Project are shown in **Table 6.1**.

- Billing Account for Construction Waste Disposal (A/C# 7026164).
- Effluent Discharge License (WT00041367-2022).
- Registration of Chemical Waste Producer (WPN5213-286-P3271-01).

**Key Information in the Reporting Month**

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

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

| Event | Event Details | | Action Taken | Status | Remark |
|---|---|---|---|---|---|
| | Number | Nature | | | |
| Complaint received | --- | --- | N/A | N/A | --- |
| Reporting Changes | --- | --- | N/A | N/A | --- |
| Notifications of any summons & prosecutions received | --- | --- | N/A | N/A | --- |

**Future Key Issues**

11. The future key environmental issues in the coming two months include:

- Stagnant water on the unused and damaged water-filled barriers & uncovered containers and manhole;
- Silt, construction materials or debris being washed through manhole into the drainage system
- Dust generation from excavation works, stockpile storage & rock breaking activities;
- Oil leakage from equipment and mobile plants;

# 1 INTRODUCTION

## Background

1.1. The Kai Tak Development (KTD) is located in the south-eastern part of Kowloon Peninsula, comprising the apron and runway areas of the former Kai Tak Airport and existing waterfront areas at To Kwa Wan, Ma Tau Kok, Kowloon Bay, Kwun Tong and Cha Kwo Ling. It covers a land area of about 328 hectares. Stage 5A Infrastructure at Former North Apron Area is one of the construction stages of KTD. It contains one Schedule 2 DP including new distributor roads serving the planned KTD. The general layout of the Project is shown in **Figure 1.**

1.2. An Environmental Permit (EP) No. EP-337/2009 was issued on 23 April 2009 for new distributor roads serving the planned KTD to Civil Engineering and Development Department as the Permit Holder.

1.3. A study of environmental impact assessment (EIA) was undertaken to consider the key issues of air quality, noise, water quality, waste, land contamination, cultural heritage and landscape and visual impact, and identify possible mitigation measures associated with the works. An EIA Report (Register No. AEIAR-130/2009) was approved by the Environmental Protection Department (EPD) on 4 April 2009.

1.4. Cinotech Consultants Limited (Cinotech) was commissioned by Civil Engineering and Development Department (CEDD) to undertake the role of the Environmental Team (ET) for the Contract No. KL/2015/02 – Stage 5A Infrastructure at Former North Apron Area. The construction work under KL/2015/02 comprises the construction of part of the Road D1 under the EP (EP-337/2009).

1.5. Cinotech Consultants Limited was commissioned by Civil Engineering and Development Department (CEDD) to undertake the Environmental Monitoring and Audit (EM&A) works for the Project. The commencement date of construction of Road D1 (part) under this Contract was on 16 January 2017.

## Project Organizations

1.6. Different parties with different levels of involvement in the project organization include:

- Project Proponent – Civil Engineering and Development Department (CEDD).
- The Engineer and the Engineer's Representative (ER) – AECOM Asia Co. Ltd (AECOM).
- Environmental Team (ET) – Cinotech Consultants Limited (Cinotech).
- Independent Environmental Checker (IEC) – Fugro Technical Services Limited (FTS).
- Contractor – Peako - Wo Hing Joint Venture (PWHJV).

1.7. The key contacts of the Project are shown in **Table 1.1**.

**Table 1.1 Key Project Contacts**

| Party | Role | Contact Person | Position | Phone No. | Fax No. |
|---|---|---|---|---|---|
| CEDD | Project Proponent | Mr. CHAN Wai Kit, Ricky | Senior Engineer | 3579 2452 | 2739 0076 |
| AECOM | Engineer's Representative | Mr. Vincent Lee | Senior Resident Engineer | 2798 0771 | 2210 6110 |
| Cinotech | Environmental Team | Mr. K.S Lee | Environmental Team Leader | 2151 2091 | 3107 1388 |
| | | Ms. Betty Choi | Audit Team Leader | 2151 2072 | |
| FTS | Independent Environmental Checker | Mr. Calvin Leung | Independent Environmental Checker | 3565 4441 | 2450 8032 |
| PWHJV | Contractor | Mr. W.M. Chen | Deputy Site Agent | 9736 4284 | 2398 8301 |

**Construction Activities undertaken during the Reporting Month**

1.8. The site activities undertaken in the reporting month included:

- Construction of Subway SW6 Lift LT2
- Trial Pit works at Road D1 Layby
- Construction of Road D1 footway

1.9. The construction programme for the Project is shown in **Appendix N**.

1.10. The construction programme showing the inter-relationship with environmental protection/mitigation measures are presented in **Table 1.2**.

**Table 1.2 Construction Programme Showing the Inter-Relationship with Environmental Protection/Mitigation Measures**

| Construction Works | Major Environmental Impact | Control Measures |
|---|---|---|
| Refer to Section 1.8 | Dust impact, water quality and waste generation | • Sufficient watering of the works site with active dust emitting activities;<br>• Properly cover the stockpiles by impervious materials;<br>• On-site waste sorting and implementation of trip ticket system<br>• Appropriate desilting/sedimentation devices provided on site for treatment before discharge;<br>• Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall;<br>• Provide drip trays with adequate capacity and well maintained to chemicals<br>• Provide sufficient mitigation measures as recommended in Approved EIA Report/Lease requirement. |

**Summary of EM&A Requirements**

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

- All monitoring parameters;
- Action and Limit levels for all environmental parameters;
- Event Action Plans;
- Environmental requirements and mitigation measures, as recommended in the EM&A Manual under the EP.

1.12. The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in Section 6 of this report.

1.13. This report presents the monitoring results, observations, locations, equipment, period, methodology and QA/QC procedures of the required monitoring parameters, namely air quality and noise levels and audit works for the Project during the reporting month.

# 2 AIR QUALITY

## Monitoring Requirements

2.1. According to EM&A Manual under the EP, 1-hour and 24-hour TSP monitoring were conducted to monitor the air quality for this Project. For regular impact monitoring, a sampling frequency of at least once in every six days at all of the monitoring stations for 24-hour TSP monitoring. For 1-hour TSP monitoring, the sampling frequency of at least three times in every six days shall be undertaken when the highest dust impact occurs. **Appendix A** shows the established Action/Limit Levels for the environmental monitoring works.

## Monitoring Locations

2.2. 1-hour TSP impact dust monitoring was conducted at the air quality monitoring station, AM2 - Lee Kau Yan Memorial School and 24-hour TSP impact dust monitoring were conducted at the air quality monitoring station, AM2(A) - Ng Wah Catholic Secondary School in the reporting month. No Action/Limit Level exceedance was recorded.

2.3. **Table 2.1** describes the air quality monitoring locations, which are also depicted in **Figure 2**.

**Table 2.1 Locations for Air Quality Monitoring**

| Monitoring Stations | Locations | Location of Measurement |
|---|---|---|
| AM2<br>(1-hour TSP) | Lee Kau Yan Memorial School | Rooftop (about 8/F) Area |
| AM2(A)<br>(24-hour TSP) | Ng Wah Catholic Secondary School | Rooftop (about 8/F) Area |

## Monitoring Equipment

2.4. **Table 2.2** summarizes the equipment used in the impact air monitoring programme. Copies of calibration certificates are attached in **Appendix B**.

**Table 2.2 Air Quality Monitoring Equipment**

| Equipment | Model and Make | Quantity |
|---|---|---|
| Calibrator | • TISCH TE-5025A | 1 |
| 1-hour TSP Dust Meter | • Sibata Scientific Technology LD-5R | 2 |
| HVS Sampler | • TE-5170 c/w of TSP sampling inlet | 1 |
| Wind Anemometer | • Davis Instruments 6152 | 1 |

**Monitoring Parameters, Frequency and Duration**

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

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

| Parameters | Frequency |
|---|---|
| 1-hr TSP | Three times / 6 days |
| 24-hr TSP | Once / 6 days |

**Monitoring Methodology and QA/QC Procedure**

*1-hour TSP Monitoring*

Measuring Procedures

2.6. The measuring procedures of the 1-hour dust meters were in accordance with the Manufacturer's Instruction Manual as follows:

*(Equipment: Sibata Scientific Technology; Model no. LD-5R)*

- The 1-hour dust meter is placed at least 1.3 meters above ground.
- Set POWER to "ON" and make sure that the battery level was not flash or in low level.
- Allow the instrument to stand for about 3 minutes and then the cap of the air sampling inlet has been released.
- Push the knob at MEASURE position.
- Set time/mode setting to [BG] by pushing the time setting switch. Then, start the background measurement by pushing the start/stop switch once. It will take 6 sec. to complete the background measurement.
- Push the time setting switch to change the time setting display to [MANUAL] at the bottom left of the liquid crystal display.
- Finally, push the start/stop switch to stop the measuring after 1 hour sampling.

- Information such as sampling date, time, count value and site condition were recorded during the monitoring period.

Maintenance/Calibration

2.7. The following maintenance/calibration was required for the direct dust meters:

Check the meter at a 3-month interval and calibrate the meter at a 1-year interval throughout all stages of the air quality monitoring.

*24-hour TSP Monitoring*

Instrumentation

2.8. High volume (HVS) samplers (Model TE-5170), completed with appropriate sampling inlets, were employed for 24-hour TSP monitoring. The sampler was composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complied with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50). Moreover, the HVS also met all the requirements in section 2.5 of the updated EM&A Manual.

Operating/Analytical Procedures

2.9. Operating/analytical procedures for the operation of HVS were as follows:

- A horizontal platform was provided with appropriate support to secure the samplers against gusty wind.
- No two samplers were placed less than 2 meters apart.
- The distance between the sampler and an obstacle, such as buildings, was at least twice the height that the obstacle protrudes above the sampler.
- A minimum of 2 meters of separation from walls, parapets and penthouses was required for rooftop samples.
- A minimum of 2 meters separation from any supporting structure, measured horizontally was required.
- No furnaces or incineration flues were nearby.
- Airflow around the sampler was unrestricted.
- The sampler was more than 20 meters from the drip line.
- Any wire fence and gate, to protect the sampler, should not cause any obstruction during monitoring.

2.10. Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 1.1 $m^3$/min. and 1.4 $m^3$/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.

2.11. For TSP sampling, fiberglass filters have a collection efficiency of > 99% for particles of 0.3μm diameter were used.

2.12. The power supply was checked to ensure the sampler worked properly. On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air monitoring station.

2.13. The filter holding frame was then removed by loosening the four nuts and a weighted and conditioned filter was carefully centered with the stamped number upwards, on a supporting screen.

2.14. The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.

2.15. The shelter lid was closed and secured with the aluminium strip.

2.16. The timer was then programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number).

2.17. After sampling, the filter was removed and sent to the HOKLAS laboratory (High Precision Chemical Testing Ltd.) for weighing. The elapsed time was also recorded.

2.18. Before weighing, all filters were equilibrated in a conditioning environment for 24 hours. The conditioning environment temperature should be between 25°C and 30°C and not vary by more than ±3°C; the relative humidity (RH) should be < 50% and not vary by more than ±5%. A convenient working RH is 40%.

Maintenance/Calibration

2.19. The following maintenance/calibration was required for the HVS:

- The high volume motors and their accessories were properly maintained. Appropriate maintenance such as routine motor brushes replacement and electrical wiring checking were made to ensure that the equipment and necessary power supply are in good working condition.
- High volume samplers were calibrated at bi-monthly intervals using TE-5025A Calibration Kit through\hout all stages of the air quality monitoring.

**Results and Observations**

2.20. All 1-hour & 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

2.21. The weather information for the reporting month is summarized in **Appendix C.**

2.22. The monitoring data and graphical presentations of 1-hour and 24-hour TSP monitoring results are shown in **Appendices E and F** respectively.

2.23. The summary of exceedance record in reporting month is shown in **Appendix H**. No exceedance was recorded for the air quality monitoring.

2.24. According to our field observations during the monitoring, the major dust source identified at the two designated air quality monitoring stations are road traffic dust, exposed site area and open stockpiles, excavation works and site vehicle movements.

2.25. The summary of 1-hour and 24-hour TSP air quality monitoring results during the reporting month are shown in **Appendix E** and **Appendix F** respectively.

# 3 NOISE

## Monitoring Requirements

3.1. According to EM&A Manuals under the EP, construction noise monitoring was conducted to monitor the construction noise arising from the construction activities within KTD. The regular monitoring frequency for each monitoring station shall be on a weekly basis and conduct one set of measurements between 0700 and 1900 hours on normal weekdays. **Appendix A** shows the established Action and Limit Levels for the environmental monitoring works.

## Monitoring Locations

3.2. Three designated monitoring stations were selected for noise monitoring programme. Noise monitoring was conducted at three designated monitoring stations (M3(A), M4, and M5(C)). **Figure 3** shows the locations of these stations.

**Table 3.1 Noise Monitoring Stations**

| Monitoring Stations | Locations | Location of Measurement |
|---|---|---|
| M3(A) | The Bridge connecting The Latitide | In the middle of the foot bridge connecting The Latitude |
| M4 | Lee Kau Yan Memorial School | Rooftop (about 7/F) Area |
| M5(C) | Mercy Grace's Home | Ground in front of the building entrance facing Prince Edward Road East (noise monitoring is not allowed on the rooftop from 27 February 2020, due to the coronavirus countermeasure in Mercy Grace's Home) |

## Monitoring Equipment

3.3. **Table 3.2** summarizes the noise monitoring equipment. Copies of calibration certificates are provided in **Appendix B**.

**Table 3.2 Noise Monitoring Equipment**

| Equipment | Model and Make | Qty. |
|---|---|---|
| Integrating Sound Level Meter | • BSWA Tech. 308 & SVAN 979 | 3 |
| Calibrator | • B&K 4231 | 1 |

**Monitoring Parameters, Frequency and Duration**

3.4. **Table 3.3** summarizes the monitoring parameters, frequency and total duration of monitoring. The noise monitoring schedule is shown in **Appendix D**.

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

| Monitoring Stations | Parameter | Period | Frequency | Measurement |
|---|---|---|---|---|
| M3(A)<br>M4<br>M5(C) | $L_{10}$(30 min.) dB(A)<br>$L_{90}$(30 min.) dB(A)<br>$L_{eq}$(30 min.) dB(A) | 0700-1900 hrs on normal weekdays | Once per week | Façade |

**Monitoring Methodology and QA/QC Procedures**

- The Sound Level Meter was set on a tripod at a height of 1.2 m above the ground.
- The battery condition was checked to ensure the correct functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
  - frequency weighting : A
  - time weighting : Fast
  - time measurement : 30 minutes
- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1.0 dB, the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
- The wind speed was frequently checked with the portable wind meter.
- At the end of the monitoring period, the $L_{eq}$, $L_{90}$ and $L_{10}$ were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- Noise measurement was paused temporarily during periods of high intrusive noise if possible and observation was recorded when intrusive noise was not avoided.
- Noise monitoring was cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s.

**Maintenance and Calibration**

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

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

3.7. Immediately prior to and following each noise measurement the accuracy of the sound level meter shall be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements may be accepted as valid only if the calibration levels from before and after the noise measurement agree to within 1.0 dB.

**Results and Observations**

3.8. All construction noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. The summary of exceedance record in reporting month is shown in **Appendix H**.

3.9. The baseline noise level and the Noise Limit Level at each designated noise monitoring station are presented in **Table 3.5**.

3.10. Noise monitoring results and graphical presentations are shown in **Appendix G**.

3.11. The major noise source identified at the designated noise monitoring stations are shown in **Table 3.4**.

**Table 3.4 Major Noise Source identified at the Designated Noise Monitoring Stations**

| Monitoring Stations | Locations | Major Noise Source |
|---|---|---|
| M3(A) | The Bridge connecting The Latitude | Traffic Noise<br>Site vehicle movement |
| M4 | Lee Kau Yan Memorial School | Traffic Noise<br>Site vehicle movement<br>Excavation works<br>Daily school activities |
| M5(C) | Mercy Grace's Home | Traffic Noise<br>Site vehicle movement |

**Table 3.5 Baseline Noise Level and Noise Limit Level for Monitoring Stations**

| Station | Baseline Noise Level, dB (A) | Noise Limit Level, dB (A) |
|---|---|---|
| M3(A) | N/A(1) (at 0700 – 1900 hrs on normal weekdays) | 75 (at 0700 – 1900 hrs on normal weekdays) |
| M4 | 76.7(2) (at 0700 – 1900 hrs on normal weekdays) | 70(*) (at 0700 – 1900 hrs on normal weekdays) |
| M5(C) | N/A(1) (at 0700 – 1900 hrs on normal weekdays) | 75 (at 0700 – 1900 hrs on normal weekdays) |

(*) Noise Limit Level is 65 dB(A) during school examination periods.
Note (1): The background Noise Level was recorded during the Lunch Hour of Construction Site (i.e. 12:00-13:00) and to be used as the referencing value for compliance checking for Noise Action and Limit Level.
Note (2): The noise level due to the construction work (CNL) was calculated by the following formula:

$$CNL = 10 \log (10^{MNL/10} – 10^{BNL/10})$$

Remarks: MNL = Measured Noise Level, BNL = Baseline Noise Level

# 4 COMPARISON OF EM&A RESULTS WITH EIA PREDICTIONS

4.1. The EM&A data was compared with the EIA predictions as summarized in **Tables 4.1** to **4.3**.

**Table 4.1 Comparison of 1-hr TSP data with EIA predictions**

| Station | Predicted 1-hr TSP conc. | | Measured 1-hr TSP conc. | |
|---|---|---|---|---|
| | Scenario1 (Mid 2009 to Mid-2013), µg/m³ | Scenario2 (Mid 2013 to Late 2016), µg/m³ | Reporting Month (September 2024), µg/m³ | |
| | | | Average | Range |
| AM2 – Lee Kau Yan Memorial School | 290 | 312 | 63.1 | 16.2 – 199.5 |

**Table 4.2 Comparison of 24-hr TSP data with EIA predictions**

| Station | Predicted 24-hr TSP conc. | | Measured 24-hr TSP conc. | |
|---|---|---|---|---|
| | Scenario1 (Mid 2009 to Mid-2013), µg/m³ | Scenario2 (Mid 2013 to Late 2016), µg/m³ | Reporting Month (September 2024), µg/m³ | |
| | | | Average | Range |
| AM2(A) – Ng Wah Catholic Secondary School | 145 | 169 | 38.1 | 8.6 – 72.6 |

**Table 4.3 Comparison of Noise Monitoring Data with EIA predictions**

| Stations | Predicted Mitigated Construction Noise Levels during Normal Working Hour ($L_{eq\ (30min)}$ dB(A)) | Reporting Month (September 2024), $L_{eq\ (30min)}$ dB(A) |
|---|---|---|
| M3(A) – The Bridge connecting The Latitude | Not predicted in EIA Report | 55.4 – 72.5 (2) |
| M4 – Lee Kau Yan Memorial School | 47 – 74 | 72.8 – 76.0(1) |
| M5(C) – Mercy Grace's Home | Not predicted in EIA Report | 60.4 – 76.8(2) |

Remarks:
(1) Since the baseline noise level was higher than those recorded during the construction period, the recorded noise levels were considered non-valid exceedance of Noise Limit Level.
(2) Since the background noise level was higher than those recorded during the construction period, the recorded noise levels were considered non-valid exceedance of Noise Limit Level.

4.2. The average 1-hour TSP concentrations at AM2 in the reporting month were below the prediction in the approved Environmental Impact Assessment (EIA) Report.

4.3. The average 24-hour TSP concentrations at AM2(A) in the reporting month were below the prediction in the approved EIA Report.

4.4. The noise monitoring results in the reporting month from M4 were slightly higher than the range of the predicted mitigated constriction noise levels in the EIA Report.

4.5. Construction noise levels at M3(A) and M5(C) were not predicted in EIA Report.

# 5 LANDSCAPE AND VISUAL

## Monitoring Requirements

5.1. According to EM&A Manual of the Kai Tak Development EIA Study, ET shall monitor and audit the contractor's operation during the construction period on a weekly basis, and to report on the contractor's compliance.

## Results and Observations

5.2. Site audits were conducted on a weekly basis to monitor the timely implementation of landscape and visual mitigation measures within the site boundaries of this Project. The summaries of site audits are attached in **Appendix I**.

5.3. No non-compliance of the landscape and visual impact was recorded in the reporting month.

5.4. Should non-compliance of the landscape and visual impact occur, action in accordance with the action plan presented in **Appendix J** shall be performed.

# 6 ENVIRONMENTAL INSPECTION

## Site Inspections

6.1. Site inspections were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. The summaries of site inspections are attached in **Appendix I**.

6.2. Site inspections were conducted on 02, 11, 20 & 23 September 2024 in the reporting month. A joint site inspection with the representative of IEC, ER, the Contractor and the ET was conducted on 20 September 2024. The details of the observations during site inspection are summarized in **Table 6.2**.

## Review of Environmental Monitoring Procedures

6.3. The monitoring works conducted by the monitoring team were inspected regularly. The following observations have been recorded for the monitoring works:

*Air Quality Monitoring*

- The monitoring team recorded all observations around the monitoring stations within and outside the construction site.
- The monitoring team recorded the temperature and weather conditions on the monitoring days.

*Noise Monitoring*

- The monitoring team recorded all observations around the monitoring stations, which might affect the monitoring result.
- Major noise sources were identified and recorded. Other intrusive noise attributing to the result was trimmed off by pausing the monitoring temporarily.

## Status of Environmental Licensing and Permitting

6.4. All permits/licenses obtained for the Project are summarized in **Table 6.1**.

**Table 6.1 Summary of Environmental Licensing and Permit Status**

| Permit No. | Valid Period | | Status |
|---|---|---|---|
| | From | To | |
| **Environmental Permit (EP)** | | | |
| EP-337/2009 | 23 Apr 2009 | N/A | Valid |
| **Effluent Discharge License** | | | |
| WT00027495-2017 | 28 Mar 2017 | 31 Mar 2022 | Expired |
| WT00041367-2022 | 20 Jun 2022 | 31 Mar 2027 | Valid |
| **Billing Account for Construction Waste Disposal** | | | |
| A/C# 7026164 | 20 Oct 2016 | N/A | Valid |
| **Registration of Chemical Waste Producer** | | | |
| WPN5213-229-P3271-01 | 14 Aug 2017 | N/A | Valid |
| **Construction Noise Permit (CNP)** | | | |
| GW-RE0915-19 | 08 Nov 2019 | 04 May 2020 | Expired |
| GW-RE0984-19 | 15 Dec 2019 | 24 Feb 2020 | Expired |
| GW-RE0083-20 | 01 Mar 2020 | 01 June 2020 | Expired |
| GW-RE0266-20 | 02 May 2020 | 31 Jul 2020 | Expired |
| GW-RE0779-21 | 30 Jul 2021 | 30 Nov 2021 | Expired |
| GW-RE0858-21 | 31 Jul 2021 | 30 Aug 2021 | Expired |
| GW-RE0636-23 | 06 Jun 2023 | 30 Jun 2023 | Expired |
| GW-RE0637-23 | 06 Jun 2023 | 30 Jun 2023 | Expired |

### Status of Waste Management

6.5. The amount of wastes generated by the major site activities of this Project during the reporting month is shown in **Appendix M**.

### Implementation Status of Environmental Mitigation Measures

6.6. During site inspections in the reporting month, no non-conformance was identified. ET weekly site inspections were carried out during the reporting month and the observations and recommendations are summarized in **Table 6.2**.

**Table 6.2 Observations and Recommendations of Site Inspections**

| Parameters | Date | Observations and Recommendations | Follow-up/Rectification |
|---|---|---|---|
| ***Water Quality*** | N/A | No environmental deficiency was identified in the reporting period. | N/A |
| ***Air Quality*** | N/A | No environmental deficiency was identified in the reporting period. | N/A |
| ***Noise*** | N/A | No environmental deficiency was identified in the reporting period. | N/A |
| ***Waste/ Chemical Management*** | N/A | No environmental deficiency was identified in the reporting period. | N/A |
| ***Landscape and Visual*** | N/A | No environmental deficiency was identified in the reporting period. | N/A |
| ***Permits/ Licenses*** | N/A | No environmental deficiency was identified in the reporting period. | N/A |

**Summary of Mitigation Measures Implemented**

6.7. An updated summary of the EMIS is provided in **Appendix K**.

**Implementation Status of Event Action Plans**

6.8. The Event Action Plans for air quality, noise and landscape and visual are presented in **Appendix J**.

1-hr TSP Monitoring

6.9. No Action/Limit Level exceedance was recorded in the reporting month.

24-hr TSP Monitoring

6.10 No Action/Limit Level exceedance was recorded in the reporting month.

Construction Noise

6.11. No Action/Limit Level exceedance was recorded in the reporting month.

Landscape and visual

6.12. No non-compliance was recorded in the reporting month.

**Summary of Complaint, Warning, Notification of any Summons and Successful Prosecution**

6.13. The summaries of environmental complaint, warning, summon and notification of successful prosecution for the Project is presented in **Appendix L**.

# 7 FUTURE KEY ISSUES

7.1. Major site activities undertaken for the coming two months include:

- Backfilling works of Subway SW6
- Construction of Road D1 footway
- Reinstatement work of beam barrier and light post near PERE
- Construction of Layby

7.2. Key environmental issues in the coming month include:

- Stagnant water on the unused and damaged water-filled barriers & uncovered containers and manhole
  Silt, construction materials or debris being washed through manhole into the drainage system
- Dust generation from excavation works, stockpile and rock breaking activities;
- Oil leakage from equipment and mobile plants;

7.3. The tentative major site activities is mentioned in Section 7.1 of this report. The impact prediction and control measures for the coming two months are summarized as follows:

Air quality impact (dust)

- Frequent watering of haul road and unpaved/exposed areas;
- Frequent watering or covering stockpiles with impervious materials or maintained wet; and
- Watering of any earth moving activities.

Water quality impact (surface runoff)

- Diversion of the collected effluent to de-silting facilities for treatment prior to discharge to public storm water drains;
- Provision of adequate de-silting facilities for treating surface run-off and other collected effluents prior to discharge;
- Provision of perimeter protection such as sealing of hoarding footings to avoid run-off from entering the existing storm water drainage system via public road; and

Noise Impact

- Machines and Plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum;
- Regular maintenance of machines; and
- Use of movable noise barriers if necessary.

Waste /Chemical Management

- Avoided oil leakage from PME
- Provided drip tray with adequate capacity and well maintained to chemical and oil containers

**Monitoring Schedule for Next Month**

7.4. The tentative environmental monitoring schedules for next month are shown in **Appendix D**.

# 8 CONCLUSIONS AND RECOMMENDATIONS

## Conclusions

8.1. Environmental monitoring works were performed in the reporting month and all monitoring results were checked and reviewed.

1-hr TSP Monitoring

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

24-hr TSP Monitoring

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

Construction Noise Monitoring

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

Landscape and visual

8.5. No non-compliance was recorded in the reporting month.

Complaint and Prosecution

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

**Recommendations**

8.7. According to the environmental audit performed in the reporting month, the following recommendations were made:

*Water Impact*

- To avoid accumulation of stagnant and ponding water on site.
- Bunds should be provided to surrounding areas of earthworks for flood protection.
- Temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and the temporary stockpile of construction materials should be located well away from any water courses during carrying out of the construction works
- Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers.
- All vehicles and plant should be cleaned of earth, mud and debris before leaving the site.

*Air Quality*

- The stockpile of dusty material should be covered by impervious materials or maintained wet.
- Water spraying should be provided during the rock-breaking activities conducted to minimize the dust generation.

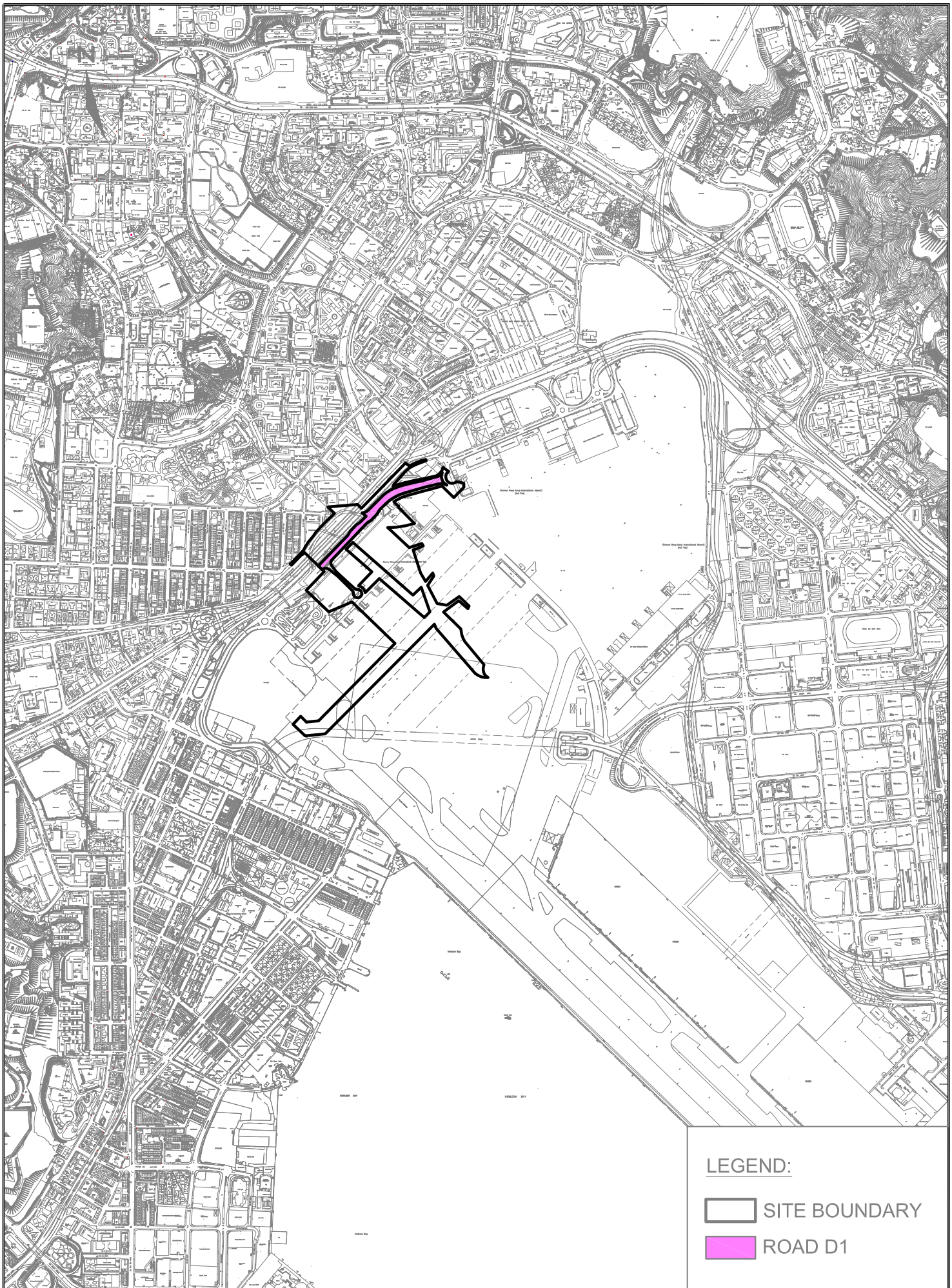
*Construction Noise Impact*

- Movable noise barriers enclosed with no gaps constantly should be provided to enclose the mobile plant.
- The breaking area should provide noise mitigation measures to screen the noisy plant.

*Waste/Chemical Management*

- Oil leakage from PME should be avoided.
- Drip tray with adequate capacity and well maintained should be provided to chemical & oil container.
- The construction/chemical material should be stored at the proper place.

# FIGURES

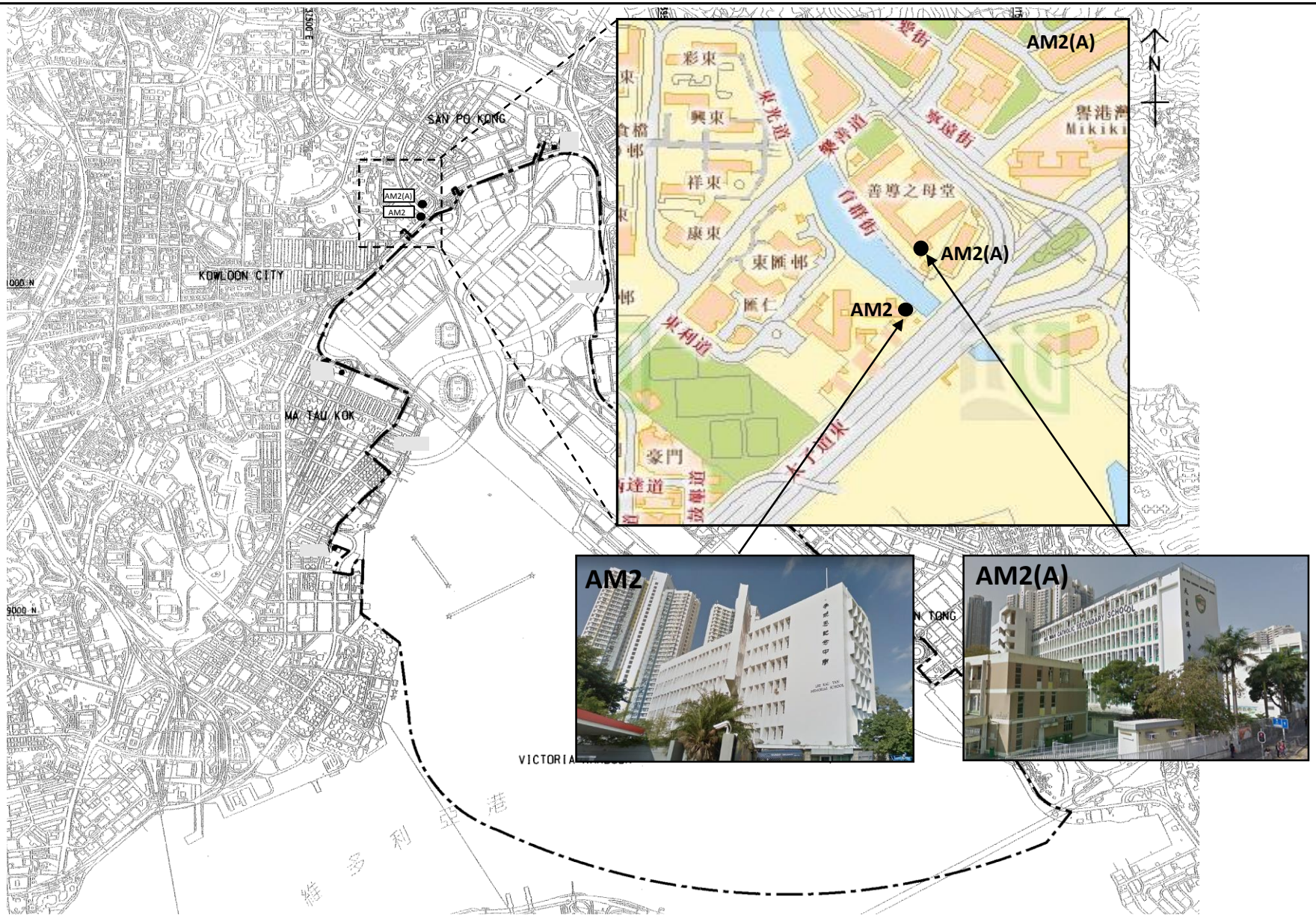



CINOTECH
Cinotech Consultants Limited

KL/2015/02 KAI TAK - STAGE 5A INFRASTRUCTURE AT FORMER NORTH APRON AREA

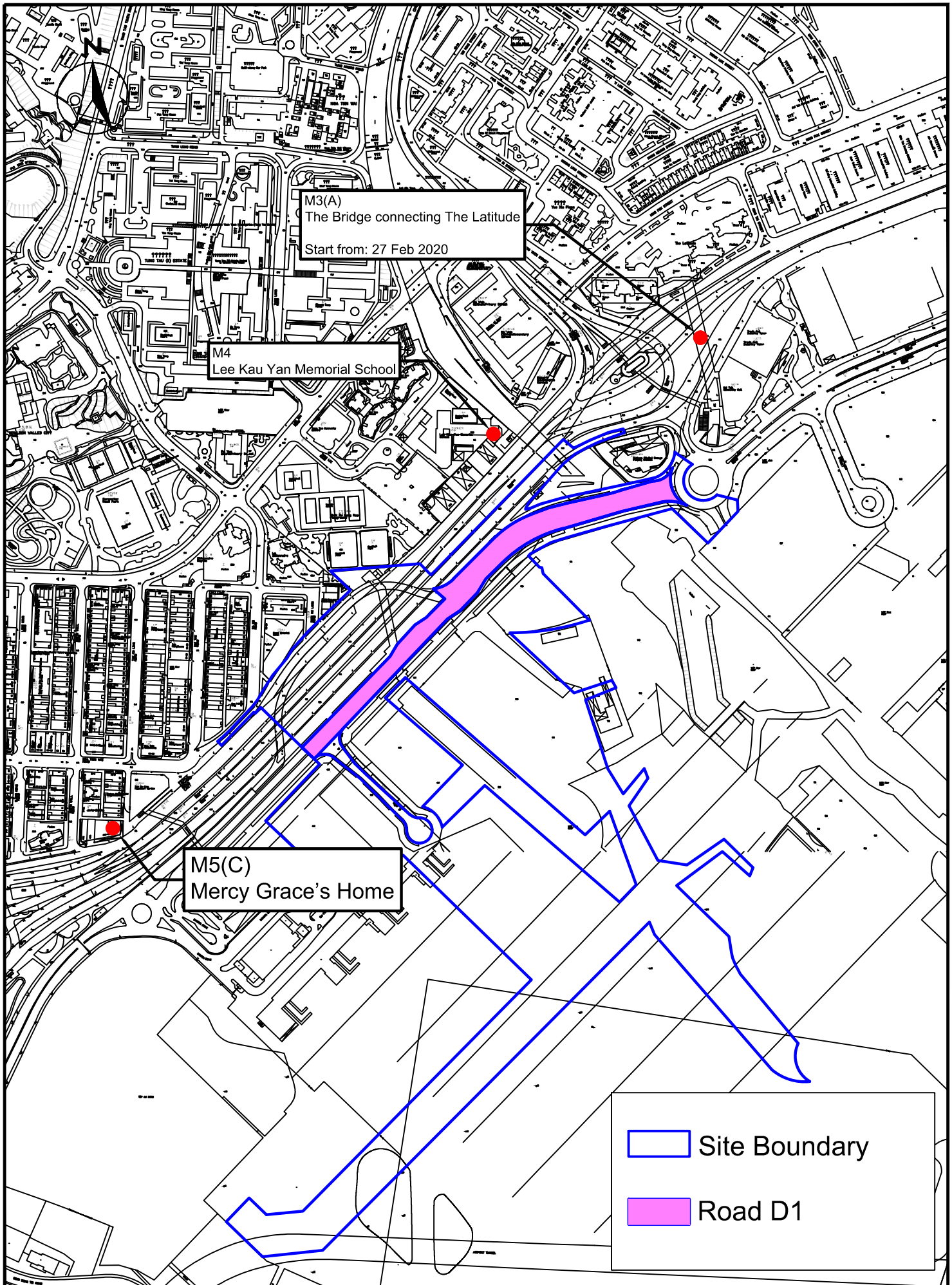
SITE LAYOUT PLAN

| | | | |
|---|---|---|---|
| SCALE | 1:1500@A4 | DATE | DEC 2016 |
| CHECK | KC | DRAWN | JW |
| JOB No. | MA16043 | FIGURE NO. 1 | REV - |




| | | | |
|---|---|---|---|
| Title | Contract No. KLN/2016/04<br>Environmental Monitoring Works for Contract No. KL/2015/02<br>Kai Tak Development – Stage 5A Infrastructure at Former North Apron Area<br>Location of Air Quality Monitoring Stations | Scale: N.T.S<br>Date: Aug-17 | Project No.: MA16043<br>Figure: 2 |

CINOTECH

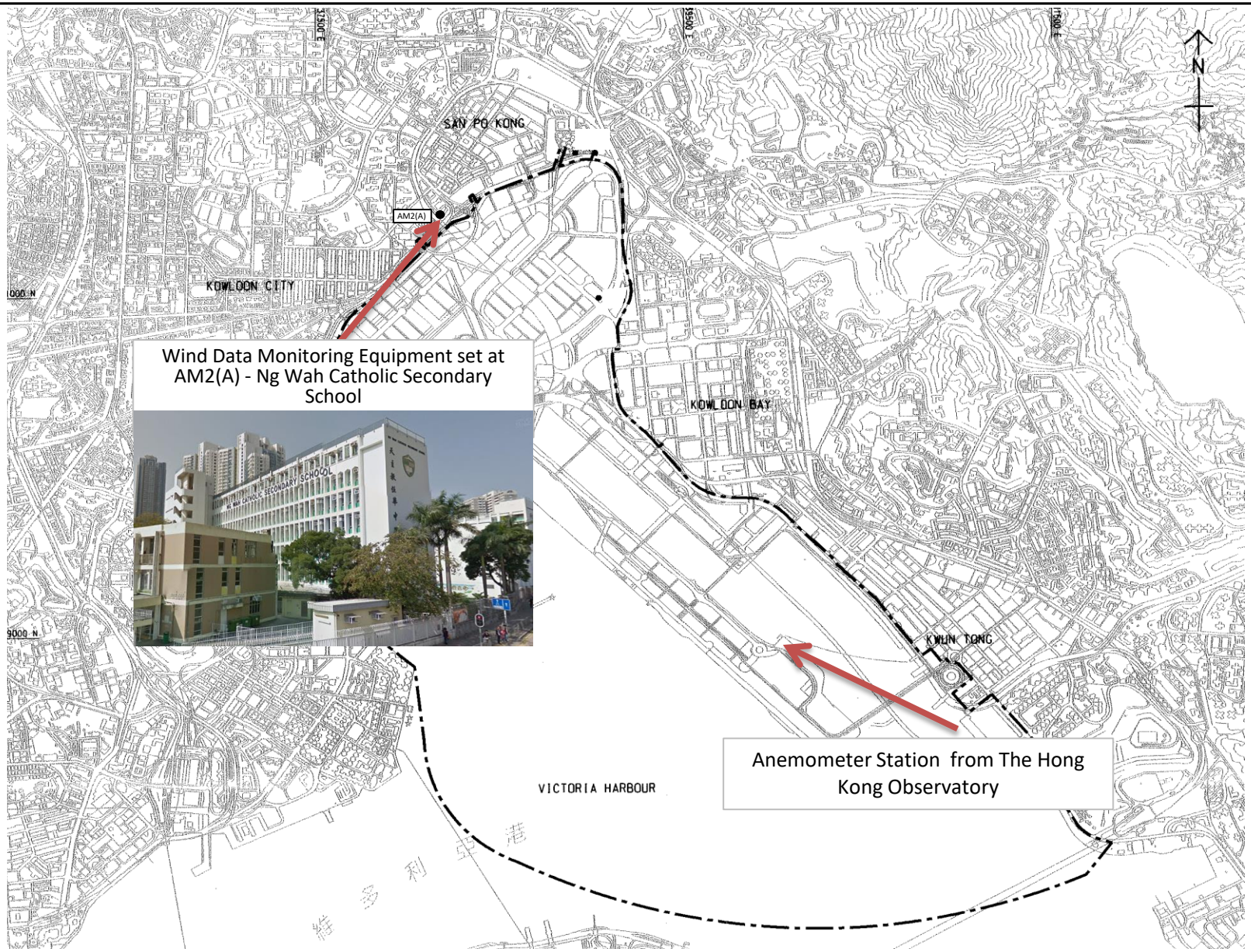



CINOTECH
Cinotech Consultants Limited

KL/2015/02 KAI TAK - STAGE 5A INFRASTRUCTURE AT FORMER NORTH APRON AREA

Location of Noise Monitoring Station

| | | | |
|---|---|---|---|
| SCALE | 1:5000@A4 | DATE | Mar 2020 |
| CHECK | KC | DRAWN | CC |
| JOB No. | MA16043 | FIGURE NO. 3 | REV - |




| | | | |
|---|---|---|---|
| Title | Contract No. KLN/2016/04<br>Environmental Monitoring Works for Contract No. KL/2015/02<br>Kai Tak Development –Stage 5A Infrastructure at Former North Apron Area<br>Location of Wind Data Monitoring Equipment | Scale: N.T.S<br>Date: Aug-17 | Project No.: MA16043<br>Figure: 4 |

CINOTECH

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

# Appendix A - Action and Limit Levels

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

| Location | Action Level, $\mu g/m^3$ | Limit Level, $\mu g/m^3$ |
|---|---|---|
| AM2 | 346 | 500 |

**Table A-2 Action and Limit Levels for 24-Hour TSP**

| Location | Action Level, $\mu g/m^3$ | Limit Level, $\mu g/m^3$ |
|---|---|---|
| AM2(A) | 157 | 260 |

**Table A-3 Action and Limit Levels for Construction Noise**

| Time Period | Action Level | Limit Level |
|---|---|---|
| 0700-1900 hrs on normal weekdays | When one documented complaint is received | 75 dB(A)<br>70dB(A)/65dB(A)* |

Remarks: If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed. *70dB(A) and 65dB(A) for schools during normal teaching periods and school examination periods, respectively.

**APPENDIX B-1**
**COPIES OF CALIBRATION**
**CERTIFCATES (AIR)**

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET

File No. MA16043/13/0043

Project No. AM2(A) - Ng Wah Catholic Secondary School

Date: 6-Jul-24 Next Due Date: 6-Sep-24 Operator: SK

Equipment No.: A-01-13 Model No.: TE-5170 Serial No. 1352

| Ambient Condition | | | |
|---|---|---|---|
| Temperature, Ta (K) | 303.8 | Pressure, Pa (mmHg) | 756.2 |

| Orifice Transfer Standard Information | | | | | |
|---|---|---|---|---|---|
| Serial No. | 3864 | Slope, mc | 0.05976 | Intercept, bc | -0.05018 |
| Last Calibration Date: | 15-Jan-24 | **mc x Qstd + bc = [ΔH x (Pa/760) x (298/Ta)]$^{1/2}$** | | | |
| Next Calibration Date: | 14-Jan-25 | **Qstd = {[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$ -bc} / mc** | | | |

.

| Calibration of TSP Sampler | | | | | |
|---|---|---|---|---|---|
| Calibration Point | Orfice | | | HVS | |
| | DH (orifice), in. of water | [DH x (Pa/760) x (298/Ta)]$^{1/2}$ | Qstd (CFM) **X - axis** | DW (HVS), in. of water | [ΔW x (Pa/760) x (298/Ta)]$^{1/2}$ **Y-axis** |
| 1 | 13.5 | 3.63 | 61.58 | 9.8 | 3.09 |
| 2 | 11.0 | 3.28 | 55.67 | 7.5 | 2.71 |
| 3 | 8.8 | 2.93 | 49.88 | 5.3 | 2.27 |
| 4 | 5.5 | 2.32 | 39.61 | 3.2 | 1.77 |
| 5 | 3.3 | 1.79 | 30.87 | 1.8 | 1.33 |

**By Linear Regression of Y on X**

**Slope , mw =** **0.0572** **Intercept, bw =** **-0.4829**

**Correlation coefficient* =** **0.9965**

*If Correlation Coefficient < 0.990, check and recalibrate.

**Set Point Calculation**

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

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

**mw x Qstd + bw = [ΔW x (Pa/760) x (298/Ta)]$^{1/2}$**

Therefore, Set Point; W = ( mw x Qstd + bw )$^2$ x ( 760 / Pa ) x ( Ta / 298 ) = **4.00**

Remarks:

Conducted by: Wong Shing Kwai Signature: Date: 6-Jul-24

Checked by: Henry Leung Signature: Date: 6-Jul-24

# CINOTECH CONSULTANTS LIMITED

## Certificate of Calibration

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler

Description: Digital Dust Indicator — Date of Calibration: 31-Jul-24

Manufacturer: Sibata Scientific Technology LTD. — Validity of Calibration Record: 30-Sep-24

Model No.: LD-5R

Serial No.: 8Y2374

Equipment No.: SA-01-04 — Sensitivity: 0.001 mg/m3

High Volume Sampler No.: A-01-03 — Before Sensitivity Adjustment: 652

Tisch Calibration Orifice No.: 3864 — After Sensitivity Adjustment: 652

| **Calibration of 1 hr TSP** | | |
|---|---|---|
| Calibration Point | **Laser Dust Monitor** | **HVS** |
| | Mass Concentration (µg/m3) **X-axis** | Mass concentration (µg/m$^3$) **Y-axis** |
| 1 | 76.0 | 138.0 |
| 2 | 66.0 | 121.0 |
| 3 | 56.0 | 102.0 |
| **Average** | **66.0** | **120.3** |

**By Linear Regression of Y on X**

**Slope , mw =** **1.8000** **Intercept, bw =** **1.5333**

**Correlation coefficient* =** **0.9995**

| **Set Correlation Factor** | |
|---|---|
| Particaulate Concentration by High Volume Sampler (µg/m$^3$) | 120.3 |
| Particaulate Concentration by Dust Meter (µg/m$^3$) | 66.0 |
| Measureing time, (min) | 60.0 |
| Set Correlation Factor , SCF | |
| **SCF = [ K=High Volume Sampler / Dust Meter, (µg/m3) ]** | **1.8** |

In-house method in according to the instruction manual:

The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

**Those filter papers are weighted by HOKLAS laboratory (HPCT Litimed)**

Calibrated by: _____

Technical Officer (Wong Shing Kwai)

Approved by: _____

Project Manager (Henry Leung)

# CINOTECH CONSULTANTS LIMITED

## Certificate of Calibration

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler

Description: Digital Dust Indicator — Date of Calibration 31-Jul-24

Manufacturer: Sibata Scientific Technology LTD. — Validity of Calibration Record 30-Sep-24

Model No.: LD-5R

Serial No.: 972777

Equipment No.: SA-01-06 — Sensitivity 0.001 mg/m3

High Volume Sampler No.: A-01-03 — Before Sensitivity Adjustment 645

Tisch Calibration Orifice No.: 3864 — After Sensitivity Adjustment 645

| Calibration of 1 hr TSP | | |
|---|---|---|
| Calibration Point | **Laser Dust Monitor** | **HVS** |
| | Mass Concentration (µg/m3) **X-axis** | Mass concentration (µg/m$^3$) **Y-axis** |
| 1 | 76.0 | 137.0 |
| 2 | 66.0 | 118.0 |
| 3 | 56.0 | 100.0 |
| **Average** | **66.0** | **118.3** |

**By Linear Regression of Y on X**

**Slope , mw =** **1.8500** **Intercept, bw =** **-3.7667**

**Correlation coefficient* =** **0.9999**

| Set Correlation Factor | |
|---|---|
| Particaulate Concentration by High Volume Sampler (µg/m$^3$) | 118.3 |
| Particaulate Concentration by Dust Meter (µg/m$^3$) | 66.0 |
| Measureing time, (min) | 60.0 |

Set Correlation Factor , SCF

**SCF = [ K=High Volume Sampler / Dust Meter, (µg/m3) ]** **1.8**

In-house method in according to the instruction manual:

The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

**Those filter papers are weighted by HOKLAS laboratory (HPCT Litimed)**

Calibrated by: _____

Technical Officer (Wong Shing Kwai)

Approved by: _____

Project Manager (Henry Leung)

TISCH Environmental

| RECALIBRATION DUE DATE: |
|---|
| January 15, 2025 |

# Certificate of Calibration

| Calibration Certification Information | | | | | |
|---|---|---|---|---|---|
| **Cal. Date:** | January 15, 2024 | **Rootsmeter S/N:** 438320 | **Ta:** 294 | °K | |
| **Operator:** | Jim Tisch | | **Pa:** 755.4 | mm Hg | |
| **Calibration Model #:** | TE-5025A | **Calibrator S/N:** **3864** | | | |

| Run | Vol. Init (m3) | Vol. Final (m3) | ΔVol. (m3) | ΔTime (min) | ΔP (mm Hg) | ΔH (in H2O) |
|---|---|---|---|---|---|---|
| 1 | 1 | 2 | 1 | 1.4380 | 3.3 | 2.00 |
| 2 | 3 | 4 | 1 | 1.0270 | 6.4 | 4.00 |
| 3 | 5 | 6 | 1 | 0.9180 | 8.0 | 5.00 |
| 4 | 7 | 8 | 1 | 0.8750 | 8.9 | 5.50 |
| 5 | 9 | 10 | 1 | 0.7230 | 12.9 | 8.00 |

**Data Tabulation**

| Vstd (m3) | Qstd (x-axis) | $\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis) | Va | Qa (x-axis) | $\sqrt{\Delta H(Ta/Pa)}$ (y-axis) |
|---|---|---|---|---|---|
| 1.0031 | 0.6975 | 1.4195 | 0.9956 | 0.6924 | 0.8823 |
| 0.9989 | 0.9727 | 2.0075 | 0.9915 | 0.9655 | 1.2477 |
| 0.9968 | 1.0858 | 2.2444 | 0.9894 | 1.0778 | 1.3950 |
| 0.9956 | 1.1378 | 2.3539 | 0.9882 | 1.1294 | 1.4631 |
| 0.9903 | 1.3697 | 2.8390 | 0.9829 | 1.3595 | 1.7645 |
| **QSTD** | **m=** | **2.11196** | **QA** | **m=** | **1.32248** |
| | **b=** | **-0.05043** | | **b=** | **-0.03134** |
| | **r=** | **0.99998** | | **r=** | **0.99998** |

**Calculations**

| | | | |
|---|---|---|---|
| **Vstd=** | ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta) | **Va=** | ΔVol((Pa-ΔP)/Pa) |
| **Qstd=** | Vstd/ΔTime | **Qa=** | Va/ΔTime |

**For subsequent flow rate calculations:**

**Qstd=** $1/m\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right)-b\right)$

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

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

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

**RECALIBRATION**

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

Tisch Environmental, Inc.
145 South Miami Avenue
Village of Cleves, OH 45002

www.tisch-env.com
TOLL FREE: (877)263-7610
FAX: (513)467-9009

# Certificate of Calibration - Wind Monitoring Station

| | |
|---|---|
| Description: | Ng Wah Catholic Seconday School - Weather Stations |
| Manufacturer: | Davis Instruments |
| Model No.: | Davis 6152, Vantage Pro2 |
| Serial No.: | BC180522050 |
| Equipment No.: | SA-03-03 |
| Date of Calibration | 5-Apr-2024 |
| Next Due Date | 5-Oct-2024 |

1. Performance check of Wind Speed

| Wind Speed, m/s | | Difference D (m/s) |
|---|---|---|
| Wind Speed Reading (V1) | Anemometer Value (V1) | D = V1 – V2 |
| 0.0 | 0.0 | 0.0 |
| 1.5 | 1.5 | 0.0 |
| 2.5 | 2.6 | -0.1 |
| 4.0 | 4.1 | -0.1 |

2. Performance check of Wind Direction

| Wind Direction ($^{o}$) | | Difference D ($^{o}$) |
|---|---|---|
| Wind Direction Reading (V1) | Marine Compass Value (V1) | D = W1 - W2 |
| 0 | 0 | 0.0 |
| 90 | 90 | 0.0 |
| 180 | 180 | 0.0 |
| 270 | 270 | 0.0 |

**Test Specification:**

**1. Performance Wind Speed Test - The wind meter was on-site calibrated against the anemometer**

**2. Performance Wind Direction Test - The wind meter was on-site calibrated against the marine compass at four direction**

Calibrated by: _____ Wong Shing Kwai

Approved by: _____ Henry Leung

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET

File No. MA16043/13/0044

Project No. AM2(A) - Ng Wah Catholic Secondary School

Date: 6-Sep-24 Next Due Date: 6-Nov-24 Operator: SK

Equipment No.: A-01-13 Model No.: TE-5170 Serial No. 1352

| Ambient Condition | | | |
|---|---|---|---|
| Temperature, Ta (K) | 300.6 | Pressure, Pa (mmHg) | 751.3 |

| Orifice Transfer Standard Information | | | | | |
|---|---|---|---|---|---|
| Serial No. | 3864 | Slope, mc | 0.05976 | Intercept, bc | -0.05018 |
| Last Calibration Date: | 15-Jan-24 | **mc x Qstd + bc = [ΔH x (Pa/760) x (298/Ta)]$^{1/2}$** | | | |
| Next Calibration Date: | 14-Jan-25 | **Qstd = {[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$ -bc} / mc** | | | |

.

| Calibration of TSP Sampler | | | | | |
|---|---|---|---|---|---|
| Calibration Point | Orfice | | | HVS | |
| | DH (orifice), in. of water | [DH x (Pa/760) x (298/Ta)]$^{1/2}$ | Qstd (CFM) **X - axis** | DW (HVS), in. of water | [ΔW x (Pa/760) x (298/Ta)]$^{1/2}$ **Y-axis** |
| 1 | 13.6 | 3.65 | 61.93 | 9.7 | 3.08 |
| 2 | 11.1 | 3.30 | 56.03 | 7.4 | 2.69 |
| 3 | 8.8 | 2.94 | 49.98 | 5.2 | 2.26 |
| 4 | 5.6 | 2.34 | 40.04 | 3.2 | 1.77 |
| 5 | 3.4 | 1.83 | 31.38 | 1.8 | 1.33 |

**By Linear Regression of Y on X**

**Slope , mw =** **0.0570** **Intercept, bw =** **-0.5016**

**Correlation coefficient* =** **0.9967**

*If Correlation Coefficient < 0.990, check and recalibrate.

**Set Point Calculation**

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

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

**mw x Qstd + bw = [ΔW x (Pa/760) x (298/Ta)]$^{1/2}$**

Therefore, Set Point; W = ( mw x Qstd + bw )$^2$ x ( 760 / Pa ) x ( Ta / 298 ) = **3.88**

Remarks:

Conducted by: Wong Shing Kwai Signature: Date: 6-Sep-24

Checked by: Henry Leung Signature: Date: 6-Sep-24

**APPENDIX B-2**
**COPIES OF CALIBRATION CERTIFCATES (NOISE)**

**High Precision Chemical Testing Ltd.**
Rm 1904, Technology Park
18 On Lai Street, Shatin
NT, Hong Kong
Tel: +852 3841 4388 Website: https://www.hpct.com.hk

Report No. : 00568 Issue Date : 14 Feb 2024
Application No. : HP00436

# Certificate of Calibration

Applicant : Cinotech Consultants Limited
RM 1710, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Sample Description : Submitted equipment stated to be Integrating Sound Level Meter.

Equipment No.: : N-12-03

Manufacturer: : BSWA Technology

Other information :

| | |
|---|---|
| Model No. | BSWA 308 |
| Serial No. | 570188 |
| Microphone No. | 570608 |

Date Received : 05 Feb 2024

Test Period : 07 Feb 2024 to 07 Feb 2024

Test Requested : Performance checking for Sound Level Meter

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

Test conditions : Room Temperature: 22-25 degree Celsius
Relative Humidity: 35-70%

Test Result : Refer to the test result(s) on page 2.

**Remark : 1. Information of the sample description provided by the Applicant.**
**2. The result(s) relate only to the items tested or calibrated.**

***For and on behalf of***
***HIGH PRECISION CHEMICAL TESTING LIMITED***

Lee Wai Kit
Laboratory Manager

**High Precision Chemical Testing Ltd.**
Rm 1904, Technology Park
18 On Lai Street, Shatin
NT, Hong Kong
Tel: +852 3841 4388 Website: https://www.hpct.com.hk

Report No. : 00568 Issue Date : 14 Feb 2024
Application No. : HP00436

# Certificate of Calibration

Measuring equipment :

| | |
|---|---|
| Description | Sound Calibrator |
| Manufacturer | Brüel & Kjær |
| Model No. | TYPE 4231 |
| Serial No. | 2326353 |
| Equipment No. | N-02-01 |

Test Result :

| Reference value, dB | Indication value, dB | Deviation, dB | Allowed deviation, dB |
|---|---|---|---|
| 94.0 | 94.0 | ± 0.0 | ± 1.5 |
| 114.0 | 113.9 | - 0.1 | ± 1.5 |

**Note : 1. "Instrument Readings" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.**
**2. The indication value was obtained from the average of ten replicated measurement.**

- End of report -

**High Precision Chemical Testing Ltd.**
Rm 1904, Technology Park
18 On Lai Street, Shatin
NT, Hong Kong
Tel: +852 3841 4388 Website: https://www.hpct.com.hk

Report No. : 00648 Issue Date : 11 Apr 2024
Application No. : HP00515

# Certificate of Calibration

Applicant : Cinotech Consultants Limited
RM 1710, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Sample Description : Submitted equipment stated to be Integrating Sound Level Meter.

Equipment No.: : N-12-05

Manufacturer: : BSWA Technology

Other information :

| | |
|---|---|
| Model No. | BSWA 308 |
| Serial No. | 580287 |
| Microphone No. | 570610 |

Date Received : 09 Apr 2024

Test Period : 09 Apr 2024 to 09 Apr 2024

Test Requested : Performance checking for Sound Level Meter

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

Test conditions : Room Temperature: 22-25 degree Celsius
Relative Humidity: 35-70%

Test Result : Refer to the test result(s) on page 2.

**Remark : 1. Information of the sample description provided by the Applicant.**
**2. The result(s) relate only to the items tested or calibrated.**

***For and on behalf of***
***HIGH PRECISION CHEMICAL TESTING LIMITED***

Lee Wai Kit
Laboratory Manager

**High Precision Chemical Testing Ltd.**
Rm 1904, Technology Park
18 On Lai Street, Shatin
NT, Hong Kong
Tel: +852 3841 4388 Website: https://www.hpct.com.hk

Report No. : 00648 Issue Date : 11 Apr 2024
Application No. : HP00515

# Certificate of Calibration

Measuring equipment :

| | |
|---|---|
| Description | Sound Calibrator |
| Manufacturer | Brüel & Kjær |
| Model No. | TYPE 4231 |
| Serial No. | 2326353 |
| Equipment No. | N-02-01 |

Test Result :

| Reference value, dB | Indication value, dB | Deviation, dB | Allowed deviation, dB |
|---|---|---|---|
| 94.0 | 94.1 | + 0.1 | ± 1.5 |
| 114.0 | 114.1 | + 0.1 | ± 1.5 |

**Note : 1. "Instrument Readings" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.**
**2. The indication value was obtained from the average of ten replicated measurement.**

- End of report -

**High Precision Chemical Testing Ltd.**
Rm 1904, Technology Park
18 On Lai Street, Shatin
NT, Hong Kong
Tel: +852 3841 4388 Website: https://www.hpct.com.hk

Report No. : 00676 Issue Date : 03 May 2024
Application No. : HP00537

# Certificate of Calibration

Applicant : Cinotech Consultants Limited
RM 1710, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Sample Description : Submitted equipment stated to be Integrating Sound Level Meter.

Equipment No.: : SN-01-01

Manufacturer: : SVANTEK

Other information :

| | |
|---|---|
| Model No. | SVAN 979 |
| Serial No. | 27189 |
| Microphone No. | 25202 |

Date Received : 02 May 2024

Test Period : 02 May 2024 to 02 May 2024

Test Requested : Performance checking for Sound Level Meter

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

Test conditions : Room Temperature: 22-25 degree Celsius
Relative Humidity: 35-70%

Test Result : Refer to the test result(s) on page 2.

**Remark : 1. Information of the sample description provided by the Applicant.**
**2. The result(s) relate only to the items tested or calibrated.**

***For and on behalf of***
***HIGH PRECISION CHEMICAL TESTING LIMITED***

Lee Wai Kit
Laboratory Manager

**High Precision Chemical Testing Ltd.**
Rm 1904, Technology Park
18 On Lai Street, Shatin
NT, Hong Kong
Tel: +852 3841 4388 Website: https://www.hpct.com.hk

Report No. : 00676 Issue Date : 03 May 2024
Application No. : HP00537

# Certificate of Calibration

Measuring equipment :

| | |
|---|---|
| Description | Sound Calibrator |
| Manufacturer | Brüel & Kjær |
| Model No. | TYPE 4231 |
| Serial No. | 2326353 |
| Equipment No. | N-02-01 |

Test Result :

| Reference value, dB | Indication value, dB | Deviation, dB | Allowed deviation, dB |
|---|---|---|---|
| 94.0 | 94.0 | ± 0.0 | ± 1.5 |
| 114.0 | 114.1 | + 0.1 | ± 1.5 |

**Note : 1. "Instrument Readings" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.**
**2. The indication value was obtained from the average of ten replicated measurement.**

- End of report -

輝創工程有限公司
Sun Creation Engineering Limited
Calibration & Testing Laboratory

# Certificate of Calibration
# 校正證書

Certificate No. : C241168
證書編號

**ITEM TESTED / 送檢項目** ( Job No. / 序引編號 : IC24-0305 ) Date of Receipt / 收件日期 : 21 February 2024

| | | |
|---|---|---|
| Description / 儀器名稱 | : | Acoustical Calibrator |
| Manufacturer / 製造商 | : | Brüel & Kjær |
| Model No. / 型號 | : | 4231 |
| Serial No. / 編號 | : | 2326353 |
| Supplied By / 委託者 | : | Cinotech Consultants Limited<br>Room 1710, Technology Park, 18 On Lai Street,<br>Shatin, N.T. Hong Kong |

**TEST CONDITIONS / 測試條件**

Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (50 ± 25)%

Line Voltage / 電壓 : ---

**TEST SPECIFICATIONS / 測試規範**

Calibration check

**DATE OF TEST / 測試日期** : 3 March 2024

**TEST RESULTS / 測試結果**

The results apply to the particular unit-under-test only.
The results do not exceed specified limits.
These limits refer to manufacturer's published tolerances as requested by the customer.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Hottinger Brüel & Kjær Calibration Laboratory, Denmark
- Agilent Technologies / Keysight Technologies
- Fluke Everett Service Center, USA

Tested By 測試 : H T Wong, Assistant Engineer

Certified By 核證 : K C Lee, Engineer

Date of Issue 簽發日期 : 4 March 2024



Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 - 校正及檢測實驗所
c/o 香港新界屯門興安里一號四樓
Tel/電話: (852) 2927 2606 Fax/傳真: (852) 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

# Certificate of Calibration
# 校正證書

Certificate No. : C241168
證書編號

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

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

3. Test equipment :

| Equipment ID | Description | Certificate No. |
|---|---|---|
| CL130 | Universal Counter | C233799 |
| CL281 | Multifunction Acoustic Calibrator | CDK2302738 |
| TST150A | Measuring Amplifier | C221750 |

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

| UUT Nominal Value | Measured Value (dB) | Mfr's Limit (dB) | Uncertainty of Measured Value (dB) |
|---|---|---|---|
| 94 dB, 1 kHz | 93.90 | ± 0.2 | ± 0.20 |
| 114 dB, 1 kHz | 114.00 | | |

5.2 Frequency Accuracy

| UUT Nominal Value (kHz) | Measured Value (kHz) | Mfr's Limit | Uncertainty of Measured Value (Hz) |
|---|---|---|---|
| 1 | 1.000 0 | 1 kHz ± 0.1 % | ± 0.1 |

Remark : The uncertainties are for a confidence probability of not less than 95 %.

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

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



Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 - 校正及檢測實驗所
c/o 香港新界屯門興安里一號四樓
Tel/電話: (852) 2927 2606 Fax/傳真: (852) 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

# APPENDIX C
# WEATHER INFORMATION

**September 2024**

| Date | Mean Pressure (hPa) | Air Temperature | Mean Relative Humidity (%) | Precipitation (mm) |
|---|---|---|---|---|
| | | Mean (°C) | | |
| 1-Sep-24 | 1008.1 | 30.1 | 82 | Trace |
| 2-Sep-24 | 1007.6 | 30.6 | 78 | Trace |
| 3-Sep-24 | 1006.1 | 30.2 | 78 | 35.5 |
| 4-Sep-24 | 1002.3 | 29.7 | 75 | 0.6 |
| 5-Sep-24 | 999.5 | 30.4 | 71 | 21.5 |
| 6-Sep-24 | 1001.6 | 27.6 | 90 | 84.1 |
| 7-Sep-24 | 1007.1 | 29.2 | 88 | 5.8 |
| 8-Sep-24 | 1008.6 | 28.2 | 91 | 37.8 |
| 9-Sep-24 | 1007.7 | 27.8 | 85 | 13 |
| 10-Sep-24 | 1007.3 | 29.4 | 77 | 0 |
| 11-Sep-24 | 1008.1 | 30.4 | 76 | 0 |
| 12-Sep-24 | 1007.0 | 29.8 | 77 | 0 |
| 13-Sep-24 | 1005.1 | 30.4 | 73 | 0.1 |
| 14-Sep-24 | 1002.8 | 29.2 | 76 | 57.2 |
| 15-Sep-24 | 1002.3 | 29.3 | 76 | 2.4 |
| 16-Sep-24 | 1004.0 | 28.5 | 81 | 27.4 |
| 17-Sep-24 | 1004.1 | 30.8 | 74 | 16 |
| 18-Sep-24 | 1003.9 | 29.7 | 73 | Trace |
| 19-Sep-24 | 1003.2 | 30.2 | 75 | 0 |
| 20-Sep-24 | 1003.2 | 29.8 | 79 | 4.6 |
| 21-Sep-24 | 1003.5 | 27.7 | 90 | 72.9 |
| 22-Sep-24 | 1005.8 | 27.1 | 88 | 32.1 |
| 23-Sep-24 | 1009.0 | 25.7 | 90 | 24.9 |
| 24-Sep-24 | 1010.6 | 26.7 | 91 | 75 |
| 25-Sep-24 | 1011.2 | 28.5 | 83 | 5.4 |
| 26-Sep-24 | 1011.2 | 29.4 | 78 | 0 |
| 27-Sep-24 | 1010.1 | 29.9 | 76 | 0 |
| 28-Sep-24 | 1009.2 | 29.1 | 80 | 1.3 |
| 29-Sep-24 | 1008.6 | 29.2 | 76 | 3.3 |
| 30-Sep-24 | 1005.5 | 30.5 | 71 | 0 |

| September 2024 | | | |
|---|---|---|---|
| Table II: Wind Speed and Directions | | | |
| Date | Time | Wind Speed m/s | Direction |
| 1-Sep-24 | 0:00 | 0.1 | SSE |
| 1-Sep-24 | 1:00 | 0.3 | SSW |
| 1-Sep-24 | 2:00 | 0.0 | SSW |
| 1-Sep-24 | 3:00 | 0.4 | SSW |
| 1-Sep-24 | 4:00 | 0.2 | SSW |
| 1-Sep-24 | 5:00 | 0.1 | S |
| 1-Sep-24 | 6:00 | 0.1 | S |
| 1-Sep-24 | 7:00 | 0.1 | SSW |
| 1-Sep-24 | 8:00 | 1.4 | SSW |
| 1-Sep-24 | 9:00 | 1.0 | SSW |
| 1-Sep-24 | 10:00 | 0.9 | SW |
| 1-Sep-24 | 11:00 | 1.4 | SSW |
| 1-Sep-24 | 12:00 | 0.7 | SE |
| 1-Sep-24 | 13:00 | 1.0 | S |
| 1-Sep-24 | 14:00 | 1.9 | WSW |
| 1-Sep-24 | 15:00 | 1.6 | WSW |
| 1-Sep-24 | 16:00 | 1.5 | SSW |
| 1-Sep-24 | 17:00 | 1.2 | WSW |
| 1-Sep-24 | 18:00 | 0.8 | WSW |
| 1-Sep-24 | 19:00 | 0.6 | S |
| 1-Sep-24 | 20:00 | 0.5 | SSW |
| 1-Sep-24 | 21:00 | 0.4 | SSE |
| 1-Sep-24 | 22:00 | 0.6 | S |
| 1-Sep-24 | 23:00 | 0.3 | S |
| 2-Sep-24 | 0:00 | 0.4 | SSW |
| 2-Sep-24 | 1:00 | 0.4 | S |
| 2-Sep-24 | 2:00 | 0.4 | S |
| 2-Sep-24 | 3:00 | 0.6 | SSW |
| 2-Sep-24 | 4:00 | 0.6 | S |
| 2-Sep-24 | 5:00 | 0.4 | SSE |
| 2-Sep-24 | 6:00 | 0.3 | SSE |
| 2-Sep-24 | 8:00 | 0.7 | SSW |
| 2-Sep-24 | 9:00 | 1.2 | SE |
| 2-Sep-24 | 10:00 | 1.1 | SSE |
| 2-Sep-24 | 11:00 | 1.5 | SSE |
| 2-Sep-24 | 12:00 | 1.4 | SSE |
| 2-Sep-24 | 13:00 | 1.3 | S |
| 2-Sep-24 | 14:00 | 1.4 | WSW |
| 2-Sep-24 | 15:00 | 1.4 | WSW |
| 2-Sep-24 | 16:00 | 1.3 | SSW |
| 2-Sep-24 | 17:00 | 1.2 | W |
| 2-Sep-24 | 18:00 | 1.3 | W |
| 2-Sep-24 | 19:00 | 0.9 | SSE |
| 2-Sep-24 | 20:00 | 0.8 | S |
| 2-Sep-24 | 21:00 | 1.4 | W |
| 2-Sep-24 | 22:00 | 0.7 | SSE |
| 2-Sep-24 | 23:00 | 0.8 | SSE |

| September 2024 | | | |
|---|---|---|---|
| Table II: Wind Speed and Directions | | | |
| Date | Time | Wind Speed m/s | Direction |
| 3-Sep-24 | 0:00 | 0.7 | S |
| 3-Sep-24 | 1:00 | 1.0 | WSW |
| 3-Sep-24 | 2:00 | 1.1 | S |
| 3-Sep-24 | 3:00 | 0.9 | SSE |
| 3-Sep-24 | 4:00 | 0.6 | SSE |
| 3-Sep-24 | 5:00 | 0.6 | S |
| 3-Sep-24 | 6:00 | 0.3 | S |
| 3-Sep-24 | 7:00 | 0.8 | SSE |
| 3-Sep-24 | 8:00 | 1.3 | S |
| 3-Sep-24 | 9:00 | 1.0 | S |
| 3-Sep-24 | 10:00 | 1.2 | S |
| 3-Sep-24 | 11:00 | 2.0 | S |
| 3-Sep-24 | 12:00 | 1.8 | S |
| 3-Sep-24 | 13:00 | 1.8 | S |
| 3-Sep-24 | 14:00 | 1.4 | SSE |
| 3-Sep-24 | 15:00 | 1.4 | S |
| 3-Sep-24 | 16:00 | 1.6 | WSW |
| 3-Sep-24 | 17:00 | 1.1 | SE |
| 3-Sep-24 | 18:00 | 1.3 | SE |
| 3-Sep-24 | 19:00 | 0.9 | SE |
| 3-Sep-24 | 20:00 | 0.5 | S |
| 3-Sep-24 | 21:00 | 0.9 | S |
| 3-Sep-24 | 22:00 | 2.2 | SSW |
| 3-Sep-24 | 23:00 | 1.1 | S |
| 4-Sep-24 | 0:00 | 1.1 | S |
| 4-Sep-24 | 1:00 | 0.7 | S |
| 4-Sep-24 | 2:00 | 0.7 | S |
| 4-Sep-24 | 3:00 | 0.9 | S |
| 4-Sep-24 | 4:00 | 0.5 | S |
| 4-Sep-24 | 5:00 | 0.4 | S |
| 4-Sep-24 | 6:00 | 0.5 | S |
| 4-Sep-24 | 8:00 | 0.9 | S |
| 4-Sep-24 | 9:00 | 1.5 | S |
| 4-Sep-24 | 10:00 | 1.5 | S |
| 4-Sep-24 | 11:00 | 1.9 | S |
| 4-Sep-24 | 12:00 | 1.9 | S |
| 4-Sep-24 | 13:00 | 1.8 | SSE |
| 4-Sep-24 | 14:00 | 1.3 | SE |
| 4-Sep-24 | 15:00 | 1.4 | SSE |
| 4-Sep-24 | 16:00 | 1.4 | SSE |
| 4-Sep-24 | 17:00 | 1.2 | SW |
| 4-Sep-24 | 18:00 | 1.4 | S |
| 4-Sep-24 | 19:00 | 1.4 | SSW |
| 4-Sep-24 | 20:00 | 1.4 | SSW |
| 4-Sep-24 | 21:00 | 0.5 | S |
| 4-Sep-24 | 22:00 | 0.7 | SW |
| 4-Sep-24 | 23:00 | 0.6 | S |

| September 2024 | | | |
|---|---|---|---|
| Table II: Wind Speed and Directions | | | |
| Date | Time | Wind Speed m/s | Direction |
| 5-Sep-24 | 0:00 | 0.5 | SSW |
| 5-Sep-24 | 1:00 | 1.0 | SSE |
| 5-Sep-24 | 2:00 | 0.3 | S |
| 5-Sep-24 | 3:00 | 0.2 | S |
| 5-Sep-24 | 4:00 | 0.5 | SSE |
| 5-Sep-24 | 5:00 | 1.0 | S |
| 5-Sep-24 | 6:00 | 0.8 | S |
| 5-Sep-24 | 7:00 | 1.3 | S |
| 5-Sep-24 | 8:00 | 1.8 | SSE |
| 5-Sep-24 | 9:00 | 2.6 | SSW |
| 5-Sep-24 | 10:00 | 2.3 | SSW |
| 5-Sep-24 | 11:00 | 2.8 | S |
| 5-Sep-24 | 12:00 | 3.1 | S |
| 5-Sep-24 | 13:00 | 4.0 | SSW |
| 5-Sep-24 | 14:00 | 3.5 | S |
| 5-Sep-24 | 15:00 | 2.9 | SSW |
| 5-Sep-24 | 16:00 | 3.1 | SSW |
| 5-Sep-24 | 17:00 | 2.5 | SSW |
| 5-Sep-24 | 18:00 | 2.9 | SSW |
| 5-Sep-24 | 19:00 | 2.4 | S |
| 5-Sep-24 | 20:00 | 2.8 | S |
| 5-Sep-24 | 21:00 | 3.1 | S |
| 5-Sep-24 | 22:00 | 2.9 | SW |
| 5-Sep-24 | 23:00 | 2.9 | SSW |
| 6-Sep-24 | 0:00 | 3.1 | SSW |
| 6-Sep-24 | 1:00 | 2.3 | SSW |
| 6-Sep-24 | 2:00 | 2.7 | SSW |
| 6-Sep-24 | 3:00 | 2.6 | SSW |
| 6-Sep-24 | 4:00 | 2.6 | SSW |
| 6-Sep-24 | 5:00 | 2.6 | SSW |
| 6-Sep-24 | 6:00 | 2.7 | SSW |
| 6-Sep-24 | 7:00 | 2.8 | SSW |
| 6-Sep-24 | 8:00 | 2.3 | SSW |
| 6-Sep-24 | 9:00 | 3.4 | SSW |
| 6-Sep-24 | 10:00 | 2.3 | SSW |
| 6-Sep-24 | 11:00 | 2.1 | SSW |
| 6-Sep-24 | 12:00 | 2.6 | SSW |
| 6-Sep-24 | 13:00 | 2.4 | SSW |
| 6-Sep-24 | 14:00 | 2.0 | SSW |
| 6-Sep-24 | 15:00 | 2.2 | SW |
| 6-Sep-24 | 16:00 | 1.8 | SSW |
| 6-Sep-24 | 17:00 | 1.1 | SSW |
| 6-Sep-24 | 18:00 | 1.5 | S |
| 6-Sep-24 | 19:00 | 2.1 | SW |
| 6-Sep-24 | 20:00 | 1.5 | S |
| 6-Sep-24 | 21:00 | 1.4 | SSW |
| 6-Sep-24 | 22:00 | 1.9 | SW |
| 6-Sep-24 | 23:00 | 1.3 | SSW |

| September 2024 | | | |
|---|---|---|---|
| Table II: Wind Speed and Directions | | | |
| Date | Time | Wind Speed m/s | Direction |
| 7-Sep-24 | 0:00 | 0.0 | N |
| 7-Sep-24 | 1:00 | 0.0 | N |
| 7-Sep-24 | 2:00 | 0.0 | N |
| 7-Sep-24 | 3:00 | 0.0 | N |
| 7-Sep-24 | 4:00 | 0.0 | N |
| 7-Sep-24 | 5:00 | 0.0 | N |
| 7-Sep-24 | 6:00 | 0.0 | N |
| 7-Sep-24 | 7:00 | 0.0 | N |
| 7-Sep-24 | 8:00 | 0.0 | N |
| 7-Sep-24 | 9:00 | 0.0 | N |
| 7-Sep-24 | 10:00 | 0.0 | N |
| 7-Sep-24 | 11:00 | 0.0 | N |
| 7-Sep-24 | 12:00 | 0.9 | WNW |
| 7-Sep-24 | 13:00 | 3.0 | W |
| 7-Sep-24 | 14:00 | 2.7 | W |
| 7-Sep-24 | 15:00 | 2.8 | W |
| 7-Sep-24 | 16:00 | 2.2 | W |
| 7-Sep-24 | 17:00 | 1.9 | W |
| 7-Sep-24 | 18:00 | 1.2 | SW |
| 7-Sep-24 | 19:00 | 1.3 | SW |
| 7-Sep-24 | 20:00 | 1.5 | SSW |
| 7-Sep-24 | 21:00 | 1.8 | SW |
| 7-Sep-24 | 22:00 | 1.6 | SW |
| 7-Sep-24 | 23:00 | 1.0 | SSW |
| 8-Sep-24 | 0:00 | 0.8 | SSW |
| 8-Sep-24 | 1:00 | 1.0 | SSE |
| 8-Sep-24 | 2:00 | 1.1 | SSE |
| 8-Sep-24 | 3:00 | 1.1 | SSE |
| 8-Sep-24 | 4:00 | 0.8 | S |
| 8-Sep-24 | 5:00 | 0.8 | SSE |
| 8-Sep-24 | 6:00 | 0.8 | SSE |
| 8-Sep-24 | 7:00 | 0.7 | SSE |
| 8-Sep-24 | 8:00 | 1.0 | S |
| 8-Sep-24 | 9:00 | 0.9 | SSE |
| 8-Sep-24 | 10:00 | 1.7 | S |
| 8-Sep-24 | 11:00 | 1.9 | SSW |
| 8-Sep-24 | 12:00 | 1.2 | SSW |
| 8-Sep-24 | 13:00 | 1.3 | SSW |
| 8-Sep-24 | 14:00 | 0.8 | SW |
| 8-Sep-24 | 15:00 | 1.2 | WSW |
| 8-Sep-24 | 16:00 | 1.0 | SW |
| 8-Sep-24 | 17:00 | 1.1 | SW |
| 8-Sep-24 | 18:00 | 1.2 | SW |
| 8-Sep-24 | 19:00 | 0.6 | SSW |
| 8-Sep-24 | 20:00 | 0.5 | S |
| 8-Sep-24 | 21:00 | 0.7 | S |
| 8-Sep-24 | 22:00 | 0.6 | SW |
| 8-Sep-24 | 23:00 | 0.5 | SSW |

| September 2024 | | | |
|---|---|---|---|
| Table II: Wind Speed and Directions | | | |
| Date | Time | Wind Speed m/s | Direction |
| 9-Sep-24 | 0:00 | 0.6 | SSW |
| 9-Sep-24 | 1:00 | 0.8 | S |
| 9-Sep-24 | 2:00 | 0.9 | S |
| 9-Sep-24 | 3:00 | 0.9 | S |
| 9-Sep-24 | 4:00 | 0.5 | S |
| 9-Sep-24 | 5:00 | 0.3 | S |
| 9-Sep-24 | 6:00 | 0.4 | SSW |
| 9-Sep-24 | 7:00 | 0.8 | SSE |
| 9-Sep-24 | 8:00 | 0.9 | S |
| 9-Sep-24 | 9:00 | 1.2 | S |
| 9-Sep-24 | 10:00 | 0.9 | SW |
| 9-Sep-24 | 11:00 | 1.9 | WSW |
| 9-Sep-24 | 12:00 | 1.7 | SW |
| 9-Sep-24 | 13:00 | 1.7 | SW |
| 9-Sep-24 | 14:00 | 1.4 | SW |
| 9-Sep-24 | 15:00 | 0.9 | SSW |
| 9-Sep-24 | 16:00 | 0.9 | SSE |
| 9-Sep-24 | 17:00 | 1.2 | S |
| 9-Sep-24 | 18:00 | 1.0 | SW |
| 9-Sep-24 | 19:00 | 0.3 | SE |
| 9-Sep-24 | 20:00 | 0.9 | SSW |
| 9-Sep-24 | 21:00 | 0.6 | S |
| 9-Sep-24 | 22:00 | 0.5 | S |
| 9-Sep-24 | 23:00 | 0.5 | S |
| 10-Sep-24 | 0:00 | 0.4 | S |
| 10-Sep-24 | 1:00 | 0.6 | SSE |
| 10-Sep-24 | 2:00 | 0.1 | S |
| 10-Sep-24 | 3:00 | 0.3 | SSE |
| 10-Sep-24 | 4:00 | 0.6 | S |
| 10-Sep-24 | 5:00 | 0.5 | S |
| 10-Sep-24 | 6:00 | 0.6 | SSE |
| 10-Sep-24 | 7:00 | 0.9 | S |
| 10-Sep-24 | 8:00 | 1.5 | SW |
| 10-Sep-24 | 9:00 | 2.1 | S |
| 10-Sep-24 | 10:00 | 1.6 | SSW |
| 10-Sep-24 | 11:00 | 1.4 | SSW |
| 10-Sep-24 | 12:00 | 1.2 | SSE |
| 10-Sep-24 | 13:00 | 1.2 | S |
| 10-Sep-24 | 14:00 | 1.0 | SSW |
| 10-Sep-24 | 15:00 | 1.7 | WSW |
| 10-Sep-24 | 16:00 | 1.6 | SSE |
| 10-Sep-24 | 17:00 | 1.3 | SSW |
| 10-Sep-24 | 18:00 | 0.9 | SSE |
| 10-Sep-24 | 19:00 | 0.6 | S |
| 10-Sep-24 | 20:00 | 1.4 | W |
| 10-Sep-24 | 21:00 | 0.9 | WSW |
| 10-Sep-24 | 22:00 | 0.4 | SSW |
| 10-Sep-24 | 23:00 | 0.2 | S |

| September 2024 | | | |
|---|---|---|---|
| Table II: Wind Speed and Directions | | | |
| Date | Time | Wind Speed m/s | Direction |
| 11-Sep-24 | 0:00 | 0.3 | S |
| 11-Sep-24 | 1:00 | 0.6 | S |
| 11-Sep-24 | 2:00 | 0.5 | S |
| 11-Sep-24 | 3:00 | 0.5 | SSE |
| 11-Sep-24 | 4:00 | 0.2 | S |
| 11-Sep-24 | 5:00 | 0.0 | S |
| 11-Sep-24 | 6:00 | 0.5 | S |
| 11-Sep-24 | 7:00 | 0.8 | SSE |
| 11-Sep-24 | 8:00 | 1.0 | S |
| 11-Sep-24 | 9:00 | 1.1 | SSW |
| 11-Sep-24 | 10:00 | 1.1 | SSW |
| 11-Sep-24 | 11:00 | 1.0 | S |
| 11-Sep-24 | 12:00 | 1.1 | S |
| 11-Sep-24 | 13:00 | 1.3 | S |
| 11-Sep-24 | 14:00 | 1.2 | SSE |
| 11-Sep-24 | 15:00 | 1.3 | S |
| 11-Sep-24 | 16:00 | 0.9 | SSE |
| 11-Sep-24 | 17:00 | 1.1 | SE |
| 11-Sep-24 | 18:00 | 1.0 | SSE |
| 11-Sep-24 | 19:00 | 0.7 | S |
| 11-Sep-24 | 20:00 | 0.4 | S |
| 11-Sep-24 | 21:00 | 0.6 | S |
| 11-Sep-24 | 22:00 | 0.6 | SSE |
| 11-Sep-24 | 23:00 | 0.5 | SSE |
| 12-Sep-24 | 0:00 | 0.7 | SSE |
| 12-Sep-24 | 1:00 | 0.5 | S |
| 12-Sep-24 | 2:00 | 0.7 | SSE |
| 12-Sep-24 | 3:00 | 0.3 | S |
| 12-Sep-24 | 4:00 | 0.2 | SSE |
| 12-Sep-24 | 5:00 | 0.3 | SSE |
| 12-Sep-24 | 6:00 | 0.2 | SSE |
| 12-Sep-24 | 7:00 | 0.6 | SSW |
| 12-Sep-24 | 8:00 | 1.2 | WSW |
| 12-Sep-24 | 9:00 | 1.6 | W |
| 12-Sep-24 | 10:00 | 1.0 | S |
| 12-Sep-24 | 11:00 | 1.1 | SSE |
| 12-Sep-24 | 12:00 | 1.0 | S |
| 12-Sep-24 | 13:00 | 1.0 | SSE |
| 12-Sep-24 | 14:00 | 1.0 | SE |
| 12-Sep-24 | 15:00 | 0.0 | N |
| 12-Sep-24 | 16:00 | 0.0 | N |
| 12-Sep-24 | 17:00 | 0.0 | N |
| 12-Sep-24 | 18:00 | 0.0 | N |
| 12-Sep-24 | 19:00 | 0.1 | S |
| 12-Sep-24 | 20:00 | 0.0 | SSW |
| 12-Sep-24 | 21:00 | 0.2 | S |
| 12-Sep-24 | 22:00 | 0.0 | S |
| 12-Sep-24 | 23:00 | 0.0 | S |

| September 2024 | | | |
|---|---|---|---|
| Table II: Wind Speed and Directions | | | |
| Date | Time | Wind Speed m/s | Direction |
| 13-Sep-24 | 0:00 | 0.0 | SE |
| 13-Sep-24 | 1:00 | 0.0 | SE |
| 13-Sep-24 | 2:00 | 0.1 | S |
| 13-Sep-24 | 3:00 | 0.0 | SE |
| 13-Sep-24 | 4:00 | 0.0 | SE |
| 13-Sep-24 | 5:00 | 0.3 | N |
| 13-Sep-24 | 6:00 | 0.6 | N |
| 13-Sep-24 | 7:00 | 0.1 | N |
| 13-Sep-24 | 8:00 | 0.2 | N |
| 13-Sep-24 | 9:00 | 0.2 | N |
| 13-Sep-24 | 10:00 | 0.0 | S |
| 13-Sep-24 | 11:00 | 0.0 | SSW |
| 13-Sep-24 | 12:00 | 0.0 | S |
| 13-Sep-24 | 13:00 | 0.0 | SSW |
| 13-Sep-24 | 14:00 | 0.3 | SSW |
| 13-Sep-24 | 15:00 | 0.1 | SSW |
| 13-Sep-24 | 16:00 | 0.0 | SW |
| 13-Sep-24 | 17:00 | 0.0 | SSW |
| 13-Sep-24 | 18:00 | 0.0 | SE |
| 13-Sep-24 | 19:00 | 0.2 | S |
| 13-Sep-24 | 20:00 | 0.2 | WSW |
| 13-Sep-24 | 21:00 | 0.1 | WSW |
| 13-Sep-24 | 22:00 | 0.3 | SSW |
| 13-Sep-24 | 23:00 | 0.0 | WSW |
| 14-Sep-24 | 0:00 | 0.0 | WSW |
| 14-Sep-24 | 1:00 | 0.0 | WSW |
| 14-Sep-24 | 2:00 | 0.0 | WSW |
| 14-Sep-24 | 3:00 | 0.0 | N |
| 14-Sep-24 | 4:00 | 0.0 | W |
| 14-Sep-24 | 5:00 | 0.0 | WNW |
| 14-Sep-24 | 6:00 | 0.0 | SSE |
| 14-Sep-24 | 7:00 | 0.0 | SSW |
| 14-Sep-24 | 8:00 | 0.0 | N |
| 14-Sep-24 | 9:00 | 0.0 | SW |
| 14-Sep-24 | 10:00 | 0.0 | SSW |
| 14-Sep-24 | 11:00 | 0.0 | SE |
| 14-Sep-24 | 12:00 | 0.0 | S |
| 14-Sep-24 | 13:00 | 0.2 | N |
| 14-Sep-24 | 14:00 | 0.5 | S |
| 14-Sep-24 | 15:00 | 0.0 | SSW |
| 14-Sep-24 | 16:00 | 0.3 | S |
| 14-Sep-24 | 17:00 | 0.6 | S |
| 14-Sep-24 | 18:00 | 0.0 | N |
| 14-Sep-24 | 19:00 | 0.3 | S |
| 14-Sep-24 | 20:00 | 0.4 | SSW |
| 14-Sep-24 | 21:00 | 0.5 | S |
| 14-Sep-24 | 22:00 | 0.0 | S |
| 14-Sep-24 | 23:00 | 0.0 | S |

| September 2024 | | | |
|---|---|---|---|
| Table II: Wind Speed and Directions | | | |
| Date | Time | Wind Speed m/s | Direction |
| 15-Sep-24 | 0:00 | 0.3 | SE |
| 15-Sep-24 | 1:00 | 0.1 | SW |
| 15-Sep-24 | 2:00 | 0.2 | SW |
| 15-Sep-24 | 3:00 | 0.0 | SW |
| 15-Sep-24 | 4:00 | 0.2 | SW |
| 15-Sep-24 | 5:00 | 0.0 | SW |
| 15-Sep-24 | 6:00 | 0.0 | SW |
| 15-Sep-24 | 7:00 | 0.0 | SW |
| 15-Sep-24 | 8:00 | 0.1 | ESE |
| 15-Sep-24 | 9:00 | 0.3 | ESE |
| 15-Sep-24 | 10:00 | 0.0 | ESE |
| 15-Sep-24 | 11:00 | 0.5 | SW |
| 15-Sep-24 | 12:00 | 0.1 | SW |
| 15-Sep-24 | 13:00 | 0.0 | SW |
| 15-Sep-24 | 14:00 | 0.0 | SW |
| 15-Sep-24 | 15:00 | 0.0 | SW |
| 15-Sep-24 | 16:00 | 0.3 | SW |
| 15-Sep-24 | 17:00 | 0.2 | ENE |
| 15-Sep-24 | 18:00 | 0.1 | ENE |
| 15-Sep-24 | 19:00 | 0.1 | ENE |
| 15-Sep-24 | 20:00 | 0.1 | ENE |
| 15-Sep-24 | 21:00 | 0.2 | NE |
| 15-Sep-24 | 22:00 | 0.1 | ENE |
| 15-Sep-24 | 23:00 | 0.0 | NNE |
| 16-Sep-24 | 0:00 | 0.0 | ENE |
| 16-Sep-24 | 1:00 | 0.0 | ESE |
| 16-Sep-24 | 2:00 | 0.0 | SW |
| 16-Sep-24 | 3:00 | 0.0 | SW |
| 16-Sep-24 | 4:00 | 0.3 | NE |
| 16-Sep-24 | 5:00 | 0.2 | NE |
| 16-Sep-24 | 6:00 | 0.0 | SW |
| 16-Sep-24 | 7:00 | 0.0 | ENE |
| 16-Sep-24 | 8:00 | 0.0 | NE |
| 16-Sep-24 | 9:00 | 0.0 | ENE |
| 16-Sep-24 | 10:00 | 0.0 | ENE |
| 16-Sep-24 | 11:00 | 0.1 | ENE |
| 16-Sep-24 | 12:00 | 0.1 | SW |
| 16-Sep-24 | 13:00 | 0.1 | E |
| 16-Sep-24 | 14:00 | 0.2 | ENE |
| 16-Sep-24 | 15:00 | 0.2 | ENE |
| 16-Sep-24 | 16:00 | 0.1 | ENE |
| 16-Sep-24 | 17:00 | 0.0 | ENE |
| 16-Sep-24 | 18:00 | 0.0 | ENE |
| 16-Sep-24 | 19:00 | 0.0 | SSW |
| 16-Sep-24 | 20:00 | 0.0 | NNE |
| 16-Sep-24 | 21:00 | 0.1 | NNE |
| 16-Sep-24 | 22:00 | 0.0 | NNE |
| 16-Sep-24 | 23:00 | 0.0 | NNE |

| September 2024 | | | |
|---|---|---|---|
| **Table II: Wind Speed and Directions** | | | |
| **Date** | **Time** | **Wind Speed m/s** | **Direction** |
| 17-Sep-24 | 0:00 | 0.0 | NNE |
| 17-Sep-24 | 1:00 | 0.3 | NNE |
| 17-Sep-24 | 2:00 | 0.5 | NE |
| 17-Sep-24 | 3:00 | 0.1 | NNE |
| 17-Sep-24 | 4:00 | 0.0 | NNE |
| 17-Sep-24 | 5:00 | 0.0 | NNE |
| 17-Sep-24 | 6:00 | 0.1 | NNE |
| 17-Sep-24 | 7:00 | 0.1 | NNE |
| 17-Sep-24 | 8:00 | 0.0 | NNE |
| 17-Sep-24 | 9:00 | 0.2 | NNE |
| 17-Sep-24 | 10:00 | 0.0 | NE |
| 17-Sep-24 | 11:00 | 0.0 | NNE |
| 17-Sep-24 | 12:00 | 0.0 | NNE |
| 17-Sep-24 | 13:00 | 0.1 | NNE |
| 17-Sep-24 | 14:00 | 0.2 | NNE |
| 17-Sep-24 | 15:00 | 0.2 | SW |
| 17-Sep-24 | 16:00 | 0.1 | SW |
| 17-Sep-24 | 17:00 | 0.6 | SW |
| 17-Sep-24 | 18:00 | 0.5 | SW |
| 17-Sep-24 | 19:00 | 0.0 | SW |
| 17-Sep-24 | 20:00 | 0.0 | SW |
| 17-Sep-24 | 21:00 | 0.0 | ESE |
| 17-Sep-24 | 22:00 | 0.0 | SW |
| 17-Sep-24 | 23:00 | 0.0 | SW |
| 18-Sep-24 | 0:00 | 0.4 | SW |
| 18-Sep-24 | 1:00 | 0.4 | SW |
| 18-Sep-24 | 2:00 | 0.1 | ESE |
| 18-Sep-24 | 3:00 | 0.2 | ESE |
| 18-Sep-24 | 4:00 | 0.0 | SW |
| 18-Sep-24 | 5:00 | 0.0 | SW |
| 18-Sep-24 | 6:00 | 0.0 | ENE |
| 18-Sep-24 | 7:00 | 0.1 | ENE |
| 18-Sep-24 | 8:00 | 0.1 | SW |
| 18-Sep-24 | 9:00 | 0.1 | SW |
| 18-Sep-24 | 10:00 | 0.2 | SW |
| 18-Sep-24 | 11:00 | 0.0 | SW |
| 18-Sep-24 | 12:00 | 0.2 | SW |
| 18-Sep-24 | 13:00 | 0.1 | SSW |
| 18-Sep-24 | 14:00 | 0.0 | SW |
| 18-Sep-24 | 15:00 | 0.0 | SW |
| 18-Sep-24 | 16:00 | 0.0 | E |
| 18-Sep-24 | 17:00 | 0.3 | SW |
| 18-Sep-24 | 18:00 | 0.4 | SW |
| 18-Sep-24 | 19:00 | 0.2 | SW |
| 18-Sep-24 | 20:00 | 0.0 | SW |
| 18-Sep-24 | 21:00 | 0.0 | SW |
| 18-Sep-24 | 22:00 | 0.0 | SW |
| 18-Sep-24 | 23:00 | 0.0 | ESE |

| September 2024 | | | |
|---|---|---|---|
| **Table II: Wind Speed and Directions** | | | |
| **Date** | **Time** | **Wind Speed m/s** | **Direction** |
| 19-Sep-24 | 0:00 | 0.2 | SW |
| 19-Sep-24 | 1:00 | 0.5 | SW |
| 19-Sep-24 | 2:00 | 0.4 | SW |
| 19-Sep-24 | 3:00 | 0.7 | SW |
| 19-Sep-24 | 4:00 | 0.1 | ESE |
| 19-Sep-24 | 5:00 | 0.0 | ESE |
| 19-Sep-24 | 6:00 | 0.1 | SW |
| 19-Sep-24 | 7:00 | 0.0 | SW |
| 19-Sep-24 | 8:00 | 0.0 | ENE |
| 19-Sep-24 | 9:00 | 0.2 | ENE |
| 19-Sep-24 | 10:00 | 0.0 | SW |
| 19-Sep-24 | 11:00 | 0.1 | SW |
| 19-Sep-24 | 12:00 | 0.1 | ENE |
| 19-Sep-24 | 13:00 | 1.0 | ENE |
| 19-Sep-24 | 14:00 | 1.7 | ENE |
| 19-Sep-24 | 15:00 | 0.0 | NE |
| 19-Sep-24 | 16:00 | 0.9 | ENE |
| 19-Sep-24 | 17:00 | 0.8 | NNE |
| 19-Sep-24 | 18:00 | 1.4 | SW |
| 19-Sep-24 | 19:00 | 0.7 | SW |
| 19-Sep-24 | 20:00 | 0.8 | NNE |
| 19-Sep-24 | 21:00 | 0.7 | ENE |
| 19-Sep-24 | 22:00 | 1.0 | SW |
| 19-Sep-24 | 23:00 | 1.1 | SW |
| 20-Sep-24 | 0:00 | 0.0 | SW |
| 20-Sep-24 | 1:00 | 0.0 | SW |
| 20-Sep-24 | 2:00 | 0.0 | SW |
| 20-Sep-24 | 3:00 | 0.1 | SW |
| 20-Sep-24 | 4:00 | 0.0 | SW |
| 20-Sep-24 | 5:00 | 0.1 | SW |
| 20-Sep-24 | 6:00 | 0.0 | SW |
| 20-Sep-24 | 7:00 | 0.1 | SW |
| 20-Sep-24 | 8:00 | 0.0 | SW |
| 20-Sep-24 | 9:00 | 0.0 | NNE |
| 20-Sep-24 | 10:00 | 0.3 | ESE |
| 20-Sep-24 | 11:00 | 0.5 | ENE |
| 20-Sep-24 | 12:00 | 0.3 | ESE |
| 20-Sep-24 | 13:00 | 0.5 | E |
| 20-Sep-24 | 14:00 | 0.1 | ENE |
| 20-Sep-24 | 15:00 | 0.5 | ESE |
| 20-Sep-24 | 16:00 | 0.1 | ESE |
| 20-Sep-24 | 17:00 | 0.0 | SW |
| 20-Sep-24 | 18:00 | 0.0 | SW |
| 20-Sep-24 | 19:00 | 0.1 | SW |
| 20-Sep-24 | 20:00 | 0.1 | SW |
| 20-Sep-24 | 21:00 | 0.1 | ESE |
| 20-Sep-24 | 22:00 | 0.1 | ESE |
| 20-Sep-24 | 23:00 | 0.0 | SW |

| September 2024 | | | |
|---|---|---|---|
| Table II: Wind Speed and Directions | | | |
| Date | Time | Wind Speed m/s | Direction |
| 21-Sep-24 | 0:00 | 0.0 | SW |
| 21-Sep-24 | 1:00 | 0.0 | ENE |
| 21-Sep-24 | 2:00 | 0.1 | ENE |
| 21-Sep-24 | 3:00 | 0.1 | SW |
| 21-Sep-24 | 4:00 | 0.3 | ENE |
| 21-Sep-24 | 5:00 | 0.5 | E |
| 21-Sep-24 | 6:00 | 0.0 | SW |
| 21-Sep-24 | 7:00 | 0.0 | ENE |
| 21-Sep-24 | 8:00 | 0.0 | ENE |
| 21-Sep-24 | 9:00 | 0.0 | SW |
| 21-Sep-24 | 10:00 | 0.0 | SW |
| 21-Sep-24 | 11:00 | 0.0 | SSW |
| 21-Sep-24 | 12:00 | 0.3 | SW |
| 21-Sep-24 | 13:00 | 0.5 | SW |
| 21-Sep-24 | 14:00 | 0.1 | SW |
| 21-Sep-24 | 15:00 | 0.0 | SW |
| 21-Sep-24 | 16:00 | 0.0 | SW |
| 21-Sep-24 | 17:00 | 0.2 | SSE |
| 21-Sep-24 | 18:00 | 0.2 | NE |
| 21-Sep-24 | 19:00 | 0.2 | NE |
| 21-Sep-24 | 20:00 | 0.2 | NE |
| 21-Sep-24 | 21:00 | 0.0 | NE |
| 21-Sep-24 | 22:00 | 0.0 | ENE |
| 21-Sep-24 | 23:00 | 0.1 | SW |
| 22-Sep-24 | 0:00 | 0.1 | SSW |
| 22-Sep-24 | 1:00 | 0.1 | SW |
| 22-Sep-24 | 2:00 | 0.1 | SW |
| 22-Sep-24 | 3:00 | 0.2 | SW |
| 22-Sep-24 | 4:00 | 0.2 | SW |
| 22-Sep-24 | 5:00 | 0.2 | SW |
| 22-Sep-24 | 6:00 | 0.1 | SSW |
| 22-Sep-24 | 7:00 | 0.1 | ENE |
| 22-Sep-24 | 8:00 | 1.0 | NE |
| 22-Sep-24 | 9:00 | 1.7 | ENE |
| 22-Sep-24 | 10:00 | 0.0 | ENE |
| 22-Sep-24 | 11:00 | 0.9 | SW |
| 22-Sep-24 | 12:00 | 0.8 | ENE |
| 22-Sep-24 | 13:00 | 0.0 | ENE |
| 22-Sep-24 | 14:00 | 0.0 | ENE |
| 22-Sep-24 | 15:00 | 0.2 | ENE |
| 22-Sep-24 | 16:00 | 0.3 | ENE |
| 22-Sep-24 | 17:00 | 0.4 | ENE |
| 22-Sep-24 | 18:00 | 0.5 | ENE |
| 22-Sep-24 | 19:00 | 0.6 | SW |
| 22-Sep-24 | 20:00 | 0.8 | NNE |
| 22-Sep-24 | 21:00 | 0.8 | ENE |
| 22-Sep-24 | 22:00 | 0.9 | ENE |
| 22-Sep-24 | 23:00 | 0.1 | ESE |

| September 2024 | | | |
|---|---|---|---|
| Table II: Wind Speed and Directions | | | |
| Date | Time | Wind Speed m/s | Direction |
| 23-Sep-24 | 0:00 | 0.5 | SW |
| 23-Sep-24 | 1:00 | 0.1 | SW |
| 23-Sep-24 | 2:00 | 0.1 | SW |
| 23-Sep-24 | 3:00 | 0.1 | SW |
| 23-Sep-24 | 4:00 | 1.0 | ESE |
| 23-Sep-24 | 5:00 | 1.7 | ESE |
| 23-Sep-24 | 6:00 | 0.0 | SW |
| 23-Sep-24 | 7:00 | 0.9 | SW |
| 23-Sep-24 | 8:00 | 0.8 | ENE |
| 23-Sep-24 | 9:00 | 0.0 | ENE |
| 23-Sep-24 | 10:00 | 0.8 | ENE |
| 23-Sep-24 | 11:00 | 0.8 | ENE |
| 23-Sep-24 | 12:00 | 0.9 | SE |
| 23-Sep-24 | 13:00 | 1.1 | ENE |
| 23-Sep-24 | 14:00 | 1.2 | ENE |
| 23-Sep-24 | 15:00 | 0.5 | ENE |
| 23-Sep-24 | 16:00 | 0.6 | ENE |
| 23-Sep-24 | 17:00 | 0.7 | ENE |
| 23-Sep-24 | 18:00 | 0.5 | ENE |
| 23-Sep-24 | 19:00 | 0.2 | ENE |
| 23-Sep-24 | 20:00 | 0.0 | ENE |
| 23-Sep-24 | 21:00 | 0.0 | ENE |
| 23-Sep-24 | 22:00 | 0.0 | ENE |
| 23-Sep-24 | 23:00 | 0.0 | ENE |
| 24-Sep-24 | 0:00 | 0.2 | ENE |
| 24-Sep-24 | 1:00 | 0.1 | ENE |
| 24-Sep-24 | 2:00 | 0.6 | ENE |
| 24-Sep-24 | 3:00 | 0.0 | ENE |
| 24-Sep-24 | 4:00 | 0.0 | ENE |
| 24-Sep-24 | 5:00 | 0.5 | ENE |
| 24-Sep-24 | 6:00 | 0.4 | ENE |
| 24-Sep-24 | 7:00 | 0.0 | ENE |
| 24-Sep-24 | 8:00 | 0.0 | ENE |
| 24-Sep-24 | 9:00 | 0.0 | E |
| 24-Sep-24 | 10:00 | 0.0 | ESE |
| 24-Sep-24 | 11:00 | 0.6 | ENE |
| 24-Sep-24 | 12:00 | 0.3 | ENE |
| 24-Sep-24 | 13:00 | 0.1 | E |
| 24-Sep-24 | 14:00 | 0.0 | SE |
| 24-Sep-24 | 15:00 | 0.3 | ESE |
| 24-Sep-24 | 16:00 | 0.4 | E |
| 24-Sep-24 | 17:00 | 0.6 | ESE |
| 24-Sep-24 | 18:00 | 0.0 | ESE |
| 24-Sep-24 | 19:00 | 0.0 | ESE |
| 24-Sep-24 | 20:00 | 0.0 | ENE |
| 24-Sep-24 | 21:00 | 0.0 | ENE |
| 24-Sep-24 | 22:00 | 0.1 | ENE |
| 24-Sep-24 | 23:00 | 0.0 | ENE |

| September 2024 | | | |
|---|---|---|---|
| Table II: Wind Speed and Directions | | | |
| Date | Time | Wind Speed m/s | Direction |
| 25-Sep-24 | 0:00 | 0.1 | ENE |
| 25-Sep-24 | 1:00 | 0.1 | ENE |
| 25-Sep-24 | 2:00 | 0.0 | ENE |
| 25-Sep-24 | 3:00 | 0.2 | ENE |
| 25-Sep-24 | 4:00 | 0.0 | ENE |
| 25-Sep-24 | 5:00 | 0.0 | ENE |
| 25-Sep-24 | 6:00 | 0.0 | ENE |
| 25-Sep-24 | 7:00 | 0.0 | ENE |
| 25-Sep-24 | 8:00 | 0.1 | ENE |
| 25-Sep-24 | 9:00 | 0.0 | ENE |
| 25-Sep-24 | 10:00 | 0.0 | ENE |
| 25-Sep-24 | 11:00 | 0.4 | ENE |
| 25-Sep-24 | 12:00 | 0.4 | ENE |
| 25-Sep-24 | 13:00 | 0.7 | E |
| 25-Sep-24 | 14:00 | 1.0 | ESE |
| 25-Sep-24 | 15:00 | 1.0 | ENE |
| 25-Sep-24 | 16:00 | 0.7 | ENE |
| 25-Sep-24 | 17:00 | 1.2 | E |
| 25-Sep-24 | 18:00 | 0.9 | E |
| 25-Sep-24 | 19:00 | 0.7 | ENE |
| 25-Sep-24 | 20:00 | 0.3 | ESE |
| 25-Sep-24 | 21:00 | 0.1 | SW |
| 25-Sep-24 | 22:00 | 0.1 | SW |
| 25-Sep-24 | 23:00 | 0.1 | SW |
| 26-Sep-24 | 0:00 | 0.0 | SW |
| 26-Sep-24 | 1:00 | 0.0 | ESE |
| 26-Sep-24 | 2:00 | 0.0 | ESE |
| 26-Sep-24 | 3:00 | 0.0 | SW |
| 26-Sep-24 | 4:00 | 0.3 | SW |
| 26-Sep-24 | 5:00 | 0.0 | ENE |
| 26-Sep-24 | 6:00 | 0.0 | ENE |
| 26-Sep-24 | 7:00 | 0.1 | ENE |
| 26-Sep-24 | 8:00 | 0.5 | ENE |
| 26-Sep-24 | 9:00 | 1.2 | SW |
| 26-Sep-24 | 10:00 | 0.6 | ENE |
| 26-Sep-24 | 11:00 | 0.7 | ENE |
| 26-Sep-24 | 12:00 | 0.9 | ENE |
| 26-Sep-24 | 13:00 | 1.1 | SW |
| 26-Sep-24 | 14:00 | 1.2 | ENE |
| 26-Sep-24 | 15:00 | 1.0 | ENE |
| 26-Sep-24 | 16:00 | 0.7 | ENE |
| 26-Sep-24 | 17:00 | 0.4 | SSE |
| 26-Sep-24 | 18:00 | 0.5 | SE |
| 26-Sep-24 | 19:00 | 0.4 | S |
| 26-Sep-24 | 20:00 | 0.7 | SSE |
| 26-Sep-24 | 21:00 | 0.8 | S |
| 26-Sep-24 | 22:00 | 0.6 | SSE |
| 26-Sep-24 | 23:00 | 0.7 | SSE |

| September 2024 | | | |
|---|---|---|---|
| Table II: Wind Speed and Directions | | | |
| Date | Time | Wind Speed m/s | Direction |
| 27-Sep-24 | 0:00 | 0.6 | S |
| 27-Sep-24 | 1:00 | 0.6 | S |
| 27-Sep-24 | 2:00 | 0.5 | SSE |
| 27-Sep-24 | 3:00 | 0.5 | SSE |
| 27-Sep-24 | 4:00 | 0.3 | S |
| 27-Sep-24 | 5:00 | 0.3 | S |
| 27-Sep-24 | 6:00 | 0.5 | SSE |
| 27-Sep-24 | 7:00 | 0.6 | SSE |
| 27-Sep-24 | 8:00 | 1.1 | SSE |
| 27-Sep-24 | 9:00 | 1.1 | SSE |
| 27-Sep-24 | 10:00 | 1.2 | SSE |
| 27-Sep-24 | 11:00 | 1.1 | SSE |
| 27-Sep-24 | 12:00 | 1.7 | SSE |
| 27-Sep-24 | 13:00 | 1.2 | SSE |
| 27-Sep-24 | 14:00 | 1.1 | S |
| 27-Sep-24 | 15:00 | 1.0 | SE |
| 27-Sep-24 | 16:00 | 0.7 | SE |
| 27-Sep-24 | 17:00 | 0.8 | SSE |
| 27-Sep-24 | 18:00 | 0.3 | SSE |
| 27-Sep-24 | 19:00 | 0.4 | SE |
| 27-Sep-24 | 20:00 | 0.3 | SE |
| 27-Sep-24 | 21:00 | 0.4 | S |
| 27-Sep-24 | 22:00 | 0.5 | SSE |
| 27-Sep-24 | 23:00 | 0.6 | S |
| 28-Sep-24 | 0:00 | 0.6 | S |
| 28-Sep-24 | 1:00 | 0.5 | S |
| 28-Sep-24 | 2:00 | 0.3 | S |
| 28-Sep-24 | 3:00 | 1.2 | SSE |
| 28-Sep-24 | 4:00 | 0.5 | S |
| 28-Sep-24 | 5:00 | 0.1 | S |
| 28-Sep-24 | 6:00 | 0.2 | SSE |
| 28-Sep-24 | 7:00 | 0.2 | S |
| 28-Sep-24 | 8:00 | 0.4 | SSE |
| 28-Sep-24 | 9:00 | 1.0 | S |
| 28-Sep-24 | 10:00 | 1.2 | SSE |
| 28-Sep-24 | 11:00 | 0.9 | SSE |
| 28-Sep-24 | 12:00 | 1.1 | SSE |
| 28-Sep-24 | 13:00 | 1.3 | SSE |
| 28-Sep-24 | 14:00 | 1.1 | SSE |
| 28-Sep-24 | 15:00 | 1.9 | SSW |
| 28-Sep-24 | 16:00 | 1.7 | SSW |
| 28-Sep-24 | 17:00 | 1.3 | SW |
| 28-Sep-24 | 18:00 | 0.8 | SW |
| 28-Sep-24 | 19:00 | 1.5 | WSW |
| 28-Sep-24 | 20:00 | 1.0 | SW |
| 28-Sep-24 | 21:00 | 1.7 | W |
| 28-Sep-24 | 22:00 | 0.7 | SW |
| 28-Sep-24 | 23:00 | 0.5 | SSW |

| September 2024 | | | |
|---|---|---|---|
| Table II: Wind Speed and Directions | | | |
| Date | Time | Wind Speed m/s | Direction |
| 29-Sep-24 | 0:00 | 0.9 | SW |
| 29-Sep-24 | 1:00 | 0.3 | S |
| 29-Sep-24 | 2:00 | 0.2 | SSE |
| 29-Sep-24 | 3:00 | 0.3 | S |
| 29-Sep-24 | 4:00 | 0.4 | SSW |
| 29-Sep-24 | 5:00 | 0.1 | S |
| 29-Sep-24 | 6:00 | 0.4 | S |
| 29-Sep-24 | 7:00 | 0.3 | S |
| 29-Sep-24 | 8:00 | 1.0 | S |
| 29-Sep-24 | 9:00 | 0.6 | SSE |
| 29-Sep-24 | 10:00 | 0.5 | SSE |
| 29-Sep-24 | 11:00 | 0.5 | SSE |
| 29-Sep-24 | 12:00 | 0.8 | S |
| 29-Sep-24 | 13:00 | 0.7 | S |
| 29-Sep-24 | 14:00 | 0.8 | S |
| 29-Sep-24 | 15:00 | 0.7 | SSE |
| 29-Sep-24 | 16:00 | 1.0 | S |
| 29-Sep-24 | 17:00 | 0.9 | S |
| 29-Sep-24 | 18:00 | 0.7 | SW |
| 29-Sep-24 | 19:00 | 0.3 | S |
| 29-Sep-24 | 20:00 | 0.3 | S |
| 29-Sep-24 | 21:00 | 0.4 | SSE |
| 29-Sep-24 | 22:00 | 0.5 | SSE |
| 29-Sep-24 | 23:00 | 0.5 | SSE |

| September 2024 | | | |
|---|---|---|---|
| Table II: Wind Speed and Directions | | | |
| Date | Time | Wind Speed m/s | Direction |
| 30-Sep-24 | 0:00 | 0.4 | SSE |
| 30-Sep-24 | 1:00 | 0.3 | SSE |
| 30-Sep-24 | 2:00 | 0.1 | S |
| 30-Sep-24 | 3:00 | 0.2 | SSE |
| 30-Sep-24 | 4:00 | 0.7 | S |
| 30-Sep-24 | 5:00 | 0.9 | S |
| 30-Sep-24 | 6:00 | 0.4 | SSW |
| 30-Sep-24 | 7:00 | 0.3 | S |
| 30-Sep-24 | 8:00 | 0.5 | SSE |
| 30-Sep-24 | 9:00 | 0.9 | SE |
| 30-Sep-24 | 10:00 | 1.5 | SE |
| 30-Sep-24 | 11:00 | 1.2 | S |
| 30-Sep-24 | 12:00 | 1.0 | SSE |
| 30-Sep-24 | 13:00 | 1.2 | SE |
| 30-Sep-24 | 14:00 | 1.2 | SSE |
| 30-Sep-24 | 15:00 | 1.3 | SE |
| 30-Sep-24 | 16:00 | 1.3 | SE |
| 30-Sep-24 | 17:00 | 0.8 | SSE |
| 30-Sep-24 | 18:00 | 1.1 | SSE |
| 30-Sep-24 | 19:00 | 1.4 | SSE |
| 30-Sep-24 | 20:00 | 1.7 | S |
| 30-Sep-24 | 21:00 | 1.0 | S |
| 30-Sep-24 | 22:00 | 2.2 | SSE |
| 30-Sep-24 | 23:00 | 2.1 | SSE |

# APPENDIX D
# ENVIRONMENTAL MONITORING SCHEDULES

**Contract No. KLN/2016/04**
**Environmental Monitoring Works for Contract No. KL/2015/02**
**Kai Tak Development –Stage 5A Infrastructure at Former North Apron Area**
**Impact Air and Noise Monitoring Schedule for Sep 2024**

| **Sunday** | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| **1-Sep** | 2-Sep | 3-Sep | 4-Sep | 5-Sep | 6-Sep | 7-Sep |
| | **1-hr TSP x 3 [AM2]**<br>**Noise [M3(A), M4 & M5(C)]** | | | | **24-hr TSP [AM2(A)]** | **1-hr TSP x 3 [AM2]** |
| **8-Sep** | 9-Sep | 10-Sep | 11-Sep | 12-Sep | 13-Sep | 14-Sep |
| | | | | **24-hr TSP [AM2(A)]** | **1-hr TSP x 3 [AM2]**<br>**Noise [M3(A), M4 & M5(C)]** | |
| **15-Sep** | 16-Sep | 17-Sep | **18-Sep** | 19-Sep | 20-Sep | 21-Sep |
| | | **24-hr TSP [AM2(A)]** | | **1-hr TSP x 3 [AM2]**<br>**Noise [M3(A), M4 & M5(C)]** | | |
| **22-Sep** | 23-Sep | 24-Sep | 25-Sep | 26-Sep | 27-Sep | 28-Sep |
| | **24-hr TSP [AM2(A)]** | **1-hr TSP x 3 [AM2]**<br>**Noise [M3(A), M4 & M5(C)]** | | | | **24-hr TSP [AM2(A)]** |
| **29-Sep** | 30-Sep | | | | | |
| | **1-hr TSP x 3 [AM2]**<br>**Noise [M3(A), M4 & M5(C)]** | | | | | |

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)
* The noise level limit is 65dB(A) during the exam period

**Air Quality Monitoring Station**

AM2 - Lee Kau Yan Memorial School
AM2(A) - Ng Wah Catholic Secondary School

**Noise Monitoring Station**

M3(A) - The Bridge connecting The Latitude
M4 - Lee Kau Yan Memorial School
M5(C) - Mercy Grace's Home

**Contract No. KLN/2016/04**
**Environmental Monitoring Works for Contract No. KL/2015/02**
**Kai Tak Development –Stage 5A Infrastructure at Former North Apron Area**
**Tentative Impact Air and Noise Monitoring Schedule for Oct 2024**

| **Sunday** | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| | | **1-Oct** | 2-Oct | 3-Oct | 4-Oct | 5-Oct |
| | | | | | **24-hr TSP [AM2(A)]** | **1-hr TSP x 3 [AM2]** |
| **6-Oct** | 7-Oct | 8-Oct | 9-Oct | 10-Oct | **11-Oct** | 12-Oct |
| | | | **24-hr TSP [AM2(A)]** | **1-hr TSP x 3 [AM2]**<br>**Noise [M3(A), M4 & M5(C)]** | | |
| **13-Oct** | 14-Oct | 15-Oct | 16-Oct | 17-Oct | 18-Oct | 19-Oct |
| | | **24-hr TSP [AM2(A)]** | **1-hr TSP x 3 [AM2]**<br>**Noise [M3(A), M4 & M5(C)]** | | | |
| **20-Oct** | 21-Oct | 22-Oct | 23-Oct | 24-Oct | 25-Oct | 26-Oct |
| | **24-hr TSP [AM2(A)]** | **1-hr TSP x 3 [AM2]**<br>**Noise [M3(A), M4 & M5(C)]** | | | | **24-hr TSP [AM2(A)]** |
| **27-Oct** | 28-Oct | 29-Oct | 30-Oct | 31-Oct | | |
| | **1-hr TSP x 3 [AM2]**<br>**Noise [M3(A), M4 & M5(C)]** | | | | | |

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)
* The noise level limit is 65dB(A) during the exam period

**Air Quality Monitoring Station**

AM2 - Lee Kau Yan Memorial School
AM2(A) - Ng Wah Catholic Secondary School

**Noise Monitoring Station**

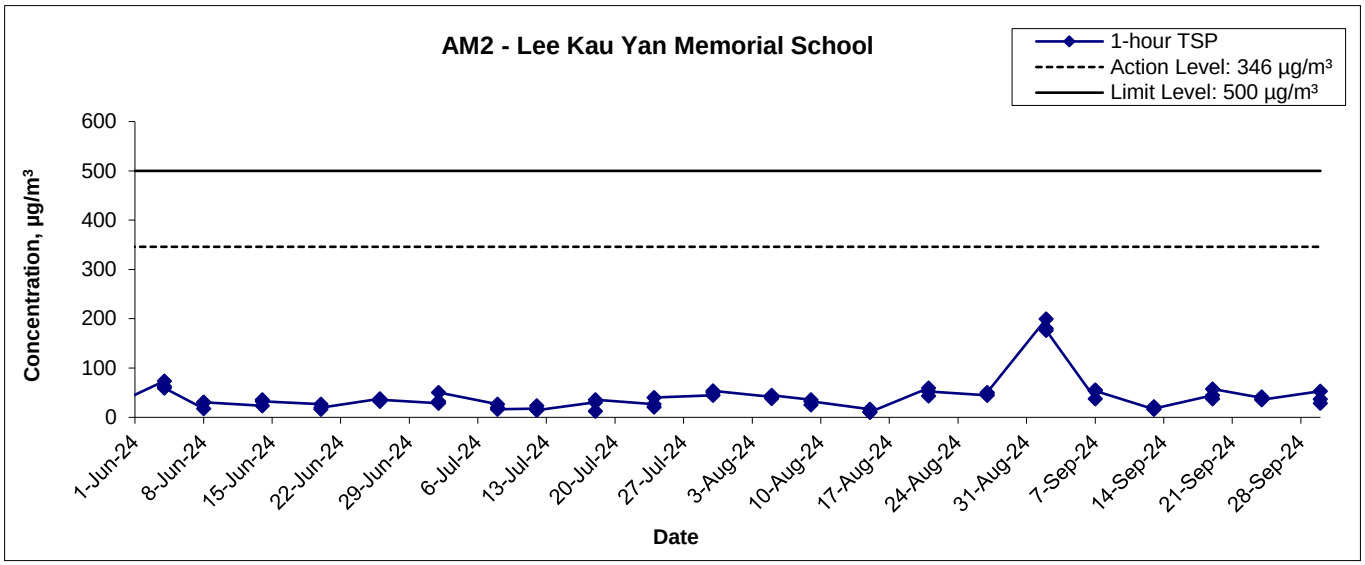
M3(A) - The Bridge connecting The Latitude
M4 - Lee Kau Yan Memorial School
M5(C) - Mercy Grace's Home

**APPENDIX E**
**1-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATION**

# Appendix E - 1-hour TSP Monitoring Results

| Location AM2 - Lee Kau Yan Memorial School | | | |
|---|---|---|---|
| Date | Time | Weather | Particulate Concentration (μg/m$^3$) |
| 2-Sep-24 | 10:20 | Sunny | 199.5 |
| 2-Sep-24 | 11:20 | Sunny | 180.5 |
| 2-Sep-24 | 12:20 | Sunny | 176.7 |
| 7-Sep-24 | 11:30 | Fine | 37.8 |
| 7-Sep-24 | 12:30 | Fine | 55.8 |
| 7-Sep-24 | 13:30 | Fine | 54.0 |
| 13-Sep-24 | 11:09 | Sunny | 16.2 |
| 13-Sep-24 | 12:09 | Sunny | 21.6 |
| 13-Sep-24 | 13:09 | Sunny | 18.0 |
| 19-Sep-24 | 10:00 | Fine | 45.0 |
| 19-Sep-24 | 11:00 | Fine | 37.8 |
| 19-Sep-24 | 12:00 | Fine | 57.6 |
| 24-Sep-24 | 9:00 | Cloudy | 39.6 |
| 24-Sep-24 | 10:00 | Cloudy | 41.4 |
| 24-Sep-24 | 11:00 | Cloudy | 36.0 |
| 30-Sep-24 | 9:08 | Sunny | 52.8 |
| 30-Sep-24 | 10:08 | Sunny | 36.8 |
| 30-Sep-24 | 11:08 | Sunny | 28.8 |
| | | Average | 63.1 |
| | | Maximum | 199.5 |
| | | Minimum | 16.2 |

## 1-hr TSP Concentration Levels




| | | | |
|---|---|---|---|
| Title: Contract No. KLN/2016/04<br>Environmental Monitoring Works for Contract No. KL/2015/02<br>Kai Tak Development –Stage 5A Infrastructure at Former North Apron Area<br>Graphical Presentation of 1-hour TSP Monitoring Results | Scale: N.T.S<br>Date: Sep 24 | Project No.: MA16043<br>Appendix: E | CINOTECH |

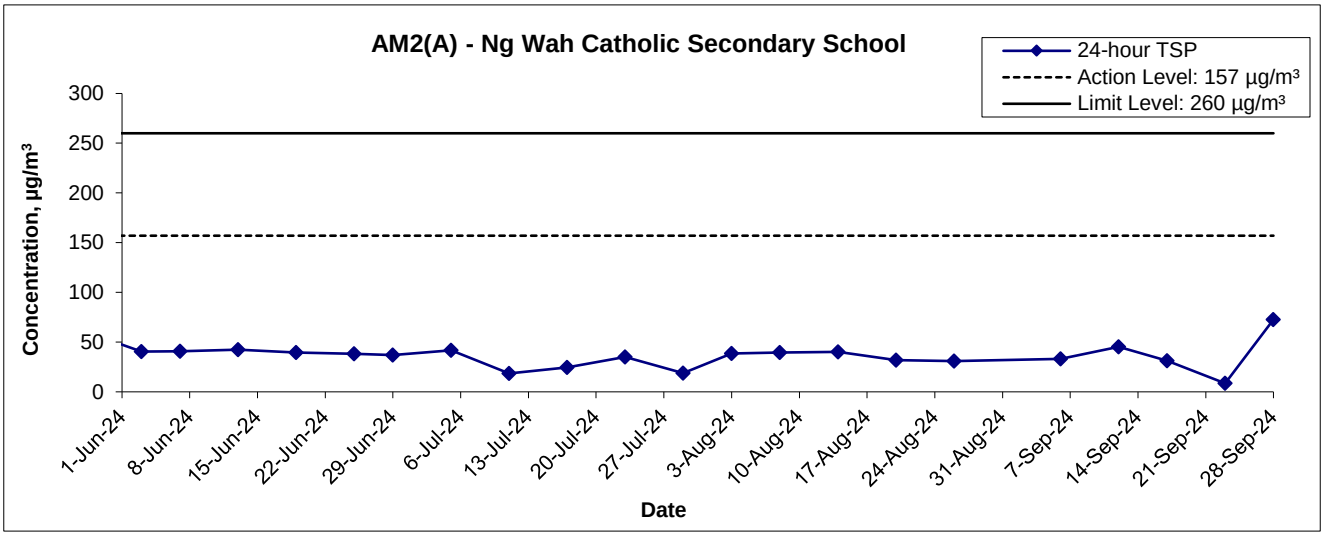
**APPENDIX F**
**24-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATION**

# Appendix F - 24-hour TSP Monitoring Results

## Location AM2(A) - Ng Wah Catholic Secondary School

| Start Date | Weather Condition | Air Temp. (K) | Atmospheric Pressure, Pa (mmHg) | Filter Weight (g) | | Particulate weight (g) | Elapse Time | | Sampling Time (hrs.) | Flow Rate ($m^3$/min.) | | Av. Flow ($m^3$/min) | Total vol. ($m^3$) | Conc. (µg/$m^3$) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Initial | Final | | Initial | Final | | Initial | Final | | | |
| 6-Sep-24 | Windy | 301.4 | 754.3 | 3.3487 | 3.4067 | 0.0580 | 12859.6 | 12883.6 | 24.0 | 1.22 | 1.22 | 1.22 | 1755.5 | 33.0 |
| 12-Sep-24 | Sunny | 303.1 | 755.5 | 3.2941 | 3.3734 | 0.0793 | 12883.6 | 12907.6 | 24.0 | 1.22 | 1.21 | 1.22 | 1750.9 | 45.3 |
| 17-Sep-24 | Sunny | 303.3 | 754.0 | 3.3702 | 3.4248 | 0.0546 | 12907.6 | 12931.6 | 24.0 | 1.21 | 1.22 | 1.21 | 1749.1 | 31.2 |
| 23-Sep-24 | Cloudy | 299.2 | 758.3 | 3.3766 | 3.3917 | 0.0151 | 12931.6 | 12955.6 | 24.0 | 1.22 | 1.22 | 1.22 | 1762.5 | 8.6 |
| 28-Sep-24 | Cloudy | 302.2 | 757.7 | 3.3301 | 3.4575 | 0.1274 | 12955.6 | 12979.6 | 24.0 | 1.22 | 1.22 | 1.22 | 1755.1 | 72.6 |
| | | | | | | | | | | | | | Min | 8.6 |
| | | | | | | | | | | | | | Max | 72.6 |
| | | | | | | | | | | | | | Average | 38.1 |

## 24-hr TSP Concentration Levels




| | | | |
|---|---|---|---|
| Title: Contract No. KLN/2016/04<br>Environmental Monitoring Works for Contract No. KL/2015/02<br>Kai Tak Development –Stage 5A Infrastructure at Former North Apron Area<br>Graphical Presentation of 24-hour TSP Monitoring Results | Scale: N.T.S<br>Date: Sep 24 | Project No.: MA16043<br>Appendix: F | CINOTECH |

**APPENDIX G**
**NOISE MONITORING RESULTS AND GRAPHICAL PRESENTATION**

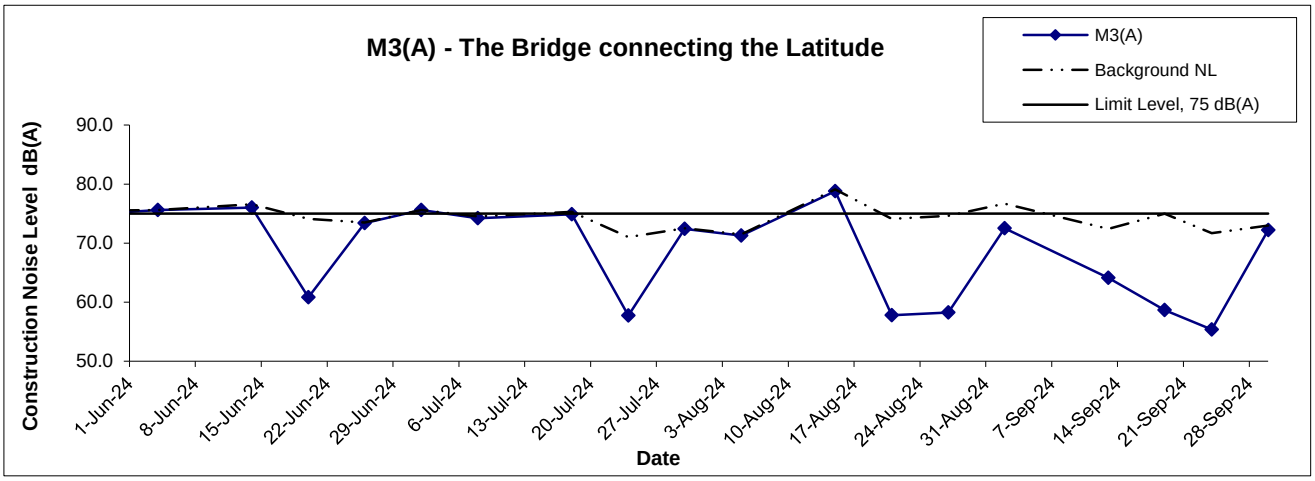
## Appendix G - Noise Monitoring Results

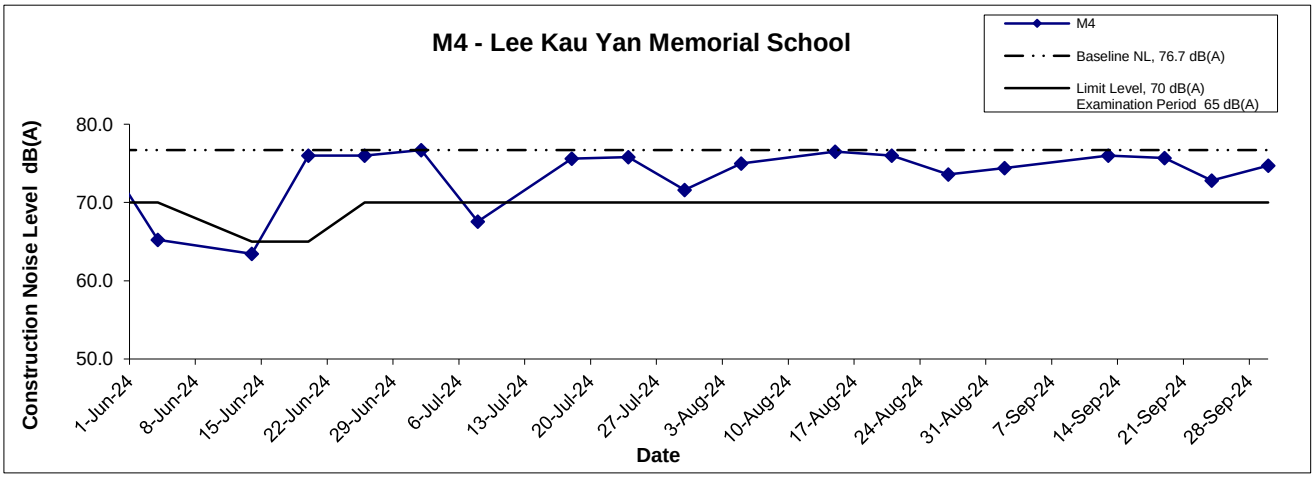
| Location M3(A) - The Bridge connecting The Latitude | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Date | Time | Weather | Unit: dB (A) (30-min) | | | | | |
| | | | Measured Noise Level | | | Background Noise | Construction Noise Level | |
| | | | $L_{eq}$ | $L_{10}$ | $L_{90}$ | $L_{eq}$ | $L_{eq}$ | |
| 2-Sep-24 | 12:00 | Fine | 72.5 | 74.0 | 70.3 | 76.7 | 72.5 | Measured ≦ Background |
| 13-Sep-24 | 11:39 | Sunny | 73.0 | 74.8 | 70.6 | 72.4 | 64.1 | |
| 19-Sep-24 | 11:11 | Fine | 75.1 | 77.2 | 75.2 | 75.0 | 58.7 | |
| 24-Sep-24 | 11:30 | Cloudy | 71.8 | 74.9 | 69.9 | 71.7 | 55.4 | |
| 30-Sep-24 | 11:25 | Sunny | 72.2 | 73.7 | 70.3 | 73.0 | 72.2 | Measured ≦ Background |

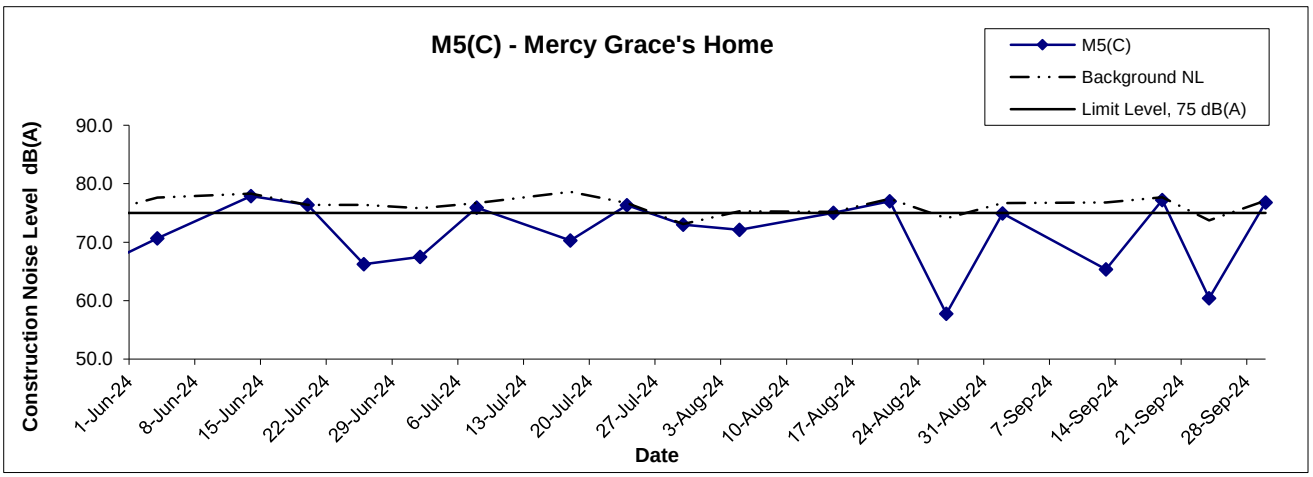
| Location M4 - Lee Kau Yan Memorial School | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Date | Time | Weather | Unit: dB (A) (30-min) | | | | | |
| | | | Measured Noise Level | | | Baseline Level | Construction Noise Level | |
| | | | $L_{eq}$ | $L_{10}$ | $L_{90}$ | $L_{eq}$ | $L_{eq}$ | |
| 2-Sep-24 | 11:50 | Fine | 74.4 | 75.9 | 72.6 | 76.7 | 74.4 | Measured ≦ Baseline |
| 13-Sep-24 | 12:55 | Sunny | 76.0 | 77.9 | 73.5 | | 76.0 | Measured ≦ Baseline |
| 19-Sep-24 | 12:53 | Sunny | 75.7 | 77.2 | 73.9 | | 75.7 | Measured ≦ Baseline |
| 24-Sep-24 | 10:00 | Cloudy | 72.8 | 75.9 | 70.6 | | 72.8 | Measured ≦ Baseline |
| 30-Sep-24 | 10:08 | Sunny | 74.7 | 76.1 | 73.1 | | 74.7 | Measured ≦ Baseline |

| Location M5(C) - Mercy Grace's Home | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Date | Time | Weather | Unit: dB (A) (30-min) | | | | | |
| | | | Measured Noise Level | | | Background Noise | Construction Noise Level | |
| | | | $L_{eq}$ | $L_{10}$ | $L_{90}$ | $L_{eq}$ | $L_{eq}$ | |
| 2-Sep-24 | 12:30 | Fine | 74.9 | 76.8 | 72.2 | 76.7 | 74.9 | Measured ≦ Background |
| 13-Sep-24 | 13:50 | Sunny | 77.1 | 78.1 | 72.3 | 76.8 | 65.3 | |
| 19-Sep-24 | 14:07 | Sunny | 77.2 | 79.5 | 72.4 | 77.7 | 77.2 | Measured ≦ Background |
| 24-Sep-24 | 13:00 | Cloudy | 73.9 | 76.2 | 70.8 | 73.7 | 60.4 | |
| 30-Sep-24 | 13:14 | Sunny | 76.8 | 79.0 | 73.1 | 77.1 | 76.8 | Measured ≦ Background |

# Noise Levels




Remarks: [1] The construction noise levels in the Tables in Appendix G were adopted for plotting the graphs

| | | | |
|---|---|---|---|
| Title: Contract No. KLN/2016/04<br>Environmental Monitoring Works for Contract No. KL/2015/02<br>Kai Tak Development –Stage 5A Infrastructure at Former North Apron Area<br>Graphical Presentation of Construction Noise Monitoring Results | Scale: N.T.S<br>Date: Sep 2024 | Project No.: MA16043<br>Appendix: G | CINOTECH |

**APPENDIX H**
**SUMMARY OF EXCEEDANCE**

# Appendix H – Summary of Exceedance

**Exceedance Record for Contract No. KL/2015/02**
**Reporting Month:** September 2024

**(A) Exceedance Record for Air Quality**
**(NIL in the reporting month)**

**(B) Exceedance Record for Construction Noise**
**(NIL in the reporting month)**

**(C) Exceedance Record for Landscape and Visual**
**(NIL in the reporting month)**

**APPENDIX I**
**SITE AUDIT SUMMARY**

**Weekly Site Inspection Record Summary**
**Inspection Information**

| | |
|---|---|
| Checklist Reference Number | 240902 |
| Date | 02 September 2024 (Monday) |
| Time | 14:00 – 16:00 |

| **Ref. No.** | **Non-Compliance** | **Related Item No.** |
|---|---|---|
| - | None identified | - |
| **Ref. No.** | **Remarks/Observations** | **Related Item No.** |
| | ***B. Water Quality*** | |
| | • No environmental deficiency was identified during site inspection. | |
| | | |
| | ***C. Air Quality*** | |
| | • No environmental deficiency was identified during site inspection. | |
| | | |
| | ***D. Noise*** | |
| | • No environmental deficiency was identified during site inspection. | |
| | | |
| | ***E. Waste / Chemical Management*** | |
| | • No environmental deficiency was identified during site inspection. | |
| | | |
| | ***F. Visual and Landscape*** | |
| | • No environmental deficiency was identified during site inspection | |
| | | |
| | ***G. Permits /Licences*** | |
| | • No environmental deficiency was identified during site inspection. | |
| | | |
| | ***H. Others*** | |
| | • No major environment deficiency was identified during the previous site inspection. | |

| | Name | Signature | Date |
|---|---|---|---|
| Recorded by | Serena Ng |  | 02 September 2024 |
| Checked by | Charles Fung |  | 04 September 2024 |

**Weekly Site Inspection Record Summary**
**Inspection Information**

| | |
|---|---|
| Checklist Reference Number | 240911 |
| Date | 11 September 2024 (Wednesday) |
| Time | 10:00 – 12:00 |

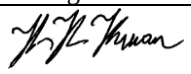
| **Ref. No.** | **Non-Compliance** | **Related Item No.** |
|---|---|---|
| - | None identified | - |
| **Ref. No.** | **Remarks/Observations** | **Related Item No.** |
| | ***B. Water Quality*** | |
| | • No environmental deficiency was identified during site inspection. | |
| | | |
| | ***C. Air Quality*** | |
| | • No environmental deficiency was identified during site inspection. | |
| | | |
| | ***D. Noise*** | |
| | • No environmental deficiency was identified during site inspection. | |
| | | |
| | ***E. Waste / Chemical Management*** | |
| | • No environmental deficiency was identified during site inspection. | |
| | | |
| | ***F. Visual and Landscape*** | |
| | • No environmental deficiency was identified during site inspection | |
| | | |
| | ***G. Permits /Licences*** | |
| | • No environmental deficiency was identified during site inspection. | |
| | | |
| | ***H. Others*** | |
| | • No major environment deficiency was identified during the previous site inspection. | |

| | Name | Signature | Date |
|---|---|---|---|
| Recorded by | Charles Fung |  | 11 September 2024 |
| Checked by | Serena Ng |  | 13 September 2024 |

**Weekly Site Inspection Record Summary**
**Inspection Information**

| | |
|---|---|
| Checklist Reference Number | 240920 |
| Date | 20 September 2024 (Friday) |
| Time | 09:30 – 11:00 |

| **Ref. No.** | **Non-Compliance** | **Related Item No.** |
|---|---|---|
| - | None identified | - |
| **Ref. No.** | **Remarks/Observations** | **Related Item No.** |
| | ***B. Water Quality*** | |
| | • No environmental deficiency was identified during site inspection. | |
| | | |
| | ***C. Air Quality*** | |
| | • No environmental deficiency was identified during site inspection. | |
| | | |
| | ***D. Noise*** | |
| | • No environmental deficiency was identified during site inspection. | |
| | | |
| | ***E. Waste / Chemical Management*** | |
| | • No environmental deficiency was identified during site inspection. | |
| | | |
| | ***F. Visual and Landscape*** | |
| | • No environmental deficiency was identified during site inspection | |
| | | |
| | ***G. Permits /Licences*** | |
| | • No environmental deficiency was identified during site inspection. | |
| | | |
| | ***H. Others*** | |
| | • No major environment deficiency was identified during the previous site inspection. | |

| | Name | Signature | Date |
|---|---|---|---|
| Recorded by | KK Kwan |  | 20 September 2024 |
| Checked by | Charles Fung |  | 23 September 2024 |

**Weekly Site Inspection Record Summary**
**Inspection Information**

| | |
|---|---|
| Checklist Reference Number | 240923 |
| Date | 23 September 2024 (Monday) |
| Time | 14:00 – 16:00 |

| **Ref. No.** | **Non-Compliance** | **Related Item No.** |
|---|---|---|
| - | None identified | - |
| **Ref. No.** | **Remarks/Observations** | **Related Item No.** |
| | ***B. Water Quality*** | |
| | • No environmental deficiency was identified during site inspection. | |
| | | |
| | ***C. Air Quality*** | |
| | • No environmental deficiency was identified during site inspection. | |
| | | |
| | ***D. Noise*** | |
| | • No environmental deficiency was identified during site inspection. | |
| | | |
| | ***E. Waste / Chemical Management*** | |
| | • No environmental deficiency was identified during site inspection. | |
| | | |
| | ***F. Visual and Landscape*** | |
| | • No environmental deficiency was identified during site inspection | |
| | | |
| | ***G. Permits /Licences*** | |
| | • No environmental deficiency was identified during site inspection. | |
| | | |
| | ***H. Others*** | |
| | • No major environment deficiency was identified during the previous site inspection. | |

| | Name | Signature | Date |
|---|---|---|---|
| Recorded by | Serena Ng |  | 23 September 2024 |
| Checked by | Charles Fung |  | 27 September 2024 |

**APPENDIX J**
**EVENT ACTION PLANS**

# Appendix J - Event Action Plans

Event/Action Plan for Air Quality

| EVENT | ACTION | | | |
|---|---|---|---|---|
| | ET | IEC | ER | CONTRACTOR |
| Action Level being exceeded by one sampling | 1. Identify source and investigate the causes of exceedance;<br>2. Inform Contactor, IEC and ER;<br>3. Repeat measurement to confirm finding. | 1. Check monitoring data submitted by ET;<br>2. Check Contractor's working method. | 1. Notify Contractor. | 1. Rectify any unacceptable practice;<br>2. Amend working methods if appropriate. |
| Action Level being exceeded by two or more consecutive sampling | 1. Identify source and investigate the causes of exceedance;<br>2. Inform Contractor, IEC and ER;<br>3. Increase monitoring frequency to daily;<br>4. Discuss with IEC and Contractor on remedial actions required;<br>5. Assess the effectiveness of Contractor's remedial actions;<br>6. If exceedance continues, arrange meeting with IEC and ER;<br>7. If exceedance stops, cease additional monitoring. | 1. Check monitoring data submitted by ET;<br>2. Check Contractor's working method;<br>3. Discuss with ET and Contractor on possible remedial measures;<br>4. Advise the ER on the effectiveness of the proposed remedial measures. | 1. Confirm receipt of notification of exceedance in writing;<br>2. Notify Contractor;<br>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;<br>4. Supervise implementation of remedial measures;<br>5. Conduct meeting with ET and IEC if exceedance continues. | 1. Discuss with ET and IEC on proper remedial actions;<br>2. Submit proposals for remedial actions to ER and IEC within three working days of notification;<br>3. Implement the agreed proposals;<br>4. Amend proposal if appropriate. |
| Limit Level being exceeded by one sampling | 1. Identify source and investigate the causes of exceedance;<br>2. Inform Contractor, IEC, ER, and EPD;<br>3. Repeat measurement to confirm finding;<br>4. Assess effectiveness of Contractor's remedial actions and keep | 1. Check monitoring data submitted by ET;<br>2. Check Contractor's working method;<br>3. Discuss with ET and Contractor on possible remedial measures; | 1. Confirm receipt of notification of exceedance in writing;<br>2. Notify Contractor;<br>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be | 1. Take immediate action to avoid further exceedance;<br>2. Discuss with ET and IEC on proper remedial actions;<br>3. Submit proposals for remedial actions to ER and IEC within three |

| | | | | |
|---|---|---|---|---|
| | EPD, IEC and ER informed of the results. | 4. Advise the ER on the effectiveness of the proposed remedial measures. | implemented;<br>4. Supervise implementation of remedial measures;<br>5. Conduct meeting with ET and IEC if exceedance continues. | working days of notification;<br>4. Implement the agreed proposals. |
| Limit Level being exceeded by two or more consecutive sampling | 1. Notify IEC, ER, Contractor and EPD;<br>2. Repeat measurement to confirm findings;<br>3. Carry out analysis of Contractor's working procedures to identify source and investigate the causes of exceedance;<br>4. Increase monitoring frequency to daily;<br>5. Arrange meeting with IEC, ER and Contractor to discuss the remedial actions to be taken;<br>6. Assess effectiveness of Contractor's remedial actions and keep EPD, IEC and ER informed of the results;<br>7. If exceedance stops, cease additional monitoring. | 1. Check monitoring data submitted by ET;<br>2. Check Contractor's working method;<br>3. Discuss amongst ER, ET, and Contractor on the potential remedial actions;<br>4. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly. | 1. Confirm receipt of notification of exceedance in writing;<br>2. Notify Contractor;<br>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;<br>4. Supervise implementation of remedial measures;<br>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;<br>2. Discuss with ET, ER and IEC on proper remedial actions;<br>3. Submit proposals for remedial actions to IEC within three working days of notification;<br>4. Implement the agreed proposals;<br>5. Submit further remedial actions if problem still not under control;<br>6. Stop the relevant portion of works as instructed by the ER until the exceedance is abated. |

# Appendix J - Event Action Plans

Event/Action Plan for Construction Noise

| EVENT | ACTION | | | |
|---|---|---|---|---|
| | ET | IEC | ER | CONTRACTOR |
| Action Level being exceeded | 1. Notify ER, IEC and Contractor;<br>2. Carry out investigation;<br>3. Report the results of investigation to the IEC, ER and Contractor;<br>4. Discuss with the IEC and Contractor on remedial measures required;<br>5. Increase monitoring frequency to check mitigation effectiveness.<br>(The above actions should be taken within 2 working days after the exceedance is identified) | 1. Review the investigation results submitted by the ET;<br>2. Review the proposed remedial measures by the Contractor and advise the ER accordingly;<br>3. Advise the ER on the effectiveness of the proposed remedial measures.<br>(The above actions should be taken within 2 working days after the exceedance is identified) | 1. Confirm receipt of notification of failure in writing;<br>2. Notify Contractor;<br>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;<br>4. Supervise the implementation of remedial measures.<br>(The above actions should be taken within 2 working days after the exceedance is identified) | 1. Submit noise mitigation proposals to IEC and ER;<br>2. Implement noise mitigation proposals.<br>(The above actions should be taken within 2 working days after the exceedance is identified) |
| Limit Level being exceeded | 1. Inform IEC, ER, Contractor and EPD;<br>2. Repeat measurements to confirm findings;<br>3. Increase monitoring frequency;<br>4. Identify source and investigate the cause of exceedance; | 1. Discuss amongst ER, ET, and Contractor on the potential remedial actions;<br>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;<br>2. Notify Contractor;<br>3. In consolidation with the IEC, agree with the Contractor on the remedial | 1. Take immediate action to avoid further exceedance;<br>2. Submit proposals for remedial actions to IEC and ER within 3 working days of notification;<br>3. Implement the agreed proposals; |

| | | | | |
|---|---|---|---|---|
| | 5. Carry out analysis of Contractor's working procedures;<br>6. Discuss with the IEC, Contractor and ER on remedial measures required;<br>7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results;<br>8. If exceedance stops, cease additional monitoring.<br>(The above actions should be taken within 2 working days after the exceedance is identified) | (The above actions should be taken within 2 working days after the exceedance is identified) | measures to be implemented;<br>4. Supervise the implementation of remedial measures;<br>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.<br>(The above actions should be taken within 2 working days after the exceedance is identified) | 4. Submit further proposal if problem still not under control;<br>5. Stop the relevant portion of works as instructed by the ER until the exceedance is abated.<br>(The above actions should be taken within 2 working days after the exceedance is identified) |

# Appendix J - Event Action Plans

Event/Action Plan for Landscape and Visual

| EVENT ACTION LEVEL | ACTION | | | |
|---|---|---|---|---|
| | **ET** | **IEC** | **ER** | **CONTRACTOR** |
| Design Check | 1. Check final design conforms to the requirements of EP and prepare report. | 1. Check report.<br>2. Recommend remedial design if necessary | 1. Undertake remedial design if necessary | |
| Non-conformity on one occasion | 1. Identify Source<br>2. Inform IEC and ER<br>3. Discuss remedial actions with IEC, ER and Contractor<br>4. Monitor remedial actions until rectification has been completed | 1. Check report<br>2. Check Contractor's working method<br>3. Discuss with ET and Contractor on possible remedial measures<br>4. Advise ER on effectiveness of proposed remedial measures.<br>5. Check implementation of remedial measures. | 1. Notify Contractor<br>2. Ensure remedial measures are properly implemented | 1. Amend working methods<br>2. Rectify damage and undertake any necessary replacement |
| Repeated Non-conformity | 1. Identify Source<br>Inform IEC and | 1. Check monitoring report | 1. Notify Contractor<br>2. Ensure remedial measures are properly | 1. Amend working methods<br>2. Rectify damage and |

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|---|---|---|---|---|
| | ER<br>2. Increase monitoring frequency<br>3. Discuss remedial actions with IEC, ER and Contractor<br>4. Monitor remedial actions until rectification has been completed<br>5. If non-conformity stops, cease additional monitoring | 2. Check Contractor's working method<br>3. Discuss with ET and Contractor on possible remedial measures<br>4. Advise ER on effectiveness of proposed remedial measures<br>5. Supervise implementation of remedial measures. | implemented | undertake any necessary replacement |

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

# Appendix K – Summary of Implementation Schedule of Mitigation Measures for Construction Phase

| sEIA Ref. | Recommended Mitigation Measures | Implementation Status |
|---|---|---|
| ***Construction Air Quality*** | | |
| S6.5 | 8 times daily watering of the work site with active dust emitting activities. | ^ |
| S6.8 | Implementation of dust suppression measures stipulated in Air Pollution Control (Construction Dust) Regulation. The following mitigation measures, good site practices and a comprehensive dust monitoring and audit programme are recommended to minimize cumulative dust impacts. | ^ |
| | • Stockpiling site(s) should be lined with impermeable sheeting and bunded. Stockpiles should be fully covered by impermeable sheeting to reduce dust emission. | ^ |
| | • Misting for the dusty material should be carried out before being loaded into the vehicle. Any vehicle with an open load carrying area should have properly fitted side and tail boards. | ^ |
| | • Material having the potential to create dust should not be loaded from a level higher than the side and tail boards and should be dampened and covered by a clean tarpaulin. | ^ |
| | • The tarpaulin should be properly secured and should extent at least 300 mm over the edges of the sides and tailboards. The material should also be dampened if necessary before transportation. | ^ |
| | • The vehicles should be restricted to maximum speed of 10 km per hour and confined haulage and delivery vehicle to designated roadways insider the site. Onsite unpaved roads should be compacted and kept free of lose materials. | ^ |
| | • Vehicle washing facilities should be provided at every vehicle exit point. | N/A(1) |
| | • The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores. | ^ |
| | • Every main haul road should be scaled with concrete and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet. | ^ |
| | • Every stock of more than 20 bags of cement should be covered entirely by impervious sheeting placed in an area sheltered on the top and the three sides. | ^ |
| | • Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites. | ^ |

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| S6.8 | • DWFI compound for JVBC:<br>A DWFI compound is proposed at the downstream of JVC to contain pollution in drainage systems entering the KTAC and KTTS by interception facilities until the ultimate removal of the pollution sources. Tidal barriers and desiliting facilities will form part of the compounds to prevent any accumulation of sediment within the downstream section of JVBC and hence fully mitigate the potential odour emissions from the headspace of JVBC near the existing discharge locations. The odour generating operations within the proposed desilting compound will be fully enclosed and the odorous air will be collected and treated by high efficiency deodorizers before discharge to the atmosphere. | N/A |
| | • Desilting compound for KTN:<br>Two desilting compounds are proposed for KTN (at Site 1D6 and Site 1P1) to contain pollution in drainage systems entering the KTAC and KTTS by interception facilities until the ultimate removal of the pollution sources. Tidal barriers and desiliting facilities will form part of the compounds to prevent any accumulation of sediment within the downstream section of KTN and hence fully mitigate the potential odour emissions from the headspace of KTN near the existing discharge locations. The odour generating operations within the proposed desilting compound will be fully enclosed and the odorous air will be collected and treated by high efficiency deodorizers before discharge to the atmosphere. | N/A |
| | • Decking or reconstruction of KTN within apron area:<br>It is proposed to deck the KTN or reconstruct the KTN within the former Apron area into Kai Tak River from the south of Road D1 to the north of Road D2 along the existing alignment of KTN. The Kai Tak River will compose of a number of channels flowing with nonodorous fresh water and THEES effluent. The channel flowing with THEES effluent will be designed with the width of water surface of not more than 16m. | N/A |
| | • Localised maintenance dredging:<br>Localised maintenance dredging should be conducted to provide water depth of not less than 3.5m over the whole of KTAC and KTTS. With reference to the water depth data recorded during the odour survey, only some of the areas in the northern part of KTAC (i.e. to the north of taxiway bridge) including the area near the northern edge of KTAC, the area near western bank of KTAC, and the area near the JVC discharge have water depths shallower than 3.5m. The area involved would be about 40% of the northern KTAC and the dredging depth required would be from about 2.7m to less than 1m. The maintenance dredging to be carried out prior to the occupation of any new development in the immediate vicinity of KTAC to avoid potential localized odour impacts at the future ASRs during the maintenance | N/A |

| | | |
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| | dredging operation.<br>• Improvement of water circulation in KTAC and KTTS:<br>600m gap opening at the northern part of the former Kai Tak runway, the water circulation in KTAC and KTTS would be substantially improved. Together with the improvement in water circulation, the DO level in KTAC and KTTS would also be increased.<br>• In-situ sediment treatment by bioremediation:<br>Bioremediation would be applied to the entire KTAC and KTTS. | N/A<br><br>N/A |
| ***Construction Noise*** | | |
| S7.8 | Use of quiet PME, movable barriers barrier for Asphalt Paver, Breaker, Excavator and Hand-held breaker and full enclosure for Air Compressor, Bar Bender, Concrete Pump, Generator and Water Pump. | ^ |
| S7.9 | Good Site Practice:<br>• Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program.<br>• Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program.<br>• Mobile plant, if any, should be sited as far away from NSRs as possible.<br>• Machines and plant (such as trucks) that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum.<br>• Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.<br>• Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities. | <br>^<br>^<br><br>^<br><br>^<br><br>^ |
| S7.9 | Scheduling of Construction Works during School Examination Period | ^ |
| S7.8 | (i) Provision of low noise surfacing in a section of Road L2; and<br>(ii) Provision of structural fins | N/A<br>N/A |
| S7.8 | (i) Avoid the sensitive façade of class room facing Road L2 and L4; and<br>(ii) Provision of low noise surfacing in a section of Road L2 & L4 | N/A<br>N/A |

| | | |
|---|---|---|
| S7.8 | (i) Provision of low noise surfacing in a section of Road L4 before occupation of Site 1I1; and | N/A |
| | (ii) Setback of building about 5m from site boundary. | N/A |
| S7.8 | Setback of building about 35m to the northwest direction at 1L3 and 5m at Site 1L2. | N/A |
| S7.8 | (i) avoid any sensitive façades with openable window facing the existing Kowloon City Road network; and Avoid the sensitive façade of class room facing Road L2 and L4; and | N/A |
| | (ii) for the sensitive facades facing the To Kwa Wan direction, either setback the facades by about 5m to the northeast direction or do not provide the facades with openable window. | N/A |
| S7.8 | (i) avoid any sensitive facades with openable window facing the existing To Kwa Wan Road or | N/A |
| | (ii) provision of 17.5m high noise tolerant building fronting To Kwa Wan Road and restrict the height of the residential block(s) located at less than 55m away from To Kwa Wan Road to no more than 25m above ground | N/A |
| S7.8 | (i) avoid any sensitive facades with openable window facing the slip road connecting Prince Edward Road East and San Po Kong or other alternative mitigation measures and at-source mitigation measures for the surrounding new local roads to minimise the potential traffic noise impacts from the slip road | ^ |
| S7.8 | All the ventilation fans installed in the below will be provided with silencers or acoustics treatment. | |
| | (i) SPS | N/A |
| | (ii) ESS | N/A |
| | (iii) Tunnel Ventilation Shaft | N/A |
| | (iv) EFTS depot | N/A |
| S7.8 | Installation of retractable roof or other equivalent measures | N/A |
| ***Construction Water Quality*** | | |
| S8.8 | The following mitigation measures are proposed to be incorporated in the design of the SPS at KTD, including: | |
| | • Dual power supply or emergency generator should be provided at all the SPSs to secure electrical power supply; | N/A |
| | • Standby pumps should be provided at all SPSs to ensure smooth operation of the SPS during maintenance of the duty pumps; | N/A |
| | • An alarm should be installed to signal emergency high water level in the wet well at all SPSs; and | N/A |
| | • For all unmanned SPSs, a remote monitor system connecting SPSs with the control station through telemetry system should be provided so that swift actions could be taken in case of malfunction of unmanned facilities | N/A |

# Appendix K – Summary of Implementation Schedule of Mitigation Measures for Construction Phase

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| S8.8 | **Construction Phase**<br>Marine-based Construction<br><br>*Capital and Maintenance Dredging for Cruise Terminal*<br><br>Mitigation measures for construction of the proposed cruise terminal should follow those recommended in the approved EIA for CT Dredging. | N/A |
| S8.8 | *Fireboat Berth, Runway Opening and Road T2*<br><br>Silt curtains should be deployed around the close grab dredger to minimize release of sediment and other contaminants for any dredging and filling activities in open water. | N/A |
| S8.8 | Dredging at and near the seawall area for construction of the public landing steps cum fireboat berth should be carried out at a maximum production rate of 1,000$m^3$ per day using one grab dredger. | N/A |
| S8.8 | The proposed construction method for runway opening should adopt an approach where the existing seawall at the runway will not be removed until completion of all excavation and dredging works for demolition of the runway. Thus, excavation of bulk fill and majority of the dredging works will be carried out behind the existing seawall, and the sediment plume can be effectively contained within the works area. As there is likely some accumulation of sediments alongside the runway, there will be a need to dredge the existing seabed after completion of all the demolition works. Dredging alongside the 600m opening should be carried out at a maximum production rate of 2,000$m^3$ per day using one grab dredger. | N/A |
| 8.8 | Dredging for Road T2 should be conducted at a maximum rate of 8,000$m^3$ per day (using four grab dredgers) whereas the sand filling should be conducted at a maximum rate of 2,000m3 per day (using two grab dredgers). | N/A |
| 8.8 | Silt screens shall be applied to seawater intakes at WSD seawater intake. | N/A |

# Appendix K – Summary of Implementation Schedule of Mitigation Measures for Construction Phase

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| S8.8 | Land-based Construction<br>*Construction Runoff*<br>Exposed soil areas should be minimised to reduce the potential for increased siltation, contamination of runoff, and erosion. Construction runoff related impacts associated with the above ground construction activities can be readily controlled through the use of appropriate mitigation measures which include:<br>• use of sediment traps<br>• adequate maintenance of drainage systems to prevent flooding and overflow | <br><br><br><br><br><br>^<br>^ |
| S8.8 | Ideally, construction works should be programmed to minimise surface excavation works during the rainy season (April to September). All exposed earth areas should be completed as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means. | ^ |
| S8.8 | Construction site should be provided with adequately designed perimeter channel and pre-treatment facilities and proper maintenance. The boundaries of critical areas of earthworks should be marked and surrounded by dykes or embankments for flood protection. Temporary ditches should be provided to facilitate runoff discharge into the appropriate watercourses, via a silt retention pond. Permanent drainage channels should incorporate sediment basins or traps and baffles to enhance deposition rates. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94. | ^ |
| S8.8 | Sediment tanks of sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 $m^3$ capacity, are recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system capacity is flexible and able to handle multiple inputs from a variety of sources and particularly suited to applications where the influent is pumped. | ^ |
| S8.8 | Open stockpiles of construction materials (for examples, aggregates, sand and fill material) of more than 50 $m^3$ should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system. | ^ |
| S8.8 | Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers. | ^ |
| S8.8 | Precautions to be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecast, and actions to be taken during or after rainstorms are summarized in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty | ^ |

# Appendix K – Summary of Implementation Schedule of Mitigation Measures for Construction Phase

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| | surface runoff during storm events. | |
| S8.8 | Oil interceptors should be provided in the drainage system and regularly cleaned to prevent the release of oils and grease into the storm water drainage system after accidental spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain. | N/A(1) |
| S8.8 | All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and located wheel washing bay should be provided at every site exit, and wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains. | ^ |
| S8.8 | *Drainage*<br><br>It is recommended that on-site drainage system should be installed prior to the commencement of other construction activities. Sediment traps should be installed in order to minimise the sediment loading of the effluent prior to discharge into foul sewers. There should be no direct discharge of effluent from the site into the sea | ^ |
| S8.8 | All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge should be adequately designed for the controlled release of storm flows. All sediment control measures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rain storms. The temporarily diverted drainage should be reinstated to its original condition when the construction work has finished or the temporary diversion is no longer required. | ^ |
| S8.8 | All fuel tanks and storage areas should be provided with locks and be located on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank, to prevent spilled fuel oils from reaching the coastal waters of the Victoria Harbour WCZ. | ^ |
| S8.8 | *Sewage Effluent*<br><br>Construction work force sewage discharges on site are expected to be connected to the existing trunk sewer or sewage treatment facilities. The construction sewage may need to be handled by portable chemical toilets prior to the commission of the on-site sewer system. Appropriate numbers of portable toilets should be provided by a licensed contractor to serve the large number of construction workers over the construction site. The Contractor should also be responsible for waste disposal and maintenance practices. | ^ |

# Appendix K – Summary of Implementation Schedule of Mitigation Measures for Construction Phase

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| S8.8 | *Stormwater Discharges*<br><br>Minimum distances of 100 m should be maintained between the existing or planned stormwater discharges and the existing or planned seawater intakes | ^ |
| S8.8 | *Debris and Litter*<br><br>In order to maintain water quality in acceptable conditions with regard to aesthetic quality, contractors should be required, under conditions of contract, to ensure that site management is optimised and that disposal of any solid materials, litter or wastes to marine waters does not occur | ^ |
| S8.8 | *Construction Works at or in Close Proximity of Storm Culvert or Seafront*<br><br>The proposed works should preferably be carried out within the dry season where the flow in the drainage channel /storm culvert/ nullah is low. | ^ |
| S8.8 | The use of less or smaller construction plants may be specified to reduce the disturbance to the bottom sediment at the drainage channel /storm culvert / nullah. | ^ |
| S8.8 | Temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction materials should be located well away from any water courses during carrying out of the construction works | ^ |
| S8.8 | Stockpiling of construction materials and dusty materials should be covered and located away from any water courses. | ^ |
| S8.8 | 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. | ^ |
| S8.8 | Construction activities, which generate large amount of wastewater, should be carried out in a distance away from the waterfront, where practicable. | ^ |
| S8.8 | Mitigation measures to control site runoff from entering the nearby water environment should be implemented to minimize water quality impacts. Surface channels should be provided along the edge of the waterfront within the work sites to intercept the runoff. | ^ |
| S8.8 | Construction effluent, site run-off and sewage should be properly collected and/or treated. | ^ |
| S8.8 | Any works site inside the storm water courses should be temporarily isolated, such as by placing of sandbags or silt curtains with lead edge at bottom and properly supported props to prevent adverse impact on the storm water quality. | N/A |
| S8.8 | Silt curtain may be installed around the construction activities at the seafront to minimize the potential impacts due to accidental spillage of construction materials. | N/A |
| S8.8 | Proper shoring may need to be erected in order to prevent soil/mud from slipping into the storm culvert/drainage channel/sea. | N/A |

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| S8.8 | Supervisory staff should be assigned to station on site to closely supervise and monitor the works | ^ |
| S8.8 | Marine water quality monitoring and audit programme shall be implemented for the proposed sediment treatment operation. | N/A |
| ***Construction Waste Management*** | | |
| S9.5 | Good Site Practices<br>It is not anticipated that adverse waste management related impacts would arise, provided that good site practices are adhered to. Recommendations for good site practices during the dredging activities include:<br>• Nomination of an approved person, such as a site manager, be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.<br>• Training of site personnel in proper waste management and chemical waste handling procedures.<br>• Provision of sufficient waste disposal points and regular collection for disposal.<br>• Appropriate measure to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers.<br>• A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites). | ^<br>^<br>^<br>^<br>^ |
| S9.5 | Waste Reduction Measures<br>Good management and control can prevent the generation of a significant amount 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:<br>• Sort C&D waste from demolition of the remaining structures to recover recyclable portions such as metals<br>• Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal<br>• Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force<br>• Any unused chemicals or those with remaining functional capacity should be recycled<br>• Proper storage and site practices to minimise the potential for damage or contamination of construction materials | ^<br>^<br>^<br>^<br>^ |

# Appendix K – Summary of Implementation Schedule of Mitigation Measures for Construction Phase

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| S9.5 | Dredged Marine Sediment<br><br>The basic requirements and procedures for dredged mud disposal are specified under the ETWB TCW No. 34/2002. The management of the dredging, use and disposal of marine mud is monitored by the MFC, while the licensing of marine dumping is required under the Dumping at Sea Ordinance and is the responsibility of the Director of Environmental Protection (DEP) | N/A |
| S9.5 | The dredged marine sediments would be loaded onto barges and transported to the designated disposal sites allocated by the MFC depending on their level of contamination. Sediment classified as Category L would be suitable for Type 1 - Open Sea Disposal. Contaminated sediment would require either Type 1 – Open Sea Disposal (Dedicated Sites), Type 2 - Confined Marine Disposal, or Type 3 – Special Treatment / Disposal and must be dredged and transported with great care in accordance with ETWB TCW No. 34/2002. Subject to the final allocation of the disposal sites by MFC, the dredged contaminated sediment must be effectively isolated from the environment and disposed properly at the designated disposal site | N/A |
| S9.5 | It will be the responsibility of the contractor to satisfy the appropriate authorities that the contamination levels of the marine sediment to be dredged have been analysed and recorded. According to the ETWB TCW No. 34/2002, this will involve the submission of a formal Sediment Quality Report to the DEP, prior to the dredging contract being tendered. The contractor for the dredging works should apply for allocation of marine disposal sites and all necessary permits from relevant authorities for the disposal of dredged sediment. During transportation and disposal of the dredged marine sediments requiring Type 1, Type 2, or Type 3 disposal, the following measures should be taken to minimise potential impacts on water quality:<br>• Bottom opening of barges should be fitted with tight fitting seals to prevent leakage of material. Excess material should be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved<br>• Monitoring of the barge loading should be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels should be equipped with automatic selfmonitoring devices as required under the Dumping at Sea Ordinance and as specified by the DEP<br>• Barges or hopper barges should not be filled to a level that would cause the overflow of materials or sediment laden water during loading or transportation | N/A<br><br>N/A<br><br>N/A |
| S9.5 | Construction and Demolition Material<br>Mitigation measures and good site practices should be incorporated into contract document to control potential environmental impact from handling and transportation of C&D material. The mitigation measures include:<br>• Where it is unavoidable to have transient stockpiles of C&D material within the Project work site pending collection for disposal, the | ^ |

| | | |
|---|---|---|
| | transient stockpiles should be located away from waterfront or storm drains as far as possible | |
| | • Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric | ^ |
| | • Skip hoist for material transport should be totally enclosed by impervious sheeting | ^ |
| | • Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site | ^ |
| | • The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores | ^ |
| | • The load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure dust materials do not leak from the vehicle | ^ |
| | • All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet | ^ |
| | • The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading | ^ |
| | When delivering inert C&D material to public fill reception facilities, the material should consist entirely of inert construction waste and of size less than 250mm or other sizes as agreed with the Secretary of the Public Fill Committee. In order to monitor the disposal of the surplus C&D material at the designed public fill reception facility and to control fly tipping, a trip-ticket system as stipulated in the ETWB TCW No. 31/2004 "Trip Ticket System for Disposal of Construction and Demolition Materials" should be included as one of the contractual requirements and implemented by an Environmental Team undertaking the Environmental Monitoring and Audit work. An Independent Environmental Checker should be responsible for auditing the results of the system. | ^ |
| S9.5/- | Chemical Waste | |
| | (i) After use, chemical wastes (for example, cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Spent chemicals should be collected by a licensed collector for disposal at the CWTF or other licensed facility, in accordance with the *Waste Disposal (Chemical Waste) (General) Regulation* | ^ |
| | (ii) Maintenance of vehicles and equipment involving activities with potential of leakage and spillage should only be undertaken within the areas which are appropriately equipped to control these discharges. | ^ |

# Appendix K – Summary of Implementation Schedule of Mitigation Measures for Construction Phase

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| S9.5 | General Refuse<br><br>General refuse should be stored in enclosed bins or compaction units separate from C&D material. A licensed waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material. Effective collection and storage methods (including enclosed and covered area) of site wastes would be required to prevent waste materials from being blown around by wind, wastewater discharge by flushing or leaching into the marine environment, or creating odour nuisance or pest and vermin problem | | ^ |
| ***Construction Landscape and Visual*** | | | |
| S13.9 | CM1 | All existing trees should be carefully protected during construction. | ^ |
| | CM2 | Trees unavoidably affected by the works should be transplanted where practical. Detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBC 2/2004 and 3/2006. Final locations of transplanted trees should be agreed prior to commencement of the work. | ^ |
| | CM3 | Control of night-time lighting. | N/A(1) |
| | CM4 | Erection of decorative screen hoarding. | ^ |

Remarks:

| | |
|---|---|
| ^ | Compliance of mitigation measure |
| * | Recommendations were made during site audits but improved/rectified by the Contractor |
| # | Recommendations were made during site audits but has not yet been improved/rectified by the Contractor |
| ● | Non-compliance but rectified by the Contractor |
| X | Non-compliance of mitigation measure |
| N/A | Not Applicable at this stage |
| N/A(1) | Not observed |

**APPENDIX L**
**SUMMARIES OF ENVIRONMENTAL COMPLAINT, WARNING, SUMMON AND NOTIFICATION OF SUCCESSFUL PROSECUTION**

**Contract No. KLN/2016/04**
**Environmental Monitoring Works for Contract No. KL/2015/02**
**Kai Tak Development – Stage 5A Infrastructure at Former North Apron Area**

## Appendix L – Summary of environmental complaint, warning, summon and notification of successful prosecution

### Complaint Log

| EPD Complaint Ref No. | Location | Received Date | Details of Complaint | Investigation/Mitigation Action | Status |
|---|---|---|---|---|---|
| 17-34438 | Dakota Drive and Olympic Avenue | 23 October 2017 | The complainant concerned about the dust emission when vehicle running on the dry surface outside Dakota Drive and Olympic Avenue. In addition, vehicles were not clear enough before leaving the construction site. | In accordance with the information gathered in the investigation, construction activities were conducted with proper mitigation measures to minimize the dust impact arise from the construction site to the vicinity of this Project.<br><br>Regular water spraying was provided to haul roads and unpaved areas within the site areas to reduce the dust impact arise from the construction site to the vicinity of this Project. The Contractor had also ensured vehicles and plants were wheel washed to be cleaned of mud and debris before leaving the construction site area. Therefore, the complaint is considered as non-project related.<br><br>The following recommendations were made to further enhance the mitigation measures:<br><br>● Where practicable, to provide sheltered area on the top and three sides for stockpiles of dusty materials, or perform frequent water spraying so as to maintain the entire surface wet;<br>● Frequent checking and repair the gaps or broken tarpaulin sheets; and<br>● To provide a hard-surfaced road between any cleaning facility and the public Road | Closed |

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

**Contract No. KLN/2016/04**
**Environmental Monitoring Works for Contract No. KL/2015/02**
**Kai Tak Development – Stage 5A Infrastructure at Former North Apron Area**

## Appendix L – Summary of environmental complaint, warning, summon and notification of successful prosecution

### Warnings / Summons and Successful Prosecutions received

| Log Ref. | Received Date | Details of Warning / Summons and Successful Prosecutions | Investigation/Mitigation Action | Status |
|---|---|---|---|---|
| N/A | N/A | N/A | N/A | N/A |

**Remarks**: No warning/summon and prosecution was received in the reporting month.

**APPENDIX M**
**SUMMARY OF WASTE GENERATION AND DISPOSAL RECORDS**

Department: CEDD
Contract No.: KL/2015/02
Project : Kai Tak Development - Stage 5A Infrastructure at Former North Apron Area

Peako - Wo Hing Joint Venture

**Monthly Summary Waste Flow Table for 2024**

As at 26 September 2024

| Month | Quantities of Inert C & D Materials Generated Monthly | | | | | | Quantities of C & D Wastes Generated Monthly | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Quantity Generated | Hard Rock and Large Broken | Reused in the Contract | Reused in other Projects | Disposed as Public Fill | Imported Fill | Metals | Paper/ Cardboard packaging | Plastics (see Note 3) | Chemical Waste | Others, e.g. general refuse |
| | (in '000m³) | (in '000m³) | (in '000m³) | (in '000m³) | (in '000m³) | (in '000m³) | (in '000kg) | (in '000kg) | (in '000kg) | (in '000kg) | (in '000m³) |
| Jan | 0.045 | 0 | 0 | 0 | 0.045 | 0 | 0 | 0 | 0 | 0 | 0 |
| Feb | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mar | 0.081 | 0 | 0 | 0 | 0.081 | 0 | 0 | 0 | 0 | 0 | 0 |
| Apr | 0.009 | 0 | 0 | 0 | 0.009 | 0 | 0 | 0 | 0 | 0 | 0 |
| May | 0.036 | 0 | 0 | 0 | 0.036 | 0 | 0 | 0 | 0 | 0 | 0.007 |
| June | 0.09 | 0 | 0 | 0 | 0.09 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sub-total | 70.471 | 0 | 0 | 0.406 | 70.065 | 0 | 0 | 0 | 0 | 0 | 2.954 |
| July | 0.009 | 0 | 0 | 0 | 0.009 | 0 | 0 | 0 | 0 | 0 | 0.014 |
| Aug | 0.126 | 0 | 0 | 0 | 0.126 | 0 | 0 | 0 | 0 | 0 | 0.014 |
| Sept | 0.027 | 0 | 0 | 0 | 0.027 | 0 | 0 | 0 | 0 | 0 | 0.007 |
| Oct | | | | | | | | | | | |
| Nov | | | | | | | | | | | |
| Dec | | | | | | | | | | | |
| Total | 70.633 | 0 | 0 | 0.406 | 70.227 | 0 | 0 | 0 | 0 | 0 | 2.989 |

| Forecast of Total Quantities of C&D Materials to be Generated from the Contract* | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Quantity Generated | Hard Rock and Large Broken Concrete | Reused in the Contract | Reused in other Projects | Disposed as Public Fill | Imported Fill | Metals | Paper/ Cardboard packaging | Plastics (see Note 3) | Chemical Waste | Others, e.g. general refuse |
| (in '000m³) | (in '000m³) | (in '000m³) | (in '000m³) | (in '000m³) | (in '000m³) | (in '000kg) | (in '000kg) | (in '000kg) | (in '000kg) | (in '000m³) |
| 72 | 0 | 0 | 1 | 71 | 0 | 0 | 0 | 0 | 0 | 3 |

Notes:
(1) The performance targets are given in PS clause 6(14).
(2) The waste flow table shall also include C & D materials that are specified in the Contract to be imported for use at the Site.
(3) Plastics refer to plastic bottles/ containers, plastic sheets/ foam from packaging material.
(4) The Contractor shall also submit the latest forcast of the total amount of C&D materials exected to be generated from the Works, together with a braskdown of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or excreeding 50,00 m³. (PS Cleuse 25.02A(7) refers).

# APPENDIX N
# CONSTRUCTION PROGRAMME

*Kai Tak Development*

*- Stage 5A Infrastructure At Former North Apron Area*

## ***Bar Chart Programme***

| | Anticipated Completion | 2022 | | 2023 | | | | | | | | | | | | 2024 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| - Removal of Traffic Deckings at Prince Edward Road East Outer Eastbound in front of Shek Ku Lung Road Playground | 29-May-23 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - Reinstatement of Shek Ku Lung Road Playground | 26-Oct-23 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - Reinstatement of Footpath of Prince Edward Road East in front of Shek Ku Lung Road Playground | 27-Mar-24 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - Reinstatement of Stage 2 | 30-Nov-22 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - Reinstatement of Stage 1 | 15-Mar-23 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - Structural Works for LT2 & ST2 | 8-Feb-24 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - Steel Works Erection for LT2 and ST2 | 8-Apr-24 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - Finishing and E&M Works for LT2 and ST2 | 1-Oct-24 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - Road Works of Road D1 (Olympic Ave) | 30-Dec-24 | | | | | | | | | | | | | | | | | | | | | | | | | | |

# Appendix B

**Monthly EM&A Report For Contract No. ED/2018/01 Kai Tak Development – Stage 4 infrastructure at the former runway and south apron**

# Environmental Monitoring and Audit Report

# for

# Contract No. ED/2018/01 –

# Kai Tak Development – Stage 4 infrastructure at the former runway and south apron

## Contract No.: EDO 15/2018

September 2024

(Version 1.1)

Certified By:_____

(Environmental Team Leader)

Ref.: CEDKTDS4EM00_0_0382L.24

14 October 2024

By Post and Email

AECOM Asia Company Limited
12/F, Grand Central Plaza, Tower 2
138 Shatin Rural Committee Road
Shatin, Hong Kong

Attention: Ms. Fanny Lau

Dear Madam,

**Re: Contract No. ED/2018/01 – Kai Tak Development**
**Stage 4 Infrastructure at the Former Runway and South Apron**

**Monthly EM&A Report for September 2024**

Reference is made to the Environmental Team's submission of the Monthly EM&A Report for September 2024 (Version 1.1) certified by the ET Leader and provided to us via email on 12 October 2024.

Please be advised that we have no further comment on the captioned Monthly EM&A Report in accordance with Condition 3.3 of EP-337/2009 and Condition 3.2 of EP-445/2013/B.

Thank you for your attention. Please do not hesitate to contact the undersigned should you have any queries.

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

Y H Hui
Independent Environmental Checker

| | | | |
|---|---|---|---|
| c.c. | CEDD | Attn.: Mr. Jason Wong | Fax: 2739 0076 |
| | Ka Shing | Attn.: Mr. Chan Pang | By Email |
| | Penta-Ocean | Attn.: Mr. Daniel Ho | Fax: 2572 4080 |

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Ramboll Hong Kong Limited 英環香港有限公司
21/F, BEA Harbour View Centre, 56 Gloucester Road, Wan Chai, Hong Kong Tel: 852.3465 2888 Fax: 852.3465 2899
www.ramboll.com

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# EXECUTIVE SUMMARY

This is the 57th Monthly Environmental Monitoring & Audit (EM&A) report which summaries the findings of the EM&A Programme during the reporting period from 1 to 30 September 2024.

**Breaches of Action and Limit Levels**

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

2) 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

3) Construction noise monitoring was conducted as scheduled in the reporting month. No Action Level and Limit Level exceedance was recorded in the reporting month.

4) Summary of the non-compliance in the reporting month for the Project is tabulated in Table I.

*Table I Non-compliance Record in the Reporting Month*

| Parameter | No. of Exceedance | | Action Taken |
|---|---|---|---|
| | Action Level | Limit Level | |
| 1-hr TSP | 0 | 0 | N/A |
| 24-hr TSP | 0 | 0 | N/A |
| Construction noise | 0 | 0 | N/A |

**Complaint log**

5) No complaint was received in the reporting month. Summary of complaints in the reporting month is tabulated in Table II.

*Table II Summary of complaints in the Reporting Month*

| Date of complaint received | Description of complaint | Investigation / Recommendations / Action taken | Close-out date / Status |
|---|---|---|---|
| NA | NA | NA | NA |

| Date of complaint received | Description of complaint | Investigation / Recommendations / Action taken | Close-out date / Status |
|---|---|---|---|
| | | | |

**Notifications of summons and successful prosecutions**

6) No notification of summons and successful prosecutions was received in the reporting month. Summary of summons and successful prosecutions in the reporting month is tabulated in Table III.

*Table III Summary of summons and successful prosecutions in the Reporting Month*

| Date of receiving notification of summons or prosecutions | Date of event | Description of event | Action take | Close-out date / Status |
|---|---|---|---|---|
| No notification of summons and successful prosecutions were received in the reporting month. | NA | NA | NA | NA |

**Report changes**

7) There was no reporting change in the reporting month.

**Key construction works in the reporting month**

8) Major construction activities undertake during the reporting month included:
   - Underground services (e.g. watermains, storm drain, sewer laying works)
   - Road works and utilities works at Road D3 (MPS) and Road L12d
   - Outstanding works and rectification works along Road D3 (MPS)
   - Backfilling at Elevated Landscape Deck
   - Construction of Toilet cum Changing Room; Construction of Outfall and Harbour Steps
   - Waterproofing works Box Culvert under section 8 (confined space)
   - Construction of Pumping Stations
   - Construction of inspection shaft for Seawater Intake Box Culvert
   - Installation of lift cart and E&M works for Lift LT-1 & LT-2
   - Testing & commissioning for Lift LT-4

**Future key issues**

9) The future key issues and potential impact in the coming month are given in Table IV.

*Table IV Summary of future key issues and potential impact in the coming month*

| Future key issues in the coming month | Potential impact |
|---|---|
| Construction of Observation Deck | Noise and Air Quality, Chemical and Waste Management |
| Construction of Back-of-House | Noise, Air and Water Quality |
| Construction of Theater, Dry Fountain and Floating Stage | Noise and Air Quality, Chemical and Waste Management |
| Rising main laying works | Noise and Air Quality, Chemical and Waste Management |
| Installation of Type A railing | Noise and Air Quality, Chemical and Waste Management |
| Installation of metal roofing system to Observation Deck | Noise and Air Quality, Chemical and Waste Management |
| E&M and ABWF related works at Pumping Stations | Noise and Air Quality, Chemical and Waste Management |
| Construction of Toilet Cum Changing Room & Temporary Management Office | Noise and Air Quality, Chemical and Waste Management |

# 1. INTRODUCTION

**Project Background**

1.1 The Kai Tak Development (KTD) is located in the south-eastern part of Kowloon Peninsula of the HKSAR, comprising the apron and runway areas of the former Kai Tak Airport and existing waterfront areas at To Kwa Wan, Ma Tau Kok, Kowloon Bay, Kwun Tong and Cha Kwo Ling.

1.2 Contract No. ED/2018/01 - Kai Tak Development – stage 4 infrastructure at the former runway and south apron (The Project), comprises mainly the design and construction of a dual two- lane Road D3 (Metro Park Section), a single 2-lane Road L12d, a salt water pumping station, a sewage pumping station, landscaped deck and promenade above and adjoining Road D3 (Metro Park Section) respectively, some remaining road works at Road L14, noise barrier at Road D3A, and other associated works at the former runway and south apron. The proposed works are shown in Figure 1 and Figure 2. During the course of the Contract No. ED/2018/01, there may be modification of noise barriers in association with the construction of footbridges connecting to the landscaped deck of Road D3A by developers of adjacent lands (Figure 3). The proposed works and site boundary are shown in Figure 4.

1.3 The new road connecting Shing Fung Road & Shing Kai Road has been open for public vehicles since 31 December 2022. Detailed location referring to Figure 5.

1.4 Civil Engineering and Development Department (CEDD) had completed an Environmental Impact Assessment (EIA) and is the Permit Holder.

1.5 The construction work under ED/2018/01 comprises the EM&A Manuals (EIA Register Nos. AEIAR-130/2009 for Kai Tak Development and EIA Register Nos. AEIAR-170/2013 for Roads D3A and D4A) and Environmental Permit (EP) Nos. EP-337/2009 and Variation to the EP (VEP) No. EP-445/2013/B.

1.6 Air quality and noise monitoring has been proposed in the EM&A Manual with EIA Register Nos. AEIAR-130/2009 for Kai Tak Development while no air quality and noise monitoring are proposed in EM&A Manual with EIA Register Nos. AEIAR-170/2013 for Roads D3A and D4A.

## Project Organization

1.7 The project organization chart and with respect to the EM&A programme is shown in Appendix A. Information of key personnel contact names and telephone numbers are summarized in Table 1.1.

*Table 1.1 Contact Information of Key Personnel*

| Party | Role | Contact Person | Position | Phone No. | Fax No. |
|---|---|---|---|---|---|
| Civil Engineering and Development Department (CEDD) | Project Proponent | Mr. Jason Wong | Senior Engineer | 3579 2453 | 2739 0076 |
| | | Ms. Chan Ka Yan | Engineer | 3579 2458 | 2739 0076 |
| AECOM Asia Co. Ltd. (AECOM) | Supervisor (act as Engineers' Representative (ER) listed in EM&A Manual) | Ms. Fanny Lau | CRE | 3911 4201 | 3911 4288 |
| Ramboll Hong Kong Limited (Ramboll) | Independent Environmental Checker (IEC) | Mr. Y H Hui | IEC | 3465 2850 | 3465 2899 |
| Ka Shing Management Consultant Limited (Ka Shing) | Environmental Team (ET) | Mr. Chan Pang | ET Leader | 6082 2973 | 2120 7752 |
| Penta-Ocean Construction Co., Ltd. (Penta-Ocean) | Contractor | Mr. Tony Tang | Environmental Officer | 9433 2628 | 3465 8898 |

## Works Area and Construction Programme

1.8 The construction works commenced on 20 January 2020.The construction programme of the Project is given in Appendix B.

## Construction works undertaken during reporting month

1.9 Major construction works of the Project in the reporting month are summarized in Table 1.2:

*Table 1.2 Major activities of the Project during reporting month*

| | |
|---|---|
| Underground services (e.g. watermains, storm drain, sewer laying works) | Road works and utilities works at Road D3 (MPS) and Road L12d |
| Outstanding works and rectification works along Road D3 (MPS) | Backfilling at Elevated Landscape Deck |
| Construction of Toilet cum Changing Room; Construction of Outfall and Harbour Steps | Waterproofing works Box Culvert under section 8 (confined space) |
| Construction of Pumping Stations | Construction of inspection shaft for Seawater Intake Box Culvert |
| Installation of lift cart and E&M works for Lift LT-1 & LT-2 | Testing & commissioning for Lift LT-4 |

## Submission Status under the Environmental Permits

1.10 The status of required submission under Environmental Permit (EP) conditions under EP-337/2009 and Variation to the EP (VEP) No. EP-445/2013/B are summarized in Table 1.3.

*Table 1.3 Summary of Status of Required Submission of EPs*

| EP Condition EP-337/2009 | EP Condition EP-445/2013/B | Submission | Submission Date |
|---|---|---|---|
| Condition 1.11 | Condition 1.12 | Notification of Commencement Date of Construction of the Project | 6 Jan 2020 |
| Condition 2.3 | Condition 2.3 | Management Organization of Main Construction Companies | 9 Sep 2019 |
| Condition 2.3 | Condition 2.3 | Updated Management Organization of Main Construction Companies | 17 Aug 2021 |
| Condition 2.4 | Condition 2.4 | Design Drawings | 6 Jan 2020 |
| Condition 2.11 | Condition 2.5 | Landscape Mitigation Plans | 13 Nov 2020 |
| Condition 2.1 | Condition 2.5 | Landscape Mitigation Plans (Revision 2) | 18 May 2021 |
| NA | Condition 2.9 | Detailed Design Plan of Traffic Noise Mitigation Measures | 9 Dec 2022 |
| Condition 3.2 | NA | Baseline Monitoring Report | 2 Jan 2020 |
| Condition 3.2 | NA | Revised Baseline Monitoring Report | 28 Mar 2020 |
| Condition 3.3 | Condition 3.2 | Monthly EM&A Report (August 2024) | 16 September 2024 |

# 2. AIR QUALITY MONITORING

**Monitoring Requirements**

2.1 In accordance with EM&A Manuals (EIA Register Nos. AEIAR-130/2009), impact air quality monitoring shall be carried out during the construction phase of the Project. For regular impact monitoring, a sampling frequency of at least once in every six says will be strictly observed at all of the monitoring stations for 24-hour TSP. For 1-hour TSP monitoring, the sampling frequency of at least three times in every six days will be undertaken when the highest dust impact occurs.

**Monitoring Locations**

2.2 Three designated monitoring stations were selected for air quality monitoring programme. Impact air quality monitoring was conducted at three air quality monitoring stations in the reporting month. Table 2.1 describes the air quality monitoring locations, which are also depicted in Figure 6.

*Table 2.1 Locations of Air Quality Monitoring Stations*

| Air Quality Monitoring Locations for the Project | Location of Measurement |
|---|---|
| AM3 - Sky Tower | Podium floor near T7 |
| AM4(A) - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop | Ground |
| AM7 – Hong Kong Children's Hospital | Rooftop |

2.3 Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (AM4(A)), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. No 24-TSP monitoring was conducted at AM4(A) while 1-hr TSP monitoring at AM4(A) were conducted on the ground floor with orienting to the Project site.

2.4 ET approached the potential sensitive receivers for monitoring station relocation since May 2022. ET conducted site visit in nearby area and found that there was no property management company in most of the nearby premises and could not approach the residents regarding the environmental monitoring. No permission can be applied for environmental monitoring.

2.5 For those premises have property management company, ET sent the proposal to owner /

property management company and explained the purpose of environmental monitoring (refer to Appendix C – Apply permission for Environmental Monitoring). Figure 7 shows the proposed alternative monitoring locations. No permission of setup and entry is received until the reporting month.

2.6 Summary of the status of for proposed alternative monitoring locations for AM4(A) are given in Table 2.2.

*Table 2.2 Proposed alternative monitoring locations for AM4(A)*

| Proposed alternative monitoring locations for M11 | Status upto reporting month |
|---|---|
| A1 - The Lok Sin Tong Modular Social Housing Scheme | Rejected application on 13 Oct 2022 |
| A2 - Freder Centre | No reply from building management office |
| A3 - New Port Centre | No reply from building management office |
| A4 - 112 - 138 To Kwa Wan Road | No property management company and could not apply the permission. |
| A5 - 2 - 26 Hok Ling Street | No property management company and could not apply the permission. |
| A6 - 1 - 27 Hok Ling Street | No property management company and could not apply the permission. |
| A7 - 2 - 28 Tsun Fat Street | No property management company and could not apply the permission. |
| A8 - 1 - 27 Tsun Fat Street | No property management company and could not apply the permission. |
| A9 – 2 - 28 Yin On Street | No property management company and could not apply the permission. |
| A10 – 1 – 27 Yin On Street | No property management company and could not apply the permission. |
| A11 – 2 – 28 Shim Luen Street | No property management company and could not apply the permission. |
| A12 - 1 - 27 Shim Luen Street | No property management company and could not apply the permission. |
| A13 - 2 - 28 Hung Wan Street | No property management company and could not apply the permission. |
| A14 - 1 - 27 Hung Wan Street | No property management company and could not apply the permission. |
| A15 - 2 - 28 Pang Ching Street | No property management company and could not apply the permission. |
| A16 - 1 - 27 Pang Ching Street | No property management company and could not apply the permission. |
| A17 - 2 - 28 Ying Yeung Street | No property management company and could not apply the permission. |
| A18 - 1 - 27 Ying Yeung Street | No property management company and could not apply the permission. |
| A19 - 2 - 28 Lun Cheung Street | No property management company and could not apply the permission. |
| A20 - 1 - 27 Lun Cheung Street | No property management company and could |

| Proposed alternative monitoring locations for M11 | Status upto reporting month |
|---|---|
| | not apply the permission. |
| A21 - 2 - 28 Luk Ming Street | No property management company and could not apply the permission. |
| A22 - 1 - 27 Luk Ming Street | No property management company and could not apply the permission. |
| A23 - 2 - 28 Fung Yi Street | No property management company and could not apply the permission. |

2.7 No update for the approval of monitoring relocation in the reporting month and ET will resume the impact monitoring once the alternative monitoring location for AM4(A) are confirmed.

**Monitoring Parameters, Frequency and Duration**

2.8 The air quality monitoring locations and monitoring frequency are listed in Table 2.3.

*Table 2.3 Air Quality Monitoring Parameters, Frequency and Duration*

| Air Monitoring Station | Location for Measurement | Parameter | Duration | Frequency |
|---|---|---|---|---|
| AM3 - Sky Tower | Podium floor near T7 | - 24-hour average TSP<br>- 1-hour average TSP | - 24 hours<br>- 1 hour | - Once every 6 days<br>- Three times every 6 days |
| AM4(A) - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop | Ground | | | |
| AM7 - Hong Kong Children's Hospital | Rooftop | | | |

2.9 The monitoring schedule for reporting month and next month is presented in Appendix D

2.10 Photographic records of the impact monitoring setup are shown in Appendix E.

**Monitoring Equipment**

2.11 24-hour average TSP and 1-hour average TSP levels were measured for impact monitoring. 24-hour average TSP levels were measured by the High Volume Samplers (HVS) and 1-hour average TSP levels were measured by direct reading method to indicate short-term impacts. Wind data monitoring equipment was set up at conspicuous locations for logging wind speed

and wind direction near to the dust monitoring locations. Table 2.4 summarizes the equipment to be used in the air quality monitoring.

*Table 2.4 Air Quality Monitoring Equipment*

| Equipment | Model | Quantity |
|---|---|---|
| HVS Sampler | TE-5170 X c/w of TSP sampling inlet | 2 |
| Calibrator | TISCH TE-5025A | 1 |
| 1-hour TSP Dust Meter | TSI Model AM510 SidePak Personal Aerosol Monitor | 2 |
| Wind Anemometer | Davis Vantage Pro2 Weather Station | 1 |

2.12 High volume samplers (HVS) (TE-5170 X c/w of TSP sampling inlet) comprising with appropriate sampling inlets were employed for 24-hour TSP monitoring. The sampler was composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complied with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50).

2.13 Calibration certificates, catalogue of equipment are given in Appendix F.

## Monitoring Methodology and QA/QC Procedure

### *24-hour TSP Monitoring*

Operating/Analytical Procedures

2.14 Setup criteria of HVS are shown as follows:

- A horizontal platform with appropriate support to secure the samplers against gusty wind was provided.
- No two samplers were placed less than 2m apart.
- The distance between the sampler and an obstacle, such as buildings, was at least twice the height that the obstacle protrudes above the sampler.
- A minimum of 2m of separation from walls, parapets and penthouses was set for the rooftop samples.
- A minimum of 2m separation from any supporting structure, measured horizontally was set.
- No furnaces or incineration flues was nearby.
- Airflow around the sampler was unrestricted.
- Any wire fence and gate, to protect the samplers, was not caused any obstruction during

monitoring.

- Permission were obtained to setup the samplers and to obtain access to the monitoring stations.
- A secured supply of electricity was provided to operate the samplers.

2.15 Prior to the commencement of the dust sampling, the flow rate of the HVS was properly set (between 1.1 $m^3$/min. and 1.7 $m^3$/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.

2.16 For TSP sampling, Glass Fiber Filter Media 8" x 10" have a collection efficiency of > 99 % for particles of 0.3 μm diameter were used.

2.17 The power supply was checked to ensure the sampler worked properly and then placed any filter media at the designated air monitoring station.

2.18 The filter holding frame was removed by loosening the four nuts and a weighted and conditioned filter was carefully centered with the stamped number upwards, on a supporting screen.

2.19 The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts. The applied pressure was sufficient to avoid air leakage at the edges.

2.20 The shelter lid was closed and secured with the aluminium strip.

2.21 The timer was programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number).

2.22 After sampling, the filter was removed from the HVS and put into a clean and labeled seal plastic bag to avoid cross contamination. The elapsed time was also be recorded. The sampled filters were sent to the HOKLAS accredited or other internationally accredited laboratory for weighting.

Maintenance/Calibration

2.23 The following maintenance/calibration are required for the HVS:

- The HVS and their accessories were properly maintained. Appropriate maintenance such as routine motor brushes replacement and electrical wiring checking were made to ensure that the equipment and necessary power supply are in good working condition.
- High volume samplers were calibrated with at bi-monthly intervals using TE-5025A Calibration Kit throughout all stages of the air quality monitoring.

***1-hour TSP Monitoring***

Measurement Procedures

2.24 The measurement procedures of the 1-hour TSP were conducted in accordance with the Manufacturer's Instruction Manual as follows:

- Set up the dust meter on a tripod at 1.2m level.
- Turned on the dust meter and check the battery, if too low, change new ones. Pointed the meter to the source area or the planned measurement area.
- The zero calibration of the instrument was conducted before and after each sampling.
- TSP levels were recorded for 1-hour with 5-minute data logging interval.
- Recorded down the general meteorological conditions, Test ID no., start/end time, spot check reading at each sampling location for data processing.
- Recorded any activities that may generate dust during measurement period.

Maintenance/Calibration

2.25 The following maintenance/calibration are required for the direct dust meters:

- To validity the accuracy of dust meter, compare the results measured by dust meter and HVS by direct reading method every 12 months throughout all stages of the air quality monitoring.

**Wind Data Monitoring**

2.26 Wind Anemometer was installed at the roof-top of AM7 - Hong Kong Children's Hospital with 10m above ground and clear of constructions or turbulence caused by the buildings.

2.27 The wind data was captured by a data logger and the data was downloaded at least once per month for analysis.

2.28 The wind data monitoring equipment will be re-calibrated at least once every six months.

2.29 Wind direction is divided into 16 sectors of 22.5 degrees each.

2.30 Details of weather information during the monitoring period are shown in Appendix G.

## Action and Limit Levels

2.31 The Action and Limit Levels of 24-hour average TSP and 1-hour average TSP are summarized in Table 2.5 and Table 2.6 respectively.

*Table 2.5 Action and Limit Levels of 24-hour average TSP for Construction Dust Monitoring*

| Parameter | Air Monitoring Station | Action Level, $\mu g/m^3$ | Limit Level, $\mu g/m^3$ |
|---|---|---|---|
| 24-hour average TSP | AM3 | 182 | 260 |
| | AM4(A) | 187 | 260 |
| | AM7 | 181 | 260 |

*Table 2.6 Action and Limit Levels of 1-hour average TSP for Construction Dust Monitoring*

| Parameter | Air Monitoring Station | Action Level, $\mu g/m^3$ | Limit Level, $\mu g/m^3$ |
|---|---|---|---|
| 1-hour average TSP | AM3 | 297 | 500 |
| | AM4(A) | 326 | 500 |
| | AM7 | 315 | 500 |

## Impact Air Quality Monitoring results

2.32 Impact monitoring results for 24-hour average TSP and 1-hour average TSP levels at the designed air quality monitoring stations are summarized in Table 2.7 and Table 2.8 respectively.

2.33 Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (AM4(A)), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. No 24-TSP monitoring was conducted at AM4(A) while 1-hr TSP monitoring at AM4(A) were conducted on the ground floor with orienting to the Project site. ET will resume the impact monitoring once the alternative monitoring location for AM4(A) is confirmed.

*Table 2.7 Summary of 24-hour average TSP Monitoring Data during the reporting month*

| Air Monitoring Station | Average TSP Concentration, $\mu g/m^3$ | Range, $\mu g/m^3$ | Action Level, $\mu g/m^3$ | Limit Level, $\mu g/m^3$ |
|---|---|---|---|---|
| AM3 | 56 | 33 – 86 | 182 | 260 |
| AM4(A) | / | / – / | 187 | 260 |
| AM7 | 47 | 27 – 65 | 181 | 260 |

*Table 2.8 Summary of 1-hour average TSP Monitoring Data during the reporting month*

| Air Monitoring Station | Average TSP Concentration, $\mu g/m^3$ | Range, $\mu g/m^3$ | Action Level, $\mu g/m^3$ | Limit Level, $\mu g/m^3$ |
|---|---|---|---|---|
| AM3 | 57 | 31 – 92 | 297 | 500 |
| AM4(A) | 75 | 54 – 111 | 326 | 500 |
| AM7 | 53 | 34 – 72 | 315 | 500 |

2.34 There was no Action and Limit Level exceedance of 24-hour average TSP and 1-hour average TSP levels recorded during the reporting month.

2.35 Graphical presentation and detailed monitoring results of 24-hour average TSP and 1-hour average TSP levels are shown in Appendix H and Appendix I respectively.

2.36 The Event and Action Plan is provided in Appendix J.

2.37 Non-project related construction activities in the adjacent construction sites were observed during the reporting period and may affect the monitoring results.

# 3. NOISE MONITORING

## Monitoring Requirements

3.1 In accordance with EM&A Manuals (EIA Register Nos. AEIAR-130/2009), impact noise monitoring shall be carried out during the construction phase of the Project.

3.2 Regular monitoring, $L_{Aeq, 30\text{-minute}}$, for each station will be on a weekly basis and conduct one set of measurements between 0700 – 1900 on normal weekdays.

3.3 If construction works are extended to include works during 1900 – 0700 as well as public holidays and Sundays, additional weekly impact monitoring will be carried out during the respective restricted hours periods.

## Monitoring Locations

3.4 Two designated monitoring stations were selected for noise monitoring programme. Impact noise monitoring was conducted at two noise monitoring stations in the reporting month. Table 3.1 describes the noise monitoring locations, which are also depicted in Figure 8.

*Table 3.1 Locations of Noise Monitoring Stations*

| Noise Monitoring Locations for the Project | Location of Measurement |
|---|---|
| M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop | Ground (Façade) |
| M12 - Hong Kong Children's Hospital | Rooftop (Façade) |

3.5 Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (M11), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022.

3.6 ET approached the potential sensitive receivers for monitoring station relocation since May 2022. ET conducted site visit in nearby area and found that there was no property management company in most of the nearby premises and could not approach the residents regarding the environmental monitoring. No permission can be applied for environmental monitoring.

3.7 For those premises have property management company, ET sent the proposal to owner / property management company and explained the purpose of environmental monitoring (refer to Appendix C – Apply permission for Environmental Monitoring). Figure 9 shows the proposed alternative monitoring locations. No permission of setup and entry is received until the reporting month.

3.8 Summary of the status of for proposed alternative monitoring locations for M11 are given in Table 3.2.

*Table 3.2 Proposed alternative monitoring locations for M11*

| Proposed alternative monitoring locations for M11 | Status upto reporting month |
|---|---|
| A1 - The Lok Sin Tong Modular Social Housing Scheme | Rejected application on 13 Oct 2022 |
| A2 - Freder Centre | No reply from building management office |
| A3 - New Port Centre | No reply from building management office |
| A4 - 112 - 138 To Kwa Wan Road | No property management company and could not apply the permission. |
| A5 - 2 - 26 Hok Ling Street | No property management company and could not apply the permission. |
| A6 - 1 - 27 Hok Ling Street | No property management company and could not apply the permission. |
| A7 - 2 - 28 Tsun Fat Street | No property management company and could not apply the permission. |
| A8 - 1 - 27 Tsun Fat Street | No property management company and could not apply the permission. |
| A9 – 2 - 28 Yin On Street | No property management company and could not apply the permission. |
| A10 – 1 – 27 Yin On Street | No property management company and could not apply the permission. |
| A11 – 2 – 28 Shim Luen Street | No property management company and could not apply the permission. |
| A12 - 1 - 27 Shim Luen Street | No property management company and could not apply the permission. |
| A13 - 2 - 28 Hung Wan Street | No property management company and could not apply the permission. |
| A14 - 1 - 27 Hung Wan Street | No property management company and could not apply the permission. |
| A15 - 2 - 28 Pang Ching Street | No property management company and could not apply the permission. |
| A16 - 1 - 27 Pang Ching Street | No property management company and could not apply the permission. |
| A17 - 2 - 28 Ying Yeung Street | No property management company and could not apply the permission. |
| A18 - 1 - 27 Ying Yeung Street | No property management company and could not apply the permission. |
| A19 - 2 - 28 Lun Cheung Street | No property management company and could |

| Proposed alternative monitoring locations for M11 | Status upto reporting month |
|---|---|
| | not apply the permission. |
| A20 - 1 - 27 Lun Cheung Street | No property management company and could not apply the permission. |
| A21 - 2 - 28 Luk Ming Street | No property management company and could not apply the permission. |
| A22 - 1 - 27 Luk Ming Street | No property management company and could not apply the permission. |
| A23 - 2 - 28 Fung Yi Street | No property management company and could not apply the permission. |

3.9 No update for the approval of monitoring relocation in the reporting month and ET will resume the impact monitoring once the alternative monitoring location for M11 are confirmed.

**Monitoring Parameters, Frequency and Duration**

3.10 The noise monitoring locations and monitoring frequency are listed in Table 3.3.

*Table 3.3 Noise Monitoring Parameters, Frequency and Duration*

| Noise Monitoring Station | Location for Measurement | Parameter | Frequency and Duration |
|---|---|---|---|
| M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop* | Ground (Façade) | $L_{Aeq}$, $L_{A10}$ and $L_{A90}$ | 30 - minutes measurement at each monitoring station between 0700 – 1900 hrs on normal weekdays (Monday to Saturday) at frequency of once per week. |
| M12 - Hong Kong Children's Hospital | Rooftop (Façade) | | |

* Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (M11), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022.

3.11 The monitoring schedule for reporting month and next month is presented in Appendix D.

3.12 Photographic records of the monitoring setup are shown in Appendix E.

**Monitoring Equipment**

3.13 As referred to in the Technical Memorandum (TM) issued under the Noise Control Ordinance (NCO), sound level meters in compliance with the IEC 61672-1 (Type 1) standard [this

standard replaced the International Electrotechnical Commission Publications 60651:1979 (Type 1) and 60804:1985 (Type 1)] were used for noise monitoring. Table 3.4 summarizes the equipment to be used in the noise monitoring.

*Table 3.4 Noise Monitoring Equipment*

| Equipment | Model | Quantity |
|---|---|---|
| Sound Level Meter | RION NL52 | 2 |
| Sound Level Calibrator | RION NC 74 | 1 |
| Sound Level Calibrator | RION NC 75 | 1 |
| Air Flowmeter | TSI TA440 Air Velocity | 1 |

3.14 Calibration certificates, catalogue of equipment are given in Appendix K.

**Monitoring Methodology and QA/QC Procedure**

3.15 The noise level measurement was conducted at 1m from the exterior of the nearby noise sensitive receivers building façade and at 1.2m above the ground and facing to the source area or the planned measurement area.

3.16 No noise measurement was conducted in the presence of fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s. Air flow was measured by air flow meter.

3.17 Turned on the sound level meter and check the battery, if too low, change new ones.

3.18 Calibration was conducted immediately prior to and after each noise measurement, the accuracy of the sound level meters was checked by using sound calibrator generating 1,000 Hz with 94dB. Measurement data was found to be valid only if the calibration levels from before and after the noise measurement agreed to within 1.0 dB.

3.19 Noise level was recorded.

3.20 Recorded any activities that may generate noise during measurement period.

**Maintenance and Calibration**

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

3.22 The sound level meter and sound calibrator were calibrated annually.

3.23 Calibration for sound level meter was conducted immediately prior to and following each noise measurement by using sound calibrator generating a known sound pressure level at a known frequency (1,000 Hz with 94dB). Measurements may be accepted as valid only if the calibration levels from before and after the noise measurement agree to within 1.0 dB.

## Action and Limit Levels

3.24 The Baseline Noise Levels and Action and Limit Levels for construction noise is presented in Table 3.5.

*Table 3.5 Baseline Noise Level and Action and Limit Levels for Construction Noise Monitoring*

| Time Period | Noise Monitoring Station | Baseline Noise Levels, dB (A) | Action Level | Limit Level ^ |
|---|---|---|---|---|
| 0700 – 1900 on normal weekdays | M11 | 68.3 | When one documented complaint is received. | 75 dB(A) |
| | M12 | 61.9 | | |

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

## Impact Noise Monitoring results

3.25 Impact noise monitoring results at the designed noise monitoring stations are summarized in Table 3.6 respectively.

3.26 Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (M11), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. 30-min noise monitoring at M11 were conducted on the ground floor with orienting to the Project site. ET will resume the impact monitoring once the alternative monitoring location for M11 is confirmed.

*Table 3.6 Summary of Noise Monitoring Data during the reporting month*

| Noise Monitoring Station | Measured $L_{Aeq, 30\text{-}min}$, Average, dB(A) | Measured $L_{Aeq, 30\text{-}min}$, Range, dB(A) | Action Level | Limit Level ^ |
|---|---|---|---|---|
| M11 | 73.4 | 72.7 – 74.1 | When one documented complaint is received | 75 dB(A) |
| M12 | 63.3 | 61.4 – 64.9 | | |

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

3.27 There were no Action Level exceedance of noise monitoring and Limit Level exceedance of $L_{Aeq,\ 30min}$ recorded during the reporting month.

3.28 Graphical presentation and detailed monitoring results are shown in Appendix L.

3.29 The Event and Action Plan is provided in Appendix J.

3.30 Non-project related construction activities in the adjacent construction sites were observed during the reporting period and may affect the monitoring results.

# 4. COMPARISON OF EM&A RESULTS WITH EIA PREDICTIONS

4.1 The environmental impacts predictions were given in Agreement No. CE 35/2006(CE) Kai Tak Development Engineering Study cum Design and Construction of Advance Works - Investigation, Design and Construction - Kai Tak Development Environmental Impact Assessment Report, EIA Register Nos. AEIAR-130/2009 for Kai Tak Development (The EIA Report). The EM&A data was compared with the EIA predictions as summarized in Table 4.1 to Table 4.3.

*Table 4.1 Comparison of 24-hour average TSP Monitoring Data with EIA predictions*

| Air Monitoring Station | ASR No. in EIA report | Predicted Cumulative Maximum 24-hour average TSP concentration | | Measured 24-hr average TSP in Reporting Month (September 2024) $\mu g/m^3$ |
|---|---|---|---|---|
| | | Scenario 1 (Mid 2009 to Mid 2013), $\mu g/m^3$ | Scenario 2 (Mid 2013 to Late 2016), $\mu g/m^3$ | |
| AM3 - Sky Tower | A40^ | 106 | 138 | 33 – 86 |
| AM4(A) - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop* | A43^ | 123 | 195 | / – / |
| AM7 – Hong Kong Children's Hospital | PA60 | NA | NA | 27 – 65 |

Note:
^ Prediction results are given in the Table 3.13 of the EIA report EIA Register Nos. AEIAR-130/2009 for Kai Tak Development.
* Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (AM4(A)), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. No 24-TSP monitoring was conducted at AM4(A) because of the assess limitation in the reporting month.

*Table 4.2 Comparison of 1-hour average TSP Monitoring Data with EIA predictions*

| Air Monitoring Station | ASR No. in EIA report | Predicted Cumulative Maximum 1-hour average TSP concentration | | Measured 1-hr average TSP in Reporting Month (September 2024) $\mu g/m^3$ |
|---|---|---|---|---|
| | | Scenario 1 (Mid 2009 to Mid 2013), $\mu g/m^3$ | Scenario 2 (Mid 2013 to Late 2016), $\mu g/m^3$ | |
| AM3 - Sky Tower | A40 | 217^ | 247^ | 31 – 92 |
| AM4(A) - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop* | A43 | 283^ | 409^ | 54 – 111 |
| AM7 – Hong Kong Children's Hospital | PA60 | NA | NA | 34 – 72 |

Note:

^ Prediction results are given in the Table 3.13 of the EIA report EIA Register Nos. AEIAR-130/2009 for Kai Tak Development.
* Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (AM4(A)), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. 1-hour TSP monitoring was conducted on the ground floor outside AM4(A) with facing to the Project Site because of the access limitation in the reporting month.

*Table 4.3 Comparison of Noise Monitoring Data with EIA predictions*

| Noise Monitoring Station | NSR No. in EIA report | Predicted Mitigated Construction Noise Levels during Normal Daytime Working Hour $L_{Aeq, 30min}$, dB(A) | Measured Noise Level in Reporting Month (September 2024) $L_{Aeq, 30min}$, dB(A) |
|---|---|---|---|
| M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop* | N18 | 50 – 76* | 72.7 – 74.1 |
| M12 - Hong Kong Children's Hospital | PN83, PN84, PN84A | NA | 61.4 – 64.9 |

Note:
* Prediction results are given in the Table 3.20 of the EIA report EIA Register Nos. AEIAR-130/2009 for Kai Tak Development.
*Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (M11), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. Construction noise monitoring was conducted on the ground floor outside M11 with facing to the Project Site because of the access limitation in the reporting month.

4.2 24-hr TSP monitoring result at AM3 were recorded lower than the prediction in the EIA Report. Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (AM4(A)), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. No 24-TSP monitoring was conducted at AM4(A) because of the assess limitation in the reporting month. Non-project related construction activities in the adjacent construction sites were observed during the reporting period and may affect the monitoring results.

4.3 No prediction in the EIA Report for 24-hour TSP monitoring results at AM7.

4.4 1-hour TSP monitoring results at AM3 and AM4(A) were recorded lower than the prediction in the EIA Report. Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (AM4(A)), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. 1-hour TSP monitoring was conducted on the ground floor outside AM4(A) with facing to the Project Site because of the access limitation in the reporting month. Non-project related construction activities in the adjacent construction sites were observed during the reporting period and may affect the monitoring results.

4.5 No prediction in the EIA Report for 1-hour TSP monitoring results at AM7.

4.6 Noise monitoring results at M11 were recorded lower than the prediction in the EIA Report.

Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (M11), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. Construction noise monitoring was conducted on the ground floor outside M11 with facing to the Project Site because of the access limitation in the reporting month. Non-project related construction activities in the adjacent construction sites were observed during the reporting period and may affect the monitoring results.

4.7 No prediction in the EIA Report for noise monitoring results at M12.

# 5. LANDSCAPE AND VISUAL MONITORING

5.1 In accordance with EM&A Manuals (EIA Register Nos. AEIAR-130/2009 and AEIAR-170/2013), Landscape and Visual Monitoring shall be carried out during the construction phase of the Project. Regular impact monitoring will be conducted at least once per week.

**Results and Observations**

5.2 Site inspections were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site.

5.3 Site inspections were conducted on 5, 10, 19 and 26 September 2024 in the reporting month.

5.4 The summaries of site audits are attached in Table 5.1.

*Table 5.1 Summary of observations of Landscape and Visual impact during the reporting month*

| Inspection Date | Key Observations | Recommendations / Actions | Close-out Date / Status |
|---|---|---|---|
| 05 September 2024 | No | NA | NA |
| 10 September 2024 | No | NA | NA |
| 19 September 2024 | No | NA | NA |
| 26 September 2024 | No | NA | NA |

5.5 No non-compliance of the landscape and visual impact was recorded in the reporting month.

5.6 Should non-compliance of the landscape and visual impact occur, action in accordance with the action plan presented in Appendix N shall be performed.

# 6. ENVIRONMENTAL SITE INSPECTION AND AUDIT

**Site Inspection**

6.1 Site inspections were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site.

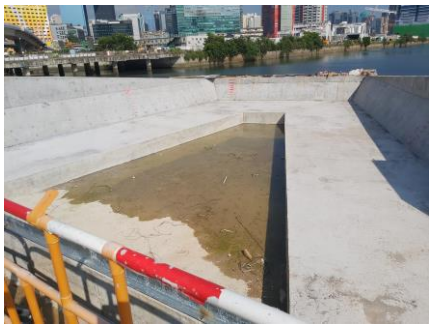
6.2 Site inspections were conducted on 5, 10, 19 and 26 September 2024 in the reporting month.

6.3 The summaries of site audits are attached in Table 6.1.

*Table 6.1 Summary of site inspections observations during the reporting month*

| Inspection Date | Key Observations | Recommendations / Actions | Close-out Date / Status |
|---|---|---|---|
| 05 September 2024 |  <br>Observation:<br>Drainage system should be well maintained at the underpass. |  <br>Action Taken:<br>The debris was removed at the manholes. | Closed-out on 10 September 2024 |
| |  <br>Observation:<br>Rubbish should be removed along section 8. |  <br>Action Taken:<br>The rubbish was removed along the section 8 | Closed-out on 10 September 2024 |

| Inspection Date | Key Observations | Recommendations / Actions | Close-out Date / Status |
|---|---|---|---|
| 10 September 2024 |  <br>Observation:<br>Please remind to remove the stagnant water to prevent mosquito breeding near the pumping station. |  <br>Action Taken:<br>The stagnant water has been removed and backfilled near the pumping station. | Closed-out on 19 September 2024 |
| |  <br>Observation:<br>NRMM label was missing for the forklift at harbour steps. |  <br>Action Taken:<br>The NRMM label has been properly displayed on the forklift at harbour steps. | Closed-out on 19 September 2024 |
| 19 September 2024 |  <br>Observation:<br>The stagnant water should be cleared at Park1. |  <br>Action Taken:<br>The stagnant water has been cleared at Park1. | Closed-out on 19 September 2024 |

| Inspection Date | Key Observations | Recommendations / Actions | Close-out Date / Status |
|---|---|---|---|
| |  <br>Observation:<br>The accumulation of waste should be removed at bucket near Area 3. |  <br>Action Taken:<br>The accumulation of waste has been removed at bucket near Area 3. | Closed-out on 26 September 2024 |
| 26 September 2024 |  <br>Observation:<br>The fences should be properly maintained and erected around the tree protection zone. |  <br>Action Taken:<br>The fences were maintained and erected around the tree protection zone. | Closed-out on 03 October 2024 |
| |  <br>Observation:<br>The stagnant water should be removed regularly at event deck area. |  <br>Action Taken:<br>The stagnant water has been removed and backfilled at event deck area. | Closed-out on 03 October 2024 |

**Status of Waste Management**

6.4 The amount of wastes generated by the major site activities of the work contracts within the Project during the reporting month is shown in Appendix O.

6.5 The Contractor was registered as a chemical waste producer for the Project. The Contractor was reminded that chemical waste containers should be properly treated and stored temporarily in designated chemical waste storage area on site in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.

**Status of Environmental Licenses, Notification and Permits**

6.6 A summary of the relevant permits, licenses and/or notifications on environmental protection for the Project is shown in Table 6.2.

*Table 6.2 Summary of Environmental Licenses, Notifications and Permits*

| Environmental Licenses, Notifications and Permits | Ref. No. | Valid Form | Valid Till |
|---|---|---|---|
| Environmental Permit under EIAO | EP-337/2009 | 23 Apr 2009 | N/A |
| | EP-445/2013/B | 3 May 2022 | N/A |
| Construction Dust Notification under APCO | 445956 | 6 Jun 2019 | N/A |
| Wastewater Discharge License under WPCO | WT00034610-2019 | 26 Sep 2019 | 30 Sep 2024 |
| Waste Disposal Billing Account | 7034450 | 28 Jun 2019 | N/A |
| Registration as a Chemical Waste Producer | 5218-286-P3182-03 | 18 Jul 2019 | N/A |
| Construction Noise Permit | GW-RE0525-24 | 30 Apr 2024 | 29 Oct 2024 |
| | GW-RE0526-24 | 30 Apr 2024 | 29 Oct 2024 |
| | GW-RE0445-24 | 21 Apr 2024 | 20 Oct 2024 |
| | GW-RE0570-24 | 10 May 2024 | 09 Nov 2024 |
| | GW-RE0787-24 | 05 Jul 2024 | 04 Jan 2025 |
| | GW-RE0945-24 | 15 Aug 2024 | 14 Feb 2025 |

**Implementation Status of Environmental Mitigation Measures**

6.7 The Contractor has implemented environmental mitigation measures and requires as stated in the EIA reports, the EP and the EM&A Manuals. The implementation status of the mitigation measures during the reporting month is summarized in Appendix P.

6.8 In response to the site audit findings, the Contractor carried out corrective actions with

summary given in Appendix P.

**Environmental Complaint and Non-compliance**

6.9 No complaint was received in the reporting month. Summary of complaints in the reporting month is tabulated in Table 6.3.

*Table 6.3 Summary of complaints in the Reporting Month*

| Date of complaint received | Description of complaint | Investigation / Recommendations / Action taken | Close-out date / Status |
|---|---|---|---|
| NA | NA | NA | NA |

6.10 Complaint log and Complaint Investigation report are shown in Appendix Q.

**Notifications of summons and successful prosecutions**

6.11 No notification of summons and successful prosecutions was received in the reporting month. Summary of summons and successful prosecutions in the reporting month is tabulated in Table 6.4.

*Table 6.4 Summary of summons and successful prosecutions in the Reporting Month*

| Date of receiving notification of summons or prosecutions | Date of event | Description of event | Action taken | Close-out date / Status |
|---|---|---|---|---|
| No notification of summons and successful prosecutions were received in the reporting month. | NA | NA | NA | NA |

6.12 The summaries of cumulative environmental complaint, warning, summon and notification of successful prosecution for the Project is presented in Appendix Q.

# 7. FUTURE KEY ISSUES

**Construction Programme in the coming month**

7.1 The major construction activities and potential impacts in the next reporting month as follow:

*Table 7.1 Summary of future key issues and potential impact in the coming month*

| Future key issues in the coming month | Potential impact |
|---|---|
| Construction of Observation Deck | Noise and Air Quality, Chemical and Waste Management |
| Construction of Back-of-House | Noise, Air and Water Quality |
| Construction of Theater, Dry Fountain and Floating Stage | Noise and Air Quality, Chemical and Waste Management |
| Rising main laying works | Noise and Air Quality, Chemical and Waste Management |
| Installation of Type A railing | Noise and Air Quality, Chemical and Waste Management |
| Installation of metal roofing system to Observation Deck | Noise and Air Quality, Chemical and Waste Management |
| E&M and ABWF related works at Pumping Stations | Noise and Air Quality, Chemical and Waste Management |
| Construction of Toilet Cum Changing Room & Temporary Management Office | Noise and Air Quality, Chemical and Waste Management |

7.2 The mitigation measures for environmental impact including Air Quality, Construction Noise, Water Quality, Chemical and Waste Management, Landscape and Visual shall be implemented:

- Sufficient watering of the works site with the active dust emitting activities,
- Limitation of the speed for vehicles on unpaved site roads,
- Properly cover the stockpiles,
- Good maintenance to the plant and equipment,
- Use of quieter plant and Quality Powered Mechanical Equipment (QPME),
- Provide movable noise barriers,
- Appropriate desilting/ sedimentation devices provided on site for treatment before discharge,
- Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall,
- Onsite waste sorting and implementation of trip ticket system,
- Good management and control on construction waste reduction,
- Erection of decorative screen hoarding,

- Strictly following the Environmental Permits and Licenses, and
- Provide sufficient mitigation measures as recommended in Approved EIA Reports.

**Environmental Site Inspection and Monitoring Schedule for next month**

7.3 The tentative schedule for weekly site inspection and air quality and noise monitoring in the next month is provided in Appendix D.

# 8. CONCLUSIONS

8.1 Environmental monitoring works were performed in the reporting month and all monitoring results were checked and reviewed.

8.2 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (AM4(A)), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. 1-hour TSP monitoring was conducted on the ground floor outside AM4(A) with facing to the Project Site because of the access limitation in the reporting month.

8.3 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (AM4(A)), the premises owner rejected ET to conduct impact monitoring since1 Sept 2022. No 24-hour TSP monitoring was conducted at AM4(A) because of the assess limitation in the reporting month.

8.4 Construction noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (M11), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. Impact monitoring was conducted on the ground floor outside M11 with facing to the Project Site because of the access limitation in the reporting month.

8.5 No complaint was received in the reporting month.

8.6 No notification of summons and successful prosecutions was received in the reporting month.

# Figure

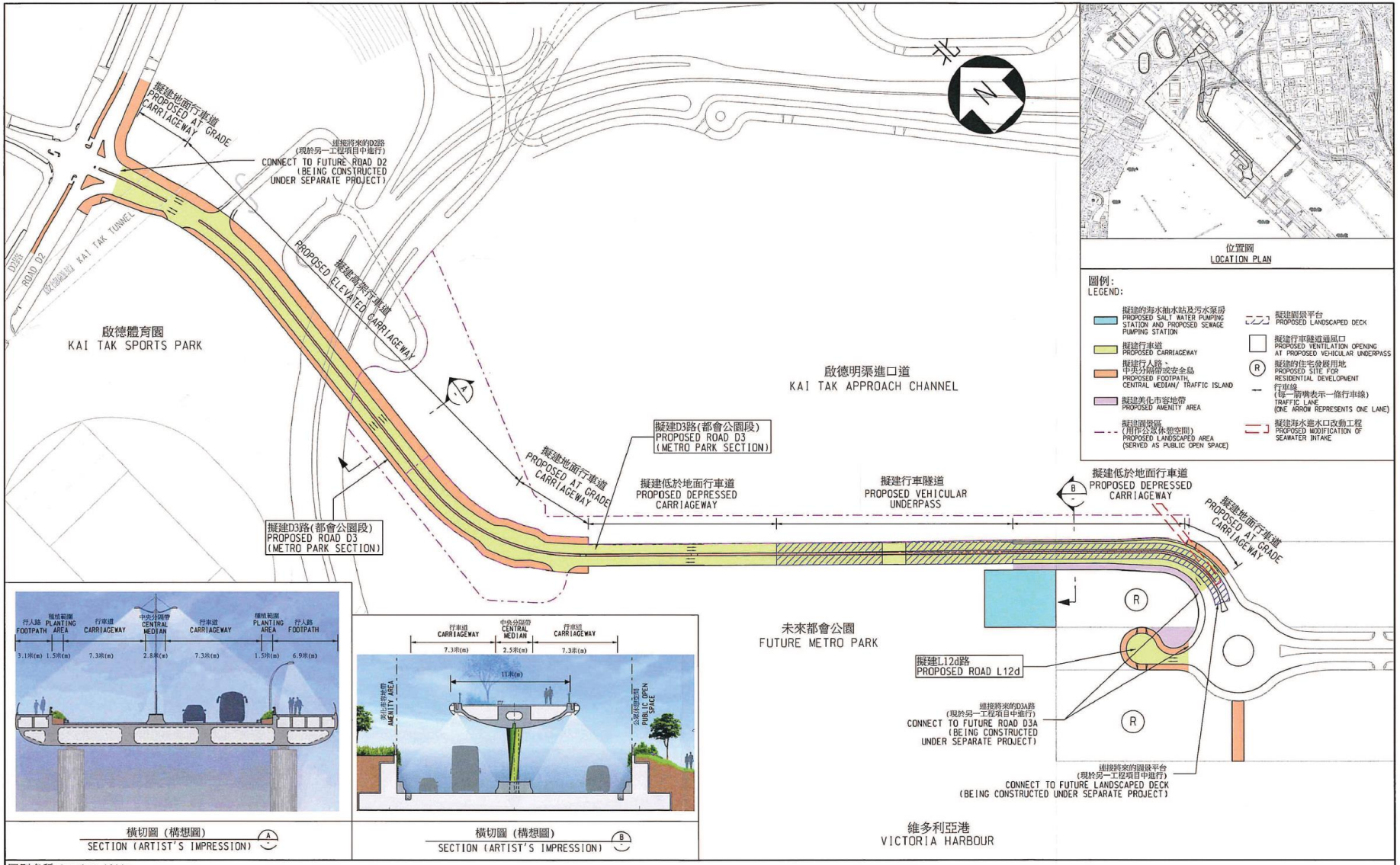



Figure 1 – Proposed works of Contract No. ED/2018/01

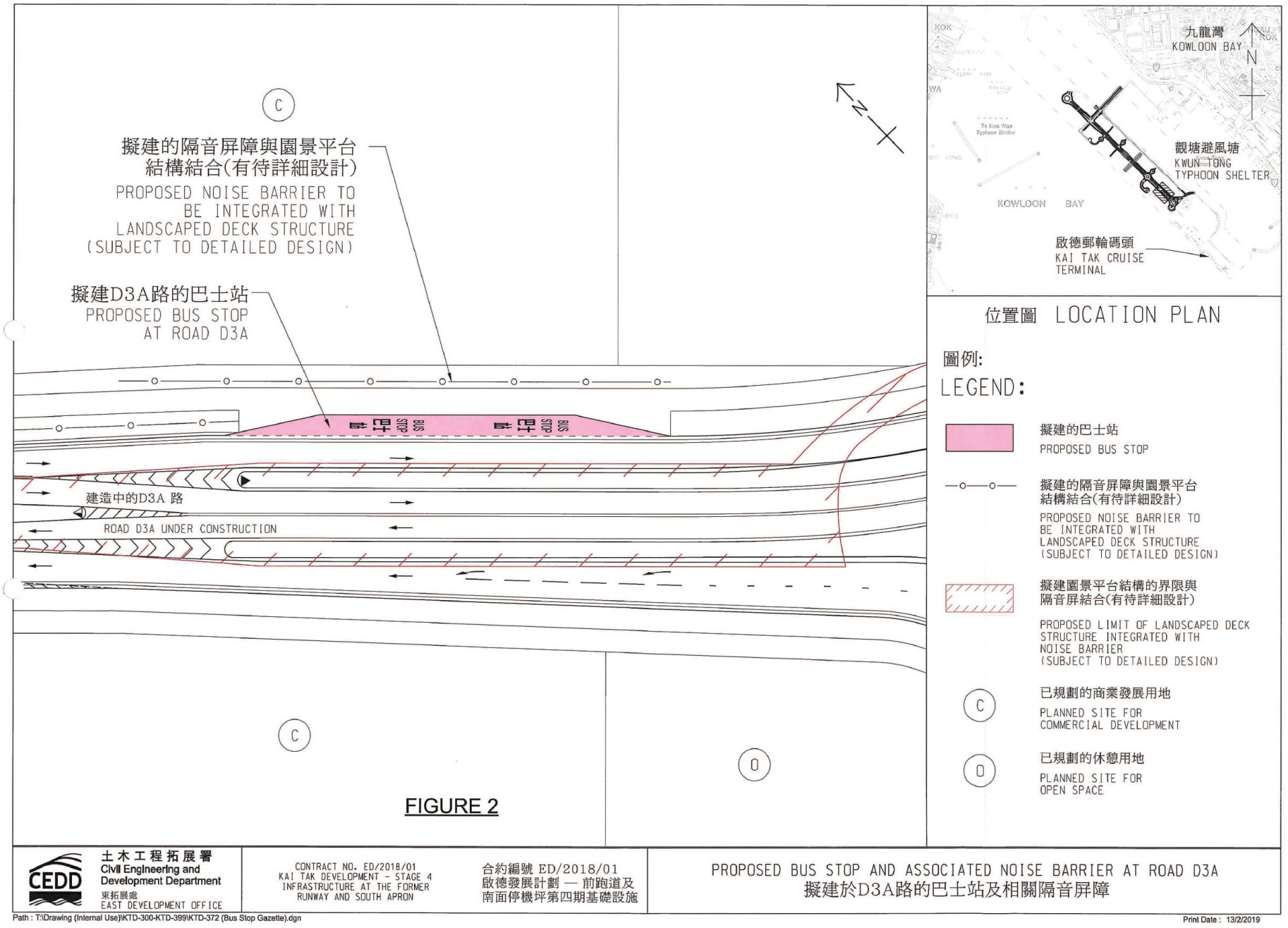



Figure 2 – Proposed Bus Stop And Associated Noise Barrier At Road D3A

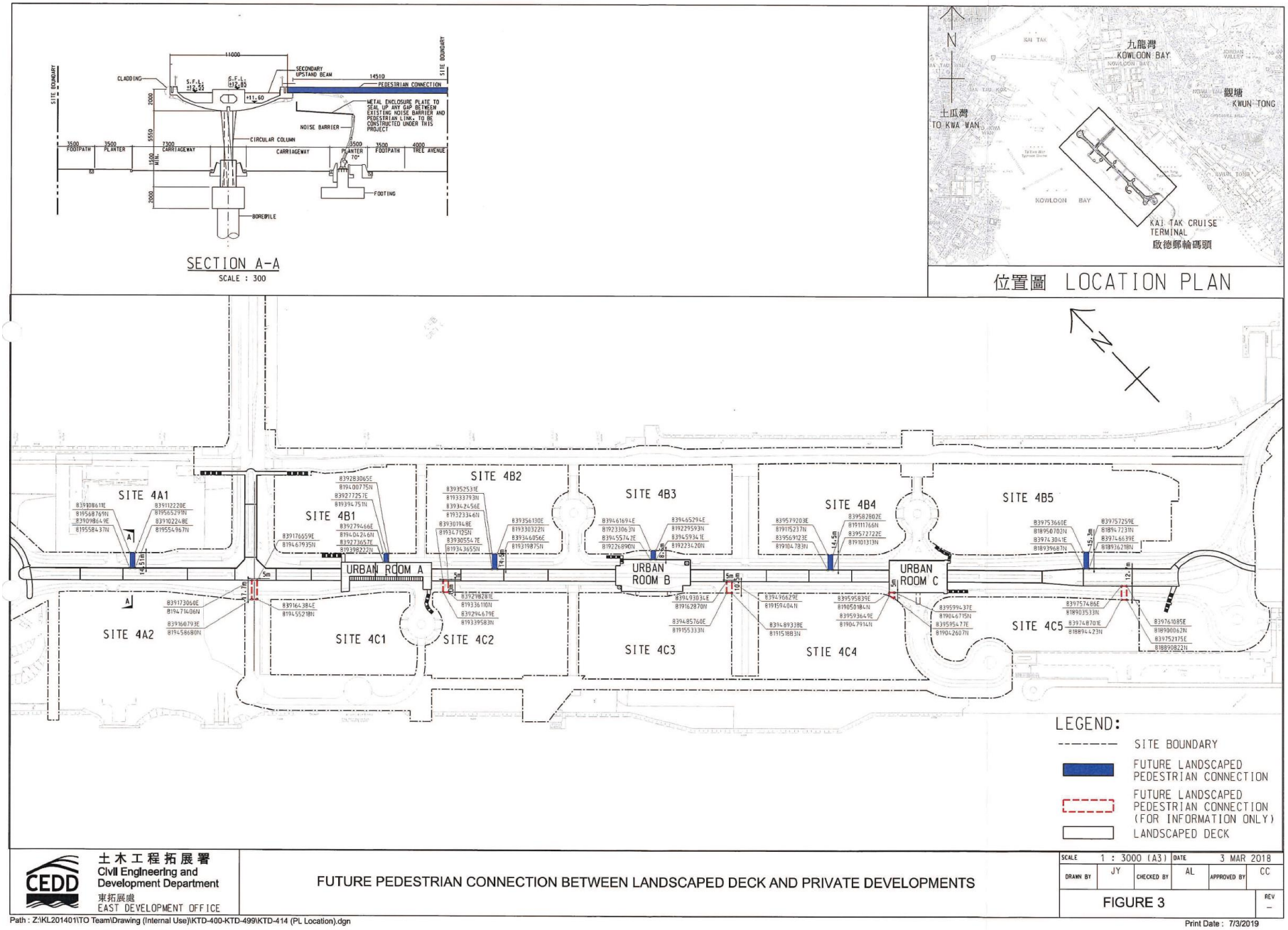



Figure 3 – Future Pedestrian Connection Between Landscaped Deck And Private Developments

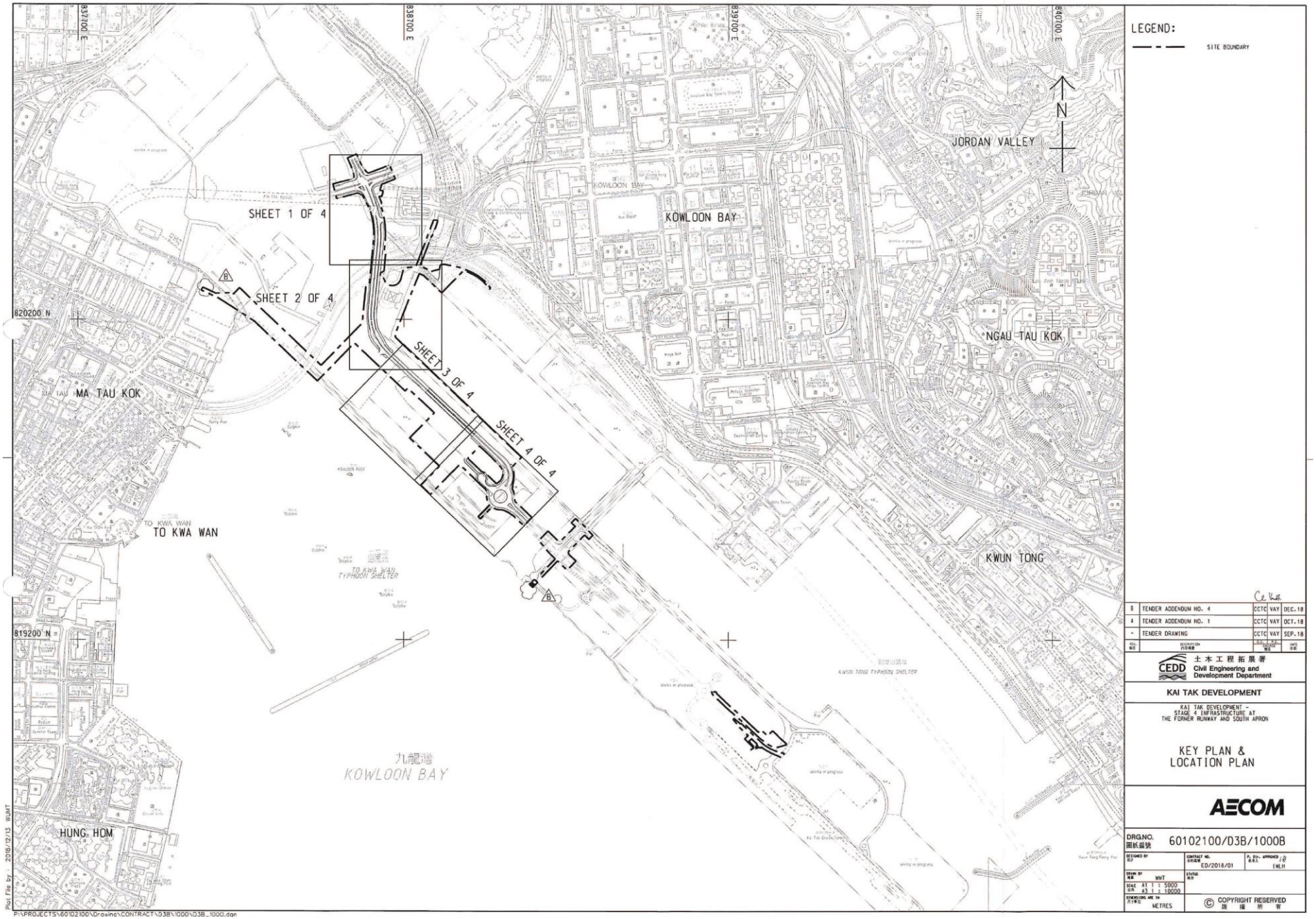
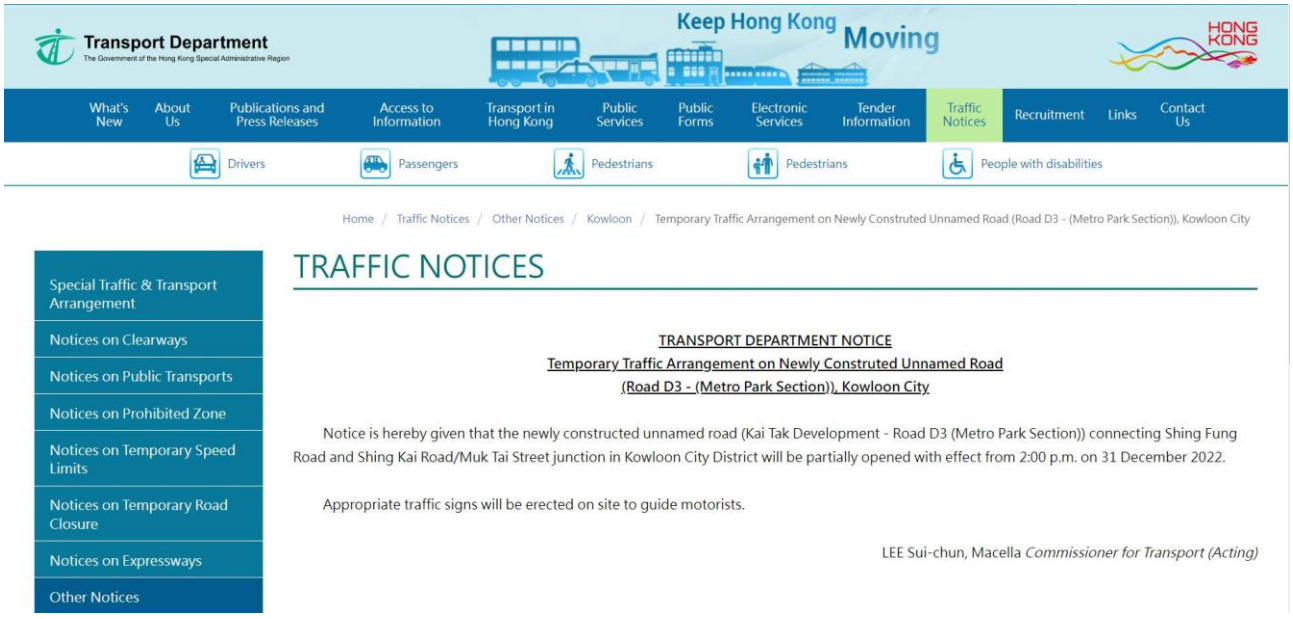



Figure 4 – Site Layout Plan



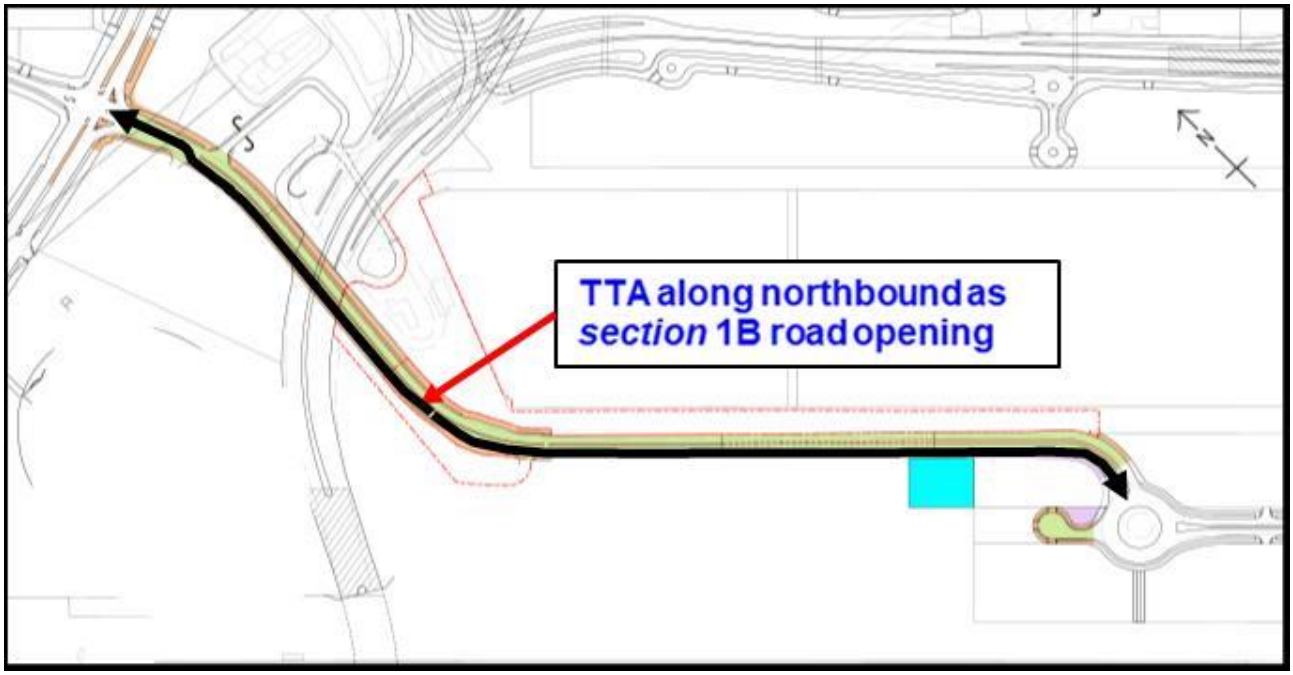




Figure 5 – New Opened Road on 31 December 2022

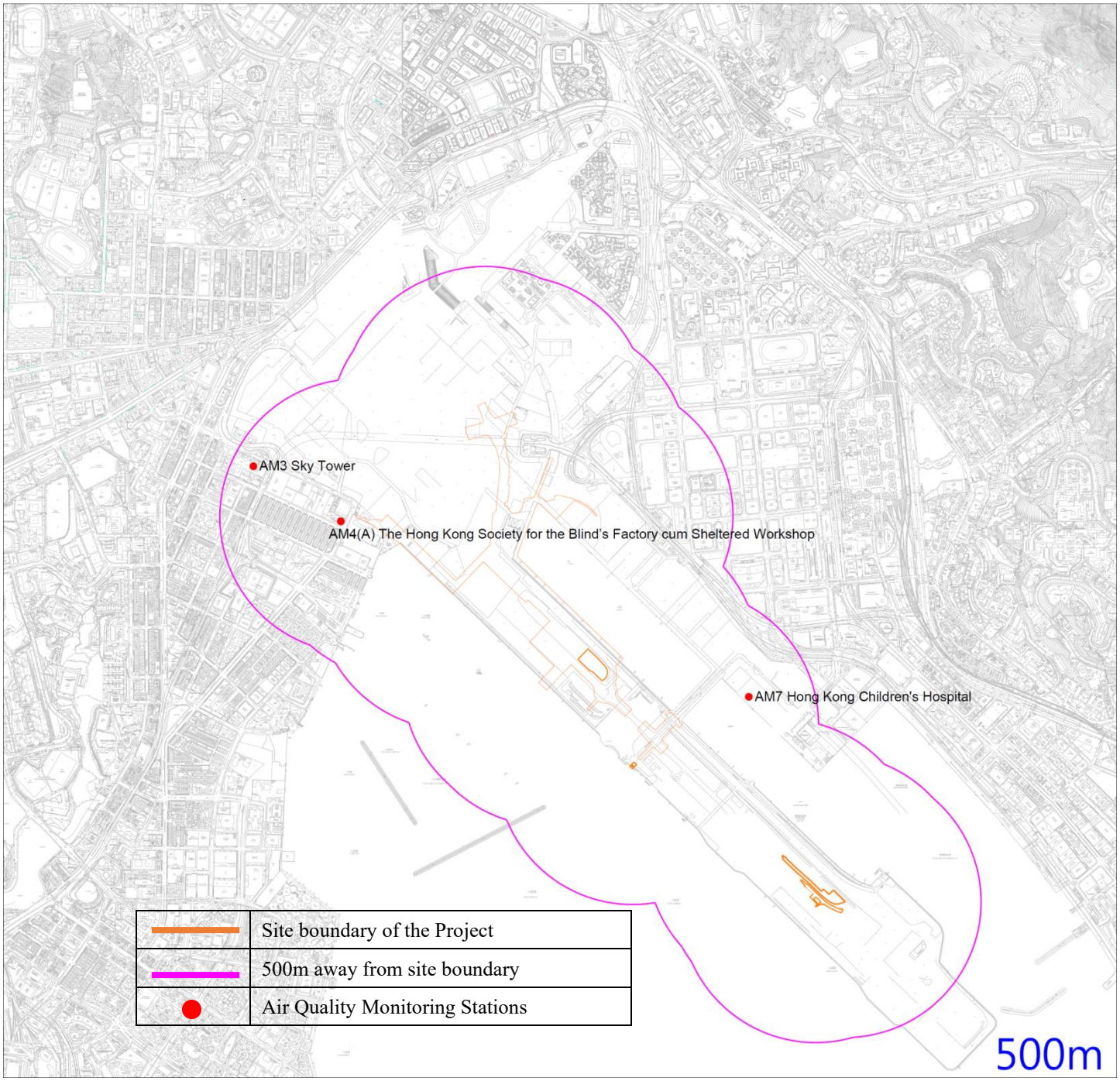



Figure 6 – Air Quality Monitoring Stations

* Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (M11), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. Construction noise monitoring was conducted on the ground floor outside M11 with facing to the Project Site because of the access limitation in the reporting month.

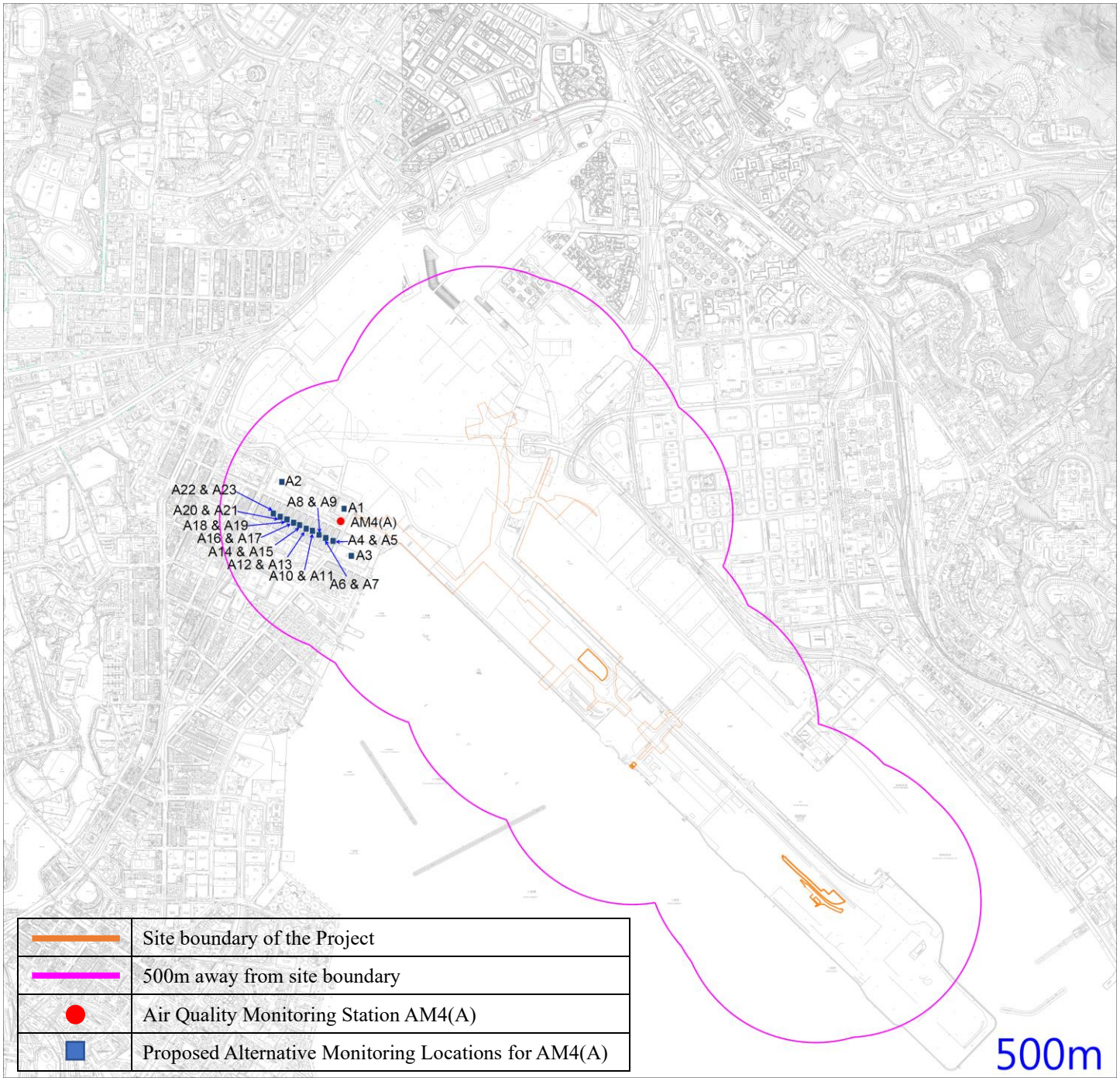



Figure 7 – Proposed Alternative Monitoring Locations for AM4(A)

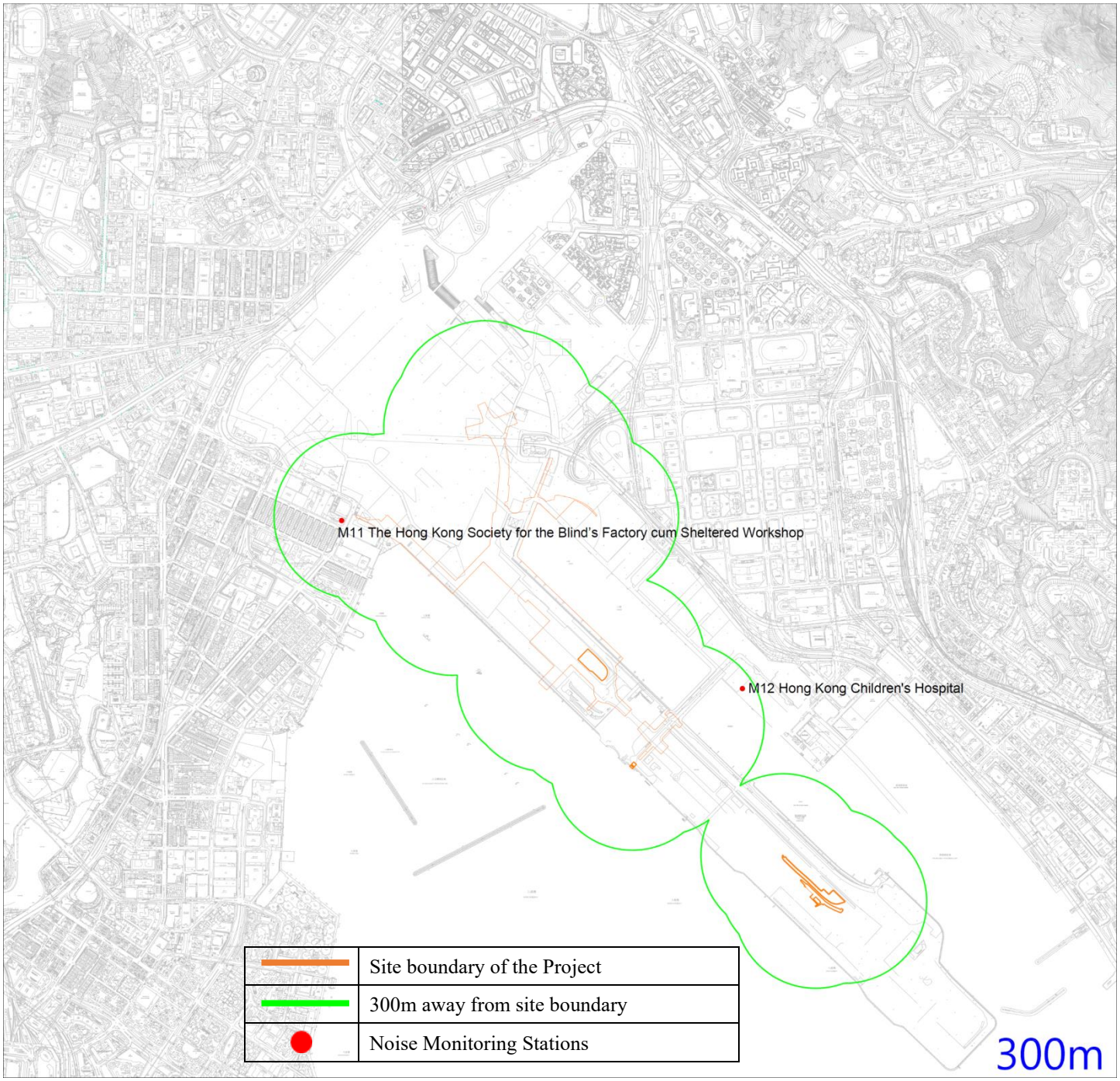



Figure 8 – Noise Monitoring Stations

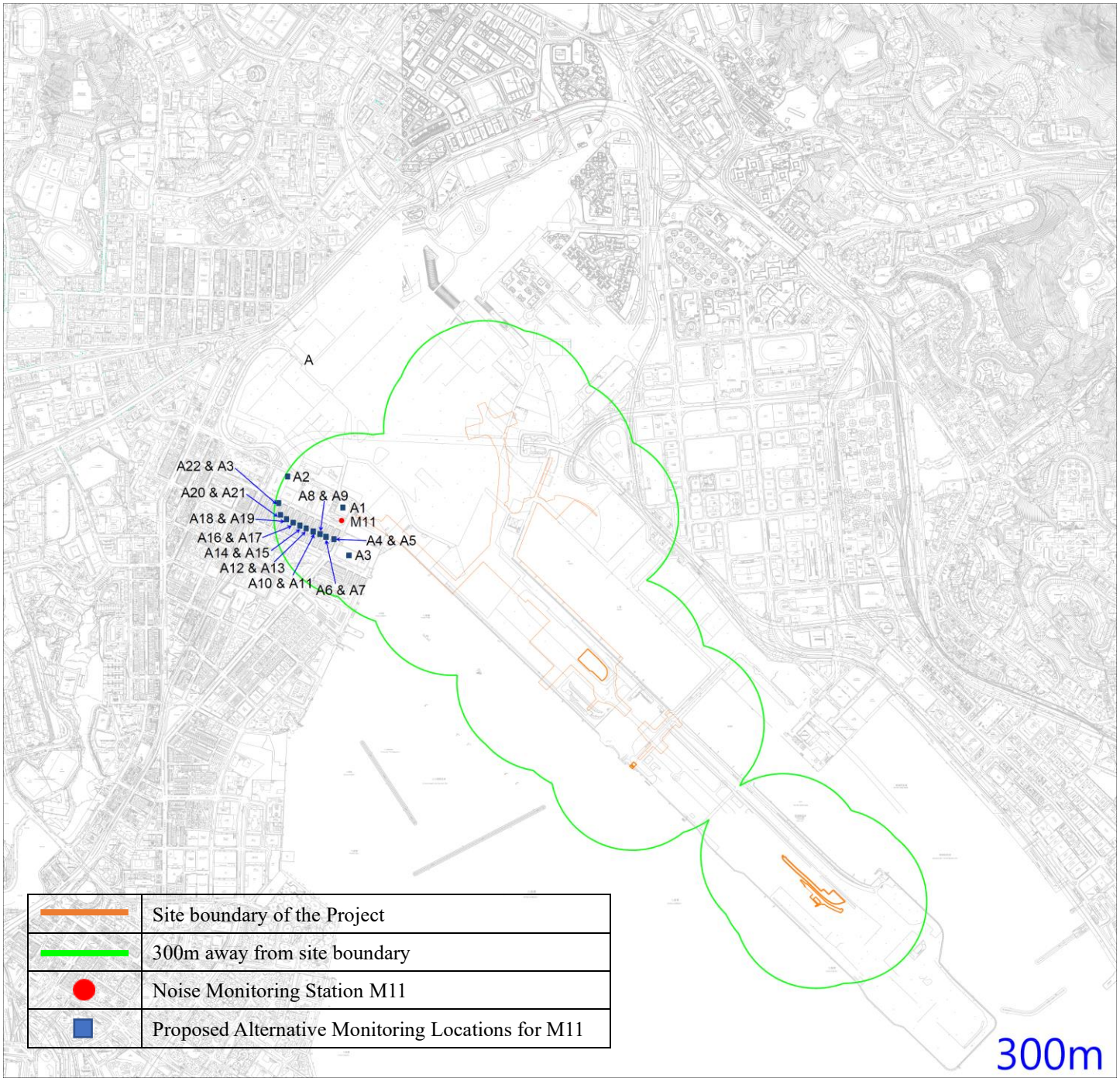
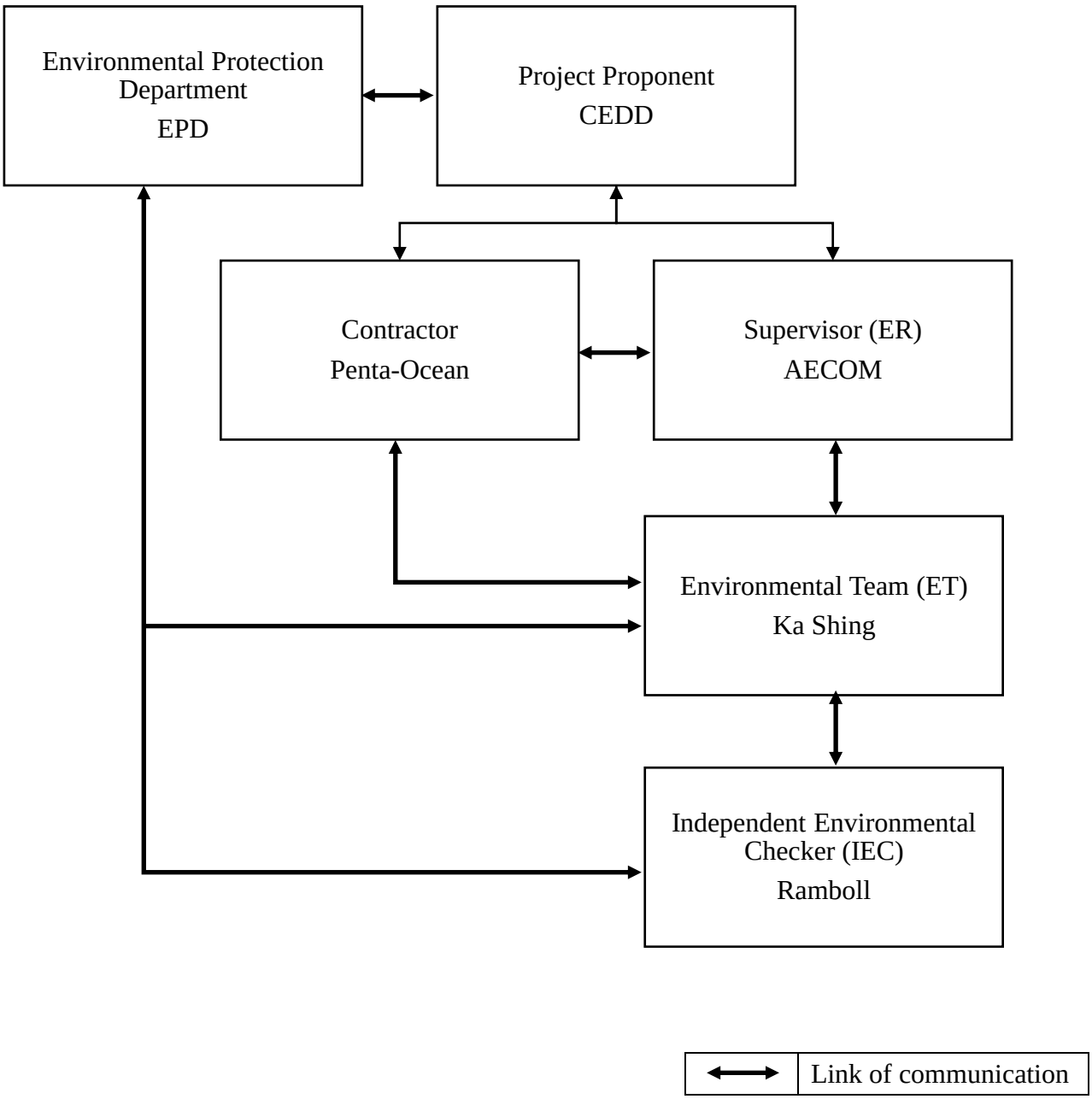


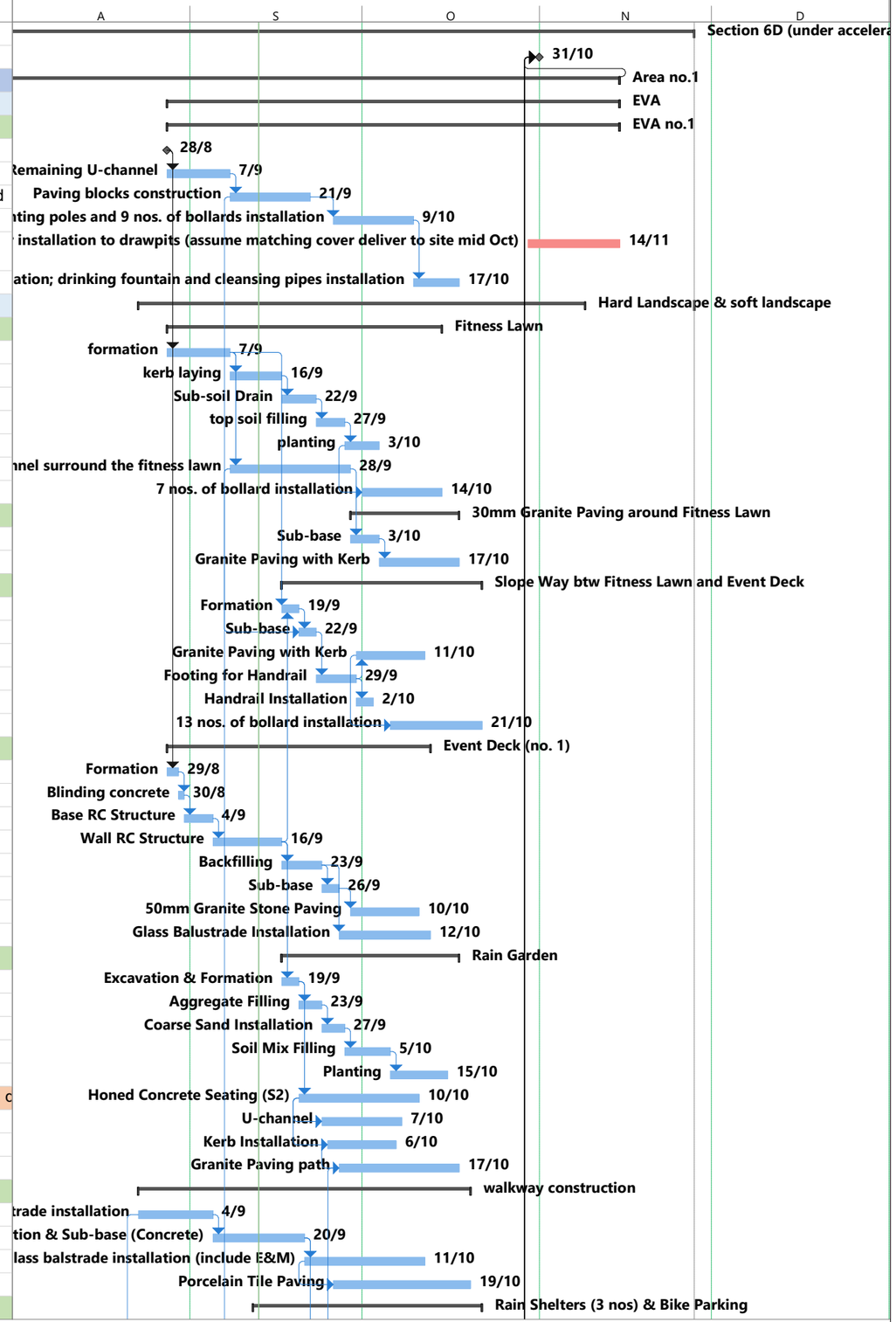

Figure 9 – Proposed Alternative Monitoring Locations for M11

# Appendix A – Organization Chart of EM&A Team

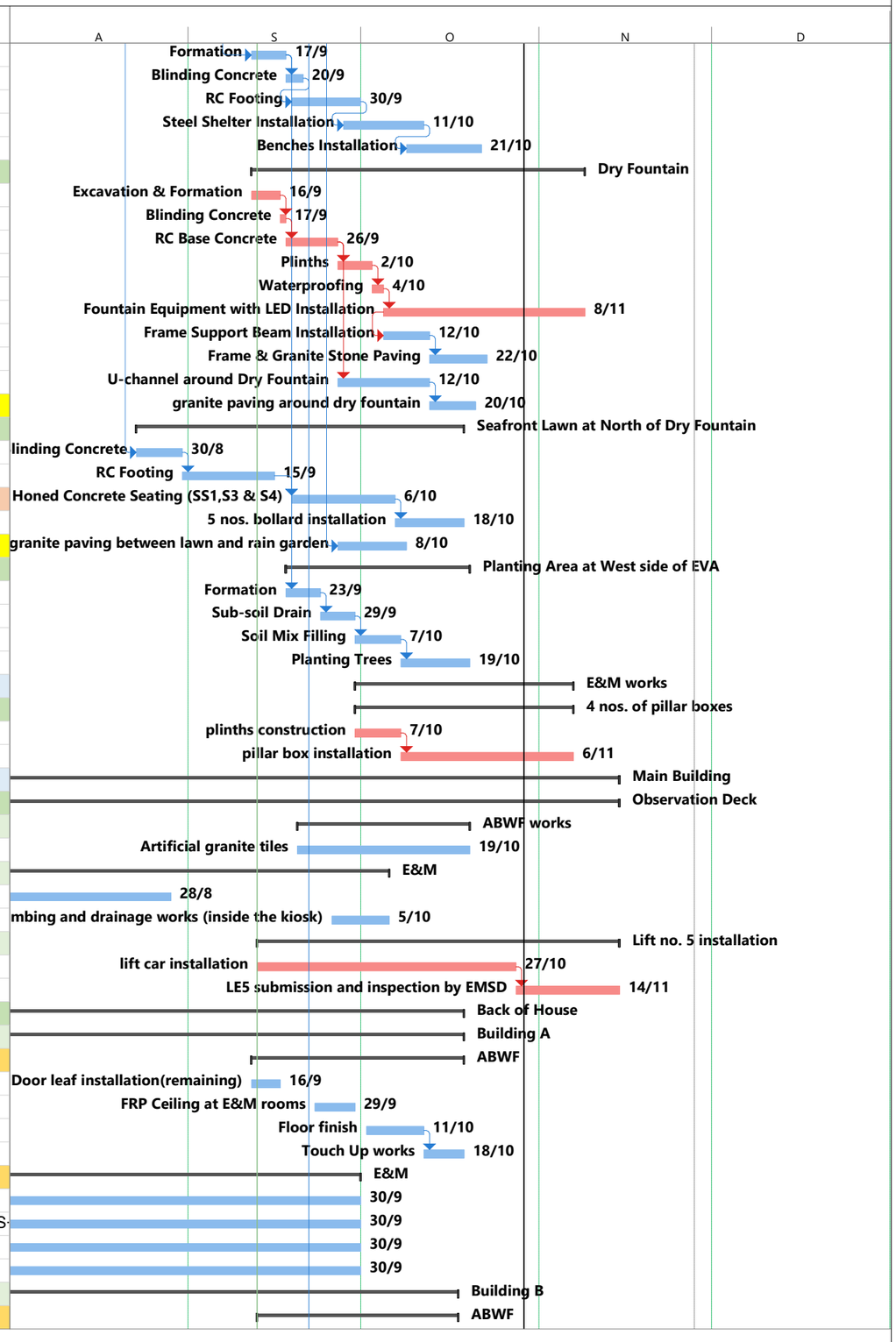

Environmental Protection Department
EPD
Project Proponent
CEDD
Contractor
Penta-Ocean
Supervisor (ER)
AECOM
Environmental Team (ET)
Ka Shing
Independent Environmental Checker (IEC)
Ramboll
Link of communication

# Appendix B – Construction Programme

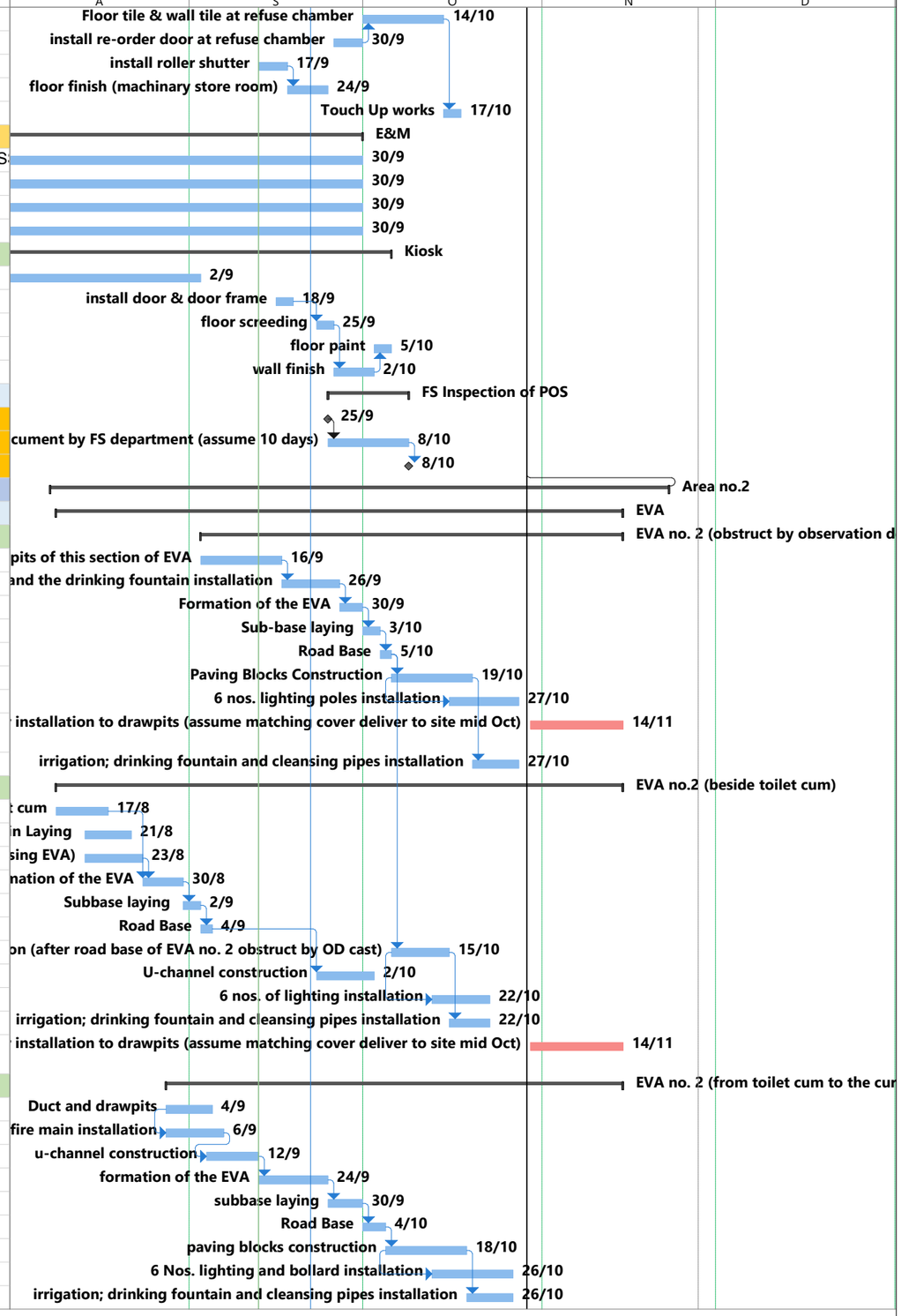
| ID | WBS | Task Name | Duration | Start | Finish | Predecessors | Successors |
|---|---|---|---|---|---|---|---|
| 1 | **1** | **Section 6D (under acceleration programme)** | **807 d** | **Thu 1/9/22** | **Wed 27/11/24** | | |
| 2 | 1.1 | Planned completion (31/10/24) | 0 d | Thu 31/10/24 | Thu 31/10/24 | 3,131,249,28 | |
| 3 | **1.2** | **Area no.1** | **133 d** | **Fri 5/7/24** | **Thu 14/11/24** | | **2** |
| 4 | **1.2.1** | **EVA** | **79 d** | **Wed 28/8/24** | **Thu 14/11/24** | | |
| 5 | **1.2.1.1** | **EVA no.1** | **79 d** | **Wed 28/8/24** | **Thu 14/11/24** | | |
| 6 | 1.2.1.1.1 | Access Divert from CKR-KTE | 0 d | Wed 28/8/24 | Wed 28/8/24 | | 7,32,14 |
| 7 | 1.2.1.1.2 | Remaining U-channel | 11 d | Wed 28/8/24 | Sat 7/9/24 | 6 | 8 |
| 8 | 1.2.1.1.3 | Paving blocks construction | 14 d | Sun 8/9/24 | Sat 21/9/24 | 7 | 56SS+4 d,9FS+4 d |
| 9 | 1.2.1.1.4 | 6 nos. of lighting poles and 9 nos. of bollards installation | 14 d | Thu 26/9/24 | Wed 9/10/24 | 8FS+4 d | 11 |
| 10 | 1.2.1.1.5 | matching cover installation to drawpits (assume matching cover deliver to site mid Oct) | 16 d | Wed 30/10/24 | Thu 14/11/24 | | |
| 11 | 1.2.1.1.6 | irrigation; drinking fountain and cleansing pipes installation | 8 d | Thu 10/10/24 | Thu 17/10/24 | 9 | |
| 12 | **1.2.2** | **Hard Landscape & soft landscape** | **78 d** | **Fri 23/8/24** | **Fri 8/11/24** | | |
| 13 | **1.2.2.1** | **Fitness Lawn** | **48 d** | **Wed 28/8/24** | **Mon 14/10/24** | | |
| 14 | 1.2.2.1.1 | formation | 11 d | Wed 28/8/24 | Sat 7/9/24 | 6 | 15,25,19 |
| 15 | 1.2.2.1.2 | kerb laying | 9 d | Sun 8/9/24 | Mon 16/9/24 | 14 | 16 |
| 16 | 1.2.2.1.3 | Sub-soil Drain | 6 d | Tue 17/9/24 | Sun 22/9/24 | 15 | 17 |
| 17 | 1.2.2.1.4 | top soil filling | 5 d | Mon 23/9/24 | Fri 27/9/24 | 16 | 18 |
| 18 | 1.2.2.1.5 | planting | 6 d | Sat 28/9/24 | Thu 3/10/24 | 17 | 20SS+3 d |
| 19 | 1.2.2.1.6 | u-channel surround the fitness lawn | 21 d | Sun 8/9/24 | Sat 28/9/24 | 14 | 22,26SS |
| 20 | 1.2.2.1.7 | 7 nos. of bollard installation | 14 d | Tue 1/10/24 | Mon 14/10/24 | 18SS+3 d | |
| 21 | **1.2.2.2** | **30mm Granite Paving around Fitness Lawn** | **19 d** | **Sun 29/9/24** | **Thu 17/10/24** | | |
| 22 | 1.2.2.2.1 | Sub-base | 5 d | Sun 29/9/24 | Thu 3/10/24 | 19 | 23 |
| 23 | 1.2.2.2.2 | Granite Paving with Kerb | 14 d | Fri 4/10/24 | Thu 17/10/24 | 22 | |
| 24 | 1.2.2.3 | Slope Way btw Fitness Lawn and Event Deck | 35 d | Tue 17/9/24 | Mon 21/10/24 | | |
| 25 | 1.2.2.3.1 | Formation | 3 d | Tue 17/9/24 | Thu 19/9/24 | 14,35 | 26 |
| 26 | 1.2.2.3.2 | Sub-base | 3 d | Fri 20/9/24 | Sun 22/9/24 | 19SS,25 | 28 |
| 27 | 1.2.2.3.3 | Granite Paving with Kerb | 12 d | Mon 30/9/24 | Fri 11/10/24 | 28 | 30SS+6 d |
| 28 | 1.2.2.3.4 | Footing for Handrail | 7 d | Mon 23/9/24 | Sun 29/9/24 | 26 | 27,29 |
| 29 | 1.2.2.3.5 | Handrail Installation | 3 d | Mon 30/9/24 | Wed 2/10/24 | 28 | |
| 30 | 1.2.2.3.6 | 13 nos. of bollard installation | 16 d | Sun 6/10/24 | Mon 21/10/24 | 27SS+6 d | |
| 31 | **1.2.2.4** | **Event Deck (no. 1)** | **46 d** | **Wed 28/8/24** | **Sat 12/10/24** | | |
| 32 | 1.2.2.4.1 | Formation | 2 d | Wed 28/8/24 | Thu 29/8/24 | 6 | 33 |
| 33 | 1.2.2.4.2 | Blinding concrete | 1 d | Fri 30/8/24 | Fri 30/8/24 | 32 | 34 |
| 34 | 1.2.2.4.3 | Base RC Structure | 5 d | Sat 31/8/24 | Wed 4/9/24 | 33 | 35 |
| 35 | 1.2.2.4.4 | Wall RC Structure | 12 d | Thu 5/9/24 | Mon 16/9/24 | 34 | 36,25,41 |
| 36 | 1.2.2.4.5 | Backfilling | 7 d | Tue 17/9/24 | Mon 23/9/24 | 35 | 37,39FS+3 d |
| 37 | 1.2.2.4.6 | Sub-base | 3 d | Tue 24/9/24 | Thu 26/9/24 | 36 | 38FS+2 d |
| 38 | 1.2.2.4.7 | 50mm Granite Stone Paving | 12 d | Sun 29/9/24 | Thu 10/10/24 | 37FS+2 d | |
| 39 | 1.2.2.4.8 | Glass Balustrade Installation | 16 d | Fri 27/9/24 | Sat 12/10/24 | 36FS+3 d | |
| 40 | **1.2.2.5** | **Rain Garden** | **31 d** | **Tue 17/9/24** | **Thu 17/10/24** | | |
| 41 | 1.2.2.5.1 | Excavation & Formation | 3 d | Tue 17/9/24 | Thu 19/9/24 | 35 | 46,42 |
| 42 | 1.2.2.5.2 | Aggregate Filling | 4 d | Fri 20/9/24 | Mon 23/9/24 | 41 | 43 |
| 43 | 1.2.2.5.3 | Coarse Sand Installation | 4 d | Tue 24/9/24 | Fri 27/9/24 | 42 | 44 |
| 44 | 1.2.2.5.4 | Soil Mix Filling | 8 d | Sat 28/9/24 | Sat 5/10/24 | 43 | 45 |
| 45 | 1.2.2.5.5 | Planting | 10 d | Sun 6/10/24 | Tue 15/10/24 | 44 | |
| 46 | 1.2.2.5.6 | Honed Concrete Seating (S2) | 21 d | Fri 20/9/24 | Thu 10/10/24 | 41 | 48SS+5 d,47SS+4 d |
| 47 | 1.2.2.5.7 | U-channel | 14 d | Tue 24/9/24 | Mon 7/10/24 | 46SS+4 d | |
| 48 | 1.2.2.5.8 | Kerb Installation | 12 d | Wed 25/9/24 | Sun 6/10/24 | 46SS+5 d | 49SS+2 d |
| 49 | 1.2.2.5.9 | Granite Paving path | 21 d | Fri 27/9/24 | Thu 17/10/24 | 48SS+2 d | 77SS |
| 50 | **1.2.2.6** | **walkway construction** | **58 d** | **Fri 23/8/24** | **Sat 19/10/24** | | |
| 51 | 1.2.2.6.1 | stainless steel channel for glass balstrade installation | 13 d | Fri 23/8/24 | Wed 4/9/24 | | 73SS,52 |
| 52 | 1.2.2.6.2 | Formation & Sub-base (Concrete) | 16 d | Thu 5/9/24 | Fri 20/9/24 | 51 | 53,228 |
| 53 | 1.2.2.6.3 | glass balstrade installation (include E&M) | 21 d | Sat 21/9/24 | Fri 11/10/24 | 52 | 54SS+5 d |
| 54 | 1.2.2.6.4 | Porcelain Tile Paving | 24 d | Thu 26/9/24 | Sat 19/10/24 | 53SS+5 d | |
| 55 | **1.2.2.7** | **Rain Shelters (3 nos) & Bike Parking** | **40 d** | **Thu 12/9/24** | **Mon 21/10/24** | | |



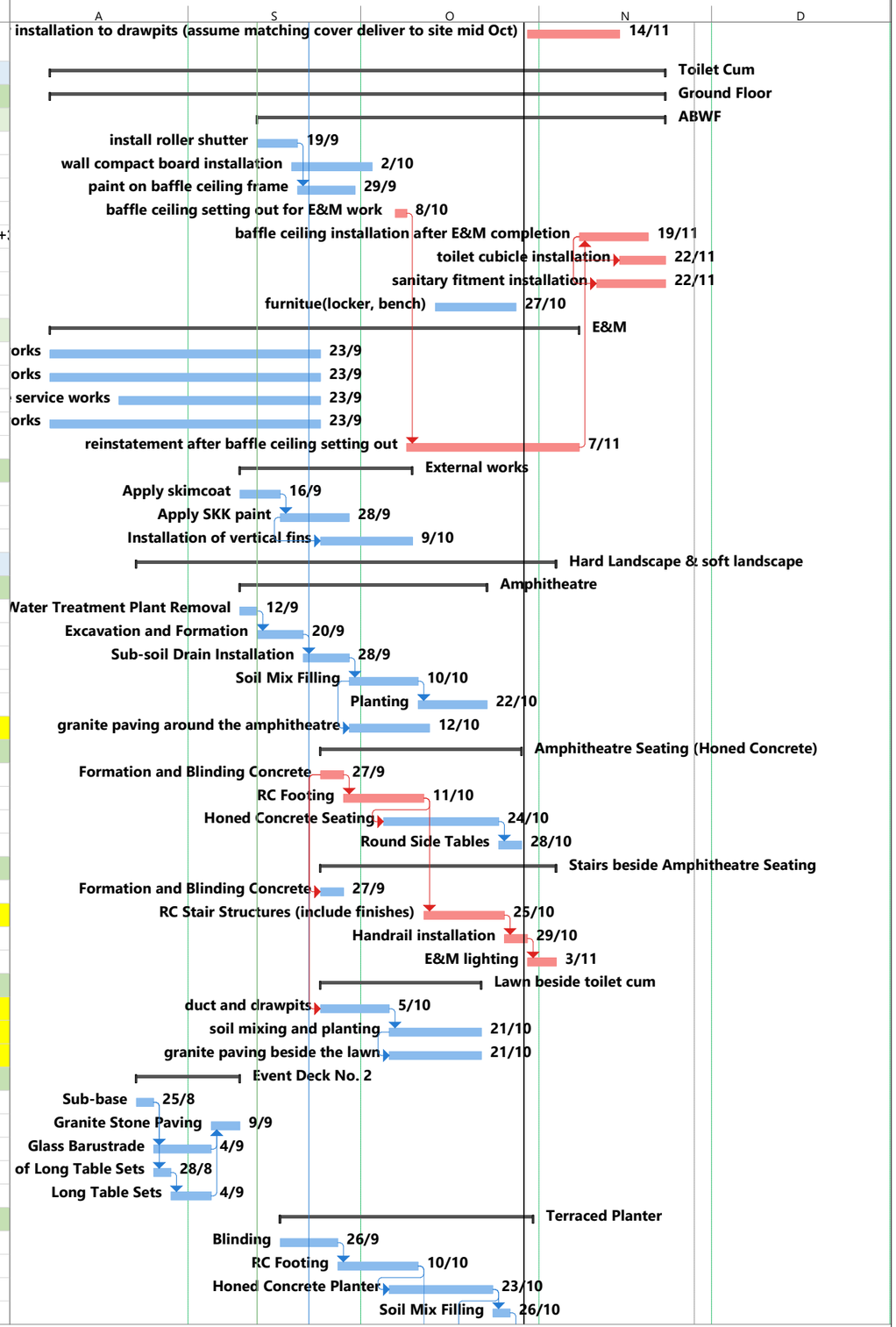
| ID | WBS | Task Name | Duration | Start | Finish | Predecessors | Successors |
|---|---|---|---|---|---|---|---|
| 56 | 1.2.2.7.1 | Formation | 6 d | Thu 12/9/24 | Tue 17/9/24 | 8SS+4 d | 57,79 |
| 57 | 1.2.2.7.2 | Blinding Concrete | 3 d | Wed 18/9/24 | Fri 20/9/24 | 56 | 58FS-2 d |
| 58 | 1.2.2.7.3 | RC Footing | 12 d | Thu 19/9/24 | Mon 30/9/24 | 57FS-2 d | 59FS-3 d |
| 59 | 1.2.2.7.4 | Steel Shelter Installation | 14 d | Sat 28/9/24 | Fri 11/10/24 | 58FS-3 d | 60FS-3 d |
| 60 | 1.2.2.7.5 | Benches Installation | 13 d | Wed 9/10/24 | Mon 21/10/24 | 59FS-3 d | |
| 61 | **1.2.2.8** | **Dry Fountain** | **58 d** | **Thu 12/9/24** | **Fri 8/11/24** | | |
| 62 | 1.2.2.8.1 | Excavation & Formation | 5 d | Thu 12/9/24 | Mon 16/9/24 | | 63 |
| 63 | 1.2.2.8.2 | Blinding Concrete | 1 d | Tue 17/9/24 | Tue 17/9/24 | 62 | 64 |
| 64 | 1.2.2.8.3 | RC Base Concrete | 9 d | Wed 18/9/24 | Thu 26/9/24 | 63 | 65,70 |
| 65 | 1.2.2.8.4 | Plinths | 6 d | Fri 27/9/24 | Wed 2/10/24 | 64 | 66 |
| 66 | 1.2.2.8.5 | Waterproofing | 2 d | Thu 3/10/24 | Fri 4/10/24 | 65 | 67 |
| 67 | 1.2.2.8.6 | Fountain Equipment with LED Installation | 35 d | Sat 5/10/24 | Fri 8/11/24 | 66 | 68SS |
| 68 | 1.2.2.8.7 | Frame Support Beam Installation | 8 d | Sat 5/10/24 | Sat 12/10/24 | 67SS | 69 |
| 69 | 1.2.2.8.8 | Frame & Granite Stone Paving | 10 d | Sun 13/10/24 | Tue 22/10/24 | 68 | |
| 70 | 1.2.2.8.9 | U-channel around Dry Fountain | 16 d | Fri 27/9/24 | Sat 12/10/24 | 64 | 71 |
| 71 | 1.2.2.8.10 | granite paving around dry fountain | 8 d | Sun 13/10/24 | Sun 20/10/24 | 70 | |
| 72 | **1.2.2.9** | **Seafront Lawn at North of Dry Fountain** | **57 d** | **Fri 23/8/24** | **Fri 18/10/24** | | |
| 73 | 1.2.2.9.1 | Formation & Blinding Concrete | 8 d | Fri 23/8/24 | Fri 30/8/24 | 51SS | 74 |
| 74 | 1.2.2.9.2 | RC Footing | 16 d | Sat 31/8/24 | Sun 15/9/24 | 73 | 75FS+3 d |
| 75 | 1.2.2.9.3 | Honed Concrete Seating (SS1,S3 & S4) | 18 d | Thu 19/9/24 | Sun 6/10/24 | 74FS+3 d | 76 |
| 76 | 1.2.2.9.4 | 5 nos. bollard installation | 12 d | Mon 7/10/24 | Fri 18/10/24 | 75 | |
| 77 | 1.2.2.9.5 | granite paving between lawn and rain garden | 12 d | Fri 27/9/24 | Tue 8/10/24 | 49SS | |
| 78 | **1.2.2.10** | **Planting Area at West side of EVA** | **32 d** | **Wed 18/9/24** | **Sat 19/10/24** | | |
| 79 | 1.2.2.10.1 | Formation | 6 d | Wed 18/9/24 | Mon 23/9/24 | 56 | 80 |
| 80 | 1.2.2.10.2 | Sub-soil Drain | 6 d | Tue 24/9/24 | Sun 29/9/24 | 79 | 81 |
| 81 | 1.2.2.10.3 | Soil Mix Filling | 8 d | Mon 30/9/24 | Mon 7/10/24 | 80 | 82 |
| 82 | 1.2.2.10.4 | Planting Trees | 12 d | Tue 8/10/24 | Sat 19/10/24 | 81 | |
| 83 | **1.2.3** | **E&M works** | **38 d** | **Mon 30/9/24** | **Wed 6/11/24** | | |
| 84 | 1.2.3.1 | 4 nos. of pillar boxes | 38 d | Mon 30/9/24 | Wed 6/11/24 | | |
| 85 | 1.2.3.1.1 | plinths construction | 8 d | Mon 30/9/24 | Mon 7/10/24 | | 86 |
| 86 | 1.2.3.1.2 | pillar box installation | 30 d | Tue 8/10/24 | Wed 6/11/24 | 85 | |
| 87 | **1.2.4** | **Main Building** | **133 d** | **Fri 5/7/24** | **Thu 14/11/24** | | |
| 88 | **1.2.4.1** | **Observation Deck** | **123 d** | **Mon 15/7/24** | **Thu 14/11/24** | | |
| 89 | **1.2.4.1.1** | **ABWF works** | **30 d** | **Fri 20/9/24** | **Sat 19/10/24** | | |
| 90 | 1.2.4.1.1.1 | Artificial granite tiles | 30 d | Fri 20/9/24 | Sat 19/10/24 | | |
| 91 | **1.2.4.1.2** | **E&M** | **83 d** | **Mon 15/7/24** | **Sat 5/10/24** | | |
| 92 | 1.2.4.1.2.1 | Electrical works (lighting) | 45 d | Mon 15/7/24 | Wed 28/8/24 | | |
| 93 | 1.2.4.1.2.2 | plumbing and drainage works (inside the kiosk) | 10 d | Thu 26/9/24 | Sat 5/10/24 | | |
| 94 | **1.2.4.1.3** | **Lift no. 5 installation** | **63 d** | **Fri 13/9/24** | **Thu 14/11/24** | | |
| 95 | 1.2.4.1.3.1 | lift car installation | 45 d | Fri 13/9/24 | Sun 27/10/24 | | 96 |
| 96 | 1.2.4.1.3.2 | LE5 submission and inspection by EMSD | 18 d | Mon 28/10/24 | Thu 14/11/24 | 95 | |
| 97 | **1.2.4.2** | **Back of House** | **106 d** | **Fri 5/7/24** | **Fri 18/10/24** | | |
| 98 | **1.2.4.2.1** | **Building A** | **106 d** | **Fri 5/7/24** | **Fri 18/10/24** | | |
| 99 | **1.2.4.2.1.1** | **ABWF** | **37 d** | **Thu 12/9/24** | **Fri 18/10/24** | | |
| 100 | 1.2.4.2.1.1 | Door leaf installation(remaining) | 5 d | Thu 12/9/24 | Mon 16/9/24 | | |
| 101 | 1.2.4.2.1.1 | FRP Ceiling at E&M rooms | 7 d | Mon 23/9/24 | Sun 29/9/24 | | |
| 102 | 1.2.4.2.1.1 | Floor finish | 10 d | Wed 2/10/24 | Fri 11/10/24 | | 103 |
| 103 | 1.2.4.2.1.1 | Touch Up works | 7 d | Sat 12/10/24 | Fri 18/10/24 | 102 | |
| 104 | **1.2.4.2.1.2** | **E&M** | **88 d** | **Fri 5/7/24** | **Mon 30/9/24** | | |
| 105 | 1.2.4.2.1.2 | Electrical works | 88 d | Fri 5/7/24 | Mon 30/9/24 | | |
| 106 | 1.2.4.2.1.2 | MVAC works | 88 d | Fri 5/7/24 | Mon 30/9/24 | | 107SS+24 d,108SS |
| 107 | 1.2.4.2.1.2 | Fire service works | 64 d | Mon 29/7/24 | Mon 30/9/24 | 106SS+24 d | |
| 108 | 1.2.4.2.1.2 | plumbing and drainage works | 68 d | Thu 25/7/24 | Mon 30/9/24 | 106SS+20 d | |
| 109 | **1.2.4.2.2** | **Building B** | **105 d** | **Fri 5/7/24** | **Thu 17/10/24** | | |
| 110 | **1.2.4.2.2.1** | **ABWF** | **35 d** | **Fri 13/9/24** | **Thu 17/10/24** | | |



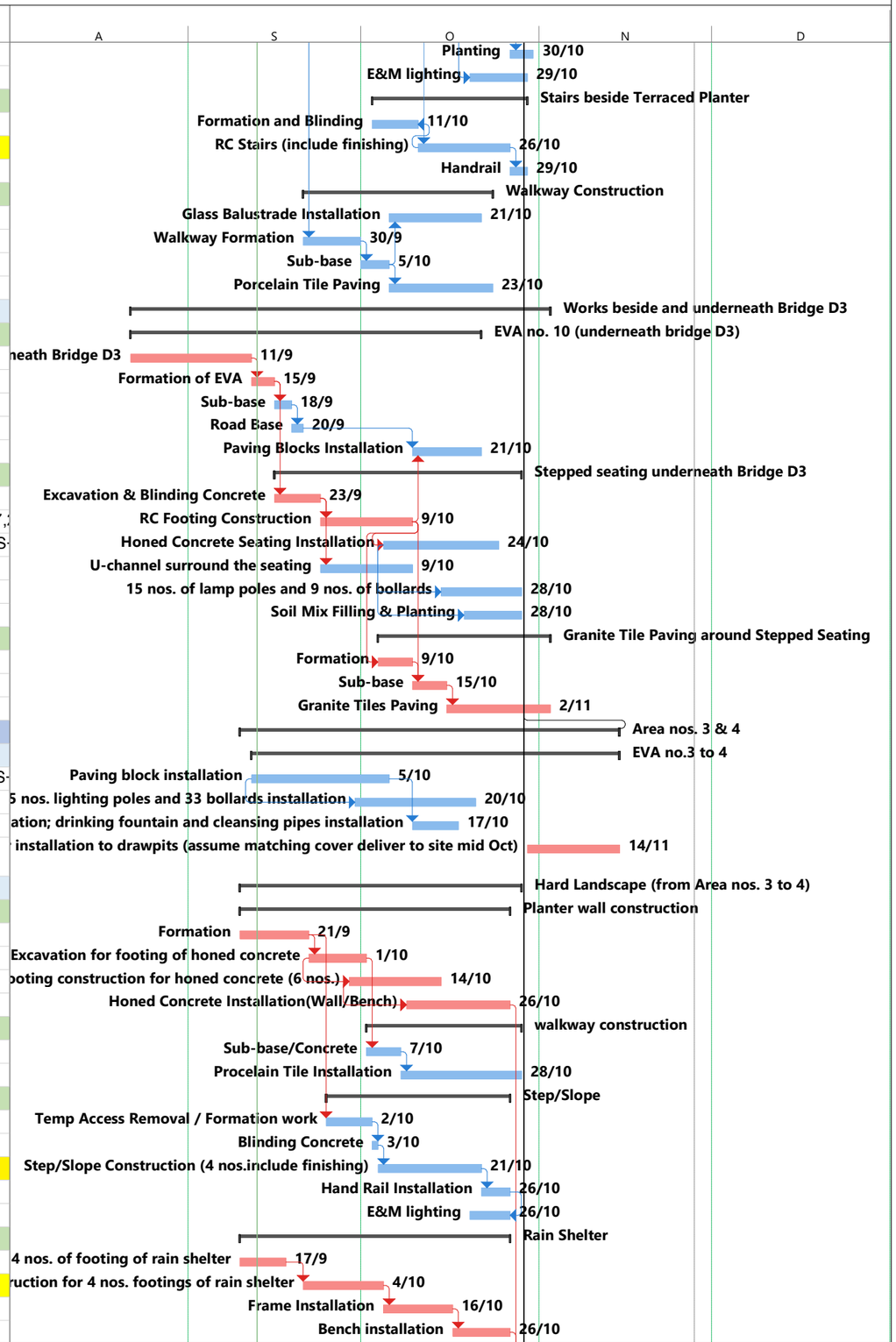
| ID | WBS | Task Name | Duration | Start | Finish | Predecessors | Successors |
|---|---|---|---|---|---|---|---|
| 111 | 1.2.4.2.2.1 | Floor tile & wall tile at refuse chamber | 14 d | Tue 1/10/24 | Mon 14/10/24 | 112 | 115 |
| 112 | 1.2.4.2.2.1 | install re-order door at refuse chamber | 5 d | Thu 26/9/24 | Mon 30/9/24 | | 111 |
| 113 | 1.2.4.2.2.1 | install roller shutter | 5 d | Fri 13/9/24 | Tue 17/9/24 | | 114 |
| 114 | 1.2.4.2.2.1 | floor finish (machinary store room) | 7 d | Wed 18/9/24 | Tue 24/9/24 | 113 | |
| 115 | 1.2.4.2.2.1 | Touch Up works | 3 d | Tue 15/10/24 | Thu 17/10/24 | 111 | |
| 116 | **1.2.4.2.2** | **E&M** | **88 d** | **Fri 5/7/24** | **Mon 30/9/24** | | |
| 117 | 1.2.4.2.2 | Electrical works | 88 d | Fri 5/7/24 | Mon 30/9/24 | | 118SS,119SS,120S |
| 118 | 1.2.4.2.2 | MVAC works | 88 d | Fri 5/7/24 | Mon 30/9/24 | 117SS | |
| 119 | 1.2.4.2.2 | Fire service works | 88 d | Fri 5/7/24 | Mon 30/9/24 | 117SS | |
| 120 | 1.2.4.2.2 | plumbing and drainage works | 88 d | Fri 5/7/24 | Mon 30/9/24 | 117SS | |
| 121 | **1.2.4.3** | **Kiosk** | **78 d** | **Sat 20/7/24** | **Sat 5/10/24** | | |
| 122 | 1.2.4.3.1 | Construction after drainage works beside complete | 45 d | Sat 20/7/24 | Mon 2/9/24 | | |
| 123 | 1.2.4.3.2 | install door & door frame | 3 d | Mon 16/9/24 | Wed 18/9/24 | | 124 |
| 124 | 1.2.4.3.3 | floor screeding | 3 d | Mon 23/9/24 | Wed 25/9/24 | 123 | 126 |
| 125 | 1.2.4.3.4 | floor paint | 3 d | Thu 3/10/24 | Sat 5/10/24 | 126 | |
| 126 | 1.2.4.3.5 | wall finish | 7 d | Thu 26/9/24 | Wed 2/10/24 | 124 | 125 |
| 127 | **1.2.5** | **FS Inspection of POS** | **14 d** | **Wed 25/9/24** | **Tue 8/10/24** | | |
| 128 | 1.2.5.1 | Form 501 submission | 0 d | Wed 25/9/24 | Wed 25/9/24 | | 129 |
| 129 | 1.2.5.2 | Review document by FS department (assume 10 days) | 14 d | Wed 25/9/24 | Tue 8/10/24 | 128 | 130 |
| 130 | 1.2.5.3 | actual FS inspection | 0 d | Tue 8/10/24 | Tue 8/10/24 | 129 | |
| 131 | **1.3** | **Area no.2** | **107 d** | **Thu 8/8/24** | **Fri 22/11/24** | | **2** |
| 132 | **1.3.1** | **EVA** | **98 d** | **Fri 9/8/24** | **Thu 14/11/24** | | |
| 133 | **1.3.1.1** | **EVA no. 2 (obstruct by observation deck)** | **73 d** | **Tue 3/9/24** | **Thu 14/11/24** | | |
| 134 | 1.3.1.1.1 | Duct and drawpits of this section of EVA | 14 d | Tue 3/9/24 | Mon 16/9/24 | | 135 |
| 135 | 1.3.1.1.2 | U-channel Construction and the drinking fountain installation | 10 d | Tue 17/9/24 | Thu 26/9/24 | 134 | 136 |
| 136 | 1.3.1.1.3 | Formation of the EVA | 4 d | Fri 27/9/24 | Mon 30/9/24 | 135 | 137 |
| 137 | 1.3.1.1.4 | Sub-base laying | 3 d | Tue 1/10/24 | Thu 3/10/24 | 136 | 138 |
| 138 | 1.3.1.1.5 | Road Base | 2 d | Fri 4/10/24 | Sat 5/10/24 | 137 | 139,150 |
| 139 | 1.3.1.1.6 | Paving Blocks Construction | 14 d | Sun 6/10/24 | Sat 19/10/24 | 138 | 140SS+10 d,142 |
| 140 | 1.3.1.1.7 | 6 nos. lighting poles installation | 12 d | Wed 16/10/24 | Sun 27/10/24 | 139SS+10 d | |
| 141 | 1.3.1.1.8 | matching cover installation to drawpits (assume matching cover deliver to site mid Oct) | 16 d | Wed 30/10/24 | Thu 14/11/24 | | |
| 142 | 1.3.1.1.9 | irrigation; drinking fountain and cleansing pipes installation | 8 d | Sun 20/10/24 | Sun 27/10/24 | 139 | |
| 143 | **1.3.1.2** | **EVA no.2 (beside toilet cum)** | **98 d** | **Fri 9/8/24** | **Thu 14/11/24** | | |
| 144 | 1.3.1.2.1 | Duct and drawpits beside toilet cum | 9 d | Fri 9/8/24 | Sat 17/8/24 | | 147 |
| 145 | 1.3.1.2.2 | Firemain Laying | 8 d | Wed 14/8/24 | Wed 21/8/24 | | |
| 146 | 1.3.1.2.3 | Sewer Pipe Installation (Crossing EVA) | 10 d | Wed 14/8/24 | Fri 23/8/24 | | 147 |
| 147 | 1.3.1.2.4 | Formation of the EVA | 7 d | Sat 24/8/24 | Fri 30/8/24 | 144,146 | 148 |
| 148 | 1.3.1.2.5 | Subbase laying | 3 d | Sat 31/8/24 | Mon 2/9/24 | 147 | 149 |
| 149 | 1.3.1.2.6 | Road Base | 2 d | Tue 3/9/24 | Wed 4/9/24 | 148 | 151FS+18 d |
| 150 | 1.3.1.2.7 | paving blocks construction (after road base of EVA no. 2 obstruct by C | 10 d | Sun 6/10/24 | Tue 15/10/24 | 138 | 152SS+7 d,153 |
| 151 | 1.3.1.2.8 | U-channel construction | 10 d | Mon 23/9/24 | Wed 2/10/24 | 149FS+18 d | |
| 152 | 1.3.1.2.9 | 6 nos. of lighting installation | 10 d | Sun 13/10/24 | Tue 22/10/24 | 150SS+7 d | |
| 153 | 1.3.1.2.10 | irrigation; drinking fountain and cleansing pipes installation | 7 d | Wed 16/10/24 | Tue 22/10/24 | 150 | |
| 154 | 1.3.1.2.11 | matching cover installation to drawpits (assume matching cover deliver to site mid Oct) | 16 d | Wed 30/10/24 | Thu 14/11/24 | | |
| 155 | **1.3.1.3** | **EVA no. 2 (from toilet cum to the current entrance)** | **79 d** | **Wed 28/8/24** | **Thu 14/11/24** | | |
| 156 | 1.3.1.3.1 | Duct and drawpits | 8 d | Wed 28/8/24 | Wed 4/9/24 | | 157SS |
| 157 | 1.3.1.3.2 | fire main installation | 10 d | Wed 28/8/24 | Fri 6/9/24 | 156SS | 158FS-3 d |
| 158 | 1.3.1.3.3 | u-channel construction | 9 d | Wed 4/9/24 | Thu 12/9/24 | 157FS-3 d | 159 |
| 159 | 1.3.1.3.4 | formation of the EVA | 12 d | Fri 13/9/24 | Tue 24/9/24 | 158 | 160 |
| 160 | 1.3.1.3.5 | subbase laying | 6 d | Wed 25/9/24 | Mon 30/9/24 | 159 | 161 |
| 161 | 1.3.1.3.6 | Road Base | 4 d | Tue 1/10/24 | Fri 4/10/24 | 160 | 162 |
| 162 | 1.3.1.3.7 | paving blocks construction | 14 d | Sat 5/10/24 | Fri 18/10/24 | 161 | 163SS+8 d,164 |
| 163 | 1.3.1.3.8 | 6 Nos. lighting and bollard installation | 14 d | Sun 13/10/24 | Sat 26/10/24 | 162SS+8 d | |
| 164 | 1.3.1.3.9 | irrigation; drinking fountain and cleansing pipes installation | 8 d | Sat 19/10/24 | Sat 26/10/24 | 162 | |



| ID | WBS | Task Name | Duration | Start | Finish | Predecessors | Successors |
|---|---|---|---|---|---|---|---|
| 165 | 1.3.1.3.10 | matching cover installation to drawpits (assume matching cover deliver to site mid Oct) | 16 d | Wed 30/10/24 | Thu 14/11/24 | | |
| 166 | **1.3.2** | **Toilet Cum** | **107 d** | **Thu 8/8/24** | **Fri 22/11/24** | | |
| 167 | **1.3.2.1** | **Ground Floor** | **107 d** | **Thu 8/8/24** | **Fri 22/11/24** | | |
| 168 | **1.3.2.1.1** | **ABWF** | **71 d** | **Fri 13/9/24** | **Fri 22/11/24** | | |
| 169 | 1.3.2.1.1.1 | install roller shutter | 7 d | Fri 13/9/24 | Thu 19/9/24 | | 171 |
| 170 | 1.3.2.1.1.2 | wall compact board installation | 14 d | Thu 19/9/24 | Wed 2/10/24 | | |
| 171 | 1.3.2.1.1.3 | paint on baffle ceiling frame | 10 d | Fri 20/9/24 | Sun 29/9/24 | 169 | |
| 172 | 1.3.2.1.1.4 | baffle ceiling setting out for E&M work | 2 d | Mon 7/10/24 | Tue 8/10/24 | | 182 |
| 173 | 1.3.2.1.1.5 | baffle ceiling installation after E&M completion | 12 d | Fri 8/11/24 | Tue 19/11/24 | 182 | 174SS+7 d,175SS+ |
| 174 | 1.3.2.1.1.6 | toilet cubicle installation | 8 d | Fri 15/11/24 | Fri 22/11/24 | 173SS+7 d | |
| 175 | 1.3.2.1.1.7 | sanitary fitment installation | 12 d | Mon 11/11/24 | Fri 22/11/24 | 173SS+3 d | |
| 176 | 1.3.2.1.1.8 | furnitue(locker, bench) | 14 d | Mon 14/10/24 | Sun 27/10/24 | | |
| 177 | **1.3.2.1.2** | **E&M** | **92 d** | **Thu 8/8/24** | **Thu 7/11/24** | | |
| 178 | 1.3.2.1.2.1 | MVAC works | 47 d | Thu 8/8/24 | Mon 23/9/24 | | |
| 179 | 1.3.2.1.2.2 | Electrical works | 47 d | Thu 8/8/24 | Mon 23/9/24 | | |
| 180 | 1.3.2.1.2.3 | Fire service works | 35 d | Tue 20/8/24 | Mon 23/9/24 | | |
| 181 | 1.3.2.1.2.4 | Plumbing and drainage works | 47 d | Thu 8/8/24 | Mon 23/9/24 | | |
| 182 | 1.3.2.1.2.5 | reinstatement after baffle ceiling setting out | 30 d | Wed 9/10/24 | Thu 7/11/24 | 172 | 173 |
| 183 | **1.3.2.2** | **External works** | **30 d** | **Tue 10/9/24** | **Wed 9/10/24** | | |
| 184 | 1.3.2.2.1 | Apply skimcoat | 7 d | Tue 10/9/24 | Mon 16/9/24 | | 185 |
| 185 | 1.3.2.2.2 | Apply SKK paint | 12 d | Tue 17/9/24 | Sat 28/9/24 | 184 | 186SS+7 d |
| 186 | 1.3.2.2.3 | Installation of vertical fins | 16 d | Tue 24/9/24 | Wed 9/10/24 | 185SS+7 d | |
| 187 | **1.3.3** | **Hard Landscape & soft landscape** | **73 d** | **Fri 23/8/24** | **Sun 3/11/24** | | |
| 188 | **1.3.3.1** | **Amphitheatre** | **43 d** | **Tue 10/9/24** | **Tue 22/10/24** | | |
| 189 | 1.3.3.1.1 | Water Treatment Plant Removal | 3 d | Tue 10/9/24 | Thu 12/9/24 | | 190 |
| 190 | 1.3.3.1.2 | Excavation and Formation | 8 d | Fri 13/9/24 | Fri 20/9/24 | 189 | 191 |
| 191 | 1.3.3.1.3 | Sub-soil Drain Installation | 8 d | Sat 21/9/24 | Sat 28/9/24 | 190 | 192 |
| 192 | 1.3.3.1.4 | Soil Mix Filling | 12 d | Sun 29/9/24 | Thu 10/10/24 | 191 | 193,194SS |
| 193 | 1.3.3.1.5 | Planting | 12 d | Fri 11/10/24 | Tue 22/10/24 | 192 | |
| 194 | 1.3.3.1.6 | granite paving around the amphitheatre | 14 d | Sun 29/9/24 | Sat 12/10/24 | 192SS | |
| 195 | **1.3.3.2** | **Amphitheatre Seating (Honed Concrete)** | **35 d** | **Tue 24/9/24** | **Mon 28/10/24** | | |
| 196 | 1.3.3.2.1 | Formation and Blinding Concrete | 4 d | Tue 24/9/24 | Fri 27/9/24 | | 197,201SS,206SS |
| 197 | 1.3.3.2.2 | RC Footing | 14 d | Sat 28/9/24 | Fri 11/10/24 | 196 | 198FS-7 d,202 |
| 198 | 1.3.3.2.3 | Honed Concrete Seating | 20 d | Sat 5/10/24 | Thu 24/10/24 | 197FS-7 d | 199 |
| 199 | 1.3.3.2.4 | Round Side Tables | 4 d | Fri 25/10/24 | Mon 28/10/24 | 198 | |
| 200 | **1.3.3.3** | **Stairs beside Amphitheatre Seating** | **41 d** | **Tue 24/9/24** | **Sun 3/11/24** | | |
| 201 | 1.3.3.3.1 | Formation and Blinding Concrete | 4 d | Tue 24/9/24 | Fri 27/9/24 | 196SS | |
| 202 | 1.3.3.3.2 | RC Stair Structures (include finishes) | 14 d | Sat 12/10/24 | Fri 25/10/24 | 197 | 203 |
| 203 | 1.3.3.3.3 | Handrail installation | 4 d | Sat 26/10/24 | Tue 29/10/24 | 202 | 204 |
| 204 | 1.3.3.3.4 | E&M lighting | 5 d | Wed 30/10/24 | Sun 3/11/24 | 203 | |
| 205 | **1.3.3.4** | **Lawn beside toilet cum** | **28 d** | **Tue 24/9/24** | **Mon 21/10/24** | | |
| 206 | 1.3.3.4.1 | duct and drawpits | 12 d | Tue 24/9/24 | Sat 5/10/24 | 196SS | 207 |
| 207 | 1.3.3.4.2 | soil mixing and planting | 16 d | Sun 6/10/24 | Mon 21/10/24 | 206 | 208SS |
| 208 | 1.3.3.4.3 | granite paving beside the lawn | 16 d | Sun 6/10/24 | Mon 21/10/24 | 207SS | |
| 209 | **1.3.3.5** | **Event Deck No. 2** | **18 d** | **Fri 23/8/24** | **Mon 9/9/24** | | |
| 210 | 1.3.3.5.1 | Sub-base | 3 d | Fri 23/8/24 | Sun 25/8/24 | | 213,212 |
| 211 | 1.3.3.5.2 | Granite Stone Paving | 5 d | Thu 5/9/24 | Mon 9/9/24 | 214,212 | |
| 212 | 1.3.3.5.3 | Glass Barustrade | 10 d | Mon 26/8/24 | Wed 4/9/24 | 210 | 211 |
| 213 | 1.3.3.5.4 | RC Foundation of Long Table Sets | 3 d | Mon 26/8/24 | Wed 28/8/24 | 210 | 214 |
| 214 | 1.3.3.5.5 | Long Table Sets | 7 d | Thu 29/8/24 | Wed 4/9/24 | 213 | 211 |
| 215 | **1.3.3.6** | **Terraced Planter** | **44 d** | **Tue 17/9/24** | **Wed 30/10/24** | | |
| 216 | 1.3.3.6.1 | Blinding | 10 d | Tue 17/9/24 | Thu 26/9/24 | | 217 |
| 217 | 1.3.3.6.2 | RC Footing | 14 d | Fri 27/9/24 | Thu 10/10/24 | 216 | 218FS-5 d,224 |
| 218 | 1.3.3.6.3 | Honed Concrete Planter | 18 d | Sun 6/10/24 | Wed 23/10/24 | 217FS-5 d | 219,221FS-4 d |
| 219 | 1.3.3.6.4 | Soil Mix Filling | 3 d | Thu 24/10/24 | Sat 26/10/24 | 218 | 220 |

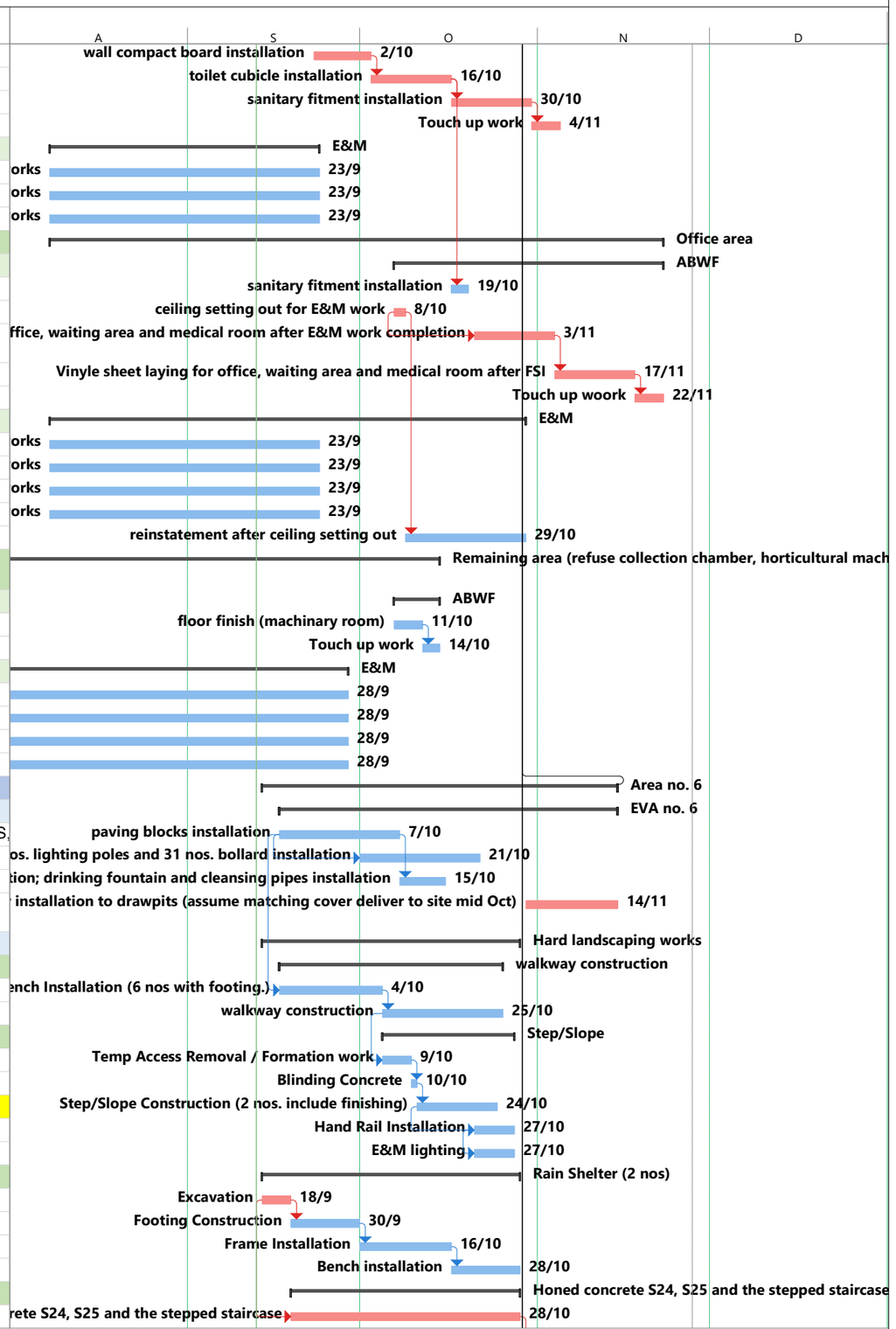


| ID | WBS | Task Name | Duration | Start | Finish | Predecessors | Successors |
|---|---|---|---|---|---|---|---|
| 220 | 1.3.3.6.5 | Planting | 4 d | Sun 27/10/24 | Wed 30/10/24 | 219 | |
| 221 | 1.3.3.6.6 | E&M lighting | 10 d | Sun 20/10/24 | Tue 29/10/24 | 218FS-4 d | |
| 222 | **1.3.3.7** | **Stairs beside Terraced Planter** | **27 d** | **Thu 3/10/24** | **Tue 29/10/24** | | |
| 223 | 1.3.3.7.1 | Formation and Blinding | 8 d | Thu 3/10/24 | Fri 11/10/24 | 224SF | |
| 224 | 1.3.3.7.2 | RC Stairs (include finishing) | 16 d | Fri 11/10/24 | Sat 26/10/24 | 217 | 223SF,225 |
| 225 | 1.3.3.7.3 | Handrail | 3 d | Sun 27/10/24 | Tue 29/10/24 | 224 | |
| 226 | **1.3.3.8** | **Walkway Construction** | **33 d** | **Sat 21/9/24** | **Wed 23/10/24** | | |
| 227 | 1.3.3.8.1 | Glass Balustrade Installation | 16 d | Sun 6/10/24 | Mon 21/10/24 | 229 | |
| 228 | 1.3.3.8.2 | Walkway Formation | 10 d | Sat 21/9/24 | Mon 30/9/24 | 52 | 229 |
| 229 | 1.3.3.8.3 | Sub-base | 5 d | Tue 1/10/24 | Sat 5/10/24 | 228 | 227,230 |
| 230 | 1.3.3.8.4 | Porcelain Tile Paving | 18 d | Sun 6/10/24 | Wed 23/10/24 | 229 | |
| 231 | **1.3.4** | **Works beside and underneath Bridge D3** | **73 d** | **Thu 22/8/24** | **Sat 2/11/24** | | |
| 232 | **1.3.4.1** | **EVA no. 10 (underneath bridge D3)** | **61 d** | **Thu 22/8/24** | **Mon 21/10/24** | | |
| 233 | 1.3.4.1.1 | Duct and drawpits underneath Bridge D3 | 21 d | Thu 22/8/24 | Wed 11/9/24 | | 234 |
| 234 | 1.3.4.1.2 | Formation of EVA | 4 d | Thu 12/9/24 | Sun 15/9/24 | 233 | 235,239 |
| 235 | 1.3.4.1.3 | Sub-base | 3 d | Mon 16/9/24 | Wed 18/9/24 | 234 | 236 |
| 236 | 1.3.4.1.4 | Road Base | 2 d | Thu 19/9/24 | Fri 20/9/24 | 235 | 237 |
| 237 | 1.3.4.1.5 | Paving Blocks Installation | 12 d | Thu 10/10/24 | Mon 21/10/24 | 236,240 | |
| 238 | **1.3.4.2** | **Stepped seating underneath Bridge D3** | **43 d** | **Mon 16/9/24** | **Mon 28/10/24** | | |
| 239 | 1.3.4.2.1 | Excavation & Blinding Concrete | 8 d | Mon 16/9/24 | Mon 23/9/24 | 234 | 240,242 |
| 240 | 1.3.4.2.2 | RC Footing Construction | 16 d | Tue 24/9/24 | Wed 9/10/24 | 239 | 237,241FS-5 d,247, |
| 241 | 1.3.4.2.3 | Honed Concrete Seating Installation | 20 d | Sat 5/10/24 | Thu 24/10/24 | 240FS-5 d | 244SS+14 d,243SS |
| 242 | 1.3.4.2.4 | U-channel surround the seating | 16 d | Tue 24/9/24 | Wed 9/10/24 | 239 | |
| 243 | 1.3.4.2.5 | 15 nos. of lamp poles and 9 nos. of bollards | 14 d | Tue 15/10/24 | Mon 28/10/24 | 241SS+10 d | |
| 244 | 1.3.4.2.6 | Soil Mix Filling & Planting | 10 d | Sat 19/10/24 | Mon 28/10/24 | 241SS+14 d | |
| 245 | **1.3.4.3** | **Granite Tile Paving around Stepped Seating** | **30 d** | **Fri 4/10/24** | **Sat 2/11/24** | | |
| 246 | 1.3.4.3.1 | Formation | 6 d | Fri 4/10/24 | Wed 9/10/24 | 240FS-6 d | 247 |
| 247 | 1.3.4.3.2 | Sub-base | 6 d | Thu 10/10/24 | Tue 15/10/24 | 240,246 | 248 |
| 248 | 1.3.4.3.3 | Granite Tiles Paving | 18 d | Wed 16/10/24 | Sat 2/11/24 | 247 | |
| 249 | **1.4** | **Area nos. 3 & 4** | **66 d** | **Tue 10/9/24** | **Thu 14/11/24** | | **2** |
| 250 | **1.4.1** | **EVA no.3 to 4** | **64 d** | **Thu 12/9/24** | **Thu 14/11/24** | | |
| 251 | 1.4.1.1 | Paving block installation | 24 d | Thu 12/9/24 | Sat 5/10/24 | | 252SS+18 d,253FS- |
| 252 | 1.4.1.2 | 25 nos. lighting poles and 33 bollards installation | 21 d | Mon 30/9/24 | Sun 20/10/24 | 251SS+18 d | |
| 253 | 1.4.1.3 | irrigation; drinking fountain and cleansing pipes installation | 8 d | Thu 10/10/24 | Thu 17/10/24 | 251FS+4 d | |
| 254 | 1.4.1.4 | matching cover installation to drawpits (assume matching cover deliver to site mid Oct) | 16 d | Wed 30/10/24 | Thu 14/11/24 | | |
| 255 | **1.4.2** | **Hard Landscape (from Area nos. 3 to 4)** | **49 d** | **Tue 10/9/24** | **Mon 28/10/24** | | |
| 256 | **1.4.2.1** | **Planter wall construction** | **47 d** | **Tue 10/9/24** | **Sat 26/10/24** | | |
| 257 | 1.4.2.1.1 | Formation | 12 d | Tue 10/9/24 | Sat 21/9/24 | | 258,265FS+3 d |
| 258 | 1.4.2.1.2 | Excavation for footing of honed concrete | 10 d | Sun 22/9/24 | Tue 1/10/24 | 257 | 259SS+7 d,262 |
| 259 | 1.4.2.1.3 | Footing construction for honed concrete (6 nos.) | 16 d | Sun 29/9/24 | Mon 14/10/24 | 258SS+7 d | 260SS+10 d |
| 260 | 1.4.2.1.4 | Honed Concrete Installation(Wall/Bench) | 18 d | Wed 9/10/24 | Sat 26/10/24 | 259SS+10 d | 276 |
| 261 | **1.4.2.2** | **walkway construction** | **27 d** | **Wed 2/10/24** | **Mon 28/10/24** | | |
| 262 | 1.4.2.2.1 | Sub-base/Concrete | 6 d | Wed 2/10/24 | Mon 7/10/24 | 258 | 263 |
| 263 | 1.4.2.2.2 | Procelain Tile Installation | 21 d | Tue 8/10/24 | Mon 28/10/24 | 262 | |
| 264 | **1.4.2.3** | **Step/Slope** | **32 d** | **Wed 25/9/24** | **Sat 26/10/24** | | |
| 265 | 1.4.2.3.1 | Temp Access Removal / Formation work | 8 d | Wed 25/9/24 | Wed 2/10/24 | 257FS+3 d | 266 |
| 266 | 1.4.2.3.2 | Blinding Concrete | 1 d | Thu 3/10/24 | Thu 3/10/24 | 265 | 267 |
| 267 | 1.4.2.3.3 | Step/Slope Construction (4 nos.include finishing) | 18 d | Fri 4/10/24 | Mon 21/10/24 | 266 | 268 |
| 268 | 1.4.2.3.4 | Hand Rail Installation | 5 d | Tue 22/10/24 | Sat 26/10/24 | 267 | 269FF |
| 269 | 1.4.2.3.5 | E&M lighting | 7 d | Sun 20/10/24 | Sat 26/10/24 | 268FF | |
| 270 | **1.4.2.4** | **Rain Shelter** | **47 d** | **Tue 10/9/24** | **Sat 26/10/24** | | |
| 271 | 1.4.2.4.1 | Excavation for 4 nos. of footing of rain shelter | 8 d | Tue 10/9/24 | Tue 17/9/24 | | 272FS+3 d |
| 272 | 1.4.2.4.2 | Construction for 4 nos. footings of rain shelter | 14 d | Sat 21/9/24 | Fri 4/10/24 | 271FS+3 d | 273 |
| 273 | 1.4.2.4.3 | Frame Installation | 12 d | Sat 5/10/24 | Wed 16/10/24 | 272 | 274 |
| 274 | 1.4.2.4.4 | Bench installation | 10 d | Thu 17/10/24 | Sat 26/10/24 | 273 | 277 |

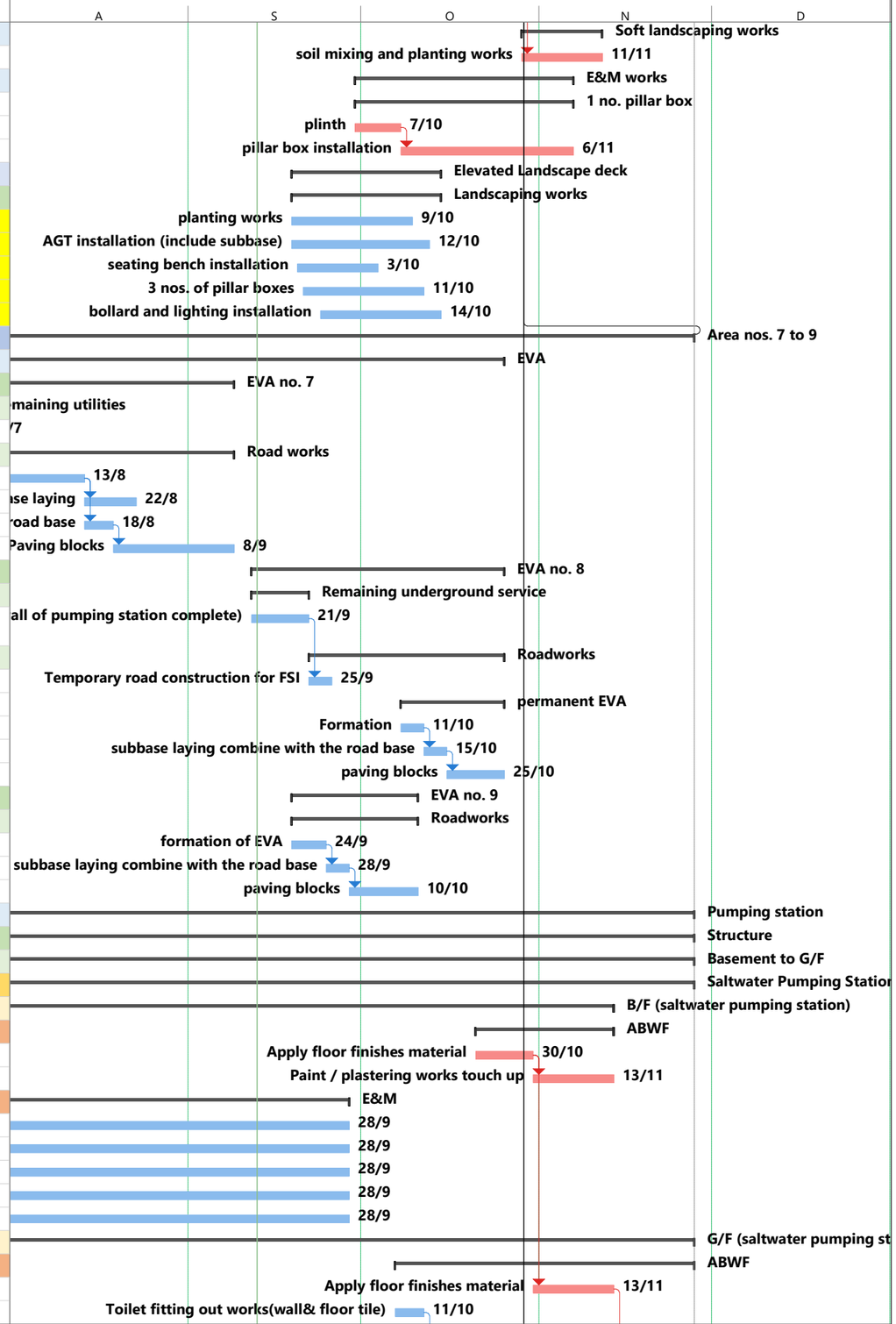


| ID | WBS | Task Name | Duration | Start | Finish | Predecessors | Successors |
|---|---|---|---|---|---|---|---|
| 275 | **1.4.3** | **Soft landscaping works** | **14 d** | **Sun 27/10/24** | **Sat 9/11/24** | | |
| 276 | 1.4.3.1 | soil mixing and planting works (river side) | 14 d | Sun 27/10/24 | Sat 9/11/24 | 260 | |
| 277 | 1.4.3.2 | soil mixing and planting works (beside NDR) | 14 d | Sun 27/10/24 | Sat 9/11/24 | 274 | |
| 278 | **1.4.4** | **E&M works** | **38 d** | **Mon 30/9/24** | **Wed 6/11/24** | | |
| 279 | 1.4.4.1 | 4 nos. of pillar boxes | 38 d | Mon 30/9/24 | Wed 6/11/24 | | |
| 280 | 1.4.4.1.1 | plinths | 8 d | Mon 30/9/24 | Mon 7/10/24 | | 281 |
| 281 | 1.4.4.1.2 | pillar box installation | 30 d | Tue 8/10/24 | Wed 6/11/24 | 280 | |
| 282 | **1.5** | **Area no. 4 to 5 (between NDR and Underpass)** | **36 d** | **Tue 15/10/24** | **Tue 19/11/24** | | **2** |
| 283 | **1.5.1** | **1st half of EVA and soft landscaping works** | **18 d** | **Tue 15/10/24** | **Fri 1/11/24** | | |
| 284 | 1.5.1.1 | EVA construction | 18 d | Tue 15/10/24 | Fri 1/11/24 | | 285SS,287 |
| 285 | 1.5.1.2 | soft landscaping works | 18 d | Tue 15/10/24 | Fri 1/11/24 | 284SS | |
| 286 | **1.5.2** | **2nd half of EVA and soft landscaping works** | **18 d** | **Sat 2/11/24** | **Tue 19/11/24** | | |
| 287 | 1.5.2.1 | EVA construction | 18 d | Sat 2/11/24 | Tue 19/11/24 | 284 | 288SS |
| 288 | 1.5.2.2 | soft landscaping works | 18 d | Sat 2/11/24 | Tue 19/11/24 | 287SS | |
| 289 | **1.6** | **Area no. 5** | **802 d** | **Thu 1/9/22** | **Fri 22/11/24** | | **2** |
| 290 | **1.6.1** | **EVA** | **63 d** | **Fri 13/9/24** | **Thu 14/11/24** | | |
| 291 | 5/9/24 | paving blocks construction | 24 d | Fri 13/9/24 | Sun 6/10/24 | | 292SS+20 d,294 |
| 292 | 1.6.1.2 | 14 nos. lighting and 35 nos. bollard installation | 22 d | Thu 3/10/24 | Thu 24/10/24 | 291SS+20 d | |
| 293 | 1.6.1.3 | matching cover installation to drawpits (assume matching cover deliver to site mid Oct) | 16 d | Wed 30/10/24 | Thu 14/11/24 | | |
| 294 | 1.6.1.4 | irrigation; drinking fountain and cleansing pipes installation | 8 d | Mon 7/10/24 | Mon 14/10/24 | 291 | |
| 295 | **1.6.2** | **Hard landscaping works** | **57 d** | **Tue 17/9/24** | **Tue 12/11/24** | | |
| 296 | **1.6.2.1** | **walkway construction (floating stage)** | **41 d** | **Tue 17/9/24** | **Sun 27/10/24** | | |
| 297 | 1.6.2.1.1 | formation | 8 d | Tue 17/9/24 | Tue 24/9/24 | | 298 |
| 298 | 1.6.2.1.2 | subbase laying | 4 d | Wed 25/9/24 | Sat 28/9/24 | 297 | 299 |
| 299 | 1.6.2.1.3 | glass balstrade for floating stage installation | 21 d | Sun 29/9/24 | Sat 19/10/24 | 298 | 300SS+8 d |
| 300 | 1.6.2.1.4 | porcelain Tile paving | 21 d | Mon 7/10/24 | Sun 27/10/24 | 299SS+8 d | |
| 301 | **1.6.2.2** | **Honed concrete DS2 & 3 installation (floating stage)** | **41 d** | **Fri 20/9/24** | **Wed 30/10/24** | | |
| 302 | 1.6.2.2.1 | Excavation of footing for honed concrete DS2 & 3 | 10 d | Fri 20/9/24 | Sun 29/9/24 | | 303,306 |
| 303 | 1.6.2.2.2 | Footing construction for honed concrete DS2 & 3 | 14 d | Mon 30/9/24 | Sun 13/10/24 | 302 | 304SS+10 d |
| 304 | 1.6.2.2.3 | Honed concrete DS2 & 3 installation | 21 d | Thu 10/10/24 | Wed 30/10/24 | 303SS+10 d | 321 |
| 305 | **1.6.2.3** | **Step/Slope** | **25 d** | **Mon 30/9/24** | **Thu 24/10/24** | | |
| 306 | 1.6.2.3.1 | Temp Access Removal / Formation work | 6 d | Mon 30/9/24 | Sat 5/10/24 | 302 | 307 |
| 307 | 1.6.2.3.2 | Blinding Concrete | 1 d | Sun 6/10/24 | Sun 6/10/24 | 306 | 308 |
| 308 | 1.6.2.3.3 | Step/Slope Construction (3 nos. include finishing) | 18 d | Mon 7/10/24 | Thu 24/10/24 | 307 | 309SS+4 d |
| 309 | 1.6.2.3.4 | Hand Rail Installation | 6 d | Fri 11/10/24 | Wed 16/10/24 | 308SS+4 d | 310FF |
| 310 | 1.6.2.3.5 | E&M lighting | 6 d | Fri 11/10/24 | Wed 16/10/24 | 309FF | |
| 311 | **1.5.2.3** | **Rain Shelter (4 nos)** | **40 d** | **Thu 19/9/24** | **Mon 28/10/24** | | |
| 312 | 1.5.2.3 | Excavation | 6 d | Thu 19/9/24 | Tue 24/9/24 | | 313SS+4 d |
| 313 | 1.5.2.3 | Footing Construction | 12 d | Mon 23/9/24 | Fri 4/10/24 | 312SS+4 d | 314 |
| 314 | 1.5.2.3 | Frame Installation | 12 d | Sat 5/10/24 | Wed 16/10/24 | 313 | 315 |
| 315 | 1.5.2.3 | Bench installation | 12 d | Thu 17/10/24 | Mon 28/10/24 | 314 | |
| 316 | **1.6.2.5** | **paving blocks beside TMO** | **20 d** | **Thu 24/10/24** | **Tue 12/11/24** | | |
| 317 | 1.6.2.5.1 | paving blocks beside TMO (1st half; 2nd half serve as access) | 12 d | Thu 24/10/24 | Mon 4/11/24 | | 318FS-4 d,320 |
| 318 | 1.6.2.5.2 | paving blocks beside TMO (2nd half) | 12 d | Fri 1/11/24 | Tue 12/11/24 | 317FS-4 d | |
| 319 | 1.6.3 | soft landscaping works | 18 d | Thu 31/10/24 | Sun 17/11/24 | | |
| 320 | 1.6.3.1 | soil mixing and planting works (beside TMO) | 12 d | Tue 5/11/24 | Sat 16/11/24 | 317 | |
| 321 | 1.6.3.2 | soil mixing and planting works (besde DS2 & DS3) | 18 d | Thu 31/10/24 | Sun 17/11/24 | 304 | |
| 322 | 1.6.4 | E&M works | 38 d | Mon 30/9/24 | Wed 6/11/24 | | |
| 323 | 1.6.4.1 | 1 no. pillar box | 38 d | Mon 30/9/24 | Wed 6/11/24 | | |
| 324 | 1.6.4.1.1 | plinth | 8 d | Mon 30/9/24 | Mon 7/10/24 | | 325 |
| 325 | 1.6.4.1.2 | pillar box installation | 30 d | Tue 8/10/24 | Wed 6/11/24 | 324 | |
| 326 | **1.6.5** | **Temporary Management Office** | **802 d** | **Thu 1/9/22** | **Fri 22/11/24** | | |
| 327 | **1.6.5.1** | **Toilet area** | **784 d** | **Thu 1/9/22** | **Mon 4/11/24** | | |
| 328 | **1.6.5.1.1** | **ABWF** | **784 d** | **Thu 1/9/22** | **Mon 4/11/24** | | |
| 329 | 1.6.5.1.1.1 | wall tiles and floor tiles laying | 21 d | Thu 1/9/22 | Wed 21/9/22 | | |

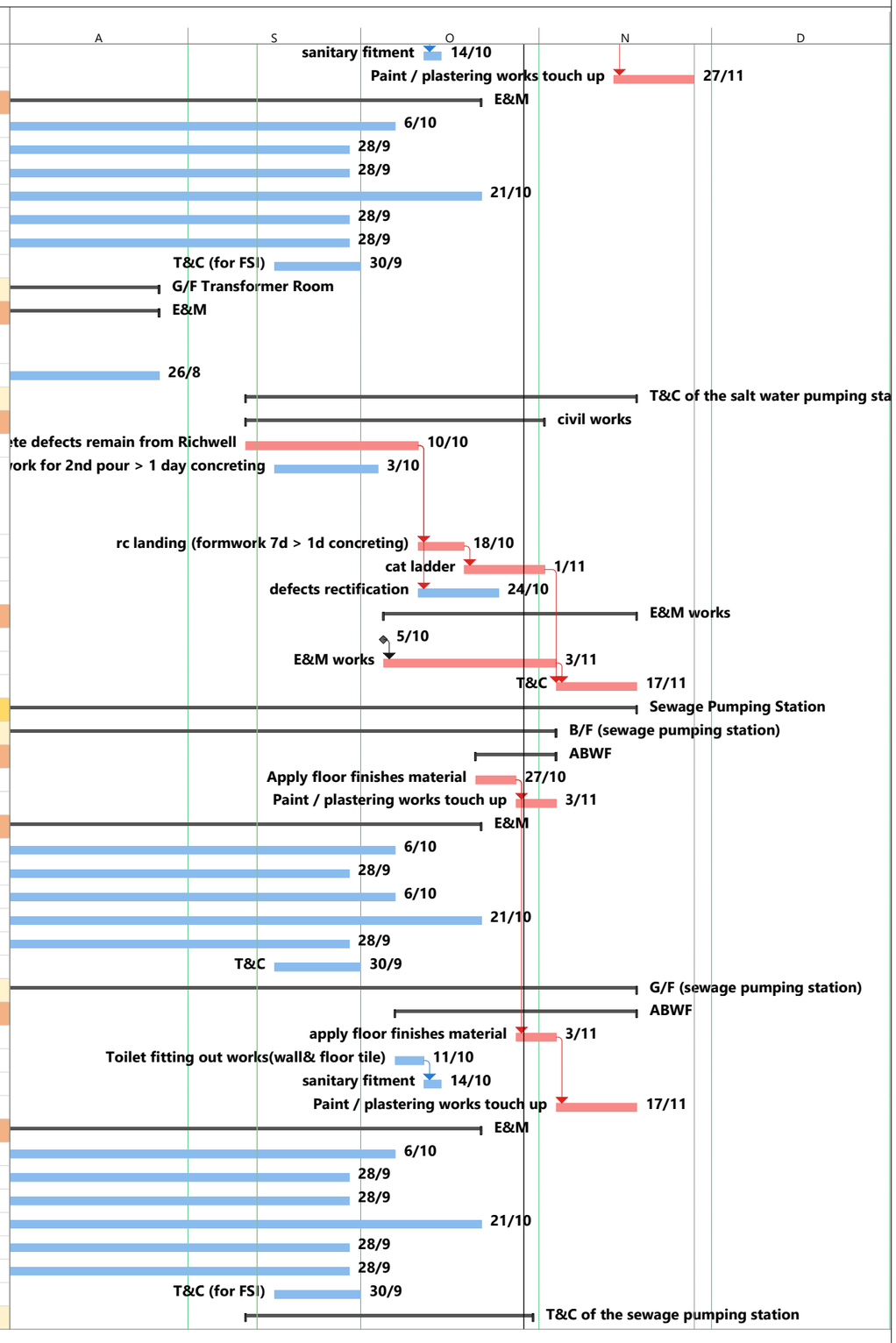
| ID | WBS | Task Name | Duration | Start | Finish | Predecessors | Successors |
|---|---|---|---|---|---|---|---|
| 330 | 1.6.5.1.1.2 | wall compact board installation | 10 d | Mon 23/9/24 | Wed 2/10/24 | | 331 |
| 331 | 1.6.5.1.1.3 | toilet cubicle installation | 14 d | Thu 3/10/24 | Wed 16/10/24 | 330 | 332,340 |
| 332 | 1.6.5.1.1.4 | sanitary fitment installation | 14 d | Thu 17/10/24 | Wed 30/10/24 | 331 | 333 |
| 333 | 1.6.5.1.1.5 | Touch up work | 5 d | Thu 31/10/24 | Mon 4/11/24 | 332 | |
| 334 | **1.6.5.1.2** | **E&M** | **47 d** | **Thu 8/8/24** | **Mon 23/9/24** | | |
| 335 | 1.6.5.1.2.1 | Electrical works | 47 d | Thu 8/8/24 | Mon 23/9/24 | | |
| 336 | 1.6.5.1.2.2 | MVAC works | 47 d | Thu 8/8/24 | Mon 23/9/24 | | |
| 337 | 1.6.5.1.2.3 | Plumbing and drainage works | 47 d | Thu 8/8/24 | Mon 23/9/24 | | |
| 338 | **1.6.5.2** | **Office area** | **107 d** | **Thu 8/8/24** | **Fri 22/11/24** | | |
| 339 | **1.6.5.2.1** | **ABWF** | **47 d** | **Mon 7/10/24** | **Fri 22/11/24** | | |
| 340 | 1.6.5.2.1.1 | sanitary fitment installation | 3 d | Thu 17/10/24 | Sat 19/10/24 | 331 | |
| 341 | 1.6.5.2.1.2 | ceiling setting out for E&M work | 2 d | Mon 7/10/24 | Tue 8/10/24 | | 342SS+14 d,350 |
| 342 | 1.6.5.2.1.3 | ceiling installation office, waiting area and medical room after E&M work completion | 14 d | Mon 21/10/24 | Sun 3/11/24 | 341SS+14 d | 343 |
| 343 | 1.6.5.2.1.4 | Vinyle sheet laying for office, waiting area and medical room after F | 14 d | Mon 4/11/24 | Sun 17/11/24 | 342 | 344 |
| 344 | 1.6.5.2.1.5 | Touch up woork | 5 d | Mon 18/11/24 | Fri 22/11/24 | 343 | |
| 345 | **1.6.5.2.2** | **E&M** | **83 d** | **Thu 8/8/24** | **Tue 29/10/24** | | |
| 346 | 1.6.5.2.2.1 | Electrical works | 47 d | Thu 8/8/24 | Mon 23/9/24 | | |
| 347 | 1.6.5.2.2.2 | MVAC works | 47 d | Thu 8/8/24 | Mon 23/9/24 | | |
| 348 | 1.6.5.2.2.3 | Fire service works | 47 d | Thu 8/8/24 | Mon 23/9/24 | | |
| 349 | 1.6.5.2.2.4 | Plumbing and drainage works | 47 d | Thu 8/8/24 | Mon 23/9/24 | | |
| 350 | 1.6.5.2.2.5 | reinstatement after ceiling setting out | 21 d | Wed 9/10/24 | Tue 29/10/24 | 341 | |
| 351 | **1.6.5.3** | **Remaining area (refuse collection chamber, horticultural machinery store room, etc** | **136 d** | **Sat 1/6/24** | **Mon 14/10/24** | | |
| 352 | **1.6.5.3.1** | **ABWF** | **8 d** | **Mon 7/10/24** | **Mon 14/10/24** | | |
| 353 | 1.6.5.3.1.1 | floor finish (machinary room) | 5 d | Mon 7/10/24 | Fri 11/10/24 | | 354 |
| 354 | 1.6.5.3.1.2 | Touch up work | 3 d | Sat 12/10/24 | Mon 14/10/24 | 353 | |
| 355 | **1.6.5.3.2** | **E&M** | **120 d** | **Sat 1/6/24** | **Sat 28/9/24** | | |
| 356 | 1.6.5.3.2.1 | Electrical works | 120 d | Sat 1/6/24 | Sat 28/9/24 | | |
| 357 | 1.6.5.3.2.2 | MVAC works | 120 d | Sat 1/6/24 | Sat 28/9/24 | | |
| 358 | 1.6.5.3.2.3 | Fire service works | 120 d | Sat 1/6/24 | Sat 28/9/24 | | |
| 359 | 1.6.5.3.2.4 | Plumbing and drainage works | 120 d | Sat 1/6/24 | Sat 28/9/24 | | |
| 360 | **1.7** | **Area no. 6** | **62 d** | **Sat 14/9/24** | **Thu 14/11/24** | | **2** |
| 361 | **1.7.1** | **EVA no. 6** | **59 d** | **Tue 17/9/24** | **Thu 14/11/24** | | |
| 362 | 1.7.1.1 | paving blocks installation | 21 d | Tue 17/9/24 | Mon 7/10/24 | | 363SS+14 d,368SS, |
| 363 | 1.7.1.2 | 14 nos. lighting poles and 31 nos. bollard installation | 21 d | Tue 1/10/24 | Mon 21/10/24 | 362SS+14 d | |
| 364 | 1.7.1.3 | irrigation; drinking fountain and cleansing pipes installation | 8 d | Tue 8/10/24 | Tue 15/10/24 | 362 | |
| 365 | 1.7.1.4 | matching cover installation to drawpits (assume matching cover deliver to site mid Oct) | 16 d | Wed 30/10/24 | Thu 14/11/24 | | |
| 366 | **1.7.2** | **Hard landscaping works** | **45 d** | **Sat 14/9/24** | **Mon 28/10/24** | | |
| 367 | **1.7.2.1** | **walkway construction** | **39 d** | **Tue 17/9/24** | **Fri 25/10/24** | | |
| 368 | 1.7.2.1.1 | Honed Concrete Bench Installation (6 nos with footing.) | 18 d | Tue 17/9/24 | Fri 4/10/24 | 362SS | 369 |
| 369 | 1.7.2.1.2 | walkway construction | 21 d | Sat 5/10/24 | Fri 25/10/24 | 368 | 371SS |
| 370 | **1.7.2.2** | **Step/Slope** | **23 d** | **Sat 5/10/24** | **Sun 27/10/24** | | |
| 371 | 1.7.2.2.1 | Temp Access Removal / Formation work | 5 d | Sat 5/10/24 | Wed 9/10/24 | 369SS | 372 |
| 372 | 1.7.2.2.2 | Blinding Concrete | 1 d | Thu 10/10/24 | Thu 10/10/24 | 371 | 373 |
| 373 | 1.7.2.2.3 | Step/Slope Construction (2 nos. include finishing) | 14 d | Fri 11/10/24 | Thu 24/10/24 | 372 | 374SS+10 d |
| 374 | 1.7.2.2.4 | Hand Rail Installation | 7 d | Mon 21/10/24 | Sun 27/10/24 | 373SS+10 d | 375SS |
| 375 | 1.7.2.2.5 | E&M lighting | 7 d | Mon 21/10/24 | Sun 27/10/24 | 374SS | |
| 376 | **1.6.2.3** | **Rain Shelter (2 nos)** | **45 d** | **Sat 14/9/24** | **Mon 28/10/24** | | |
| 377 | 1.6.2.3.1 | Excavation | 5 d | Sat 14/9/24 | Wed 18/9/24 | | 378,382SS |
| 378 | 1.6.2.3.2 | Footing Construction | 12 d | Thu 19/9/24 | Mon 30/9/24 | 377 | 379 |
| 379 | 1.6.2.3.3 | Frame Installation | 16 d | Tue 1/10/24 | Wed 16/10/24 | 378 | 380 |
| 380 | 1.6.2.3.4 | Bench installation | 12 d | Thu 17/10/24 | Mon 28/10/24 | 379 | |
| 381 | **1.7.2.4** | **Honed concrete S24, S25 and the stepped staircase** | **40 d** | **Thu 19/9/24** | **Mon 28/10/24** | | |
| 382 | 1.7.2.4.1 | Honed concrete S24, S25 and the stepped staircase | 40 d | Thu 19/9/24 | Mon 28/10/24 | 377SS | 384 |



| ID | WBS | Task Name | Duration | Start | Finish | Predecessors | Successors |
|---|---|---|---|---|---|---|---|
| 383 | 1.7.3 | Soft landscaping works | 14 d | Tue 29/10/24 | Mon 11/11/24 | | |
| 384 | 1.7.3.1 | soil mixing and planting works | 14 d | Tue 29/10/24 | Mon 11/11/24 | 382 | |
| 385 | 1.7.4 | E&M works | 38 d | Mon 30/9/24 | Wed 6/11/24 | | |
| 386 | 1.7.4.1 | 1 no. pillar box | 38 d | Mon 30/9/24 | Wed 6/11/24 | | |
| 387 | 1.7.4.1.1 | plinth | 8 d | Mon 30/9/24 | Mon 7/10/24 | | 388 |
| 388 | 1.7.4.1.2 | pillar box installation | 30 d | Tue 8/10/24 | Wed 6/11/24 | 387 | |
| 389 | **1.7.5** | **Elevated Landscape deck** | **26 d** | **Thu 19/9/24** | **Mon 14/10/24** | | |
| 390 | **1.7.5.1** | **Landscaping works** | **26 d** | **Thu 19/9/24** | **Mon 14/10/24** | | |
| 391 | 1.7.5.1.1 | planting works | 21 d | Thu 19/9/24 | Wed 9/10/24 | | |
| 392 | 1.7.5.1.2 | AGT installation (include subbase) | 24 d | Thu 19/9/24 | Sat 12/10/24 | | |
| 393 | 1.7.5.1.3 | seating bench installation | 14 d | Fri 20/9/24 | Thu 3/10/24 | | |
| 394 | 1.7.5.1.4 | 3 nos. of pillar boxes | 21 d | Sat 21/9/24 | Fri 11/10/24 | | |
| 395 | 1.7.5.1.5 | bollard and lighting installation | 21 d | Tue 24/9/24 | Mon 14/10/24 | | |
| 396 | **1.8** | **Area nos. 7 to 9** | **196 d** | **Thu 16/5/24** | **Wed 27/11/24** | | **2** |
| 397 | **1.8.1** | **EVA** | **136 d** | **Wed 12/6/24** | **Fri 25/10/24** | | |
| 398 | **1.8.1.1** | **EVA no. 7** | **89 d** | **Wed 12/6/24** | **Sun 8/9/24** | | |
| 399 | **1.8.1.1.1** | **Remaining utilities** | **45 d** | **Wed 12/6/24** | **Fri 26/7/24** | | |
| 400 | 1.8.1.1.1.1 | CLP 11KV cabling from EVA no. 7 into transformer room | 45 d | Wed 12/6/24 | Fri 26/7/24 | | 402 |
| 401 | **1.8.1.1.2** | **Road works** | **44 d** | **Sat 27/7/24** | **Sun 8/9/24** | | |
| 402 | 1.8.1.1.2.1 | Formation of the EVA | 18 d | Sat 27/7/24 | Tue 13/8/24 | 400 | 403,404 |
| 403 | 1.8.1.1.2.2 | subbase laying | 9 d | Wed 14/8/24 | Thu 22/8/24 | 402 | |
| 404 | 1.8.1.1.2.3 | road base | 5 d | Wed 14/8/24 | Sun 18/8/24 | 402 | 405 |
| 405 | 1.8.1.1.2.4 | Paving blocks | 21 d | Mon 19/8/24 | Sun 8/9/24 | 404 | |
| 406 | **1.8.1.2** | **EVA no. 8** | **44 d** | **Thu 12/9/24** | **Fri 25/10/24** | | |
| 407 | **1.8.1.2.1** | **Remaining underground service** | **10 d** | **Thu 12/9/24** | **Sat 21/9/24** | | |
| 408 | 1.8.1.2.1.1 | u-channel construction (after louvre and window installation of external wall of pumping station complete) | 10 d | Thu 12/9/24 | Sat 21/9/24 | | 410 |
| 409 | **1.8.1.2.2** | **Roadworks** | **34 d** | **Sun 22/9/24** | **Fri 25/10/24** | | |
| 410 | 1.8.1.2.2.1 | Temporary road construction for FSI | 4 d | Sun 22/9/24 | Wed 25/9/24 | 408 | |
| 411 | **1.8.1.2.2.2** | **permanent EVA** | **18 d** | **Tue 8/10/24** | **Fri 25/10/24** | | |
| 412 | 1.8.1.2.2.2 | Formation | 4 d | Tue 8/10/24 | Fri 11/10/24 | | 413 |
| 413 | 1.8.1.2.2.2 | subbase laying combine with the road base | 4 d | Sat 12/10/24 | Tue 15/10/24 | 412 | 414 |
| 414 | 1.8.1.2.2.2 | paving blocks | 10 d | Wed 16/10/24 | Fri 25/10/24 | 413 | |
| 415 | **1.8.1.3** | **EVA no. 9** | **22 d** | **Thu 19/9/24** | **Thu 10/10/24** | | |
| 416 | **1.8.1.3.1** | **Roadworks** | **22 d** | **Thu 19/9/24** | **Thu 10/10/24** | | |
| 417 | 1.8.1.3.1.1 | formation of EVA | 6 d | Thu 19/9/24 | Tue 24/9/24 | | 418 |
| 418 | 1.8.1.3.1.2 | subbase laying combine with the road base | 4 d | Wed 25/9/24 | Sat 28/9/24 | 417 | 419 |
| 419 | 1.8.1.3.1.3 | paving blocks | 12 d | Sun 29/9/24 | Thu 10/10/24 | 418 | |
| 420 | **1.8.2** | **Pumping station** | **196 d** | **Thu 16/5/24** | **Wed 27/11/24** | | |
| 421 | **1.8.2.1** | **Structure** | **196 d** | **Thu 16/5/24** | **Wed 27/11/24** | | |
| 422 | **1.8.2.1.1** | **Basement to G/F** | **196 d** | **Thu 16/5/24** | **Wed 27/11/24** | | |
| 423 | **1.8.2.1.1.1** | **Saltwater Pumping Station** | **196 d** | **Thu 16/5/24** | **Wed 27/11/24** | | |
| 424 | **1.8.2.1.1.1** | **B/F (saltwater pumping station)** | **166 d** | **Sat 1/6/24** | **Wed 13/11/24** | | |
| 425 | **1.8.2.1.1.1** | **ABWF** | **24 d** | **Mon 21/10/24** | **Wed 13/11/24** | | |
| 426 | 1.8.2.1.1.1 | Apply floor finishes material | 10 d | Mon 21/10/24 | Wed 30/10/24 | | 427,436 |
| 427 | 1.8.2.1.1.1 | Paint / plastering works touch up | 14 d | Thu 31/10/24 | Wed 13/11/24 | 426 | |
| 428 | **1.8.2.1.1.1** | **E&M** | **120 d** | **Sat 1/6/24** | **Sat 28/9/24** | | |
| 429 | 1.8.2.1.1.1 | MVAC works | 120 d | Sat 1/6/24 | Sat 28/9/24 | | |
| 430 | 1.8.2.1.1.1 | Electrical works | 120 d | Sat 1/6/24 | Sat 28/9/24 | | |
| 431 | 1.8.2.1.1.1 | Fire service works | 120 d | Sat 1/6/24 | Sat 28/9/24 | | |
| 432 | 1.8.2.1.1.1 | Mechanical works | 120 d | Sat 1/6/24 | Sat 28/9/24 | | |
| 433 | 1.8.2.1.1.1 | Plumbing and drainage works | 120 d | Sat 1/6/24 | Sat 28/9/24 | | |
| 434 | **1.8.2.1.1.1** | **G/F (saltwater pumping station)** | **188 d** | **Fri 24/5/24** | **Wed 27/11/24** | | |
| 435 | **1.8.2.1.1.1** | **ABWF** | **52 d** | **Mon 7/10/24** | **Wed 27/11/24** | | |
| 436 | 1.8.2.1.1.1 | Apply floor finishes material | 14 d | Thu 31/10/24 | Wed 13/11/24 | 426 | 439 |
| 437 | 1.8.2.1.1.1 | Toilet fitting out works(wall& floor tile) | 5 d | Mon 7/10/24 | Fri 11/10/24 | | 438 |



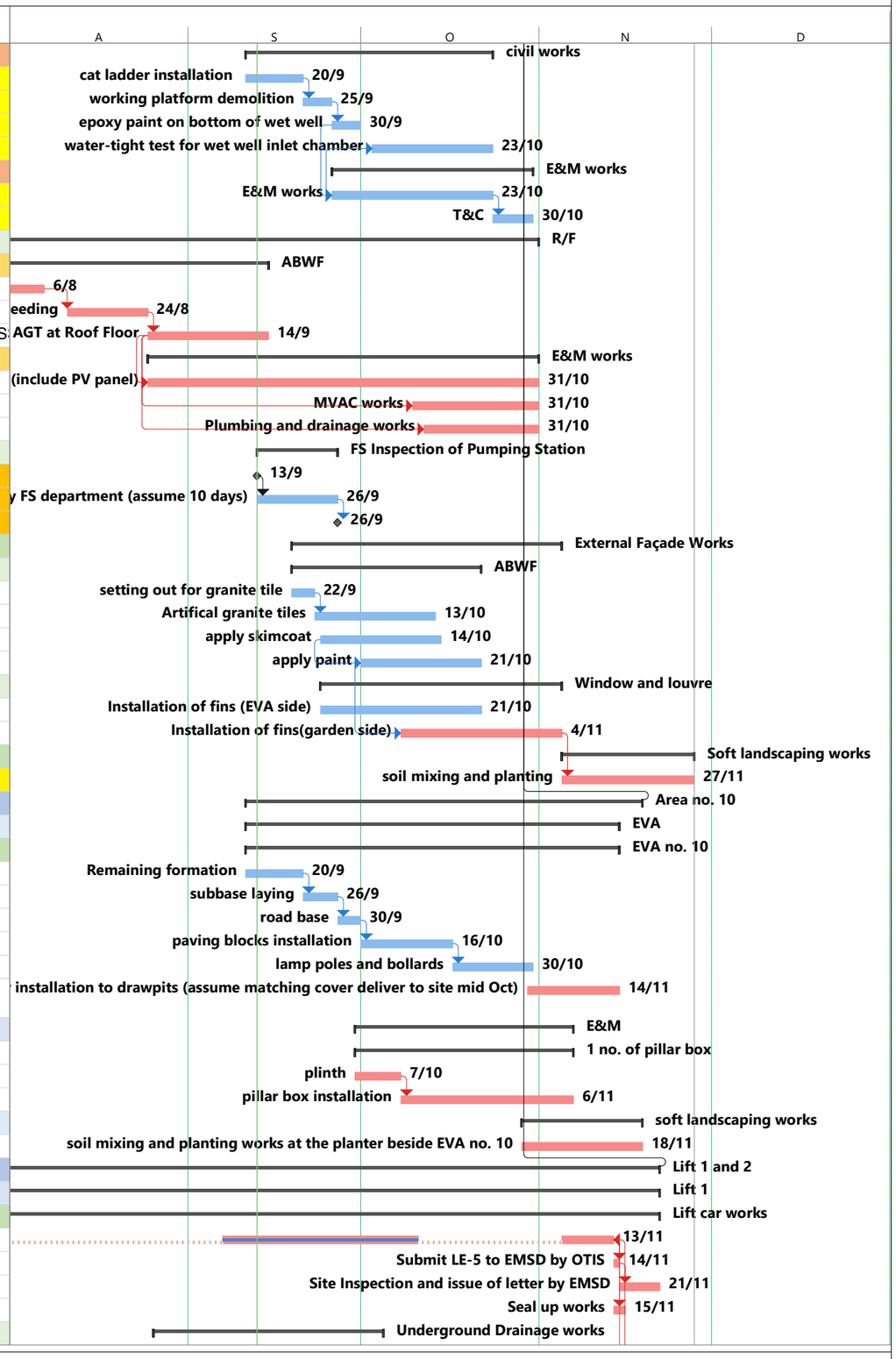
| ID | WBS | Task Name | Duration | Start | Finish | Predecessors | Successors |
|---|---|---|---|---|---|---|---|
| 438 | 1.8.2.1.1.1 | sanitary fitment | 3 d | Sat 12/10/24 | Mon 14/10/24 | 437 | |
| 439 | 1.8.2.1.1.1 | Paint / plastering works touch up | 14 d | Thu 14/11/24 | Wed 27/11/24 | 436 | |
| 440 | **1.8.2.1.1.1** | **E&M** | **151 d** | **Fri 24/5/24** | **Mon 21/10/24** | | |
| 441 | 1.8.2.1.1.1 | MVAC works | 128 d | Sat 1/6/24 | Sun 6/10/24 | | |
| 442 | 1.8.2.1.1.1 | Electrical works | 128 d | Fri 24/5/24 | Sat 28/9/24 | | |
| 443 | 1.8.2.1.1.1 | Fire service works | 128 d | Fri 24/5/24 | Sat 28/9/24 | | |
| 444 | 1.8.2.1.1.1 | Mechanical works | 82 d | Thu 1/8/24 | Mon 21/10/24 | | |
| 445 | 1.8.2.1.1.1 | Plumbing and drainage works | 120 d | Sat 1/6/24 | Sat 28/9/24 | | |
| 446 | 1.8.2.1.1.1 | LV switch room | 120 d | Sat 1/6/24 | Sat 28/9/24 | | |
| 447 | 1.8.2.1.1.1 | T&C (for FSI) | 15 d | Mon 16/9/24 | Mon 30/9/24 | | |
| 448 | **1.8.2.1.1.1** | **G/F Transformer Room** | **103 d** | **Thu 16/5/24** | **Mon 26/8/24** | | |
| 449 | **1.8.2.1.1.1** | **E&M** | **103 d** | **Thu 16/5/24** | **Mon 26/8/24** | | |
| 450 | 1.8.2.1.1.1 | Handover to CLP (after water-proofing double slab certificate issued) | 0 d | Thu 16/5/24 | Thu 16/5/24 | | 451 |
| 451 | 1.8.2.1.1.1 | Energization | 103 d | Thu 16/5/24 | Mon 26/8/24 | 450 | |
| 452 | **1.8.2.1.1.1** | **T&C of the salt water pumping station** | **68 d** | **Wed 11/9/24** | **Sun 17/11/24** | | |
| 453 | **1.8.2.1.1.1** | **civil works** | **52 d** | **Wed 11/9/24** | **Fri 1/11/24** | | |
| 454 | 1.8.2.1.1.1 | Rectify concrete defects remain from Richwell | 30 d | Wed 11/9/24 | Thu 10/10/24 | | 456,458 |
| 455 | 1.8.2.1.1.1 | 3m x 3m x 7m mass concrete fill at the end of intake culvert (WSD's comment) (5 days working platform > 4 days formwork of 1st pour > 1 day concreting > 4 days formwork for 2nd pour > 1 day concreting | 18 d | Mon 16/9/24 | Thu 3/10/24 | | |
| 456 | 1.8.2.1.1.1 | rc landing (formwork 7d > 1d concreting) | 8 d | Fri 11/10/24 | Fri 18/10/24 | 454 | 457 |
| 457 | 1.8.2.1.1.1 | cat ladder | 14 d | Sat 19/10/24 | Fri 1/11/24 | 456 | 462 |
| 458 | 1.8.2.1.1.1 | defects rectification | 14 d | Fri 11/10/24 | Thu 24/10/24 | 454 | |
| 459 | **1.8.2.1.1.1** | **E&M works** | **44 d** | **Sat 5/10/24** | **Sun 17/11/24** | | |
| 460 | 1.8.2.1.1.1 | 4 pumps deliver to site | 0 d | Sat 5/10/24 | Sat 5/10/24 | | 461 |
| 461 | 1.8.2.1.1.1 | E&M works | 30 d | Sat 5/10/24 | Sun 3/11/24 | 460 | 462 |
| 462 | 1.8.2.1.1.1 | T&C | 14 d | Mon 4/11/24 | Sun 17/11/24 | 457,461 | |
| 463 | **1.8.2.1.1.2** | **Sewage Pumping Station** | **178 d** | **Fri 24/5/24** | **Sun 17/11/24** | | |
| 464 | **1.8.2.1.1.2** | **B/F (sewage pumping station)** | **164 d** | **Fri 24/5/24** | **Sun 3/11/24** | | |
| 465 | **1.8.2.1.1.2** | **ABWF** | **14 d** | **Mon 21/10/24** | **Sun 3/11/24** | | |
| 466 | 1.8.2.1.1.2 | Apply floor finishes material | 7 d | Mon 21/10/24 | Sun 27/10/24 | | 467,477 |
| 467 | 1.8.2.1.1.2 | Paint / plastering works touch up | 7 d | Mon 28/10/24 | Sun 3/11/24 | 466 | |
| 468 | **1.8.2.1.1.2** | **E&M** | **151 d** | **Fri 24/5/24** | **Mon 21/10/24** | | |
| 469 | 1.8.2.1.1.2 | MVAC works | 128 d | Sat 1/6/24 | Sun 6/10/24 | | |
| 470 | 1.8.2.1.1.2 | Electrical works | 128 d | Fri 24/5/24 | Sat 28/9/24 | | |
| 471 | 1.8.2.1.1.2 | Fire service works | 128 d | Sat 1/6/24 | Sun 6/10/24 | | |
| 472 | 1.8.2.1.1.2 | Mechanical works | 82 d | Thu 1/8/24 | Mon 21/10/24 | | |
| 473 | 1.8.2.1.1.2 | Plumbing and drainage works | 120 d | Sat 1/6/24 | Sat 28/9/24 | | |
| 474 | 1.8.2.1.1.2 | T&C | 15 d | Mon 16/9/24 | Mon 30/9/24 | | |
| 475 | **1.8.2.1.1.2** | **G/F (sewage pumping station)** | **178 d** | **Fri 24/5/24** | **Sun 17/11/24** | | |
| 476 | **1.8.2.1.1.2** | **ABWF** | **42 d** | **Mon 7/10/24** | **Sun 17/11/24** | | |
| 477 | 1.8.2.1.1.2 | apply floor finishes material | 7 d | Mon 28/10/24 | Sun 3/11/24 | 466 | 480 |
| 478 | 1.8.2.1.1.2 | Toilet fitting out works(wall& floor tile) | 5 d | Mon 7/10/24 | Fri 11/10/24 | | 479 |
| 479 | 1.8.2.1.1.2 | sanitary fitment | 3 d | Sat 12/10/24 | Mon 14/10/24 | 478 | |
| 480 | 1.8.2.1.1.2 | Paint / plastering works touch up | 14 d | Mon 4/11/24 | Sun 17/11/24 | 477 | |
| 481 | **1.8.2.1.1.2** | **E&M** | **151 d** | **Fri 24/5/24** | **Mon 21/10/24** | | |
| 482 | 1.8.2.1.1.2 | MVAC works | 128 d | Sat 1/6/24 | Sun 6/10/24 | | |
| 483 | 1.8.2.1.1.2 | Electrical works | 128 d | Fri 24/5/24 | Sat 28/9/24 | | |
| 484 | 1.8.2.1.1.2 | Fire service works | 128 d | Fri 24/5/24 | Sat 28/9/24 | | |
| 485 | 1.8.2.1.1.2 | Mechanical works | 82 d | Thu 1/8/24 | Mon 21/10/24 | | |
| 486 | 1.8.2.1.1.2 | Plumbing and drainage works | 120 d | Sat 1/6/24 | Sat 28/9/24 | | |
| 487 | 1.8.2.1.1.2 | LV switch room | 120 d | Sat 1/6/24 | Sat 28/9/24 | | |
| 488 | 1.8.2.1.1.2 | T&C (for FSI) | 15 d | Mon 16/9/24 | Mon 30/9/24 | | |
| 489 | **1.8.2.1.1.2** | **T&C of the sewage pumping station** | **50 d** | **Wed 11/9/24** | **Wed 30/10/24** | | |




Acceleration Programme Rev 16C

Task — Summary — Start-only — Critical — Progress
Milestone — Project Summary — Finish-only — Critical Split — Manual Progress

| ID | WBS | Task Name | Duration | Start | Finish | Predecessors | Successors |
|---|---|---|---|---|---|---|---|
| 490 | **1.8.2.1.1.2** | **civil works** | **43 d** | **Wed 11/9/24** | **Wed 23/10/24** | | |
| 491 | 1.8.2.1.1.2 | cat ladder installation | 10 d | Wed 11/9/24 | Fri 20/9/24 | | 492 |
| 492 | 1.8.2.1.1.2 | working platform demolition | 5 d | Sat 21/9/24 | Wed 25/9/24 | 491 | 493 |
| 493 | 1.8.2.1.1.2 | epoxy paint on bottom of wet well | 5 d | Thu 26/9/24 | Mon 30/9/24 | 492 | 496SS |
| 494 | 1.8.2.1.1.2 | water-tight test for wet well inlet chamber | 21 d | Thu 3/10/24 | Wed 23/10/24 | 496SS+7 d | |
| 495 | **1.8.2.1.1.2** | **E&M works** | **35 d** | **Thu 26/9/24** | **Wed 30/10/24** | | |
| 496 | 1.8.2.1.1.2 | E&M works | 28 d | Thu 26/9/24 | Wed 23/10/24 | 493SS | 497,494SS+7 d |
| 497 | 1.8.2.1.1.2 | T&C | 7 d | Thu 24/10/24 | Wed 30/10/24 | 496 | |
| 498 | **1.8.2.1.2** | **R/F** | **121 d** | **Wed 3/7/24** | **Thu 31/10/24** | | |
| 499 | **1.8.2.1.2.1** | **ABWF** | **74 d** | **Wed 3/7/24** | **Sat 14/9/24** | | |
| 500 | 1.8.2.1.2.1 | Floor screeding, Surface Channel Installation | 35 d | Wed 3/7/24 | Tue 6/8/24 | | 501FS+4 d |
| 501 | 1.8.2.1.2.1 | water-proofing installation with protection screeding | 14 d | Sun 11/8/24 | Sat 24/8/24 | 500FS+4 d | 502 |
| 502 | 1.8.2.1.2.1 | Laying AGT at Roof Floor | 21 d | Sun 25/8/24 | Sat 14/9/24 | 501 | 504SS,505SS,506S |
| 503 | **1.8.2.1.2.2** | **E&M works** | **68 d** | **Sun 25/8/24** | **Thu 31/10/24** | | |
| 504 | 1.8.2.1.2.2 | Electrical works (include PV panel) | 68 d | Sun 25/8/24 | Thu 31/10/24 | 502SS | |
| 505 | 1.8.2.1.2.2 | MVAC works | 22 d | Thu 10/10/24 | Thu 31/10/24 | 502SS | |
| 506 | 1.8.2.1.2.2 | Plumbing and drainage works | 20 d | Sat 12/10/24 | Thu 31/10/24 | 502SS | |
| 507 | **1.8.2.1.3** | **FS Inspection of Pumping Station** | **14 d** | **Fri 13/9/24** | **Thu 26/9/24** | | |
| 508 | 1.8.2.1.3.1 | Form 501 submission | 0 d | Fri 13/9/24 | Fri 13/9/24 | | 509 |
| 509 | 1.8.2.1.3.2 | Review document by FS department (assume 10 days) | 14 d | Fri 13/9/24 | Thu 26/9/24 | 508 | 510 |
| 510 | 1.8.2.1.3.3 | Actual FS inspection | 0 d | Thu 26/9/24 | Thu 26/9/24 | 509 | |
| 511 | **1.8.2.2** | **External Façade Works** | **47 d** | **Thu 19/9/24** | **Mon 4/11/24** | | |
| 512 | **1.8.2.2.1** | **ABWF** | **33 d** | **Thu 19/9/24** | **Mon 21/10/24** | | |
| 513 | 1.8.2.2.1.1 | setting out for granite tile | 4 d | Thu 19/9/24 | Sun 22/9/24 | | 514 |
| 514 | 1.8.2.2.1.2 | Artifical granite tiles | 21 d | Mon 23/9/24 | Sun 13/10/24 | 513 | |
| 515 | 1.8.2.2.1.3 | apply skimcoat | 21 d | Tue 24/9/24 | Mon 14/10/24 | | 516SS+7 d |
| 516 | 1.8.2.2.1.4 | apply paint | 21 d | Tue 1/10/24 | Mon 21/10/24 | 515SS+7 d | 519SS+7 d |
| 517 | **1.8.2.2.2** | **Window and louvre** | **42 d** | **Tue 24/9/24** | **Mon 4/11/24** | | |
| 518 | 1.8.2.2.2.1 | Installation of fins (EVA side) | 28 d | Tue 24/9/24 | Mon 21/10/24 | | |
| 519 | 1.8.2.2.2.2 | Installation of fins(garden side) | 28 d | Tue 8/10/24 | Mon 4/11/24 | 516SS+7 d | 521 |
| 520 | **1.8.2.3** | **Soft landscaping works** | **23 d** | **Tue 5/11/24** | **Wed 27/11/24** | | |
| 521 | 1.8.2.3.1 | soil mixing and planting | 23 d | Tue 5/11/24 | Wed 27/11/24 | 519 | |
| 522 | **1.9** | **Area no. 10** | **69 d** | **Wed 11/9/24** | **Mon 18/11/24** | | **2** |
| 523 | **1.9.1** | **EVA** | **65 d** | **Wed 11/9/24** | **Thu 14/11/24** | | |
| 524 | **1.9.1.1** | **EVA no. 10** | **65 d** | **Wed 11/9/24** | **Thu 14/11/24** | | |
| 525 | 1.9.1.1.1 | Remaining formation | 10 d | Wed 11/9/24 | Fri 20/9/24 | | 526 |
| 526 | 1.9.1.1.2 | subbase laying | 6 d | Sat 21/9/24 | Thu 26/9/24 | 525 | 527 |
| 527 | 1.9.1.1.3 | road base | 4 d | Fri 27/9/24 | Mon 30/9/24 | 526 | 528 |
| 528 | 1.9.1.1.4 | paving blocks installation | 16 d | Tue 1/10/24 | Wed 16/10/24 | 527 | 529 |
| 529 | 1.9.1.1.5 | lamp poles and bollards | 14 d | Thu 17/10/24 | Wed 30/10/24 | 528 | |
| 530 | 1.9.1.1.6 | matching cover installation to drawpits (assume matching cover deliver to site mid Oct) | 16 d | Wed 30/10/24 | Thu 14/11/24 | | |
| 531 | **1.9.2** | **E&M** | **38 d** | **Mon 30/9/24** | **Wed 6/11/24** | | |
| 532 | 1.9.2.1 | 1 no. of pillar box | 38 d | Mon 30/9/24 | Wed 6/11/24 | | |
| 533 | 1.9.2.1.1 | plinth | 8 d | Mon 30/9/24 | Mon 7/10/24 | | 534 |
| 534 | 1.9.2.1.2 | pillar box installation | 30 d | Tue 8/10/24 | Wed 6/11/24 | 533 | |
| 535 | **1.9.3** | **soft landscaping works** | **21 d** | **Tue 29/10/24** | **Mon 18/11/24** | | |
| 536 | 1.9.3.1 | soil mixing and planting works at the planter beside EVA no. 10 | 21 d | Tue 29/10/24 | Mon 18/11/24 | | |
| 537 | **1.10** | **Lift 1 and 2** | **574 d** | **Sun 16/4/23** | **Thu 21/11/24** | | **2** |
| 538 | **1.10.1** | **Lift 1** | **132 d** | **Sat 13/7/24** | **Thu 21/11/24** | | |
| 539 | **1.10.1.1** | **Lift car works** | **132 d** | **Sat 13/7/24** | **Thu 21/11/24** | | |
| 540 | 1.10.1.1.1 | Installation of lift car by OTIS (+14 days after energized from Pillar) | 45 d | Sat 13/7/24 | Wed 13/11/24 | 556,573FF+1 | 543,570,541 |
| 541 | 1.10.1.1.2 | Submit LE-5 to EMSD by OTIS | 1 d | Thu 14/11/24 | Thu 14/11/24 | 540 | 542 |
| 542 | 1.10.1.1.3 | Site Inspection and issue of letter by EMSD | 7 d | Fri 15/11/24 | Thu 21/11/24 | 541 | |
| 543 | 1.10.1.1.4 | Seal up works | 2 d | Thu 14/11/24 | Fri 15/11/24 | 540 | |
| 544 | **1.10.1.1.5** | **Underground Drainage works** | **40 d** | **Mon 26/8/24** | **Fri 4/10/24** | | |

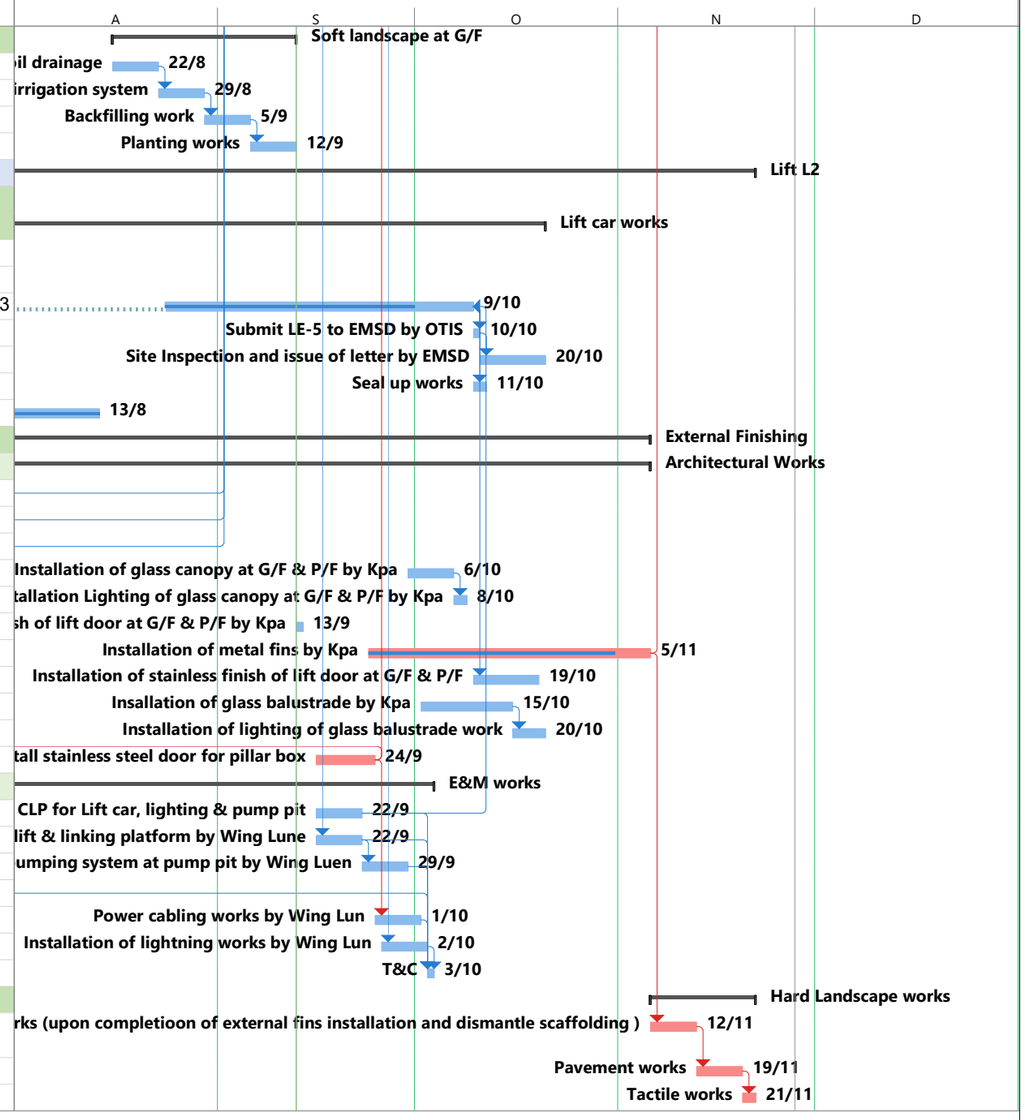


| ID | WBS | Task Name | Duration | Start | Finish | Predecessors | Successors |
|---|---|---|---|---|---|---|---|
| 545 | 1.10.1.1.5 | Provide drainage drawings at staircase by Mannings (due to revised pavement level under PMI additional bus stop, refer to email dated 8/8/24 and commence works after completed | 1 d | Tue 27/8/24 | Tue 27/8/24 | | 570 |
| 546 | 1.10.1.1.5 | Construct surface channel and manhole at staircase by Yeung Kong | 14 d | Mon 16/9/24 | Sun 29/9/24 | | 547 |
| 547 | 1.10.1.1.5 | Connect drain pipe from sump pit to manhole by Yeung Kong | 5 d | Mon 30/9/24 | Fri 4/10/24 | 546 | 570 |
| 548 | 1.10.1.1.5 | Provide drainage drawings at pavement between 4E1 and Lift LT1 by Mannings (due to revised pavement level under PMI additional bus stop, refer to email dated 8/8/24 and commence works after completed pavement works) | 1 d | Mon 26/8/24 | Mon 26/8/24 | | 549 |
| 549 | 1.10.1.1.5 | Carry out drainage works at pavement between 4E1/ Lift LT1 by JHL (upon provided drainage plan) | 19 d | Tue 27/8/24 | Sun 15/9/24 | 548 | |
| 550 | 1.10.1.1.5 | Carry out lighting box with cable ducts at pavement between 4E1/ Lift LT1 by JHL (not yet issue SIS) | 13 d | Mon 2/9/24 | Sat 14/9/24 | | 580 |
| 551 | **1.10.1.2** | **External Finishing** | **113 d** | **Wed 31/7/24** | **Wed 20/11/24** | | |
| 552 | **1.10.1.2.1** | **Architectural Works** | **80 d** | **Mon 2/9/24** | **Wed 20/11/24** | | |
| 553 | 1.10.1.2.1 | Installation of glass canopy at G/F & P/F by Kpa | 7 d | Mon 23/9/24 | Sun 29/9/24 | | |
| 554 | 1.10.1.2.1 | Installation of metal fins by Kpa (upon completion of pavement work | 14 d | Mon 2/9/24 | Sun 15/9/24 | 593,609,610,622 | |
| 555 | 1.10.1.2.1 | Submit shop drawing of stainless finish of lift door at G/F & P/F by K | 1 d | Mon 16/9/24 | Mon 16/9/24 | | 556 |
| 557 | 1.10.1.2.1 | Modification works at r.c. curb of staircase by JHL | 3 d | Tue 24/9/24 | Thu 26/9/24 | | 558 |
| 558 | 1.10.1.2.1 | Setting out works at as-built holding down bolt for fabrication of curve staircase by Kpa | 1 d | Fri 27/9/24 | Fri 27/9/24 | 557 | 559 |
| 559 | 1.10.1.2.1 | Fabrication of glass balustrade by Kpa | 21 d | Sat 28/9/24 | Fri 18/10/24 | 558 | 560 |
| 560 | 1.10.1.2.1 | Insallation of glass balustrade by Kpa | 14 d | Sat 19/10/24 | Fri 1/11/24 | 559 | 561 |
| 561 | 1.10.1.2.1 | Installation of lighting of glass balustrade works by Wing Lune | 7 d | Sat 2/11/24 | Fri 8/11/24 | 560 | |
| 562 | 1.10.1.2.1 | Modification works at pillar box to match revised pavement level (due to revised pavement level under PMI additional bus stop, refer to email dated 8/8/24 and commence works after completed | 18 d | Mon 2/9/24 | Thu 19/9/24 | | 563 |
| 564 | 1.10.1.2.1 | Re-construct Footing of 2 street lighting pillar boxes to match revised pavement level (due to revised pavement level under PMI additional bus stop, refer to email dated 8/8/24 and commence works after completed pavement works) | 21 d | Mon 2/9/24 | Sun 22/9/24 | | 565 |
| 565 | 1.10.1.2.1 | Install cover of street lighting pillar box | 3 d | Mon 23/9/24 | Wed 25/9/24 | 564 | 573 |
| 566 | 1.10.1.2.1 | Installation of glass canopy at G/F & P/F by Kpa | 7 d | Mon 16/9/24 | Sun 22/9/24 | | 567 |
| 567 | 1.10.1.2.1 | Installation Lighting of glass canopy at G/F & P/F by Kpa | 2 d | Mon 23/9/24 | Tue 24/9/24 | 566 | |
| 568 | 1.10.1.2.1 | Installation of metal fins by Kpa (Upon completion of pavement work | 14 d | Tue 24/9/24 | Mon 7/10/24 | | 574 |
| 569 | 1.10.1.2.1 | Submit shop drawings of stainless steel finish lift door by Kpa (issue SIS date 19/8/24) | 7 d | Fri 13/9/24 | Thu 19/9/24 | | 570 |
| 570 | 1.10.1.2.1 | Supply & Installation of stainless steel finish of lift door at G/F & P/F | 7 d | Thu 14/11/24 | Wed 20/11/24 | 540,545,547, | |
| 571 | 1.10.1.2.1 | Painting works for Column (Pending ADRG issue drawing and seeking supplier) | 3 d | Mon 30/9/24 | Wed 2/10/24 | | |
| 563 | 1.10.1.2.1 | Supply and install stainless steel door for pillar box | 5 d | Fri 20/9/24 | Wed 25/9/24 | 562 | 626 |
| 556 | 1.10.1.2.1 | Installation of stainless finish of lift door at G/F & P/F | 7 d | Mon 28/10/24 | Mon 4/11/24 | 555 | 540 |
| 572 | **1.10.1.2.2** | **E&M works** | **112 d** | **Wed 31/7/24** | **Tue 19/11/24** | | |
| 573 | 1.10.1.2.2 | Power suppy to pillar box by CLP for Lift car, lighting & pump pit | 7 d | Thu 26/9/24 | Wed 2/10/24 | 565 | 540FF+14 d,579,57 |
| 574 | 1.10.1.2.2 | Drainage works for lift & linking platform by Wing Lune | 7 d | Wed 6/11/24 | Tue 12/11/24 | 568,615 | 575,579,578 |
| 575 | 1.10.1.2.2 | Installation of pumping system at pump pit by Wing Luen | 6 d | Wed 13/11/24 | Mon 18/11/24 | 574 | 579,578 |
| 576 | 1.10.1.2.2 | Power cabling works by Wing Lun | 7 d | Wed 31/7/24 | Sat 28/9/24 | 619 | 578 |
| 577 | 1.10.1.2.2 | Installation of lightning works by Wing Lun | 7 d | Wed 25/9/24 | Tue 1/10/24 | 619 | 578 |
| 578 | 1.10.1.2.2 | T&C | 1 d | Tue 19/11/24 | Tue 19/11/24 | 573,574,575, | |
| 579 | **1.10.1.3** | **Hard Landscape works** | **69 d** | **Fri 13/9/24** | **Wed 20/11/24** | **573,574,575** | |
| 580 | 1.10.1.3.1 | Pavement Works between 4E1/ LT1 by On Woo | 6 d | Tue 17/9/24 | Sun 22/9/24 | 550 | |
| 581 | 1.10.1.3.2 | Revised Staircase drawing by Mainnings (due to revised pavement level under PMI additional bus stop, refer to email dated 8/8/24 and commence works after completed pavement works) | 1 d | Fri 13/9/24 | Fri 13/9/24 | | 582 |
| 582 | 1.10.1.3.3 | Carry out modification works for additional 2 nos. of step at staircase by Yeung Kong(due to revised pavement level under PMI additional bus stop, refer to email dated 8/8/24 and commence works after completed pavement works) | 14 d | Sat 14/9/24 | Fri 27/9/24 | 581 | 583 |
| 583 | 1.10.1.3.4 | Screeding works | 7 d | Mon 30/9/24 | Sun 6/10/24 | 582 | 584 |
| 584 | 1.10.1.3.5 | Pavement works | 7 d | Wed 9/10/24 | Tue 15/10/24 | 583 | 585 |
| 585 | 1.10.1.3.6 | Tactile works | 2 d | Tue 19/11/24 | Wed 20/11/24 | 584 | |


Acceleration Programme Rev 16C

Task | Summary | Start-only | Critical | Progress
Milestone | Project Summary | Finish-only | Critical Split | Manual Progress

| ID | WBS | Task Name | Duration | Start | Finish | Predecessors | Successors |
|---|---|---|---|---|---|---|---|
| 586 | **1.10.1.4** | **Soft landscape at G/F** | **28 d** | **Fri 16/8/24** | **Thu 12/9/24** | | |
| 587 | 1.10.1.4.1 | Installation of sub-soil drainage | 7 d | Fri 16/8/24 | Thu 22/8/24 | | 588 |
| 588 | 1.10.1.4.2 | Installation of irrigation system | 7 d | Fri 23/8/24 | Thu 29/8/24 | 587 | 589 |
| 589 | 1.10.1.4.3 | Backfilling work | 7 d | Fri 30/8/24 | Thu 5/9/24 | 588 | 590 |
| 590 | 1.10.1.4.4 | Planting works | 7 d | Fri 6/9/24 | Thu 12/9/24 | 589 | |
| 591 | **1.10.2** | **Lift L2** | **574 d** | **Sun 16/4/23** | **Thu 21/11/24** | | |
| 592 | **1.10.2.1** | **RC Work** | **394 d** | **Sun 16/4/23** | **Sat 25/5/24** | | |
| 599 | **1.10.2.2** | **Lift car works** | **391 d** | **Thu 14/9/23** | **Sun 20/10/24** | | |
| 600 | 1.10.2.2.1 | Production of lift car by OTIS | 137 d | Thu 14/9/23 | Tue 27/2/24 | | |
| 601 | 1.10.2.2.2 | Prepare works shop drawing and erect temporary hoarding works by J | 30 d | Thu 2/5/24 | Fri 31/5/24 | 602SF | |
| 602 | 1.10.2.2.3 | Installation of lift car by OTIS (+14 days after energized from Pillar) | 45 d | Sat 13/7/24 | Wed 9/10/24 | 621FF+14 d | 601SF,605,616,603 |
| 603 | 1.10.2.2.4 | Submit LE-5 to EMSD by OTIS | 1 d | Thu 10/10/24 | Thu 10/10/24 | 602 | 604 |
| 604 | 1.10.2.2.5 | Site Inspection and issue of letter by EMSD | 10 d | Fri 11/10/24 | Sun 20/10/24 | 603 | |
| 605 | 1.10.2.2.6 | Seal up works | 2 d | Thu 10/10/24 | Fri 11/10/24 | 602 | |
| 606 | 1.10.2.2.7 | Supply and installation of cat ladder | 14 d | Mon 29/7/24 | Tue 13/8/24 | | |
| 607 | **1.10.2.3** | **External Finishing** | **174 d** | **Thu 16/5/24** | **Tue 5/11/24** | | |
| 608 | **1.10.2.3.1** | **Architectural Works** | **174 d** | **Thu 16/5/24** | **Tue 5/11/24** | | |
| 609 | 1.10.2.3.1 | Painting work for external wall by SKK | 7 d | Tue 11/6/24 | Tue 18/6/24 | 593 | 554 |
| 610 | 1.10.2.3.1 | Installation of glass panel by Kpa | 14 d | Thu 16/5/24 | Fri 31/5/24 | 593,597 | 554 |
| 611 | 1.10.2.3.1 | Installation of metal louver by Kpa | 14 d | Thu 16/5/24 | Fri 31/5/24 | 597 | 554,624 |
| 612 | 1.10.2.3.1 | Installation of glass canopy at G/F & P/F by Kpa | 7 d | Mon 30/9/24 | Sun 6/10/24 | | 613 |
| 613 | 1.10.2.3.1 | Installation Lighting of glass canopy at G/F & P/F by Kpa | 2 d | Mon 7/10/24 | Tue 8/10/24 | 612 | |
| 614 | 1.10.2.3.1 | Submit shop drawing of stainless finish of lift door at G/F & P/F by K | 1 d | Fri 13/9/24 | Fri 13/9/24 | | |
| 615 | 1.10.2.3.1 | Installation of metal fins by Kpa | 37 d | Tue 24/9/24 | Tue 5/11/24 | | 574,629 |
| 616 | 1.10.2.3.1 | Installation of stainless finish of lift door at G/F & P/F | 10 d | Thu 10/10/24 | Sat 19/10/24 | 602 | |
| 617 | 1.10.2.3.1 | Insallation of glass balustrade by Kpa | 14 d | Wed 2/10/24 | Tue 15/10/24 | | 618 |
| 618 | 1.10.2.3.1 | Installation of lighting of glass balustrade work | 5 d | Wed 16/10/24 | Sun 20/10/24 | 617 | |
| 619 | 1.10.2.3.1 | Supply and install stainless steel door for pillar box | 7 d | Mon 16/9/24 | Tue 24/9/24 | | 576,577,625 |
| 620 | **1.10.2.3.2** | **E&M works** | **125 d** | **Sat 1/6/24** | **Thu 3/10/24** | | |
| 621 | 1.10.2.3.2 | Power suppy to pillar box by CLP for Lift car, lighting & pump pit | 7 d | Mon 16/9/24 | Sun 22/9/24 | | 602FF+14 d,627 |
| 622 | 1.10.2.3.2 | Drainage works for lift & linking platform by Wing Lune | 7 d | Mon 16/9/24 | Sun 22/9/24 | 554 | 623,627 |
| 623 | 1.10.2.3.2 | Installation of pumping system at pump pit by Wing Luen | 7 d | Mon 23/9/24 | Sun 29/9/24 | 622 | 627 |
| 624 | 1.10.2.3.2 | Installation of ventilation fans works at lift car by Wing Lun | 7 d | Sat 1/6/24 | Sat 8/6/24 | 611 | 627 |
| 625 | 1.10.2.3.2 | Power cabling works by Wing Lun | 7 d | Wed 25/9/24 | Tue 1/10/24 | 594,619 | 627 |
| 626 | 1.10.2.3.2 | Installation of lightning works by Wing Lun | 7 d | Thu 26/9/24 | Wed 2/10/24 | 563,594 | 627 |
| 627 | 1.10.2.3.2 | T&C | 1 d | Thu 3/10/24 | Thu 3/10/24 | 621,622,623, | |
| 628 | **1.10.2.4** | **Hard Landscape works** | **16 d** | **Wed 6/11/24** | **Thu 21/11/24** | | |
| 629 | 1.10.2.4.1 | Screeding works (upon completioon of external fins installation and dismantle scaffolding ) | 7 d | Wed 6/11/24 | Tue 12/11/24 | 615 | 630 |
| 630 | 1.10.2.4.2 | Pavement works | 7 d | Wed 13/11/24 | Tue 19/11/24 | 629 | 631 |
| 631 | 1.10.2.4.3 | Tactile works | 2 d | Wed 20/11/24 | Thu 21/11/24 | 630 | |



# Appendix C – Apply permission for Environmental Monitoring

Propose alternative monitoring location: The Lok Sin Tong Modular Social Housing Scheme
Status: Rejected application

Email on: 10 May 2022

Subject **The Lok Sin Tong Benevolent Society Kowloon - Apply permission for Environmental Monitoring for Stage 4 of Kai Tak Development**

From

To

Bcc

Date 2022-05-10 15:48

- Figure 1 Impact dust measurement setup.jpg(~1.2 MB)
- Figure 2 Impact noise measurement setup.jpg(~979 KB)

Company: The Lok Sin Tong Benevolent Society Kowloon

By Email ([redacted]

Dear Madam
5 May 2022

Dear Sir/ Madam, [redacted]

Re: Environmental Monitoring for Kai Tak Development – Stage 4 Infrastructure at the former runway and south apron

We, Ka Shing Management Consultant Limited (KS), is appointed by Civil Engineering and Development Department (CEDD), working as Environmental Team (ET) to conduct the monitoring and audit works as part of the EM&A programme of the Kai Tak Development – Stage 4 Infrastructure at the former runway and south apron (KTD Stage 4 Project) starting from July 2019 to May 2024.

KTD Stage 4 project is located in the south-eastern part of Kowloon Peninsular of the HKSAR, comprising the apron and runway areas of the former Kai Tak Airport and existing waterfront areas at To Kwa Wan, Ma Tau Kok, Kowloon Bay, Kwun Tong and Cha Kwo Ling. Your premise, Hong Kong Society for Blind Workshop and Hotels, is one of the proposed sensitive receivers.

We would like to obtain your kind permission for entering the premise to carry out baseline and impact monitoring, baseline dust monitoring (1-hour and 24-hour TSP monitoring) and baseline noise monitoring (30-minute) would need to conduct continuously for 14 days, our propose baseline monitoring date is June 2022.

After baseline monitoring, impact dust monitoring (1-hour and 24-hour TSP monitoring) and impact noise monitoring (30-minute) would take place between 08:00 hrs to 18:00 hrs in normal working days once every six days.

The monitoring location will be located on the roof top floor of The Lok Sin Tong Modular Social Housing Scheme at Junction of Sung Wong Toi Road and To Kwa Wan Road facing to Kai Tak Development area. 220V power supply is needed for 24-hour TSP monitor with size 0.5m (L) x 0.5m (W) x 1.4m (H). We will pay for the electricity. Similar setup photo records are shown in Figure 1 and Figure 2 for your kindly reference. Our technician will stay at the measurement point for 1-hour TSP and 30-mintue noise measurement.

We hope to conduct site visit at 13:30 pm of 25 May 2022 (Wed).

Should you have any enquires regarding the measurement, please do not hesitate to contact [redacted] at [redacted]

Thank you for your kind attention and I look forward to receiving your favourable reply soon.

Yours Sincerely,

Lee Wing Hang
Ka Shing Management Consultant Limited

Email on: 13 October 2022

Subject **The Lok Sin Tong Benevolent Society Kowloon - Reject to Apply permission for Environmental Monitoring for Stage 4 of Kai Tak Development**

From

To

Bcc

Date 2022-10-13 15:52

Company: The Lok Sin Tong Benevolent Society Kowloon

By Email

Dear Sir/ [redacted]

Referring to the communication between your staff and me regarding the captioned work at 21 September 2022, the Lok Sin Tong Benevolent Society Kowloon was rejected the apply permission for Environmental Monitoring for Stage 4 of Kai Tak Development.
Due to electricity supply and security concern in Modular House , Environmental monitoring at Modular House is not allowed open.

Should you have any enquires regarding the measurement, please do not hesitate to contact [redacted] at [redacted]

Thank you for your kind attention and I look forward to receiving your favourable reply soon.

Yours Sincerely,

Lee Wing Hang
Ka Shing Management Consultant Limited

Propose alternative monitoring location: Freder Centre
Status: No reply from building management office unit the reporting month

Email on: 19 July 2022

Subject **Freder Centre - Apply permission for Environmental Monitoring for Stage 4 of Kai Tak Development**

From

To

Bcc

Date 2022-07-19 13:33

- Figure 1 Impact dust measurement setup.jpg(~1.2 MB)
- Figure 2 Impact noise measurement setup.jpg(~979 KB)

Company: Freder Centre

By Email

Dear Sir

Re: Environmental Monitoring for Kai Tak Development – Stage 4 Infrastructure at the former runway and south apron

We, Ka Shing Management Consultant Limited (KS), is appointed by Civil Engineering and Development Department (CEDD), working as Environmental Team (ET) to conduct the monitoring and audit works as part of the EM&A programme of the Kai Tak Development – Stage 4 Infrastructure at the former runway and south apron (KTD Stage 4 Project) starting from July 2019 to May 2024.

KTD Stage 4 project is located in the south-eastern part of Kowloon Peninsular of the HKSAR, comprising the apron and runway areas of the former Kai Tak Airport and existing waterfront areas at To Kwa Wan, Ma Tau Kok, Kowloon Bay, Kwun Tong and Cha Kwo Ling. Your premise, Hong Kong Society for Blind Workshop and Hotels, is one of the proposed sensitive receivers.

We would like to obtain your kind permission for entering the premise to carry out baseline and impact monitoring, baseline dust monitoring (1-hour and 24-hour TSP monitoring) and baseline noise monitoring (30-minute) would need to conduct continuously for 14 days, our propose baseline monitoring date is August 2022.

After baseline monitoring, impact dust monitoring (1-hour and 24-hour TSP monitoring) and impact noise monitoring (30-minute) would take place between 08:00 hrs to 18:00 hrs in normal working days once every six days.

The monitoring location will be located on the roof top floor of Freder Centre at Junction of Sung Wong Toi Road and To Kwa Wan Road facing to Kai Tak Development area. 220V power supply is needed for 24-hour TSP monitor with size 0.5m (L) x 0.5m (W) x 1.4m (H). We will pay for the electricity. Similar setup photo records are shown in Figure 1 and Figure 2 for your kindly reference. Our technician will stay at the measurement point for 1-hour TSP and 30-mintue noise measurement.

We hope to conduct site visit at 15:30pm of 26 July 2022 (Tue).

Should you have any enquires regarding the measurement, please do not hesitate to contact at

Thank you for your kind attention and I look forward to receiving your favourable reply soon.

Yours Sincerely,

Lee Wing Hang
Ka Shing Management Consultant Limited

Propose alternative monitoring location: New Port Centre
Status: No reply from building management office unit the reporting month

Email on: 19 July 2022

Subject **New Port Centre - Apply permission for Environmental Monitoring for Stage 4 of Kai Tak Development**

From

To

Bcc

Date 2022-07-19 13:33

- Figure 1 Impact dust measurement setup.jpg(~1.2 MB)
- Figure 2 Impact noise measurement setup.jpg(~979 KB)

Company: New Port Centre & Synergis management services limited

By Email

Dear Sir,

Re: Environmental Monitoring for Kai Tak Development – Stage 4 Infrastructure at the former runway and south apron

We, Ka Shing Management Consultant Limited (KS), is appointed by Civil Engineering and Development Department (CEDD), working as Environmental Team (ET) to conduct the monitoring and audit works as part of the EM&A programme of the Kai Tak Development – Stage 4 Infrastructure at the former runway and south apron (KTD Stage 4 Project) starting from July 2019 to May 2024.

KTD Stage 4 project is located in the south-eastern part of Kowloon Peninsular of the HKSAR, comprising the apron and runway areas of the former Kai Tak Airport and existing waterfront areas at To Kwa Wan, Ma Tau Kok, Kowloon Bay, Kwun Tong and Cha Kwo Ling. Your premise, New Port Centre, is one of the proposed sensitive receivers.

We would like to obtain your kind permission for entering the premise to carry out baseline and impact monitoring, baseline dust monitoring (1-hour and 24-hour TSP monitoring) and baseline noise monitoring (30-minute) would need to conduct continuously for 14 days, our propose baseline monitoring date is August 2022.

After baseline monitoring, impact dust monitoring (1-hour and 24-hour TSP monitoring) and impact noise monitoring (30-minute) would take place between 08:00 hrs to 18:00 hrs in normal working days once every six days.

The monitoring location will be located on the roof top floor of New Port Centre at Junction of Sung Wong Toi Road and To Kwa Wan Road facing to Kai Tak Development area. 220V power supply is needed for 24-hour TSP monitor with size 0.5m (L) x 0.5m (W) x 1.4m (H). We will pay for the electricity. Similar setup photo records are shown in Figure 1 and Figure 2 for your kindly reference. Our technician will stay at the measurement point for 1-hour TSP and 30-mintue noise measurement.

We hope to conduct site visit at 13:30pm of 26 July 2022 (Tue).

Should you have any enquires regarding the measurement, please do not hesitate to contact at

Thank you for your kind attention and I look forward to receiving your favourable reply soon.

Yours Sincerely,

Lee Wing Hang
Ka Shing Management Consultant Limited

Email on: 17 August 2022

Subject **Kum Shing Group and Hong Kong Energy Infrastructure Limited - Apply permission for Environmental Monitoring for Stage 4 of Kai Tak Development**

From

To

Bcc

Date 2022-08-17 11:54

- Figure 1 Impact dust measurement setup.jpg(~1.2 MB)
- Figure 2 Impact noise measurement setup.jpg(~979 KB)
- plug 01.jpg(~2.6 MB)

Company: Kum Shing Group and Hong Kong Energy Infrastructure Limited

By Email

Dear Sir,

Re: Environmental Monitoring for Kai Tak Development – Stage 4 Infrastructure at the former runway and south apron

We, Ka Shing Management Consultant Limited (KS), is appointed by Civil Engineering and Development Department (CEDD), working as Environmental Team (ET) to conduct the monitoring and audit works as part of the EM&A programme of the Kai Tak Development – Stage 4 Infrastructure at the former runway and south apron (KTD Stage 4 Project) starting from July 2019 to May 2024.

KTD Stage 4 project is located in the south-eastern part of Kowloon Peninsular of the HKSAR, comprising the apron and runway areas of the former Kai Tak Airport and existing waterfront areas at To Kwa Wan, Ma Tau Kok, Kowloon Bay, Kwun Tong and Cha Kwo Ling. Your premise, New Port Centre, is one of the proposed sensitive receivers.

We would like to obtain your kind permission for entering the premise to carry out baseline and impact monitoring, baseline dust monitoring (1-hour and 24-hour TSP monitoring) and baseline noise monitoring (30-minute) would need to conduct continuously for 14 days, our propose baseline monitoring date is August 2022.

After baseline monitoring, impact dust monitoring (1-hour and 24-hour TSP monitoring) and impact noise monitoring (30-minute) would take place between 08:00 hrs to 18:00 hrs in normal working days once every six days.

The monitoring location will be located on the roof top floor of New Port Centre at Junction of Sung Wong Toi Road and To Kwa Wan Road facing to Kai Tak Development area. 220V power supply is needed for 24-hour TSP monitor with size 0.5m (L) x 0.5m (W) x 1.4m (H). We will pay for the electricity. Similar setup photo records are shown in Figure 1 and Figure 2 for your kindly reference. Our technician will stay at the measurement point for 1-hour TSP and 30-mintue noise measurement.

We hope to loan the company on the roof top floor of Plug 01 for 24-hour TSP monitor of power supply.

Should you have any enquires regarding the measurement, please do not hesitate to contact at

Thank you for your kind attention and I look forward to receiving your favourable reply soon.

Yours Sincerely,

Lee Wing Hang
Ka Shing Management Consultant Limited

Propose alternative monitoring location: New Port Centre
Status: No reply from building management office unit the reporting month

Email on: 19 August 2022

Subject **RE: Kum Shing Group and Hong Kong Energy Infrastructure Limited - Apply permission for Environmental Monitoring for Stage 4 of Kai Tak Development**

From

To

Cc

Date 2022-08-19 08:36

Dear Mr. LEE,

As we do not have ownership to the roof, we'd suggest you to approach the management company of Newport Center for further discussion.
https://www.synergis.com.hk/html/en/

best,
Paul Lee

Email on: 15 September 2022

Subject **New Port Centre - Apply permission for Environmental Monitoring for Stage 4 of Kai Tak Development**

From

To

Bcc

Date 2022-09-15 15:35

- Figure 1 Impact dust measurement setup.jpg(~1.2 MB)
- Figure 2 Impact noise measurement setup.jpg(~979 KB)
- Figure 3 expect Impact dust measurement setup.png(~267 KB)
- Figure 4 power supply plug.jpg(~2.6 MB)

Company: New Port Centre & Synergis management services limited

By Email

Dear Sir,

Re: Environmental Monitoring for Kai Tak Development – Stage 4 Infrastructure at the former runway and south apron

We, Ka Shing Management Consultant Limited (KS), is appointed by Civil Engineering and Development Department (CEDD), working as Environmental Team (ET) to conduct the monitoring and audit works as part of the EM&A programme of the Kai Tak Development – Stage 4 Infrastructure at the former runway and south apron (KTD Stage 4 Project) starting from July 2019 to May 2024.

KTD Stage 4 project is located in the south-eastern part of Kowloon Peninsular of the HKSAR, comprising the apron and runway areas of the former Kai Tak Airport and existing waterfront areas at To Kwa Wan, Ma Tau Kok, Kowloon Bay, Kwun Tong and Cha Kwo Ling. Your premise, New Port Centre, is one of the proposed sensitive receivers.

We would like to obtain your kind permission for entering the premise to carry out baseline and impact monitoring, baseline dust monitoring (1-hour and 24-hour TSP monitoring) and baseline noise monitoring (30-minute) would need to conduct continuously for 14 days, our propose baseline monitoring date is August 2022.

After baseline monitoring, impact dust monitoring (1-hour and 24-hour TSP monitoring) and impact noise monitoring (30-minute) would take place between 08:00 hrs to 18:00 hrs in normal working days once every six days.

The monitoring location will be located on the roof top floor of New Port Centre at Junction of Sung Wong Toi Road and To Kwa Wan Road facing to Kai Tak Development area. 220V power supply is needed for 24-hour TSP monitor with size 0.5m (L) x 0.5m (W) x 1.4m (H). We will pay for the electricity. Similar setup photo records are shown in Figure 1 and Figure 2 for your kindly reference. The expect of impact dust measurement setup photo records are shown in Figure 3 and the power supply will come from the roof of the socket (Figure 4) for reference. Our technician will stay at the measurement point for 1-hour TSP and 30-mintue noise measurement.

Should you have any enquires regarding the measurement, please do not hesitate to contact at

Thank you for your kind attention and I look forward to receiving your favourable reply soon.

Yours Sincerely,

Lee Wing Hang
Ka Shing Management Consultant Limited

# Appendix D – Environmental monitoring schedules

Contract No. EDO 15/2018 Environmental Monitoring at Kai Tak Development Stage 4 Infrastructure at the former runway and south apron

Environmental Monitoring and Weekly Site Inspection Schedule for September 2024

September 2024

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|---|---|---|---|---|---|---|
| 1 | 2<br>24-hr TSP: AM3, AM4(A), AM7<br>1-hr X3 TSP: AM3, AM4(A), AM7<br>30-min Noise: M11, M12 | 3 | 4 | 5<br>Weekly Site Inspection | 6 | 7<br>24-hr TSP: AM3, AM4(A), AM7<br>1-hr X3 TSP: AM3, AM4(A), AM7 |
| 8 | 9 | 10<br>Weekly Site Inspection + SSMC meeting | 11 | 12 | 13<br>24-hr TSP: AM3, AM4(A), AM7<br>1-hr X3 TSP: AM3, AM4(A), AM7<br>30-min Noise: M11, M12 | 14 |
| 15 | 16 | 17 | 18 | 19<br>Weekly Site Inspection<br>24-hr TSP: AM3, AM4(A), AM7<br>1-hr X3 TSP: AM3, AM4(A), AM7<br>30-min Noise: M11, M12 | 20 | 21 |
| 22 | 23 | 24 | 25<br>24-hr TSP: AM3, AM4(A), AM7<br>1-hr X3 TSP: AM3, AM4(A), AM7<br>30-min Noise: M11, M12 | 26<br>Weekly Site Inspection | 27 | 28 |
| 29 | 30<br>24-hr TSP: AM3, AM4(A), AM7<br>1-hr X3 TSP: AM3, AM4(A), AM7<br>30-min Noise: M11, M12 | | | | | |

NOTE:

1) Site inspection schedule and Impact monitoring schedule may be changed due to unforeseen circumstance (e.g. adverse weather).

**Air Quality Monitoring Station**

AM3 - Sky Tower

AM4(A) - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop

AM7 - Hong Kong Children's Hospital

**Noise Quality Monitoring Station**

M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop

M12 - Hong Kong Children's Hospital

Contract No. EDO 15/2018 Environmental Monitoring at Kai Tak Development Stage 4 Infrastructure at the former runway and south apron

Tentative Environmental Monitoring and Weekly Site Inspection Schedule for October 2024

October 2024

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3<br>Weekly Site Inspection | 4 | 5<br>24-hr TSP: AM3, AM4(A), AM7<br>1-hr X3 TSP: AM3, AM4(A), AM7 |
| 6 | 7 | 8<br>Weekly Site Inspection + SSMC meeting | 9 | 10<br>24-hr TSP: AM3, AM4(A), AM7<br>1-hr X3 TSP: AM3, AM4(A), AM7<br>30-min Noise: M11, M12 | 11 | 12 |
| 13 | 14 | 15 | 16<br>24-hr TSP: AM3, AM4(A), AM7<br>1-hr X3 TSP: AM3, AM4(A), AM7<br>30-min Noise: M11, M12 | 17<br>Weekly Site Inspection | 18 | 19 |
| 20 | 21 | 22<br>24-hr TSP: AM3, AM4(A), AM7<br>1-hr X3 TSP: AM3, AM4(A), AM7<br>30-min Noise: M11, M12 | 23 | 24<br>Weekly Site Inspection | 25 | 26 |
| 27 | 28<br>24-hr TSP: AM3, AM4(A), AM7<br>1-hr X3 TSP: AM3, AM4(A), AM7<br>30-min Noise: M11, M12 | 29 | 30 | 31<br>Weekly Site Inspection | | |

NOTE:

1) Site inspection schedule and Impact monitoring schedule may be changed due to unforeseen circumstance (e.g. adverse weather).
2) Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (AM4(A) and M11), the premises owner rejected ET to conduct impact monitoring starting from 1 Sept 2022. No 24-TSP monitoring will be conducted at AM4(A) while 1-hr TSP at AM4(A) and 30-min noise monitoring at M11 will be conducted on the ground floor with orienting to the Project site. ET will resume the impact monitoring once the alternative monitoring location for AM4(A) and M11 are confirmed.

**Air Quality Monitoring Station**

AM3 - Sky Tower

AM4(A) - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop

AM7 - Hong Kong Children's Hospital

**Noise Quality Monitoring Station**

M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop

M12 - Hong Kong Children's Hospital

# Appendix E – Photographic records

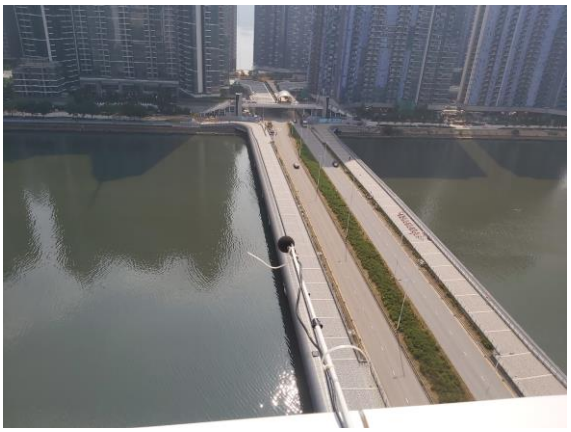
Measurement setup at AM3

Measurement setup at AM4(A)

Measurement setup at AM7

Impact Noise Monitoring

Measurement setup at M11



Measurement setup at M12

Weather Station at the rooftop of Hong Kong Children's Hospital

# Appendix F – Calibration certificates, catalogue of air quality monitoring equipment

TISCH Environmental

# TSP MFC

*Total Suspended Particulate, Mass Flow Controlled*

## MFC **TSP**

Ambient Air Sampler

- **Meets EPA CFR, Appendix B to Part 50**
- **Total Suspended Particulate(TSP)**
- **Mass Flow Controlled**
- **7-Day Mechanical Timer**
- **Elapsed Time Indicator**
- **Aluminum Outdoor Shelter**
- **Brush Style Motor**
- **Dickson Chart Recorder, 24 Hour**
- **Stainless Steel Filter Holder**
- **36-60 CFM**
- **Made In USA**

The TE-5170 is a high volume ambient Total Suspended Particulate (TSP) air sampler featuring a mass flow controller (MFC) for accurate and consistent particulate sampling. The mass flow controller adjust the motor speed as the filter media collects particulate to maintain a constant flow rate throughout the entire sample duration. The system utilizes a stainless steel filter holder for use with standard 8" x 10" filter paper. The anodized aluminum shelter and robust electrical components allow the system to operate a continuous 24 hour sample.

**ABOUT US:** Tisch Environmental Inc. Tisch Environmental is the benchmark for high volume air sampling, particulate, metals, volatiles, and specialty monitoring equipment. Since the company's inception in 1953 as General Metal Works, our product line has expanded from the first high volume air sampler to include high-tech and custom samplers. Our clients are professionals from every sector of the regulatory and industrial markets.



TISCH Environmental

www.tisch-env.com

Tisch Environmental
145 S. Miami Ave
Cleves, OH 45002
513-467-9000
sales@tisch-env.com

TISCH Environmental

# TSP MFC

MFC TSP Ambient Air Sampler

## General System Specifications

**Particulate Size:** Total Suspended Particulate (TSP)
**EPA Designation:** CFR 40 Part 50 Appendix B
**Flow Controller**: Mass Flow Controller
**Motor Style:** Brush Style Motor Assembly
**Pressure Recorder:** Dickson Chart Recorder, 24 hour
**Timer:** 7 Day Mechanical
**Elapsed Time Indicator:** Mechanical, Hours and Tenths
**Flow Range:** 39-60CFM, 1.09$M^3$M-1.68$M^3$M
**Housing:** Anodized Aluminum
**Filter Holder:** Stainless Steel, 8" x 10"
**4" Recorder Charts:** Box of 100
**Filter Holder:** 8" x 10" Stainless Steel with hold down frame

## Applications

US EPA Reference Method Sampling, CFR
Appendix J Part 50 Regulatory Compliance
Institutional Studies
Construction Sites
Bridge and Water Tower Painting Sites
Fence Line Monitoring
Industrial Monitoring
Landfill Monitoring
Public Health Applications

## Available Models

*TE-5170 TSP MFC, 110 Volt 60 Hertz, 8 Amps*
*TE-5170X TSP MFC, 220 Volt 50 Hertz 4 Amps*
*TE-5170XZ TSP MFC, 220 Volts 60 Hertz, 4 Amps*

## Optional Equipment

TE-3000 Filter Holder Cartridge
TE-G653 8" x 10" Glass Fiber Filter Media
TE-33384 Motor Brush Set (110volt)
TE-33378 Motor Brush Set (220volt)
TE-116311 Replacement Motor (110volt)
TE-116312 Replacement Motor (220volt)
TE-106 Recorder Charts
TE-160 Recorder Pen Points
TE-5018 Gasket 8" x 10"

## Calibration Equipment

TE-5028 -Variable Flow Calibration Kit
TE-HVC-V Xcalibrator HiVol Calibrator

## Physical Specifications

**Weight:** 75lbs, Shelter
**Shipping Dimensions:** 46"W x 23"L x 20" H, Shelter
19"W x 19"L x 20"H, Lid

**Assembled Dimensions:** 28"W x 28"L x 61"H



www.tisch-env.com

TISCH Environmental

# Calibration Certificate of HVS

## Air Sampler Calibration Curve Plotting & Calculation

**(Dickson recorder)**

Calibration curve ref. No. : ATSPC-01-2024080601 Date of calibration : 06/08/2024

Location : Sky Tower Sampler : TE-5170X

***Calibration Data***

Ambient barometric pressure, Pa = 753.8 ( mmHg ) Ambient temperature, Ta = 306.95 ( deg K )

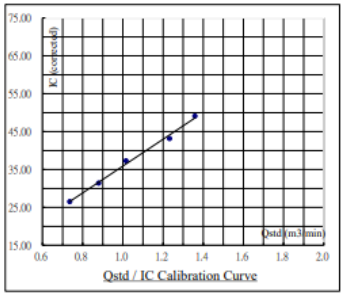
Qstd Slope, m = 2.03976 Qstd Intercept, b = -0.012990

***Calibration Curve***

| Plate No. | $H_2O$ ( in ) | Qstd ( $m^3$ / min ) | I ( chart ) | IC ( corrected ) |
|---|---|---|---|---|
| 18 | 7.90 | 1.359 | 50.0 | 49.07 |
| 13 | 6.50 | 1.233 | 44.0 | 43.18 |
| 10 | 4.40 | 1.016 | 38.0 | 37.29 |
| 7 | 3.30 | 0.880 | 32.0 | 31.40 |
| 5 | 2.30 | 0.736 | 27.0 | 26.50 |

***Subsequent calculation of sampler flow***

| Method | Calibration equation | Slope, m | Intercept, b | Corr. coeff., r |
|---|---|---|---|---|
| Dickson recorder | Qstd = 1 / m1 [ ( 1 ) ( Sqrt ( ( Pav / 760 ) ( 298 / Tav ) ) ) - b1 ] | 35.390 | 0.5128 | 0.9971 |




Qstd / IC Calibration Curve

Calibration curve requirements : (A). r > 0.990 ; (B). At least 3 Qstd numbers are in the TSP range ( 1.1 - 1.7 m3 / min ).

Remark : Qstd ( $m^3$ / min ) = 1/m [ Sqrt ( $H_2O$ ( Pa / 760 ) ( 298 / Ta ) ) - b ].

IC ( corrected ) = I [ Sqrt ( ( Pa / 760 ) ( 298 / Ta ) ) ].

FLOW ( corrected ) = Sqrt ( FLOW ( mano ) ( Pa / 760 ) ( 298 / Ta ) ).

Calibrated by : _____ Checked by : _____

Name : ( Poon Tsz Wing ) Name : ( Choy Ching Yee )

Form No. INS-HVS-CAL dd 16 01 2020

## Air Sampler Calibration Curve Plotting & Calculation

**(Dickson recorder)**

Calibration curve ref. No. : ATSPC-01-2024080603 Date of calibration : 06/08/2024

Location : Hong Kong Children's Hospital Sampler : TE-5170X

***Calibration Data***

Ambient barometric pressure, Pa = 753.8 ( mmHg ) Ambient temperature, Ta = 306.95 ( deg K )

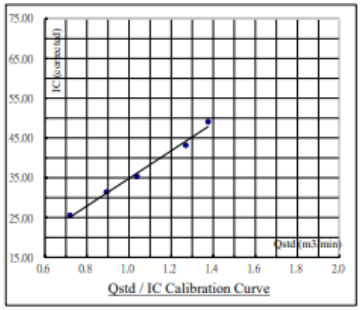
Qstd Slope, m = 2.03976 Qstd Intercept, b = -0.012990

***Calibration Curve***

| Plate No. | $H_2O$ ( in ) | Qstd ( $m^3$ / min ) | I ( chart ) | IC ( corrected ) |
|---|---|---|---|---|
| 18 | 8.10 | 1.376 | 50.0 | 49.07 |
| 13 | 6.90 | 1.270 | 44.0 | 43.18 |
| 10 | 4.60 | 1.038 | 36.0 | 35.33 |
| 7 | 3.40 | 0.893 | 32.0 | 31.40 |
| 5 | 2.20 | 0.720 | 26.0 | 25.51 |

***Subsequent calculation of sampler flow***

| Method | Calibration equation | Slope, m | Intercept, b | Corr. coeff., r |
|---|---|---|---|---|
| Dickson recorder | Qstd = 1 / m1 [ ( 1 ) ( Sqrt ( ( Pav / 760 ) ( 298 / Tav ) ) ) - b1 ] | 34.697 | 0.1402 | 0.9952 |




Qstd / IC Calibration Curve

Calibration curve requirements : (A). r > 0.990 ; (B). At least 3 Qstd numbers are in the TSP range ( 1.1 - 1.7 m3 / min ).

Remark : Qstd ( $m^3$ / min ) = 1/m [ Sqrt ( $H_2O$ ( Pa / 760 ) ( 298 / Ta ) ) - b ].

IC ( corrected ) = I [ Sqrt ( ( Pa / 760 ) ( 298 / Ta ) ) ].

FLOW ( corrected ) = Sqrt ( FLOW ( mano ) ( Pa / 760 ) ( 298 / Ta ) ).

Calibrated by : _____ Checked by : _____

Name : ( Poon Tsz Wing ) Name : ( Choy Ching Yee )

Form No. INS-HVS-CAL dd 16 01 2020

| Calibration Certificate of HVS | Orifice Transfer Standard Certification Worksheet TE-5025A |
|---|---|

## Air Sampler Calibration Curve Plotting & Calculation

**(Dickson recorder)**

Calibration curve ref. No. : ATSPC-01-2024053001 Date of calibration : 30/05/2024

Model no : GS2310 Serial number : 10346

***Calibration Data***

Ambient barometric pressure, Pa = 753.9 ( mmHg ) Ambient temperature, Ta = 298.65 ( deg K )

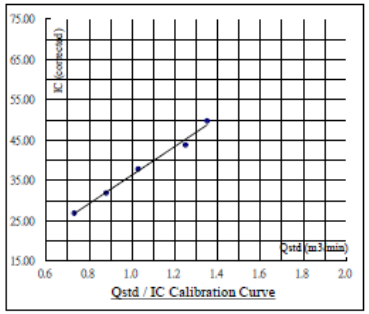
Qstd Slope, m = 2.03976 Qstd Intercept, b = -0.012990

***Calibration Curve***

| Plate No. | $H_2O$ ( in ) | Qstd ( $m^3$ / min ) | I ( chart ) | IC ( corrected ) |
|---|---|---|---|---|
| 18 | 7.60 | 1.351 | 50.0 | 49.74 |
| 13 | 6.50 | 1.250 | 44.0 | 43.77 |
| 10 | 4.40 | 1.029 | 38.0 | 37.81 |
| 7 | 3.20 | 0.879 | 32.0 | 31.84 |
| 5 | 2.20 | 0.730 | 27.0 | 26.86 |

***Subsequent calculation of sampler flow***

| Method | Calibration equation | Slope, m | Intercept, b | Corr. coeff., r |
|---|---|---|---|---|
| Dickson recorder | Qstd = 1 / m1 [ ( I ) ( Sqrt ( ( Pav / 760 ) ( 298 / Tav ) ) ) - b1 ] | 35.445 | 0.8648 | 0.9952 |



Qstd / IC Calibration Curve

Calibration curve requirements : (A). r > 0.990 ; (B). At least 3 Qstd numbers are in the TSP range ( 1.1 - 1.7 m3 / min ).

Remark : Qstd ( $m^3$ / min ) = 1/m [ Sqrt ( $H_2O$ ( Pa / 760 ) ( 298 / Ta ) ) - b ].

IC ( corrected ) = I [ Sqrt ( ( Pa / 760 ) ( 298 / Ta ) ) ].

FLOW ( corrected ) = Sqrt ( FLOW ( mano ) ( Pa / 760 ) ( 298 / Ta ) ).

Calibrated by : Name : ( Poon Tsz Wing )

Checked by : Name : ( Choy Ching Yee )

Form No. INS-HVS-CAL dd 16 01 2020

2024

TISCH Environmental

| RECALIBRATION DUE DATE: |
|---|
| May 6, 2025 |

# Certificate of Calibration

**Calibration Certification Information**

Cal. Date: May 6, 2024 Rootsmeter S/N: 438320 Ta: 295 °K

Operator: Jim Tisch Pa: 748.5 mm Hg

Calibration Model #: TE-5025A Calibrator S/N: 0006

| Run | Vol. Init (m3) | Vol. Final (m3) | ΔVol. (m3) | ΔTime (min) | ΔP (mm Hg) | ΔH (in H2O) |
|---|---|---|---|---|---|---|
| 1 | 1 | 2 | 1 | 1.4190 | 3.2 | 2.00 |
| 2 | 3 | 4 | 1 | 1.0030 | 6.4 | 4.00 |
| 3 | 5 | 6 | 1 | 0.8950 | 7.9 | 5.00 |
| 4 | 7 | 8 | 1 | 0.8520 | 8.8 | 5.50 |
| 5 | 9 | 10 | 1 | 0.7040 | 12.7 | 8.00 |

**Data Tabulation**

| Vstd (m3) | Qstd (x-axis) | $\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis) | Va | Qa (x-axis) | $\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis) |
|---|---|---|---|---|---|
| 0.9907 | 0.6982 | 1.4106 | 0.9957 | 0.7017 | 0.8878 |
| 0.9864 | 0.9835 | 1.9949 | 0.9914 | 0.9885 | 1.2556 |
| 0.9844 | 1.0999 | 2.2304 | 0.9894 | 1.1055 | 1.4037 |
| 0.9832 | 1.1540 | 2.3393 | 0.9882 | 1.1599 | 1.4723 |
| 0.9781 | 1.3893 | 2.8213 | 0.9830 | 1.3964 | 1.7756 |
| QSTD | m= | 2.03976 | QA | m= | 1.27726 |
| | b= | -0.01299 | | b= | -0.00818 |
| | r= | 1.00000 | | r= | 1.00000 |

**Calculations**

| | | | |
|---|---|---|---|
| Vstd= | ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta) | Va= | ΔVol((Pa-ΔP)/Pa) |
| Qstd= | Vstd/ΔTime | Qa= | Va/ΔTime |

For subsequent flow rate calculations:

Qstd= $1/m\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right)-b\right)$ Qa= $1/m\left(\left(\sqrt{\Delta H\left(Ta/Pa\right)}\right)-b\right)$

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

**Key**

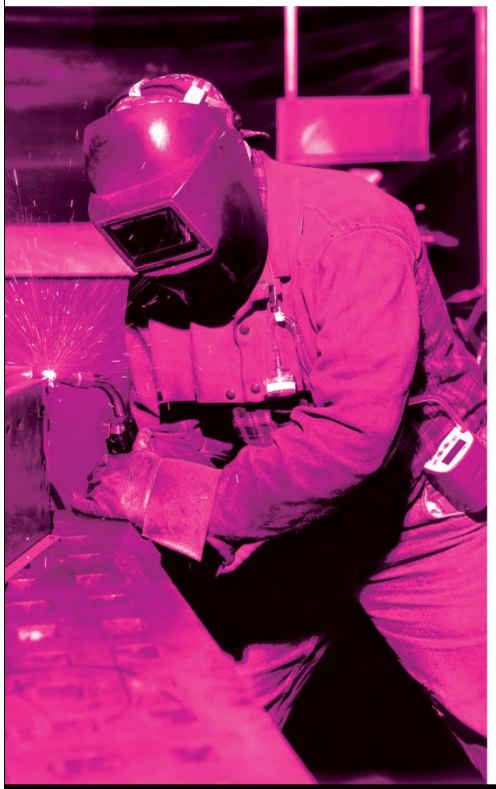
ΔH: calibrator manometer reading (in H2O)
ΔP: rootsmeter manometer reading (mm Hg)
Ta: actual absolute temperature (°K)
Pa: actual barometric pressure (mm Hg)
b: intercept
m: slope

**RECALIBRATION**

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


Tisch Environmental, Inc.
145 South Miami Avenue
Village of Cleves, OH 45002
www.tisch-env.com
TOLL FREE: (877)263-7610
FAX: (513)467-9009

The SidePak AM510 monitor's easy-to-read display shows your data as both real-time aerosol mass-concentration and 8-hour time-weighted average (TWA). With its convenient data logging and long battery life, the AM510 is also ideal for extended sampling. The easy-to-use TrakPro Data Analysis Software lets you create effective graphs and reports.



**User Friendly**

+ Small, lightweight and quiet to maximize worker acceptance
+ Rugged design with secure belt clip
+ Easy-to-understand user interface with only four keys
+ Lockable keypad prevents tampering while sampling
+ User-adjustable sample flow rate
+ Define, label and store multiple calibration constants
+ Easy-to-read LCD display
+ Convenient, threaded tripod socket accommodates area sampling

**Advanced Features**

+ Smart Battery Management System provides precise run time information, maximizes battery capacity and speeds charging
+ Integrated pump allows use of size-selective aerosol inlet conditioners
+ Built-in impactors let you choose "none," 1.0, 2.5 or 10-micron cut off
+ 10-mm Dorr-Oliver cyclone for respirable sampling
+ Display shows real-time concentrations (mg/m³) and "on-the-fly" TWA as you data log
+ Display statistics: max, min and average readings, elapsed time and 8-hour TWA

**Quick and Easy Reports**

+ Convenient preprogramming for occupational exposure sampling
+ Data log for long periods and store multiple tests
+ Analyze data, print graphs and create reports with TrakPro Data Analysis Software
+ USB port lets you conveniently connect to your computer

**Power to Spare**

+ Long-lasting NiMH rechargeable battery packs eliminate "memory" issues
+ Choice of rechargeable NiMH smart battery packs or AA-cell pack

**Model AM510**
**SidePak Personal Aerosol Monitor**

**Sensitivity**

| | |
|---|---|
| Sensor Type | 90° light scattering, 670 nm laser diode |
| Aerosol Concentration Range | 0.001 to 20 mg/m³ (calibrated to respirable fraction of ISO 12103-1, A1 test dust) |
| Particle Size Range | 0.1 to 10 micrometer (µm) |
| Minimum Resolution | 0.001 mg/m³ |
| Zero stability | ±0.001 mg/m³ over 24 hours using 10-second time-constant |
| Temperature Coefficient | Approximately +0.0005 mg/m³ per °C (for variations from temperature at which instrument was last zeroed) |

**Flow Rate**

| | |
|---|---|
| Range | User-adjustable, 0.7 to 1.8 liters/min (L/min) |

**Temperature Range**

| | |
|---|---|
| Operating Range | 32 to 120°F (0 to 50°C) |
| Storage Range | -4 to 140°F (-20 to 60°C) |

**Operational Humidity**
0 to 95% RH, non-condensing

**Time Constant (LCD display)**

| | |
|---|---|
| Range | User-adjustable, 1 to 60 seconds |

**Data Logging**

| | |
|---|---|
| Data Points | Approx. 31,000 |
| Logging Interval | User-adjustable, 1 second to 1 hour |

**User-Select Calibration Factors**

| | |
|---|---|
| Factory Setting | 1.0 (non-adjustable) |
| User-defined Settings | 3, with user-defined labels |
| Range | 0.1 to 10.0, user-adjustable |

**Physical**

| | |
|---|---|
| External Dimensions | 4.2 x 3.7 x 2.8 in. (106 x 92 x 70 mm) with 801723, 801724, 801729 or 801743 battery<br>5.1 x 3.7 x 2.8 in. (130 x 92 x 70 mm) with 801708, 801722, 801728, 801735, or 801736 battery |
| Weight | 16 oz (0.46 kg) with 801723, 801724, 801729 or 801743 battery<br>19 oz (0.54 kg) with 801708, 01722, 801728, 801735, or 801736 battery |
| Display | 2 line x 12 character LCD |
| Tripod Socket | 1/4-20 female thread |

**Power Supply/Charger (P/N 2613210)**

| | |
|---|---|
| Input Voltage Range | 100 to 240 VAC, 50 to 60 Hz |
| Output Voltage | 9 VDC @ 1.0 A |

**Maintenance**

| | |
|---|---|
| Factory Clean/Calibrate | Recommended annually |
| User Zero Calibration | Before each use |
| User Flow Calibration | As needed |

**Communications Interface**

| | |
|---|---|
| Type | USB 1.1 |
| Connector, Instrument | USB Mini-B (socket) |

**Minimum Computer Requirements for TrakPro™ Data Analysis Software**

| | |
|---|---|
| Communications Port | Universal Serial Bus (USB) v 1.1 or higher |
| Operating System | Microsoft Windows® XP, or 7 (32-bit or 64-bit) operating systems |

**Battery Performance**

| Battery Options | Charge Time (hrs)* | Intrinsic Safety Rating | Run Time (hrs @ 1.7 L/min) |
|---|---|---|---|
| 1600 mAH NiMH Pack, 4.8 V (P/N 801723) | 3.0 | No | 7.1 |
| 1650 mAH NiMH Pack, 4.8V (P/N 801724, 801729 or 801743) | 3.5 | CSA** | 7.5 |
| 2700 mAH NiMH Pack, 4.8 V (P/N 801722 or 801728) | 5.5 | No | 12.0 |
| 2700 mAH NiMH Pack, 4.8 V (P/N 801735) | 5.5 | No | 12.0 |
| 6-Cell AA-size Alkaline Pack*** (P/N 801708 or 801736 with six user-supplied AA cells) | N/A | No | 22.5 |

*Of a fully depleted battery
**All dust plugs and dust gaskets must be installed.
***Using Energizer AA-size, E91 alkaline batteries.

**Battery Level Indicator**

The Smart Battery Management System™ technology utilizes a built-in "gauge" in the SidePak™ battery packs. The gauge monitors battery capacity and calculates run time information by dividing capacity of the battery (mAH) by the instantaneous current consumed by the instrument (mA). This calculation is correct for current operating conditions and can change due to current (mA) consumption or changes in battery capacity.

# Calibration Certificate of Dust Meter (TSI Sidepak AM510)


**Cal Lab Limited 校正實驗室有限公司**
Room 2103, Technology Plaza, 29-35 Sha Tsui Road,
Tsuen Wan, NT, Hong Kong
Tel: +852 25680106 Email: info@callab.com.hk
Fax: +852 30116194 Website: www.callab.com.hk


ACCREDITED Certificate #3815.01

**Calibration Certificate No.: CC0072312**

**Information provided by customer**

Customer: Castco Testing Centre Limited
Address: 33, On Kui Street, Fanling, N.T.

**Equipment identification provided by customer**

| Equipment Description | Manufacturer | Model No. | Serial No. | Assigned equipment No. |
|---|---|---|---|---|
| Aerosol Monitor | TSI | SidePak AM510 | 11306015 | AAST-RSP-03 |

**Certificate Information**

| | | | |
|---|---|---|---|
| Date of Receipt: | 8 December 2023 | Calibration Condition: | 21.3°C, 56%RH, 1014hPa |
| Date of Calibration: | 18 December 2023 | Adjustment: | N/A |
| Due Date of Calibration: | N/A | Appearance: | Good |
| Calibration Procedure: | ISO 21501-4:2018 | Remark: | N/A |

**Reference Equipment Identification**

| Equipment Description | Model | Serial No. | Expiration Date |
|---|---|---|---|
| Aerosol Monitor | 8534 | 8534182605 | 24 November 2024 |

**Result of Calibration**

**Indication**

| Gas | Reference Setting (mg/m³) | Measured reading (mg/m³) | Error (%) | Uncertainty (%) | Technical Requirement | Technical Reference Doc. |
|---|---|---|---|---|---|---|
| Dust - TSP | 0.103 | 0.100 | -2.9 | 14.0 | N/A | Mfr's Spec. |
| Dust - TSP | 0.202 | 0.200 | -1.0 | 14.0 | N/A | Mfr's Spec. |
| Dust - TSP | 0.300 | 0.299 | -0.3 | 14.0 | N/A | Mfr's Spec. |

CT-GAS-01

Note1: The estimated expanded uncertainties have been calculated in "Evaluation and expression of uncertainty in measurement" and give an internal estimated to have a level of confidence of 95%. A coverage factor of 2 is assumed unless explicitly stated.
Note2: The standard (s) and instrument used in the calibration are traceable to national or international recognized standard and are calibrated on a schedule to maintain the accuracy and good condition.
Note3: The result 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.
Note4: The result shows in this calibration certificate relate only to the item calibrated, and the result only applies to the calibration item as received.

Calibrated By: Wing Cheng
Checked and Approved By: Warren Yeung
Company Chop:

Certificate Issue Date: 19 December 2023

CT-BEG-04

*** End of Certificate ***





## Personal Aerosol Monitor Performance check with High Volume Sampler

Preformance Check ref. No AS0240523-3 Report Issue Date 23/05/2024
Date of performance check 23/05/2024

***Objective:***

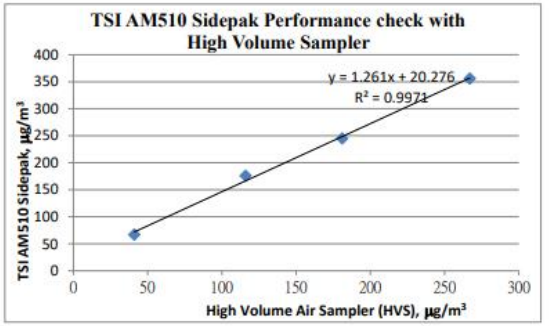
A dust meter and a Total Suspended Particulate High Volume Air Sampler (HVS) were placed together to measure the Total Suspended Particulate (TSP) concentrations simultaneously to check the performance.

***Equipment Used:***

| Equipment | Manufacturer and Model | Serial Number |
|---|---|---|
| Personal Aerosol Monitor | TSI AM510 Sidepak | 11306015 |
| Total Suspended Particulate High Volume Air Sampler | GS2310 | 10346 |

***Resuslt:***

| Equipment | Measurement Result, μg/m³ | | | |
|---|---|---|---|---|
| TSI AM510 Sidepak | 67 | 176 | 245 | 356 |
| High Volume Air Sampler (HVS) | 41 | 116 | 181 | 267 |




Tested by : Name : ( Poon Tsz Wing )

Checked by : Name : ( Choy Ching Yee )

Form No. ENV CAL SAMPLER CC1 dd12/12/2003

# Calibration Certificate of Dust Meter (TSI Sidepak AM510)


**Cal Lab Limited 校正實驗室有限公司**
Room 2103, Technology Plaza, 29-35 Sha Tsui Road,
Tsuen Wan, NT, Hong Kong
Tel: +852 25680106 Email: info@callab.com.hk
Fax: +852 30116194 Website: www.callab.com.hk


ACCREDITED Certificate #3815.01

**Calibration Certificate No.: CC0022408**

**Information provided by customer**

Customer: Castco Testing Centre Limited
Address: 33, On Kui Street, Fanling, N.T.

**Equipment identification provided by customer**

| Equipment Description | Manufacturer | Model No. | Serial No. | Assigned equipment No. |
|---|---|---|---|---|
| Aerosol Monitor | TSI | SidePak AM510 | 11506014 | AAST-RSP-09 |

**Certificate Information**

| | | | |
|---|---|---|---|
| Date of Receipt: | 1 August 2024 | Calibration Condition: | 24.3°C, 57%RH, 999hPa |
| Date of Calibration: | 16 August 2024 | Adjustment: | N/A |
| Due Date of Calibration: | N/A | Appearance: | Good |
| Calibration Procedure: | ISO 21501-4:2018 | Remark: | N/A |

**Reference Equipment Identification**

| Equipment Description | Model | Serial No. | Expiration Date |
|---|---|---|---|
| Aerosol Monitor | 8534 | 8534182605 | 24 November 2024 |

**Result of Calibration**

**Indication**

| Gas | Reference Setting (mg/m³) | Measured reading (mg/m³) | Error (%) | Uncertainty (%) | Technical Requirement | Technical Reference Doc. |
|---|---|---|---|---|---|---|
| Dust - PM10 | 0.102 | 0.097 | -5.0 | 17.0 | ± 10% | Mfr's Spec |
| Dust - PM10 | 0.198 | 0.194 | -2.0 | 17.0 | ± 10% | Mfr's Spec |
| Dust - PM10 | 0.304 | 0.298 | -2.0 | 17.0 | ± 10% | Mfr's Spec |

CT-GAS-01

Note1: The estimated expanded uncertainties have been calculated in "Evaluation and expression of uncertainty in measurement" and give an internal estimated to have a level of confidence of 95%. A coverage factor of 2 is assumed unless explicitly stated.
Note2: The standard (s) and instrument used in the calibration are traceable to national or international recognized standard and are calibrated on a schedule to maintain the accuracy and good condition.
Note3: The result 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.
Note4: The result shows in this calibration certificate relate only to the item calibrated, and the result only applies to the calibration item as received.
Note5: Calibration item/ parameter marked with * is out of scope of Cal Lab Limited (A2LA 3815.01).

Calibrated By: Wing Cheng
Checked and Approved By: Warren Yeung
Company Chop:
Certificate Issue Date: 19 August 2024

CT-86G-04

*** End of Certificate ***

1. The certificate shall not be reproduced except in full, without written approval of Cal Lab Limited
2. The certificate is issued subject to the latest Terms and Conditions, available at our web site



## Personal Aerosol Monitor Performance check with High Volume Sampler

Preformance Check ref. No AS0240523-4 Report Issue Date 23/05/2024
Date of performance check 23/05/2024

***Objective:***

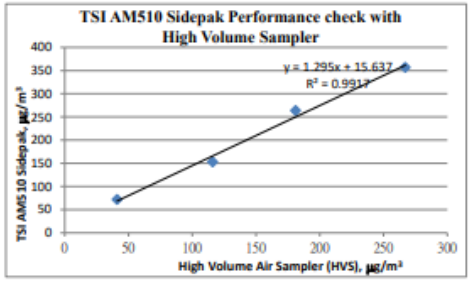
A dust meter and a Total Suspended Particulate High Volume Air Sampler (HVS) were placed together to measure the Total Suspended Particulate (TSP) concentrations simultaneously to check the performance.

***Equipment Used:***

| Equipment | Manufacturer and Model | Serial Number |
|---|---|---|
| Personal Aerosol Monitor | TSI AM510 Sidepak | 11506014 |
| Total Suspended Particulate High Volume Air Sampler | GS2310 | 10346 |

***Result:***

| Equipment | Measurement Result, μg/m³ | | | |
|---|---|---|---|---|
| TSI AM510 Sidepak | 72 | 153 | 264 | 357 |
| High Volume Air Sampler (HVS) | 41 | 116 | 181 | 267 |




Tested by : Name : ( Poon Tsz Wing )
Checked by : Name : ( Choy Ching Yee )

Form No. ENV CAL SAMPLER CC1 dd12/12/2003

# Cabled Vantage Pro2™ & Vantage Pro2 Plus™ Stations

**6152C**
**6162C**

**Vantage Pro2™**

The Vantage Pro2™ (# 6152C) and Vantage Pro2™ Plus (# 6162C) cabled weather stations include two components: the Integrated Sensor Suite (ISS) and the console. The ISS contains the sensor interface module (SIM), rain collector, an anemometer, and a passive radiation shield. The Vantage Pro2 console provides the user interface, data display, and calculations. The Vantage Pro2 Plus weather station includes two additional sensors that are optional on the Vantage Pro2 and purchased separately: the UV Sensor and the Solar Radiation Sensor. The console and ISS are powered by an AC-power adapter connected to the console. Batteries can be installed in the console to provide a backup power supply. Use WeatherLink® to let your weather station interface with a computer, log data, and upload weather information to the Internet. The 6152C and 6162C models rely on passive shielding to reduce solar-radiation induced temperature errors in the outside temperature sensor readings.

## Integrated Sensor Suite (ISS)

| | |
|---|---|
| Operating Temperature | -40° to +150°F (-40° to +65°C) |
| Non-operating Temperature | -40° to +158°F (-40° to +70°C) |
| Current Draw | 5 mA (average) at 4 to 6 VDC for ISS only. 10 mA average for both console and ISS |
| Connectors, Sensor | Modular RJ-11 |
| Cable Type | 4-conductor, 26 AWG |
| Cable Length, Anemometer | 40' (12 m) (included); 240' (73 m) (maximum recommended) |

Note: Maximum displayable wind decreases as the length of cable increases. at 140' (42 m) of cable, the maximum wind speed displayed is 135 mph (60 m/s); at 240' (73 m), the maximum wind speed displayed is 100 mph (34 m/s).

| | |
|---|---|
| Wind Speed Sensor | Solid state magnetic sensor |
| Wind Direction Sensor | Wind vane with potentiometer |
| Rain Collector Type | Tipping bucket, 0.01" per tip (0.2 mm with metric rain adapter), 33.2 $in^2$ (214 $cm^2$) collection area |
| Temperature Sensor Type | PN Junction Silicon Diode |
| Relative Humidity Sensor Type | Film capacitor element |
| Housing Material | UV-resistant ABS, polypropylene |
| Sensor Inputs | |
| RF Filtering | RC low-pass filter on each signal line |

ISS Dimensions(not including anemometer or bird spikes):

| | |
|---|---|
| Vantage Pro2 with Standard Rad Shield | 14.0" x 9.4" x 14.5" (356 mm x 239 mm x 368 mm) |
| Vantage Pro2 with Fan-Asprated Rad Shield | 20.8" x 9.4" x 16.0" (528 mm x 239 mm x 406 mm) |
| Vantage Pro2 Plus with Standard Rad Shield | 14.3" x 9.7" x 14.5" (363 mm x 246 mm x 368 mm) |
| Vantage Pro2 Plus with Fan-Aspirated Rad Shield | 21.1" x 9.7" x 16.0" (536 mm x 246 mm x 406 mm) |

DAVIS® Davis Instruments 3465 Diablo Ave., Hayward, CA 94545-2778 USA
(510) 732-9229 • FAX (510) 670-0589 • sales@davisinstruments.com • www.davisinstruments.com





## Ultra Violet (UV) Radiation Index (requires UV sensor)

| | |
|---|---|
| Resolution and Units | 0.1 Index |
| Range | 0 to 16 Index |
| Accuracy | ±5% of full scale (Reference: Yankee UVB-1 at UV index 10 (Extremely High)) |
| Cosine Response | ±4% FS (0° to 90° zenith angle) |
| Update Interval | 50 seconds to 1 minute (5 minutes when dark) |
| Current Graph Data | Instant Reading and Hourly Average; Daily, Monthly High |
| Historical Graph Data | Hourly Average, Daily, Monthly Highs |
| Alarm | High Threshold from Instant Calculation |

## Wind

Wind Chill (Calculated)

| | |
|---|---|
| Resolution and Units | 1°F or 1°C (user-selectable); °C is converted from °F and rounded to the nearest 1°C |
| Range | -110° to +135°F (-79° to +57°C) |
| Accuracy | ±2°F (±1°C) (typical) |
| Update Interval | 10 to 12 seconds |
| Source | United States National Weather Service (NWS)/NOAA |
| Equation Used | Osczevski (1995) (adopted by US NWS in 2001) |
| Variables Used | Instant Outside Temperature and 10-min. Avg. Wind Speed |
| Current Display Data | Instant Calculation |
| Current Graph Data | Instant Calculation; Hourly, Daily and Monthly Low |
| Historical Graph Data | Hourly, Daily and Monthly Lows |
| Alarm | Low Threshold from Instant Calculation |

Wind Direction

| | |
|---|---|
| Range | 1 - 360° |
| Display Resolution | 16 points (22.5°) on compass rose, 1° in numeric display |
| Accuracy | ±3° |
| Update Interval | 2.5 to 3 seconds |
| Current Graph Data | Instant Reading (user adjustable); 10-min. Dominant; Hourly, Daily, Monthly Dominant |
| Historical Graph Data | Past 6 10-min. Dominants on compass rose only; Hourly, Daily, Monthly Dominants |

Wind Speed

| | |
|---|---|
| Resolution and Units | 1 mph, 1 km/h, 0.4 m/s, or 1 knot (user-selectable) Measured in mph; other units are converted from mph and rounded to nearest 1 km/hr, 0.1 m/s, or 1 knot. |
| Range | 0 to 200 mph, 0 to 173 knots, 0 to 89 m/s, 0 to 322 km/h |
| Update Interval | Instant Reading: 2.5 to 3 seconds, 10-minute Average: 1 minute |
| Accuracy | ±2 mph (2 kts, 3.2 km/h, 0.9 m/s) or ±5%, whichever is greater |
| Maximum Cable Length | 540' (165 m) (Note that maximum wind speed reading decreases as length of cable from anemometer to ISS increases.) |
| Current Display Data | Instant |
| Current Graph Data | Instant Reading; 10-minute and Hourly Average; Hourly High; Daily, Monthly and Yearly High with Direction of High |
| Historical Graph Data | 10-min. and Hourly Averages; Hourly Highs; Daily, Monthly and Yearly Highs with Direction of Highs |
| Alarms | High Thresholds from Instant Reading and 10-minute Average |

**Cal Lab Limited 校正實驗室有限公司**
Room 2103, Technology Plaza, 29-35 Sha Tsui Road,
Tsuen Wan, NT, Hong Kong
Tel: +852 25680106 Email: info@callab.com.hk
Fax: +852 30116194 Website: www.callab.com.hk

**Calibration Certificate No.: CC0852407**

**Information provided by customer**

Customer: Castco Testing Centre Limited
Address: 33, On Kui Street, Fanling, N.T.

**Equipment identification provided by customer**

| Equipment Description | Manufacturer | Model No. | Serial No. | Assigned equipment No.: |
|---|---|---|---|---|
| Weather Station | Davis | Vantage PRO 2 | AZ170710016 | AAST-WS-03 |

**Certificate Information**

| | | | |
|---|---|---|---|
| Date of Receipt: | 18 July 2024 | Calibration Condition: | 24.4°C, 54%RH, 998hPa |
| Date of Calibration: | 24 July 2024 | Adjustment: | N/A |
| Due Date of Calibration: | N/A | Appearance: | Good |
| Calibration Procedure: | JJF 1183-2007, JJF 1076-2020, SOP-116 | Remark: | N/A |

**Reference Equipment Identification**

| Equipment Description | Model | Serial No. | Expiration Date |
|---|---|---|---|
| Platinum resistance thermometer | KPPRHT-A-1 | KCI I-1095, KCI P-1095 | 9 November 2024 |
| Humidity sensor | KPPRHT-A-1 | KCI I-1095, KCI P-1095 | 9 November 2024 |
| Hot Wire Anemometer | 9535 | T95351316004 | 11 August 2024 |

Note1: The estimated expanded uncertainties have been calculated in "Evaluation and expression of uncertainty in measurement" and give an internal estimated to have a level of confidence of 95%. A coverage factor of 2 is assumed unless explicitly stated.
Note2: The standard (s) and instrument used in the calibration are traceable to national or international recognized standard and are calibrated on a schedule to maintain the accuracy and good condition.
Note3: The result 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.
Note4: The result shown in this calibration certificate relate only to the item calibrated, and the result only applies to the calibration item as received.

Approved By:

Warren Yeung

Company Chop:

Certificate Issue Date: 29 July 2024

CF-BEG-04

# Appendix G – Weather information

General Information

| Date | Absolute Daily Min Temperature (°C) | Absolute Daily Max Temperature (°C) | Total Rainfall (mm) |
|---|---|---|---|
| 01/09/2024 | 28.1 | 33 | Trace |
| 02/09/2024 | 28.4 | 34.2 | Trace |
| 03/09/2024 | 25.5 | 33.5 | 35.5 |
| 04/09/2024 | 26.5 | 32.5 | 0.6 |
| 05/09/2024 | 26.2 | 33.4 | 21.5 |
| 06/09/2024 | 25.9 | 28.8 | 84.1 |
| 07/09/2024 | 27.9 | 30.9 | 5.8 |
| 08/09/2024 | 27.3 | 30.1 | 37.8 |
| 09/09/2024 | 26.3 | 30 | 13 |
| 10/09/2024 | 26.8 | 33.3 | 0 |
| 11/09/2024 | 28.2 | 34.3 | 0 |
| 12/09/2024 | 27.7 | 32.2 | 0 |
| 13/09/2024 | 28.2 | 34.5 | 0.1 |
| 14/09/2024 | 26.7 | 33.5 | 57.2 |
| 15/09/2024 | 27.4 | 31.7 | 2.4 |
| 16/09/2024 | 25.8 | 30.6 | 27.4 |
| 17/09/2024 | 26.3 | 35.7 | 16 |
| 18/09/2024 | 26.8 | 32.8 | Trace |
| 19/09/2024 | 28.7 | 33.6 | 0 |
| 20/09/2024 | 27.4 | 32.6 | 4.6 |
| 21/09/2024 | 25.7 | 28.8 | 72.9 |
| 22/09/2024 | 24.4 | 30.1 | 32.1 |
| 23/09/2024 | 23.4 | 28 | 24.9 |
| 24/09/2024 | 25.2 | 28.2 | 75 |
| 25/09/2024 | 26.9 | 31.4 | 5.4 |
| 26/09/2024 | 27.4 | 31.6 | 0 |
| 27/09/2024 | 28.1 | 32.4 | 0 |
| 28/09/2024 | 27.5 | 32.1 | 1.3 |
| 29/09/2024 | 26.6 | 31.8 | 3.3 |
| 30/09/2024 | 27.9 | 33.3 | 0 |

NOTE1: The above weather information was obtained from manned weather station of Hong Kong Observatory.
NOTE2: race means rainfall less than 0.05 mm

https://www.hko.gov.hk/en/cis/dailyExtract.htm?y=2024&m=9

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

| Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01/09/2024 | 0:00 | 1.8 | 112.5 | 02/09/2024 | 0:00 | 0.4 | 112.5 | 03/09/2024 | 0:00 | 1.8 | 135 | 04/09/2024 | 0:00 | 1.8 | 112.5 |
| 01/09/2024 | 1:00 | 1.8 | 135 | 02/09/2024 | 1:00 | 0.4 | 135 | 03/09/2024 | 1:00 | 1.8 | 45 | 04/09/2024 | 1:00 | 1.8 | 45 |
| 01/09/2024 | 2:00 | 1.3 | 112.5 | 02/09/2024 | 2:00 | 0.4 | 45 | 03/09/2024 | 2:00 | 1.3 | 202.5 | 04/09/2024 | 2:00 | 1.3 | 135 |
| 01/09/2024 | 3:00 | 0.9 | 135 | 02/09/2024 | 3:00 | 1.3 | 337.5 | 03/09/2024 | 3:00 | 1.3 | 135 | 04/09/2024 | 3:00 | 1.3 | 180 |
| 01/09/2024 | 4:00 | 1.8 | 135 | 02/09/2024 | 4:00 | 1.3 | 135 | 03/09/2024 | 4:00 | 1.3 | 315 | 04/09/2024 | 4:00 | 1.8 | 112.5 |
| 01/09/2024 | 5:00 | 2.2 | 135 | 02/09/2024 | 5:00 | 1.3 | 22.5 | 03/09/2024 | 5:00 | 1.3 | 45 | 04/09/2024 | 5:00 | 4.9 | 112.5 |
| 01/09/2024 | 6:00 | 2.2 | 157.5 | 02/09/2024 | 6:00 | 1.3 | 22.5 | 03/09/2024 | 6:00 | 2.2 | 270 | 04/09/2024 | 6:00 | 4 | 135 |
| 01/09/2024 | 7:00 | 1.8 | 135 | 02/09/2024 | 7:00 | 0.9 | 22.5 | 03/09/2024 | 7:00 | 1.3 | 45 | 04/09/2024 | 7:00 | 5.8 | 112.5 |
| 01/09/2024 | 8:00 | 1.8 | 157.5 | 02/09/2024 | 8:00 | 0.9 | 90 | 03/09/2024 | 8:00 | 1.3 | 22.5 | 04/09/2024 | 8:00 | 5.4 | 292.5 |
| 01/09/2024 | 9:00 | 0.4 | 90 | 02/09/2024 | 9:00 | 0.9 | 337.5 | 03/09/2024 | 9:00 | 0.9 | 45 | 04/09/2024 | 9:00 | 4.9 | 112.5 |
| 01/09/2024 | 10:00 | 0.8 | 135 | 02/09/2024 | 10:00 | 0.9 | 90 | 03/09/2024 | 10:00 | 1.3 | 22.5 | 04/09/2024 | 10:00 | 4.5 | 135 |
| 01/09/2024 | 11:00 | 0.8 | 270 | 02/09/2024 | 11:00 | 1.3 | 22.5 | 03/09/2024 | 11:00 | 1.3 | 202.5 | 04/09/2024 | 11:00 | 3.6 | 112.5 |
| 01/09/2024 | 12:00 | 0.8 | 315 | 02/09/2024 | 12:00 | 0.9 | 112.5 | 03/09/2024 | 12:00 | 1.8 | 292.5 | 04/09/2024 | 12:00 | 3.1 | 135 |
| 01/09/2024 | 13:00 | 0.9 | 45 | 02/09/2024 | 13:00 | 0.9 | 67.5 | 03/09/2024 | 13:00 | 1.3 | 337.5 | 04/09/2024 | 13:00 | 4 | 90 |
| 01/09/2024 | 14:00 | 0.9 | 337.5 | 02/09/2024 | 14:00 | 1.3 | 45 | 03/09/2024 | 14:00 | 1.3 | 90 | 04/09/2024 | 14:00 | 5.8 | 45 |
| 01/09/2024 | 15:00 | 1.3 | 270 | 02/09/2024 | 15:00 | 1.8 | 112.5 | 03/09/2024 | 15:00 | 1.3 | 45 | 04/09/2024 | 15:00 | 4.5 | 90 |
| 01/09/2024 | 16:00 | 1.3 | 315 | 02/09/2024 | 16:00 | 1.3 | 45 | 03/09/2024 | 16:00 | 1.8 | 337.5 | 04/09/2024 | 16:00 | 4.9 | 67.5 |
| 01/09/2024 | 17:00 | 1.3 | 45 | 02/09/2024 | 17:00 | 1.3 | 90 | 03/09/2024 | 17:00 | 0.9 | 247.5 | 04/09/2024 | 17:00 | 0.4 | 135 |
| 01/09/2024 | 18:00 | 1.8 | 270 | 02/09/2024 | 18:00 | 1.3 | 45 | 03/09/2024 | 18:00 | 0.9 | 112.5 | 04/09/2024 | 18:00 | 0.4 | 90 |
| 01/09/2024 | 19:00 | 1.8 | 45 | 02/09/2024 | 19:00 | 1.8 | 67.5 | 03/09/2024 | 19:00 | 0.4 | 112.5 | 04/09/2024 | 19:00 | 0.4 | 112.5 |
| 01/09/2024 | 20:00 | 1.3 | 22.5 | 02/09/2024 | 20:00 | 1.8 | 45 | 03/09/2024 | 20:00 | 0.4 | 112.5 | 04/09/2024 | 20:00 | 0.4 | 157.5 |
| 01/09/2024 | 21:00 | 1.8 | 45 | 02/09/2024 | 21:00 | 1.3 | 202.5 | 03/09/2024 | 21:00 | 0.9 | 135 | 04/09/2024 | 21:00 | 0.9 | 135 |
| 01/09/2024 | 22:00 | 2.2 | 22.5 | 02/09/2024 | 22:00 | 1.3 | 135 | 03/09/2024 | 22:00 | 2.2 | 90 | 04/09/2024 | 22:00 | 1.3 | 135 |
| 01/09/2024 | 23:00 | 2.2 | 202.5 | 02/09/2024 | 23:00 | 1.3 | 112.5 | 03/09/2024 | 23:00 | 2.7 | 337.5 | 04/09/2024 | 23:00 | 0.9 | 135 |

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

| Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 05/09/2024 | 0:00 | 1.3 | 292.5 | 06/09/2024 | 0:00 | 4 | 112.5 | 07/09/2024 | 0:00 | 2.2 | 90 | 08/09/2024 | 0:00 | 0.9 | 90 |
| 05/09/2024 | 1:00 | 1.8 | 202.5 | 06/09/2024 | 1:00 | 4.5 | 337.5 | 07/09/2024 | 1:00 | 1.3 | 67.5 | 08/09/2024 | 1:00 | 0.9 | 67.5 |
| 05/09/2024 | 2:00 | 1.3 | 112.5 | 06/09/2024 | 2:00 | 5.4 | 337.5 | 07/09/2024 | 2:00 | 1.3 | 90 | 08/09/2024 | 2:00 | 0.4 | 112.5 |
| 05/09/2024 | 3:00 | 1.3 | 90 | 06/09/2024 | 3:00 | 7.2 | 337.5 | 07/09/2024 | 3:00 | 1.3 | 90 | 08/09/2024 | 3:00 | 0.4 | 90 |
| 05/09/2024 | 4:00 | 4.5 | 112.5 | 06/09/2024 | 4:00 | 6.8 | 247.5 | 07/09/2024 | 4:00 | 1.8 | 67.5 | 08/09/2024 | 4:00 | 0.9 | 112.5 |
| 05/09/2024 | 5:00 | 4.9 | 45 | 06/09/2024 | 5:00 | 6.3 | 270 | 07/09/2024 | 5:00 | 1.8 | 112.5 | 08/09/2024 | 5:00 | 0.9 | 90 |
| 05/09/2024 | 6:00 | 5.4 | 67.5 | 06/09/2024 | 6:00 | 5.8 | 270 | 07/09/2024 | 6:00 | 2.7 | 90 | 08/09/2024 | 6:00 | 1.3 | 112.5 |
| 05/09/2024 | 7:00 | 4 | 112.5 | 06/09/2024 | 7:00 | 5.8 | 247.5 | 07/09/2024 | 7:00 | 2.7 | 112.5 | 08/09/2024 | 7:00 | 1.3 | 67.5 |
| 05/09/2024 | 8:00 | 4 | 202.5 | 06/09/2024 | 8:00 | 6.3 | 247.5 | 07/09/2024 | 8:00 | 1.3 | 90 | 08/09/2024 | 8:00 | 1.3 | 112.5 |
| 05/09/2024 | 9:00 | 3.6 | 45 | 06/09/2024 | 9:00 | 4 | 270 | 07/09/2024 | 9:00 | 2.2 | 112.5 | 08/09/2024 | 9:00 | 0.9 | 67.5 |
| 05/09/2024 | 10:00 | 3.6 | 135 | 06/09/2024 | 10:00 | 4.9 | 270 | 07/09/2024 | 10:00 | 1.3 | 67.5 | 08/09/2024 | 10:00 | 1.3 | 67.5 |
| 05/09/2024 | 11:00 | 2.7 | 202.5 | 06/09/2024 | 11:00 | 4.5 | 247.5 | 07/09/2024 | 11:00 | 1.8 | 112.5 | 08/09/2024 | 11:00 | 0.9 | 90 |
| 05/09/2024 | 12:00 | 4 | 22.5 | 06/09/2024 | 12:00 | 4.5 | 247.5 | 07/09/2024 | 12:00 | 2.2 | 67.5 | 08/09/2024 | 12:00 | 0.9 | 67.5 |
| 05/09/2024 | 13:00 | 3.6 | 135 | 06/09/2024 | 13:00 | 5.8 | 247.5 | 07/09/2024 | 13:00 | 1.3 | 67.5 | 08/09/2024 | 13:00 | 0.4 | 112.5 |
| 05/09/2024 | 14:00 | 3.6 | 135 | 06/09/2024 | 14:00 | 4.5 | 247.5 | 07/09/2024 | 14:00 | 1.3 | 90 | 08/09/2024 | 14:00 | 0.4 | 90 |
| 05/09/2024 | 15:00 | 4 | 202.5 | 06/09/2024 | 15:00 | 5.8 | 270 | 07/09/2024 | 15:00 | 1.3 | 90 | 08/09/2024 | 15:00 | 0.9 | 112.5 |
| 05/09/2024 | 16:00 | 3.1 | 202.5 | 06/09/2024 | 16:00 | 4 | 247.5 | 07/09/2024 | 16:00 | 1.3 | 67.5 | 08/09/2024 | 16:00 | 0.9 | 90 |
| 05/09/2024 | 17:00 | 3.1 | 202.5 | 06/09/2024 | 17:00 | 4.5 | 247.5 | 07/09/2024 | 17:00 | 1.3 | 112.5 | 08/09/2026 | 17:00 | 1.3 | 112.5 |
| 05/09/2024 | 18:00 | 3.1 | 112.5 | 06/09/2024 | 18:00 | 4.5 | 247.5 | 07/09/2024 | 18:00 | 1.3 | 67.5 | 08/09/2024 | 18:00 | 1.3 | 67.5 |
| 05/09/2024 | 19:00 | 5.8 | 225 | 06/09/2024 | 19:00 | 3.6 | 315 | 07/09/2024 | 19:00 | 1.3 | 67.5 | 08/09/2024 | 19:00 | 1.3 | 112.5 |
| 05/09/2024 | 20:00 | 3.6 | 157.5 | 06/09/2024 | 20:00 | 4 | 270 | 07/09/2024 | 20:00 | 1.3 | 90 | 08/09/2024 | 20:00 | 0.9 | 67.5 |
| 05/09/2024 | 21:00 | 3.6 | 202.5 | 06/09/2024 | 21:00 | 3.6 | 270 | 07/09/2024 | 21:00 | 1.8 | 90 | 08/09/2024 | 21:00 | 1.3 | 112.5 |
| 05/09/2024 | 22:00 | 4.9 | 202.5 | 06/09/2024 | 22:00 | 3.6 | 337.5 | 07/09/2024 | 22:00 | 1.8 | 67.5 | 08/09/2024 | 22:00 | 1.3 | 90 |
| 05/09/2024 | 23:00 | 5.8 | 247.5 | 06/09/2024 | 23:00 | 4 | 247.5 | 07/09/2024 | 23:00 | 0.9 | 112.5 | 08/09/2024 | 23:00 | 0.9 | 22.5 |

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

| Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 09/09/2024 | 0:00 | 1.8 | 90 | 10/09/2024 | 0:00 | 0.4 | 270 | 11/09/2024 | 0:00 | 0.9 | 112.5 | 12/09/2024 | 0:00 | 1.8 | 45 |
| 09/09/2024 | 1:00 | 1.8 | 22.5 | 10/09/2024 | 1:00 | 0.4 | 90 | 11/09/2024 | 1:00 | 0.9 | 90 | 12/09/2024 | 1:00 | 1.8 | 112.5 |
| 09/09/2024 | 2:00 | 2.7 | 45 | 10/09/2024 | 2:00 | 0.4 | 90 | 11/09/2024 | 2:00 | 0.9 | 135 | 12/09/2024 | 2:00 | 1.8 | 22.5 |
| 09/09/2024 | 3:00 | 2.2 | 67.5 | 10/09/2024 | 3:00 | 0.4 | 112.5 | 11/09/2024 | 3:00 | 0.9 | 135 | 12/09/2024 | 3:00 | 0.4 | 112.5 |
| 09/09/2024 | 4:00 | 1.3 | 112.5 | 10/09/2024 | 4:00 | 0.9 | 112.5 | 11/09/2028 | 4:00 | 0.9 | 112.5 | 12/09/2024 | 4:00 | 1.3 | 90 |
| 09/09/2024 | 5:00 | 1.8 | 157.5 | 10/09/2024 | 5:00 | 0.9 | 112.5 | 11/09/2024 | 5:00 | 0.9 | 135 | 12/09/2024 | 5:00 | 0.9 | 45 |
| 09/09/2024 | 6:00 | 0.9 | 315 | 10/09/2024 | 6:00 | 0.9 | 135 | 11/09/2024 | 6:00 | 0.9 | 90 | 12/09/2024 | 6:00 | 0.4 | 45 |
| 09/09/2024 | 7:00 | 0.4 | 292.5 | 10/09/2024 | 7:00 | 0.4 | 112.5 | 11/09/2024 | 7:00 | 1.3 | 112.5 | 12/09/2024 | 7:00 | 0.4 | 292.5 |
| 09/09/2024 | 8:00 | 0.9 | 135 | 10/09/2224 | 8:00 | 0.4 | 112.5 | 11/09/2024 | 8:00 | 1.3 | 112.5 | 12/09/2024 | 8:00 | 0.9 | 22.5 |
| 09/09/2024 | 9:00 | 0.9 | 45 | 10/09/2024 | 9:00 | 0.9 | 112.5 | 11/09/2024 | 9:00 | 0.9 | 112.5 | 12/09/2024 | 9:00 | 2.2 | 247.5 |
| 09/09/2024 | 10:00 | 1.3 | 202.5 | 10/09/2024 | 10:00 | 1.3 | 112.5 | 11/09/2024 | 10:00 | 1.8 | 112.5 | 12/09/2024 | 10:00 | 2.7 | 337.5 |
| 09/09/2024 | 11:00 | 0.9 | 135 | 10/09/2024 | 11:00 | 1.3 | 270 | 11/09/2026 | 11:00 | 1.8 | 112.5 | 12/09/2024 | 11:00 | 2.2 | 270 |
| 09/09/2024 | 12:00 | 0.9 | 112.5 | 10/09/2024 | 12:00 | 1.3 | 112.5 | 11/09/2024 | 12:00 | 1.3 | 112.5 | 12/09/2024 | 12:00 | 2.2 | 247.5 |
| 09/09/2024 | 13:00 | 0.9 | 45 | 10/09/2024 | 13:00 | 0.4 | 112.5 | 11/09/2024 | 13:00 | 1.8 | 112.5 | 12/09/2024 | 13:00 | 2.7 | 337.5 |
| 09/09/2024 | 14:00 | 1.8 | 135 | 10/09/2024 | 14:00 | 0.9 | 135 | 11/09/2024 | 14:00 | 0.9 | 135 | 12/09/2024 | 14:00 | 2.2 | 270 |
| 09/09/2024 | 15:00 | 2.7 | 180 | 10/09/2024 | 15:00 | 1.3 | 90 | 11/09/2024 | 15:00 | 1.8 | 112.5 | 12/09/2024 | 15:00 | 1.8 | 157.5 |
| 09/09/2024 | 16:00 | 2.7 | 112.5 | 10/09/2024 | 16:00 | 1.3 | 292.5 | 11/09/2024 | 16:00 | 1.3 | 112.5 | 12/09/2024 | 16:00 | 2.2 | 270 |
| 09/09/2024 | 17:00 | 2.2 | 135 | 10/09/2024 | 17:00 | 1.3 | 225 | 11/09/2024 | 17:00 | 0.9 | 90 | 12/09/2024 | 17:00 | 1.8 | 270 |
| 09/09/2024 | 18:00 | 1.3 | 112.5 | 10/09/2024 | 18:00 | 1.3 | 247.5 | 11/09/2024 | 18:00 | 0.9 | 90 | 12/09/2024 | 18:00 | 2.2 | 22.5 |
| 09/09/2024 | 19:00 | 1.8 | 112.5 | 10/09/2024 | 19:00 | 2.2 | 247.5 | 11/09/2024 | 19:00 | 1.3 | 112.5 | 12/09/2024 | 19:00 | 1.3 | 22.5 |
| 09/09/2024 | 20:00 | 0.9 | 135 | 10/09/2024 | 20:00 | 1.8 | 90 | 11/09/2024 | 20:00 | 0.4 | 90 | 12/09/2024 | 20:00 | 1.8 | 90 |
| 09/09/2024 | 21:00 | 1.3 | 135 | 10/09/2024 | 21:00 | 1.8 | 90 | 11/09/2024 | 21:00 | 0.9 | 112.5 | 12/09/2024 | 21:00 | 1.3 | 135 |
| 09/09/2024 | 22:00 | 1.8 | 135 | 10/09/2024 | 22:00 | 1.8 | 90 | 11/09/2024 | 22:00 | 0.4 | 90 | 12/09/2024 | 22:00 | 2.2 | 270 |
| 09/09/2024 | 23:00 | 1.8 | 112.5 | 10/09/2024 | 23:00 | 0.9 | 112.5 | 11/09/2024 | 23:00 | 1.3 | 135 | 12/09/2024 | 23:00 | 2.2 | 315 |

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

| Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13/09/2024 | 0:00 | 0.4 | 112.5 | 14/09/2024 | 0:00 | 1.3 | 135 | 15/09/2024 | 0:00 | 0.9 | 337.5 | 16/09/2024 | 0:00 | 0.9 | 112.5 |
| 13/09/2024 | 1:00 | 0.9 | 90 | 14/09/2024 | 1:00 | 1.8 | 337.5 | 15/09/2024 | 1:00 | 1.3 | 22.5 | 16/09/2024 | 1:00 | 1.3 | 112.5 |
| 13/09/2024 | 2:00 | 0.4 | 112.5 | 14/09/2024 | 2:00 | 1.8 | 22.5 | 15/09/2024 | 2:00 | 1.8 | 337.5 | 16/09/2024 | 2:00 | 1.3 | 112.5 |
| 13/09/2024 | 3:00 | 0.4 | 112.5 | 14/09/2024 | 3:00 | 2.7 | 315 | 15/09/2024 | 3:00 | 1.8 | 22.5 | 16/09/2024 | 3:00 | 0.4 | 112.5 |
| 13/09/2024 | 4:00 | 0.4 | 112.5 | 14/09/2024 | 4:00 | 2.7 | 90 | 15/09/2024 | 4:00 | 1.3 | 67.5 | 16/09/2024 | 4:00 | 1.3 | 112.5 |
| 13/09/2024 | 5:00 | 0.9 | 135 | 14/09/2024 | 5:00 | 2.2 | 90 | 15/09/2024 | 5:00 | 1.8 | 112.5 | 16/09/2024 | 5:00 | 1.3 | 112.5 |
| 13/09/2024 | 6:00 | 0.4 | 112.5 | 14/09/2024 | 6:00 | 2.7 | 315 | 15/09/2024 | 6:00 | 2.2 | 90 | 16/09/2024 | 6:00 | 1.8 | 112.5 |
| 13/09/2024 | 7:00 | 0.4 | 112.5 | 14/09/2024 | 7:00 | 1.8 | 112.5 | 15/09/2024 | 7:00 | 3.1 | 135 | 16/09/2024 | 7:00 | 0.9 | 112.5 |
| 13/09/2024 | 8:00 | 0.9 | 67.5 | 14/09/2024 | 8:00 | 1.8 | 135 | 15/09/2024 | 8:00 | 1.3 | 337.5 | 16/09/2024 | 8:00 | 1.3 | 112.5 |
| 13/09/2024 | 9:00 | 1.3 | 157.5 | 14/09/2024 | 9:00 | 1.3 | 202.5 | 15/09/2024 | 9:00 | 1.8 | 90 | 16/09/2024 | 9:00 | 1.3 | 90 |
| 13/09/2024 | 10:00 | 1.3 | 112.5 | 14/09/2024 | 10:00 | 1.8 | 135 | 15/09/2024 | 10:00 | 1.8 | 135 | 16/09/2024 | 10:00 | 1.8 | 270 |
| 13/09/2024 | 11:00 | 2.2 | 180 | 14/09/2024 | 11:00 | 1.3 | 202.5 | 15/09/2024 | 11:00 | 1.8 | 135 | 16/09/2024 | 11:00 | 1.8 | 135 |
| 13/09/2024 | 12:00 | 0.9 | 270 | 14/09/2024 | 12:00 | 1.3 | 135 | 15/09/2024 | 12:00 | 2.2 | 135 | 16/09/2024 | 12:00 | 2.2 | 135 |
| 13/09/2024 | 13:00 | 1.3 | 247.5 | 14/09/2024 | 13:00 | 1.3 | 135 | 15/09/2024 | 13:00 | 2.2 | 112.5 | 16/09/2024 | 13:00 | 2.2 | 112.5 |
| 13/09/2024 | 14:00 | 0.9 | 270 | 14/09/2024 | 14:00 | 1.3 | 135 | 15/09/2024 | 14:00 | 2.7 | 112.5 | 16/09/2024 | 14:00 | 0.4 | 247.5 |
| 13/09/2024 | 15:00 | 1.8 | 247.5 | 14/09/2024 | 15:00 | 1.3 | 112.5 | 15/09/2024 | 15:00 | 2.7 | 112.5 | 16/09/2024 | 15:00 | 0.4 | 202.5 |
| 13/09/2024 | 16:00 | 0.9 | 225 | 14/09/2024 | 16:00 | 1.3 | 112.5 | 15/09/2024 | 16:00 | 2.2 | 67.5 | 16/09/2024 | 16:00 | 0.4 | 112.5 |
| 13/09/2024 | 17:00 | 1.3 | 247.5 | 14/09/2024 | 17:00 | 1.8 | 135 | 15/09/2024 | 17:00 | 1.8 | 112.5 | 16/09/2024 | 17:00 | 0.4 | 135 |
| 13/09/2024 | 18:00 | 0.9 | 247.5 | 14/09/2024 | 18:00 | 2.2 | 112.5 | 15/09/2024 | 18:00 | 1.8 | 337.5 | 16/09/2024 | 18:00 | 0.4 | 112.5 |
| 13/09/2024 | 19:00 | 0.9 | 247.5 | 14/09/2024 | 19:00 | 2.7 | 67.5 | 15/09/2024 | 19:00 | 1.3 | 135 | 16/09/2024 | 19:00 | 0.4 | 112.5 |
| 13/09/2024 | 20:00 | 0.9 | 225 | 14/09/2024 | 20:00 | 1.8 | 90 | 15/09/2024 | 20:00 | 1.8 | 112.5 | 16/09/2024 | 20:00 | 0.4 | 90 |
| 13/09/2024 | 21:00 | 0.9 | 270 | 14/09/2024 | 21:00 | 1.3 | 135 | 15/09/2024 | 21:00 | 1.3 | 22.5 | 16/09/2024 | 21:00 | 0.4 | 90 |
| 13/09/2024 | 22:00 | 0.9 | 45 | 14/09/2024 | 22:00 | 1.3 | 45 | 15/09/2024 | 22:00 | 1.3 | 135 | 16/09/2024 | 22:00 | 0.4 | 112.5 |
| 13/09/2024 | 23:00 | 0.9 | 45 | 14/09/2024 | 23:00 | 2.2 | 90 | 15/09/2024 | 23:00 | 1.8 | 112.5 | 16/09/2024 | 23:00 | 0.9 | 112.5 |

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

| Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17/09/2024 | 0:00 | 0.9 | 90 | 18/09/2024 | 0:00 | 1.3 | 270 | 19/09/2024 | 0:00 | 0.9 | 247.5 | 20/09/2024 | 0:00 | 0.4 | 315 |
| 17/09/2024 | 1:00 | 0.9 | 90 | 18/09/2024 | 1:00 | 1.3 | 270 | 19/09/2024 | 1:00 | 0.4 | 225 | 20/09/2024 | 1:00 | 0.9 | 202.5 |
| 17/09/2024 | 2:00 | 0.4 | 112.5 | 18/09/2024 | 2:00 | 0.9 | 135 | 19/09/2024 | 2:00 | 1.8 | 247.5 | 20/09/2024 | 2:00 | 0.4 | 247.5 |
| 17/09/2024 | 3:00 | 0.9 | 202.5 | 18/09/2024 | 3:00 | 1.3 | 180 | 19/09/2024 | 3:00 | 1.3 | 225 | 20/09/2024 | 3:00 | 0.9 | 202.5 |
| 17/09/2024 | 4:00 | 0.4 | 45 | 18/09/2024 | 4:00 | 1.3 | 270 | 19/09/2024 | 4:00 | 1.3 | 247.5 | 20/09/2024 | 4:00 | 1.8 | 270 |
| 17/09/2024 | 5:00 | 0.4 | 45 | 18/09/2024 | 5:00 | 0.9 | 22.5 | 19/09/2024 | 5:00 | 1.3 | 270 | 20/09/2024 | 5:00 | 1.8 | 67.5 |
| 17/09/2024 | 6:00 | 0.4 | 90 | 18/09/2024 | 6:00 | 1.3 | 22.5 | 19/09/2024 | 6:00 | 1.3 | 270 | 20/09/2024 | 6:00 | 1.3 | 270 |
| 17/09/2024 | 7:00 | 0.4 | 112.5 | 18/09/2024 | 7:00 | 1.3 | 292.5 | 19/09/2024 | 7:00 | 1.8 | 247.5 | 20/09/2024 | 7:00 | 1.3 | 135 |
| 17/09/2024 | 8:00 | 0.4 | 112.5 | 18/09/2024 | 8:00 | 1.8 | 22.5 | 19/09/2024 | 8:00 | 1.3 | 270 | 20/09/2024 | 8:00 | 0.9 | 135 |
| 17/09/2024 | 9:00 | 0.9 | 22.5 | 18/09/2024 | 9:00 | 1.8 | 0 | 19/09/2024 | 9:00 | 2.7 | 247.5 | 20/09/2024 | 9:00 | 0.9 | 112.5 |
| 17/09/2024 | 10:00 | 0.9 | 337.5 | 18/09/2024 | 10:00 | 1.3 | 270 | 19/09/2024 | 10:00 | 1.8 | 247.5 | 20/09/2024 | 10:00 | 0.4 | 90 |
| 17/09/2024 | 11:00 | 0.4 | 337.5 | 18/09/2024 | 11:00 | 2.2 | 292.5 | 19/09/2024 | 11:00 | 2.7 | 247.5 | 20/09/2024 | 11:00 | 0.9 | 112.5 |
| 17/09/2024 | 12:00 | 0.4 | 337.5 | 18/09/2024 | 12:00 | 2.2 | 247.5 | 19/09/2024 | 12:00 | 2.2 | 270 | 20/09/2024 | 12:00 | 1.3 | 90 |
| 17/09/2024 | 13:00 | 1.3 | 337.5 | 18/09/2024 | 13:00 | 1.8 | 337.5 | 19/09/2024 | 13:00 | 0.9 | 135 | 20/09/2024 | 13:00 | 0.9 | 135 |
| 17/09/2024 | 14:00 | 0.9 | 45 | 18/09/2024 | 14:00 | 1.8 | 202.5 | 19/09/2024 | 14:00 | 1.3 | 90 | 20/09/2024 | 14:00 | 1.8 | 135 |
| 17/09/2024 | 15:00 | 0.9 | 292.5 | 18/09/2024 | 15:00 | 2.2 | 337.5 | 19/09/2024 | 15:00 | 1.3 | 135 | 20/09/2024 | 15:00 | 1.3 | 112.5 |
| 17/09/2024 | 16:00 | 0.4 | 337.5 | 18/09/2024 | 16:00 | 0.9 | 247.5 | 19/09/2024 | 16:00 | 0.4 | 112.5 | 20/09/2024 | 16:00 | 1.3 | 112.5 |
| 17/09/2024 | 17:00 | 0.4 | 22.5 | 18/09/2024 | 17:00 | 0.9 | 157.5 | 19/09/2024 | 17:00 | 0.4 | 157.5 | 20/09/2024 | 17:00 | 1.3 | 112.5 |
| 17/09/2024 | 18:00 | 0.4 | 45 | 18/09/2024 | 18:00 | 0.4 | 112.5 | 19/09/2024 | 18:00 | 0.4 | 202.5 | 20/09/2024 | 18:00 | 0.9 | 90 |
| 17/09/2024 | 19:00 | 0.4 | 45 | 18/09/2024 | 19:00 | 0.9 | 157.5 | 19/09/2024 | 19:00 | 0.4 | 112.5 | 20/09/2024 | 19:00 | 1.3 | 112.5 |
| 17/09/2024 | 20:00 | 0.4 | 315 | 18/09/2024 | 20:00 | 1.3 | 157.5 | 19/09/2024 | 20:00 | 0.4 | 247.5 | 20/09/2024 | 20:00 | 0.4 | 112.5 |
| 17/09/2024 | 21:00 | 0.9 | 202.5 | 18/09/2024 | 21:00 | 0.9 | 247.5 | 19/09/2024 | 21:00 | 0.4 | 270 | 20/09/2024 | 21:00 | 0.4 | 90 |
| 17/09/2024 | 22:00 | 0.4 | 247.5 | 18/09/2024 | 22:00 | 0.4 | 112.5 | 19/09/2024 | 22:00 | 0.4 | 247.5 | 20/09/2024 | 22:00 | 0.9 | 135 |
| 17/09/2024 | 23:00 | 0.9 | 202.5 | 18/09/2024 | 23:00 | 0.9 | 112.5 | 19/09/2024 | 23:00 | 0.4 | 247.5 | 20/09/2024 | 23:00 | 0.9 | 90 |

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

| Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21/09/2024 | 0:00 | 0.4 | 135 | 22/09/2024 | 0:00 | 0.4 | 90 | 23/09/2024 | 0:00 | 2.2 | 270 | 24/09/2024 | 0:00 | 0.4 | 90 |
| 21/09/2024 | 1:00 | 2.2 | 112.5 | 22/09/2024 | 1:00 | 0.4 | 22.5 | 23/09/2024 | 1:00 | 2.7 | 270 | 24/09/2024 | 1:00 | 1.3 | 135 |
| 21/09/2024 | 2:00 | 3.1 | 135 | 22/09/2024 | 2:00 | 0.9 | 90 | 23/09/2024 | 2:00 | 1.8 | 247.5 | 24/09/2024 | 2:00 | 3.1 | 270 |
| 21/09/2024 | 3:00 | 2.7 | 135 | 22/09/2024 | 3:00 | 0.9 | 67.5 | 23/09/2024 | 3:00 | 1.3 | 247.5 | 24/09/2024 | 3:00 | 1.8 | 270 |
| 21/09/2024 | 4:00 | 2.2 | 112.5 | 22/09/2024 | 4:00 | 0.4 | 112.5 | 23/09/2024 | 4:00 | 1.3 | 247.5 | 24/09/2024 | 4:00 | 2.2 | 112.5 |
| 21/09/2024 | 5:00 | 2.2 | 157.5 | 22/09/2024 | 5:00 | 0.4 | 90 | 23/09/2024 | 5:00 | 1.3 | 247.5 | 24/09/2024 | 5:00 | 2.2 | 270 |
| 21/09/2024 | 6:00 | 1.8 | 135 | 22/09/2024 | 6:00 | 0.9 | 112.5 | 23/09/2024 | 6:00 | 1.3 | 247.5 | 24/09/2024 | 6:00 | 1.8 | 270 |
| 21/09/2024 | 7:00 | 2.2 | 112.5 | 22/09/2024 | 7:00 | 0.9 | 90 | 23/09/2024 | 7:00 | 1.8 | 247.5 | 24/09/2024 | 7:00 | 1.8 | 337.5 |
| 21/09/2024 | 8:00 | 1.3 | 292.5 | 22/09/2024 | 8:00 | 1.3 | 112.5 | 23/09/2024 | 8:00 | 1.8 | 337.5 | 24/09/2024 | 8:00 | 1.8 | 337.5 |
| 21/09/2024 | 9:00 | 2.2 | 112.5 | 22/09/2024 | 9:00 | 1.3 | 67.5 | 23/09/2024 | 9:00 | 1.8 | 45 | 24/09/2024 | 9:00 | 1.8 | 225 |
| 21/09/2024 | 10:00 | 2.7 | 135 | 22/09/2024 | 10:00 | 1.3 | 112.5 | 23/09/2024 | 10:00 | 1.3 | 112.5 | 24/09/2024 | 10:00 | 1.8 | 22.5 |
| 21/09/2024 | 11:00 | 3.1 | 112.5 | 22/09/2024 | 11:00 | 0.9 | 67.5 | 23/09/2024 | 11:00 | 1.3 | 157.5 | 24/09/2024 | 11:00 | 1.8 | 337.5 |
| 21/09/2024 | 12:00 | 2.7 | 135 | 22/09/2024 | 12:00 | 1.3 | 67.5 | 23/09/2024 | 12:00 | 0.9 | 90 | 24/09/2024 | 12:00 | 1.8 | 22.5 |
| 21/09/2024 | 13:00 | 3.1 | 90 | 22/09/2024 | 13:00 | 2.7 | 45 | 23/09/2024 | 13:00 | 0.9 | 135 | 24/09/2024 | 13:00 | 2.7 | 315 |
| 21/09/2024 | 14:00 | 3.1 | 315 | 22/09/2024 | 14:00 | 2.2 | 45 | 23/09/2024 | 14:00 | 1.8 | 45 | 24/09/2024 | 14:00 | 2.7 | 247.5 |
| 21/09/2024 | 15:00 | 4.5 | 90 | 22/09/2024 | 15:00 | 2.7 | 45 | 23/09/2024 | 15:00 | 1.3 | 135 | 24/09/2024 | 15:00 | 2.2 | 247.5 |
| 21/09/2024 | 16:00 | 4 | 67.5 | 22/09/2024 | 16:00 | 3.1 | 90 | 23/09/2024 | 16:00 | 1.8 | 112.5 | 24/09/2024 | 16:00 | 2.7 | 247.5 |
| 21/09/2024 | 17:00 | 3.1 | 112.5 | 22/09/2024 | 17:00 | 3.1 | 90 | 23/09/2024 | 17:00 | 1.8 | 112.5 | 24/09/2024 | 17:00 | 1.8 | 202.5 |
| 21/09/2024 | 18:00 | 4 | 112.5 | 22/09/2024 | 18:00 | 2.7 | 112.5 | 23/09/2024 | 18:00 | 0.9 | 67.5 | 24/09/2024 | 18:00 | 1.8 | 270 |
| 21/09/2024 | 19:00 | 4 | 337.5 | 22/09/2024 | 19:00 | 2.2 | 45 | 23/09/2024 | 19:00 | 1.3 | 67.5 | 24/09/2024 | 19:00 | 1.3 | 270 |
| 21/09/2024 | 20:00 | 3.6 | 67.5 | 22/09/2024 | 20:00 | 3.1 | 90 | 23/09/2024 | 20:00 | 0.9 | 90 | 24/09/2024 | 20:00 | 1.8 | 202.5 |
| 21/09/2024 | 21:00 | 3.1 | 315 | 22/09/2024 | 21:00 | 2.7 | 67.5 | 23/09/2024 | 21:00 | 0.9 | 90 | 24/09/2024 | 21:00 | 0.9 | 270 |
| 21/09/2024 | 22:00 | 1.3 | 22.5 | 22/09/2024 | 22:00 | 1.3 | 337.5 | 23/09/2024 | 22:00 | 0.9 | 67.5 | 24/09/2024 | 22:00 | 1.3 | 157.5 |
| 21/09/2024 | 23:00 | 2.2 | 112.5 | 22/09/2024 | 23:00 | 1.3 | 90 | 23/09/2024 | 23:00 | 1.8 | 90 | 24/09/2024 | 23:00 | 2.2 | 135 |

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

| Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25/09/2024 | 0:00 | 1.8 | 135 | 26/09/2024 | 0:00 | 0.4 | 315 | 27/09/2024 | 0:00 | 0.4 | 247.5 | 28/09/2024 | 0:00 | 0.4 | 135 |
| 25/09/2024 | 1:00 | 4.9 | 22.5 | 26/09/2024 | 1:00 | 0.4 | 112.5 | 27/09/2024 | 1:00 | 0.4 | 157.5 | 28/09/2024 | 1:00 | 0.4 | 112.5 |
| 25/09/2024 | 2:00 | 2.2 | 337.5 | 26/09/2024 | 2:00 | 0.4 | 157.5 | 27/09/2024 | 2:00 | 0.9 | 202.5 | 28/09/2024 | 2:00 | 0.4 | 135 |
| 25/09/2024 | 3:00 | 3.1 | 22.5 | 26/09/2024 | 3:00 | 0.4 | 202.5 | 27/09/2024 | 3:00 | 0.4 | 225 | 28/09/2024 | 3:00 | 0.9 | 135 |
| 25/09/2024 | 4:00 | 2.7 | 67.5 | 26/09/2024 | 4:00 | 0.4 | 112.5 | 27/09/2024 | 4:00 | 0.4 | 225 | 28/09/2024 | 4:00 | 0.4 | 112.5 |
| 25/09/2024 | 5:00 | 2.2 | 112.5 | 26/09/2024 | 5:00 | 0.4 | 247.5 | 27/09/2024 | 5:00 | 0.4 | 225 | 28/09/2024 | 5:00 | 0.4 | 157.5 |
| 25/09/2024 | 6:00 | 0.4 | 90 | 26/09/2024 | 6:00 | 0.4 | 270 | 27/09/2024 | 6:00 | 0.4 | 225 | 28/09/2024 | 6:00 | 0.4 | 135 |
| 25/092024 | 7:00 | 0.4 | 135 | 26/09/2024 | 7:00 | 0.4 | 247.5 | 27/09/2024 | 7:00 | 0.9 | 270 | 28/09/2024 | 7:00 | 0.4 | 112.5 |
| 25/09/2024 | 8:00 | 0.9 | 337.5 | 26/09/2024 | 8:00 | 0.4 | 247.5 | 27/09/2024 | 8:00 | 0.9 | 157.5 | 28/09/2024 | 8:00 | 0.9 | 292.5 |
| 25/09/2024 | 9:00 | 0.4 | 90 | 26/09/2024 | 9:00 | 0.4 | 247.5 | 27/09/2024 | 9:00 | 0.9 | 135 | 28/09/2024 | 9:00 | 0.4 | 45 |
| 25/09/2024 | 10:00 | 0.9 | 112.5 | 26/09/2024 | 10:00 | 0.4 | 67.5 | 27/09/2024 | 10:00 | 1.3 | 112.5 | 28/09/2024 | 10:00 | 1.3 | 67.5 |
| 25/09/2024 | 11:00 | 1.3 | 247.5 | 26/09/2024 | 11:00 | 0.4 | 112.5 | 27/09/2024 | 11:00 | 1.3 | 112.5 | 28/09/2024 | 11:00 | 0.9 | 112.5 |
| 25/09/2024 | 12:00 | 0.9 | 337.5 | 26/09/2024 | 12:00 | 0.4 | 135 | 27/09/2024 | 12:00 | 0.9 | 135 | 28/09/2024 | 12:00 | 1.8 | 135 |
| 25/09/2024 | 13:00 | 1.3 | 270 | 26/09/2024 | 13:00 | 0.4 | 157.5 | 27/09/2024 | 13:00 | 0.4 | 157.5 | 28/09/2024 | 13:00 | 1.3 | 90 |
| 25/09/2024 | 14:00 | 1.8 | 157.5 | 26/09/2024 | 14:00 | 0.4 | 157.5 | 27/09/2024 | 14:00 | 0.4 | 157.5 | 28/09/2024 | 14:00 | 1.3 | 337.5 |
| 25/09/2024 | 15:00 | 2.2 | 270 | 26/09/2024 | 15:00 | 0.4 | 202.5 | 27/09/2024 | 15:00 | 0.4 | 135 | 28/09/2024 | 15:00 | 1.3 | 90 |
| 25/09/2024 | 16:00 | 1.8 | 270 | 26/09/2024 | 16:00 | 1.3 | 225 | 27/09/2024 | 16:00 | 0.9 | 112.5 | 28/09/2024 | 16:00 | 1.3 | 22.5 |
| 25/09/2024 | 17:00 | 0.4 | 270 | 26/09/2024 | 17:00 | 1.3 | 247.5 | 27/09/2024 | 17:00 | 0.4 | 112.5 | 28/09/2024 | 17:00 | 0.4 | 67.5 |
| 25/09/2024 | 18:00 | 0.4 | 247.5 | 26/09/2024 | 18:00 | 0.9 | 135 | 27/09/2024 | 18:00 | 0.4 | 135 | 28/09/2024 | 18:00 | 0.9 | 112.5 |
| 25/09/2024 | 19:00 | 0.4 | 247.5 | 26/09/2024 | 19:00 | 0.9 | 112.5 | 27/09/2024 | 19:00 | 0.9 | 180 | 28/09/2024 | 19:00 | 0.9 | 112.5 |
| 25/09/2024 | 20:00 | 0.4 | 270 | 26/09/2024 | 20:00 | 1.3 | 22.5 | 27/09/2024 | 20:00 | 0.4 | 247.5 | 28/09/2024 | 20:00 | 1.3 | 112.5 |
| 25/09/2024 | 21:00 | 0.9 | 270 | 26/09/2024 | 21:00 | 1.3 | 135 | 27/09/2024 | 21:00 | 0.4 | 270 | 28/09/2024 | 21:00 | 0.9 | 45 |
| 25/09/2024 | 22:00 | 1.3 | 45 | 26/09/2024 | 22:00 | 2.2 | 90 | 27/09/2024 | 22:00 | 0.4 | 270 | 28/09/2024 | 22:00 | 0.4 | 67.5 |
| 25/09/2024 | 23:00 | 0.9 | 112.5 | 26/09/2024 | 23:00 | 1.8 | 112.5 | 27/09/2024 | 23:00 | 0.4 | 247.5 | 28/09/2024 | 23:00 | 0.4 | 67.5 |

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

| Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 29/09/2024 | 0:00 | 1.3 | 135 | 30/09/2024 | 0:00 | 0.9 | 135 | | | | | | | | |
| 29/09/2024 | 1:00 | 0.9 | 292.5 | 30/09/2024 | 1:00 | 0.4 | 135 | | | | | | | | |
| 29/09/2024 | 2:00 | 1.3 | 247.5 | 30/09/2024 | 2:00 | 0.9 | 112.5 | | | | | | | | |
| 29/09/2024 | 3:00 | 0.9 | 247.5 | 30/09/2024 | 3:00 | 1.3 | 67.5 | | | | | | | | |
| 29/09/2024 | 4:00 | 1.3 | 292.5 | 30/09/2024 | 4:00 | 0.9 | 90 | | | | | | | | |
| 29/09/2024 | 5:00 | 1.3 | 112.5 | 30/09/2024 | 5:00 | 0.9 | 135 | | | | | | | | |
| 29/09/2024 | 6:00 | 1.3 | 67.5 | 30/09/2024 | 6:00 | 0.9 | 45 | | | | | | | | |
| 29/09/2024 | 7:00 | 1.3 | 45 | 30/09/2024 | 7:00 | 1.8 | 90 | | | | | | | | |
| 29/09/2024 | 8:00 | 1.8 | 112.5 | 30/09/2024 | 8:00 | 1.8 | 112.5 | | | | | | | | |
| 29/09/2024 | 9:00 | 1.8 | 45 | 30/09/2024 | 9:00 | 1.8 | 90 | | | | | | | | |
| 29/09/2024 | 10:00 | 1.3 | 22.5 | 30/09/2024 | 10:00 | 1.3 | 45 | | | | | | | | |
| 29/09/2024 | 11:00 | 2.2 | 45 | 30/09/2024 | 11:00 | 1.8 | 22.5 | | | | | | | | |
| 29/09/2024 | 12:00 | 1.8 | 135 | 30/09/2024 | 12:00 | 1.8 | 67.5 | | | | | | | | |
| 29/09/2024 | 13:00 | 1.3 | 90 | 30/09/2024 | 13:00 | 1.3 | 112.5 | | | | | | | | |
| 29/09/2024 | 14:00 | 1.3 | 67.5 | 30/09/2024 | 14:00 | 2.2 | 22.5 | | | | | | | | |
| 29/09/2024 | 15:00 | 1.3 | 90 | 30/09/2024 | 15:00 | 1.3 | 90 | | | | | | | | |
| 29/09/2024 | 16:00 | 1.3 | 22.5 | 30/09/2024 | 16:00 | 0.9 | 22.5 | | | | | | | | |
| 29/09/2024 | 17:00 | 1.3 | 90 | 30/09/2024 | 17:00 | 1.3 | 22.5 | | | | | | | | |
| 29/09/2024 | 18:00 | 1.8 | 45 | 30/09/2024 | 18:00 | 0.9 | 22.5 | | | | | | | | |
| 29/09/2024 | 19:00 | 1.8 | 90 | 30/09/2024 | 19:00 | 0.9 | 315 | | | | | | | | |
| 29/09/2024 | 20:00 | 0.9 | 90 | 30/09/2024 | 20:00 | 1.3 | 315 | | | | | | | | |
| 29/09/2024 | 21:00 | 1.3 | 112.5 | 30/09/2024 | 21:00 | 0.9 | 315 | | | | | | | | |
| 29/09/2024 | 22:00 | 0.9 | 202.5 | 30/09/2024 | 22:00 | 0.9 | 247.5 | | | | | | | | |
| 29/09/2024 | 23:00 | 1.3 | 45 | 30/09/2024 | 23:00 | 1.8 | 247.5 | | | | | | | | |

# Appendix H – 24-hr TSP monitoring results and graphical presentation

Location: AM3 – Sky Tower

| Start Date | Weather | Air Temp. (℃) | Atmospheric Pressure (hPa) | Filter weight (g) | | Particulate weight (g) | Elapse Time | | Sampling Time (min) | Flow Rate (cfm) | | Av. Flow ($m^3$/min) | Total vol. ($m^3$) | Conc. ($\mu g/m^3$) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Initial | Final | | Initial | Final | | Initial | Final | | | |
| 02/09/2024 | Sunny | 33.9 | 1007.6 | 14.4538 | 14.5941 | 0.1403 | 2024/9/2 9:24 | 2024/9/3 9:24 | 1440.0 | 48 | 48 | 1.32 | 1898 | 74 |
| 07/09/2024 | Cloudy | 30.6 | 1007.1 | 15.7422 | 15.8313 | 0.0891 | 2024/9/7 13:22 | 2024/9/8 13:22 | 1440.0 | 46 | 46 | 1.27 | 1828 | 49 |
| 13/09/2024 | Sunny | 31.8 | 1005.1 | 14.2681 | 14.3289 | 0.0608 | 2024/9/13 13:36 | 2024/9/14 13:36 | 1440.0 | 46 | 46 | 1.27 | 1822 | 33 |
| 19/09/2024 | Sunny | 32.6 | 1003.2 | 15.6093 | 15.6753 | 0.066 | 2024/9/19 9:33 | 2024/9/20 9:33 | 1440.0 | 48 | 48 | 1.32 | 1898 | 35 |
| 25/09/2024 | Cloudy | 32.2 | 1011.2 | 15.4822 | 15.5912 | 0.109 | 2024/9/25 13:28 | 2024/9/26 13:28 | 1440.0 | 46 | 46 | 1.27 | 1827 | 60 |
| 30/09/2024 | Sunny | 31.9 | 1005.5 | 15.4845 | 15.6421 | 0.1576 | 2024/9/30 10:46 | 2024/10/1 10:46 | 1440.0 | 46 | 46 | 1.27 | 1822 | 86 |

| | |
|---|---|
| Sunny | 86 |
| Minimum | 33 |
| Average | 56 |
| Action Level | 182 |
| Limit Level | 260 |

Location: AM4(A) - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop

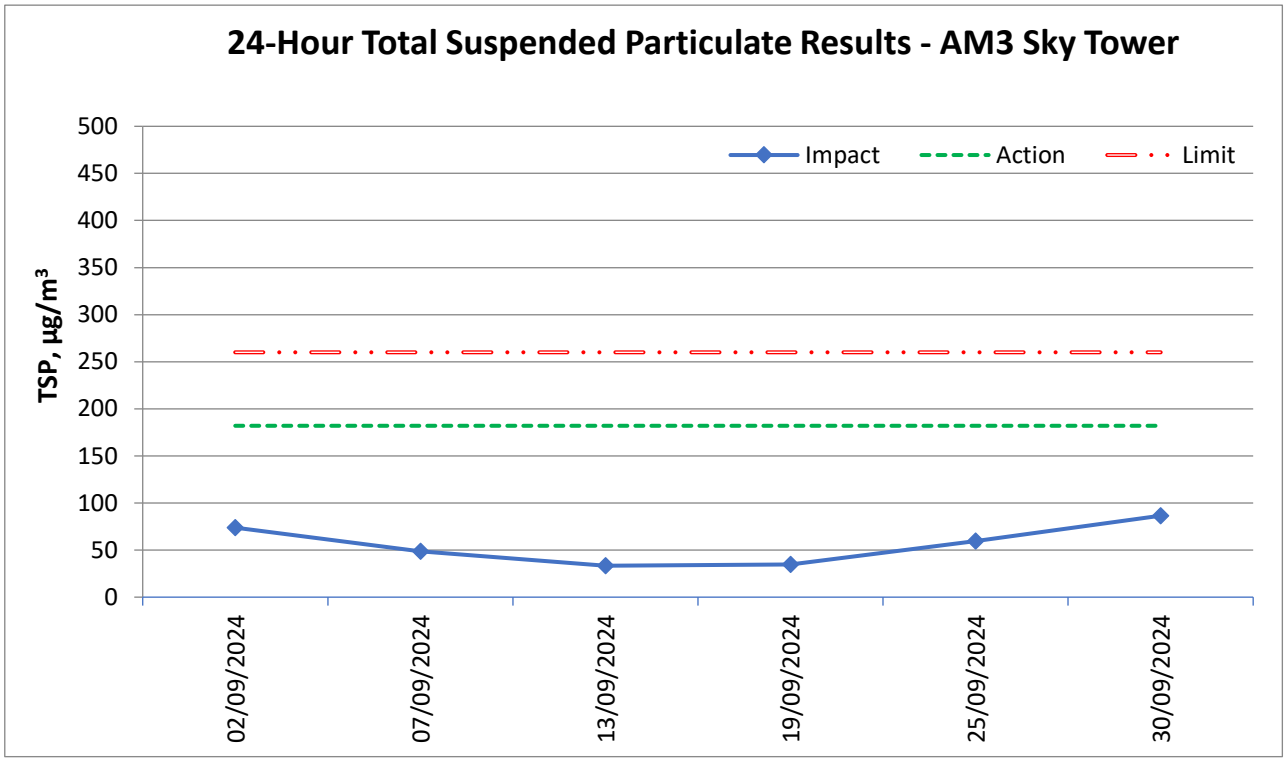
Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (AM4(A)), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. No 24-TSP monitoring was conducted at AM4(A) ET will resume the impact monitoring once the alternative monitoring location for AM4(A) is confirmed.

Location: AM7 – Hong Kong Children's Hospital

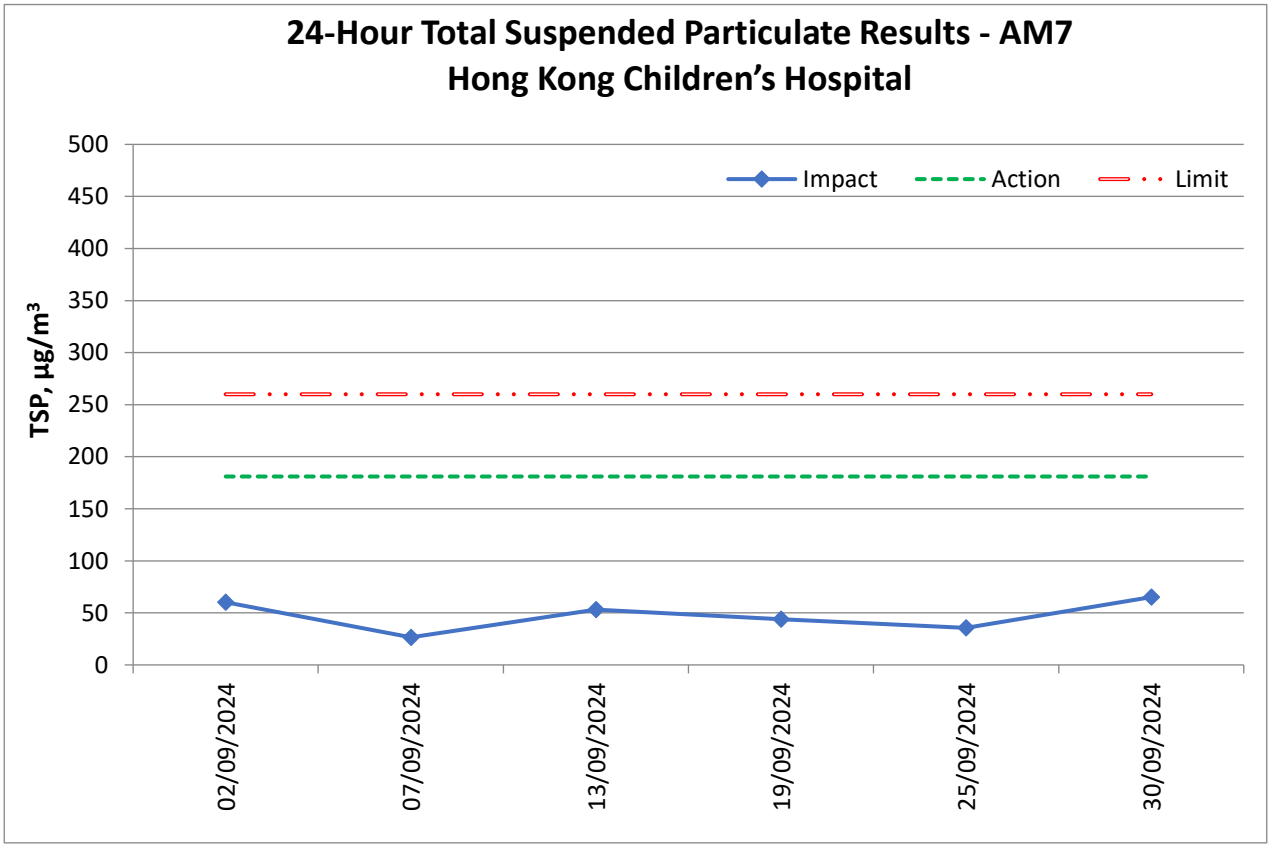
| Start Date | Weather | Air Temp. (℃) | Atmospheric Pressure (hPa) | Filter weight (g) | | Particulate weight (g) | Elapse Time | | Sampling Time (min) | Flow Rate (cfm) | | Av. Flow ($m^3$/min) | Total vol. ($m^3$) | Conc. ($\mu g/m^3$) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Initial | Final | | Initial | Final | | Initial | Final | | | |
| 02/09/2024 | Sunny | 33.9 | 1007.6 | 18.3029 | 18.4205 | 0.1176 | 2024/9/2 9:26 | 2024/9/3 9:26 | 1440.0 | 48 | 48 | 1.36 | 1952 | 60 |
| 07/09/2024 | Cloudy | 30.6 | 1007.1 | 18.3344 | 18.3864 | 0.052 | 2024/9/7 13:37 | 2024/9/8 13:37 | 1440.0 | 48 | 48 | 1.36 | 1962 | 27 |
| 13/09/2024 | Sunny | 31.8 | 1005.1 | 18.2934 | 18.3974 | 0.104 | 2024/9/13 9:29 | 2024/9/14 9:29 | 1440.0 | 48 | 48 | 1.36 | 1956 | 53 |
| 19/09/2024 | Sunny | 32.6 | 1003.2 | 18.6343 | 18.7166 | 0.0823 | 2024/9/19 13:34 | 2024/9/20 13:34 | 1440.0 | 46 | 46 | 1.30 | 1870 | 44 |
| 25/09/2024 | Cloudy | 32.2 | 1011.2 | 18.3922 | 18.4589 | 0.0667 | 2024/9/25 9:35 | 2024/9/26 9:35 | 1440.0 | 46 | 46 | 1.30 | 1879 | 36 |
| 30/09/2024 | Sunny | 31.9 | 1005.5 | 14.4491 | 14.5765 | 0.1274 | 2024/9/30 14:40 | 2024/10/1 14:40 | 1440.0 | 48 | 48 | 1.36 | 1956 | 65 |

| | |
|---|---|
| Sunny | 65 |
| Minimum | 27 |
| Average | 47 |
| Action Level | 181 |
| Limit Level | 260 |

**24-hour average TSP**




Note: Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (AM4(A)), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. No 24-TSP monitoring was conducted at AM4(A). ET will resume the impact monitoring once the alternative monitoring location for AM4(A) is confirmed.



# Appendix I – 1-hr TSP monitoring results and graphical presentation

Location:
**AM3 - Sky Tower**

| Date | Measurement Period | | | 1-hr TSP concentration, $g/m^3$ | Weather |
|---|---|---|---|---|---|
| 02/09/2024 | 9:00 | - | 10:00 | 66 | Sunny |
| | 10:00 | - | 11:00 | 69 | |
| | 11:00 | - | 12:00 | 68 | |
| 07/09/2024 | 13:00 | - | 14:00 | 43 | Cloudy |
| | 14:00 | - | 15:00 | 43 | |
| | 15:00 | - | 16:00 | 46 | |
| 13/09/2024 | 13:00 | - | 14:00 | 40 | Sunny |
| | 14:00 | - | 15:00 | 44 | |
| | 15:00 | - | 16:00 | 44 | |
| 19/09/2024 | 9:00 | - | 10:00 | 31 | Sunny |
| | 10:00 | - | 11:00 | 34 | |
| | 11:00 | - | 12:00 | 35 | |
| 25/09/2024 | 13:00 | - | 14:00 | 60 | Cloudy |
| | 14:00 | - | 15:00 | 68 | |
| | 15:00 | - | 16:00 | 65 | |
| 30/09/2024 | 9:00 | - | 10:00 | 88 | Sunny |
| | 10:00 | - | 11:00 | 88 | |
| | 11:00 | - | 12:00 | 92 | |
| Maximum | | | | 92 | |
| Minimum | | | | 31 | |
| Average | | | | 57 | |
| Action Level | | | | 297 | |
| Limit Level | | | | 500 | |

Location:
**AM4(A) - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop**

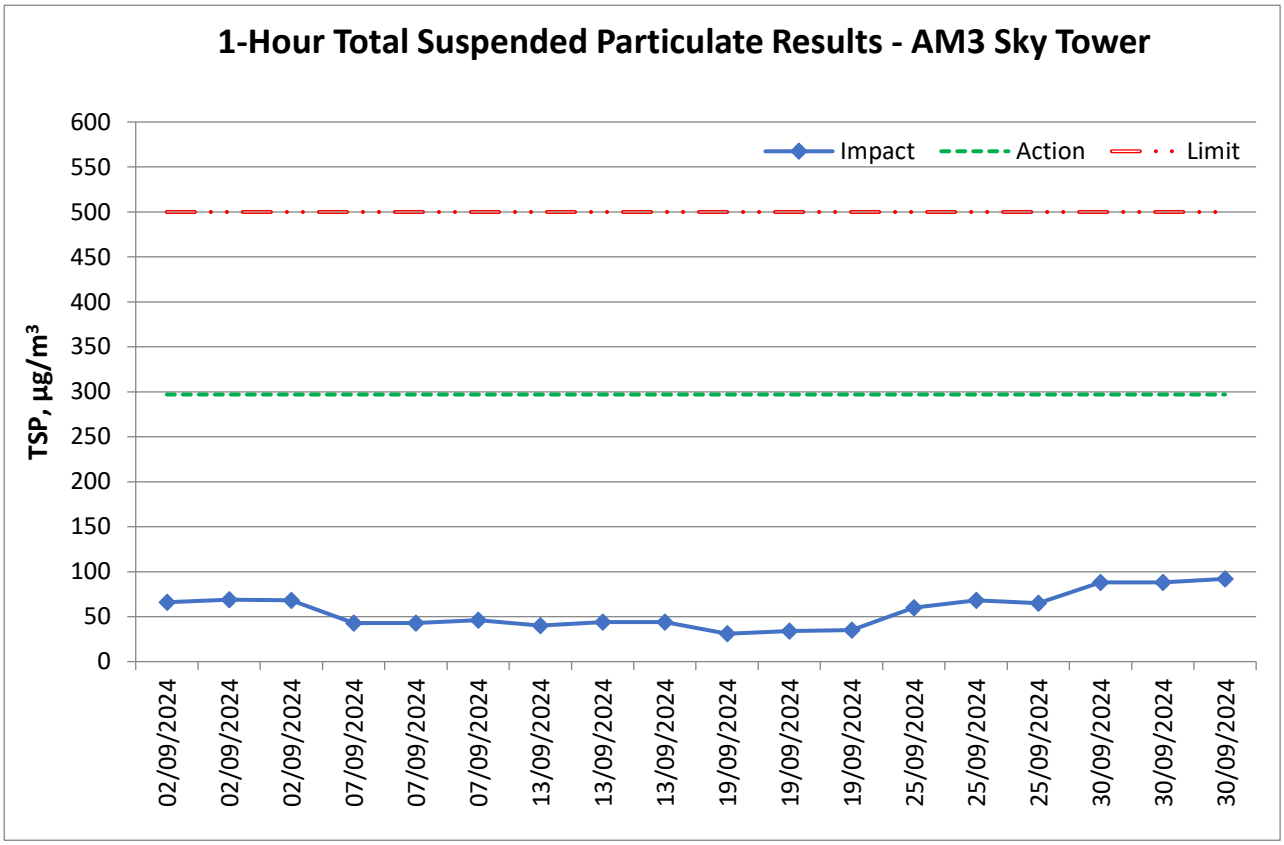
| Date | Measurement Period | | | 1-hr TSP concentration, μg/m$^3$ | Weather |
|---|---|---|---|---|---|
| 02/09/2024 | 13:00 | - | 14:00 | 82 | Sunny |
| | 14:00 | - | 15:00 | 85 | |
| | 15:00 | - | 16:00 | 86 | |
| 07/09/2024 | 9:00 | - | 10:00 | 54 | Cloudy |
| | 10:00 | - | 11:00 | 58 | |
| | 11:00 | - | 12:00 | 58 | |
| 13/09/2024 | 13:00 | - | 14:00 | 55 | Sunny |
| | 14:00 | - | 15:00 | 59 | |
| | 15:00 | - | 16:00 | 63 | |
| 19/09/2024 | 9:00 | - | 10:00 | 67 | Sunny |
| | 10:00 | - | 11:00 | 70 | |
| | 11:00 | - | 12:00 | 74 | |
| 25/09/2024 | 13:00 | - | 14:00 | 72 | Cloudy |
| | 14:00 | - | 15:00 | 77 | |
| | 15:00 | - | 16:00 | 76 | |
| 30/09/2024 | 9:30 | - | 10:30 | 105 | Sunny |
| | 10:30 | - | 11:30 | 106 | |
| | 13:00 | - | 14:00 | 111 | |
| Maximum | | | | 111 | |
| Minimum | | | | 54 | |
| Average | | | | 75 | |
| Action Level | | | | 326 | |
| Limit Level | | | | 500 | |

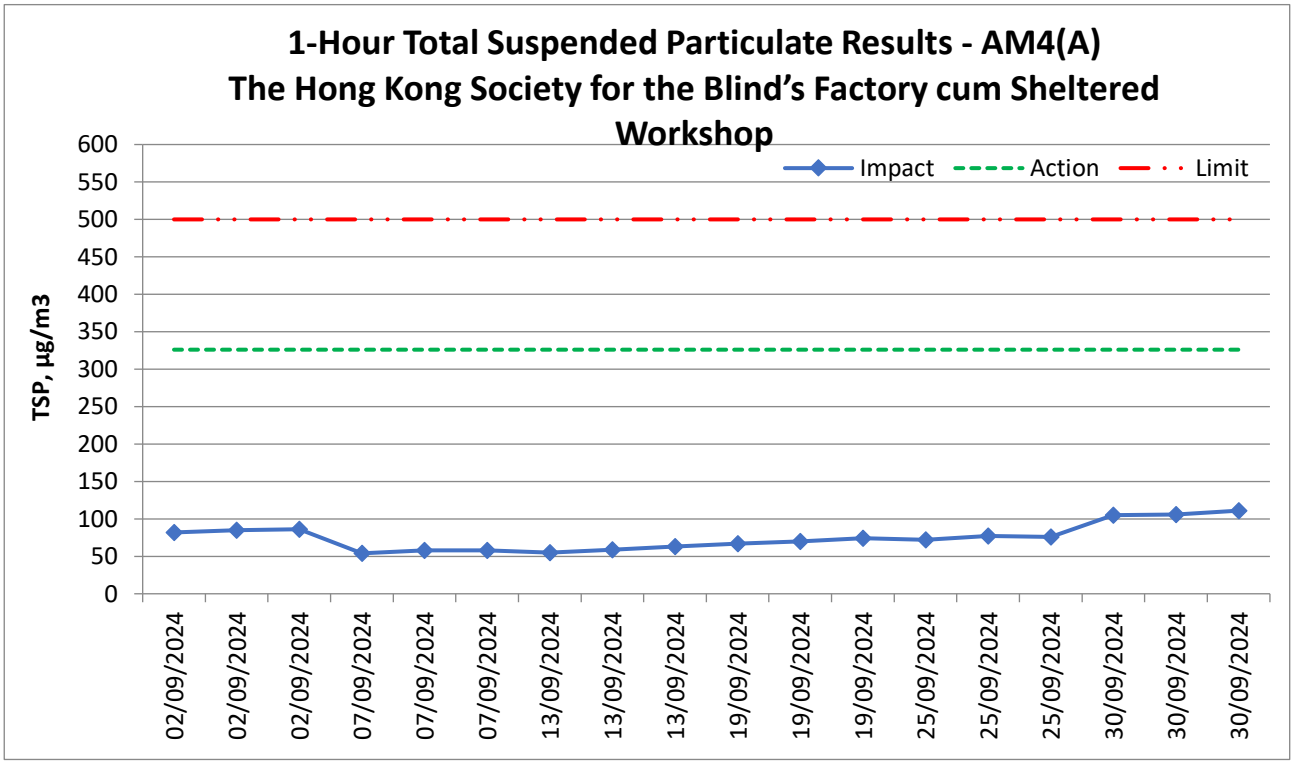
NOTE: Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (AM4(A)), the premises owner rejected ET to conduct impact monitoring since1 Sept 2022. 1-hr TSP monitoring at AM4(A) were conducted on the ground floor with orienting to the Project site. ET will resume the impact monitoring once the alternative monitoring location for AM4(A) is confirmed.

Location:
**AM7 - Hong Kong Children's Hospital**

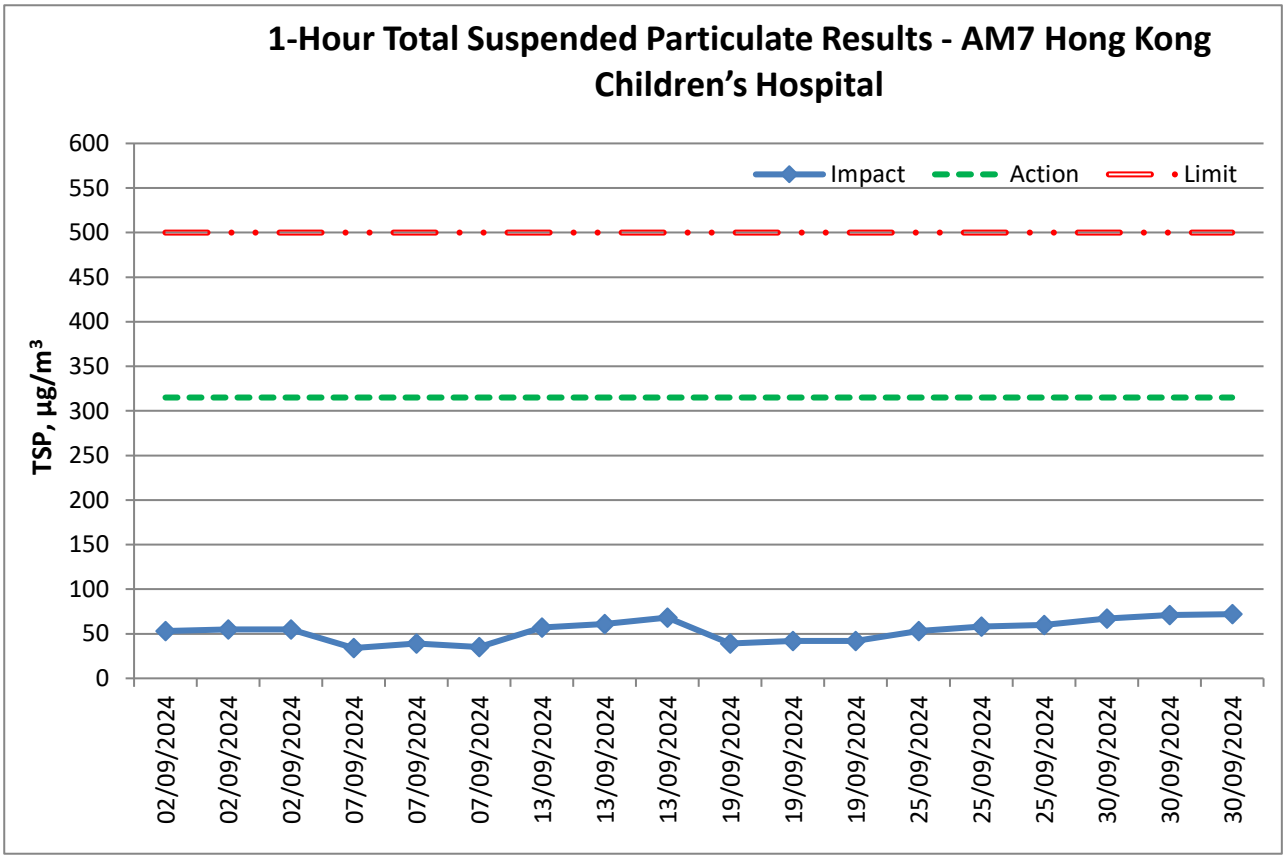
| Date | Measurement Period | | | 1-hr TSP concentration, μg/m$^3$ | Weather |
|---|---|---|---|---|---|
| 02/09/2024 | 9:00 | - | 10:00 | 53 | Sunny |
| | 10:00 | - | 11:00 | 55 | |
| | 11:00 | - | 12:00 | 55 | |
| 07/09/2024 | 13:00 | - | 14:00 | 34 | Cloudy |
| | 14:00 | - | 15:00 | 39 | |
| | 15:00 | - | 16:00 | 35 | |
| 13/09/2024 | 9:00 | - | 10:00 | 57 | Sunny |
| | 10:00 | - | 11:00 | 61 | |
| | 11:00 | - | 12:00 | 68 | |
| 19/09/2024 | 13:00 | - | 14:00 | 39 | Sunny |
| | 14:00 | - | 15:00 | 42 | |
| | 15:00 | - | 16:00 | 42 | |
| 25/09/2024 | 9:00 | - | 10:00 | 53 | Cloudy |
| | 10:00 | - | 11:00 | 58 | |
| | 11:00 | - | 12:00 | 60 | |
| 30/09/2024 | 14:30 | - | 15:30 | 67 | Sunny |
| | 15:30 | - | 16:30 | 71 | |
| | 16:30 | - | 17:30 | 72 | |
| Maximum | | | | 72 | |
| Minimum | | | | 34 | |
| Average | | | | 53 | |
| Action Level | | | | 315 | |
| Limit Level | | | | 500 | |

**1-hour average TSP**




NOTE: Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (AM4(A)), the premises owner rejected ET to conduct impact monitoring since1 Sept 2022. 1-hr TSP monitoring at AM4(A) were conducted on the ground floor with orienting to the Project site. ET will resume the impact monitoring once the alternative monitoring location for AM4(A) is confirmed.


1-Hour Total Suspended Particulate Results - AM7 Hong Kong Children's Hospital
TSP, µg/m³
600
550
500
450
400
350
300
250
200
150
100
50
0
Impact
Action
Limit
02/09/2024
02/09/2024
02/09/2024
07/09/2024
07/09/2024
07/09/2024
13/09/2024
13/09/2024
13/09/2024
19/09/2024
19/09/2024
19/09/2024
25/09/2024
25/09/2024
25/09/2024
30/09/2024
30/09/2024
30/09/2024

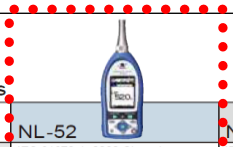
# Appendix J – Event and Action Plan for air quality

| Event | Action | | | |
|---|---|---|---|---|
| | ET | IEC | Supervisor / ER | Contractor |
| Action Level being exceeded by one sampling | 1. Identify source and investigate the causes of exceedance;<br>2. Inform Contractor, IEC and Supervisor /ER;<br>3. Repeat measurement to confirm finding. | 1. Check monitoring data submitted by ET;<br>2. Check Contractor's working method. | 1. Notify Contractor. | 1. Rectify any unacceptable practice;<br>2. Amend working methods if appropriate. |
| Action Level being exceeded by two or more consecutive sampling | 1. Identify source and investigate the causes of exceedance;<br>2. Inform Contractor, IEC and Supervisor /ER;<br>3. Increase monitoring frequency to daily;<br>4. Discuss with IEC and Contractor on remedial actions required;<br>5. Assess the effectiveness of Contractor's remedial actions;<br>6. If exceedance continues, arrange meeting with IEC and Supervisor /ER;<br>7. If exceedance stops, cease additional monitoring. | 1. Check monitoring data submitted by ET;<br>2. Check Contractor's working method;<br>3. Discuss with ET and Contractor on possible remedial measures;<br>4. Advise the Supervisor /ER on the effectiveness of the proposed remedial measures. | 1. Confirm receipt of notification of exceedance in writing;<br>2. Notify Contractor;<br>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;<br>4. Supervise implementation of remedial measures;<br>5. Conduct meeting with ET and IEC if exceedance continues. | 1. Discuss with ET and IEC on proper remedial actions;<br>2. Submit proposals for remedial actions to Supervisor /ER and IEC within three working day of notification;<br>3. Implement the agreed proposals;<br>4. Amend proposal if appropriate. |
| Limit Level being exceeded by one sampling | 1. Identify source and investigate the causes of exceedance;<br>2. Inform Contractor, IEC, Supervisor /ER, and EPD;<br>3. Repeat measurement to confirm finding;<br>4. Assess effectiveness of | 1. Check monitoring data submitted by ET;<br>2. Check Contractor's working method;<br>3. Discuss possible remedial measures with ET and Contractor;<br>4. Advise the Supervisor /ER | 1. Confirm receipt of notification of exceedance in writing;<br>2. Notify Contractor;<br>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be | 1. Take immediate action to avoid further exceedance;<br>2. Discuss with ET and IEC on proper remedial actions;<br>3. Submit proposal for remedial actions to Supervisor /ER and IEC |

| Event | Action | | | |
|---|---|---|---|---|
| | ET | IEC | Supervisor / ER | Contractor |
| | Contractor's remedial actions and keep EPD, IEC and Supervisor /ER informed of the results. | on the effectiveness of the proposed remedial measures. | implemented;<br>4. Supervise implementation of remedial measures;<br>5. Conduct meeting with ET and IEC if exceedance continues. | within three working days of notification;<br>4. Implement the agreed proposals. |
| Limit Level being exceeded by two or more consecutive sampling | 1. Notify IEC, Supervisor /ER, Contractor and EPD;<br>2. Repeat measurement to confirm findings;<br>3. Carry out analysis of Contractor's working procedures to identify source and investigate the causes of exceedance;<br>4. Increase monitoring frequency to daily;<br>5. Arrange meeting with IEC, Supervisor /ER and Contractor to discuss the remedial action to be taken;<br>6. Assess effectiveness of Contractor's remedial actions and keep EPD, IEC and Supervisor /ER informed of the results;<br>7. If exceedance stop, cease additional monitoring. | 1. Check monitoring data submitted by ET;<br>2. Check Contractor's working method;<br>3. Discuss with Supervisor /ER, ET, and Contractor on the potential remedial actions;<br>4. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the Supervisor /ER accordingly. | 1. Confirm receipt of notification of exceedance in writing;<br>2. Notify Contractor;<br>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;<br>4. Supervise implementation of remedial measures;<br>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;<br>2. Discuss with ET and IEC on proper remedial actions;<br>3. Submit proposal for remedial actions to Supervisor /ER and IEC within three working days of notification;<br>4. Implement the agreed proposals;<br>5. Submit further remedial actions if problem still not under control;<br>6. Stop the relevant portion of works as instructed by the Supervisor /ER until the exceedance is abated. |

# Appendix K – Calibration certificates, catalogue of noise monitoring equipment

## Specifications



| | NL-52 | NL-42 |
|---|---|---|
| Applicable standards | IEC 61672-1: 2002 Class 1<br>ANSI S1.4-1983 Type 1<br>ANSI S1.4A-1985 Type 1<br>ANSI S1.43-1997 Type 1<br>JIS C 1509-1: 2005 Class 1 | IEC 61672-1: 2002 Class 2<br>ANSI S1.4-1983 Type 2<br>ANSI S1.4A-1985 Type 2<br>ANSI S1.43-1997 Type 2<br>JIS C 1509-1: 2005 Class 2 |
| | CE Marking (EMC Directive 2004/108/EC, Low Voltage Directive 2006/95/EC), WEEE Directives, Chinese RoHS (export model for China only) | |
| Measurement functions | Simultaneous measurement of the following items, with selected time weighting and frequency weighting | |
| Processing (main ch) | Instantaneous sound pressure level: $L_p$<br>Equivalent continuous sound pressure level: $L_{eq}$<br>Sound exposure level: $L_E$<br>Maximum sound pressure level: $L_{max}$<br>Minimum sound pressure level: $L_{min}$<br>Percentile sound levels: $L_N$ (0.1 to 99.9 %, 0.1-increment steps, max. 5 values) | |
| Processing (sub ch) | Instantaneous sound pressure level: $L_p$ | |
| Additional processing | In addition to main processing items, one of the following can be selected for simultaneous processing:<br>C-weighted equivalent continuous sound level: $L_{Ceq}$<br>C-weighted peak sound level: $L_{Cpeak}$<br>Z-weighted peak sound level: $L_{Zpeak}$<br>Δ-time-weighted equivalent continuous sound level: $L_{A\Delta eq}$ ＊2<br>Maximum Δ-time-weighted equivalent continuous sound level: $L_{A\Delta max}$ ＊2<br>The power average of the maximum level of each 5 second interval: $L_{ATm5}$<br>The frequency weighting for the additional processing synchronizes with the frequency weighting of the sub-channel, so when the sub-channel has A-weighting, $L_{ATm5}$ can be selected.<br>When C-weighting (Z-weighting ) is selected, the additional processing $L_{Ceq}$ and $L_{Cpeak}$ ($L_{Zpeak}$) are selectable. | |
| Measuring time | 10 s, 1, 5, 10, 15, 30 m, 1, 8, 24 h, and manual (maximum 24 h) | |
| Microphone Type | UC-59 | UC-52 |
| Microphone Sensitivity level | −27 dB | −33 dB |
| Measurement range | A-weighting: 25 dB to 138 dB<br>C-weighting: 33 dB to 138 dB<br>Z-weighting: 38 dB to 138 dB<br>C-weighting peak sound level: 55 dB to 141 dB<br>Z-weighting peak sound level: 60 dB to 141 dB | |
| Inherent noise A-weighting | 17 dB or less | 19 dB or less |
| Inherent noise C-weighting | 25 dB or less | 27 dB or less |
| Inherent noise Z-weighting | 30 dB or less | 32 dB or less |
| Frequency range | 20 Hz to 20 kHz | 20 Hz to 8 kHz |
| Frequency weighting | A, C, and Z | |
| Time weighting | F (Fast) and S (Slow) | |
| Level range | Single range (Linearity range: 113 dB) | |
| Bar graph display range max | Max. 110 dB (20 to 130 dB) | |
| Switching of bar graph display | Set the upper/ lower limit in 10 dB increments. | |
| RMS detection circuit | Digital processing method | |
| Sampling cycle | 20.8 μs ($L_p$, $L_{eq}$, $L_E$, $L_{max}$, $L_{min}$, $L_{peak}$ : sampling frequency: 48 kHz)<br>100 ms ($L_N$) | |
| Calibration | Measurement Law: electrical calibration performed according to IEC and JIS standards, using internally generated signals: acoustic calibration performed with the NC-74. | |
| Correction functions | Windscreen correction:<br>Compliant with IEC 61672-1 and JIS C 1509-1 standards when the windscreen is installed. | |
| | Diffuse sound field correction:<br>Correction of frequency characteristics in order to comply with standards (ANSI S1.4) in diffuse sound field. | |
| Delay time | The meter can be set to start measuring a specified time (OFF, 1, 3, 5 or 10 s) after the start button has been pressed or when a user-set trigger is exceeded. | |
| Back erase function | When the PAUSE key is pressed to pause measurement, the preceding (user selectable) 0, 1, 3 or 5 s data are excluded from processing. | |
| Display | Backlit semitransparent color TFT LCD display WQVGA (400 x 240 dots)<br>＊LCD with touch panel (Capacitive Touch Panel) | |
| | Numerical display update frequency: 1 s／Bar graph update frequency: 100 ms | |
| Store Manual | Data for measurement results are stored manually in single address increments. | |
| Number of data | Internal memory: max. 1000 sets<br>SD Card: depends on the capacity of the SD Card＊1 | |
| Auto＊2 | Instantaneous values ($L_p$ mode) and processed values ($L_{eq}$ mode) are stored continuously and automatically at preset intervals. | |
| $L_p$ sampling cycle | 100 ms, 200 ms, 1 s, $L_{eq}$ 1s | |
| $L_{eq}$ sampling cycle | 10 s, 1, 5, 10, 15, 30 ms, 1, 8, 24 h | |
| Measurement Time | Max. 1000 h (depends on the capacity of the SD Card)＊1 | |

| | |
|---|---|
| Data recall | Allows viewing of stored data |
| Setup memory | Up to five setup configurations can be saved in internal memory, for later recall<br>Start up via file settings previously stored on SD card possible |
| Waveform recording＊3 | |
| File format | Uncompressed waveform WAVE file |
| Sampling frequency | Select 48 kHz, 24 kHz or 12 kHz |
| Data length | Select 24 bit or 16 bit |
| Outputs DC output | Output DC signals using a frequency weighting characteristic selected by processing. |
| Output voltage | 2.5 V, 25 mV / dB at bar graph display full scale |
| AC output | Output AC signals using a frequency weighting characteristic selected by processing or by A, C, Z-weighting. |
| Output voltage | 1 V (rms values) at bar graph display full scale |
| Comparator output＊2 | Turns on when the open-collector output exceeds the set value<br>(max. applied voltage 24 V, max. current 60 mA, allowable dissipation 300 mW). |
| USB | Allows USB to be connected to a computer and recognized as a removable disk<br>Allows USB to be controlled via communication commands |
| RS-232C communication | Allows for RS-232C communication via use of a dedicated cable |
| Data continuous output＊2 | |
| Type of data Instantaneous value | $L_p$ |
| Type of data Processed value | $L_{eq}$, $L_{max}$, $L_{min}$, $L_{peak}$ |
| Output interval | 100 ms |
| Print out | Printing of measurement results on dedicated printer DPU-414 |
| Power requirements | Four IEC R6 (size AA) batteries (alkaline or rechargeable batteries) or external power supply |
| Battery life (23 ℃) | Alkaline battery LR6 (AA): 26 h Ni-MH secondary battery: 25 h<br>At the maximum ＊Depends on the setting |
| AC adapter | NC-98C (NC-34 for previous models cannot be used) |
| External power voltage | 5 to 7 V (rated voltage: 6 V) |
| Current consumption | Approximately 90 mA (normal operation, rated voltage) |
| Ambient conditions Temperature | −10 to +50 ℃ |
| Ambient conditions Humidity | 10 to 90 % RH (non-condensing) |
| Dustproof / water-resistant performance＊4 | IP code: IP54 (except for microphone)<br>See precautions regarding waterproofing |
| Dimensions, weight | Approx. 250 (H) x 76 (W) x 33 mm(D); approx. 400 g (with batteries) |
| Supplied accessories | Storage case x 1, Windscreen WS-10 x 1, Windscreen fall prevention rubber x 1, Hand strap x 1, LR6 (AA) alkaline batteries x 4, SD card 512 MB×1 (NX-42EX preinstalled model only) |

## Options

| Product name | Product number |
|---|---|
| Extended function program (Inst.on 512 MB SD card) | NX-42EX |
| Waveform recording program＊2 (Inst.on 2 GB SD card) | NX-42WR |
| Octave, 1/3 octave real-time analysis program＊2 (Inst.on 512 MB SD card) | NX-42RT |
| FFT analysis program＊2 (Inst.on 512 MB SD card) | NX-42FT |
| Data management software for environmental measurement | AS-60 |
| Data management software for environmental measurement (Includes the octave and 1/3 octave data management software) | AS-60RT |
| Data management software for environmental measurement (Includes the vibration level data management software) | AS-60VM |
| Waveform analysis software | CAT-WAVE |
| SD Card 512 MB | SD-512M |
| SD Card 2 GB | SD-2G |
| AC adapter (100 V to 240 V) | NC-98C |
| Battery pack | BP-21 |
| Microphone extension cables | EC-04 (from 2 m) |
| BNC-Pin output code | CC-24 |
| Comparator output cable | CC-42C |
| Printer | DPU-414 |
| Printer cable | CC-42P |
| RS 232C serial I/O cable | CC-42R |
| USB cable | — |
| Sound calibrator | NC-74 |
| All-weather windscreen | WS-15 |
| Windscreen mounting adapter | WS-15006 |
| Rain-protection windscreen | WS-16 |
| Sound level meter tripod | ST-80 |
| All-weather windscreen tripod | ST-81 |

＊1 Use Rion fully guaranteed products. ＊2 NX-42EX required (sold separately). ＊3 NX-42WR required (sold separately).
＊4 Protection against harmful dust and water splashing from any direction.

Precautions regarding waterproofing
Before use, verify that the rubber bottom cover and the battery compartment lid are firmly closed.
To maintain the water and dust proof rating, internal packing replacement is required every two years (at cost).

＊ Windows is a trademark of Microsoft Corporation.
＊ Specifications subject to change without notice.

ISO 14001 RION CO., LTD.
ISO 9001 RION CO., LTD.

Distributed by:

RION CO., LTD.
http://www.rion.co.jp/english/
3-20-41, Higashimotomachi, Kokubunji, Tokyo 185-8533, Japan
Tel: +81-42-359-7888 Fax: +81-42-359-7442

This product is environment-friendly. It does not include toxic chemicals on our policy.
This product is certified to an International Protection rating of IP54 (dust protected and resistant to splashing water).
This leaflet is printed with environmentally friendly vegetable-based ink on recycled paper.

1011-4 1212.PD

# Calibration Certificate of Sound Level Meter

AAST-SLM-10
cal Date: 29 July 2024

中国赛宝实验室计量检测中心
(工业和信息化部电子第五研究所计量检测中心)
CHINA CEPREI LABORATORY CALIBRATION & TESTING CENTRE

## 校 准 证 书
## CALIBRATION CERTIFICATE

证书编号：2HB24001410-0001
Certificate No.

CNAS 中国认可 国际互认 校准 CALIBRATION CNAS L13344

| | |
|---|---|
| 委托单位：Client | Castco Testing Centre Limited |
| 仪器名称：Description | Sound Level Meter |
| 型号规格：Model/Type | NL-52 |
| 制造商：Manufacturer | Rion |
| 机身号：Serial No. | 00976203 |
| 管理号：Asset No. | AAST-SLM-10 |
| 接收日期：Rec. Date | 2024-07-18 |
| 校准日期：Cal. Date | 2024-07-29 |
| 签发日期：App. Date | 2024-07-30 |
| 建议校准周期：Reference Cal. Period | 12个月(12 months) |
| 结论：Conclusion | 所校准项目符合技术要求(The calibrated items meet the technical requirements) |

校准：Calibrated by 赵文钰　　核验：Inspected by 钟灏

签发：Approved by 郑术力　　印章：Stamp

扫一扫查真伪


赛宝计量检测中心
总部地址：广州市增城区朱村街朱大道西78号
实验室地址：广州市增城区朱村街朱大道西78号
客服电话：020-87237633 传真：020-87236189
投诉电话：020-87236896
邮件：cal@ceprei.com
网址：www.ceprei-cal.com

CEPREI Calibration and Testing Centre
HQ Addr: No.78,Zhucun Avenue West,Zengcheng District,Guangzhou,China
Add. of the Lab: No.78,Zhucun Avenue West,Zengcheng District,Guangzhou,China
Service Tel: 020-87237633 Fax: 020-87236189
Complaint Tel: 020-87236896
Email: cal@ceprei.com
Website: www.ceprei-cal.com




证书编号(Certificate No.): 2HB24001410-0001

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This laboratory is the legal metrological institute authorized by the State Administration for Market Regulation. It is the "Nation Metrology Station of Combined Environmental Testing Equipment". It is the "No. 4412 Class 2 Metrology Station of Science, Technology and Industry for National Defense" authorized by the State Administration of Science, Technology and Industry for National Defense. The quality management system of this laboratory is in accordance with the ISO/IEC 17025:2017.

2. 本证书中的数据可溯源到国际单位制（SI）单位和/或社会公用计量标准。
The data of the certificate is traceable to the International system of Units（SI）and/or the public metrological standards.

3. 本次校准的技术依据及CNAS认可范围(Reference documents and CNAS accredited scopes)：
* JJG 188-2017 声级计检定规程；Sound pressure level：(20～130)dB；Frequency Weighting：(20～130)dB，(10 Hz～20kHz)
* 详细内容请查看CNAS网站中注册编号为L13344的证书附件，超出范围的内容未被认可，其结果/结论所依据的合格评定活动不在认可范围内。(Please see the attachment of certificate No. L13344 at CNAS website for details, beyond which is not accredited, the conformity assessment activities on which the results/conclusions are based are outside the scope of accreditation.)

4. 本次校准所使用的主要测量标准及溯源性声明(The main measurement standards used during the calibration and traceability declaration)：

| 名 称 (Description) | 证书号/有效期/溯源单位 (Certificate No./Due Date/Traceability to) | 技术指标 (Specification) | 测量范围 (Measuring Range) |
|---|---|---|---|
| 前置放大器(2239842) | LSsx2024-02588/2025-03-12/中国计量院 | 频率响应：±0.1dB | 10Hz～50kHz |
| 声校准器(2218291) | 4GC23001017-0005/2025-01-29/赛宝(广州) | 1级 | 94dB，124dB@（1000 Hz） |
| 数字多用表(3146A63487) | 4GC23000695-0001/2024-10-25/赛宝(广州) | 直流电压：±0.01%；直流电流：±0.01%；交流电压：±0.1%；电阻：±0.01%；频率：±0.01% | 10mV～100V（10Hz~200 kHz） |
| 功率放大器(2536312) | 4GC23000907-0001/2024-12-14/赛宝(广州) | 失真度：≤0.2%；频率响应：±0.2dB | 20Hz～50kHz |
| PULSE分析系统(3160-100186) | GFJGJL1001231007106/2024-10-24/航空304所 | 频率：$U_{rel}$=0.001%,$k$=2;电压：$U_{rel}$=0.10%,$k$=2 | 频率:0.001Hz~51.2kHz,电压:(1×$10^{-5}$～30)V |
| 正弦信号发生器(2431656) | SXE202301878/2024-11-21/广东计量院 | 频率响应MPE±0.1dB | 10Hz～50kHz |
| 信号发生器(389052) | 4GC24000402-0001/2025-05-13/赛宝(广州) | 1.衰减器：10dB改变量±0.05dB，1dB改变量±0.02dB，0.1dB改变量±0.01dB；2.频率响应±0.1dB；3.失真度≤0.1%；4.频率±0.25%；5.猝发音，持续时间±1% | 1.衰减器：（0~80）dB，2.频率响应：10Hz~100kHz，3.频率：10Hz~20kHz，4.猝发音：持续时间（0.25~2000）ms |
| 耦合腔(3081703) | SXE202483019/2026-02-04/广东计量院 | 失真度：<2%，耦合端一致性：±0.3dB，短期漂移：<0.5dB，工作有效声压级：≥80dB | 10Hz~20kHz |
| 实验室标准传声器(2246093) | GFJGJL1001240306537/2025-03-17/航空304所 | LS级 | 10Hz～25kHz |

计量溯源性声明(Metrological Traceability Declaration)：

| 被校准器具 Instrument | 设备名称 Standard Name | 外部机构/溯源证书编号 Institute/Certificate No. |
|---|---|---|
| Sound Level Meter | 前置放大器 | 中国计量院/LSsx2024-02588 |
| | 声校准器 | 航空304所/GFJGJL1001230304185 |
| | 数字多用表 | 广东计量院/DBN202260767 |
| | 功率放大器 | 航空304所/GFJGJL1001231007106 |
| | PULSE分析系统 | 航空304所/GFJGJL1001231007106 |
| | 正弦信号发生器 | 广东计量院/SXE202301878 |
| | 信号发生器 | 航天514所/GFJGJL1004240400235 |
| | 耦合腔 | 广东计量院/SXE202483019 |

Sound Level Meter | 实验室标准传声器 | 航空304所/GFJGJL1001240306537

**5. 校准地点(The calibration place)：**
广州市增城区朱村街朱村大道西78号9栋110室

**6. 环境条件(Environmental conditions)：**
温度(Temperature)：23.3℃　　相对湿度(Relative Humidity)：66%　　其它(Other)：/

**7. 本证书中给出的扩展不确定度依据JJF1059.1-2012《测量不确定度评定与表示》评定，由合成标准不确定度乘以包含概率约为95%时对应的包含因子k得到。**
The extended uncertainty given in this certificate is evaluated according to JJF1059.1-2012 "Evaluation and Expression of Uncertainty in Measurement", and is calculated by multiplying the combined standard uncertainty by the coverage factor $k$ which corresponding to the coverage probability about 95%.

**8. 证书中"P"、"合格"代表"测量结果在允许范围内"，"F"、"不合格"代表"测量结果不在允许范围内"，"N/A"代表"不适用或技术指标暂时无法确认等"。本证书报告的结论仅供参考，使用人员应结合实际测量的要求合理使用，如考虑测量结果测量不确定度的影响等。**
"P" and "Pass" in this certificate stand for "Low Limit≤the measured value ≤High Limit", "F" and "Fail" stand for "the measured value＜Low Limit or the measured value＞High Limit", "N/A" stands for "Not Applicable or The technical specification has not been confirmed etc".The conclusions of this certificate are for reference only. Users should use them reasonably according to the actual measurement requirements, such as considering the impact of measurement uncertainty, etc.

**9. 建议校准周期是本实验室依据本证书报告的技术依据和仪器设备常规使用条件给出的建议，供委托方参考。委托方可以根据实际使用情况自行决定样品的校准周期。**
The reference calibration period is based on the reference documents and normal operating conditions of the calibrated instrument. It is only for reference. The client may decide the calibration period of the instrument according to the actual use.

注: 1.本证书未经本机构书面授权，不得部分复制。(The certificate shall not be partly reproduced without written approval of the laboratory.)
2.本次校准结果仅与被校物有关。(The results are only related to the items calibrated.)
3."委托方"、"委托方联络信息"由委托方提供，"制造厂"、"型号规格"、"出厂编号"以及"设备编号"为仪器上标注，委托方对上面内容如有异议，须在收到证书后二十个工作日内提出。
The information Client and Contact Information are provided by client, and the Manufacurer, Model/Type, Serial No. and Equipment No. are marked on the items.Client shall submit any objection within 20 working days after receiving the certificate for the information above.



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证书编号(Certificate No.)：2HB24001410-0001

1 外观与工作正常性检查 (Appearance and Function Check)
无影响证书中测量结果准确度的因素和缺陷。
There are no factor and defect that affect the measurement result accuracy of the certificate.

2 指示声级调整 (Indication SPL Calibration)　　频率(Frequency)=1000Hz

| 传声器型号 (Microphone Type) | 传声器编号 (Microphone SN.) | 放大器型号 (Preamplifier Type) | 放大器编号 (Preamplifier SN.) |
|---|---|---|---|
| / | / | / | / |

| 声校准器型号 (Calibrator Type) | 标准声压级 (Reference SPL.) (dB) | 调整前示值 (Before Adjust) (dB) | 调整后示值 (After Adjust) (dB) |
|---|---|---|---|
| 4231 | 94.0 | 94.0 | 94.0 |

3 级线性 (Level Linearity)
3.1 参考级量程 (Reference Range)　　频率(Frequency): 8000Hz

| 标准声级 (Standard) (dB) | 指示声级 (Indication) (dB) | 误差 (Error) (dB) | 允许误差 (Limit) (dB) | 结论 (Pass/Fail) (P/F) | U (k=2) (dB) |
|---|---|---|---|---|---|
| 130.0 | 130.1 | 0.1 | ±0.8 | P | 0.3 |
| 129.0 | 129.1 | 0.1 | ±0.8 | P | 0.3 |
| 128.0 | 128.1 | 0.1 | ±0.8 | P | 0.3 |
| 127.0 | 127.1 | 0.1 | ±0.8 | P | 0.3 |
| 126.0 | 126.0 | 0.0 | ±0.8 | P | 0.3 |
| 125.0 | 125.0 | 0.0 | ±0.8 | P | 0.3 |
| 120.0 | 119.9 | -0.1 | ±0.8 | P | 0.3 |
| 110.0 | 110.0 | 0.0 | ±0.8 | P | 0.3 |
| 100.0 | 100.0 | 0.0 | ±0.8 | P | 0.3 |
| 90.0 | 90.0 | 0.0 | ±0.8 | P | 0.3 |
| 80.0 | 80.0 | 0.0 | ±0.8 | P | 0.3 |
| 70.0 | 70.0 | 0.0 | ±0.8 | P | 0.3 |
| 60.0 | 60.0 | 0.0 | ±0.8 | P | 0.3 |
| 50.0 | 50.0 | 0.0 | ±0.8 | P | 0.3 |
| 40.0 | 40.0 | 0.0 | ±0.8 | P | 0.3 |
| 35.0 | 35.2 | 0.2 | ±0.8 | P | 0.3 |
| 34.0 | 34.2 | 0.2 | ±0.8 | P | 0.3 |
| 33.0 | 33.2 | 0.2 | ±0.8 | P | 0.3 |
| 32.0 | 32.2 | 0.2 | ±0.8 | P | 0.3 |
| 31.0 | 31.2 | 0.2 | ±0.8 | P | 0.3 |
| 30.0 | 30.2 | 0.2 | ±0.8 | P | 0.3 |

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证书编号(Certificate No.)：2HB24001410-0001

3.2 其它级量程 (Other Range)

频率(Frequency): 1000Hz

| 标准声级 (Standard) (dB) | 指示声级 (Indication) (dB) | 误差 (Error) (dB) | 允许误差 (Limit) (dB) | 结论 (Pass/Fail) (P/F) | U (k=2) (dB) |
|---|---|---|---|---|---|
| 130.0 | 130.1 | 0.1 | ±0.8 | P | 0.3 |
| 129.0 | 129.1 | 0.1 | ±0.8 | P | 0.3 |
| 128.0 | 128.1 | 0.1 | ±0.8 | P | 0.3 |
| 127.0 | 127.1 | 0.1 | ±0.8 | P | 0.3 |
| 126.0 | 126.0 | 0.0 | ±0.8 | P | 0.3 |
| 125.0 | 125.0 | 0.0 | ±0.8 | P | 0.3 |
| 120.0 | 119.9 | -0.1 | ±0.8 | P | 0.3 |
| 110.0 | 110.0 | 0.0 | ±0.8 | P | 0.3 |
| 100.0 | 99.9 | -0.1 | ±0.8 | P | 0.3 |
| 90.0 | 90.0 | 0.0 | ±0.8 | P | 0.3 |
| 80.0 | 80.0 | 0.0 | ±0.8 | P | 0.3 |
| 70.0 | 70.0 | 0.0 | ±0.8 | P | 0.3 |
| 60.0 | 60.0 | 0.0 | ±0.8 | P | 0.3 |
| 50.0 | 50.0 | 0.0 | ±0.8 | P | 0.3 |
| 40.0 | 39.9 | -0.1 | ±0.8 | P | 0.3 |
| 35.0 | 35.1 | 0.1 | ±0.8 | P | 0.3 |
| 34.0 | 34.1 | 0.1 | ±0.8 | P | 0.3 |
| 33.0 | 33.1 | 0.1 | ±0.8 | P | 0.3 |
| 32.0 | 32.1 | 0.1 | ±0.8 | P | 0.3 |
| 31.0 | 31.1 | 0.1 | ±0.8 | P | 0.3 |
| 30.0 | 30.1 | 0.1 | ±0.8 | P | 0.3 |



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证书编号(Certificate No.)：2HB24001410-0001

4 A计权特性(A-Weighting Characteristic)

| 频率 (Frequency) (Hz) | 实测值 (Actual) (dB) | 理论值 (Theoretical value) (dB) | 误差 (Error) (dB) | 允许误差 (Limit) (dB) | 结论 (Pass/Fail) (P/F) | U (k=2) (dB) |
|---|---|---|---|---|---|---|
| 10 | -70.8 | -70.4 | -0.4 | -∞ ~ 3.0 | P | 0.5 |
| 16 | -57.0 | -56.7 | -0.3 | -4.0 ~ 2.0 | P | 0.5 |
| 31.5 | -39.7 | -39.4 | -0.3 | ±1.5 | P | 0.5 |
| 63 | -26.1 | -26.2 | 0.1 | ±1.0 | P | 0.5 |
| 125 | -16.1 | -16.1 | 0.0 | ±1.0 | P | 0.5 |
| 250 | -8.9 | -8.6 | -0.3 | ±1.0 | P | 0.5 |
| 500 | -3.4 | -3.2 | -0.2 | ±1.0 | P | 0.4 |
| 1000(Ref.) | 0.0 | 0.0 | 0.0 | ±0.7 | P | 0.4 |
| 2000 | 1.1 | 1.2 | -0.1 | ±1.0 | P | 0.6 |
| 4000 | 0.7 | 1.0 | -0.3 | ±1.0 | P | 0.6 |
| 8000 | -1.0 | -1.1 | 0.1 | -2.5 ~ 1.5 | P | 0.6 |
| 16000 | -7.6 | -6.6 | -1.0 | -16.0 ~ 2.5 | P | 1.0 |
| 20000 | -14.4 | -9.3 | -5.1 | -∞ ~ 3.0 | P | 1.0 |

5 C计权特性(C-Weighting Characteristic)

| 频率 (Frequency) (Hz) | 实测值 (Actual) (dB) | 理论值 (Theoretical value) (dB) | 误差 (Error) (dB) | 允许误差 (Limit) (dB) | 结论 (Pass/Fail) (P/F) | U (k=2) (dB) |
|---|---|---|---|---|---|---|
| 10 | -14.8 | -14.3 | -0.5 | -∞ ~ 3.0 | P | 0.5 |
| 16 | -8.9 | -8.5 | -0.4 | -4.0 ~ 2.0 | P | 0.5 |
| 31.5 | -3.2 | -3.0 | -0.2 | ±1.5 | P | 0.5 |
| 63 | -1.1 | -0.8 | -0.3 | ±1.0 | P | 0.5 |
| 125 | -0.2 | -0.2 | 0.0 | ±1.0 | P | 0.5 |
| 250 | 0.0 | 0.0 | 0.0 | ±1.0 | P | 0.5 |
| 500 | 0.0 | 0.0 | 0.0 | ±1.0 | P | 0.4 |
| 1000(Ref.) | 0.0 | 0.0 | 0.0 | ±0.7 | P | 0.4 |
| 2000 | -0.3 | -0.2 | -0.1 | ±1.0 | P | 0.6 |
| 4000 | -0.8 | -0.8 | 0.0 | ±1.0 | P | 0.6 |
| 8000 | -2.9 | -3.0 | 0.1 | -2.5 ~ 1.5 | P | 0.6 |
| 16000 | -10.0 | -8.5 | -1.5 | -16.0 ~ 2.5 | P | 1.0 |
| 20000 | -16.4 | -11.2 | -5.2 | -∞ ~ 3.0 | P | 1.0 |

6 自生噪声 (Autogenous noise)

| 计权 (Weighting) | 实测值 (Actual) (dB) |
|---|---|
| A | 19.6 |

AAST-SLM-11
Cal Date: 29 July 2024

CEPREI

中国赛宝实验室计量检测中心
(工业和信息化部电子第五研究所计量检测中心)
CHINA CEPREI LABORATORY CALIBRATION & TESTING CENTRE

# 校 准 证 书
# CALIBRATION CERTIFICATE

证书编号: 2HB24001410-0002
Certificate No.

CNAS 中国认可 国际互认 校准 CALIBRATION CNAS L13344

| | |
|---|---|
| 委托单位: Client | Castco Testing Centre Limited |
| 仪器名称: Description | Sound Level Meter |
| 型号规格: Model/Type | NL-52 |
| 制造商: Manufacturer | Rion |
| 机身号: Serial No. | 00976204 |
| 管理号: Asset No. | AAST-SLM-11 |
| 接收日期: Rec. Date | 2024-07-18 |
| 校准日期: Cal. Date | 2024-07-29 |
| 签发日期: App. Date | 2024-07-30 |
| 建议校准周期: Reference Cal. Period | 12个月(12 months) |
| 结论: Conclusion | 所校准项目符合技术要求(The calibrated items meet the technical requirements) |

校准: Calibrated by 赵文钰
核验: Inspected by 钟灏
签发: Approved by 郑术力
印章: Stamp

扫一扫查真伪

赛宝计量检测中心
总部地址：广州市增城区朱村街朱村大道西78号
实验室地址：广州市增城区朱村街朱村大道西78号
客服电话：020-87237633 传真：020-87236189
投诉电话：020-87236896
邮件：cal@ceprei.com
网址：www.ceprei-cal.com

CEPREI Calibration and Testing Centre
HQ Addr: No.78,Zhucun Avenue West,Zengcheng District,Guangzhou,China
Add. of the Lab: No.78,Zhucun Avenue West,Zengcheng District,Guangzhou,China
Service Tel: 020-87237633 Fax: 020-87236189
Complaint Tel: 020-87236896
Email: cal@ceprei.com
Website: www.ceprei-cal.com





# 说 明
# DIRECTIONS

1. 本机构是国家市场监管总局授权建立的法定计量检定机构："国家环境综合试验设备计量站"，国家国防科工局授权建立的"国防科技工业4412二级计量站"，本机构质量管理体系符合ISO/IEC 17025:2017标准的要求。
This laboratory is the legal metrological institute authorized by the State Administration for Market Regulation. It is the "Nation Metrology Station of Combined Environmental Testing Equipment". It is the "No. 4412 Class 2 Metrology Station of Science, Technology and Industry for National Defense" authorized by the State Administration of Science, Technology and Industry for National Defense. The quality management system of this laboratory is in accordance with the ISO/IEC 17025:2017.

2. 本证书中的数据可溯源到国际单位制（SI）单位和/或社会公用计量标准。
The data of the certificate is traceable to the International system of Units（SI）and/or the public metrological standards.

3. 本次校准的技术依据及CNAS认可范围(Reference documents and CNAS accredited scopes)：
- JJG 188-2017 声级计检定规程；Sound pressure level：(20～130)dB；Frequency Weighting：(20～130)dB，(10 Hz～20kHz)
- 详细内容请查看CNAS网站中注册编号为L13344的证书附件，超出范围的内容未被认可。其结果/结论所依据的合格评定活动不在认可范围内。(Please see the attachment of certificate No. L13344 at CNAS website for details, beyond which is not accredited, the conformity assessment activities on which the results/conclusions are based are outside the scope of accreditation.)

4. 本次校准所使用的主要测量标准及溯源性声明(The main measurement standards used during the calibration and traceability declaration)：

| 名 称 (Description) | 证书号/有效期/溯源单位 (Certificate No./Due Date/Traceability to) | 技术指标 (Specification) | 测量范围 (Measuring Range) |
|---|---|---|---|
| 前置放大器(2239842) | LSsx2024-02588/2025-03-12/中国计量院 | 频率响应：±0.1dB | 10Hz～50kHz |
| 声校准器(2218291) | 4GC23001017-0005/2025-01-29/赛宝(广州) | 1级 | 94dB，124dB@（1000 Hz） |
| 数字多用表(3146A63487) | 4GC23000695-0001/2024-10-25/赛宝(广州) | 直流电压：±0.01%；直流电流：±0.01%；交流电压：±0.1%；电阻：±0.01%；频率：±0.01% | 10mV～100V（10Hz～200 kHz） |
| 功率放大器(2536312) | 4GC23000907-0001/2024-12-14/赛宝(广州) | 失真度：≤0.2%；频率响应：±0.2dB | 20Hz～50kHz |
| PULSE分析系统(3160-100186) | GFJGJL100123100710 6/2024-10-24/航空304所 | 频率:$U_{rel}$=0.001%,k=2;电压:$U_{rel}$=0.10%,k=2 | 频率:0.001Hz～51.2kHz,电压:(1×10$^{-5}$～30)V |
| 正弦信号发生器(2431656) | SXE202301878/2024-11-21/广东计量院 | 频率响应MPE±0.1dB | 10Hz～50kHz |
| 信号发生器(389052) | 4GC24000402-0001/2025-05-13/赛宝(广州) | 1.衰减器：10dB改变量±0.05dB，1dB改变量±0.02dB，0.1dB改变量±0.01dB；2.频率响应±0.1dB；3.失真度≤0.1%；4.频率±0.25%；5.猝发音，持续时间±1% | 1.衰减器：（0～80）dB，2.频率响应：10Hz～100kHz，3.频率：10Hz～20kHz，4.猝发音：持续时间（0.25～2000）ms |
| 耦合腔(3081703) | SXE202483019/2026-02-04/广东计量院 | 失真度：<2%，耦合端一致性：±0.3dB，短期漂移：<0.5dB，工作有效声压级：≥80dB | 10Hz～20kHz |
| 实验室标准传声器(2246093) | GFJGJL100124030653 7/2025-03-17/航空304所 | LS级 | 10Hz～25kHz |

计量溯源性声明(Metrological Traceability Declaration)：

| 被校准器具 Instrument | 设备名称 Standard Name | 外部机构/溯源证书编号 Institute/Certificate No. |
|---|---|---|
| Sound Level Meter | 前置放大器 | 中国计量院/LSsx2024-02588 |
| | 声校准器 | 航空304所/GFJGJL1001230304185 |
| | 数字多用表 | 广东计量院/DBN202260767 |
| | 功率放大器 | 航空304所/GFJGJL1001231007106 |
| | PULSE分析系统 | 航空304所/GFJGJL1001231007106 |
| | 正弦信号发生器 | 广东计量院/SXE202301878 |
| | 信号发生器 | 航天514所/GFJGJL1004240400235 |
| | 耦合腔 | 广东计量院/SXE202483019 |

Sound Level Meter　实验室标准传声器　航空304所/GFJGJL1001240306537

**5. 校准地点(The calibration place)：**
广州市增城区朱村街朱村大道西78号9栋110室

**6. 环境条件(Environmental conditions)：**
温度(Temperature)：23.3℃　相对湿度(Relative Humidity)：66%　其它(Other)：/

**7. 本证书中给出的扩展不确定度依据JJF1059.1-2012《测量不确定度评定与表示》评定，由合成标准不确定度乘以包含概率约为95%时对应的包含因子*k*得到。**
The extended uncertainty given in this certificate is evaluated according to JJF1059.1-2012 "Evaluation and Expression of Uncertainty in Measurement", and is calculated by multiplying the combined standard uncertainty by the coverage factor *k* which corresponding to the coverage probability about 95%.

**8. 证书中"P"、"合格"代表"测量结果在允许范围内"，"F"、"不合格"代表"测量结果不在允许范围内"，"N/A"代表"不适用或技术指标暂时无法确认等"。本证书报告的结论仅供参考，使用人员应结合实际测量的要求合理使用，如考虑测量结果测量不确定度的影响等。**
"P" and "Pass" in this certificate stand for "Low Limit≤the measured value ≤High Limit", "F" and "Fail" stand for "the measured value＜Low Limit or the measured value＞High Limit", "N/A" stands for "Not Applicable or The technical specification has not been confirmed etc".The conclusions of this certificate are for reference only. Users should use them reasonably according to the actual measurement requirements, such as considering the impact of measurement uncertainty, etc.

**9. 建议校准周期是本实验室依据本证书报告的技术依据和仪器设备常规使用条件给出的建议，供委托方参考。委托方可以根据实际使用情况自行决定样品的校准周期。**
The reference calibration period is based on the reference documents and normal operating conditions of the calibrated instrument. It is only for reference. The client may decide the calibration period of the instrument according to the actual use.


2.本次校准结果仅与被校物有关。(The results are only related to the items calibrated.)
3."委托方"、"委托方联络信息"由委托方提供，"制造厂"、"型号规格"、"出厂编号"以及"设备编号"为仪器上标注，委托方对上面内容如有异议，须在收到证书后二十个工作日内提出。
The information Client and Contact Information are provided by client, and the Manufacurer, Model/Type, Serial No. and Equipment No. are marked on the items.Client shall submit any objection within 20 working days after receiving the certificate for the information above.



CEPREI　证书编号(Certificate No.)：2HB24001410-0002

1 外观与工作正常性检查 (Appearance and Function Check)
无影响证书中测量结果准确度的因素和缺陷。
There are no factor and defect that affect the measurement result accuracy of the certificate.

2 指示声级调整 (Indication SPL Calibration)　频率(Frequency)=1000Hz

| 传声器型号 (Microphone Type) | 传声器编号 (Microphone SN.) | 放大器型号 (Preamplifier Type) | 放大器编号 (Preamplifier SN.) |
|---|---|---|---|
| / | / | / | / |

| 声校准器型号 (Calibrator Type) | 标准声压级 (Reference SPL) (dB) | 调整前示值 (Before Adjust) (dB) | 调整后示值 (After Adjust) (dB) |
|---|---|---|---|
| 4231 | 94.0 | 94.4 | 94.0 |

3 级线性 (Level Linearity)
3.1 参考级量程 (Reference Range)　频率(Frequency): 8000Hz

| 标准声级 (Standard) (dB) | 指示声级 (Indication) (dB) | 误差 (Error) (dB) | 允许误差 (Limit) (dB) | 结论 (Pass/Fail) (P/F) | *U* (*k*=2) (dB) |
|---|---|---|---|---|---|
| 130.0 | 129.9 | -0.1 | ±0.8 | P | 0.3 |
| 129.0 | 128.9 | -0.1 | ±0.8 | P | 0.3 |
| 128.0 | 127.9 | -0.1 | ±0.8 | P | 0.3 |
| 127.0 | 126.9 | -0.1 | ±0.8 | P | 0.3 |
| 126.0 | 125.9 | -0.1 | ±0.8 | P | 0.3 |
| 125.0 | 124.9 | -0.1 | ±0.8 | P | 0.3 |
| 120.0 | 119.9 | -0.1 | ±0.8 | P | 0.3 |
| 110.0 | 110.0 | 0.0 | ±0.8 | P | 0.3 |
| 100.0 | 100.0 | 0.0 | ±0.8 | P | 0.3 |
| 90.0 | 90.0 | 0.0 | ±0.8 | P | 0.3 |
| 80.0 | 79.9 | -0.1 | ±0.8 | P | 0.3 |
| 70.0 | 69.9 | -0.1 | ±0.8 | P | 0.3 |
| 60.0 | 60.0 | 0.0 | ±0.8 | P | 0.3 |
| 50.0 | 49.9 | -0.1 | ±0.8 | P | 0.3 |
| 40.0 | 39.9 | -0.1 | ±0.8 | P | 0.3 |
| 35.0 | 34.8 | -0.2 | ±0.8 | P | 0.3 |
| 34.0 | 33.8 | -0.2 | ±0.8 | P | 0.3 |
| 33.0 | 32.9 | -0.1 | ±0.8 | P | 0.3 |
| 32.0 | 31.8 | -0.2 | ±0.8 | P | 0.3 |
| 31.0 | 30.8 | -0.2 | ±0.8 | P | 0.3 |
| 30.0 | 29.8 | -0.2 | ±0.8 | P | 0.3 |

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证书编号(Certificate No.)：2HB24001410-0002

3.2 其它级量程 (Other Range)

频率(Frequency): 1000Hz

| 标准声级 (Standard) (dB) | 指示声级 (Indication) (dB) | 误差 (Error) (dB) | 允许误差 (Limit) (dB) | 结论 (Pass/Fail) (P/F) | $U$ ($k$=2) (dB) |
|---|---|---|---|---|---|
| 130.0 | 129.9 | -0.1 | ±0.8 | P | 0.3 |
| 129.0 | 128.9 | -0.1 | ±0.8 | P | 0.3 |
| 128.0 | 127.9 | -0.1 | ±0.8 | P | 0.3 |
| 127.0 | 126.9 | -0.1 | ±0.8 | P | 0.3 |
| 126.0 | 125.9 | -0.1 | ±0.8 | P | 0.3 |
| 125.0 | 124.9 | -0.1 | ±0.8 | P | 0.3 |
| 120.0 | 119.9 | -0.1 | ±0.8 | P | 0.3 |
| 110.0 | 110.0 | 0.0 | ±0.8 | P | 0.3 |
| 100.0 | 100.0 | 0.0 | ±0.8 | P | 0.3 |
| 90.0 | 90.0 | 0.0 | ±0.8 | P | 0.3 |
| 80.0 | 80.0 | 0.0 | ±0.8 | P | 0.3 |
| 70.0 | 70.0 | 0.0 | ±0.8 | P | 0.3 |
| 60.0 | 60.0 | 0.0 | ±0.8 | P | 0.3 |
| 50.0 | 50.0 | 0.0 | ±0.8 | P | 0.3 |
| 40.0 | 40.0 | 0.0 | ±0.8 | P | 0.3 |
| 35.0 | 34.9 | -0.1 | ±0.8 | P | 0.3 |
| 34.0 | 33.9 | -0.1 | ±0.8 | P | 0.3 |
| 33.0 | 32.8 | -0.2 | ±0.8 | P | 0.3 |
| 32.0 | 31.8 | -0.2 | ±0.8 | P | 0.3 |
| 31.0 | 30.8 | -0.2 | ±0.8 | P | 0.3 |
| 30.0 | 29.8 | -0.2 | ±0.8 | P | 0.3 |



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证书编号(Certificate No.)：2HB24001410-0002

4 A计权特性(A-Weighting Characteristic)

| 频率 (Frequency) (Hz) | 实测值 (Actual) (dB) | 理论值 (Theoretical value) (dB) | 误差 (Error) (dB) | 允许误差 (Limit) (dB) | 结论 (Pass/Fail) (P/F) | $U$ ($k$=2) (dB) |
|---|---|---|---|---|---|---|
| 10 | -70.8 | -70.4 | -0.4 | -∞ ~ 3.0 | P | 0.5 |
| 16 | -57.0 | -56.7 | -0.3 | -4.0 ~ 2.0 | P | 0.5 |
| 31.5 | -39.5 | -39.4 | -0.1 | ±1.5 | P | 0.5 |
| 63 | -26.3 | -26.2 | -0.1 | ±1.0 | P | 0.5 |
| 125 | -16.2 | -16.1 | -0.1 | ±1.0 | P | 0.5 |
| 250 | -8.8 | -8.6 | -0.2 | ±1.0 | P | 0.5 |
| 500 | -3.4 | -3.2 | -0.2 | ±1.0 | P | 0.4 |
| 1000(Ref.) | 0.0 | 0.0 | 0.0 | ±0.7 | P | 0.4 |
| 2000 | 1.1 | 1.2 | -0.1 | ±1.0 | P | 0.6 |
| 4000 | 0.7 | 1.0 | -0.3 | ±1.0 | P | 0.6 |
| 8000 | -1.0 | -1.1 | 0.1 | -2.5 ~ 1.5 | P | 0.6 |
| 16000 | -8.7 | -6.6 | -2.1 | -16.0 ~ 2.5 | P | 1.0 |
| 20000 | -18.6 | -9.3 | -9.3 | -∞ ~ 3.0 | P | 1.0 |

5 C计权特性(C-Weighting Characteristic)

| 频率 (Frequency) (Hz) | 实测值 (Actual) (dB) | 理论值 (Theoretical value) (dB) | 误差 (Error) (dB) | 允许误差 (Limit) (dB) | 结论 (Pass/Fail) (P/F) | $U$ ($k$=2) (dB) |
|---|---|---|---|---|---|---|
| 10 | -14.8 | -14.3 | -0.5 | -∞ ~ 3.0 | P | 0.5 |
| 16 | -8.9 | -8.5 | -0.4 | -4.0 ~ 2.0 | P | 0.5 |
| 31.5 | -3.2 | -3.0 | -0.2 | ±1.5 | P | 0.5 |
| 63 | -0.9 | -0.8 | -0.1 | ±1.0 | P | 0.5 |
| 125 | -0.2 | -0.2 | 0.0 | ±1.0 | P | 0.5 |
| 250 | -0.1 | 0.0 | -0.1 | ±1.0 | P | 0.5 |
| 500 | 0.0 | 0.0 | 0.0 | ±1.0 | P | 0.4 |
| 1000(Ref.) | 0.0 | 0.0 | 0.0 | ±0.7 | P | 0.4 |
| 2000 | -0.3 | -0.2 | -0.1 | ±1.0 | P | 0.6 |
| 4000 | -0.8 | -0.8 | 0.0 | ±1.0 | P | 0.6 |
| 8000 | -2.9 | -3.0 | 0.1 | -2.5 ~ 1.5 | P | 0.6 |
| 16000 | -10.6 | -8.5 | -2.1 | -16.0 ~ 2.5 | P | 1.0 |
| 20000 | -20.5 | -11.2 | -9.3 | -∞ ~ 3.0 | P | 1.0 |

6 自生噪声 (Autogenous noise)

| 计权 (Weighting) | 实测值 (Actual) (dB) |
|---|---|
| A | 19.7 |

## For microphone calibration NC-74

### How to use

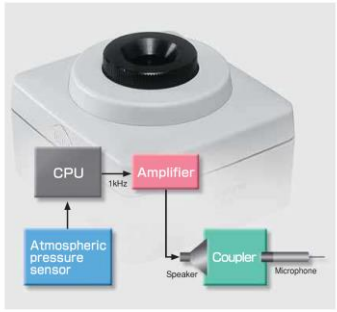
Carefully insert the microphone all the way into the coupler of the NC-74. Then simply turn the power on to apply a constant sound pressure level to the diaphragm of the microphone.

Usage example (NL series)

The performance of the NC-74 is suitable for calibration of high-precision sound level meters. The unit is compact, lightweight, and easy to use. Two IEC LR6 (size AA) alkaline batteries will power the unit for more than 30 hours of continuous use at room temperature.

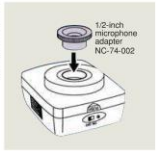
### Atmospheric pressure compensation principle

The NC-74 incorporates a sensor that detects atmospheric pressure. Based on the information provided by the sensor, the CPU controls the signal amplitude. This allows the unit to always provide the correct output for achieving constant sound pressure level, regardless of fluctuations in atmospheric pressure.




### Using the 1/2-inch adapter

To allow calibration of sound level meter microphones with 1 inch diameter, the 1/2-inch microphone adapter can be removed. 1/2-inch microphones are calibrated with the adapter in place.




### Specifications

| | | |
|---|---|---|
| Applicable standards | IEC 60942:2003 Class 1<br>JIS C1515:2004 Class 1 | |
| Suitable microphones | 1-inch microphones | IEC 61094-1 Type LS1P<br>UC-27<br>UC-25<br>UC-34 |
| | 1/2-inch microphones | IEC 61094-1 Type LS2aP<br>UC-59<br>UC-57<br>UC-53A<br>UC-52<br>UC-26<br>UC-30<br>UC-31<br>UC-33P |
| Nominal sound pressure level | 94 dB | |
| Sound pressure level tolerance | ±0.3 dB | |
| Nominal frequency | 1 kHz | |
| Frequency tolerance | ±1.0 % or less | |
| Power requirements | IEC LR6 (size AA) alkaline battery × 2 | |
| Dimensions, mass | Approx. 49 (H) × 80 (W) × 74 (D) mm<br>Approx. 200 g (including batteries) | |
| Supplied accessories | Case × 1<br>IEC LR6 (size AA) alkaline battery × 2<br>1/2-inch microphone adapter NC-74-002 × 1 | |

* Specification subject to change without notice.

ISO 14001 RION CO., LTD.
ISO 9001 RION CO., LTD.

RION CO., LTD.
3-20-41,Higashimotomachi,Kokubunji,Tokyo 185-8533,Japan
Tel: +81-42-359-7888 Fax: +81-42-359-7442
http://www.rion.co.jp/english/

Distributed by:

Printed in Japan 0510-1 0807.P,MP


Usage example

### How to use the adapter

**1-inch microphones**

To use the sound calibrator with 1-inch diameter microphones, remove the 1/2-inch microphone adapter.

**1/2-inch microphones**

To use the sound calibrator with 1/2-inch diameter microphones, the supplied 1/2-inch microphone adapter must be in place.

Make sure the 1/2-inch adapter is locked.

**1/4-inch microphones**

To use the sound calibrator with 1/4-inch diameter microphones, use the supplied 1/2-inch microphone adapter together with the optional 1/4-inch adapter.

Specifications (under standard ambient conditions*)

| | |
|---|---|
| Applicable standards | IEC 60942: 2017 class1, ANSI/ASA S1.40-2006 class1, JIS C 1515: 2004 class 1, CE marking, WEEE directive, Chinese RoHS |
| Supported microphones | Microphones made by RION and microphones made by other manufacturers that meet the IEC 61094-4 size specifications<br>1-inch microphones<br>1/2-inch microphones (with supplied adapter)<br>1/4-inch microphones (with optional adapter) |
| Nominal sound pressure level | 94 dB |
| Sound pressure level tolerance | Max. ±0.20 dB |
| Nominal frequency | 1 000 Hz |
| Frequency tolerance | Max. ±0.1% |
| THD + noise | Max. 1.0 % (22.4 Hz to 22.4 kHz) |
| Dimensions and weight | Approx. 42 mm (H) x 77 mm (W) x 70 mm (D), approx. 200 g |
| Power supply | IEC LR6 (size AA) alkaline battery x 2<br>IEC LR6 (size AA) nickel-hydride rechargeable battery ("eneloop pro" supported) x 2 |
| Battery life | 30 hours or more (using two alkaline batteries, continuous use)<br>50 hours or more (using two nickel-hydride rechargeable batteries [eneloop pro], continuous use) |
| Supplied accessories | Soft case x 1, 1/2-inch microphone adapter x 1, IEC LR6 (size AA) alkaline battery x 2, hand strap x 1, JCSS Calibration Certificate x 1 |

*RION standard ambient conditions: static pressure 101.325 kPa, ambient temperature 23 °C, relative humidity 50 %

| | |
|---|---|
| Optional accessories | 1/4-inch microphone adapter NC-75-S11 |

**Strap**

Securely carry the unit with the supplied hand strap

**Soft case**

Calibration can be performed with the calibrator inserted in the soft case

**PISTONPHONE NC-72A**

Specifications (under standard ambient conditions*)

| | |
|---|---|
| Applicable standards | IEC 60942: 2017 class LS/M, class 1/M,<br>JIS C 1515: 2004 class LS/C, class 1/C |
| Nominal sound pressure level | 114 dB, Sound pressure level tolerance ±0.10 dB |

JCSS JC55 0197

RION CO., LTD. is recognized by the JCSS which uses ISO/IEC 17025 as an accreditation standard and bases its accreditation scheme on ISO/IEC 17011. JCSS is operated by the accreditation body (IA Japan) which is a signatory to the Asia Pacific Accreditation Cooperation (APAC) as well as the International Laboratory Accreditation Cooperation (ILAC). The Quality Assurance Section of RION CO., LTD. is an international MRA-compliant JCSS operator with the accreditation number JC55 0197.

ISO 14001 RION CO., LTD.
ISO 9001 RION CO., LTD.

* Windows is a trademark of Microsoft Corporation. * Specifications subject to change without notice.

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3-20-41, Higashimotomachi, Kokubunji, Tokyo 185-8533, Japan
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AAST-SLC-05
Cal Date: 30July2024

中国赛宝实验室计量检测中心
(工业和信息化部电子第五研究所计量检测中心)
CHINA CEPREI LABORATORY CALIBRATION & TESTING CENTRE

# 校 准 证 书
# CALIBRATION CERTIFICATE

证书编号：2HB24001410-0003
Certificate No.

中国认可 国际互认 校准 CALIBRATION CNAS L13344

| | |
|---|---|
| 委托单位：Client | Castco Testing Centre Limited |
| 仪器名称：Description | Sound Level Calibrator |
| 型号规格：Model/Type | NC-74 |
| 制造商：Manufacturer | Rion |
| 机身号：Serial No. | 34178129 |
| 管理号：Asset No. | AAST-SLC-05 |
| 接收日期：Rec. Date | 2024-07-18 |
| 校准日期：Cal. Date | 2024-07-30 |
| 签发日期：App. Date | 2024-07-31 |
| 建议校准周期：Reference Cal. Period | 12个月(12 months) |
| 结论：Conclusion | 所校准项目符合技术要求(The calibrated items meet the technical requirements) |

校准：Calibrated by 赵文钰　　核验：Inspected by 钟灏

签发：Approved by 郑术力　　印章：Stamp

扫一扫查真伪

赛宝计量检测中心
总部地址：广州市增城区朱村街朱村大道西78号
实验室地址：广州市增城区朱村街朱村大道西78号
客服电话：020-87237633 传真：020-87236189
投诉电话：020-87236896
邮件：cal@ceprei.com
网址：www.ceprei-cal.com

CEPREI Calibration and Testing Centre
HQ Addr: No.78,Zhucun Avenue West,Zengcheng District,Guangzhou,China
Add. of the Lab: No.78,Zhucun Avenue West,Zengcheng District,Guangzhou,China
Service Tel: 020-87237633 Fax: 020-87236189
Complaint Tel: 020-87236896
Email: cal@ceprei.com
Website: www.ceprei-cal.com





# 说 明
# DIRECTIONS

1. 本机构是国家市场监管总局授权建立的法定计量检定机构："国家环境综合试验设备计量站"，国家国防科工局授权建立的"国防科技工业4412二级计量站"，本机构质量管理体系符合ISO/IEC 17025:2017标准的要求。
This laboratory is the legal metrological institute authorized by the State Administration for Market Regulation. It is the "Nation Metrology Station of Combined Environmental Testing Equipment". It is the "No. 4412 Class 2 Metrology Station of Science, Technology and Industry for National Defense" authorized by the State Administration of Science, Technology and Industry for National Defense. The quality management system of this laboratory is in accordance with the ISO/IEC 17025:2017.

2. 本证书中的数据可溯源到国际单位制（SI）单位和/或社会公用计量标准。
The data of the certificate is traceable to the International system of Units（SI）and/or the public metrological standards.

3. 本次校准的技术依据及CNAS认可范围(Reference documents and CNAS accredited scopes)：
- JJG 176-2022 声校准器检定规程；Sound Pressure Level：94dB、104dB、114dB、124dB(63Hz～8kHz)；94dB、104dB、114dB,(31.5Hz～16kHz)；Frequency：31.5Hz～16kHz；Harmonic Distortion：0.1%～10%，(20Hz～20kHz)

* 详细内容请查看CNAS网站中注册编号为L13344的证书附件，超出范围的内容未被认可，其结果/结论所依据的合格评定活动不在认可范围内。(Please see the attachment of certificate No. L13344 at CNAS website for details, beyond which is not accredited, the conformity assessment activities on which the results/conclusions are based are outside the scope of accreditation.)

4. 本次校准所使用的主要测量标准及溯源性声明(The main measurement standards used during the calibration and traceability declaration)：

| 名 称 (Description) | 证书号/有效期/溯源单位 (Certificate No./Due Date/Traceability to) | 技术指标 (Specification) | 测量范围 (Measuring Range) |
|---|---|---|---|
| 实验室标准传声器(2246093) | GFJGJL100124030653 7/2025-03-17/航空304所 | LS级 | 10Hz～25kHz |
| 前置放大器(2239842) | LSsx2024-02588/2025-03-12/中国计量院 | 频率响应：±0.1dB | 10Hz～50kHz |
| PULSE分析系统(3160-100186) | GFJGJL100123100710 6/2024-10-24/航空304所 | 频率:$U_{rel}$=0.001%,$k$=2;电压:$U_{rel}$=0.10%,$k$=2 | 频率:0.001Hz~51.2kHz,电压:(1×10$^{-3}$~30)V |
| 数字多用表(3146A63487) | 4GC23000695-0001/2024-10-25/赛宝(广州) | 直流电压：±0.01%；直流电流：±0.01%；交流电压：±0.1%；电阻：±0.01%；频率：±0.01% | 10mV~100V（10Hz~200 kHz) |

计量溯源性声明(Metrological Traceability Declaration)：

| 被校准器具 Instrument | 设备名称 Standard Name | 外部机构/溯源证书编号 Institute/Certificate No. |
|---|---|---|
| Sound Level Calibrator | 实验室标准传声器 | 航空304所/GFJGJL1001240306537 |
| | 前置放大器 | 中国计量院/LSsx2024-02588 |
| | PULSE分析系统 | 航空304所/GFJGJL1001231007106 |
| | 数字多用表 | 广东计量院/DBN202260767 |

5. 校准地点(The calibration place)：
广州市增城区朱村街朱村大道西78号9栋110室

6. 环境条件(Environmental conditions)：
温度(Temperature)：24.2℃　相对湿度(Relative Humidity)：62%　其它(Other)：/

7. 本证书中给出的扩展不确定度依据JJF1059.1-2012《测量不确定度评定与表示》评定，由合成标准不确定度乘以包含概率约为95%时对应的包含因子$k$得到。
The extended uncertainty given in this certificate is evaluated according to JJF1059.1-2012 "Evaluation and Expression of Uncertainty in Measurement", and is calculated by multiplying the combined standard uncertainty by the coverage factor $k$ which corresponding to the coverage probability about 95%.

# Calibration Certificate of Sound Calibrator

CEPREI

证书编号(Certificate No.)：2HB24001410-0003

1 外观与工作正常性检查 (Appearance and Function Check)

无影响证书中测量结果准确度的因素和缺陷。

There are no factor and defect that affect the measurement result accuracy of the certificate.

2 声压级 (Sound Pressure Level)

| 规定声压级 (Prescribed SPL) (dB) | 测量声压级 (Measured SPL) (dB) | 声压级差的绝对值 (Absolute value of SPL) (dB) | 接受限 (Limit) (dB) | 结论 (Pass/Fail) | $U$ ($k$=2) (dB) |
|---|---|---|---|---|---|
| 94 | 94.06 | 0.06 | ≤0.25 | P | 0.10 |

3 频率 (Frequency)

| 规定频率 (Prescribed Fre.) (Hz) | 测量频率 (Measured Fre.) (Hz) | 频率误差的绝对值 (Absolute value of Fre.) (%) | 接受限 (Limit) (%) | 结论 (Pass/Fail) | $U_{rel}$ ($k$=2) (%) |
|---|---|---|---|---|---|
| 1000 | 1002.1 | 0.21 | ≤0.70 | P | 0.10 |

4 总失真+噪声 (Distortion and noise)

| 规定声压级 (Prescribed SPL) (dB) | 规定频率 (Measured Fre.) (Hz) | 总失真+噪声 (Distortion and noise) (%) | 接受限 (Limit) (%) | 结论 (Pass/Fail) | $U_{rel}$ ($k$=2) (%) |
|---|---|---|---|---|---|
| 94 | 1000 | 0.68 | ≤2.50 | P | 5.0 |

以下空白/No data hereafter



AAST-SLC-07
Cal Date: 20 Sept 24

CEPREI

中国赛宝实验室计量检测中心
(工业和信息化部电子第五研究所计量检测中心)
CHINA CEPREI LABORATORY CALIBRATION & TESTING CENTRE

# 校 准 证 书
# CALIBRATION CERTIFICATE

证书编号：2HB24001796-0002
Certificate No.

CNAS CALIBRATION CNAS L13344

委托单位：Client — Castco Testing Centre Limited

仪器名称：Description — Sound Level Calibrator

型号规格：Model/Type — NC-75

制造商：Manufacturer — Rion

机身号：Serial No. — 34280310

管理号：Asset No. — AAST-SLC-07

接收日期：Rec. Date — 2024-09-03　　校准日期：Cal. Date — 2024-09-20

签发日期：App. Date — 2024-09-20　　建议校准周期：Reference Cal. Period — 12个月(12 months)

结论：Conclusion — 所校准项目符合技术要求(The calibrated items meet the technical requirements)

校准：Calibrated by 赵文钰　　核验：Inspected by 张毅

签发：Approved by 郑术力　　印章：Stamp

扫一扫查真伪

赛宝计量检测中心
总部地址：广州市增城区朱村街朱村大道西78号
实验室地址：广州市增城区朱村街朱村大道西78号
客服电话：020-87237633 传真：020-87236189
投诉电话：020-87236896
邮件：cal@ceprei.com
网址：www.ceprei-cal.com

CEPREI Calibration and Testing Centre
HQ Addr: No.78,Zhucun Avenue West,Zengcheng District,Guangzhou,China
Addl. of the Lab: No.78,Zhucun Avenue West,Zengcheng District,Guangzhou,China
Service Tel: 020-87237633 Fax: 020-87236189
Complaint Tel: 020-87236896
Email: cal@ceprei.com
Website: www.ceprei-cal.com

证书编号(Certificate No.): 2[illegible]

# 说　明
# DIRECTIONS

**1. 本机构是国家市场监管总局授权建立的法定计量检定机构："国家环境综合试验设备计量站"，国家国防科工局授权建立的"国防科技工业4412二级计量站"，本机构质量管理体系符合ISO/IEC 17025:2017标准的要求。**
This laboratory is the legal metrological institute authorized by the State Administration for Market Regulation. It is the "Nation Metrology Station of Combined Environmental Testing Equipment". It is the "No. 4412 Class 2 Metrology Station of Science, Technology and Industry for National Defense" authorized by the State Administration of Science, Technology and Industry for National Defense. The quality management system of this laboratory is in accordance with the ISO/IEC 17025:2017.

**2. 本证书中的数据可溯源到国际单位制（SI）单位和/或社会公用计量标准。**
The data of the certificate is traceable to the International system of Units（SI）and/or the public metrological standards.

**3. 本次校准的技术依据及CNAS认可范围(Reference documents and CNAS accredited scopes)：**
- JJG 176-2022 声校准器检定规程：Sound Pressure Level：94dB、104dB、114dB、124dB，(63Hz～16kHz)；Frequency：31.5Hz～16kHz；Distortion：0.01%～30%
- 详细内容请查看CNAS网站中注册编号为L13344的证书附件，超出范围的内容未被认可。其结果/结论所依据的合格评定活动不在认可范围内。(Please see the attachment of certificate No. L13344 at CNAS website for details, beyond which is not accredited, the conformity assessment activities on which the results/conclusions are based are outside the scope of accreditation.)

**4. 本次校准所使用的主要测量标准及溯源性声明(The main measurement standards used during the calibration and traceability declaration)：**

| 名　称 (Description) | 证书号/有效期/溯源单位 (Certificate No./Due Date/Traceability to) | 技术指标 (Specification) | 测量范围 (Measuring Range) |
|---|---|---|---|
| 数字多用表(MY45051674) | GFJGJL1004240400234/2025-03-11/航天514所 | 直流电压：$\pm1\times10^{-4}$；直流电流：$\pm1\times10^{-4}$；交流电压：±0.1%；交流电流：±0.1%；电阻：$\pm1\times10^{-4}$ | 直流电压：±10mV～±1000V；直流电流：±10μA～±1A；交流电压：（10mV～700V）@（1Hz～1MHz）；交流电流：（3mA～1A）@（10Hz～10kHz）；四线电阻：10Ω～10MΩ |
| 实验室标准传声器(2246093) | LSsx2024-04498/2025-04-18/中国计量院 | LS级 | 10Hz～25kHz |
| 前置放大器(2239843) | LSsx2024-04011/2025-04-20/中国计量院 | 频率响应±0.1dB | （10～50000）Hz |
| Pulse分析仪(3160-10018) | 4GC24000729-0003/2025-07-29/泰宝(广州) | 频率：$U_{rel}$=0.001%,k=2;电压：$U_{rel}$=0.10%,k=2 | 频率:0.001Hz~51.2kHz,电压:(1~$10^{-5}$~30)V |

**计量溯源性声明(Metrological Traceability Declaration)：**

| 被校准器具 Instrument | 设备名称 Standard Name | 外部机构/溯源证书编号 Institute/Certificate No. |
|---|---|---|
| Sound Level Calibrator | 数字多用表 | 航天514所/GFJGJL1004240400234 |
| | 实验室标准传声器 | 中国计量院/LSsx2024-04498 |
| | 前置放大器 | 中国计量院/LSsx2024-04011 |
| | Pulse分析仪 | 广东计量院/SXE202301878 |

**5. 校准地点(The calibration place)：**
广州市增城区朱村街朱村大道西78号9栋110室

**6. 环境条件(Environmental conditions)：**
温度(Temperature)：23.7℃　　相对湿度(Relative Humidity)：63%　　其它(Other)：/

**7. 本证书中给出的扩展不确定度依据JJF1059.1-2012《测量不确定度评定与表示》评定，由合成标准不确定度乘以包含概率约为95%时对应的包含因子k得到。**
The extended uncertainty given in this certificate is evaluated according to JJF1059.1-2012 "Evaluation and Expression of Uncertainty in Measurement", and is calculated by multiplying the combined standard uncertainty by the coverage factor k which corresponding to the coverage probability about 95%.



**8. 证书中"P"、"合格"代表"测量结果在允许范围内"，"F"、"不合格"代表"测量结果不在允许范围内"，"N/A"代表"不适用或技术指标暂时无法确认等"。本证书报告的结论仅供参考，使用人员应结合实际测量的要求合理使用，如考虑测量结果测量不确定度的影响等。**
"P" and "Pass" in this certificate stand for "Low Limit≤the measured value ≤High Limit", "F" and "Fail" stand for "the measured value＜Low Limit or the measured value＞High Limit", "N/A" stands for "Not Applicable or The technical specification has not been confirmed etc".The conclusions of this certificate are for reference only. Users should use them reasonably according to the actual measurement requirements, such as considering the impact of measurement uncertainty, etc.

**9. 建议校准周期是本实验室依据本证书报告的技术依据和仪器设备常规使用条件给出的建议，供委托方参考。委托方可以根据实际使用情况自行决定样品的校准周期。**
The reference calibration period is based on the reference documents and normal operating conditions of the calibrated instrument. It is only for reference. The client may decide the calibration period of the instrument according to the actual use.


2.本次校准结果仅与被校物有关。(The results are only related to the items calibrated.)
3."委托方"、"委托方联络信息"由委托方提供，"制造厂"、"型号规格"、"出厂编号"以及"设备编号"为仪器上标注。委托方对上面内容如有异议，须在收到证书后二十个工作日内提出。
The information Client and Contact Information are provided by client, and the Manufacturer, Model/Type, Serial No. and Equipment No. are marked on the items.Client shall submit any objection within 20 working days after receiving the certificate for the information above.

CEPREI

证书编号(Certificate No.)：2HB24001796-0002

1 外观与工作正常性检查 (Appearance and Function Check)

无影响证书中测量结果准确度的因素和缺陷。

There are no factor and defect that affect the measurement result accuracy of the certificate.

2 声压级 (Sound Pressure Level)

| 规定声压级 (Prescribed SPL.) (dB) | 测量声压级 (Measured SPL.) (dB) | 声压级差的绝对值 (Absolute value of SPL) (dB) | 接受限 (Limit) (dB) | 结论 (Pass/Fail) | U (k=2) (dB) |
|---|---|---|---|---|---|
| 94 | 94.07 | 0.07 | ≤0.25 | P | 0.10 |

3 频率 (Frequency)

| 规定频率 (Prescribed Fre.) (Hz) | 测量频率 (Measured Fre.) (Hz) | 频率误差的绝对值 (Absolute value of Fre.) (%) | 接受限 (Limit) (%) | 结论 (Pass/Fail) | $U_{rel}$ (k=2) (%) |
|---|---|---|---|---|---|
| 1000 | 1000.0 | 0.00 | ≤0.70 | P | 0.10 |

4 总失真+噪声 (Distortion and noise)

| 规定声压级 (Prescribed SPL.) (dB) | 规定频率 (Measured Fre.) (Hz) | 总失真+噪声 (Distortion and noise) (%) | 接受限 (Limit) (%) | 结论 (Pass/Fail) | $U_{rel}$ (k=2) (%) |
|---|---|---|---|---|---|
| 94 | 1000 | 0.68 | ≤2.50 | P | 5.0 |

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CEPREI

第 4 页,共 4 页 Page of

数据页(Data sheet) ID：013393

| Catalogue of Air Flow Meter (TSI TA440) | Calibration Certificate of Air Flow Meter |
|---|---|

## SPECIFICATIONS

THERMAL ANEMOMETERS
MODELS TA410, TA430 AND TA440

**Velocity**

| | |
|---|---|
| Range (TA410) | 0 to 20 m/s (0 to 4,000 ft/min) |
| Range (TA430, TA440) | 0 to 30 m/s (0 to 6,000 ft/min) |
| Accuracy (TA410)[1][2] | ±5% of reading or ±0.025 m/s (±5 ft/min), whichever is greater |
| Accuracy (TA430, TA440)[1][2] | ±3% of reading or ±0.015 m/s (±3 ft/min), whichever is greater |
| Resolution | 0.01 m/s (1 ft/min) |

**Duct Size (TA430, TA440)**

| | |
|---|---|
| Dimensions | 1 to 635 cm in increments of 0.1 cm (1 to 250 inches in increments of 0.1 in.) |

**Volumetric Flow Rate (TA430, TA440)**

| | |
|---|---|
| Range | Actual range is a function of velocity, and duct size |

**Temperature**

| | |
|---|---|
| Range (TA410, TA430) | -18 to 93°C (0 to 200°F) |
| Range (TA440) | -10 to 60°C (14 to 140°F) |
| Accuracy[3] | ±0.3°C (±0.5°F) |
| Resolution | 0.1°C (0.1°F) |

**Relative Humidity (TA440 only)**

| | |
|---|---|
| Range | 5 to 95% RH |
| Accuracy[4] | ±3% RH |
| Resolution | 0.1% RH |

**Wet Bulb Temperature (TA440 only)**

| | |
|---|---|
| Range | 5 to 60°C (40 to 140°F) |
| Resolution | 0.1°C (0.1°F) |

**Dew Point (TA440 only)**

| | |
|---|---|
| Range | -15 to 49°C (5 to 120°F) |
| Resolution | 0.1°C (0.1°F) |

**Instrument Temperature Range**

| | |
|---|---|
| Operating (Electronics) | 5 to 45°C (40 to 113°F) |
| Model TA410, TA430 Operating (Probe) | -18 to 93°C (0 to 200°F) |
| Model TA440 Operating (Probe) | -10 to 60°C (14 to 140°F) |
| Storage | -20 to 60°C (-4 to 140°F) |

**Data Storage Capabilities (TA430, TA440)**

| | |
|---|---|
| Range | 12,700+ samples and 100 test IDs |

**Logging Interval (TA430, TA440)**
1 second to 1 hour

**Time Constant (TA430, TA440)**
User selectable

**External Meter Dimensions**
8.4 cm x 17.8 cm x 4.4 cm (3.3 in. x 7.0 in. x 1.8 in.)

**Meter Weight with Batteries**
0.27 kg (0.6 lbs.)

**Meter Probe Dimensions**

| | |
|---|---|
| Probe Length | 101.6 cm (40 in.) |
| Probe Diameter of Tip | 7.0 mm (0.28 in.) |
| Probe Diameter of Base | 13.0 mm (0.51 in.) |

**Articulating Probe Dimensions**

| | |
|---|---|
| Articulating Section Length | 19.7 cm (7.8 in.) |
| Diameter of Articulating Knuckle | 9.5 mm (0.38 in.) |

**Power Requirements**
Four AA-size batteries or AC adapter

| | TA410 | TA430, TA430-A | TA440, TA440-A |
|---|---|---|---|
| Velocity range 0 to 20.00 m/s (0 to 4000 ft/min) | + | | |
| Velocity range 0 to 30.00 m/s (0 to 6000 ft/min) | | + | + |
| Temperature | + | + | + |
| Flow | | + | + |
| Humidity, wet bulb, dew point | | | + |
| Probe | Straight | Straight or -A articulated | Straight or -A articulated |
| Variable time constant | | + | + |
| Manual data logging | | + | + |
| Auto save data logging | | | + |
| Statistics | | + | + |
| Review data | | + | + |
| LogDat2 downloading software | | + | + |
| Free Certificate of Calibration | + | + | + |

[1] Temperature compensated over an air temperature range of 5 to 65°C (40 to 150°F).
[2] The accuracy statement begins at 30 ft/min through 4000 ft/min (0.15 m/s through 20 m/s) for the Model TA410, and 30 ft/min through 6,000 ft/min (0.15 m/s through 30 m/s) for Models TA430 and TA440.
[3] Accuracy with instrument case at 25°C (77°F), add uncertainty of 0.03°C/°C (0.05°F/°F) for change in instrument temperature.
[4] Accuracy with probe at 25°C (77°F). Add uncertainty of 0.2% RH/°C (0.1% RH/°F) for change in probe temperature. Includes 1% hysteresis.

Specifications subject to change without notice.



AIRFLOW INSTRUMENTS

**Airflow Instruments, TSI Instruments Ltd.**
Visit our website at **www.airflowinstruments.co.uk** for more information.

**UK** **Tel:** +44 149 4 459200 **Germany** **Tel:** +49 241 523030
**France** **Tel:** +33 491 11 87 64

P/N 2980548 Rev D (A4) 

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**Cal Lab Limited 校正實驗室有限公司**
Room 2103, Technology Plaza, 29-35 Sha Tsui Road,
Tsuen Wan, NT, Hong Kong
Tel: +852 25680106 Email: info@callab.com.hk
Fax: +852 30116194 Website: www.callab.com.hk

CALIBRATION

ilac-MRA A2LA ACCREDITED Certificate #3815.01

**Calibration Certificate No.: CC0242312**

**Information provided by customer**
Customer: Castco Testing Centre Limited
Address: 33, On Kui Street, Fanling, N.T.

**Equipment identification provided by customer**

| Equipment Description | Manufacturer | Model No. | Serial No. | Assigned equipment No. |
|---|---|---|---|---|
| Air Velocity Monitor | TSI | AIRFLOW TA440 | TA4401232005 | AAST-FLOW-02 |

**Certificate Information**

| | | | |
|---|---|---|---|
| Date of Receipt: | 15 December 2023 | Calibration Condition: | 21.3°C, 56%RH, 1014hPa |
| Date of Calibration: | 18 December 2023 | Adjustment: | N/A |
| Due Date of Calibration: | N/A | Appearance: | Good |
| Calibration Procedure: | SOP-112 | Remark: | N/A |

**Reference Equipment Identification**

| Equipment Description | Model | Serial No. | Expiration Date |
|---|---|---|---|
| Hot Wire Anemometer | 9535 | T95351316004 | 11 August 2024 |

**Result of Calibration**
**Air Velocity**

| Reference Reading (m/s) | Measured Reading (m/s) | Error (m/s) | Uncertainty (%) | Technical Requirement | Technical Reference Doc. |
|---|---|---|---|---|---|
| 0.99 | 0.99 | 0.00 | 3.6 | ± 5 % | Mfr's Spec. |
| 2.02 | 2.03 | 0.01 | 3.6 | ± 5 % | Mfr's Spec. |
| 5.01 | 4.98 | -0.03 | 3.6 | ± 5 % | Mfr's Spec. |
| 7.96 | 8.07 | 0.11 | 3.6 | ± 5 % | Mfr's Spec. |

CT-AFR-01

Note1: The estimated expanded uncertainties have been calculated in "Evaluation and expression of uncertainty in measurement" and give an internal estimated to have a level of confidence of 95%. A coverage factor of 2 is assumed unless explicitly stated.
Note2: The standard (s) and instrument used in the calibration are traceable to national or international recognized standard and are calibrated on a schedule to maintain the accuracy and good condition.
Note3: The result 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.
Note4: The result shows in this calibration certificate relate only to the item calibrated, and the result only applies to the calibration item as received.

Calibrated By: Wing Cheng
Checked and Approved By: Warren Yeung
Company Chop:
Certificate Issue Date: 19 December 2023

CT-REG-04

*** End of Certificate ***

1. The certificate shall not be reproduced except in full, without written approval of Cal Lab Limited
2. The certificate is issued subject to the latest Terms and Conditions, available at our web site

CC0242312
Page 1 of 1

# Appendix L – Noise monitoring results and graphical presentation

## M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop

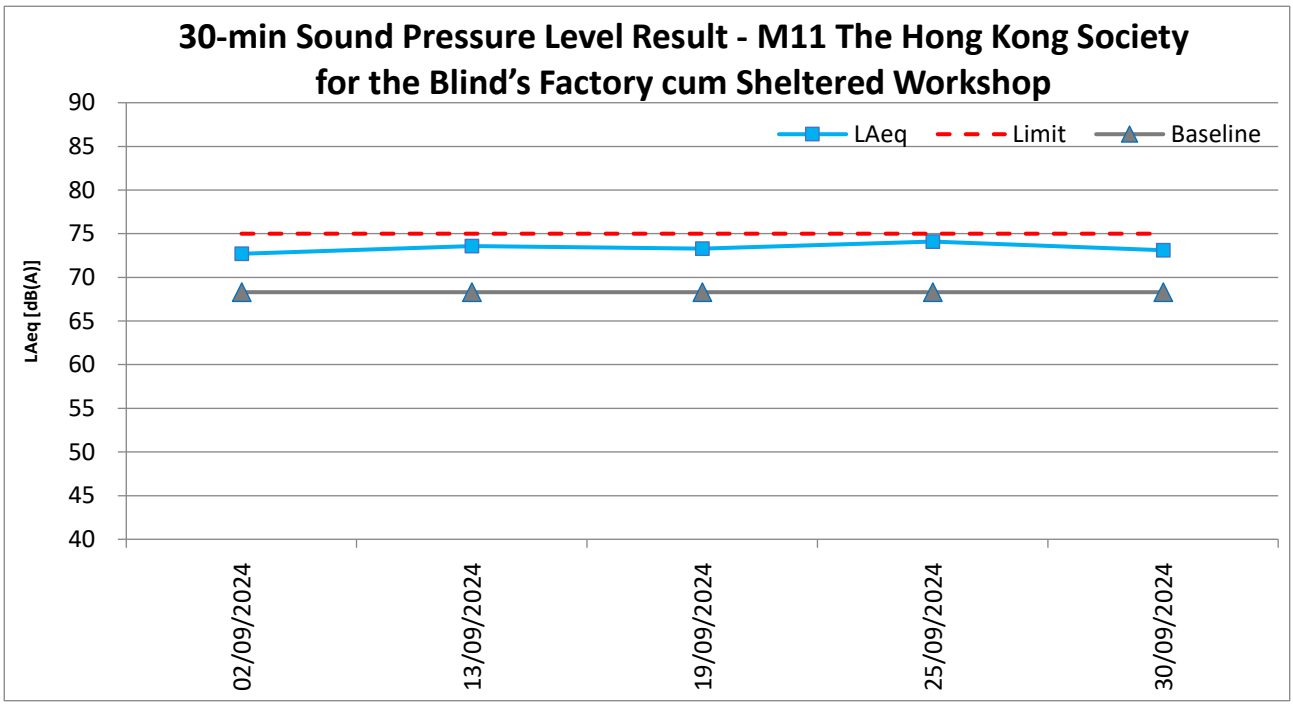
| Date | Temp (°C) | Weather | Measured Noise Level at M11, dB(A) | | | | | | Limit |
|---|---|---|---|---|---|---|---|---|---|
| | | | Time | | | Baseline | $L_{Aeq}$ | $L_{A10}$ | $L_{A90}$ | |
| 02/09/2024 | 33.9 | Sunny | 13:24 | - | 13:54 | 68.3 | 72.7 | 75.7 | 62.0 | 75 |
| 13/09/2024 | 31.8 | Sunny | 14:02 | - | 14:32 | 68.3 | 73.6 | 76.9 | 65.2 | 75 |
| 19/09/2024 | 32.6 | Sunny | 9:36 | - | 10:06 | 68.3 | 73.3 | 76.9 | 65.8 | 75 |
| 25/09/2024 | 32.2 | Cloudy | 14:14 | - | 14:44 | 68.3 | 74.1 | 78.0 | 67.2 | 75 |
| 30/09/2024 | 31.9 | Sunny | 9:47 | - | 10:17 | 68.3 | 73.1 | 76.2 | 64.4 | 75 |
| | | | Maximum | | | | 74.1 | | | |
| | | | Minimum | | | | 72.7 | | | |
| | | | Average | | | | 73.4 | | | |

NOTE: Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (M11), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. 30-min noise monitoring at M11 were conducted on the ground floor with orienting to the Project site. ET will resume the impact monitoring once the alternative monitoring location for M11 is confirmed.

## M12 - Hong Kong Children's Hospital

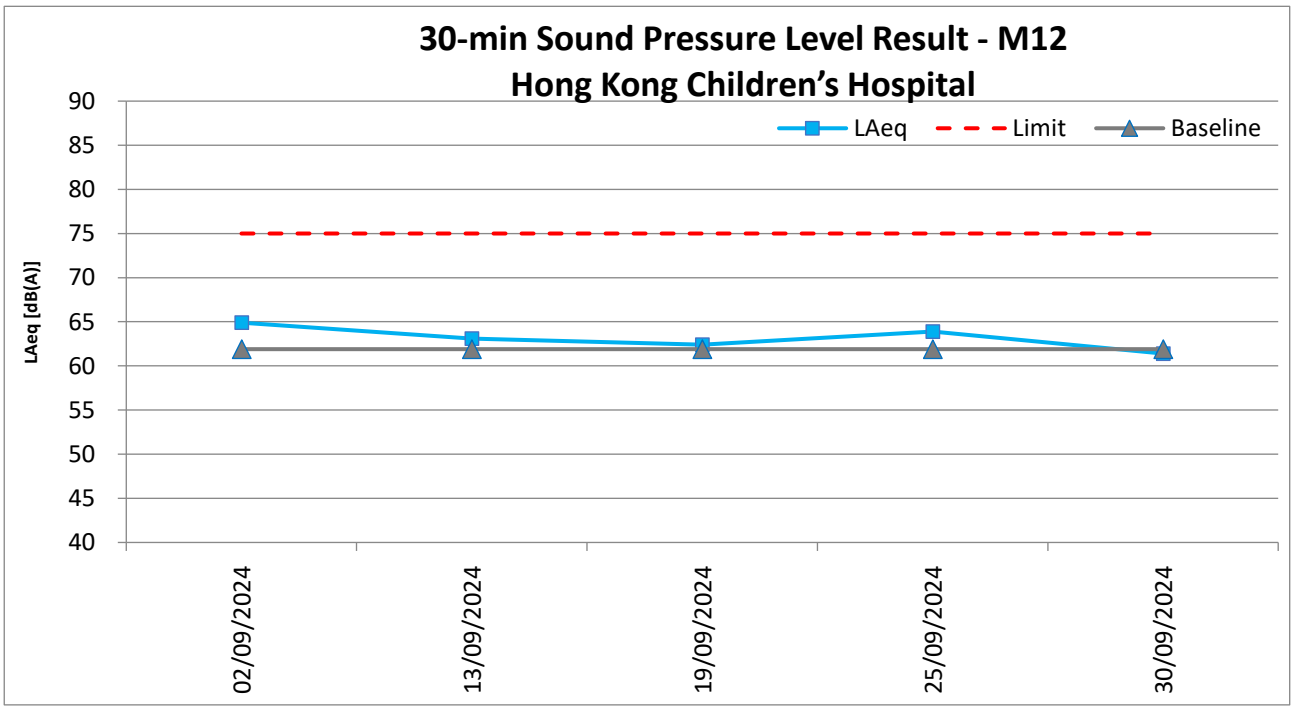
| Date | Temp (°C) | Weather | Measured Noise Level at M12, dB(A) | | | | | | Limit |
|---|---|---|---|---|---|---|---|---|---|
| | | | Time | | | Baseline | $L_{Aeq}$ | $L_{A10}$ | $L_{A90}$ | |
| 02/09/2024 | 33.9 | Sunny | 10:05 | - | 10:35 | 61.9 | 64.9 | 68.0 | 58.2 | 75 |
| 13/09/2024 | 31.8 | Sunny | 11:22 | - | 11:52 | 61.9 | 63.1 | 67.6 | 60.3 | 75 |
| 19/09/2024 | 32.6 | Sunny | 14:18 | - | 14:48 | 61.9 | 62.4 | 64.3 | 59.1 | 75 |
| 25/09/2024 | 32.2 | Cloudy | 10:11 | - | 10:41 | 61.9 | 63.9 | 68.4 | 60.7 | 75 |
| 30/09/2024 | 31.9 | Sunny | 15:05 | - | 15:35 | 61.9 | 61.4 | 63.4 | 58.7 | 75 |
| | | | Maximum | | | | 64.9 | | | |
| | | | Minimum | | | | 61.4 | | | |
| | | | Average | | | | 63.3 | | | |

**$L_{Aeq, 30\text{-}min}$ graphical results of M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop**




NOTE: Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (M11), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. 30-min noise monitoring at M11 were conducted on the ground floor with orienting to the Project site. ET will resume the impact monitoring once the alternative monitoring location for M11 is confirmed.

**$L_{Aeq, 30\text{-}min}$ graphical results of M12 - Hong Kong Children's Hospital**



# Appendix M – Event and Action Plan for noise

| Event | Action | | | |
|---|---|---|---|---|
| | **ET** | **IEC** | **Supervisor / ER** | **Contractor** |
| Action Level being exceeded | 1. Notify Supervisor / ER, IEC and Contractor;<br>2. Carry out investigation;<br>3. Report the results of investigation to the IEC, Supervisor / ER and Contractor;<br>4. Discuss with the IEC and Contractor on remedial measures required;<br>5. Increase monitoring frequency to check mitigation effectiveness.<br>(The above actions should be taken within 2 working days after the exceedance is identified.) | 1. Review the investigation results submitted by the ET;<br>2. Review the proposed remedial measures submitted by the Contractor and advise the ER accordingly;<br>3. Advise the Supervisor / ER on the proposed remedial measures.<br>(The above actions should be taken within 2 working days after the exceedance is identified.) | 1. Confirm receipt of notification of failure in writing;<br>2. Notify Contractor;<br>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;<br>4. Supervise the implementation of remedial measures.<br>(The above actions should be taken within 2 working days after the exceedance is identified.) | 1. Submit noise mitigation proposal to IEC and Supervisor / ER;<br>2. Implement noise mitigation proposals.<br>(The above actions should be taken within 2 working days after the exceedance is identified.) |
| Limit Level being exceeded | 1. Inform IEC, Supervisor /ER, Contractor and EPD;<br>2. Repeat measurement to confirm findings;<br>3. Increase monitoring frequency;<br>4. Identify source and investigate the cause of exceedance;<br>5. Carry out analysis of Contract's working procedure;<br>6. Discuss remedial measures required with the IEC, Contractor and Supervisor /ER;<br>7. Assess effectiveness of | 1. Discuss the potential remedial actions with Supervisor /ER, ET and Contractor;<br>2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the Supervisor /ER accordingly.<br>(The above actions should be taken within 2 working days after the exceedance is identified.) | 1. Confirm receipt of notification of failure in writing;<br>2. Notify Contractor;<br>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;<br>4. Supervise the implementation of remedial measures;<br>5. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the | 1. Take immediate action to avoid further exceedance;<br>2. Submit proposals for remedial actions to IEC and Supervisor /ER within 3 working days of notification;<br>3. Implement the agreed proposal;<br>4. Submit further proposal if problem still not under control;<br>5. Stop the relevant portion of works as instructed by the Supervisor /ER until the exceedance is abated.<br>(The above actions should be |

| Event | Action | | | |
|---|---|---|---|---|
| | **ET** | **IEC** | **Supervisor / ER** | **Contractor** |
| | Contractor's remedial actions and keep IEC, EPD, and Supervisor /ER informed of the results;<br>8. If exceedance stops, cease additional monitoring.<br>(The above actions should be taken within 2 working days after the exceedance is identified.) | | exceedance until the exceedance is abated.<br>(The above actions should be taken within 2 working days after the exceedance is identified.) | taken within 2 working days after the exceedance is identified.) |

# Appendix N – Event and Action Plan for Landscape and Visual Impact

| Event | Action | | | |
|---|---|---|---|---|
| | **ET** | **IEC** | **Supervisor / ER** | **Contractor** |
| Design Check | 1. Check final design conforms to the requirements of EP and prepare report. | 1. Check report.<br>2. Recommend remedial design if necessary. | 1. Undertake remedial design if necessary. | |
| Non-conformity on one occasion | 1. Identify Source.<br>2. Inform IEC and Supervisor /ER.<br>3. Discuss remedial actions with IEC, Supervisor /ER and Contractor.<br>4. Monitor remedial actions until rectification has been completed. | 1. Check report.<br>2. Check Contractor's working method.<br>3. Discuss with ET and Contractor on possible remedial measures.<br>4. Advise Supervisor /ER on effectiveness of proposed remedial measures.<br>5. Check implementation of remedial measures. | 1. Notify Contractor.<br>2. Ensure remedial measures are properly implemented. | 1. Amend working methods.<br>2. Rectify damage and undertake any necessary replacement. |
| Repeated Non-conformity | 1. Identify Source.<br>2. Inform IEC and Supervisor /ER.<br>3. Increase monitoring frequency.<br>4. Discuss remedial actions with IEC, Supervisor /ER and Contractor.<br>5. Monitor remedial actions until rectification has been completed.<br>6. If non-conformity stops, cease additional monitoring. | 1. Check monitoring report.<br>2. Check Contractor's working method.<br>3. Discuss with ET and Contractor on possible remedial measures.<br>4. Advise Supervisor /ER on effectiveness of proposed remedial measures.<br>5. Supervise implementation of remedial measures. | 1. Notify Contractor.<br>2. Ensure remedial measures are properly implemented. | 1. Amend working methods.<br>2. Rectify damage and undertake any necessary replacement. |

# Appendix O – Waste Flow Table

Name of Department: CEDD

Contract No.: ED/2018/01

## Monthly Summary Waste Flow Table for September 2024

| 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 | Reused in other Projects | Disposed as Public Fill | Imported Fill | Metals | Paper / cardboard packaging | Plastics (see Note 3) | Chemical Waste | Others, e.g. general refuse |
| | (in '000$m^3$) | (in '000$m^3$) | (in '000$m^3$) | (in '000$m^3$) | (in '000$m^3$) | (in '000$m^3$) | (in '000 kg) | (in '000kg) | (in '000kg) | (in '000kg) | (in '000$m^3$) |
| Jan | 2.311 | 0.111 | -- | -- | 2.311 | -- | -- | -- | -- | -- | 0.184 |
| Feb | 2.232 | 0.177 | -- | -- | 2.232 | -- | -- | -- | -- | -- | 0.173 |
| Mar | 2.893 | 0.032 | -- | -- | 2.893 | -- | -- | 0.051 | -- | -- | 0.259 |
| Apr | 3.482 | 0.016 | -- | -- | 3.482 | -- | -- | -- | -- | -- | 0.238 |
| May | 2.899 | 0.595 | -- | -- | 2.899 | -- | -- | -- | -- | -- | 0.143 |
| Jun | 1.610 | 0.248 | -- | -- | 1.610 | 1.106 | -- | -- | -- | -- | 0.190 |
| Sub-total | 15.427 | 1.179 | -- | -- | 15.427 | 1.106 | -- | 0.051 | -- | -- | 1.187 |
| July | 2.088 | 0.272 | -- | -- | 2.088 | 6.397 | -- | -- | -- | -- | 0.371 |
| Aug | 4.620 | 0.451 | -- | -- | 4.620 | 4.188 | -- | -- | -- | -- | 0.330 |
| Sep | 9.965 | 0.843 | -- | -- | 9.965 | 2.372 | -- | -- | -- | -- | 0.213 |
| Oct | | | | | | | | | | | |
| Nov | | | | | | | | | | | |
| Dec | | | | | | | | | | | |
| Total | 32.1 | 2.745 | -- | -- | 32.1 | 14.063 | -- | 0.051 | -- | -- | 2.101 |

### Forecast of Total Quantities of C&D Materials to be Generated from the Contract*

| Total Quantity Generated | Hard Rock and Large Broken Concrete | Reused in the Contract | Reused in other Projects | Disposed as Public Fill | Imported Fill | Metals | Paper / cardboard packaging | Plastics (see Note 3) | Chemical Waste | Others, e.g. general refuse |
|---|---|---|---|---|---|---|---|---|---|---|
| (in '000$m^3$) | (in '000$m^3$) | (in '000$m^3$) | (in '000$m^3$) | (in '000$m^3$) | (in '000$m^3$) | (in '000 kg) | (in '000kg) | (in '000kg) | (in '000kg) | (in '000$m^3$) |
| **320.000** | **27.000** | **10.200** | **41.000** | **320.000** | **10.000** | **420.000** | **2.000** | **4.000** | **0.300** | **10.000** |

Notes:
(1) The performance targets are given in **ER Appendix 8I Clause 14** and the EM&A Manual
(2) The waste flow table shall also include C&D materials to be imported for use at the Site
(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material and water barrier
(4) The Contractor shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the works, together with a breakdown of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000$m^3$ (**ER Part 8 Clause 8.7.5(d)**(ii) refers)
(5) Assume inert C&D materials density and non-inert C&D materials are 1.9 ton/$m^3$ and 1.5 ton/$m^3$

# Appendix P – Environmental Mitigation Implementation Schedule (EMIS)

| Implementation Schedule for Air Quality Measures | | | |
|---|---|---|---|
| **EIA for KTD Development Ref.** | **EIA for KTD – Roads D3A & D4A Ref.** | **Environmental Protection Measures / Mitigation Measures** | **Status** |
| S3.2 | | 8 times daily watering of the work site with active dust emitting activities. | ^ |
| S3.2 | S4.8 | Implementation of dust suppression measures stipulated in Air Pollution Control (Construction Dust) Regulation. The following mitigation measures, good site practices and a comprehensive dust monitoring and audit programme are recommended to minimize cumulative dust impacts. | ^ |
| | | - Stockpiling site(s) should be lined with impermeable sheeting and bunded. Stockpiles should be fully covered by impermeable sheeting to reduce dust emission. | ^ |
| | | - Misting for the dusty material should be carried out before being loaded into the vehicle. | ^ |
| | | - Any vehicle with an open load carrying area should have properly fitted side and tail boards. | ^ |
| | | - Material having the potential to create dust should not be loaded from a level higher than the side and tail boards and should be dampened and covered by a clean tarpaulin. | ^ |
| | | - The tarpaulin should be properly secured and should extent at least 300 mm over the edges of the sides and tailboards. The material should also be dampened if necessary, before transportation. | ^ |
| | | - The vehicles should be restricted to maximum speed of 10 km per hour and confined haulage and delivery vehicle to designated roadways insider the site. On- site unpaved roads should be compacted and kept free of lose materials. | ^ |
| | | - Vehicle washing facilities should be provided at every vehicle exit point. | ^ |
| | | - The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores. | ^ |
| | | - Every main haul road should be scaled with concrete and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet. | ^ |
| | | - Every stock of more than 20 bags of cement should be covered entirely by impervious sheeting placed in an area sheltered on the top and the three sides. | ^ |
| | | - Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites. | ^ |

| Implementation Schedule for Noise Measures | | | |
|---|---|---|---|
| **EIA for KTD Development Ref.** | **EIA for KTD – Roads D3A & D4A Ref.** | **Environmental Protection Measures / Mitigation Measures** | **Status** |
| S3.3 | | Use of quiet PME, movable barriers for Asphalt Paver, Breaker, Excavator and Hand-held breaker and full enclosure for Air Compressor, Bar Bender, Concrete Pump, Generator and Water Pump. | ^ |
| S3.3 | | Good Site Practice: | |
| S3.3 | | - Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program. | ^* |
| | | - Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program. | ^ |
| | | - Mobile plant, if any, should be sited as far away from NSRs as possible. | ^ |
| | | - Machines and plant (such as trucks) that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum. | ^ |
| | | - Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs. | ^ |
| | | - Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities. | ^ |
| | | - Scheduling of Construction Works during School Examination Period | N/A |

| Implementation Schedule for Water Quality Measures | | | |
|---|---|---|---|
| **EIA for KTD Development Ref.** | **EIA for KTD – Roads D3A & D4A Ref.** | **Environmental Protection Measures / Mitigation Measures** | **Status** |
| S3.4 | | <u>Construction Runoff</u><br>Exposed soil areas should be minimised to reduce the potential for increased siltation, contamination of runoff, and erosion. Construction runoff related impacts associated with the above ground construction activities can be readily controlled through the use of appropriate mitigation measures which include: | ^* |
| S3.4 | | - use of sediment traps. | ^ |
| S3.4 | | - adequate maintenance of drainage systems to prevent flooding and overflow. | ^* |

| Implementation Schedule for Water Quality Measures | | | |
|---|---|---|---|
| **EIA for KTD Development Ref.** | **EIA for KTD – Roads D3A & D4A Ref.** | **Environmental Protection Measures / Mitigation Measures** | **Status** |
| | S5.8 | - 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. | ^* |
| | S5.8 | - Channels or earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Perimeter channels 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. | ^ |
| | S5.8 | - 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 100 m should be maintained between the discharge points of construction site run-off and the existing saltwater intakes. | ^* |
| | S5.8 | - 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. | ^ |
| | S5.8 | - 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 pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities. | ^ |
| | S5.8 | - Open stockpiles of construction materials (e.g. aggregates, sand and fill material) on sites should be covered with tarpaulin or similar fabric during rainstorms. | ^ |
| | S5.8 | - 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 | ^ |

| Implementation Schedule for Water Quality Measures | | | |
|---|---|---|---|
| **EIA for KTD Development Ref.** | **EIA for KTD – Roads D3A & D4A Ref.** | **Environmental Protection Measures / Mitigation Measures** | **Status** |
| | | sewerage system. | |
| | S5.8 | - 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. | ^ |
| S3.4 | | Construction site should be provided with adequately designed perimeter channel and pre-treatment facilities and proper maintenance. The boundaries of critical areas of earthworks should be marked and surrounded by dykes or embankments for flood protection. Temporary ditches should be provided to facilitate runoff discharge into the appropriate watercourses, via a silt retention pond. Permanent drainage channels should incorporate sediment basins or traps and baffles to enhance deposition rates. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94. | ^ |
| S3.4 | S5.8 | Ideally, construction works should be programmed to minimise surface excavation works during the rainy season (April to September). All exposed earth areas should be completed as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable.<br>If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means.<br>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. | ^ |
| S3.4 | | Sediment tanks of sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 $m^3$ capacity, are recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system capacity is flexible and able to handle multiple inputs from a variety of sources | ^ |

| Implementation Schedule for Water Quality Measures | | | |
|---|---|---|---|
| **EIA for KTD Development Ref.** | **EIA for KTD – Roads D3A & D4A Ref.** | **Environmental Protection Measures / Mitigation Measures** | **Status** |
| | | and particularly suited to applications where the influent is pumped. | |
| S3.4 | | Open stockpiles of construction materials (for examples, aggregates, sand and fill material) of more than 50 $m^3$ should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system. | ^ |
| S3.4 | | Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers. | ^ |
| S3.4 | | Precautions to be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecast, and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events. | ^ |
| S3.4 | | Oil interceptors should be provided in the drainage system and regularly cleaned to prevent the release of oils and grease into the storm water drainage system after accidental spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain. | NA |
| S3.4 | S5.8 | <u>Wheel Washing Water</u><br>All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and located wheel washing bay should be provided at every site exit, and wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains. | ^ |
| S3.4 | | <u>Drainage</u><br>It is recommended that on-site drainage system should be installed prior to the commencement of other construction activities. Sediment traps should be installed in order to minimise the sediment loading of the effluent prior to discharge into foul sewers. There should be no direct discharge of effluent from the site into the sea. | ^ |
| S3.4 | | All temporary and permanent drainage pipes and culverts provided | ^ |

| Implementation Schedule for Water Quality Measures | | | |
|---|---|---|---|
| **EIA for KTD Development Ref.** | **EIA for KTD – Roads D3A & D4A Ref.** | **Environmental Protection Measures / Mitigation Measures** | **Status** |
| | | to facilitate runoff discharge should be adequately designed for the controlled release of storm flows. All sediment control measures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rain storms. The temporarily diverted drainage should be reinstated to its original condition when the construction work has finished or the temporary diversion is no longer required. | |
| S3.4 | | All fuel tanks and storage areas should be provided with locks and be located on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank, to prevent spilled fuel oils from reaching the coastal waters of the Victoria Harbour WCZ. | ^ |
| S3.4 | S5.8 | <u>Sewage Effluent</u><br>Construction work force sewage discharges on site are expected to be connected to the existing trunk sewer or sewage treatment facilities. The construction sewage may need to be handled by portable chemical toilets prior to the commission of the on-site sewer system. Appropriate numbers of portable toilets should be provided by a licensed contractor to serve the large number of construction workers over the construction site. The Contractor should also be responsible for waste disposal and maintenance practices.<br>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 pollution problem after undertaking all required measures. | ^ |
| S3.4 | | <u>Stormwater Discharges</u><br>Minimum distances of 100 m should be maintained between the existing or planned stormwater discharges and the existing or planned seawater intakes | ^ |
| S3.4 | | <u>Debris and Litter</u><br>In order to maintain water quality in acceptable conditions with regard to aesthetic quality, contractors should be required, under conditions of contract, to ensure that site management is optimised | ^ |

| Implementation Schedule for Water Quality Measures | | | |
|---|---|---|---|
| **EIA for KTD Development Ref.** | **EIA for KTD – Roads D3A & D4A Ref.** | **Environmental Protection Measures / Mitigation Measures** | **Status** |
| | | and that disposal of any solid materials, litter or wastes to marine waters does not occur. | |
| | S5.8 | Boring and Drilling Water<br>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. | ^ |
| | S5.8 | Acid Cleaning, Etching and Pickling Wastewater<br>Acidic wastewater generated from acid cleaning, etching, pickling and similar activities should be neutralized to within the pH range of 6 to 10 before discharging into<br>foul sewers. | NA |
| | S5.8 | Effluent Discharge<br>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. Minimum distance of 100 m should be maintained between the discharge points of construction site effluent and the existing seawater intakes and the planned WSR mentioned in S5.3.1 as appropriate. 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. | ^ |
| | S5.8 | Accidental Spillage<br>Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation, should be observed and complied with for control of chemical wastes.<br>Any service shop and maintenance facilities should be located on | ^ |

| Implementation Schedule for Water Quality Measures | | | |
|---|---|---|---|
| **EIA for KTD Development Ref.** | **EIA for KTD – Roads D3A & D4A Ref.** | **Environmental Protection Measures / Mitigation Measures** | **Status** |
| | | 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. | |
| | S5.8 | 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:<br>- Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport. | ^ |
| | S5.8 | - Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents. | ^ |
| | S5.8 | - Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area. | ^ |

| Implementation Schedule for Waste Management Measures | | | |
|---|---|---|---|
| **EIA for KTD Development Ref.** | **EIA for KTD – Roads D3A & D4A Ref.** | **Environmental Protection Measures / Mitigation Measures** | **Status** |
| S3.5 | | Good Site Practices<br>It is not anticipated that adverse waste management related impacts would arise, provided that good site practices are adhered to. Recommendations for good site practices during construction activities include: | |
| S3.5 | | - Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site. | ^ |
| | S6.7 | - Prepare a Waste Management Plan, which becomes a part of the Environmental Management Plan, in accordance with the requirements stipulated in ETWB TC(W) No. 19/2005, approved by the Engineer/Supervising Officer of the Project based on current practices on construction sites. | ^ |
| S3.5 | S6.7 | - Training of site personnel in proper waste management and chemical waste handling procedures. | ^ |

| Implementation Schedule for Waste Management Measures | | | |
|---|---|---|---|
| **EIA for KTD Development Ref.** | **EIA for KTD – Roads D3A & D4A Ref.** | **Environmental Protection Measures / Mitigation Measures** | **Status** |
| S3.5 | S6.7 | - Provision of sufficient waste disposal points and regular collection for disposal. | ^* |
| S3.5 | S6.7 | - Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers. | ^ |
| S3.5 | | - A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites). | ^* |
| | S6.7 | - Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors. | ^ |
| | S6.7 | - Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycle. | ^ |
| S3.5 | | <u>Waste Reduction Measures</u><br>Good management and control can prevent the generation of a significant amount 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: | |
| S3.5 | S6.7 | - Sort C&D waste from demolition of the remaining structures to recover recyclable portions such as metals. | NA |
| S3.5 | S6.7 | - Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal. | ^ |
| S3.5 | S6.7 | - Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force. | ^ |
| S3.5 | | - Any unused chemicals or those with remaining functional capacity should be recycled. | ^ |
| S3.5 | S6.7 | - Proper storage and site practices to minimise the potential for damage or contamination of construction materials. | ^ |
| S3.5 | | <u>Construction and Demolition Materials</u><br>Mitigation measures and good site practices should be incorporated in the contract document to control potential environmental impact from handling and transportation of C&D material. The mitigation measures include: | |
| S3.5 | | - Where it is unavoidable to have transient stockpiles of C&D material within the Project work site pending collection for | ^ |

| Implementation Schedule for Waste Management Measures | | | |
|---|---|---|---|
| **EIA for KTD Development Ref.** | **EIA for KTD – Roads D3A & D4A Ref.** | **Environmental Protection Measures / Mitigation Measures** | **Status** |
| | | disposal, the transient stockpiles shall be located away from waterfront or storm drains as far as possible. | |
| S3.5 | | - Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric. | ^ |
| S3.5 | | - Skip hoist for material transport should be totally enclosed by impervious sheeting. | ^ |
| S3.5 | | - Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site. | ^ |
| S3.5 | | - The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores. | ^ |
| S3.5 | | - The load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure dust materials do not leak from the vehicle. | ^ |
| S3.5 | | - All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet. | ^ |
| S3.5 | | - The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading. | ^ |
| S3.5 | | - When delivering inert C&D material to public fill reception facilities, the material should consist entirely of inert construction waste and of size less than 250mm or other sizes as agreed with the Secretary of the Public Fill Committee. In order to monitor the disposal of the surplus C&D material at the designed public fill reception facility and to control fly tipping, a trip-ticket system as stipulated in the ETWB TCW No. 31/2004 “Trip Ticket System for Disposal of Construction and Demolition Materials” should be included as one of the contractual requirements and implemented by an Environmental Team undertaking the Environmental Monitoring and Audit work. An Independent Environmental Checker should be responsible for auditing the results of the system. | ^ |
| | S6.7 | - Plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation | ^ |

| Implementation Schedule for Waste Management Measures | | | |
|---|---|---|---|
| **EIA for KTD Development Ref.** | **EIA for KTD – Roads D3A & D4A Ref.** | **Environmental Protection Measures / Mitigation Measures** | **Status** |
| | | of waste. | |
| S3.5 | | Chemical Waste<br>After use, chemical wastes (for example, cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Spent chemicals should be collected by a licensed collector for disposal at the CWTF or other licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation. | ^ |
| | S6.7 | Separation of chemical wastes for special handling and appropriate treatment. | ^ |
| S3.5 | | General Refuse<br>General refuse should be stored in enclosed bins or compaction units separate from C&D material. A licensed waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material. Effective collection and storage methods (including enclosed and covered area) of site wastes would be required to prevent waste materials from being blown around by wind, wastewater discharge by flushing or leaching into the marine environment, or creating odour nuisance or pest and vermin problem. | ^ |

| Implementation Schedule for Landscape and Visual Measures | | | |
|---|---|---|---|
| **EIA for KTD Development Ref.** | **EIA for KTD – Roads D3A & D4A Ref.** | **Environmental Protection Measures / Mitigation Measures** | **Status** |
| S3.8.12 | | All existing trees should be carefully protected during construction. | ^* |
| S3.8.12 | | Trees unavoidably affected by the works should be transplanted where practical. Detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBC 2/2004 and 3/2006. Final locations of transplanted trees should be agreed prior to commencement of the work. | NA |
| S3.8.12 | | Control of night-time lighting. | ^ |
| S3.8.12 | | Erection of decorative screen hoarding. | ^ |
| | S7.9 | Construction Site Control<br>- CM1 - Minimized construction area and contractor's temporary works areas. | ^ |
| | | - CM2- Control of night-time lighting and glare by hooding all lights. | ^ |
| | | - CM3 - Erection of decorative mesh screens or construction | ^ |

| Implementation Schedule for Landscape and Visual Measures | | | |
|---|---|---|---|
| **EIA for KTD Development Ref.** | **EIA for KTD – Roads D3A & D4A Ref.** | **Environmental Protection Measures / Mitigation Measures** | **Status** |
| | | hoardings around works areas in visually unobtrusive colours. | |
| | | - CM4 - Reduction of construction period to practical minimum. | ^ |
| | | - CM5 - Limitation of / Ensuring no run-off into surrounding landscape and adjacent seawater areas. | ^ |
| | | - CM6 - Temporary or advance landscape should be provided along the temporary access roads to the Cruise Terminal until such time as road D3 is open. | NA |

| **Remarks:** | | | |
|---|---|---|---|
| ^ | Compliance of mitigation measure. | X | Non-compliance of mitigation measure. |
| N/A<br>N/A (1) | Not Applicable at this stage.<br>Not observed. | ● | Non-compliance but rectified by the contractor. |
| * | Recommendation was made during site audit but improved/rectified by the contractor. | # | Recommendation was made during audit and to be improved/ rectified by the contractor. |

**Mitigation Measures undertaken by the Contractor for site inspections**

| | |
|---|---|
| Date: | 10 September 2024 |
| Mitigation Measures: | Haul road was sprayed with water to maintain the entire road surface wet. |

| | |
|---|---|
| Date: | 19 September 2024 |
| Mitigation Measures: | All vehicles have been cleaned before leaving at vehicle every exit point. |

| | |
|---|---|
| Date: | 26 September 2024 |
| Mitigation Measures: | Recycle chemical waste bins were provided in the construction site. |

| | |
|---|---|
| Date: | 26 September 2024 |
| Mitigation Measures: | The silt curtains were deployed around the Harbour step. |

# Appendix Q – Summaries of Environmental Complaint, Warning, Summon and Notification of Successful Prosecution

**Reporting Month: September 2024**

| Contract No. | Record of Complaint (Yes/No) | Record of Warning (Yes/No) | Notification of Summons and Successful Prosecutions (Yes/No) |
|---|---|---|---|
| ED/2018/01 | No | No | No |

**Cumulative Statistics on Complaints, Notification of Summons and Successful Prosecutions up to reporting month**

| Contract No. | Record of Complaint | Record of Warning | Notification of Summons and Successful Prosecutions |
|---|---|---|---|
| ED/2018/01 | 17 | 0 | 0 |

| **Complaint Log for ED/2018/01** | | | | |
|---|---|---|---|---|
| Complaint Ref. No. | Date of Complaint | Description of Complaint | Investigation / Actions taken / Recommendations | Close-Out Date / Status |
| C0001 | A dust complaint was referred from the Contractor on 21 Oct 2020 regarding a public complaint via 1823 hotline (Case no. 3-6518939602) on 20 Oct 2020. | 1. The water spraying system was not operated in proper time.<br>2. Stockpile was not covered properly.<br>3. Haul road was not wetted.<br>4. Materials transported on trucks were not provided with mechanical covers. | Investigation<br>1. Based on the information provided by the Contractor on 22 Oct 2020, the water sprinklers system was sprayed every 15 minutes with 70 seconds interval automatically. For the area that water sprinklers system was not covered, manual water spraying was provided. Dump trucks were covered with mechanical cover after loading the materials. The stockpile area was covered by the tarpaulin during night time.<br>2. Based on the monitoring results on 16 Oct 2020, the 1-hour and 24-hour TSP results were below the Action Levels and Limit Levels.<br>3. Regular site inspection was conducted by ET on 22 Oct 2020, no adverse observation against the dust impact was recorded.<br><br>Action taken<br>As per the Contractor, the water sprinkler are now adjusted to start at 8:00am and end at 6:00pm for Monday to Saturday while from 8:00am to 5:00pm on Sunday. Water spraying are set with 5-minute time interval with duration 30-60 seconds.<br><br>Recommendations<br>To minimize the impact for air quality, mitigation measures should be enhanced specially in dry seasons are recommended:<br>1. Increase the frequency and duration for automatic water spraying system.<br>2. Main haul road and the area that water sprinklers system was not covered in the construction site should be wetted by water trucks or manually in regular basis.<br>3. Ensure stockpiling sites should be lined with impermeable sheeting and bunded. Stockpiles should be fully covered by impermeable sheeting at all time except during working process. | - Closed-out on 5 Nov 2020.<br>- No further complaint was received. |
| C0002 | A dust complaint was referred from the Contractor on 8 Sep 2021 through E-Mail regarding a complaint | Complaint of dust problem at the pavement of Muk Tai Street near Sports | Investigation<br>As per contractor, part of the complaint area was within the site boundary of the project.<br>1. Manual water spraying was provided.<br>2. The exposed surface and stockpile areas were covered by the impermeable | - Closed-out on 4 Oct 2021.<br>- No further complaint was received. |

| **Complaint Log for ED/2018/01** | | | | |
|---|---|---|---|---|
| Complaint Ref. No. | Date of Complaint | Description of Complaint | Investigation / Actions taken / Recommendations | Close-Out Date / Status |
| | received by EPD (EPD ref.: K19/RE/00021205-21) on 7 Sep 2021. | Park. | tarpaulin sheet.<br><br>Action taken<br>The exposed surface and stockpile area was covered by the impermeable tarpaulin sheet.<br><br>Recommendations<br>There was no direct evidence showing that the dust nuisance was caused by the contractor at the complaint area, however the contractor is recommended to implement the following measures to minimize the impact for air quality:<br>1. Ensure stockpiling sites should be lined with impermeable sheeting and bunded.<br>2. Stockpiles should be fully covered by impermeable sheeting at all time except during working process.<br>3. Ensure the work fulfill the relevant statutory requirements on control of air pollution.<br>4. Take necessary measures to minimize the environmental nuisance arising from the construction site. | |
| C0003 | A water discharge complaint was referred from the Contractor on 10 Dec 2021 through E-Mail regarding a complaint received by EPD (ref.: K19/RE/00029046-21) on 9 Dec 2021. | Complaint of muddy water being discharged into the sea of To Kwa Wan Typhoon Shelter via a DSD outfall near the roundabout of Shing Fung Road. | Investigation<br>Joint site inspection was conducted by ER, IEC, ET and the contractor on 14 Dec 2021, no adverse observation against the water impact was recorded.<br>1. There was no muddy water discharge to DSD outfall near the roundabout of Shing Fung Road.<br>2. The sandbag with layers and filter were provided at the manholes.<br><br>Action taken<br>- Sandbags and filter were used to block the manholes.<br>- Manholes had been adequately covered and replace the filter frequently.<br><br>Recommendations<br>There was no direct evidence showing that the water nuisance was caused by the contractor at the complaint area. | - Closed-out on 5 Jan 2022.<br>- No further complaint was received. |

| **Complaint Log for ED/2018/01** | | | | |
|---|---|---|---|---|
| Complaint Ref. No. | Date of Complaint | Description of Complaint | Investigation / Actions taken / Recommendations | Close-Out Date / Status |
| | | | Some of muddy water generated from wheel washing might be flow to the outfall inside the site boundary, however the contractor had taken the mitigation measure by using sandbag and filter to ease the nuisance. The contractor is recommended to implement the following measures to minimize the impact for waste water:<br>1. Enhance the sandbag with several layers instead of one layer only and replace the filter frequently.<br>2. Modify the wheel washing area such that the muddy water will be directly flow to the pit and then waste water treatment facility.<br>3. Take necessary measures to minimize the environmental nuisance arising from the construction site. | |
| C0004 | A dust complaint was received by EPD on 16 Dec 2022.<br><br>Contractor received Notification of Environmental Complaints from EPD (ref.: K19/RE/00029136-22) by E-Mail on 22 Dec 2021. | Complaint of mud/ silt being brought out by vehicles from the project site casing mud/silt accumulation on Shing Fung Road. | <u>Investigation</u><br>Regular site inspection was conducted by ET on 29 Dec 2022.<br>1. As per the Contractor, mud / slit generated from nearby construction sites might be brought to Shing Fung Road roundabout.<br>2. No adverse observation against the dust impact was recorded during site inspection.<br><br><u>Action taken</u><br>1. Watering manually frequently.<br>2. Haul Road surfaces were wetted by water truck.<br>3. Wheel washing for the trucks and vehicles before leaving the project site.<br><br><u>Recommendations</u><br>To minimize the impact for air quality, mitigation measures should be enhanced specially in dry seasons are recommended:<br>1. Increase the frequency and duration for automatic water spraying system.<br>2. Main haul road and the area that water sprinklers system was not covered in the construction site should be wetted by water trucks or manually in regular basis.<br>3. Regular wash and clean the share haul road and roundabout in Shing Fung Road. | - Closed-out on 13 Jan 2023.<br>- No further complaint was received. |

<table>
<tr><th colspan="5">Complaint Log for ED/2018/01</th></tr>
<tr><th>Complaint Ref. No.</th><th>Date of Complaint</th><th>Description of Complaint</th><th>Investigation / Actions taken / Recommendations</th><th>Close-Out Date / Status</th></tr>
<tr><td></td><td></td><td></td><td>4. Wheel washing for the trucks and vehicles before leaving the project site. The muddy water after the wheel washing should be directed to sedimentation tank and wastewater treatment facility before discharging to gully.<br>5. Ensure stockpiling sites should be lined with impermeable sheeting and bunded. Stockpiles should be fully covered by impermeable sheeting at all time except during working process.<br>6. Dusty materials transported on truck shall be covered.</td><td></td></tr>
<tr><td>C0005</td><td>A noise complaint was received by EPD on 21 Dec 2022.<br><br>Contractor received Notification of Environmental Complaints from EPD (EPD ref.: K19/RE/00029422-22) on 22 Dec 2022.<br><br>IEC received the notification on 22 Dec 2022 from EPD and forwarded the notification to CEDD, Contractor, ER and ET on same day.</td><td>Complaint of construction noise arising from the project site near Shing Kai Road and Muk Tai Street continued to 01:30 am on 21 Dec 2022.</td><td><u>Investigation</u><br>Regular site inspection was conducted by ET and the Contractor on 29 Dec 2022<br>1. The complaint was project-related as construction noise arose from the project site near Shing Kai Road and Muk Tai Street.<br>2. Status of CNPs in the work area near Shing Kai Road and Muk Tai Street were checked and all of them were valid. However, the CNPs only cover the period up to 2300.<br><br><table><tr><th>Construction Noise Permit</th><th>Valid Form</th><th>Valid Till</th></tr><tr><td>GW-RE1297-22</td><td>10 Dec 2022</td><td>08 Jun 2023</td></tr><tr><td>GW-RE1299-22</td><td>17 Dec 2022</td><td>15 Jun 2023</td></tr></table><br><u>Actions taken</u><br>1. Refresher training about CNP was provided to the labour on 22 Dec 2022.<br>2. No construction activities were allowed in the restricted hours for those areas without valid CNP.<br><br><u>Recommendations</u><br>To minimize the impact of construction noise, the following mitigation measures are recommended:<br>1. Provide regular training about CNP and other environmental issues to staff.<br>2. Regularly check the status of ALL CNP and other environmental permits.</td><td>- After six months of receiving the complaint, there was no further action from EPD.<br>- Closed-out on 29 Jun 2024.</td></tr>
<tr><td>C0006</td><td>A dust complaint was received by EPD on 6</td><td>Complaint of construction</td><td><u>Investigation</u><br>Site inspections were conducted by ET on 26 Jan 2023 and joint site inspection</td><td>- Closed-out on 16 Mar 2023.</td></tr>
</table>

| **Complaint Log for ED/2018/01** | | | | |
|---|---|---|---|---|
| Complaint Ref. No. | Date of Complaint | Description of Complaint | Investigation / Actions taken / Recommendations | Close-Out Date / Status |
| | Dec 2022.<br><br>Contractor (POC) received Notification of Environmental Complaints from EPD (ref.: K19/RE/00027862-22) by E-Mail on 7 Dec 2022.<br><br>IEC received the notification on 19 Jan 2023 and forwarded the notification to CEDD, ER and ET on same day. | dust arising from construction sites along Shing Fung Road. | was conducted by Contractor (POC), ER, ET and IEC on 8 Feb 2023.<br>1. The concerned area (roundabout) is the common road for public vehicles. In addition, construction vehicles from several nearby construction sites also use the concerned road, especially a lots of dump trucks.<br>2. Construction vehicles from Contractor (POC) project site are not allowed leaving the site to Shing Fung Road directly as the exit was blocked by barriers since 21 Jan 2023.<br>3. Worker of sub-contractor from Contractor (POC) wetted the part of the concerned road surface during the site inspection on 8 Feb 2023 to suppress dust emission.<br>4. No construction works was observed on 26 Jan 2023 and no adverse observation against the dust impact were found during the site inspection on both dates.<br><br><u>Action taken</u><br>1. Haul Road surfaces were wetted manually and washed the dusty water barrier regularly.<br>2. Wheel washing for the trucks and vehicles before leaving the project site directly through Shing Fung Road exit.<br>3. Construction vehicles from Contractor (POC) are not allowed leaving the site to Shing Fung Road directly as the exit was blocked by barriers since 21 Jan 2023.<br><br><u>Recommendations</u><br>There was no direct evidence showing that the dust nuisance was caused by the contractor at the complaint area, however Contractor (POC) is recommended to implement the following measures to minimize the impact for air quality:<br>1. Main haul road and the area that water sprinklers system was not covered in the construction site should be wetted manually in regular basis.<br>2. Regular wash the share haul road and roundabout in Shing Fung Road.<br>3. Wheel washing for the trucks and vehicles before leaving the project site. The muddy water after the wheel washing should be directed to sedimentation tank and wastewater treatment facility before discharging to | |

| Complaint Log for ED/2018/01 | | | | |
|---|---|---|---|---|
| Complaint Ref. No. | Date of Complaint | Description of Complaint | Investigation / Actions taken / Recommendations | Close-Out Date / Status |
| | | | gully.<br>4. Dusty materials transported on truck shall be covered. | |
| C0007 | A dust complaint was received by EPD on 19 Jan 2023.<br><br>Contractor (POC) received Notification of Environmental Complaints from EPD (ref.: K19/RE/00001988-23) by E-Mail on 2 Feb 2023.<br><br>IEC received the notification on 2 Feb 2023 and forwarded the notification to CEDD, ER and ET on the same day. | Complaint of dusty environment at the new road connecting Shing Fung Road and Shing Kai Road caused by vehicles from construction sites nearby. | <u>Investigation</u><br>Joint site inspection was conducted by Contractor (POC), ER, ET and IEC on 8 Feb 2023.<br>1. The concerned area (new road connecting Shing Fung Road & Shing Kai Road) has been open for public vehicles (not only project related vehicles) since 31 Dec 2022.<br>2. Construction vehicles from POC are not allowed leaving the site to Shing Fung Road directly with barriers blocked since 21 Jan 2023.<br>3. Contractor (POC) has restricted the construction vehicles from nearby construction site (Gammon site) using this site entrance for any construction activities since 4 Feb 2023.<br>4. Worker of sub-contractor from Contractor (POC) wetted the part of the concerned road surface during the site inspection on 8 Feb 2023 to suppress dust emission.<br>5. No adverse observation against the dust impact were found during the site inspection along the new road.<br><br><u>Action taken</u><br>1. Haul Road surfaces were wetted manually and washed the dusty water barrier regularly.<br>2. Wheel washing for the trucks and vehicles before leaving the project site.<br>3. Contractor (POC) has restricted the construction vehicles from nearby construction site (Gammon site) using this site entrance for any construction activities since 4 Feb 2023.<br><br><u>Recommendations</u><br>There was no direct evidence showing that the dust nuisance was caused by the contractor at the complaint area, however Contractor (POC) is recommended to implement the following measures to minimize the impact for air quality:<br>1. Main haul road and the area that water sprinklers system was not covered in | - Closed-out on 16 Mar 2023. |

| Complaint Log for ED/2018/01 | | | | |
|---|---|---|---|---|
| Complaint Ref. No. | Date of Complaint | Description of Complaint | Investigation / Actions taken / Recommendations | Close-Out Date / Status |
| | | | the construction site should be wetted by water trucks or manually in regular basis.<br>2. Regular wash the share haul road in Shing Fung Road.<br>3. Wheel washing for the trucks and vehicles before leaving the project site. The muddy water after the wheel washing should be directed to sedimentation tank and wastewater treatment facility before discharging to gully.<br>4. Dusty materials transported on truck shall be covered. | |
| C0008 | A dust complaint was received by EPD on 13 Feb 2023.<br><br>Contractor (POC) received the Notification of Environmental Complaints from EPD (ref.: K19/RE/00003909-23) by E-Mail on 17 Feb 2023 and forwarded the E-mail to ER, ET and IEC on same day. | Complaint of silt / mud accumulation on the new road connecting Shing Fung Road and Shing Kai Road caused by vehicles from construction sites nearby. | <u>Investigation</u><br>Joint site inspection was conducted by Contractor (POC), ER, ET and IEC on 23 Feb 2023 and regular site inspection was conducted by Contractor (POC), ER and ET on 2 Mar 2023.<br>1. The concerned area (new road connecting Shing Fung Road & Shing Kai Road) has been open for public vehicles (not only project related vehicles) since 31 Dec 2022. Vehicles from nearby construction sites also used the concerned road. Those are the possible sources of dust nuisance.<br>2. Construction vehicles from POC are not allowed leaving the site to Shing Fung Road directly with barriers blocked since 21 Jan 2023.<br>3. Contractor (POC) has restricted the construction vehicles from nearby construction site (Gammon site) using this site entrance for any construction activities since 4 Feb 2023.<br>4. As per Contractor (POC), EPD conducted site visit on 16 Feb 2023.<br>5. No adverse observation against the dust / muddy water impact were found during the site inspection on both dates.<br><br><u>Action taken</u><br>1. Construction vehicles from Contractor (POC) are not allowed leaving the site to Shing Fung Road directly as the exit was blocked by barriers since 21 Jan 2023.<br>2. Contractor (POC) has restricted the construction vehicles from nearby construction site (Gammon site) using this site entrance for any construction activities since 4 Feb 2023. | - Closed-out on 29 Mar 2023. |

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<tr><td></td><td></td><td></td><td>3. Haul Road surfaces were wetted manually and washed the dusty water barrier regularly.<br>4. Wheel washing for the trucks and vehicles before leaving the project site.<br>5. As per instruction from CEDD and AECOM, road washing along the new road (connecting Shing Fung Road and Shing Kai Road) and Shing Fung Road by water truck was conducted once a week as follow:<br><table><tr><th>Date</th><th>Road Washing by</th></tr><tr><td>8 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>9 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>14 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>22 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr></table>6. During the two site inspections, mitigation measures implemented by the Contractor (POC) were found properly based on existing site condition and resources.<br><br><u>Recommendations</u><br>There was no direct evidence showing that the dust nuisance was caused by the contractor at the complaint area, however Contractor (POC) is recommended to implement the following measures to minimize the impact for air quality:<br>1. Main haul road and the area that water sprinklers system was not covered in the construction site should be wetted by water trucks or manually in regular basis.<br>2. Regular wash the share haul road in Shing Fung Road.<br>3. Dusty materials transported on truck shall be covered.</td><td></td></tr>
<tr><td>C0009</td><td>A dust complaint was received by EPD on 15 Feb 2023.<br><br>Contractor (POC) received the Notification of Environmental</td><td>Complaint of mud / silt being brought out by vehicles from construction site at Shing Fung Road roundabout</td><td><u>Investigation</u><br>Joint site inspection was conducted by Contractor (POC), ER, ET and IEC on 23 Feb 2023 and regular site inspection was conducted by Contractor (POC), ER and ET on 2 Mar 2023.<br>1. The concerned area (new road connecting Shing Fung Road & Shing Kai Road) has been open for public vehicles (not only project related vehicles) since 31 Dec 2022. Vehicles from nearby construction sites also used the concerned road. Those are the possible sources of dust nuisance.</td><td>- Closed-out on 29 Mar 2023.</td></tr>
</table>

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<tr><td></td><td>Complaints from EPD (ref.: K19/RE/00004280-23) by E-Mail on 22 Feb 2023 and forwarded the E-mail to ER, ET and IEC on same day.</td><td>(near Lamp Post DF4831) causing mud / silt accumulation along Shing Fung Road.</td><td>2. Construction vehicles from POC are not allowed leaving the site to Shing Fung Road directly with barriers blocked since 21 Jan 2023.<br>3. Contractor (POC) has restricted the construction vehicles from nearby construction site (Gammon site) using this site entrance for any construction activities since 4 Feb 2023.<br>4. As per Contractor (POC), EPD conducted site visit on 16 Feb 2023.<br>5. No adverse observation against the dust impact were found during the site inspection on both dates.<br><br><u>Action taken</u><br>1. Construction vehicles from Contractor (POC) are not allowed leaving the site to Shing Fung Road directly as the exit was blocked by barriers since 21 Jan 2023.<br>2. Contractor (POC) has restricted the construction vehicles from nearby construction site (Gammon site) using this site entrance for any construction activities since 4 Feb 2023.<br>3. Haul Road surfaces were wetted manually and washed the dusty water barrier regularly.<br>4. Wheel washing for the trucks and vehicles before leaving the project site.<br>5. As per instruction from CEDD and AECOM, road washing along the new road (connecting Shing Fung Road and Shing Kai Road) and Shing Fung Road by water truck was conducted once a week as follow:<br><table><tr><th>Date</th><th>Road Washing by</th></tr><tr><td>8 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>9 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>14 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>22 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr></table>6. During the two site inspections, mitigation measures implemented by the Contractor (POC) were found properly based on existing site condition and resources.<br><br><u>Recommendations</u><br>There was no direct evidence showing that the dust nuisance was caused by the</td><td></td></tr>
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| **Complaint Log for ED/2018/01** | | | | |
|---|---|---|---|---|
| Complaint Ref. No. | Date of Complaint | Description of Complaint | Investigation / Actions taken / Recommendations | Close-Out Date / Status |
| | | | contractor at the complaint area, however Contractor (POC) is recommended to implement the following measures to minimize the impact for air quality:<br>1. Main haul road and the area that water sprinklers system was not covered in the construction site should be wetted by water trucks or manually in regular basis.<br>2. Regular wash the share haul road in Shing Fung Road.<br>3. Dusty materials transported on truck shall be covered. | |
| C0010 | A dust and muddy water complaint was received by Hotline 1823 on 9 Mar 2023.<br><br>ER received the transfer from the Hotline 1823 on 9 Mar 2023 and forwarded the E-mail to Contractor (POC), ET and IEC on same day. | Complaint of dusty environment at the new road (connecting Shing Fung Road and Shing Kai Road) and Shing Fung Road roundabout.<br><br>Worker wetted the road surface and might cause mud / silt problem. | <u>Investigation</u><br>Joint site inspection was conducted by Contractor (POC), ER, and ET on 16 Mar 2023 and 23 Mar 2023.<br>1. The concerned area (new road connecting Shing Fung Road & Shing Kai Road) has been open for public vehicles (not only project related vehicles) since 31 Dec 2022. Vehicles from nearby construction sites also used the concerned road. Those are the possible sources of dust nuisance.<br>2. Construction vehicles from POC are not allowed leaving the site to Shing Fung Road directly with barriers blocked since 21 Jan 2023.<br>3. Contractor (POC) has restricted the construction vehicles from nearby construction site (Gammon site) using this site entrance for any construction activities since 4 Feb 2023.<br>4. The sandbags were provided around the manholes.<br>5. No adverse observation against the dust / muddy water impact were found during the site inspection on both dates.<br><br><u>Action taken</u><br>1. Construction vehicles from Contractor (POC) are not allowed leaving the site to Shing Fung Road directly as the exit was blocked by barriers since 21 Jan 2023.<br>2. Contractor (POC) has restricted the construction vehicles from nearby construction site (Gammon site) using this site entrance for any construction activities since 4 Feb 2023.<br>3. Haul Road surfaces were wetted manually and washed the dusty water barrier regularly.<br>4. Wheel washing for the trucks and vehicles before leaving the project site. | - Closed-out on 6 Apr 2023. |

<table>
<tr><th colspan="5">Complaint Log for ED/2018/01</th></tr>
<tr><th>Complaint Ref. No.</th><th>Date of Complaint</th><th>Description of Complaint</th><th>Investigation / Actions taken / Recommendations</th><th>Close-Out Date / Status</th></tr>
<tr><td></td><td></td><td></td><td>5. As per instruction from CEDD and AECOM, road washing along the new road (connecting Shing Fung Road and Shing Kai Road) and Shing Fung Road by water truck was conducted once a week as follow:<br><table><tr><th>Date</th><th>Road Washing by</th></tr><tr><td>8 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>9 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>14 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>22 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr></table>6. The sandbags were provided around the manholes.<br>7. During the two site inspections, mitigation measures implemented by the Contractor (POC) were found properly based on existing site condition and resources.<br><br><u>Recommendations</u><br>There was no direct evidence showing that the dust nuisance was caused by the contractor at the complaint area, however Contractor (POC) is recommended to implement the following measures to minimize the impact for air and water quality:<br>1. Dusty materials transported on truck shall be covered.<br>2. Enhance the sandbags with several layers of filters and replace the filter frequently.</td><td></td></tr>
<tr><td>C0011</td><td>A muddy water complaint was received by EPD on 9 Mar 2023.<br><br>Contractor (POC) received the Notification of Environmental Complaints from EPD (ref.: K19/RE/00004280-23)</td><td>Complaint of water being sprayed onto vehicles passing by and mud / silt being washed into roadside gully near Shing Fung Road roundabout.</td><td><u>Investigation</u><br>Joint site inspection was conducted by Contractor (POC), ER and ET on 23 Mar 2023.<br>1. The concerned area (new road connecting Shing Fung Road & Shing Kai Road) has been open for public vehicles (not only project related vehicles) since 31 Dec 2022. Vehicles from nearby construction sites also used the concerned road. Those are the possible sources of dust / mud / silt nuisance.<br>2. The sandbags were provided around the manholes.<br>3. No adverse observation against the muddy water impact were found during the site inspection on both dates.</td><td>- Closed-out on 6 Apr 2023.</td></tr>
</table>

<table>
<tr><th colspan="5">Complaint Log for ED/2018/01</th></tr>
<tr><th>Complaint Ref. No.</th><th>Date of Complaint</th><th>Description of Complaint</th><th>Investigation / Actions taken / Recommendations</th><th>Close-Out Date / Status</th></tr>
<tr><td></td><td>by E-Mail on 22 Feb 2023 and forwarded the E-mail to ER, ET and IEC on same day.</td><td></td><td><u>Action taken</u><br>1. As per Contractor (POC), no manually road surfaces watering on Shing Fung Road after receiving complaint (16 Mar 2023).<br>2. As per instruction from CEDD and AECOM, road washing along the new road (connecting Shing Fung Road and Shing Kai Road) and Shing Fung Road by water truck was conducted once a week as follow:<br><table><tr><th>Date</th><th>Road Washing by</th></tr><tr><td>8 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>9 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>14 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>22 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr></table>3. The sandbags were provided around the manholes.<br><br><u>Recommendations</u><br>There was no direct evidence showing that the muddy water nuisance was caused by the contractor at the complaint area, however Contractor (POC) is recommended to implement the following measures to minimize the impact for air and water quality:<br>1. Enhance the sandbags with several layers of filters and replace the filter frequently.</td><td></td></tr>
<tr><td>C0012</td><td>A dust complaint was received by EPD on 31 May 2023.<br><br>Contractor (POC) received the Notification of Environmental Complaints from EPD (ref.: K19/RE/00013488-23) by E-Mail on 6 June</td><td>Complaint of silt / mud accumulation on the new road connecting Shing Fung Road and Shing Kai Road caused by vehicles from construction site nearby.</td><td><u>Investigation</u><br>Joint site inspection was conducted by Contractor (POC), ER and ET on 8 June 2023.<br>1. As per Mr. Tony Tang from POC, the concerned area was the section of Shing Fung Road at the entrance of Gammon site accommodation.<br>2. The new road connecting Shing Fung Road & Shing Kai Road) has been open for public vehicles (not only project related vehicles) since 31 December 2022. Vehicles from nearby construction sites also used the concerned road. Those are the possible sources of dust / silt nuisance.<br>3. As per Mr. Tony Tang from POC, recycled water was used in wheel washing machine near the entrance of Gammon site. Those are the possible sources of mud nuisance.</td><td>- Closed-out on 19 June 2023.</td></tr>
</table>

<table>
<tr><th colspan="4">Complaint Log for ED/2018/01</th></tr>
<tr><th>Complaint Ref. No.</th><th>Date of Complaint</th><th>Description of Complaint</th><th>Investigation / Actions taken / Recommendations</th><th>Close-Out Date / Status</th></tr>
<tr><td></td><td>2023 and forwarded the E-mail to ER, ET and IEC on same day.</td><td></td><td>4. No adverse observation against the dust impact were found during the site inspection.<br><br><u>Action taken</u><br>1. As per instruction from CEDD and AECOM, road washing along the new road (connecting Shing Fung Road and Shing Kai Road) and Shing Fung Road by water truck was conducted twice a week start from 11 May 2023.<table><tr><th>Date</th><th>Road Washing by</th></tr><tr><td>19 May 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>23 May 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>25 May 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>30 May 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>2 June 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>6 June 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>9 June 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>13 June 2023</td><td>Sweeper truck with water spraying truck</td></tr></table>2. Wheel washing for the vehicles before leaving the construction site.<br><br><u>Recommendations</u><br>There was no direct evidence showing that the dust nuisance was caused by the contractor at the complaint area, however Contractor (POC) is recommended to implement the following measures to minimize the impact for air quality:<br>1. Regular wash the share haul road in Shing Fung Road and Shing Kai Road.<br>2. Dusty materials transported on truck should be covered.</td><td></td></tr>
<tr><td>C0013</td><td>A water complaint was received by EPD on 19 June 2023.<br><br>Contractor (POC) received the Notification of Environmental</td><td>- Complaint of muddy water being discharged into Kai Tak Approach Channel on 18 Jun</td><td><u>Investigation</u><br>Joint site inspection was conducted by Contractor (POC), ER and ET on 6 Jul 2023.<br>1. As per Mr. Tony Tang from POC, the concerned area was the section of Shing Fung Road at the nearby channel.<br>2. Heavy raining was recorded on 18 Jun 2023. The recorded rainfall was 35.8mm (sourced from manned weather station of Hong Kong Observatory at https://www.hko.gov.hk/en/cis/dailyExtract.htm?y=2023&m=6). The</td><td>- Closed-out on 2 Aug 2023.</td></tr>
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| Complaint Log for ED/2018/01 | | | | |
|---|---|---|---|---|
| Complaint Ref. No. | Date of Complaint | Description of Complaint | Investigation / Actions taken / Recommendations | Close-Out Date / Status |
| | Complaints from EPD (ref.: K19/RE/00014944-23) by E-Mail on 29 June 2023 and forwarded the E-mail to ER, ET and IEC on 4 July 2023. | 2023.<br>- Complaint of construction work being conducted on the Sunday of 18 Jun 2023. | implication of heavy rainfall storm runoff might wash across the exposed soil surfaces which was direct muddy water discharge. This is the possible source of water nuisance.<br>3. As per Mr. Tony Tang from POC, no construction work was conducted on 18 Jun 2023. Based on the attendance record, 6 employees including 4 watchman, labourer and driver, were on site on 18 Jun 2023 and they were not involved in the construction work. In the joint site inspection, no construction work was conducted on the nearby channel.<br>4. No adverse observation against the muddy water impact were found during the site inspection on 14 and 20 June 2023, and 6 July 2023. The sedimentation tank and wastewater treatment plant are operating efficiently during the site inspection.<br><br><u>Action taken</u><br>1. The ditch is maintained regularly and excavated deeper by workers.<br>2. Pumps are placed at the ditch to prevent flooding and overflow.<br>3. Enhanced training for site workers to prevent flushing during heavy rain by placing pumps in the ditch to prevent flooding and overflow during periods of heavy rain during Tool- Box-Talk training.<br><br><u>Recommendations</u><br>There was no direct evidence showing that the muddy water nuisance was caused by the contractor at the complaint area, however Contractor (POC) is recommended to implement the following measures to minimize the impact for water quality:<br>1. Regular cleaning and maintenance drainage systems at the nearby Kai Tak Approach Channel. | |

| **Complaint Log for ED/2018/01** | | | | |
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| Complaint Ref. No. | Date of Complaint | Description of Complaint | Investigation / Actions taken / Recommendations | Close-Out Date / Status |
| C0014 | A polluting discharge complaint was received by EPD on 16 October 2023.<br>Contractor (POC) received the Notification of Environmental Complaints from EPD (ref.: K19/RE/00024581-23) by E-Mail on 19 October 2023 and forwarded the E-mail to ER, ET and IEC on 21 October 2023. | - Complaint of polluting discharge from the construction site of Stage 4 Infrastructure at the Former Runway and South Apron, Kowloon City ("illegal discharge from kai tak 6577 construction site the main contractor should be hip hing) | <u>Investigation</u><br>Joint site inspection was conducted by Contractor (POC), ER and ET on 26 October 2023.<br>1. The concerned area is near at Former Runway and South Apron, Kowloon City. Those are the possible sources should be illegal discharge from Kai Tak 6577 construction site which the main contractor should be hip hing. The possible source of polluting discharge does not come from the Contractor (POC).<br>2. No adverse observation against the muddy water impact were found during the site inspection on dates. No surface runoff is observed, and the sedimentation tank and wastewater treatment plant were implemented normally.<br><br><u>Action taken</u><br>1. As per Contractor (POC), no wastewater generated at concerned area and ensure fulfil the conditions stipulated in the valid WPCO licence after receiving complaint (16 October 2023). The effluent discharge has been implemented properly.<br>2. The silt curtain has been installed around the construction activities at the concerned area. (referring to Photo 2) The sedimentation tank and wastewater treatment has been implemented properly.<br>3. The pump has been installed and collected sewage at the channel which can minimize water quality impacts and prevent overload the foul sewage system. (referring to Photo 3) The channel and ditches have been clear after receiving complaint.<br><u>Recommendations</u><br>There was no direct evidence showing that the muddy water nuisance was caused by the contractor at the complaint area, however Contractor (POC) is recommended to implement the following measures to minimize the impact for water quality: | - Closed-out on 15 November 2023. |

| **Complaint Log for ED/2018/01** | | | | |
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| Complaint Ref. No. | Date of Complaint | Description of Complaint | Investigation / Actions taken / Recommendations | Close-Out Date / Status |
| | | | 1. The silt removal facilities, channels and manholes should be maintained regularly.<br>2. The silt curtain and equipment should be properly maintained. | |

<table>
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<tr><th>Complaint Ref. No.</th><th>Date of Complaint</th><th>Description of Complaint</th><th>Investigation / Actions taken / Recommendations</th><th>Close-Out Date / Status</th></tr>
<tr><td>C0015</td><td>A dust complaint was received by EPD on 12 December 2023. Contractor (POC) received the Notification of Environmental Complaints from EPD (ref.: K19/RE/00030287-23) by E-Mail on 19 December 2023 and forwarded the E-mail to ER, ET and IEC on 20 December 2023.</td><td>- Complaint of construction dust nuisance on Shing Fung Road.</td><td><u>Investigation</u><br>Joint site inspection was conducted by Contractor (POC), ER, and ET on 21 December 2023.<br>1. As per the email clarified by Mr. Tony Tang from POC on 20 December 2023, the concerned area (section of Shing Fung Road) was the junction of Road D3 and gate 2A& 2B.<br>2. The new road connecting Shing Fung Road & Shing Kai Road) has been open for public vehicles (not only project related vehicles) since 31 December 2022. Vehicles from nearby construction sites also used the concerned road. Those are the possible sources of dust / silt nuisance. The non-project of stockpiles is founded near the concerned road during the site inspection.<br>3. 3. As per Mr. Tony Tang from POC, recycled water was used in wheel washing machine near the entrance of Gammon site. The washing facilities and regular road watering are implemented.<br>4. No adverse observation against the dust impact were found during the site inspection. The washing facilities and dust control measures are implemented properly. <u>Action taken</u><br>1. As per instruction from CEDD and AECOM, road washing along the new road (connecting Shing Fung Road and Shing Kai Road) and Shing Fung Road by water truck was conducted once per week in December 2023.<br><table><tr><th>Date</th><th>Road Washing by</th></tr></table></td><td>- 17 January 2024</td></tr>
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<tr><td></td><td></td><td></td><td>
<table>
<tr><td>07 December 2023</td><td>Sweeper truck with water spraying truck</td></tr>
<tr><td>16 December 2023</td><td>Sweeper truck with water spraying truck</td></tr>
<tr><td>21 December 2023</td><td>Sweeper truck with water spraying truck</td></tr>
<tr><td>29 December 2023</td><td>Sweeper truck with water spraying truck</td></tr>
</table>
2. Wheel washing for the vehicles before leaving the construction site.<br>
<u>Recommendations</u><br>
There was no direct evidence showing that the dust nuisance was caused by the contractor at the complaint area, however Contractor (POC) is recommended to implement the following measures to minimize the impact for air quality:<br>
1. Regular wash the share haul road in Shing Fung Road and Shing Kai Road.<br>
2. Dusty materials transported on truck should be covered.
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<tr><td>Complaint Ref. No.</td><td>Date of Complaint</td><td>Description of Complaint</td><td>Investigation / Actions taken / Recommendations</td><td>Close-Out Date / Status</td></tr>
<tr><td>C0016</td><td>A dust complaint was received by Hotline 1823 on 20 May 2024. ER (AECOM) and Contractor (POC) received the transferred from Hotline 1823 (Case No. 3-8226038234) on 20 May 2024 and forwarded the E-mail to ET, and IEC on same day.</td><td>- The dust emission generated from a excavator near EVA No. 10 which affecting the surrounding residents. The complainant also expressed doubt the effectiveness of implementation of environmental management system.</td><td><u>Investigation</u><br>Joint site inspection was conducted by Contractor (POC), ER, and ET on 23 May 2024.<br>1. The complaint is not directly project-related since C&D stockpiling works from nearby construction sites. (locations referring to Attachment 2) Those are the possible sources of dust nuisance.<br>2. As per the email reply by Mr. Tony Tang from POC on 21 May 2024, the concerned area (section of Shing Fung Road) was near EVA No. 10. The POC proposed to implement measures for mitigate the dust nuisance.<br>3. The nearest surrounding resident to the concerned area is 580.23m (locations referring to Attachment 1)<br>4. As per Mr. Tony Tang from POC, POC will provide a worker starting from 22 May 2024 to spray water at the concerned location (Near EVA No. 10) within office hour to suppress dust emission no matter there is any loading or unloading of dusty materials site activities. (locations referring to Attachment 3)<br>5. Based on the monitoring results on 20 May 2024, 1-hour and 24-hour TSP results were below the Action Levels and Limit as shown as below.
<table>
<tr><td></td><td colspan="2">AM3</td><td colspan="2">AM4(A)</td><td colspan="2">AM7</td></tr>
<tr><td></td><td>1-hour TSP</td><td>24-hour TSP</td><td>1-hour TSP</td><td>24-hour TSP</td><td>1-hour TSP</td><td>24-hour TSP</td></tr>
<tr><td>Measured result ($\mu g/m^3$)</td><td>44 -48</td><td>42</td><td>56-63</td><td>/</td><td>53 – 57</td><td>54</td></tr>
</table></td><td>- Closed-out on 04 June 2024</td></tr>
</table>

**Complaint Log for ED/2018/01**

| Complaint Ref. No. | Date of Complaint | Description of Complaint | Investigation / Actions taken / Recommendations | Close-Out Date / Status |
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| | | | | | | |
|---|---|---|---|---|---|---|
| Action Level ($\mu g/m^3$) | 297 | 182 | 326 | 187 | 315 | 181 |
| Limit Level ($\mu g/m^3$) | 500 | 260 | 500 | 260 | 500 | 260 |

6. The effectiveness of the environmental management system implemented has been reviewed.
7. No adverse observation against the dust impact were found during the site inspection. The dust control measures are implemented properly. (referring to Attachment 4)

Action taken

1. Regularly monitor all the Powered Mechanical Equipment (PME) to ensure no dark smoke emission. (refer to Attachment 3).
2. Arrange to cover the stockpile with tarpaulin sheet to prevent dust emission. (refer to Attachment 3)
3. Arrange resources to spray water during excavator loading and unloading of dusty material which have including fill material and sub-base. (refer to Attachment 3)

Recommendations

There was no direct evidence showing that the dust nuisance was caused by the contractor at the complaint area, however Contractor (POC) is recommended to implement the following measures to minimize the impact for air quality:

| **Complaint Log for ED/2018/01** | | | | |
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| Complaint Ref. No. | Date of Complaint | Description of Complaint | Investigation / Actions taken / Recommendations | Close-Out Date / Status |
| | | | 1. The share haul road in Shing Fung Road should be washed regularly.<br>2. Dust mitigation control should be done at the work site 8 times per day.<br>3. Stockpiling sites should be lined with impermeable sheeting and bunded.<br>4. Stockpiles should be fully covered by impermeable sheeting to reduce dust emission. | |

| **Complaint Log for ED/2018/01** | | | | |
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| Complaint Ref. No. | Date of Complaint | Description of Complaint | Investigation / Actions taken / Recommendations | Close-Out Date / Status |
| C0017 | A waste management complaint was received by Hotline 1823 on 25 May 2024.<br>The public complaint is received via 1823 (Case No.: 3-8234938050) on 25 May 2024 and forwarded by CEDD on 27 May 2024, and forwarded to ER, Contractor, ET and IEC. | - Rodent problem at the junction of Shing Kai Road & Shing Fung Road | <u>Investigation</u><br>Joint site inspection was conducted by Contractor (POC), ER, IEC and ET on 30 May 2024.<br>1. Accumulation of waste was found in the concerned area, the grade road (Shing Kai Road to NSR) and the junction of Road D3 (Shing Kai Road Junction). (refer to Photo Record 7 of Attachment 3)<br>2. No trace of rats was found during inspection but flies were present. (refer to Photo Record 6 of Attachment 3)<br>3. Waste management measures were not implemented properly. There were no sufficient waste disposal points and regular dispose of waste at the concerned area (refer to Photo Record 8 of Attachment 3).<br>4. The complaint was project-related as improper disposal of waste could lead to occurrence of rats.<br><u>Action taken</u><br>1. Poisonous rat bait was placed within the site boundary (refer to Photo Record 2,3,4 of Attachment 3).<br>2. Workers received regular briefing about proper waste management (refer to Photo Record 5 of Attachment 3).<br>3. The general waste was collected and removed after site inspection on 30 May 2024. (refer to Photo Record 9 and 10 of Attachment 3).<br><br><u>Recommendations</u><br>There was related evidence showing that the waste nuisance at the concerned area was caused by the Contractor (POC). However, it is recommended to | - Closed-out on 04 June 2024 |

| **Complaint Log for ED/2018/01** | | | | |
|---|---|---|---|---|
| Complaint Ref. No. | Date of Complaint | Description of Complaint | Investigation / Actions taken / Recommendations | Close-Out Date / Status |
| | | | implement the following measures to minimize the impact of waste accumulation<br>1. Multiple waste disposal points should be set up for proper waste storage.<br>2. Frequency of waste cleaning and collection should be increased to prevent waste accumulation.<br>3. Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycle. | |