

MTR Corporation Limited

**Shatin to Central Link –
Hung Hom to Admiralty Section**

Monthly EM&A Report No. 102

[Period from 1 to 31 October 2022]

(November 2022)

Verified by: 
_____ Claudine LEE

Position: Independent Environmental Checker

Date: _____ 10 November 2022

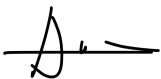
MTR Corporation Limited

**Shatin to Central Link –
Hung Hom to Admiralty Section**

Monthly EM&A Report No. 102

[Period from 1 to 31 October 2022]

(November 2022)

Certified by:  Alex Siu

Position: Environmental Team Leader

Date: 10 November 2022



MTR Corporation Limited

Consultancy Agreements
No. C11033B

**Shatin to Central Link - Hung Hom to
Admiralty Section**

Monthly EM&A Report No. 102

[Period from 1 to 31 October 2022]

| | Name | Signature |
|----------------------|--------------------------|---|
| Prepared & Checked: | <i>JT</i> Joanne Tsoi |  |
| Reviewed & Approved: | <i>FC</i> Freeman Cheung |  |

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|---|------------------------|
| Version: A | Date: 10 November 2022 |
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|---|
| <p>AECOM Asia Co. Ltd. 8/F, Grand Central Plaza, Tower 2, 138 Shatin Rural Committee Road, Shatin, NT, Hong Kong Tel: (852) 3922 9000 Fax: (852) 3922 9797 www.aecom.com</p> |
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1 INTRODUCTION

1.1 Background

- 1.1.1 The Shatin to Central Link (SCL) is a 17 km extension of the existing Ma On Shan Line (MOL) and East Rail Line (EAL) comprising (i) The East-West Corridor which extends the MOL from Tai Wai to Hung Hom via East Kowloon to connect with the West Rail Line (WRL) at Hung Hom Station (HUH) and Stabling Sidings at Hung Hom Freight Yard (HHS); and (ii) The North-South Corridor which is an extension of the East Rail Line (EAL) at Hung Hom across the harbour to Admiralty Station (ADM).
- 1.1.2 Shatin to Central Link – Hung Hom to Admiralty Section [SCL (HUH – ADM)] (hereafter referred to as “the Project”) is part of the SCL.
- 1.1.3 The Environmental Impact Assessment (EIA) Report for SCL (HUH-ADM) (Register No.: AEIAR-166/2012) was approved on 17 February 2012 under the Environmental Impact Assessment Ordinance (EIAO). Following the approval of the EIA Report, an Environmental Permit (EP) (EP No.: EP-436/2012) was granted on 22 March 2012 for construction and operation. Variations of environmental permit (VEP) was subsequently applied for EP-436/2012 and the latest Environmental Permit (EP No: EP-436/2012/F) was issued by Director of Environmental Protection (DEP) on 23 January 2019.

1.2 Project Programme

- 1.2.1 Eight civil construction works contracts of the Project have been awarded since January 2014. The construction of the Project commenced in May 2014 and is expected to complete in 2021¹. The Project will have to interface with other infrastructure projects, including Wan Chai Development Phase II and Central-Wan Chai Bypass. **Table 1.1** summarises the information of the awarded Works Contracts.

Table 1.1 Summary of Awarded Works Contracts

| Works Contract | Description | Construction Start Date | Contractor | Environmental Team |
|------------------------|---|-------------------------|--|--|
| 1121 ⁽¹⁾⁽⁸⁾ | NSL Cross Harbour Tunnels | March 2015 | Penta-Ocean – China State JV | Wellab Limited |
| 1122 ⁽²⁾ | Admiralty South Overrun Tunnel | August 2016 | Vinci Construction Grands Projects | AECOM Asia Co. Ltd. |
| 1123 | Exhibition Station and Western Approach Tunnels | June 2015 | Leighton – China State JV | AECOM Asia Co. Ltd. |
| 1124 ⁽⁶⁾ | Admiralty SCL Related Works | February 2017 | Build King SCL 1124 JV | Action-United Environmental Services and Consulting (AUES) |
| 1126 ⁽³⁾ | Reprovisioning of Harbour Road Sports Centre and Wan Chai Swimming Pool | July 2014 | Kaden Leader JV | Cinotech Consultants Ltd. (Cinotech) |
| 1128 ⁽⁷⁾ | South Ventilation Building to Admiralty Tunnels | November 2014 | Dragages Bouygues J.V. | AECOM Asia Co. Ltd. |
| 1129 ⁽⁴⁾ | SCL – Advance Works for NSL | May 2014 | Hsin Chong Construction Co. Ltd. | AECOM Asia Co. Ltd. |
| 11227 ⁽⁵⁾ | Advance Works for NSL Cross Harbour Tunnels | August 2014 | Concentric-Hong Kong River Joint Venture | Cinotech Consultants Ltd. (Cinotech) |

¹ The commissioning date of SCL(HUH-ADM) will very likely be deferred to 2021 to allow flexibility for the topside development of the Exhibition Station, and to cater for the construction works under other infrastructure projects on Hong Kong Island.

Note:

- (1) The environmental team of Works Contract 1121 was taken over by Wellab Limited since 1 January 2019.
- (2) Construction works under Works Contract 1122 were substantially completed since 10 November 2020 and the EM&A programme of the Project was terminated on 12 December 2020.
- (3) Construction works under Works Contract 1126 was completed on 17 May 2015.
- (4) Construction works under Works Contract 1129 was completed on 20 July 2015.
- (5) Construction works in Victoria Harbour and Shek O Casting Basin under Works Contract 11227 were completed on 15 and 20 December 2014 respectively.
- (6) Construction works under Works Contract 1124 were substantially completed since 30 September 2021 and the EM&A programme of the Project was terminated on 30 November 2021.
- (7) Construction works under Works Contract 1128 were substantially completed since 30 September 2021 and the EM&A programme of the Project was terminated on 30 November 2021.
- (8) Construction works under Works Contract 1121 were substantially completed since 30 October 2021 and the EM&A programme of the Project was terminated on 31 January 2022.

1.3 Purpose of the Report

- 1.3.1 The Environmental Monitoring and Audit (EM&A) programme for the Project commenced in May 2014. This is the one hundred and second EM&A Report for the Project which summarises the EM&A works undertaken by the respective Contractor's ET during the period from 1 to 31 October 2022.

2 ENVIRONMENTAL MONITORING AND AUDIT

2.1 EM&A Results

2.1.1 The EM&A Report for Works Contract 1123 prepared by the Contractor's ET is provided in **Appendix A**. The EM&A Report provides details of the project information, EM&A requirements, impact monitoring and audit results for the Contract.

2.1.2 A summary of the major construction activities undertaken by the Contractor of Works Contract during the reporting period are presented in **Table 2.1**.

Table 2.1 Summary of Major Construction Activities in the Reporting Period

| Works Contract | Site | Construction Activities |
|----------------|---|--|
| 1123 | Overall | <ul style="list-style-type: none"> The Station was Handed Over to MTR Operation Team. |
| | Zone 1 – PTI Area | <ul style="list-style-type: none"> N/A. |
| | Zone 2 | <ul style="list-style-type: none"> N/A. |
| | Zone 3 – Swimming Pool Area (including W4, W5, partial W6, W7a and W7b) | <ul style="list-style-type: none"> LCSD Access Road – Drainage Works, Foundation for External Fence and Backfilling, Road / Footpath Pavement, Fence / Access Gates Installation. |
| | Zone 4 – Tunnel at Tonnochy Road | <ul style="list-style-type: none"> Wan Chai Sports Ground (WCSG) Reprovision Works – Cast Ground Slab and Construction of Spectator Stand Stair and Roof. |
| | Western Vent Shaft and WAT - Area C | <ul style="list-style-type: none"> Reinstatement of Staircase. |
| | WAT - Area B | <ul style="list-style-type: none"> N/A. |
| | WAT - Area A | <ul style="list-style-type: none"> Reinstatement of Staircase. |
| | Area W22 | <ul style="list-style-type: none"> Material Storage. |

2.1.3 During the reporting month, impact monitoring for air quality and construction noise were conducted in accordance with the EM&A Manual. Continuous noise monitoring was not required in the reporting period according to the Continuous Noise Monitoring Plan (CNMP). No exceedances of the Action / Limit Level of 24-hour TSP and construction noise due to the Project construction were recorded. Results of air quality and construction noise are summarised in **Tables 2.2** and **2.3** respectively. Details of the monitoring requirements, locations, equipment and methodology are presented in the EM&A Report (**Appendix A**).

Table 2.2 Summary of 24-Hour TSP Monitoring Results in the Reporting Period

| Monitoring Station ID | Location | TSP Concentration ($\mu\text{g}/\text{m}^3$) | Action Level ($\mu\text{g}/\text{m}^3$) | Limit Level ($\mu\text{g}/\text{m}^3$) | Exceedance due to the Project Construction (Yes/No) |
|--|--|--|---|--|---|
| Works Contract 1123⁽¹⁾ | | | | | |
| AM2 | Wan Chai Sports Ground ⁽²⁾⁽³⁾ | 12.8 – 45.6 | 160 | 260 | No |
| AM4 | Pedestrian Plaza ⁽⁴⁾ | 23.5 – 62.4 | 198 | 260 | No |

Note:

- (1) Dust monitoring at AM3 (Existing Harbour Road Sports Centre) was handed over from Works Contract 1126 to Works Contract 1123 in June 2015 and terminated on 6 May 2017 as demolition of Existing Harbour Road Sports Centre commenced on 8 May 2017.
- (2) The spectator stand at Wan Chai Sports Ground was not available for impact dust monitoring, therefore impact monitoring was conducted at the existing water pump room area at Wan Chai Sports Ground.
- (3) Dust monitoring at AM2 (Wan Chai Sports Ground) was handed over to Works Contract 1123 from Works Contract 1128 on 28 October 2015.
- (4) Dust monitoring at AM4 (Pedestrian Plaza) was handed over to Works Contract 1123 from Works Contract 1128 on 1 April 2021.

Table 2.3 Summary of Construction Noise Monitoring Results in the Reporting Period

| Monitoring Station ID | Location | Noise Level (L _{Aeq,30mins} , dB(A)) | | | Limit Level (dB(A)) | Exceedance due to the Project Construction (Yes/No) |
|----------------------------|----------------|---|----------|--------------------------|---------------------|---|
| | | Measured | Baseline | Corrected ⁽¹⁾ | | |
| Works Contract 1123 | | | | | | |
| NM2 ⁽²⁾⁽³⁾⁽⁴⁾ | Harbour Centre | 65.0–66.9 | 69.6 | < Baseline | 75 | No |

Note:

- (1) The measured noise levels are corrected against the corresponding baseline noise levels.
- (2) The impact monitoring at NM2 was handed over from Works Contract 1126 to Works Contract 1123 in June 2015.
- (3) Access to the designated monitoring location NM2 (i.e. Block A, Causeway Centre) was denied before the commencement of impact monitoring under Works Contract 1126. Alternative noise monitoring location proposed at Harbour Centre was approved by the ER and agreed by IEC. It was approved by EPD on 18 December 2017. Impact noise monitoring was carried out at Harbour Centre from 20 August 2014 onwards.
- (4) Impact noise monitoring has been carrying out on 7/F of Harbour Centre between 20 August and 15 December 2014, and on 8/F from 19 December 2014 onwards.

2.1.4 No environmental complaints, notification of summons and successful prosecutions were recorded in the reporting period. Log for environmental complaints, notification of summons and successful prosecutions is provided in **Table 2.5**.

Table 2.4 Log for Environmental Complaints, Notification of Summons and Successful Prosecutions for the Reporting Month

| Works Contract | Environmental Complaints | Notification of Summons | Successful Prosecutions |
|----------------|--------------------------|-------------------------|-------------------------|
| 1123 | 0 | 0 | 0 |

2.1.5 Regular site inspections were conducted by the Contractor's ET on a weekly basis to check the implementation of environmental pollution control and mitigation measures for the Project. No non-conformance was identified in the reporting period.

3 IMPLEMENTATION STATUS ON THE ENVIRONMENTAL PROTECTION REQUIREMENTS

3.1.1 The Contractor has implemented all mitigation measures and requirements as stated in the EIA Report, EM&A Manual and EP (EP-436/2012/F). The status of required submissions under the EP as of the reporting period are summarised in **Table 3.1**.

Table 3.1 Summary of EP Submissions Status

| EP Condition (EP-436/2012/F) | Submission | Submission date |
|------------------------------|---|---|
| Condition 1.11 | Notification of Commencement Date of Construction of the Project | 19 Dec 2012 |
| Condition 2.3 | Notification of Setup of Community Liaison Group | 22 Jun 2016 |
| Condition 2.5 | Management Organisation of Main Construction Companies | 5 Jan 2017 |
| Condition 2.6 | Construction Programme and EP Submission Schedule | 5 Jan 2017 |
| Condition 2.7 | Construction Noise Mitigation Measures Plan (CNMMP) | 9 Jun 2014 (1 st Submission) |
| | Works Contract 1126: Construction Noise Mitigation Measures Plan (CNMMP) | |
| Condition 2.7 | Works Contract 1123: Construction Noise Mitigation Measures Plan (CNMMP) | 24 Apr 2015 (1 st Submission) |
| | | 7 Jul 2015 (2 nd Submission) |
| | | 2 Oct 2015 (3 rd Submission) |
| | | 2 Jun 2016 (4 th Submission) |
| | | 28 Oct 2019 (5 th Submission) |
| Condition 2.8 | Continuous Noise Monitoring Plan (CNMP) | 9 Jun 2014 (1 st Submission) |
| | Works Contract 1126: Continuous Noise Monitoring Plan (CNMP) | |
| Condition 2.8 | Works Contract 1123: Continuous Noise Monitoring Plan (CNMP) | 24 Apr 2015 (1 st Submission) |
| | | 7 Jul 2015 (2 nd Submission) |
| | | 2 Jun 2016 (3 rd Submission) |
| | | 28 Oct 2019 (4 th Submission) |
| Condition 2.9 | Construction and Demolition Materials Management Plan (C&DMMP) | 6 Jul 2012 (1 st Submission) 12 Sep 2012 (2 nd Submission) 15 Oct 2012 (Approved) |
| Condition 2.10 | Works Contract 11227: Silt Curtain Deployment Plan for Trial Trenching in Victoria Harbour | 11 Jul 2014 |
| | Works Contract 1121: Silt Curtain Deployment Plan for Hung Hom Landfall and Trial Trench in Victoria Harbour | 17 Feb 2015 (1 st Submission) 2 Apr 2015 (2 nd Submission) 27 Oct 2015 (3 rd Submission) 29 Mar 2016 (4 th Submission) 19 Dec 2017 & 15 Jan 2018 (5 th Submission) |
| | Works Contract 1128: Silt Curtain Deployment Plan | 21 Mar 2018 (1 st Submission) 13 Apr 2018 (2 nd Submission) 17 Apr 2018 (Approved) |
| Condition 2.11 | Works Contract 11227: Silt Screen Deployment Plan | 11 Jul 2014 |
| | Works Contract 1121: Silt Screen Deployment Plan | 13 Feb 2015 |

| EP Condition (EP-436/2012/F) | Submission | Submission date |
|---|---|--|
| Condition 2.12 | Sediment Management Plan | 6 Jul 2012 (1 st Submission) 12 Sep 2012 (2 nd Submission) 5 Oct 2012 (3 rd Submission) 15 Oct 2012 (Approved) 3 Jul 2014 (4 th Submission) |
| Condition 2.14 | Visual, Landscape, Tree Planting & Tree Protection Plan | 14 Nov 2012 (1 st Submission) 3 Dec 2013 (2 nd Submission) 21 Aug 2014 (3 rd Submission) 9 Feb 2015 (4 th Submission) 27 May 2016 (5 th Submission) 29 Nov 2016 (6 th Submission) 19 Jan 2017 (7 th Submission) 11 Apr 2017 (8 th Submission) 20 Apr 2017 (Approved) 7 Feb 2018 (9 th Submission on 1122 revised landscape plans) 7 Mar 2018 (10 th Submission) 9 Mar 2018 (Approved) 18 Jun 2019 (11 th Submission on 1122 revised landscape plan) 5 Sep 2019 (12 th Submission) 19 Aug 2020 (13 th Submission on 1122 revised landscape plan) 21 Sep & 14 Oct 2020 (14 th Submission) 28 Oct 2020 (Approved) 20 Oct 2021 (15 th Submission) 28 Mar 2022 (Final Version) |
| Condition 2.23.1 | Works Contract 11227: Silt Curtain Deployment Plan for Shek O Works Contract 1121: Silt Curtain Deployment Plan for Shek O | 23 Jul 2014 (1 st Submission) 31 Jul 2014 (Approved) 4 Feb 2015 (1 st Submission) 4 Mar 2015 (2 nd Submission) 9 Mar 2015 (Approved) |
| Condition 2.24 | Contamination Assessment Plan (CAP) and Contamination Assessment Report (CAR) Remedial Action Plan (RAP) for the above-ground diesel tanks for Wan Chai Swimming Pool | CAP: 25 Sep 2012 (1 st Submission) 12 Nov 2012 (2 nd Submission) 22 Nov 2012 (Approved) CAR: 19 Mar 2013 (1 st Submission) 16 Apr 2013 (2 nd Submission) 21 May 2013 (3 rd Submission) 7 Jun 2013 (Approved) |
| Condition 2.26 | As-built Drawings for Landscape and Visual Mitigation Measures | 5 Jan 2018 (1 st Submission on Lo Wu Access Road) 11 Dec 2020 (2 nd Submission on Works Contract 1122) 2 Jun 2022 (3 rd Submission on Works Contract 1121, 1124 and 1128) 4 Aug 2022 (4 th Submission on Works Contract 1121, 1124, 1128 and 1129) |
| Condition 2.28 | Operational Ground-borne Noise Mitigation Measures Plan – Batch 1 Operational Ground-borne Noise Mitigation Measures Plan – Batch 2 | 26 Jun 2018 (1 st Submission) 2 Apr 2019 (2 nd Submission) 22 May 2019 (3 rd Submission) 21 Mar 2019 (1 st Submission) 22 May 2019 (2 nd Submission) 31 Jul 2019 (3 rd Submission) |


| EP Condition (EP-436/2012/F) | Submission | Submission date |
|---|---|--|
| | Final Operational Ground-borne Noise Mitigation Measures Plan | 15 Oct 2019 (Approved) |
| Condition 2.29 | As-built Drawing for Operational Ground-borne Noise Mitigation Measures | 21 Sep 2020 (1 st Submission) |
| Condition 2.30 | Noise Performance Test Report | 14 Jan 2022 (1 st Submission) 28 Feb 2022 (Approved) |
| Condition 2.31 | Fixed Plant Noise Audit Report | 14 Mar 2022 (1 st Submission) 22 Mar 2022 (Approved) |
| Condition 3.3 | Baseline Monitoring Report (for noise and air quality) | 4 Dec 2013 (1 st Submission) 5 Feb 2014 (2 nd Submission) |
| | Baseline Water Quality Monitoring Report | 23 Sep 2014 (1 st Submission) 18 Dec 2014 (2 nd Submission) |
| | Baseline Water Quality Monitoring Report for Temporary Marine Works at Shek O Casting Basin | 8 Jul 2014 (1 st Submission) 11 Aug 2014 (2 nd Submission) |
| Condition 3.4 | Monthly EM&A Reports No.1 - 100 | Reported in previous Monthly EM&A Reports |
| | Final EM&A Review Report for Works Contract 1127 | 12 Feb 2015 |
| | Final EM&A Review Report for Works Contract 1126 | 25 Jun 2015 (1 st Submission) 4 Sep 2015 (2 nd Submission) |
| | Final EM&A Review Report for Works Contract 1129 | 30 Sep 2015 |
| | Final EM&A Review Report for Works Contract 1122 | 11 Feb 2021 |
| | Final EM&A Review Report for Works Contract 1124 | 14 Jan 2022 |
| | Final EM&A Review Report for Works Contract 1128 | 14 Jan 2022 |
| | Final EM&A Review Report for Works Contract 1121 | 15 Feb 2022 |
| | Monthly EM&A Report No.101 | 14 Oct 2022 |

Appendix A

**Monthly EM&A Report for October 2022 – SCL Works
Contract 1123 Exhibition Station and Western Approach
Tunnel**

Leighton – China State J.V.**Shatin to Central Link -
Hung Hom to Admiralty Section****Works Contract 1123 -
Exhibition Station and Western Approach Tunnel****Monthly EM&A Report for
October 2022**

[November 2022]

| | Name | Signature |
|---------------------------------|---|---|
| Prepared & Checked: | Lemon Lam |  |
| Reviewed, Approved & Certified: | Y W Fung (Contractor's Environmental Team Leader) |  |

Version: 0

Date: 10 November 2022

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This Environmental Monitoring and Audit Report is prepared for Leighton – China State J.V. and is given for its sole benefit in relation to and pursuant to SCL1123 and may not be disclosed to, quoted to or relied upon by any person other than Leighton – China State J.V. without our prior written consent. No person (other than Leighton – China State J.V. into whose possession a copy of this report comes may rely on this plan without our express written consent and Leighton – China State J.V. may not rely on it for any purpose other than as described above.

AECOM Asia Co. Ltd.

12/F, Grand Central Plaza, Tower 2, 138 Shatin Rural Committee Road, Shatin, NT, Hong Kong

Tel: (852) 3922 9000

Fax: (852) 2317 7609

www.aecom.com

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EXECUTIVE SUMMARY

Shatin to Central Link Contract 1123 – Exhibition Station and Western Approach Tunnel (hereafter called “the Project”) covers part of the construction of the Shatin to Central Link (SCL).

The Project comprises the construction of an underground station (Exhibition Station) and 300 m of cut and cover tunnel (Western Approach Tunnel) along Convention Avenue.

The EM&A programme commenced on 1 June 2015. The impact EM&A for the Project includes air quality and noise monitoring.

This report documents the findings of EM&A works conducted in the period between 1 and 31 October 2022. As informed by the Contractor, major activities in the reporting period were:

| Location | Site Activities |
|--|--|
| Overall | <ul style="list-style-type: none"> The station was handed over to MTR operation team. |
| Exhibition Station (Zone 1 - PTI Area) | <ul style="list-style-type: none"> N/A |
| Harbour Road Sport Centre (Zone 2) | <ul style="list-style-type: none"> N/A |
| Exhibition Station (Zone 3 - Swimming Pool Area) (including W7a, W7b, W4, W5 and partial W6) | <ul style="list-style-type: none"> LCSD Access Road - Drainage Works, foundation for external fence and backfilling, road/footpath pavement, fence/access gates installation. |
| Exhibition Station (Zone 4 - Tunnel at Tonnochy Road) | <ul style="list-style-type: none"> Wan Chai Sports Ground (WCSG) reprovion works – Cast ground slab and construction of spectator stand stair and roof. |
| Western Vent Shaft and WAT Area C | <ul style="list-style-type: none"> Reinstatement of staircase. |
| WAT Area B | <ul style="list-style-type: none"> N/A |
| WAT Area A | <ul style="list-style-type: none"> Reinstatement of staircase. |
| Area W22 | <ul style="list-style-type: none"> Material Storage. |

Breaches of Action and Limit Levels for Air Quality

No exceedance of Action and Limit Level of air quality was recorded in the reporting month.

Breaches of Action and Limit Levels for Noise

Regular Noise Monitoring

No Action Level exceedance was recorded since no noise related complaint was received in the reporting month.

No exceedance of Limit Level of noise was recorded in the reporting month.

Complaint, Notification of Summons and Successful Prosecution

No complaint, notification of summons and successful prosecution were received in the reporting month.

Reporting Changes

There was no reporting change in the reporting month.

Future Key Issues

Key issues to be considered in the next three months included:

| Location | Site Activities |
|--|---|
| Overall | <ul style="list-style-type: none"> The station was handed over to MTR operation team. |
| Exhibition Station (Zone 1 - PTI Area) | <ul style="list-style-type: none"> N/A |
| Harbour Road Sport Centre (Zone 2) | <ul style="list-style-type: none"> N/A |
| Exhibition Station (Zone 3 - Swimming Pool Area) (including W7a, W7b, W4, W5 and partial W6) | <ul style="list-style-type: none"> LCSD Access Road - Drainage Works, foundation for external fence and backfilling, road/footpath pavement, fence/access gates installation |
| Exhibition Station (Zone 4 - Tunnel at Tonnochy Road) | <ul style="list-style-type: none"> Wan Chai Sports Ground (WCSG) reprovion works – Spectator stand wet trade, E&M works and dry trade. |
| Western Vent Shaft and WAT Area C | <ul style="list-style-type: none"> Reinstatement of staircase, demolition of temp diverted staircase, reinstatement, hardscape and paving works. |
| WAT Area B | <ul style="list-style-type: none"> N/A |
| WAT Area A | <ul style="list-style-type: none"> Reinstatement of staircase, demolition of temp diverted staircase, reinstatement of HKCEC hardscape and paving works. |
| Area W22 | <ul style="list-style-type: none"> Material Storage. |

Potential environmental impacts arising from the above construction activities are mainly associated with construction dust, construction noise, water quality and waste management.

1 INTRODUCTION

Leighton – China State Joint Venture (JV) was commissioned by MTR as the Civil Contractor for Works Contract 1123. AECOM Asia Company Limited (AECOM) was appointed by JV as the Environmental Team (ET) to undertake the Environmental Monitoring and Audit (EM&A) programme during construction phase of the Project.

1.1 Purpose of the Report

- 1.1.1 This is the 87th monthly EM&A Report which summaries the impact monitoring results and audit findings for the Project during the reporting period between 1 and 31 October 2022.

1.2 Report Structure

- 1.2.1 This monthly EM&A Report is organized as follows:

- Section 1: Introduction
- Section 2: Project Information
- Section 3: Environmental Monitoring Requirement
- Section 4: Implementation Status of Environmental Mitigation Measures
- Section 5: Monitoring Results
- Section 6: Environmental Site Inspection and Audit
- Section 7: Environmental Non-conformance
- Section 8: Future Key Issues
- Section 9: Conclusions and Recommendations

2 PROJECT INFORMATION

2.1 Background

- 2.1.1 The Shatin to Central Link (SCL) is a 17km extension of the existing Ma On Shan Line (MOL) and East Rail Line (EAL) comprising (i) The East-West Corridor which extends the MOL from Tai Wai via East Kowloon to connect with the West Rail Line (WRL) at Hung Hom Station (HUH); and (ii) The North-South Corridor which is an extension of the East Rail Line (EAL) at Hung Hom across the harbour to Admiralty Station (ADM).
- 2.1.2 The Environmental Impact Assessment (EIA) Reports for SCL – Hung Hom to Admiralty Section [SCL (HUH-ADM)] (Register No.: AEIAR-166/2012) was approved on 17 February 2012 under the Environmental Impact Assessment Ordinance (EIAO). Following the approval of the EIA Report, an Environmental Permit (EP) was granted on 22 March 2012, which covers SCL (HUH-ADM) EP No.: EP-436/2012), for the construction and operation. Variation of EP (VEP) was subsequently applied and the latest EP (EP No. EP-436/2012/F) was issued by the Director of Environmental Protection (DEP) on 23 January 2019.
- 2.1.3 The construction of the SCL is divided into different civil construction works contracts and Works Contract 1123 – Exhibition Station and Western Approach involves the construction of an underground station (Exhibition Station) and 300m of cut and cover tunnel (Western Approach Tunnel) along Convention Avenue.
- 2.1.4 The site layout plan of the Project is shown in **Figure 1.1**.

2.2 Site Description

- 2.2.1 The major construction activities under Works Contract 1123 include:
- (a) Site preparation;
 - (b) Demolition works;
 - (c) Utilities works;
 - (d) Box Culvert works;
 - (e) Diaphragm wall construction and piling works;
 - (f) Pile Removal works;
 - (g) Excavation & Lateral Support (ELS) works; and
 - (h) Re-provisioning/ Reinstatement works.

2.3 Construction Programme and Activities

2.3.1 The major construction activities undertaken in the reporting month are summarised below:

Table 2.1 Major Construction Activities in the Reporting Month

| Location | Site Activities |
|--|--|
| Overall | <ul style="list-style-type: none"> The station was handed over to MTR operation team. |
| Exhibition Station (Zone 1 - PTI Area) | <ul style="list-style-type: none"> N/A |
| Harbour Road Sport Centre (Zone 2) | <ul style="list-style-type: none"> N/A |
| Exhibition Station (Zone 3 - Swimming Pool Area) (including W7a, W7b, W4, W5 and partial W6) | <ul style="list-style-type: none"> LCSD Access Road - Drainage Works, foundation for external fence and backfilling, road/footpath pavement, fence/access gates installation. |
| Exhibition Station (Zone 4 - Tunnel at Tonnochy Road) | <ul style="list-style-type: none"> Wan Chai Sports Ground (WCSG) reprovision works – Cast ground slab and construction of spectator stand stair and roof. |
| Western Vent Shaft and WAT Area C | <ul style="list-style-type: none"> Reinstatement of staircase. |
| WAT Area B | <ul style="list-style-type: none"> N/A |
| WAT Area A | <ul style="list-style-type: none"> Reinstatement of staircase. |
| Area W22 | <ul style="list-style-type: none"> Material Storage. |

2.3.2 The construction programme is presented in **Appendix A**.

2.4 Project Organisation

2.4.1 The project organization structure is shown in **Appendix B**. The key personnel contact names and numbers for the Project are summarised in **Table 2.2**.

Table 2.2 Contact Information of Key Personnel

| Party | Role | Position | Name | Telephone | Fax |
|-----------|--------------------------------------|---|------------------|-----------|-----------|
| MTR | Residential Engineer (ER) | Senior Construction Manager – SCL Civil | Mr. Mike Bezzano | 3959 2128 | 3959 2200 |
| | | SCL Project Environmental Team Leader | Mr. Alex Siu | 3127 6292 | 3127 6422 |
| Meinhardt | Independent Environmental Checker | Independent Environmental Checker | Ms. Claudine Lee | 2859 5409 | 2540 1580 |
| JV | Contractor | Project Director | Mr. Mark Challis | 3973 1997 | 31051126 |
| | | Environmental Engineer | Mr. Andy Leung | 3973 1498 | |
| AECOM | Contractor's Environmental Team (ET) | ET Leader | Mr. Y W Fung | 3922 9366 | 2317 7609 |

2.5 Status of Environmental Licences, Notification and Permits

2.5.1 Relevant environmental licenses, permits and/or notifications on environmental protection for this Project and valid in the reporting month are summarized in **Table 2.3**.

Table 2.3 Status of Environmental Licenses, Notifications and Permits

| Permit / License No. / Notification/ Reference No. | Valid Period | | Status | Remarks |
|--|--------------|-----------------|---------------------------------------|---|
| | From | To | | |
| Environmental Permit | | | | |
| EP-436/2012/F | 23 Jan 2019 | - | Valid | |
| Construction Noise Permit | | | | |
| GW-RS730-22 | 5 Sep 2022 | 28 Feb 2023 | Valid (superseded GW-RS0562-22) | EXH (General) 24-hr Temporary Footbridge Remedial works (Welding set, hand-drill/grinder) + ABWF works (Ground & Underground) |
| GW-RS0818-22 | 30 Sep 2022 | 29 Mar 2023 | Valid | WAT Area B surface crane relocation + Battery drill |
| Wastewater Discharge License | | | | |
| WT00031573-2018 | 23 Jul 2018 | 31 Jul 2023 | Valid | For W15d, W13 & W6 |
| WT00031235-2018 | 23 Jul 2018 | 31 Jul 2023 | Valid | For W25 |
| WT00037120-2020 | 18 Jan 2021 | 30 Sep 2025 | Valid | For W1a, 1b |
| WT00038058-2021 | 13 Jul 2021 | 30 Apr 2025 | Valid | For site portion W15a, W16, W17 & 18a |
| WT00038215-2021 | 13 Jul 2021 | 30 Jun 2025 | Valid | For site portion W9a, W9b, W10 W12T |
| Chemical Waste Producer Registration | | | | |
| 5213-135-L2881-01 | 02 Apr 2015 | End of Contract | Valid | For whole site at Wan Chai Area |
| Marine Dumping Permit | | | | |
| - | - | - | - | - |
| Billing Account for Construction Waste Disposal | | | | |
| 7021736 | 16 Feb 2015 | End of Contract | Valid | For Disposal of C&D Waste |
| Notification Under Air Pollution Control (Construction Dust) Regulation | | | | |
| 385128 | 1 Mar 2015 | End of Contract | Valid | For whole site at Wan Chai Area |

3 ENVIRONMENTAL MONITORING REQUIREMENT

3.1 Construction Dust Monitoring

Monitoring Requirements

- 3.1.1 In accordance with the approved EM&A Manuals, 24-hour Total Suspended Particulates (TSP) level at the designated air quality monitoring station is required. Impact 24-hour TSP monitoring should be carried out for at least once every 6 days. The Action and Limit level of the air quality monitoring is provided in **Appendix D**.

Monitoring Equipment

- 3.1.2 24-hour TSP air quality monitoring was performed using High Volume Sampler (HVS) located at the designated monitoring stations. The HVS meets all the requirements of the EM&A Manual. Brand and model of the equipment is given in **Table 3.1**.

Table 3.1 Air Quality Monitoring Equipment

| Equipment | Brand and Model |
|-----------------------------------|---|
| High Volume Sampler (24-hour TSP) | Andersen Total Suspended Particulate Mass Flow Controlled High Volume Air Sampler (Model No. GS 2310 (S/N:809 & 10273)) |
| Calibration Kit | TISCH Environmental Orifice (Model TE-5025A (Orifice I.D.: 843)) |

Monitoring Locations

- 3.1.3 The monitoring station for construction dust monitoring pertinent to the Project has been identified based on the approved EM&A Manual for SCL (HUH-ADM) of the Project. The location of the construction dust monitoring stations are summarised in **Table 3.2** and shown in **Figure 3.1**.

Table 3.2 Locations of Construction Dust Monitoring Station

| ID | Air Sensitive Receiver (ASR) ID in EIA Report | Dust Monitoring Station |
|-----------------------|---|-------------------------------------|
| AM2 ^[1] | EXA6 | Wanchai Sports Ground |
| AM3 ^{[2][3]} | EXA5 | Existing Harbour Road Sports Centre |
| AM4 ^[4] | EXA4 | Pedestrian Plaza |

Note:

[1] The impact monitoring at AM2 was handed over from Contract SCL1128 on 28 October 2015.

[2] The impact monitoring at AM3 was handed over from Contract SCL1126 in June 2015.

[3] The impact monitoring at AM3 terminated on 6 May 2017 as demolition of Existing Harbour Road Sports Centre commenced on 8 May 2017.

[4] The impact monitoring at AM4 was handed over from Contract SCL1128 in April 2021.

Monitoring Methodology

3.1.4 24-hour TSP Monitoring

- (a) The HVS was installed in the vicinity of the air sensitive receivers. The following criteria were considered in the installation of the HVS as far as practicable:-
- (i) A horizontal platform with appropriate support to secure the sampler against gusty wind was provided.
 - (ii) Two samplers should not be placed less than 2m apart from each others;
 - (iii) The distance between the HVS and any obstacles, such as buildings, was at least twice the height that the obstacle protrudes above the HVS.
 - (iv) A minimum of 2 meters separation from walls, parapets and penthouse for rooftop sampler.

- (v) A minimum of 2 meters separation from any supporting structure, measured horizontally is required.
 - (vi) No furnace or incinerator flues nearby.
 - (vii) Airflow around the sampler was unrestricted.
 - (viii) The sampler was located more than 20 meters from any dripline.
 - (ix) Any wire fence and gate, required to protect the sampler, did not obstruct the monitoring process.
 - (x) Permission was obtained to set up the samplers and access to the monitoring station.
 - (xi) A secured supply of electricity was obtained to operate the sampler.
- (b) Preparation of Filter Papers
- (i) Glass fibre filters, G810 were labelled and sufficient filters that were clean and without pinholes were selected.
 - (ii) All filters were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25 °C and not variable by more than ± 3 °C; the relative humidity (RH) was < 50% and not variable by more than $\pm 5\%$. A convenient working RH was 40%.
 - (iii) All filter papers were prepared and analysed by ALS Technichem (HK) Pty Ltd., which is a HOKLAS accredited laboratory and has comprehensive quality assurance and quality control programmes.
- (c) Field Monitoring
- (i) The power supply was checked to ensure the HVS works properly.
 - (ii) The filter holder and the area surrounding the filter were cleaned.
 - (iii) The filter holder was removed by loosening the four bolts and a new filter, with stamped number upward, on a supporting screen was aligned carefully.
 - (iv) The filter was properly aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter.
 - (v) The swing bolts were fastened to hold the filter holder down to the frame. The pressure applied was sufficient to avoid air leakage at the edges.
 - (vi) Then the shelter lid was closed and was secured with the aluminium strip.
 - (vii) The HVS was warmed-up for about 5 minutes to establish run-temperature conditions.
 - (viii) A new flow rate record sheet was set into the flow recorder.
 - (ix) On site temperature and atmospheric pressure readings were taken and the flow rate of the HVS was checked and adjusted at around 1.3 m³/min, and complied with the range specified in the EM&A Manual (i.e. 0.6-1.7 m³/min).
 - (x) The programmable digital timer was set for a sampling period of 24 hrs, and the starting time, weather condition and the filter number were recorded.
 - (xi) The initial elapsed time was recorded.
 - (xii) At the end of sampling, on site temperature and atmospheric pressure readings were taken and the final flow rate of the HVS was checked and recorded.
 - (xiii) The final elapsed time was recorded.
 - (xiv) The sampled filter was removed carefully and folded in half length so that only surfaces with collected particulate matter were in contact.
 - (xv) It was then placed in a clean envelope and sealed.
 - (xvi) All monitoring information was recorded on a standard data sheet.
 - (xvii) Filters were then sent to ALS Technichem (HK) Pty Ltd. for analysis.
- (d) Maintenance and Calibration
- (i) The HVS and its accessories were maintained in good working condition, such as replacing motor brushes routinely and checking electrical wiring to ensure a continuous power supply.
 - (ii) HVSs were calibrated using TE-5025A Calibration Kit upon installation and thereafter at bi-monthly intervals.
 - (iii) Calibration certificate of the TE-5025A Calibration Kit and the HVSs are provided in **Appendix E**.

Monitoring Schedule for the Reporting Month

- 3.1.5 The schedule for environmental monitoring in October 2022 is provided in Appendix F.

3.2 Construction Noise Monitoring**Monitoring Requirements**

- 3.2.1 In accordance with the EM&A Manual, impact noise monitoring should be conducted for at least once a week during the construction phase of the Project. **Table 3.3** summarises the monitoring parameters, frequency and duration of impact noise monitoring. The Action and Limit level of the noise monitoring is provided in **Appendix D**.

Table 3.3 Noise Monitoring Parameters, Frequency and Duration

| Parameter and Duration | Frequency |
|--|------------------------|
| 30-mins measurement at each monitoring station between 0700 and 1900 on normal weekdays. Leq, L ₁₀ and L ₉₀ would be recorded. | At least once per week |

Monitoring Equipment

- 3.2.2 Noise monitoring was performed using sound level meter at each designated monitoring station. The sound level meters deployed comply with the International Electrotechnical Commission Publications (IEC) 651:1979 (Type 1) and 804:1985 (Type 1) specifications. Acoustic calibrator was deployed to check the sound level meters at a known sound pressure level. Brand and model of the equipment is given in **Table 3.4**.

Table 3.4 Noise Monitoring Equipment for Regular Noise Monitoring

| Equipment | Brand and Model |
|------------------------------|---|
| Integrated Sound Level Meter | Model No. B&K 2250L (S/N: 2681366) Model No. B&K 2250 (S/N: 3001291) |
| Acoustic Calibrator | Model No. B&K 4231 (S/N: 3014024) Model No. B&K 4231 (S/N: 3006428) |

Monitoring Locations

- 3.2.3 The monitoring station for construction noise monitoring pertinent to the Project has been identified based on the approved EM&A Manual for SCL (HUH-ADM) of the Project. Location of the noise monitoring station is summarised in **Table 3.5** and shown in **Figure 3.1**.

Table 3.5 Noise Monitoring Station during Construction Phase

| Identification No. | Noise Sensitive Receiver (NSR) ID in EIA Report | Noise Monitoring Station | Alternative Noise Monitoring Location |
|--------------------|---|--------------------------|---------------------------------------|
| NM2 ^[1] | EX1 | Causeway Centre, Block A | Harbour Centre ^[2] |

Note:

[1] The impact monitoring at NM2 was handed over from Works Contract SCL1126 in June 2015.

[2] The Access to the designated monitoring location NM2 (i.e. Block A, Causeway Centre) was denied before the commencement of impact monitoring under Works Contract 1126. An alternative monitoring location at Harbour Centre was approved by the ER, agreed by IEC. The alternative monitoring location was approved by EPD on 18 December 2017.

Monitoring Methodology

- 3.2.4 Monitoring Procedure

- (a) Façade measurements were made at NM2.
- (b) The battery condition was checked to ensure the correct functioning of the meter.
- (c) Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
 - (i) frequency weighting: A
 - (ii) time weighting: Fast
 - (iii) time measurement: $L_{eq(30\text{-minutes})}$ during non-restricted hours i.e. 0700 – 1900 on normal weekdays.
- (d) Prior to and after each noise measurement, the meter was calibrated using the acoustic calibrator for 94 dB(A) at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1 dB(A), the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
- (e) During the monitoring period, the L_{eq} , L_{10} and L_{90} were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- (f) Noise measurement was paused during periods of high intrusive noise (e.g. dog barking, helicopter noise) if possible. Observations were recorded when intrusive noise was unavoidable.
- (g) Noise monitoring was cancelled in the presence of fog, rain, wind with a steady speed exceeding 5m/s, or wind with gusts exceeding 10m/s.

3.2.5 Maintenance and Calibration

- (a) The microphone head of the sound level meter was cleaned with soft cloth at regular intervals.
- (b) The meter and calibrator were sent to the supplier or HOKLAS laboratory to check and calibrate at yearly intervals.
- (c) Calibration certificates of the sound level meters and acoustic calibrators are provided in **Appendix E**.

Monitoring Schedule for the Reporting Month

3.2.6 The schedule for environmental monitoring in October 2022 is provided in **Appendix F**.

3.3 Continuous noise monitoring

3.3.1 According to EP conditions under EP-436/2012/F (Condition 2.7 and 2.8), the latest Construction Noise Mitigation Measures Plan (CNMMP) and Continuous Noise Monitoring Plan (CNMP) were submitted to EPD in June 2016, it is predicted that no residual air-borne construction noise impact exceeding the relevant noise criteria is anticipated. No continuous noise monitoring is required under this Contract.

3.4 Landscape and Visual

3.4.1 As per the EM&A Manuals, the landscape and visual mitigation measures shall be implemented and site inspections should be undertaken once every two weeks during the construction period. A summary of the implementation status is presented in **Section 6**.

4 IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES

- 4.1.1 The Contractor has implemented environmental mitigation measures and requirements as stated in the EIA Reports, the EP and EM&A Manuals. The implementation status of the environmental mitigation measures during the reporting period is summarized in **Appendix C**. Status of required submissions under the EP during the reporting period is summarised in **Table 4.1**.

Table 4.1 Status of Required Submission under Environmental Permit

| EP Condition | Submission | Submission Date |
|-------------------------------|--|------------------------|
| Condition 3.4 (EP-436/2012/F) | Monthly EM&A Report for September 2022 | 14 October 2022 |

5 MONITORING RESULTS

5.1 Construction Dust Monitoring

- 5.1.1 The monitoring station at AM2 was handed over from Contract SCL1128 on 28 October 2015.
- 5.1.2 The monitoring station at AM4 was handed over from Contract SCL1128 in April 2021.
- 5.1.3 The monitoring results for 24-hour TSP are summarised in **Table 5.1**. Detailed air quality monitoring results and wind monitoring data extracted from the nearest Automatic Weather Station are presented in **Appendix G**.

Table 5.1 Summary of 24-hour TSP Monitoring Result in the Reporting Period

| ID | Average ($\mu\text{g}/\text{m}^3$) | Range ($\mu\text{g}/\text{m}^3$) | Action Level ($\mu\text{g}/\text{m}^3$) | Limit Level ($\mu\text{g}/\text{m}^3$) |
|--------------------|--------------------------------------|------------------------------------|---|--|
| AM2 ^[1] | 32.0 | 12.8 – 45.6 | 160 | 260 |
| AM4 ^[2] | 45.7 | 23.5 – 62.4 | 198 | 260 |

Note:

[1] The impact monitoring at AM2 was handed over from Contract SCL1128 on 28 October 2015

[2] The impact monitoring at AM4 was handed over from Contract SCL1128 in April 2021.

- 5.1.4 No Action and Limit Level exceedance were recorded for 24-hour TSP monitoring at the monitoring locations in the reporting month.
- 5.1.5 The event and action plan is annexed in **Appendix I**.
- 5.1.6 Major dust sources during the monitoring included construction dust, nearby traffic emission and other nearby construction sites.

5.2 Regular Construction Noise Monitoring

- 5.2.1 The monitoring results for noise are summarized in **Table 5.2** and the monitoring data is provided in **Appendix H**.

Table 5.2 Summary of Construction Noise Monitoring Results in the Reporting Period

| ID | Range, dB(A), L_{eq} (30 mins) | Limit Level, dB(A), L_{eq} (30 mins) |
|--------------------|--|--|
| NM2 ^(*) | <Baseline | 75 |

(*) Baseline correction will be made to the measured L_{eq} when the measured noise level exceeded the corresponding baseline noise level and presented in the table.

- 5.2.2 No Action Level exceedance was recorded since no noise related complaint was received in the reporting month.
- 5.2.3 No Limit Level exceedance of noise was recorded at the monitoring station in the reporting month.
- 5.2.4 The event and action plan is annexed in **Appendix I**.
- 5.2.5 Major noise sources during the monitoring included construction noise from the Project site, nearby traffic noise and the community.

5.3 Waste Management

- 5.3.1 C&D materials and wastes sorting were carried out on site. Receptacles were available for C&D wastes and general refuse collection.
- 5.3.2 As advised by the Contractor, 123m³ of inert C&D material was generated and disposed of as public fill in the reporting month. No inert C&D materials were reused in other projects or in the Contract in the reporting month. No fill material was imported in the reporting month. 42 m³ general refuse was generated in the reporting month. No metal, paper/cardboard packaging material and plastic was collected by recycle contractor in the reporting month. No chemical waste was collected by licensed contractor in the reporting month. No Type 1 and Type 2 of Marine sediment were disposed of at Confined Marine Disposal Facility to the East of Sha Chau. The waste flow table is annexed in **Appendix K**.
- 5.3.3 The Contractor is advised to properly maintain on site C&D materials and wastes collection, sorting and recording system and maximize reuse / recycle of C&D materials and wastes. The Contractor is reminded to properly maintain the site tidiness and dispose of the wastes accumulated on site regularly and properly.
- 5.3.4 The Contractor is 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.

5.4 Landscape and Visual

- 5.4.1 Bi-weekly inspection of the implementation of landscape and visual mitigation measures was conducted on 12 and 26 October 2022. A summary of the site inspection is provided in **Appendix C**. The observations and recommendations made during the site inspections are presented in **Table 6.1**.

6 ENVIRONMENTAL SITE INSPECTION AND AUDIT

- 6.1.1 Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures for the Project. A summary of the mitigation measures implementation schedule is provided in **Appendix C**.
- 6.1.2 In the reporting month, 4 site inspections were carried out on 5, 12, 19 and 26 October 2022. Joint inspections with the IEC, ER, the Contractor and the ET were conducted on 19 October 2022. No non-compliance was recorded during the site inspection. Details of observations recorded during the site inspections are presented in **Table 6.1**.

Table 6.1 Observations and Recommendations of Site Audit

| Parameters | Date | Observations and Recommendations | Follow-up |
|-----------------------------------|-------------|---|---|
| Air Quality | 26 Oct 2022 | <ul style="list-style-type: none"> Open stockpile was observed dry at W3. The Contractor should provide dust suppression measures for the stockpile more frequently. | This item was rectified on 2 Nov 2022. |
| Noise | 12 Oct 2022 | <ul style="list-style-type: none"> Breaker tips should be wrapped with noise acoustic mat to minimize noise nuisance. | This item was rectified on 14 Oct 2022 |
| Water Quality | Nil | Nil | Nil |
| Waste/ Chemical Management | 12 Oct 2022 | <ul style="list-style-type: none"> General refuse was observed at Zone 4. The Contractor should clean up the refuse regularly. | This item was rectified on 14 Oct 2022. |
| Landscape & Visual | Nil | Nil | Nil |
| Permits/ Licenses | Nil | Nil | Nil |

- 6.1.3 All follow-up actions requested by Contractor's ET and IEC during the site inspection were undertaken as reported by the Contractor and confirmed in the following weekly site inspection conducted during the reporting period.

7 ENVIRONMENTAL NON-CONFORMANCE

7.1 Summary of Monitoring Exceedances

- 7.1.1 All 24-hour TSP result was below the Action and Limit level at all monitoring locations in the reporting month.
- 7.1.2 No Action Level exceedance was recorded since no noise related complaint was received in the reporting month.
- 7.1.3 No Limit Level exceedance for noise was recorded at all monitoring stations in the reporting month.

7.2 Summary of Environmental Non-Compliance

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

7.3 Summary of Environmental Complaints

- 7.3.1 No environmental related complaint was received in the reporting month. Cumulative statistics on environmental complaints is provided in **Appendix J**.

7.4 Summary of Environmental Summon and Successful Prosecutions

- 7.4.1 No environmental related prosecution or notification of summons was received in the reporting month. Cumulative statistics on notification of summons and successful prosecutions is provided in **Appendix J**.

8 FUTURE KEY ISSUES

8.1 Construction Programme for the Next Three Month

8.1.1 The major construction works between November 2022 to January 2023 will be:

Table 8.1 Major Construction for the Next Three Month

| Location | Site Activities |
|--|---|
| Overall | <ul style="list-style-type: none"> The station was handed over to MTR operation team. |
| Exhibition Station (Zone 1 - PTI Area) | <ul style="list-style-type: none"> N/A |
| Harbour Road Sport Centre (Zone 2) | <ul style="list-style-type: none"> N/A |
| Exhibition Station (Zone 3 - Swimming Pool Area) (including W7a, W7b, W4, W5 and partial W6) | <ul style="list-style-type: none"> LCSD Access Road - Drainage Works, foundation for external fence and backfilling, road/footpath pavement, fence/access gates installation |
| Exhibition Station (Zone 4 - Tunnel at Tonnochy Road) | <ul style="list-style-type: none"> Wan Chai Sports Ground (WCSG) reprovision works – Spectator stand wet trade, E&M works and dry trade. |
| Western Vent Shaft and WAT Area C | <ul style="list-style-type: none"> Reinstatement of staircase, demolition of temp diverted staircase, reinstatement, hardscape and paving works. |
| WAT Area B | <ul style="list-style-type: none"> N/A |
| WAT Area A | <ul style="list-style-type: none"> Reinstatement of staircase, demolition of temp diverted staircase, reinstatement of HKCEC hardscape and paving works. |
| Area W22 | <ul style="list-style-type: none"> Material Storage. |

8.2 Key Issues for the Coming Month

8.2.1 Potential environmental impacts arising from the above construction activities are mainly associated with construction dust, construction noise, water quality and waste management.

8.3 Monitoring Schedule for the Next Three Month

8.3.1 The tentative schedules for environmental monitoring in between November 2022 to January 2023 are provided in **Appendix F**.

9 CONCLUSIONS AND RECOMMENDATIONS

9.1 Conclusions

- 9.1.1 24-hour TSP and noise monitoring were carried out in the reporting month.
- 9.1.2 No Action and Limit Level exceedance was recorded for 24-hour TSP monitoring at the monitoring locations in the reporting month.
- 9.1.3 No Action Level exceedance was recorded since no noise related complaint was received in the reporting month.
- 9.1.4 No Limit Level exceedance for noise was recorded at all monitoring stations in the reporting month.
- 9.1.5 4 nos. of environmental site inspections were carried out in October 2022. Recommendations on remedial actions were given to the Contractor for the deficiencies identified during the site audit.
- 9.1.6 No environmental complaint was received in the reporting month.
- 9.1.7 No notification of summons and successful prosecution were received in the reporting month.
- 9.1.8 Referring to the Contractor's information, no notification of summons and successful prosecution was received in the reporting month.

9.2 Recommendations

- 9.2.1 According to the environmental site inspections performed in the reporting month, the following recommendations were provided: -

Air Quality Impact

- The Contractor was reminded to provide mitigation measures for open/idle stockpile to prevent dust emission, e.g., covering and/or regular watering.

Construction Noise Impact

- Breaker tips should be wrapped with noise acoustic mat to minimize noise nuisance.

Water Quality Impact

- No specific observation was identified in the reporting month.

Chemical and Waste Management

- The Contractor should clean up the general refuse frequently.

Landscape & Visual Impact

- No specific observation was identified in the reporting month.

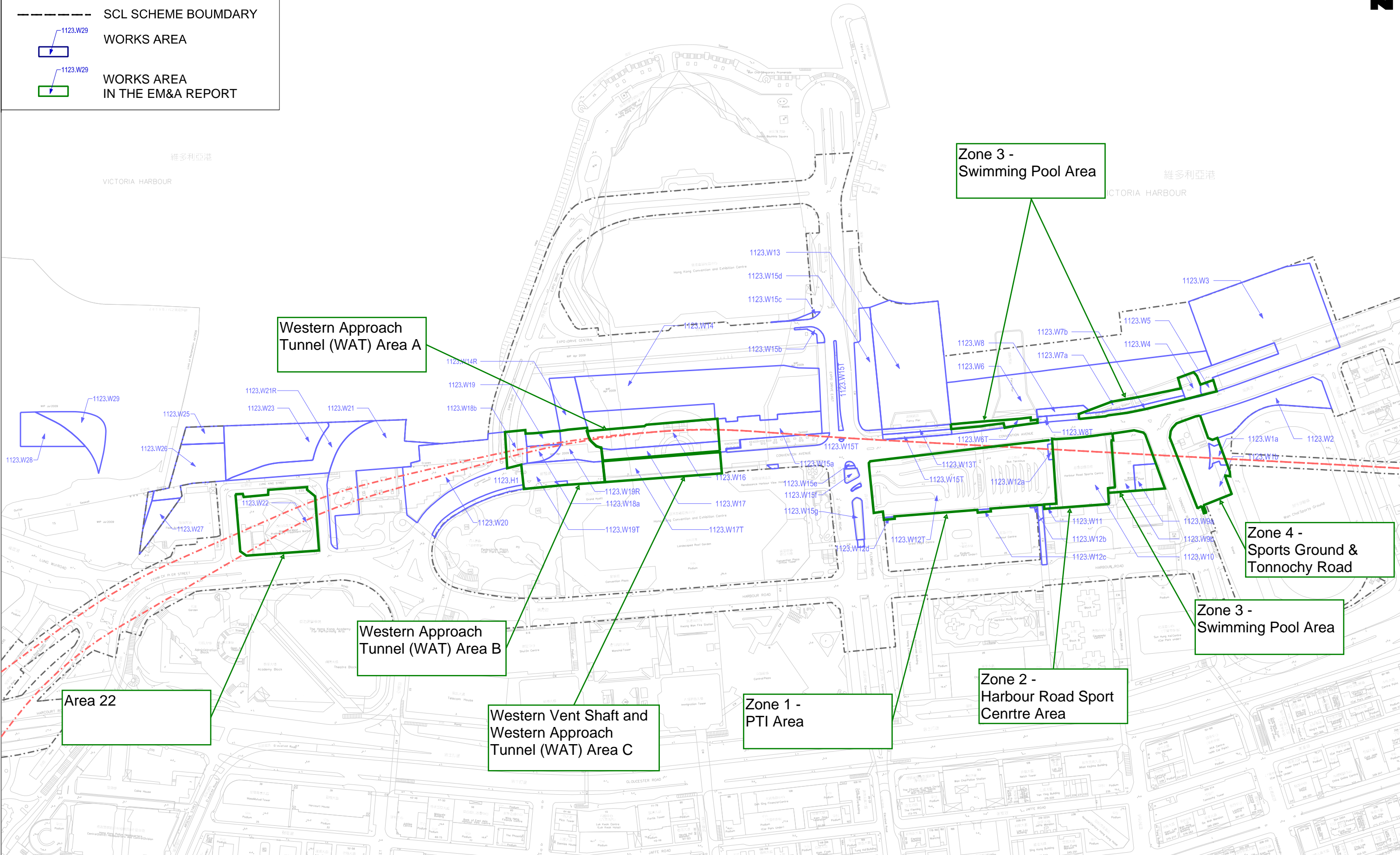
Permits/licenses

- No specific observation was identified in the reporting month.

FIGURES

LEGEND:

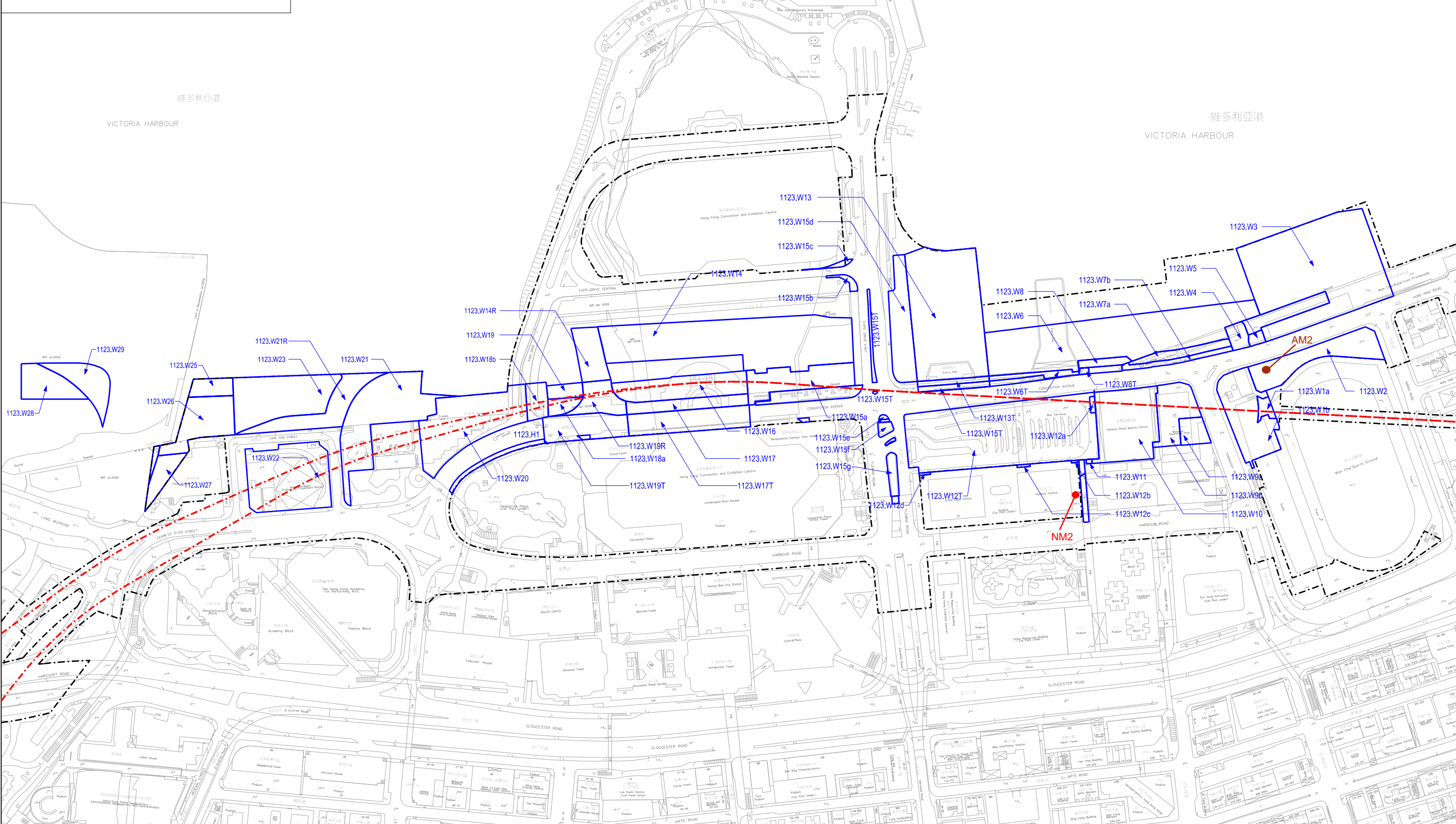
- PROPOSED SCL ALIGNMENT
- SCL SCHEME BOUNDARY
- 1123.W29 WORKS AREA
- 1123.W29 WORKS AREA IN THE EM&A REPORT



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 PLOT DATE: 21/3/2015
 PLOT TIME: 11:54:36
 PLOT BY: CFW
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| | | | | | | | | | | | | | | | | | | | |
|-----|-------------|----|------|---|-----|-------------|----|--|----------|-----|-------------|---|------|----------|-----|-------------|----|------|----------|
| | | | | DRAWN C.F. WOOD DESIGNED --- CHECKED --- APPROVED --- DATE 19/MAR/2015 <small>DO NOT SCALE DRAWINGS. ALL DIMENSIONS SHALL BE VERIFIED ON SITE. © MTR CORPORATION LIMITED 2008. COPYRIGHT IN RESPECT OF THIS DRAWING / DOCUMENT IS OWNED BY THE MTR CORPORATION LIMITED OF HONG KONG. NO REPRODUCTION OF THE DRAWING / DOCUMENT OR ANY PART BY WHATEVER MEANS IS PERMITTED WITHOUT THE PRIOR WRITTEN CONSENT OF THE MTR CORPORATION LIMITED.</small> | | | | SHATIN TO CENTRAL LINK - CONTRACT 1123 ORIGINATOR Leighton - China State Joint Venture | | | | TITLE CONTRACT 1123 EXHIBITION STATION AND WESTERN APPROACH TUNNEL SITE LAYOUT PLAN AND WORKS AREA | | | | | | | |
| | | | | CADD REF. 1123_LCS_SK_0382A.dgn | | | | SCALE 1 : 3000 @A3 DRAWING NO. Figure 1.1 | | | | | | | | | | | |
| REV | DESCRIPTION | BY | DATE | APPROVED | REV | DESCRIPTION | BY | DATE | APPROVED | REV | DESCRIPTION | BY | DATE | APPROVED | REV | DESCRIPTION | BY | DATE | APPROVED |

LEGEND:
 - - - - - PROPOSED SCL ALIGNMENT
 - - - - - SCL SCHEME BOUNDARY
 [Blue outline] WORKS AREA



C:\ProgramData\Bentley\MapStation V8i (SELECTseries)7\WorkSpace\System\p1\cf7g7a3_colour.plt
 Plot Date: 21/3/2015 11:30:36
 PLOT DRIVE: C:\ProgramData\Bentley\MapStation V8i (SELECTseries)7\WorkSpace\System\p1\cf7g7a3_colour.plt
 PLOT DATE: 21/3/2015 11:30:36
 FILENAME: P:\KASAP\1123_LCS_SK_0382A.dgn

| | | | | | | | | | |
|--|-------------|----------------------------|------|--|-------------|--|------|---------------|------|
| DRAWN | | C.F. WOO | | SHATIN TO CENTRAL LINK - CONTRACT 123 Leighton - China State Joint Venture | | TITLE | | CONTRACT 1123 | |
| DESIGNED | | --- | | | | EXHIBITION STATION AND WESTERN APPROACH TUNNEL | | | |
| CHECKED | | --- | | | | AIR QUALITY AND NOISE MONITORING LOCATIONS | | | |
| APPROVED | | --- | | | | SCALE | | DRAWING NO. | |
| DATE | | 19/MAR/2015 | | 1 : 3000 @A3 | | Figure 3.1 | | | |
| DO NOT SCALE DRAWINGS. ALL DIMENSIONS SHALL BE | | OBTAINED FROM THE DRAWING. | | CADD REF. | | REV. | | | |
| OBTAINED FROM THE DRAWING. | | OBTAINED FROM THE DRAWING. | | 1123_LCS_SK_0382A.dgn | | A | | | |
| REV | DESCRIPTION | BY | DATE | APPROVED | DESCRIPTION | BY | DATE | APPROVED | REV. |

APPENDIX A

Construction Programme

Data Date: 31-Oct-22
 Print Date: 01-Nov-22

MTR Shatin to Central Link - Contract 1123 EXH and Western Approach Tunnel

| Activity ID | Activity Name | BL Project Start | BL Project Finish | Start | Finish | Physical % Complete | Remaining Duration | 2022 | | | | | | | | | | | | 2023 | | | | |
|---|--|------------------|-------------------|-------|-----------|---------------------|--------------------|------|----|----|----|----|----|----|----|----|----|----|----|------|----|----|----|----|
| | | | | | | | | 02 | 09 | 16 | 23 | 30 | 06 | 13 | 20 | 27 | 04 | 11 | 18 | 25 | 01 | 08 | 15 | 22 |
| SCL 1123 EXH & WAT - PMP Progress (2022-10)*2nd Extended COs | | | | | | | | | | | | | | | | | | | | | | | | |
| KEY PROJECT INFORMATION | | | | | | | | | | | | | | | | | | | | | | | | |
| Constraint Dates | | | | | | | | | | | | | | | | | | | | | | | | |
| Schedule of Option | | | | | | | | | | | | | | | | | | | | | | | | |
| 01123.OP01ACD | Option 1A - Completion Date (2177d from DOC) Enabling Works for CEDD Entrusted Works | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.OP03CP | Option 3 - Completion Date (2177d from DOC) Topside Development Enabling Works | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.OP12BCP | Option 12B - Completion Date Deferral of Possession / Access Dates of All Works Area(s) under Group B | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.OP13ACP | Option 13A - Completion Date (2177d from DOC) Late Access of Barging Facility | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.OP15CP | Option 15 - Completion Date (1812d from DOC) Floating Pontoon Barging Facility at North Seashore of Temp PT1 | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.OP16CP | Option 16 - Completion Date (178d of W24 possess) Temp Reprovisioning of Model Car Racing Track Playground at Chai Wan | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.OP17CP | Option 17 - Latest Completion Date (1997d after exercise of Option 17) Barging Facility at Kai Tak Area | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.OP19CD | Option 19 - Completion Date (2177 d from DOC) | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.OP21CD | Option 21 - Completion Date (1263 d from DOC) | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.OP01BCP | Option 1B - Completion Date (2389d from DOC) CEDD Entrusted Works | | 24-Nov-22 | | 28-Dec-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| Schedule of Access Dates for Works Areas (Return) | | | | | | | | | | | | | | | | | | | | | | | | |
| 01123.HDW18b | Access/Handover on 1538d Possession date of Works Area W18b | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.HDW13 | Access/Handover on 1571d Possession date of Works Area W13 | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.HDW14 | Access/Handover on 1787d Possession date of Works Area W14 | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.HDW15a | Access/Handover on 1815d Possession date of Works Area W15a | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.HDW15b | Access/Handover on 1815d Possession date of Works Area W15b | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.HDW15c | Access/Handover on 1815d Possession date of Works Area W15c | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.HDW15d | Access/Handover on 1815d Possession date of Works Area W15d | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.HDW16 | Access/Handover on 2091d Possession date of Works Area W16 | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.HDW17 | Access/Handover on 2091d Possession date of Works Area W17 | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.HDW18a | Access/Handover on 2058d Possession date of Works Area W18a | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.HDW19 | Access/Handover on 1330d Possession date of Works Area W19 | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.HDW20 | Access/Handover on 191d Possession date of Works Area W20 | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.HDW09a | Access/Handover on 1843d Possession date of Works Area W9a | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.HDW09b | Access/Handover on 1843d Possession date of Works Area W9b | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.HDW10 | Access/Handover on 1281d Possession date of Works Area W10 | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.HDW22 | Access/Handover on 537d Possession date of Works Area W22 | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.HDW23 | Access/Handover on 901d Possession date of Works Area W23 | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.HDW01a | Access/Handover on (1833)1583d from Possession date of Works Area W1a (due to Option 20) | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.HDW01b | Access/Handover on (1833)1583d from Possession date of Works Area W1b (due to Option 20) | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.HDW04 | Access/Handover on 2177d Commencement date of Works Area W4 | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.HDW05 | Access/Handover on 2177d Commencement date of Works Area W5 | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.HDW07b | Access/Handover on 1786d Possession date of Works Area W7b | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.HDW06 | Access/Handover on 1417d Possession date of Works Area W6 | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.HDW07a | Access/Handover on 1785d Possession date of Works Area W7a | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.HDW11 | Access/Handover on 1885d Possession date of Works Area W11 | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.HDW12d | Access/Handover on 2177d Commencement date Works Area W12d | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.HDW12a | Access/Handover on 2025d Possession date of Works Area W12a | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.HDW12b | Access/Handover on 2177d Commencement date Works Area W12b | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |
| 01123.HDW12c | Access/Handover on 2177d Commencement date Works Area W12c | | 30-Sep-22 | | 31-Oct-22 | 0% | 0 | | | | | | | | | | | | | | | | | |

- ◆ AT Milestone
- Actual Work
- Remaining Works
- last month

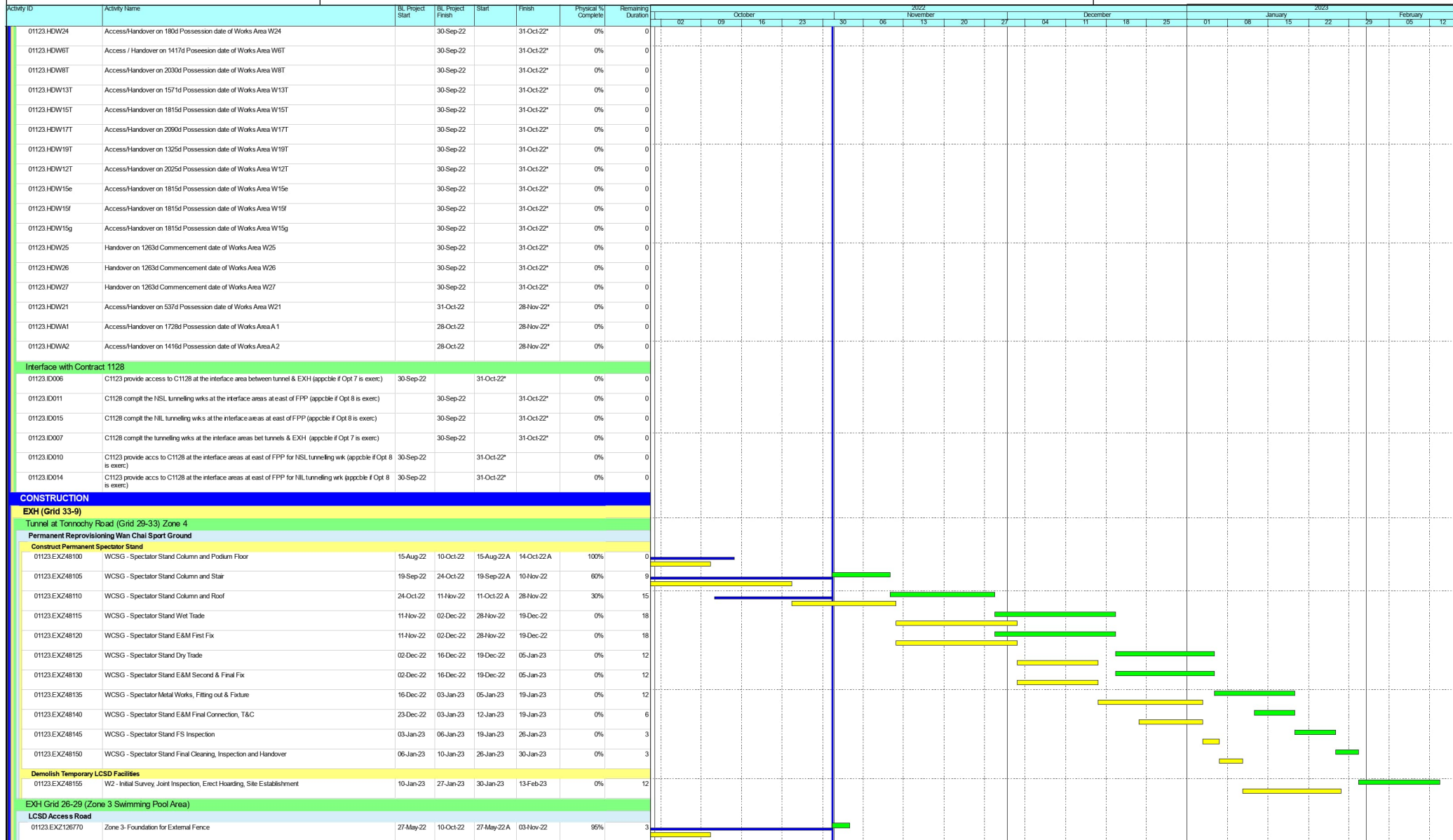
3 Month Rolling Programme Nov 2022 to Jan 2023

Project ID: 1123-MR94
 Layout: 1123 - PMP Progress_3MR94
 Page 1

| Date | Revision | Checked | Approved |
|-----------|----------|---------|----------|
| 16-Mar-15 | 0 | | |
| 12-May-15 | A | | |
| 16-Jun-15 | B | | |

Data Date: 31-Oct-22
 Print Date: 01-Nov-22

MTR Shatin to Central Link - Contract 1123 EXH and Western Approach Tunnel



- ◆ AT Milestone
- Actual Work
- Remaining Works
- last month

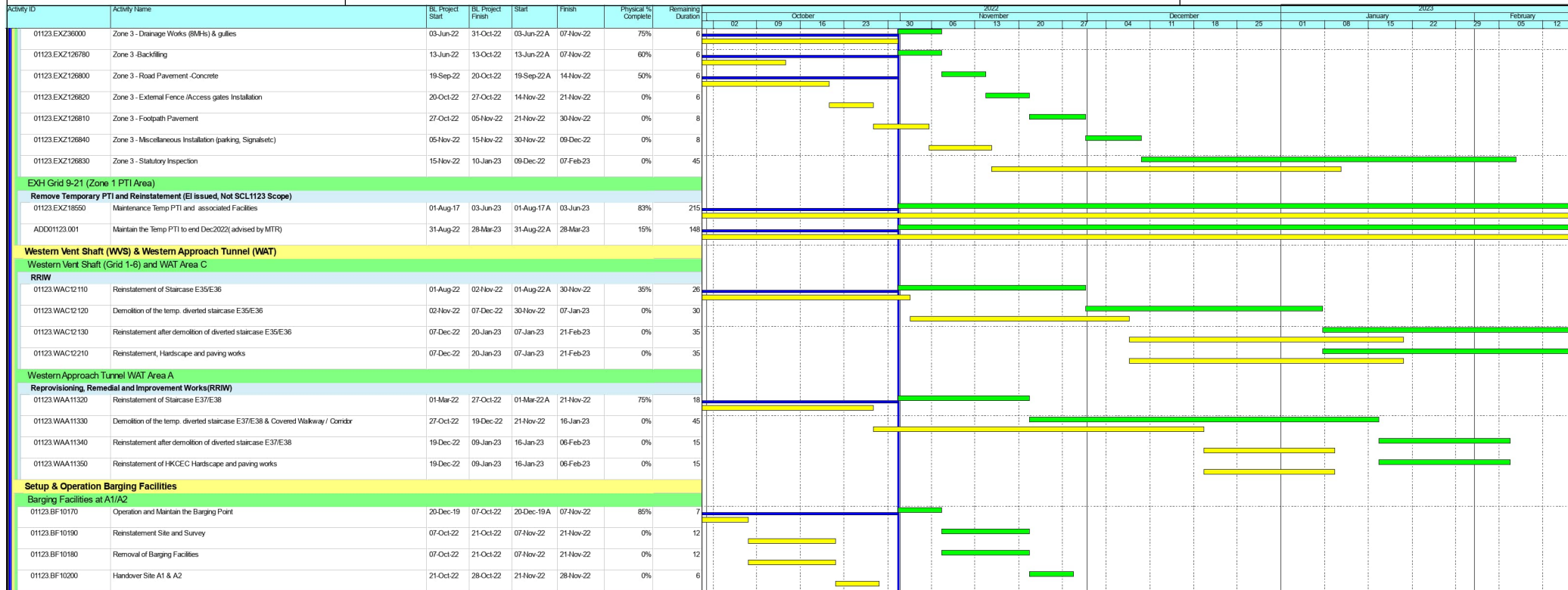
3 Month Rolling Programme Nov 2022 to Jan 2023

Project ID: 1123-MR94
 Layout: 1123 - PMP Progress_3MR94
 Page 2

| Date | Revision | Checked | Approved |
|-----------|----------|---------|----------|
| 16-Mar-15 | 0 | | |
| 12-May-15 | A | | |
| 16-Jun-15 | B | | |

Data Date: 31-Oct-22
 Print Date: 01-Nov-22

MTR Shatin to Central Link - Contract 1123 EXH and Western Approach Tunnel



- ◆ AT Milestone
- Actual Work
- Remaining Works
- last month

3 Month Rolling Programme Nov 2022 to Jan 2023

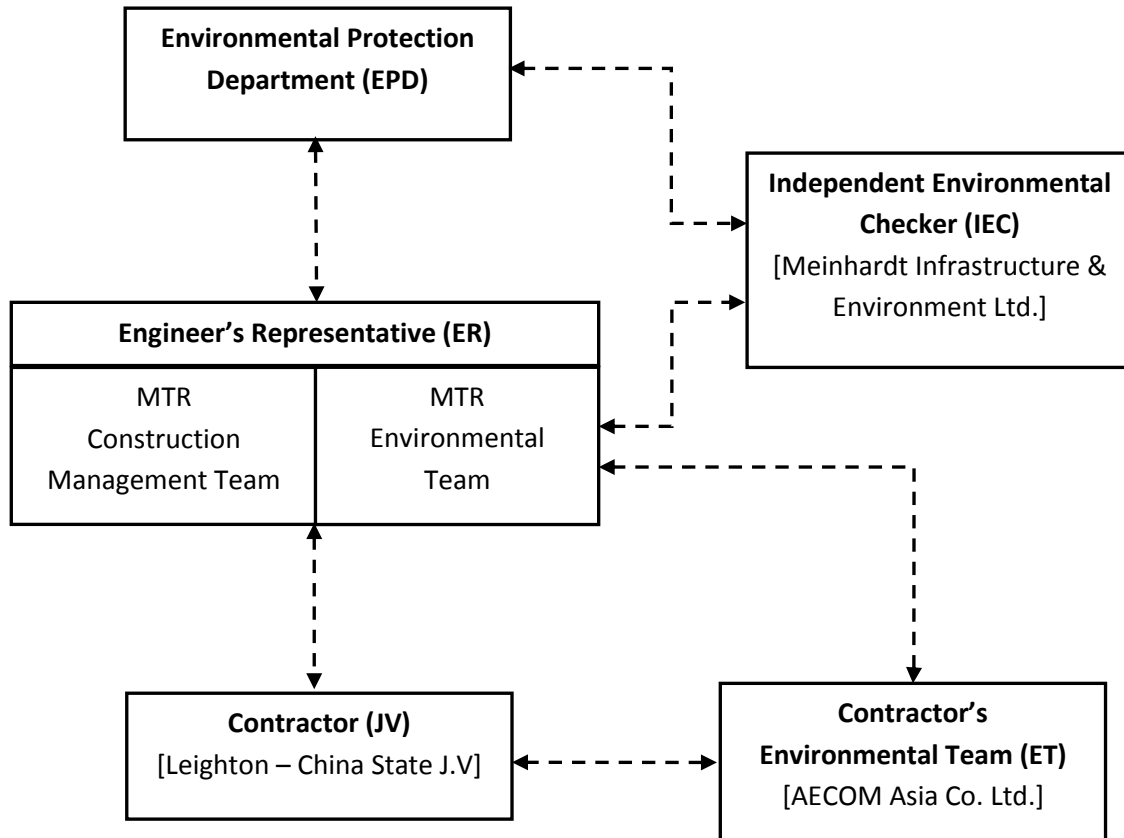
Project ID: 1123-MR94
 Layout: 1123 - PMP Progress_3MR94
 Page 3

| Date | Revision | Checked | Approved |
|-----------|----------|---------|----------|
| 16-Mar-15 | 0 | | |
| 12-May-15 | A | | |
| 16-Jun-15 | B | | |

APPENDIX B

Project Organization Structure

Appendix B Project Organisation Structure



APPENDIX C

**Implementation Schedule of Environmental Mitigation
Measures**

Appendix C – Environmental Mitigation Implementation Schedule

| EIA Ref. / EM&A Log Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measure | When to implement the measures? | Implementation Status |
|------------------------------------|--|--|--------------------------------|--|---------------------------------|-----------------------|
| Cultural Heritage Impact | | | | | | |
| S4.93 & Table 4.2 | Erection of decorative and sensibly designed hoarding along the boundary of the works area | To mitigate the temporary visual impact due to surface works. | Contractor | Works Areas in Causeway Bay and Wan Chai, and Works Shaft in Admiralty | Construction Phase | V |
| Ecological Impact | | | | | | |
| S5.134 | Accidental chemical spillage and construction site run-off to the receiving water bodies, mitigation measures such as removing the pollutants before discharge into storm drain and paving the section of construction road between the wheel washing bay and the public road as suggested in Sections 11.216 and 11.219 to 11.256 of the EIA Report shall be adopted. | To minimize the contamination of wastewater discharge | Contractor | All land based works areas | Construction Phase | N/A |
| Landscape and Visual Impact | | | | | | |
| Construction Phase | | | | | | |
| Table 7.9 | CM1 - Trees unavoidably affected by the works shall be transplanted as far as possible in accordance with ETWB TC(W) 3/2006 – Tree Preservation. | Transplanting and reuse of affected trees. | MTR | Works Sites | Construction Phase | V |
| Table 7.9 | CM2a - Compensatory tree planting shall be provided in accordance with ETWB TC(W) 3/2006 – Tree Preservation to compensate for felled trees and maintained until end of the establishment period. | Compensation for the removal of existing trees due to the Project. | MTR | Works Sites | Construction Phase | N/A |
| Table 7.9 | CM2b - Compensatory shrub planting shall be provided to compensate for the loss of shrub planting in amenity areas. | Compensation for the removal of existing shrub planting due to the Project. | MTR | Works Sites | Construction Phase | N/A |
| Table 7.9 | CM3 - Control of night-time lighting glare | Minimize the night time glare due to the Project during construction phase | MTR | Works Sites | Construction Phase | N/A |
| Table 7.9 | CM4 - Erection of decorative screen hoarding compatible with the surrounding setting. | Minimize the visual impact of the Project during construction phase | MTR | Works Sites | Construction Phase | N/A |
| Table 7.9 | CM5 - Management of facilities on work sites which give control on the height and disposition/arrangement of all facilities on the works site to minimize visual impact to adjacent VSRs | Control of height and deposition/ arrangement of temporary facilities in works areas | MTR | Works Sites | Construction Phase | N/A |
| Table 7.9 | CM6 - All hard and soft landscape areas disturbed temporarily during construction shall be reinstated on like-to-like basis to the satisfaction of the relevant Government Departments. | Reinstatement of temporary works areas. | MTR | Works Sites | Construction Phase | N/A |
| Construction Dust Impact | | | | | | |
| Table 8.5 | Barging facilities: (i) Transportation of spoils to the barging point – Pave all road surfaces within the barging facilities and provide watering once along with the haul road for every working hours to reduce dust emission by 91.7%. This dust suppression efficiency is derived based on the average haul road traffic, average evaporation rate and an assumed application intensity of 1.0 L/m ² once every working hour. Any potential dust impact and watering mitigation would be subject to the actual site condition. For example, a construction activity that produces inherently wet conditions or in cases under rainy weather, the above water application intensity may not be unreservedly applied. While the above watering frequency is to be followed, the extent of watering may vary depending on actual site conditions but should be sufficient to maintain an equivalent intensity of no less than 1.0 L/m ² to achieve the removal efficiency. The dust levels would be monitored and managed under an EM&A programme as specified in the EM&A Manual. | To minimize dust impacts | Contractor | All barging points | Construction phase | N/A |

Appendix C – Environmental Mitigation Implementation Schedule

| EIA Ref. / EM&A Log Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measure | When to implement the measures? | Implementation Status |
|--------------------------|---|--|--------------------------------|-------------------------|---------------------------------|-----------------------|
| | (ii) Unloading of spoil materials – Undertake the unloading process within a 3-sided screen with top tipping hall. Provide water spraying and flexible dust curtains at the discharge point for dust suppression. (iii) Vehicles leaving the barging facilities – Pass vehicles through the wheel washing facilities provided at site exits. | | | | | N/A N/A |
| S8.63 | For concrete batching plant, the requirements and mitigation measures stipulated in the <i>Guidance Note on the Best Practicable Means for Cement Works (Concrete Batching Plant) BPM 3/2(93)</i> shall be followed and implemented. | To minimize dust impact | Contractor | Concrete Batching Plant | Construction phase | N/A |
| Table 8.6 | During operation of concrete batching plant: (i) Unloading of aggregates from the tipper trucks to receiving hopper – unload the aggregates from the tipper trucks to the receiving hopper equipped with enclosures on 3 sides and top cover, and water spraying system. (ii) Unloading of cement and PFA from tankers into the silo – Directly load the cement and PFA into the silo via a flexible duct. Install dust collectors at cement/PFA silos. (iii) Storage of aggregates in overhead storage bins – Store the aggregates in fully enclosed overhead storage bins. Cover the top of overhead storage bins with cladding. Install water spraying system at the top of storage bins for watering the aggregates, and fully enclose aggregates storage bins. (iv) Weighing and batching of cementitious materials – Perform the whole process of weighing and mixing in a fully enclosed environment. Equip all the mixers with dust collectors. (v) Loading of concrete from mixer into transit mixer of a truck – Directly load the concrete from the mixer into the transit mixer of a truck in “wet form”. (vi) Tipper trucks and cement tankers leaving the Concrete Batching Plant – Haul road within the site is unpaved. Install wheel washing pit at the gate of the concrete batching plant. (vii) Transportation of materials within the plant – Provide watering twice a day would be provided. | To minimize dust impacts | Contractor | Concrete Batching Plant | Construction phase | N/A |
| S8.89 | Watering once every working hour on active works areas, exposed areas and paved haul roads to reduce dust emission by 91.7%. This dust suppression efficiency is derived based on the average haul road traffic, average evaporation rate and an assumed application intensity of 1.7 L/m ² for Kowloon side and 1.0 L/m ² for Hong Kong side once every working hour. Any potential dust impact and watering mitigation would be subject to the actual site condition. For example, a construction activity that produces inherently wet conditions or in cases under rainy weather, the above water application intensity may not be unreservedly applied. While the above watering frequency is to be followed, the extent of watering may vary depending on actual site conditions but should be sufficient to maintain an equivalent intensity of no less than 1.7 L/m ² for Kowloon side and 1.0 L/m ² for Hong Kong side to achieve the removal efficiency. The dust levels would be monitored and managed under an EM&A programme as specified in the EM&A Manual. | To minimize dust impact | Contractor | Works areas | Construction Phase | V |
| S8.89 | Enclosing the unloading process at barging point by a 3-sided screen with top tipping hall, provision of water spraying and flexible dust curtains to reduce dust emission | To minimize dust impact | Contractor | All barging points | Construction phase | N/A |

Appendix C – Environmental Mitigation Implementation Schedule

| EIA Ref. / EM&A Log Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measure | When to implement the measures? | Implementation Status |
|------------------------------|---|---|--------------------------------|-------------------------|---------------------------------|--|
| S8.90 | Dust suppression measures stipulated in the Air Pollution Control (Construction Dust) Regulation and good site practices: <ul style="list-style-type: none"> Use of regular watering to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather. Use of frequent watering for particularly dusty construction areas and areas close to ASRs. Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines. Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs. Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations. Establishment and use of vehicle wheel and body washing facilities at the exit points of the site. Provision of wind shield and dust extraction units or similar dust mitigation measures at the loading area of barging point, and use of water sprinklers at the loading area where dust generation is likely during the loading process of loose material, particularly in dry seasons/ periods. Provision of not less than 2.4m high hoarding from ground level along site boundary where adjoins a road, streets or other accessible to the public except for a site entrance or exit. Imposition of speed controls for vehicles on site haul roads. Where possible, routing of vehicles and positioning of construction plant shall be at the maximum possible distance from ASRs. Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) shall be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides. Instigation of an environmental monitoring and auditing program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise | To minimize dust impacts | Contractor | Works areas | Construction phase | V V V @ V V V V V N/A V V |
| / | Dust suppression measures (con't) <ul style="list-style-type: none"> De-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement The portion of any road where along the site boundary should be kept clear of dusty materials. Use of frequent watering for any dusty construction process (e.g. breaking works) to reduce dust emissions. | To minimize dust impacts | Contractor | Works areas | Construction phase | V V V |
| / | Emission from Vehicles and Plants <ul style="list-style-type: none"> All vehicles shall be shut down in intermittent use. Only well-maintained plant should be operated on-site and plant should be serviced regularly to avoid emission of black smoke. All diesel fuelled construction plant within the works areas shall be powered by ultra low sulphur diesel fuel (ULSD) | Reduce air pollution emission from construction vehicles and plants | Contractor | Works areas | Construction phase | V V V |
| Airborne Noise Impact | | | | | | |
| Construction Phase | | | | | | |
| S9.55 | The following good site practices shall be implemented: <ul style="list-style-type: none"> Only well-maintained plant shall be operated on-site and plant shall be serviced regularly during the construction program Silencers or mufflers on construction equipment shall be utilized and shall be properly maintained during the construction program Mobile plant, if any, shall be sited as far from NSRs as possible Machines and plant (such as trucks) that may be in intermittent use shall be shut down between work periods or shall be throttled down to a minimum Plant known to emit noise strongly in one direction shall, wherever possible, be orientated so that the noise is directed away from the nearby NSRs | To minimize construction noise impact | Contractor | Works areas | Construction phase | V V V V N/A |

Appendix C – Environmental Mitigation Implementation Schedule

| EIA Ref. / EM&A Log Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measure | When to implement the measures? | Implementation Status |
|----------------------------|---|--|--------------------------------|--|---------------------------------|---|
| | <ul style="list-style-type: none"> Material stockpiles and other structures shall be effectively utilized, wherever practicable, in screening noise from on-site construction activities | | | | | N/A |
| / | <ul style="list-style-type: none"> Install movable noise barriers, acoustic mat or full enclosure, screen the noisy plants during operation Air compressors or Hand-held breaker shall be fitted with valid noise emission labels during operation | To minimize construction noise impact | Contractor | Works areas | Construction phase | @ V |
| S9.56 & Table 9.16 | <p>The following quiet PME shall be used:</p> <ul style="list-style-type: none"> Crane lorry, mobile Crane, mobile Asphalt paver Backhoe with hydraulic breaker Breaker, excavator mounted (hydraulic) Hydraulic breaker Concrete lorry mixer Poker, vibrator, hand-held Concrete pump Crawler crane, mobile Mobile crane Dump truck Excavator Truck Rock drill Lorry Wheel loader Roller vibratory | To minimize construction noise impact | Contractor | <p>Works areas at:</p> <ul style="list-style-type: none"> Hung Hom Cross Harbour section up to Breakwater of CBTS Breakwater of CBTS to SOV SOV to EXH EXH EXH to open space at the junction of Expo Drive and Convention Avenue Open space at the junction of Expo Drive and Convention Avenue to north of ADM South of ADM to Overrun Tunnel | Construction phase | V V N/A V N/A N/A N/A N/A N/A V V V V N/A N/A N/A N/A |
| S9.58 – S9.59 & Table 9.17 | <p>Movable noise barrier shall be used for the following PME:</p> <ul style="list-style-type: none"> Air compressor Asphalt paver Backhoe with hydraulic breaker Bar bender Bar bender and cutter (electric) Breaker, excavator mounted Concrete pump Concrete pump, stationary/lorry mounted Excavator Generator Grout pump Hand held breaker Hydraulic breaker Saw, concrete | To minimize construction noise impact | Contractor | <p>Works areas at:</p> <ul style="list-style-type: none"> Cross Harbour section up to Breakwater of CBTS Breakwater of CBTS to SOV SOV to EXH EXH EXH to open space at the junction of Expo Drive and Convention Avenue Open space at the junction of Expo Drive and Convention Avenue to north of ADM South of ADM to Overrun Tunnel | Construction phase | N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A |
| S9.60 & Table 9.17 | <p>Noise insulating fabric shall be used for</p> <ul style="list-style-type: none"> Drill rig, rotary type Piling, diaphragm wall, bentonite filtering plant Piling, diaphragm wall, grab and chisel Piling, diaphragm wall, hydraulic extractor Piling, large diameter bored, grab and chisel Piling, hydraulic extractor Piling, earth auger, auger Rock drill, crawler mounted (pneumatic) | To minimize construction noise impact | Contractor | <p>Works areas at:</p> <ul style="list-style-type: none"> Cross Harbour section up to Breakwater of CBTS Breakwater of CBTS to SOV SOV to EXH EXH EXH to open space at the junction of Expo Drive and Convention Avenue Open space at the junction of Expo Drive and Convention Avenue to north of ADM South of ADM to Overrun | Construction phase | N/A N/A N/A N/A N/A N/A N/A |

Appendix C – Environmental Mitigation Implementation Schedule

| EIA Ref. / EM&A Log Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measure | When to implement the measures? | Implementation Status |
|-----------------------------|---|---|--------------------------------|--|---------------------------------|--|
| | | | | Tunnel | | |
| Water Quality Impact | | | | | | |
| Construction Phase | | | | | | |
| S11.216 | <p>The following mitigation measures are proposed to minimize the potential water quality impacts from the construction works at or close to the seafront:</p> <ul style="list-style-type: none"> • Temporary storage of construction materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction and demolition materials shall be located well away from the seawater front and storm drainage during carrying out of the works. • Stockpiling of construction and demolition materials and dusty materials shall be covered and located away from the seawater front and storm drainage. • Construction debris and spoil shall be covered up and/or disposed of as soon as possible to avoid being washed into the nearby receiving waters. | To minimize release of construction wastes from construction works at or close to the seafront | Contractor | Construction works at or close to the seafront | Construction Phase | V V N/A |
| S11.222 to 11.245 | <p>The site practices outlined in ProPECC PN 1/94 "Construction Site Drainage" shall be followed where practicable.</p> <p><u>Surface Run-off</u></p> <ul style="list-style-type: none"> • Surface run-off from construction sites shall be discharged into storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sedimentation basins. Channels or earth bunds or sand bag barriers shall be provided on site to properly direct stormwater to such silt removal facilities. Perimeter channels at site boundaries shall be provided where necessary to intercept storm run-off from outside the site so that it will not wash across the site. Catchpits and perimeter channels shall be constructed in advance of site formation works and earthworks. • Silt removal facilities, channels and manholes shall be maintained and the deposited silt and grit shall 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 shall comply with both engineering and environmental requirements in order to provide adequate hydraulic capacity of all drains. Minimum distances of 100 m shall be maintained between the discharge points of construction site runoff and the existing saltwater intakes. • Construction works shall be programmed to minimize soil excavation works in rainy seasons (April to September). If excavation in soil cannot be avoided in these months or at any time of year when rainstorms are likely, for the purpose of preventing soil erosion, temporary exposed slope surfaces shall be covered e.g. by tarpaulin, and temporary access roads shall be protected by crushed stone or gravel, as excavation proceeds. Intercepting channels shall be provided (e.g. along the crest / edge of excavation) to prevent storm runoff from washing across exposed soil surfaces. Arrangements shall always be in place in such a way that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm. • Earthworks final surfaces shall be well compacted and the subsequent permanent work or surface protection shall be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate drainage like intercepting channels shall be provided where necessary. • Measures shall be taken to minimize the ingress of rainwater into trenches. If excavation of trenches in wet seasons is necessary, they shall be dug and backfilled in short sections. Rainwater pumped out from trenches or foundation excavations shall be discharged into storm drains via silt removal facilities. • Open stockpiles of construction materials (e.g. aggregates, sand and fill material) on sites shall be covered with tarpaulin or similar fabric during rainstorms. • Manholes (including newly constructed ones) shall always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers. Discharge of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system. • Good site practices shall 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. | To minimize water quality impacts from construction site runoff and general construction activities | Contractor | Works areas | Construction Phase | V V V N/A N/A V V V |

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| EIA Ref. / EM&A Log Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measure | When to implement the measures? | Implementation Status |
|--------------------------|---|--|--------------------------------|-------------------------|---------------------------------|---|
| | <p><u>Boring and Drilling Water</u></p> <ul style="list-style-type: none"> Water used in ground boring and drilling for site investigation or rock / soil anchoring shall as far as practicable be re-circulated after sedimentation. When there is a need for final disposal, the wastewater shall be discharged into storm drains via silt removal facilities. <p><u>Wheel Washing Water</u></p> <ul style="list-style-type: none"> All vehicles and plant shall be cleaned before they leave a construction site to minimize the deposition of earth, mud, debris on roads. A wheel washing bay shall be provided at every site exit if practicable and wash-water shall have sand and silt settled out or removed before discharging into storm drains. The section of construction road between the wheel washing bay and the public road shall be paved with backfall to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains. <p><u>Bentonite Slurries</u></p> <ul style="list-style-type: none"> Bentonite slurries used in diaphragm wall and bore-pile construction shall be reconditioned and used again wherever practicable. If the disposal of a certain residual quantity cannot be avoided, the bentonite slurries shall either be dewatered or mixed with inert fill material for disposal to a public filling area. If the used bentonite slurry is intended to be disposed of through the public drainage system, it shall be treated to the respective effluent standards applicable to foul sewer, storm drains or the receiving waters as set out in the TM-DSS. <p><u>Water for Testing & Sterilization of Water Retaining Structures and Water Pipes</u></p> <ul style="list-style-type: none"> Water used in water testing to check leakage of structures and pipes shall be used for other purposes as far as practicable. Surplus unpolluted water will be discharged into storm drains. Sterilization is commonly accomplished by chlorination. Specific advice from EPD shall be sought during the design stage of the works with regard to the disposal of the sterilizing water. The sterilizing water shall be used again wherever practicable. <p><u>Acid Cleaning, Etching and Pickling Wastewater</u></p> <ul style="list-style-type: none"> Acidic wastewater generated from acid cleaning, etching, pickling and similar activities shall be neutralized to within the pH range of 6 to 10 before discharging into foul sewers. If there is no public foul sewer in the vicinity, the neutralized wastewater shall be tankered off site for disposal into foul sewers or treated to a standard acceptable to storm drains and the receiving waters. <p><u>Wastewater from Site Facilities</u></p> <ul style="list-style-type: none"> Wastewater collected from any temporary canteen kitchens, including that from basins, sinks and floor drains, shall be discharged into foul sewer via grease traps. In case connection to the public foul sewer is not feasible, wastewater generated from kitchens or canteen, if any, shall be collected in a temporary storage tank. A licensed waste collector shall be deployed to clean the temporary storage tank on a regular basis. Drainage serving an open oil filling point shall be connected to storm drains via petrol interceptors with peak storm bypass. Vehicle and plant servicing areas, vehicle wash bays and lubrication bays shall as far as possible be located within roofed areas. The drainage in these covered areas shall be connected to foul sewers via a petrol interceptor. Oil leakage or spillage shall be contained and cleaned up immediately. Waste oil shall be collected and stored for recycling or disposal in accordance with the Waste Disposal Ordinance. | | | | | <p>N/A</p> <p>V</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>V</p> <p>V</p> |
| S11.246 & 11.247 | <p>Construction work force sewage discharges on site are expected to be discharged to the nearby existing trunk sewer or sewage treatment facilities. If disposal of sewage to public sewerage system is not feasible, appropriate numbers of portable toilets shall be provided by a licensed contractor to serve the construction workers over the construction site to prevent direct disposal of sewage into the water environment. The Contractor shall also be responsible for waste disposal and maintenance practices. Notices shall be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment.</p> | <p>To minimize water quality impacts due to sewage generated from construction workforce</p> | <p>Contractor</p> | <p>Works areas</p> | <p>Construction Phase</p> | <p>N/A</p> |
| S11.248 | <p>In case seepage of uncontaminated groundwater occurs, groundwater shall be pumped out from the works areas and discharged into the storm system via silt removal facilities. Uncontaminated groundwater from dewatering process shall also be discharged into the storm system via silt traps.</p> | <p>To minimize impact from discharge of uncontaminated groundwater</p> | <p>Contractor</p> | <p>Works areas</p> | <p>Construction Phase</p> | <p>V</p> |

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| EIA Ref. / EM&A Log Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measure | When to implement the measures? | Implementation Status |
|--------------------------|--|---|--------------------------------|---|---------------------------------|-----------------------|
| S11.249 | If land contaminated site is identified from the Stage 2 SI work (refer to Sections 11.188 to 11.191 of the EIA Report), the following mitigation measures shall be implemented for the identified contaminated area. Any transient pile of contaminated soil / material shall be minimized and shall be bottom-lined, bunded and covered with impervious membrane during rain event to avoid generation of contaminated runoff. Appropriate intercepting channels and partial shelters shall be provided where necessary to prevent rainwater from collecting within trenches or footing excavations. Any contaminated water and wastewater generated from the decontamination process shall not be directly discharged to public sewers or site drainage. They shall be treated or tanked away as necessary for proper disposal in compliance with the TM-DSS. | To control site run-off generated from any potential contaminated works areas. | Contractor | Any potential contaminated areas to be identified from the Stage 2 SI | Construction Phase | N/A |
| S11.250 & S11.251 | No direct discharge of groundwater from contaminated areas shall be adopted. If land contamination impact and generation of contaminated groundwater is identified from the Stage 2 SI works (refer to Sections 11.189 to 11.192 of the EIA Report), the following mitigation measures shall be adopted. Any contaminated groundwater shall be either properly treated in compliance with the requirements of the TM-DSS or properly recharged into the ground. If wastewater treatment is deployed for treating the contaminated groundwater, the wastewater treatment unit shall deploy suitable treatment processes (e.g. oil interceptor / activated carbon) to reduce the pollution level to an acceptable standard and remove any prohibited substances (such as TPH) to an undetectable range. All treated effluent from the wastewater treatment plant shall meet the requirements as stated in TM-DSS and shall be discharged into the foul sewers. If groundwater recharging wells are deployed, the recharging wells shall be installed as appropriate for recharging the contaminated groundwater back into the ground. The recharging wells shall be selected at places where the groundwater quality will not be affected by the recharge operation as indicated in Section 2.3 of the TM-DSS. The baseline groundwater quality shall be determined prior to the selection of the recharge wells, and submit a working plan (including the laboratory analytical results showing the quality of groundwater at the proposed recharge location(s) as well as the pollutant levels of groundwater to be recharged) to EPD for agreement. Pollution levels of groundwater to be recharged shall not be higher than pollutant levels of ambient groundwater at the recharge well. Prior to recharge, any prohibited substance such as TPH products shall be removed as necessary by installing the petrol interceptor. The Contractor shall apply for a discharge licence under the WPCO through the Regional Office of EPD for groundwater recharge operation or discharge of treated groundwater. | To minimize potential water quality impact from discharge of contaminated groundwater | Contractor | Any potential contaminated areas to be identified from the Stage 2 SI | Construction Phase | N/A |
| S11.252 | The following good site practices shall be adopted for the proposed barging points: <ul style="list-style-type: none"> • all vessels shall be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash • all hopper barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of material • construction activities shall not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site • loading of barges and hoppers shall be controlled to prevent splashing of material into the surrounding water. Barges or hoppers shall not be filled to a level that will cause the overflow of materials or polluted water during loading or transportation | To minimize water quality impacts generated from the barging points. | Contractor | Barging points | Construction Phase | N/A |
| S11.253 | 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 shall be treated so that it satisfies all the standards listed in the TM-DSS. Minimum distances of 100 m shall be maintained between the discharge points of construction site effluent and the existing seawater intakes. The beneficial uses of the treated effluent for other on-site activities such as dust suppression, wheel washing and general cleaning etc., can minimize 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 shall be carried out in accordance with the WPCO license which is under the ambit of Regional Office (RO) of EPD. | To minimize water quality impact from effluent discharges from construction sites | Contractor | All construction works areas | Construction Phase | V |

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|--------------------------------------|---|---|--------------------------------|------------------------------|---------------------------------|------------------------------|
| S11.254 | 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 shall be observed and complied with for control of chemical wastes. | To minimize water quality impact from accidental spillage of chemical | Contractor | All construction works areas | Construction Phase | V |
| S11.255 | Any service shop and maintenance facilities shall be located on hard standings within a bunded area, and sumps and oil interceptors shall be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage shall only be undertaken within the areas appropriately equipped to control these discharges. | To minimize water quality impact from accidental spillage of chemical | Contractor | All construction works areas | Construction Phase | N/A |
| S11.256 | Disposal of chemical wastes shall 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: <ul style="list-style-type: none"> Suitable containers shall be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport. Chemical waste containers shall be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents. Storage area shall be selected at a safe location on site and adequate space shall be allocated to the storage area. | To minimize water quality impact from accidental spillage of chemical | Contractor | All construction works areas | Construction Phase | V V V |
| Waste Management Implications | | | | | | |
| Construction Phase | | | | | | |
| S12.75 | Good Site Practices and Waste Reduction Measures <ul style="list-style-type: none"> Prepare a Waste Management Plan (WMP) approved by the Engineer/Supervising Officer of the Project based on current practices on construction sites; Training of site personnel in, site cleanliness, proper waste management and chemical handling procedures; Provision of sufficient waste disposal points and regular collection of waste; Appropriate measures to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; and Separation of chemical wastes for special handling and appropriate treatment. | To reduce waste management impacts | Contractor | All Work Sites | Construction Phase | V V V V N/A V |
| S12.76 | Good Site Practices and Waste Reduction Measures (con’t) <ul style="list-style-type: none"> Sorting of demolition debris and excavated materials from demolition works to recover reusable/recyclable portions (i.e. soil, broken concrete, metal etc.); Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal; Encourage collection of aluminum cans by providing separate labeled bins to enable this waste to be segregated from other general refuse generated by the workforce; Proper storage and site practices to minimize the potential for damage or contamination of construction materials; Plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste; and Training shall be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycle. | To achieve waste reduction | Contractor | All Work Sites | Construction Phase | N/A V V V V V |
| S12.77 | Good Site Practices and Waste Reduction Measures (con’t) The Contractor shall prepare and implement a WMP as part of the EMP in accordance with ETWB TCW No. 19/2005 which describes the arrangements for avoidance, reuse, recovery, recycling, storage, collection, treatment and disposal of different categories of waste to be generated from the construction activities. Such a management plan shall incorporate site specific factors, such as the | To achieve waste reduction | Contractor | All Work Sites | Construction Phase | V |

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|--------------------------|---|---|--------------------------------|--|---------------------------------|------------------------------|
| | designation of areas for segregation and temporary storage of reusable and recyclable materials. The EMP shall be submitted to the Engineer for approval. The Contractor shall implement the waste management practices in the EMP throughout the construction stage of the Project. The EMP shall be reviewed regularly and updated by the Contractor, preferably in a monthly basis. | | | | | |
| S12.78 | Good Site Practices and Waste Reduction Measures (con't) C&D materials would be reused in other local concurrent projects as far as possible. If all reuse outlets are exhausted during the construction phase, the C&D materials would be disposed of at Taishan, China as a last resort. | To achieve waste reduction | Contractor | All Work Sites | Construction Phase | N/A |
| S12.79 | Storage, Collection and Transportation of Waste Should any temporary storage or stockpiling of waste is required, recommendations to minimize the impacts include: <ul style="list-style-type: none"> Waste, such as soil, shall be handled and stored well to ensure secure containment, thus minimizing the potential of pollution; Maintain and clean storage areas routinely; Stockpiling area shall be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; and Different locations shall be designated to stockpile each material to enhance reuse. | To minimize potential adverse environmental impacts arising from waste storage | Contractor | Work Sites | Construction Phase | N/A V V N/A |
| S12.80 | Storage, Collection and Transportation of Waste (con't) Waste haulier with appropriate permits shall be employed by the Contractor for the collection and transportation of waste from works areas to respective disposal outlets. The following suggestions shall be enforced to minimize the potential adverse impacts: <ul style="list-style-type: none"> Remove waste in timely manner Waste collectors shall only collect wastes prescribed by their permits Impacts during transportation, such as dust and odour, shall be mitigated by the use of covered trucks or in enclosed containers Obtain relevant waste disposal permits from the appropriate authorities, in accordance with the Waste Disposal Ordinance (Cap. 354), Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 345) and the Land (Miscellaneous Provisions) Ordinance (Cap. 28) Waste shall be disposed of at licensed waste disposal facilities Maintain records of quantities of waste generated, recycled and disposed | To minimize potential adverse environmental impacts arising from waste collection and disposal | Contractor | Work Sites | Construction Phase | V V N/A V V V |
| S12.81 | Storage, Collection and Transportation of Waste (con't) <ul style="list-style-type: none"> Implementation of trip ticket system with reference to DevB TC(W) No.6/2010 to monitor disposal of waste and to control fly-tipping at PFRFs or landfills. A recording system for the amount of waste generated, recycled and disposed (including disposal sites) shall be proposed. | To minimize potential adverse environmental impacts arising from waste collection and disposal | Contractor | Work Sites | Construction Phase | V |
| S12.83 – 12.86 | Sorting of C&D Materials <ul style="list-style-type: none"> Sorting to be performed to recover the inert materials, reusable and recyclable materials before disposal off-site. Specific areas shall be provided by the Contractors for sorting and to provide temporary storage areas for the sorted materials. The C&D materials shall at least be segregated into inert and non-inert materials, in which the inert portion could be reused and recycled as far as practicable before delivery to PFRFs as mentioned for beneficial use in other projects. While opportunities for reusing the non-inert portion shall be investigated before disposal of at designated landfills. Possibility of reusing the spoil in the Project will be continuously investigated in the detailed design and construction stages, it includes backfilling to cut and cover construction works for the Hung Hom south and north approach tunnels. | To minimize potential adverse environmental impacts during the handling, transportation and disposal of C&D materials | Contractor | Work Sites | Construction Phase | V V V N/A |
| S12.88 | Sediments <ul style="list-style-type: none"> The basic requirements and procedures for excavated / dredged sediment disposal specified under ETWB TC(W) No. 34/2002 shall be followed. MFC is managing the disposal facilities in Hong Kong for the dredged and excavated sediment, while EPD is the authority of issuing | To ensure the sediment to be disposed of in an authorized and least impacted way | Contractor | All works areas with sediments concern | Construction Phase | N/A |

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|--------------------------|---|--|--------------------------------|--|--|---|
| | marine dumping permit under the Dumping at Sea Ordinance. | | | | | |
| S12.89 | <p>Sediments (con't)</p> <ul style="list-style-type: none"> The contractor for the excavation / dredging works shall apply for the site allocations of marine sediment disposal based on the prior agreement with MFC/CEDD. A request for reservation of sediment disposal space have been submitted to MFC for onward discussions of disposal approach and feasible disposal sites and the letter is attached in Appendix 12.6. The Project proponent shall also be responsible for the application of all necessary permits from relevant authorities, including the dumping permit as required under DASO from EPD, for the disposal of dredged and excavated sediment prior to the commencement of the excavation works. | To determine the best handling and disposal option of the sediments | MTR / Contractor | All works areas with sediments concern | Detailed Design Stage and Construction Phase | N/A |
| S12.91 – 12.94 | <p>Sediments (con't)</p> <ul style="list-style-type: none"> Stockpiling of contaminated sediments shall be avoided as far as possible. If temporary stockpiling of contaminated sediments is necessary, the excavated sediment shall be covered by tarpaulin and the area shall be placed within earth bunds or sand bags to prevent leachate from entering the ground, nearby drains and/or surrounding water bodies. The stockpiling areas shall be completely paved or covered by linings in order to avoid contamination to underlying soil or groundwater. Separate and clearly defined areas shall be provided for stockpiling of contaminated and uncontaminated materials. Leachate, if any, shall be collected and discharged according to the Water Pollution Control Ordinance (WPCO). In order to minimise the potential odour / dust emissions during excavation and transportation of the sediment, the excavated sediments shall be wetted during excavation / material handling and shall be properly covered when placed on trucks or barges. Loading of the excavated sediment to the barge shall be controlled to avoid splashing and overflowing of the sediment slurry to the surrounding water. The barge transporting the sediments to the designated disposal sites shall be equipped with tight fitting seals to prevent leakage and shall not be filled to a level that would cause overflow of materials or laden water during loading or transportation. In addition, monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the DEP. In order to minimise the exposure to contaminated materials, workers shall, when necessary, wear appropriate personal protective equipments (PPE) when handling contaminated sediments. Adequate washing and cleaning facilities shall also be provided on site. | To ensure handling of sediments are in accordance to statutory requirements | Contractor | Work Sites, Sediment disposal sites | Construction Phase | N/A |
| S12.95 | <p>Sediments (con't)</p> <ul style="list-style-type: none"> A possible arrangement for Type 3 disposal is by geosynthetic containment. A geosynthetic containment method is a method whereby the sediments are sealed in geosynthetic containers and, at the disposal site, the containers would be dropped into the designated contaminated mud pit where they would be covered by further mud disposal and later by the mud pit capping, thereby meeting the requirements for fully confined mud disposal. The technology is readily available for the manufacture of the geosynthetic containers to the project-specific requirements. Similar disposal methods have been used for projects in Europe, the USA and Japan and the issues of fill retention by the geosynthetic fabrics, possible rupture of the containers and sediment loss due to impact of the container on the seabed have been addressed. | To ensure handling of sediments are in accordance to statutory requirements | Contractor | Work Sites, Sediment disposal sites | Construction Phase | N/A |
| S12.97 | <p>Containers for Storage of Chemical Waste</p> <p>The Contractor shall register with EPD as a chemical waste producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Containers used for storage of chemical waste shall:</p> <ul style="list-style-type: none"> Be compatible with the chemical wastes being stored, maintained in good condition and securely sealed; Have a capacity of less than 450 liters unless the specifications have been approved by EPD; and | To register with EPD as a Chemical waste producer and store chemical waste in appropriate containers | Contractor | Work Sites | Construction Phase | <p style="text-align: center;">V</p> <p style="text-align: center;">V</p> |

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| | <ul style="list-style-type: none"> Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Waste Disposal (Chemical Waste) (General) Regulation. | | | | | V |
| S12.98 | <p>Chemical Waste Storage Area</p> <ul style="list-style-type: none"> Be clearly labeled to indicate corresponding chemical characteristics of the chemical waste and used for storage of chemical waste only; Be enclosed on at least 3 sides; Have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest; Have adequate ventilation; Be covered to prevent rainfall from entering; and Be properly arranged so that incompatible materials are adequately separated. | To prepare appropriate storage areas for chemical waste at works areas | Contractor | Work Sites | Construction Phase | V V V V V |
| S12.99 | <p>Chemical Waste</p> <ul style="list-style-type: none"> Lubricants, waste oils and other chemical wastes would be generated during the maintenance of vehicles and mechanical equipments. Used lubricants shall be collected and stored in individual containers which are fully labelled in English and Chinese and stored in a designated secure place. | To clearly label the chemical waste at works areas | Contractor | Work Sites | Construction Phase | V |
| S12.100 | <p>Collection and Disposal of Chemical Waste <i>A trip-ticket system shall be operated in accordance with the Waste Disposal (Chemical Waste) (General) Regulation</i> to monitor all movements of chemical waste. The Contractor shall employ a licensed collector to transport and dispose of the chemical wastes, to either the approved CWTC at Tsing Yi, or another licensed facility, in accordance with the <i>Waste Disposal (Chemical Waste) (General) Regulation</i>.</p> | To monitor the generation, reuse and disposal of chemical waste | Contractor | Work Sites | Construction Phase | N/A |
| S12.101 | <p>General Refuse</p> <p>General refuse shall be stored in enclosed bins or compaction units separate from C&D materials and chemical waste. A reputable waste collector shall be employed by the contractor to remove general refuse from the site, separately from C&D materials and chemical wastes. Preferably, an enclosed and covered area shall be provided to reduce the occurrence of wind-blown light material.</p> | To properly store and separate from other C&D materials for subsequent collection and disposal | Contractor | Work Sites | Construction Phase | @ |
| S12.102 | <p>General Refuse (con't)</p> <p>The recyclable component of general refuse, such as aluminum cans, paper and cleansed plastic containers shall be separated from other waste. Provision and collection of recycling bins for different types of recyclable waste shall be set up by the Contractor. The Contractor shall also be responsible for arranging recycling companies to collect these materials.</p> | To facilitate recycling of recyclable portions of refuse | Contractor | Work Sites | Construction Phase | V |
| S12.103 | <p>General Refuse (con't)</p> <p>The Contractor shall carry out an education programme for workers in avoiding, reducing, reusing and recycling of materials generation. Posters and leaflets advising on the use of the bins shall also be provided in the sites as reminders.</p> | To raise workers' awareness on recycling issue | Contractor | Work Sites | Construction Phase | V |
| / | <p>Accidental spillage</p> <p>To prevent accidental spillage of chemicals, the following is recommended:</p> <ul style="list-style-type: none"> Proper storage and handling facilities will be provided. All the tanks, containers, storage area will be bunded and the locations will be locked as far as possible from the sensitive watercourse and stormwater drains. The contractor will register as a chemical waste producer if chemical wastes would be generated. Storage of chemical waste arising from the construction activities will be stored with suitable labels and warnings. Disposal of chemical wastes will be conducted in compliance with the requirements as stated in the Waste disposal (Chemical Waste) (General) Regulation. | To minimize potential adverse environmental impacts arising from accidental spillage | Contractor | Work Sites | Construction Phase | V V V V |
| Land Contamination Impact | | | | | | |
| S13.23–13.24 | <p>For construction works at sites under the current stage of site investigation (Stage 1 SI):</p> <ul style="list-style-type: none"> Precautionary measures such as visual inspection are recommended to be undertaken during construction activities that disturb soil. The inspection process shall involve a visual observation of excavated soils for discolouration and the presence of oils, together with identifying the presence of | To act as a general precautionary measure to screen soils for the presence contamination | Contractor | Within Project Boundary where signs of contamination is identified | During excavation works for Cut-and-Cover | N/A |

Appendix C – Environmental Mitigation Implementation Schedule

| EIA Ref. / EM&A Log Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measure | When to implement the measures? | Implementation Status |
|--------------------------|--|---|--------------------------------|---|--|-----------------------|
| | <p>odours, which may also indicate soil and/or groundwater contamination.</p> <ul style="list-style-type: none"> If soil materials suspected to be contaminated are encountered during excavation, sampling and testing shall be undertaken to verify the presence of contamination. The soil extracted during demolition, excavation and cut & cover construction shall be temporary stockpiled. Shall concentrations of contaminants of concern (COCs) exceed relevant RBRGs as indicated by laboratory analyses, remediation works shall be undertaken with reference to the Contamination Assessment Report (CAR) and Remediation Action Plans (RAP). | during excavation works for Cut-and-Cover. | | | | |
| S13.30 | <p>For some sites with currently no SI proposed (i.e. sites ID 2-02, 2-18, 2-22, 2-23, 2-27, 2-28), to be conservative, visual inspection shall be conducted during demolition and excavation to detect any abnormal colour, smell or other characteristics of the soil, due to the nearby land use and/ or construction method. If abnormal colour, smell or other characteristics of contamination are identified for any of these sites, sampling and testing shall be undertaken to verify the presence of contamination. The soil extracted during demolition, excavation and cut & cover construction shall be temporary stockpiled. Should the concentrations of contaminants of concern (COCs) exceed relevant RBRGs as indicated by laboratory analyses, remediation works shall be undertaken with reference to the CAR and RAP.</p> | To act as a general precautionary measure to screen soils for the presence contamination during excavation works for Cut-and-Cover. | Contractor | Areas with no SI proposed (Sites ID 2-02, 2-18, 2-22, 2-23, 2-27, 2-28) | During excavation works for Cut-and-Cover | N/A |
| S13.36 – 13.38 | <p>For areas inaccessible for proper site appraisal and investigation (Stage 2 SI)</p> <p>(i) Site 2-15</p> <ul style="list-style-type: none"> Upon site access being granted, visual inspection shall be carried out where intrusive works and soil excavation is encountered, for attention on any potential contamination due to its current operation A supplementary CAP shall then be submitted to EPD for endorsement. A CAR/RAP shall be prepared and submitted to EPD for endorsement on completion of the SI and analytical testing. Shall remediation be undertaken a Remediation Report (RR) shall be prepared and submitted to EPD for endorsement to demonstrate that the decontamination work is adequate and is carried out in accordance with the endorsed CAR and RAP. Information such as soil treatment/ disposal records (including trip tickets), confirmatory sampling results, and photographs shall be included in the aforesaid RR. No construction work shall be carried out prior to the endorsement of the RR by EPD. | <p>To identify areas with land contamination concern, report laboratory results and propose remediation measures if necessary.</p> <p>To ensure remediation works have been undertaken to before the commencement of any construction works of the Project.</p> | Contractor | Areas unable to be accessed during Stage 1 SI (Site 2-15) | After land resumption and prior to the construction works commencement at the site | N/A |
| S13.39 | <p>Potential Remediation of Contaminated Soil</p> <ul style="list-style-type: none"> Excavation profiles must be properly designed and executed with attention to the relevant requirements for environment, health and safety; Excavation shall be carried out during dry season as far as possible to minimise contaminated runoff from contaminated soils; Supply of suitable clean backfill material is needed after excavation; If remediation is required with chemical oxidation proposed as a contaminant mass reduction technology, chemicals will be securely and separately stored away from sources of ignition or oxidisable items. Handling will be undertaken by personnel with appropriate training and personal protective equipment (PPE). Vehicles containing any excavated materials shall be suitably covered to limit potential dust emissions or contaminated wastewater run-off, and truck bodies and tailgates shall be sealed to prevent any discharge during transport or during wet conditions; Speed control for the trucks carrying contaminated materials shall be enforced; Vehicle wheel and body washing facilities at the site's exit points shall be established and used; and Pollution control measures for air emissions e.g. from biopile blower, noise emissions e.g. from blower, and water discharges e.g. runoff control shall be implemented and complied with relevant regulations and guidelines. | To remediate contaminated soil | Contractor | Identified contaminated sites | Site remediation | N/A |
| S13. 40 | <p>In order to minimize the potential adverse effects on health and safety of construction workers during the course of site remediation, the Occupation Safety and Health Ordinance (OSHO) (Chapter 509) and its subsidiary Regulations shall be followed by all site personnel working on the site at all times. In addition, the following basic health and safety measures shall be implemented as far as possible:</p> <ul style="list-style-type: none"> Set up a list of safety measures for site workers; Provide written information and training on safety for site workers; Keep a log-book and plan showing the contaminated zones and clean zones; | To minimise the potentially adverse effects on health and safety of construction workers during the course of site | Contractor | Identified contaminated sites | Site remediation and prior to construction phase | N/A |

Appendix C – Environmental Mitigation Implementation Schedule

| EIA Ref. / EM&A Log Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measure | When to implement the measures? | Implementation Status |
|--------------------------------|---|---|--------------------------------------|----------------------------|---------------------------------------|--------------------------|
| | <ul style="list-style-type: none"> • Maintain a hygienic working environment; • Avoid dust generation; • Provide face and respiratory protection gear to site workers; • Provide personal protective clothing (e.g. chemical resistant jackboot, liquid tight gloves) to site workers; and • Provide first aid training and materials to site workers. | remediation. | | | | |

Legend: V = implemented;
 x = not implemented;
 @ = partially implemented;
 N/A = not applicable

APPENDIX D

Summary of Action and Limit Levels

Appendix D – Summary of Action and Limit Levels**Table 1 Action and Limit Levels for 24-hour TSP**

| ID | Location | Action Level | Limit Level |
|-----------------------|-------------------------------------|-----------------------|-----------------------|
| AM2 ^[1] | Wan Chai Sports Ground | 160 µg/m ³ | 260 µg/m ³ |
| AM3 ^{[2][3]} | Existing Harbour Road Sports Centre | 169 µg/m ³ | 260 µg/m ³ |
| AM4 ^[4] | Pedestrian Plaza | 198 µg/m ³ | 260 µg/m ³ |

Note:

[1] The impact monitoring at AM2 was handed over from Contract SCL1128 on 28 October 2015.

[2] The impact monitoring at AM3 was handed over from Contract SCL1126 in June 2015.

[3] The impact monitoring at AM3 terminated on 6 May 2017 as demolition of Existing Harbour Road Sports Centre commenced on 8 May 2017.

[4] The impact monitoring at AM4 will be handed over from Contract SCL1128 in April 2021.

**Table 2 Action and Limit Levels for Construction Noise
(0700 – 1900 hrs of normal weekdays)**

| ID | Location | Action Level | Limit Level |
|--------------------|-------------------------------|---|-------------|
| NM2 ^[1] | Harbour Centre ^[2] | When one documented complaint is received | 75 dB(A) |

Note:

[1] The impact monitoring at NM2 was handed over from Works Contract SCL1126 in June 2015.

[2] The Access to the designated monitoring location NM2 (i.e. Block A, Causeway Centre) was denied before the commencement of impact monitoring under Works Contract 1126. An alternative monitoring location at Harbour Centre was approved by the ER, agreed by IEC. The alternative monitoring location was approved by EPD on 18 December 2017.

APPENDIX E

Calibration Certificates of Equipments

AECOM Asia Company Limited

TSP High Volume Sampler

Field Calibration Report

Station: Wanchai Sports Ground Operator: Choi Wing Ho
 Cal. Date: 11-Aug-22 Next Due Date: 11-Oct-22
 Equipment No.: A-001-72T Serial No.: 809

| Ambient Condition | | | |
|---------------------|-------|---------------------|-------|
| Temperature, Ta (K) | 302.9 | Pressure, Pa (mmHg) | 752.0 |

| Orifice Transfer Standard Information | | | | | |
|---------------------------------------|-----------|---|---------|---------------|----------|
| Serial No: | 843 | Slope, mc | 2.02086 | Intercept, bc | -0.03672 |
| Last Calibration Date: | 27-Dec-21 | $mc \times Qstd + bc = [H \times (Pa/760) \times (298/Ta)]^{1/2}$ | | | |
| Next Calibration Date: | 27-Dec-22 | | | | |

| Calibration of TSP Sampler | | | | | |
|----------------------------|----------------------------|---|-----------------------------------|-----------------------------|--|
| Resistance Plate No. | Orifice | | | HVS Flow Recorder | |
| | DH (orifice), in. of water | [DH x (Pa/760) x (298/Ta)] ^{1/2} | Qstd (m ³ /min) X-axis | Flow Recorder Reading (CFM) | Continuous Flow Recorder Reading IC (CFM) Y-axis |
| 18 | 6.9 | 2.59 | 1.30 | 43.0 | 42.43 |
| 13 | 5.9 | 2.40 | 1.20 | 39.0 | 38.48 |
| 10 | 4.5 | 2.09 | 1.05 | 32.0 | 31.57 |
| 7 | 3.5 | 1.85 | 0.93 | 27.0 | 26.64 |
| 5 | 2.5 | 1.56 | 0.79 | 22.0 | 21.71 |

By Linear Regression of Y on X

Slope, mw = 41.1705 Intercept, bw = -11.3138
 Correlation Coefficient* = 0.9974

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 1.30m³/min

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

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

Therefore, Set Point; IC = (mw x Qstd + bw) x [(760 / Pa) x (Ta / 298)]^{1/2} = 42.78

Remarks: _____

QC Reviewer: WS CHAN Signature:  Date: 11/08/22

AECOM Asia Company Limited

TSP High Volume Sampler

Field Calibration Report

Station: Wanchai Sports Ground Operator: Choi Wing Ho
 Cal. Date: 11-Oct-22 Next Due Date: 11-Dec-22
 Equipment No.: A-001-72T Serial No.: 809

| Ambient Condition | | | |
|---------------------|-----|---------------------|-------|
| Temperature, Ta (K) | 301 | Pressure, Pa (mmHg) | 761.3 |

| Orifice Transfer Standard Information | | | | | |
|---------------------------------------|-----------|---|---------|---------------|----------|
| Serial No: | 843 | Slope, mc | 2.02086 | Intercept, bc | -0.03672 |
| Last Calibration Date: | 27-Dec-21 | $mc \times Qstd + bc = [H \times (Pa/760) \times (298/Ta)]^{1/2}$ | | | |
| Next Calibration Date: | 27-Dec-22 | | | | |

| Calibration of TSP Sampler | | | | | |
|----------------------------|----------------------------|---|-----------------------------------|-----------------------------|--|
| Resistance Plate No. | Orifice | | | HVS Flow Recorder | |
| | DH (orifice), in. of water | [DH x (Pa/760) x (298/Ta)] ^{1/2} | Qstd (m ³ /min) X-axis | Flow Recorder Reading (CFM) | Continuous Flow Recorder Reading IC (CFM) Y-axis |
| 18 | 7.0 | 2.63 | 1.32 | 43.0 | 42.82 |
| 13 | 6.0 | 2.44 | 1.23 | 39.0 | 38.84 |
| 10 | 4.4 | 2.09 | 1.05 | 32.0 | 31.87 |
| 7 | 3.5 | 1.86 | 0.94 | 28.0 | 27.88 |
| 5 | 2.5 | 1.57 | 0.80 | 23.0 | 22.90 |

By Linear Regression of Y on X

Slope, mw = 38.0624 Intercept, bw = -7.7608

Correlation Coefficient* = 0.9986

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 1.30m³/min

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

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

Therefore, Set Point; IC = (mw x Qstd + bw) x [(760 / Pa) x (Ta / 298)]^{1/2} = 41.89

Remarks: _____

QC Reviewer: WIS CHAN Signature: [Signature] Date: 11/10/2022

AECOM Asia Company Limited

TSP High Volume Sampler

Field Calibration Report

Station: Pedestrian Plaza Operator: Choi Wing Ho
 Cal. Date: 11-Aug-22 Next Due Date: 11-Oct-22
 Equipment No.: A-001-70T Serial No.: 10273

| Ambient Condition | | | |
|---------------------|-------|---------------------|-------|
| Temperature, Ta (K) | 302.9 | Pressure, Pa (mmHg) | 752.0 |

| Orifice Transfer Standard Information | | | | | |
|---------------------------------------|-----------|---|---------|---------------|----------|
| Serial No: | 843 | Slope, mc | 2.02086 | Intercept, bc | -0.03672 |
| Last Calibration Date: | 27-Dec-21 | $mc \times Qstd + bc = [H \times (Pa/760) \times (298/Ta)]^{1/2}$ | | | |
| Next Calibration Date: | 27-Dec-22 | | | | |

| Calibration of TSP Sampler | | | | | |
|----------------------------|----------------------------|---|-----------------------------------|-----------------------------|--|
| Resistance Plate No. | Orifice | | | HVS Flow Recorder | |
| | DH (orifice), in. of water | [DH x (Pa/760) x (298/Ta)] ^{1/2} | Qstd (m ³ /min) X-axis | Flow Recorder Reading (CFM) | Continuous Flow Recorder Reading IC (CFM) Y-axis |
| 18 | 7.0 | 2.61 | 1.31 | 43.0 | 42.43 |
| 13 | 6.0 | 2.42 | 1.21 | 39.0 | 38.48 |
| 10 | 5.0 | 2.21 | 1.11 | 34.0 | 33.55 |
| 7 | 3.7 | 1.90 | 0.96 | 26.0 | 25.65 |
| 5 | 2.8 | 1.65 | 0.84 | 20.0 | 19.73 |

By Linear Regression of Y on X

Slope, mw = 48.3979 Intercept, bw = -20.5572
 Correlation Coefficient* = 0.9988

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 1.30m³/min

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

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

Therefore, Set Point; IC = (mw x Qstd + bw) x [(760 / Pa) x (Ta / 298)]^{1/2} = 42.93

Remarks: _____

QC Reviewer: WIS CHAN Signature: [Signature] Date: 11/08/22

AECOM Asia Company Limited

TSP High Volume Sampler

Field Calibration Report

Station: Pedestrian Plaza Operator: Choi Wing Ho
 Cal. Date: 11-Oct-22 Next Due Date: 11-Dec-22
 Equipment No.: A-001-70T Serial No.: 10273

| Ambient Condition | | | |
|---------------------|-----|---------------------|-------|
| Temperature, Ta (K) | 301 | Pressure, Pa (mmHg) | 761.3 |

| Orifice Transfer Standard Information | | | | | |
|---------------------------------------|-----------|---|---------|---------------|----------|
| Serial No: | 843 | Slope, mc | 2.02086 | Intercept, bc | -0.03672 |
| Last Calibration Date: | 27-Dec-21 | $mc \times Qstd + bc = [H \times (Pa/760) \times (298/Ta)]^{1/2}$ | | | |
| Next Calibration Date: | 27-Dec-22 | | | | |

| Calibration of TSP Sampler | | | | | |
|----------------------------|----------------------------|---|-----------------------------------|-----------------------------|--|
| Resistance Plate No. | Orifice | | | HVS Flow Recorder | |
| | DH (orifice), in. of water | [DH x (Pa/760) x (298/Ta)] ^{1/2} | Qstd (m ³ /min) X-axis | Flow Recorder Reading (CFM) | Continuous Flow Recorder Reading IC (CFM) Y-axis |
| 18 | 6.9 | 2.62 | 1.31 | 43.0 | 42.82 |
| 13 | 5.9 | 2.42 | 1.22 | 38.0 | 37.84 |
| 10 | 5.0 | 2.23 | 1.12 | 34.0 | 33.86 |
| 7 | 3.6 | 1.89 | 0.95 | 26.0 | 25.89 |
| 5 | 2.8 | 1.67 | 0.84 | 20.0 | 19.92 |

By Linear Regression of Y on X

Slope, mw = 48.0911 Intercept, bw = -20.2929

Correlation Coefficient* = 0.9988

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 1.30m³/min

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

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

Therefore, Set Point; IC = (mw x Qstd + bw) x [(760 / Pa) x (Ta / 298)]^{1/2} = 42.40

Remarks: _____

QC Reviewer: WJS CHAN

Signature: [Signature]

Date: 11/10/2022

Certificate of Calibration

| Calibration Certification Information | | | |
|---------------------------------------|-----------------------------|-----------|-------|
| Cal. Date: December 27, 2021 | Rootsmeter S/N: 438320 | Ta: 295 | °K |
| Operator: Jim Tisch | | Pa: 740.4 | mm Hg |
| Calibration Model #: TE-5025A | Calibrator S/N: 0843 | | |

| Run | Vol. Init (m3) | Vol. Final (m3) | ΔVol. (m3) | ΔTime (min) | ΔP (mm Hg) | ΔH (in H2O) |
|-----|----------------|-----------------|------------|-------------|------------|-------------|
| 1 | 1 | 2 | 1 | 1.3770 | 3.2 | 2.00 |
| 2 | 3 | 4 | 1 | 0.9710 | 6.4 | 4.00 |
| 3 | 5 | 6 | 1 | 0.8740 | 7.9 | 5.00 |
| 4 | 7 | 8 | 1 | 0.8340 | 8.8 | 5.50 |
| 5 | 9 | 10 | 1 | 0.6870 | 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) | $\sqrt{\Delta H \left(\frac{Ta}{Pa} \right)}$ (y-axis) |
| 0.9799 | 0.7116 | 1.4029 | 0.9957 | 0.7231 | 0.8927 |
| 0.9756 | 1.0048 | 1.9841 | 0.9914 | 1.0210 | 1.2624 |
| 0.9736 | 1.1140 | 2.2183 | 0.9893 | 1.1320 | 1.4114 |
| 0.9724 | 1.1660 | 2.3265 | 0.9881 | 1.1848 | 1.4803 |
| 0.9673 | 1.4079 | 2.8059 | 0.9828 | 1.4306 | 1.7853 |
| QSTD | m= | 2.02086 | QA | m= | 1.26543 |
| | b= | -0.03672 | | b= | -0.02336 |
| | r= | 0.99992 | | r= | 0.99992 |

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

| 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 |



CERTIFICATE OF CALIBRATION

Certificate No.: 22CA0329 02 Page 1 of 2

Item tested

| | | | |
|-----------------------|-----------------------------|------------|--------|
| Description: | Sound Level Meter (Class 1) | Microphone | Preamp |
| Manufacturer: | B & K | B & K | B & K |
| Type/Model No.: | 2250-L | 4950 | ZC0032 |
| Serial/Equipment No.: | 2681366 | 2665582 | 17190 |
| Adaptors used: | - | - | - |

Item submitted by

Customer Name: AECOM ASIA CO LTD
Address of Customer: -
Request No.: -
Date of receipt: 29-Mar-2022

Date of test: 30-Mar-2022

Reference equipment used in the calibration

| | | | | |
|---------------------------------|----------|------------|--------------|---------------|
| Description: | Model: | Serial No. | Expiry Date: | Traceable to: |
| Multi function sound calibrator | B&K 4226 | 2288444 | 23-Aug-2022 | CIGISMEC |
| Signal generator | DS 360 | 33873 | 27-May-2022 | CEPREI |

Ambient conditions

Temperature: 22 ± 1 °C
Relative humidity: 55 ± 10 %
Air pressure: 1010 ± 5 hPa

Test specifications


- The Sound Level Meter has been calibrated in accordance with the requirements as specified in BS 7580: Part 1: 1997 and the lab calibration procedure SMTP004-CA-152.
- The electrical tests were performed using an electrical signal substituted for the microphone which was removed and replaced by an equivalent capacitance within a tolerance of ±20%.
- The acoustic calibration was performed using an B&K 4226 sound calibrator and corrections was applied for the difference between the free-field and pressure responsiveness of the Sound Level Meter.

Test results

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

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

Actual Measurement data are documented on worksheets.

Approved Signatory:  Date: 31-Mar-2022 Company Chop: 

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



CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.: 22CA0329 02 Page 2 of 2

1, Electrical Tests

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

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

2, Acoustic tests

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

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

3, Response to associated sound calibrator

N/A

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

Calibrated by: 

Date: 30-Mar-2022

Checked by: 

Date: 31-Mar-2022

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



CERTIFICATE OF CALIBRATION

Certificate No.: 21CA1019 03-01 Page 1 of 2

Item tested

| | | | |
|-----------------------|-----------------------------|------------|--------|
| Description: | Sound Level Meter (Class 1) | Microphone | Preamp |
| Manufacturer: | B & K | B & K | B & K |
| Type/Model No.: | 2250 | 4950 | ZC0032 |
| Serial/Equipment No.: | 3001291 | 3005374 | 23853 |
| Adaptors used: | - | - | - |

Item submitted by

Customer Name: AECOM ASIA CO LIMITED
Address of Customer: -
Request No.: -
Date of receipt: 19-Oct-2021

Date of test: 21-Oct-2021

Reference equipment used in the calibration

| Description: | Model: | Serial No. | Expiry Date: | Traceable to: |
|---------------------------------|----------|------------|--------------|---------------|
| Multi function sound calibrator | B&K 4226 | 2288444 | 23-Aug-2022 | CIGISMEC |
| Signal generator | DS 360 | 61227 | 31-Dec-2021 | CEPREI |

Ambient conditions

Temperature: 22 ± 1 °C
Relative humidity: 55 ± 10 %
Air pressure: 1005 ± 5 hPa

Test specifications

- The Sound Level Meter has been calibrated in accordance with the requirements as specified in BS 7580: Part 1: 1997 and the lab calibration procedure SMTP004-CA-152.
- The electrical tests were performed using an electrical signal substituted for the microphone which was removed and replaced by an equivalent capacitance within a tolerance of ±20%.
- The acoustic calibration was performed using an B&K 4226 sound calibrator and corrections was applied for the difference between the free-field and pressure responsiveness of the Sound Level Meter.

Test results

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

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

Actual Measurement data are documented on worksheets.

Approved Signatory:  Date: 22-Oct-2021 Company Chop: 

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



CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.: 21CA1019 03-01 Page 2 of 2

1, Electrical Tests

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

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

2, Acoustic tests

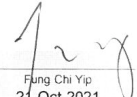
The complete sound level meter was calibrated on the reference range using a B&K 4226 acoustic calibrator with 1000Hz and SPL 94 dB. The sensitivity of the sound level meter was adjusted. The test result at 125 Hz and 8000 Hz are given in below with test status and the estimated uncertainties.

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

3, Response to associated sound calibrator

N/A

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

Calibrated by: 
Date: 21-Oct-2021

Checked by: 
Date: 22-Oct-2021

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



CERTIFICATE OF CALIBRATION

Certificate No.: 21CA1105 03 Page: 1 of 2

Item tested

Description: Acoustical Calibrator (Class 1)
 Manufacturer: B & K
 Type/Model No.: 4231
 Serial/Equipment No.: 3014024 / N004.04
 Adaptors used: -

Item submitted by

Customer: AECOM ASIA CO LIMITED
 Address of Customer: -
 Request No.: -
 Date of receipt: 05-Nov-2021

Date of test: 08-Nov-2021

Reference equipment used in the calibration

| Description: | Model: | Serial No. | Expiry Date: | Traceable to: |
|-------------------------|----------|------------|--------------|---------------|
| Lab standard microphone | B&K 4180 | 2341427 | 04-May-2022 | SCL |
| Preamplifier | B&K 2673 | 2743150 | 31-May-2022 | CEPREI |
| Measuring amplifier | B&K 2610 | 2346941 | 01-Jun-2022 | CEPREI |
| Signal generator | DS 360 | 33873 | 27-May-2022 | CEPREI |
| Digital multi-meter | 34401A | US36087050 | 27-May-2022 | CEPREI |
| Audio analyzer | 8903B | GB41300350 | 28-May-2022 | CEPREI |
| Universal counter | 53132A | MY40003662 | 02-Jun-2022 | CEPREI |

Ambient conditions

Temperature: 22 ± 1 °C
 Relative humidity: 55 ± 10 %
 Air pressure: 1005 ± 5 hPa

Test specifications

- The Sound Calibrator has been calibrated in accordance with the requirements as specified in IEC 60942 1997 Annex B and the lab calibration procedure SMTP004-CA-156.
- The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.
- The results are rounded to the nearest 0.01 dB and 0.1 Hz and have not been corrected for variations from a reference pressure of 1013.25 hectoPascals as the maker's information indicates that the instrument is insensitive to pressure changes.

Test results

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

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

Approved Signatory:

Feng Junqi

Date: 09-Nov-2021

Company Chop:



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



CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.: 21CA1105 03 Page: 2 of 2

1, Measured Sound Pressure Level

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

| Frequency Shown Hz | Output Sound Pressure Level Setting dB | Measured Output Sound Pressure Level dB | Estimated Expanded Uncertainty dB |
|-----------------------|---|--|--------------------------------------|
| 1000 | 94.00 | 94.05 | 0.10 |

(Output level in dB re 20 µPa)

2, Sound Pressure Level Stability - Short Term Fluctuations

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

At 1000 Hz STF = 0.014 dB
 Estimated expanded uncertainty 0.005 dB

3, Actual Output Frequency

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

At 1000 Hz Actual Frequency = 1000.0 Hz
 Estimated expanded uncertainty 0.1 Hz Coverage factor k = 2.2

4, Total Noise and Distortion

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

At 1000 Hz TND = 0.5 %
 Estimated expanded uncertainty 0.7 %

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

Calibrated by:

Fung Chi Yip
08-Nov-2021

- End -

Checked by:

Chan Yuk Yiu
09-Nov-2021

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



CERTIFICATE OF CALIBRATION

Certificate No.: 22CA0504 01 Page: 1 of 2

Item tested

Description: Acoustical Calibrator (Class 1)
Manufacturer: B & K
Type/Model No.: 4231
Serial/Equipment No.: 3006428
Adaptors used: -

Item submitted by

Customer: AECOM
Address of Customer: -
Request No.: -
Date of receipt: 04-May-2022

Date of test: 04-May-2022

Reference equipment used in the calibration

| Description: | Model: | Serial No. | Expiry Date: | Traceable to: |
|-------------------------|----------|------------|--------------|---------------|
| Lab standard microphone | B&K 4180 | 2341427 | 04-May-2022 | SCL |
| Preamplifier | B&K 2673 | 2239857 | 31-May-2022 | CEPREI |
| Measuring amplifier | B&K 2610 | 2346941 | 01-Jun-2022 | CEPREI |
| Signal generator | DS 360 | 33873 | 27-May-2022 | CEPREI |
| Digital multi-meter | 34401A | US36087050 | 27-May-2022 | CEPREI |
| Audio analyzer | 8903B | GB41300350 | 28-May-2022 | CEPREI |
| Universal counter | 53132A | MY40003662 | 02-Jun-2022 | CEPREI |

Ambient conditions

Temperature: 22 ± 1 °C
Relative humidity: 55 ± 10 %
Air pressure: 1005 ± 5 hPa

Test specifications

- The Sound Calibrator has been calibrated in accordance with the requirements as specified in IEC 60942 1997 Annex B and the lab calibration procedure SMTP004-CA-156.
- The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.
- The results are rounded to the nearest 0.01 dB and 0.1 Hz and have not been corrected for variations from a reference pressure of 1013.25 hectoPascals as the maker's information indicates that the instrument is insensitive to pressure changes.

Test results

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

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

Approved Signatory:  Date: 05-May-2022 Company Chop: 

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



CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.: 22CA0504 01 Page: 2 of 2

1, Measured Sound Pressure Level

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

| Frequency Shown Hz | Output Sound Pressure Level Setting dB | Measured Output Sound Pressure Level dB | Estimated Expanded Uncertainty dB |
|--------------------|--|---|-----------------------------------|
| 1000 | 94.00 | 94.16 | 0.10 |

(Output level in dB re 20 µPa)

2, Sound Pressure Level Stability - Short Term Fluctuations

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

At 1000 Hz STF = 0.014 dB
Estimated expanded uncertainty 0.005 dB

3, Actual Output Frequency

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

At 1000 Hz Actual Frequency = 999.96 Hz
Estimated expanded uncertainty 0.1 Hz Coverage factor k = 2.2

4, Total Noise and Distortion

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

At 1000 Hz TND = 0.4 %
Estimated expanded uncertainty 0.7 %

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

Calibrated by:  Date: 04-May-2022
Checked by:  Date: 05-May-2022
- End -

The standard(s) and equipment used in the calibration are traceable to national or international recognised standards and are carry no implication regarding the long-term stability of the instrument. The results apply to the item as received.

APPENDIX F

EM&A Monitoring Schedules

**Shatin to Central Link Contract 1123 - Exhibition Station and Western Approach Tunnel
Impact Monitoring Schedule for October 2022**

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

Air Quality Monitoring Station

AM2 Wan Chai Sports Ground
AM4 Pedestrian Plaza

Noise Monitoring Station

NM2 Harbour Centre

Monitoring Frequency

24-hr TSP Once every 6 days

Monitoring Frequency

Once per week

**Shatin to Central Link Contract 1123 - Exhibition Station and Western Approach Tunnel
Tentative Impact Monitoring Schedule for November 2022**

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

The schedule is subject to change due to unforeseeable circumstances (e.g. adverse weather, etc)

Air Quality Monitoring Station

AM2 Wan Chai Sports Ground
AM4 Pedestrian Plaza

Noise Monitoring Station

NM2 Harbour Centre

Monitoring Frequency

24-hr TSP Once every 6 days

Monitoring Frequency

Once per week

**Shatin to Central Link Contract 1123 - Exhibition Station and Western Approach Tunnel
Tentative Impact Monitoring Schedule for December 2022**

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

The schedule is subject to change due to unforeseeable circumstances (e.g. adverse weather, etc)

Air Quality Monitoring Station

AM2 Wan Chai Sports Ground
AM4 Pedestrian Plaza

Noise Monitoring Station

NM2 Harbour Centre

Monitoring Frequency

24-hr TSP Once every 6 days

Monitoring Frequency

Once per week

**Shatin to Central Link Contract 1123 - Exhibition Station and Western Approach Tunnel
Tentative Impact Monitoring Schedule for January 2023**

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

The schedule is subject to change due to unforeseeable circumstances (e.g. adverse weather, etc)

Air Quality Monitoring Station

AM2 Wan Chai Sports Ground
AM4 Pedestrian Plaza

Noise Monitoring Station

NM2 Harbour Centre

Monitoring Frequency

24-hr TSP Once every 6 days

Monitoring Frequency

Once per week

APPENDIX G

**Air Quality Monitoring Results and
their Graphical Presentations**

Appendix G
Air Quality Monitoring Results

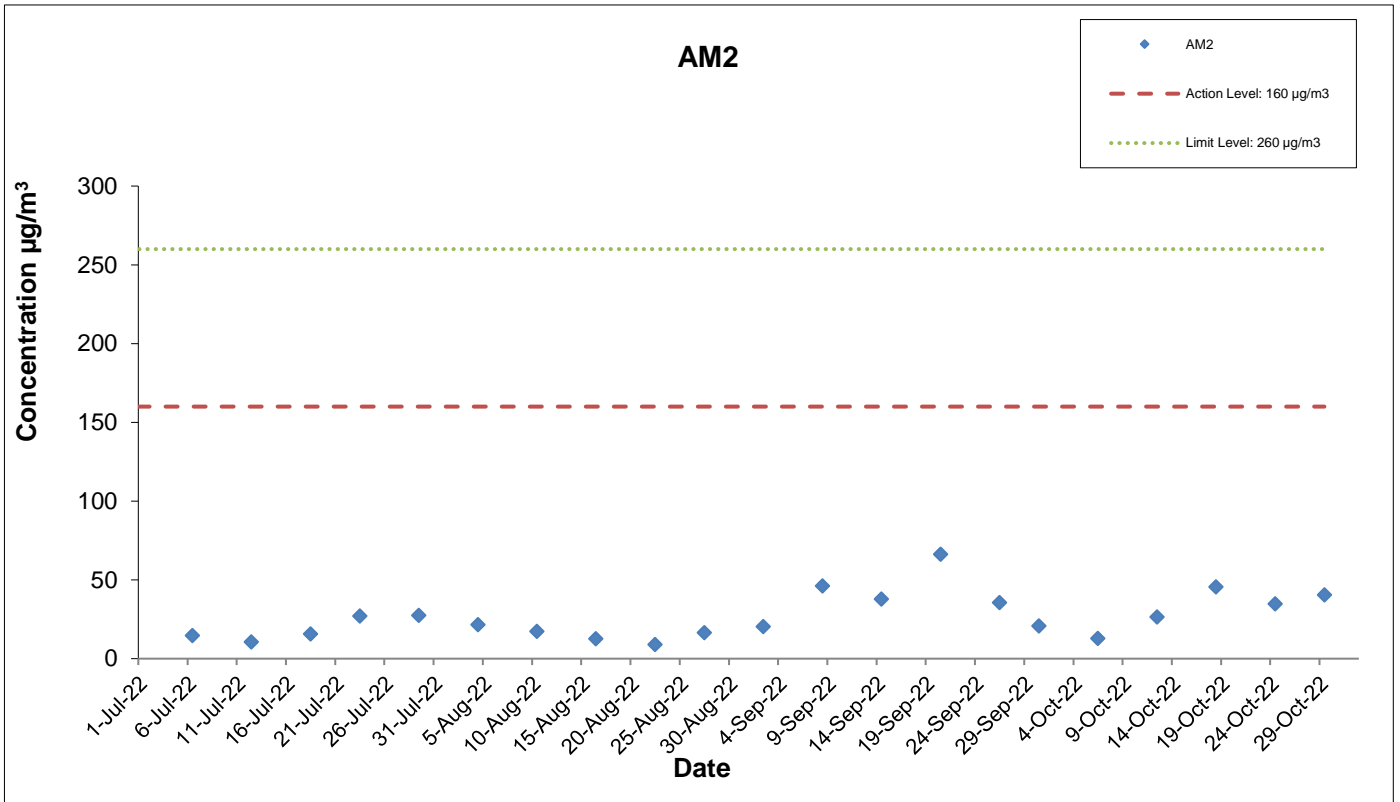
24-hour TSP Monitoring Results at Station AM2 (Wan Chai Sports Ground)

| Start | | End | | Weather Condition | Air Temp. (°C) | Atmospheric Pressure (hPa) | Flow Rate (m ³ /min.) | | Av. flow (m ³ /min) | Total vol. (m ³) | Filter Weight (g) | | Particulate weight(g) | Elapse Time | | Sampling Time(hrs.) | Conc. (µg/m ³) |
|----------------|------|-----------|------|-------------------|----------------|----------------------------|----------------------------------|-------|--------------------------------|------------------------------|-------------------|--------|-----------------------|-------------|----------|---------------------|----------------------------|
| Date | Time | Date | Time | | | | Initial | Final | | | Initial | Final | | Initial | Final | | |
| 6-Oct-22 | 0:00 | 7-Oct-22 | 0:00 | Sunny | 30.8 | 1008.2 | 1.34 | 1.34 | 1.34 | 1925.3 | 2.7520 | 2.7766 | 0.0246 | 29336.67 | 29360.67 | 24.00 | 12.8 |
| 12-Oct-22 | 0:00 | 13-Oct-22 | 0:00 | Sunny | 30.8 | 1007.4 | 1.34 | 1.34 | 1.34 | 1925.3 | 2.7708 | 2.8216 | 0.0508 | 29360.67 | 29384.67 | 24.00 | 26.4 |
| 18-Oct-22 | 0:00 | 19-Oct-22 | 0:00 | Sunny | 30.1 | 1005.7 | 1.34 | 1.34 | 1.34 | 1925.3 | 2.7878 | 2.8756 | 0.0878 | 29384.67 | 29408.67 | 24.00 | 45.6 |
| 24-Oct-22 | 0:00 | 25-Oct-22 | 0:00 | Sunny | 28.3 | 1011.2 | 1.34 | 1.34 | 1.34 | 1925.3 | 2.7697 | 2.8367 | 0.0670 | 29408.67 | 29432.67 | 24.00 | 34.8 |
| 29-Oct-22 | 0:00 | 30-Oct-22 | 0:00 | Sunny | 28.0 | 1010.1 | 1.34 | 1.34 | 1.34 | 1925.3 | 2.7747 | 2.8524 | 0.0777 | 29432.67 | 29456.67 | 24.00 | 40.4 |
| Average | | | | | | | | | | | | | | | | 32.0 | |
| Minimum | | | | | | | | | | | | | | | | 12.8 | |
| Maximum | | | | | | | | | | | | | | | | 45.6 | |

Appendix G
Air Quality Monitoring Results

24-hour TSP Monitoring Results at Station AM4 (Pedestrian Plaza)

| Start | | End | | Weather Condition | Air Temp. (°C) | Atmospheric Pressure (hPa) | Flow Rate (m ³ /min.) | | Av. flow (m ³ /min) | Total vol. (m ³) | Filter Weight (g) | | Particulate weight(g) | Elapse Time | | Sampling Time(hrs.) | Conc. (µg/m ³) |
|----------------|------|-----------|------|----------------------|-------------------|-------------------------------|----------------------------------|-------|-----------------------------------|---------------------------------|-------------------|--------|--------------------------|-------------|----------|------------------------|-------------------------------|
| Date | Time | Date | Time | | | | Initial | Final | | | Initial | Final | | Initial | Final | | |
| 6-Oct-22 | 0:00 | 7-Oct-22 | 0:00 | Sunny | 30.8 | 1008.2 | 1.33 | 1.33 | 1.33 | 1921.0 | 2.7739 | 2.8191 | 0.0452 | 29063.07 | 29087.07 | 24.00 | 23.5 |
| 12-Oct-22 | 0:00 | 13-Oct-22 | 0:00 | Sunny | 30.8 | 1007.4 | 1.34 | 1.34 | 1.34 | 1925.3 | 2.7727 | 2.8490 | 0.0763 | 29087.07 | 29111.07 | 24.00 | 39.6 |
| 18-Oct-22 | 0:00 | 19-Oct-22 | 0:00 | Sunny | 30.1 | 1005.7 | 1.34 | 1.34 | 1.34 | 1925.3 | 2.7863 | 2.8955 | 0.1092 | 29111.07 | 29135.07 | 24.00 | 56.7 |
| 24-Oct-22 | 0:00 | 25-Oct-22 | 0:00 | Sunny | 28.3 | 1011.2 | 1.34 | 1.34 | 1.34 | 1925.3 | 2.7860 | 2.8750 | 0.0890 | 29135.07 | 29159.07 | 24.00 | 46.2 |
| 29-Oct-22 | 0:00 | 30-Oct-22 | 0:00 | | 28.0 | 1010.1 | 1.34 | 1.34 | 1.34 | 1925.3 | 2.7730 | 2.8932 | 0.1202 | 29159.07 | 29183.07 | 24.00 | 62.4 |
| Average | | | | | | | | | | | | | | | | 45.7 | |
| Minimum | | | | | | | | | | | | | | | | 23.5 | |
| Maximum | | | | | | | | | | | | | | | | 62.4 | |



* The monitoring station at AM2 was handed over from Contract SCL1128 on 28 October 2015.

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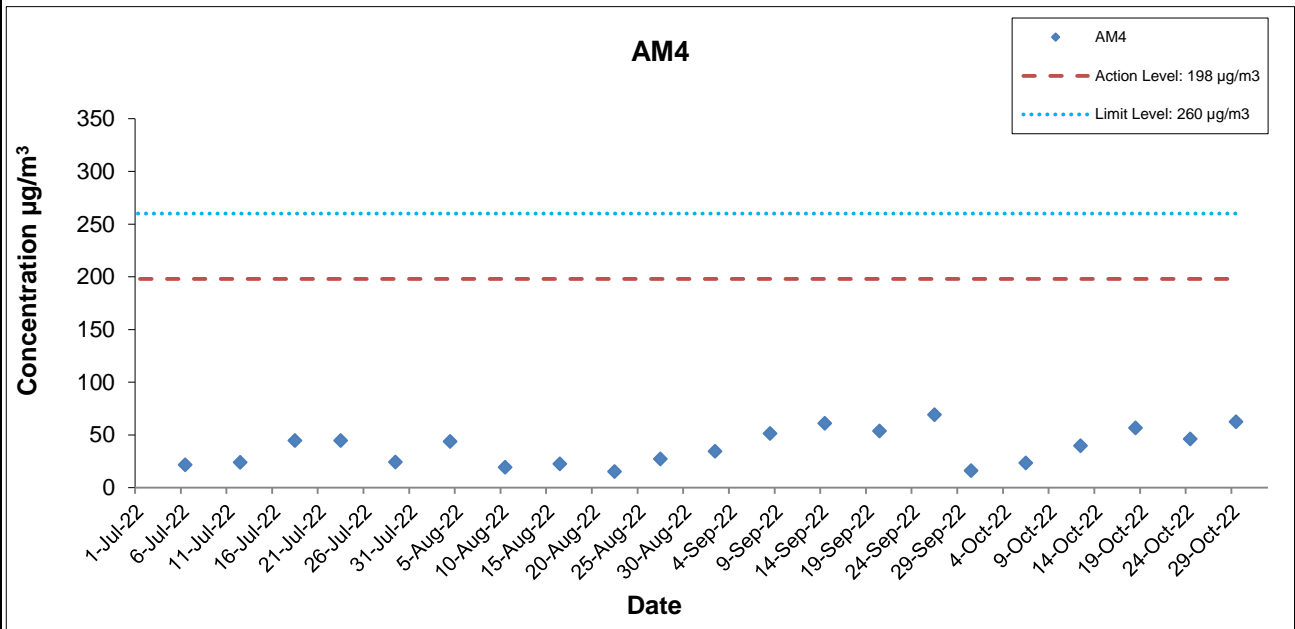
Shatin Central Link Contract No. 1123
Exhibition Station and Western Approach Tunnel



Graphical Presentation of Impact 24-hr TSP Monitoring Results

Date: November 2022

Appendix G



* The impact monitoring at AM4 will be handed over from Contract SCL1128 in April 2021.

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Shatin Central Link Contract No. 1123
Exhibition Station and Western Approach Tunnel



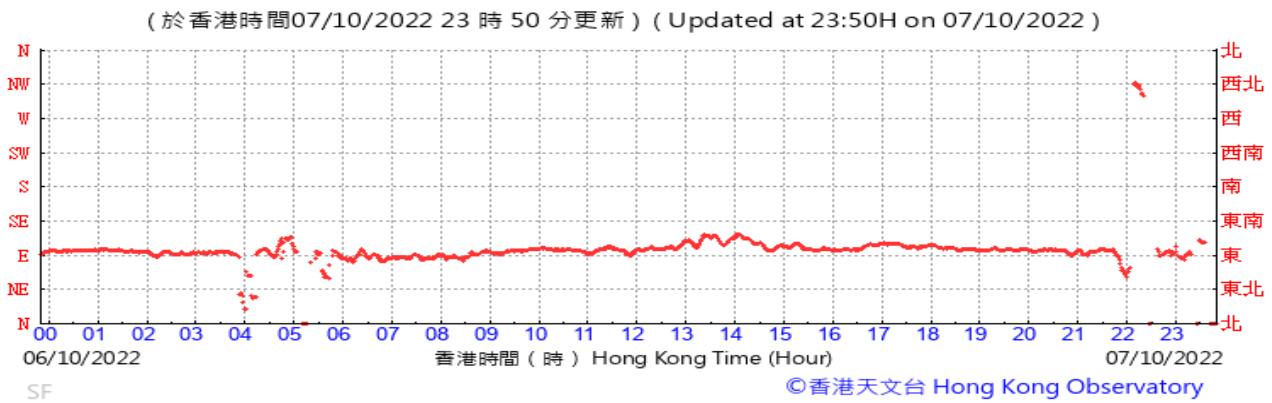
Graphical Presentation of Impact 24-hr TSP Monitoring Results

Date: November 2022

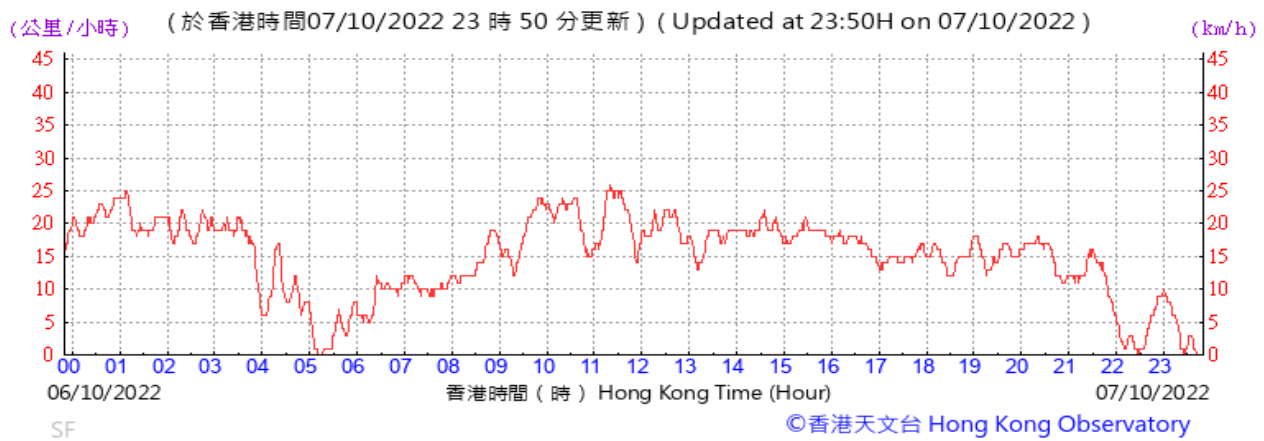
Appendix G

Appendix G – Extract of Meteorological Observations for Star Ferry Automatic Weather Station
October 2022

Wind Direction:

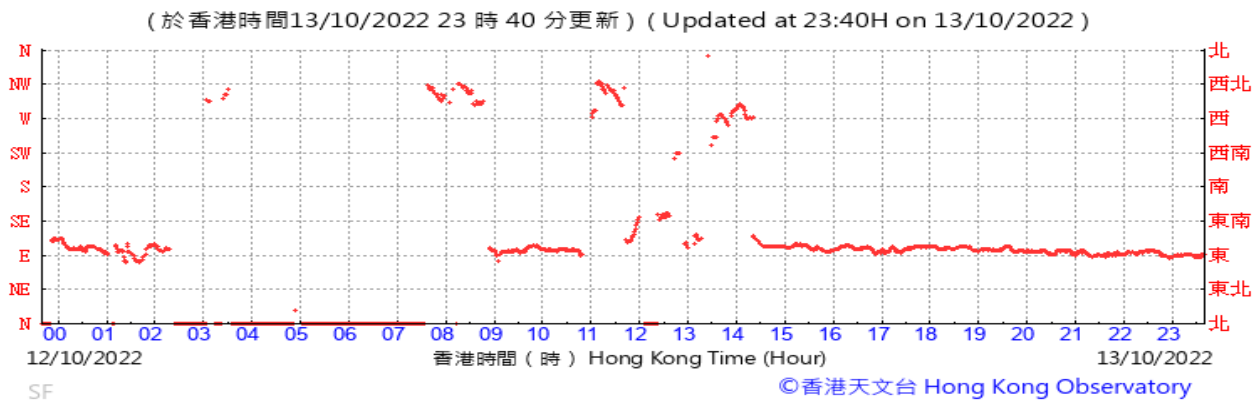


Wind Speed:

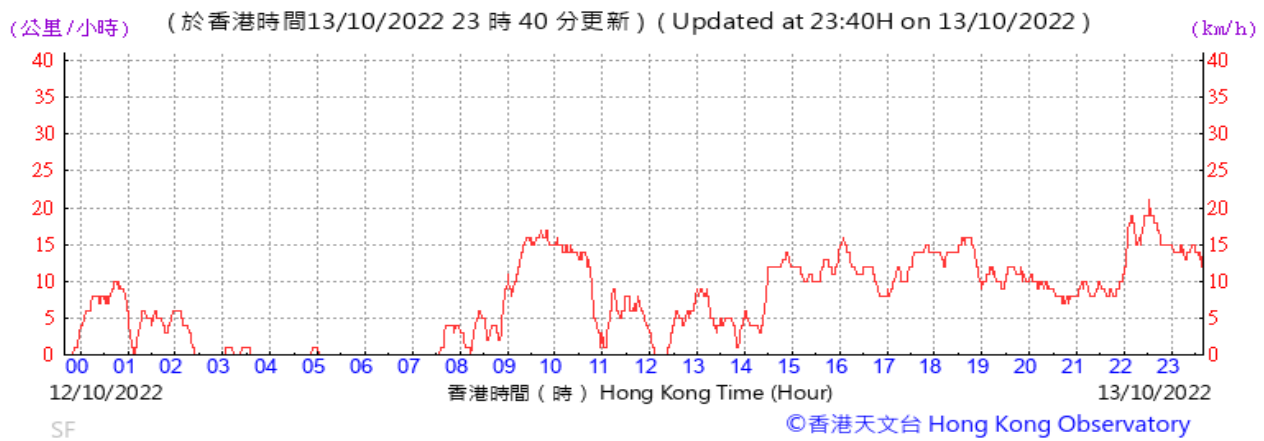


Appendix G – Extract of Meteorological Observations for Star Ferry Automatic Weather Station
October 2022

Wind Direction:

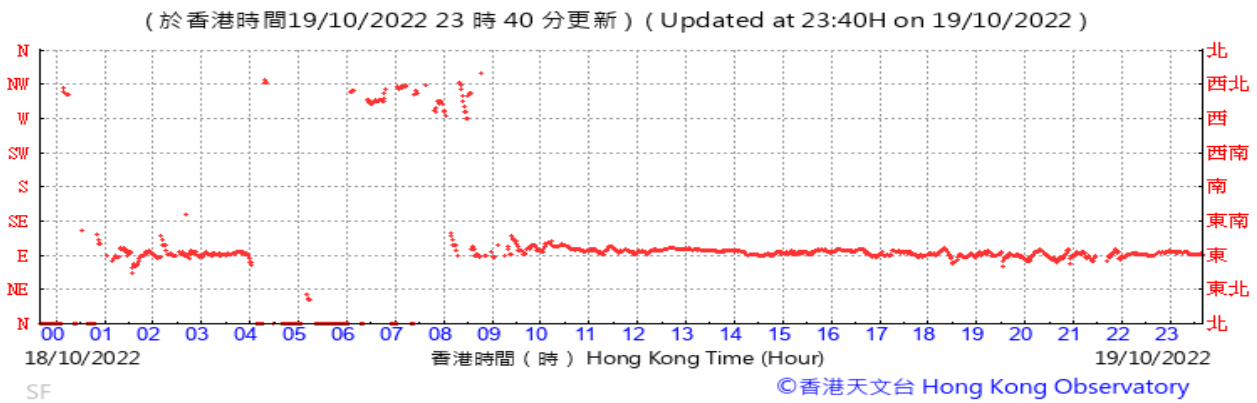


Wind Speed:

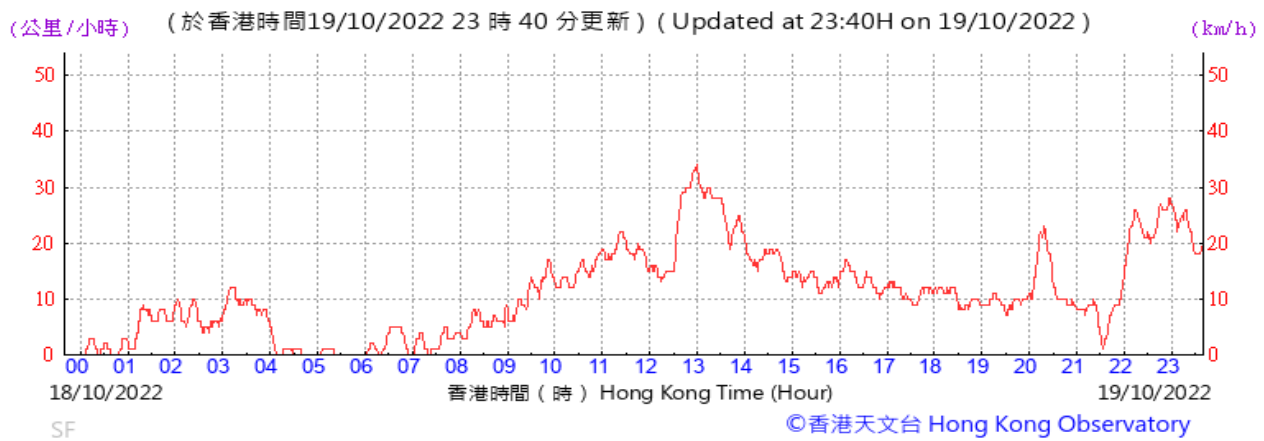


Appendix G – Extract of Meteorological Observations for Star Ferry Automatic Weather Station
October 2022

Wind Direction:



Wind Speed:

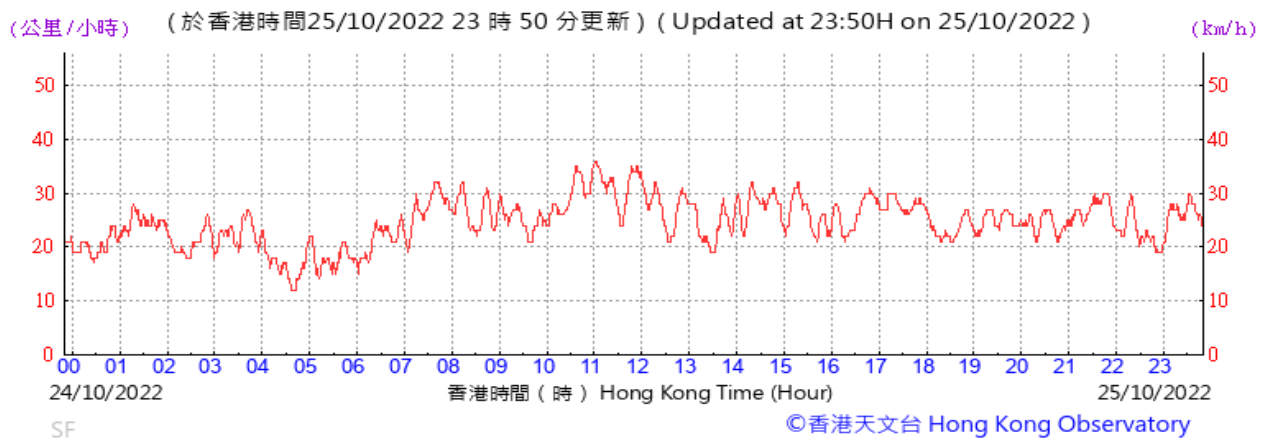


Appendix G – Extract of Meteorological Observations for Star Ferry Automatic Weather Station
October 2022

Wind Direction:

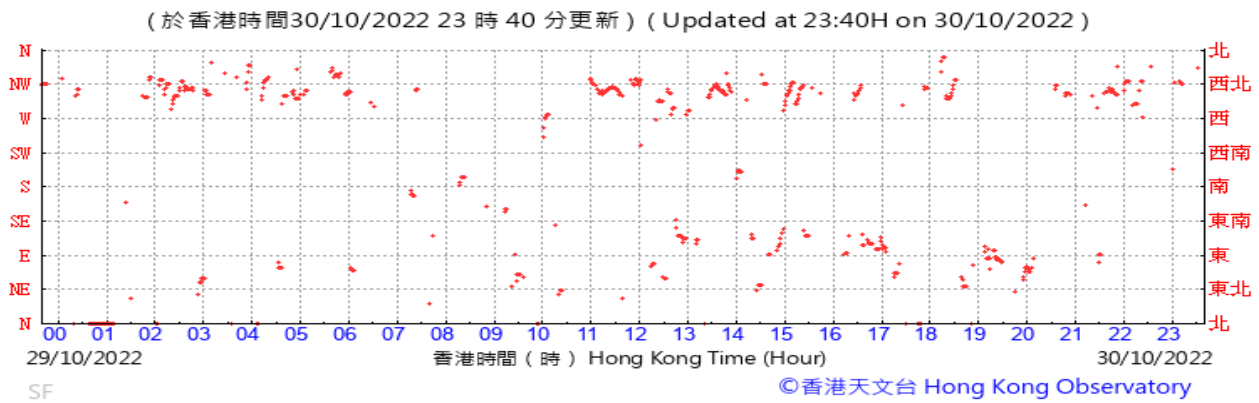


Wind Speed:

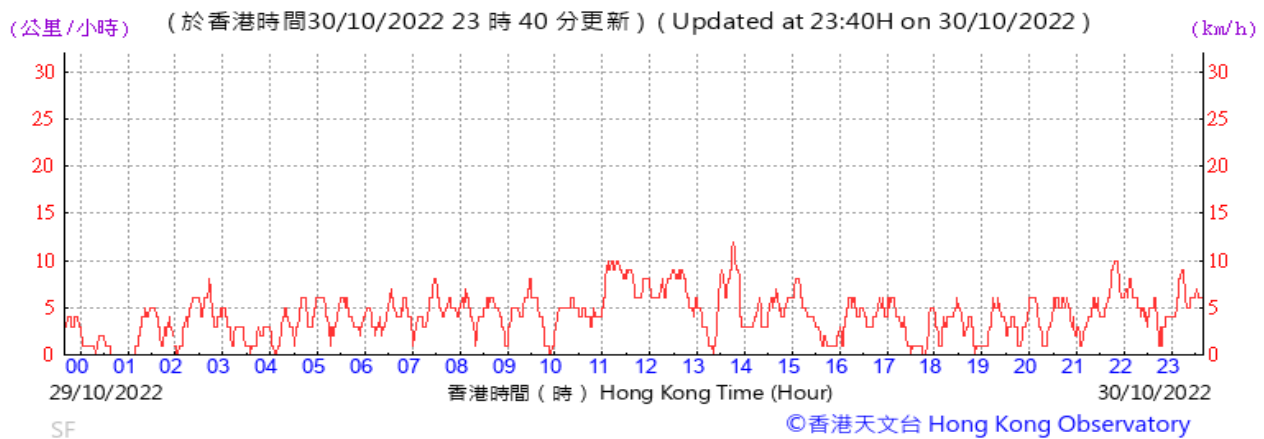


Appendix G – Extract of Meteorological Observations for Star Ferry Automatic Weather Station
October 2022

Wind Direction:



Wind Speed:



APPENDIX H

**Noise Monitoring Results and
their Graphical Presentations**

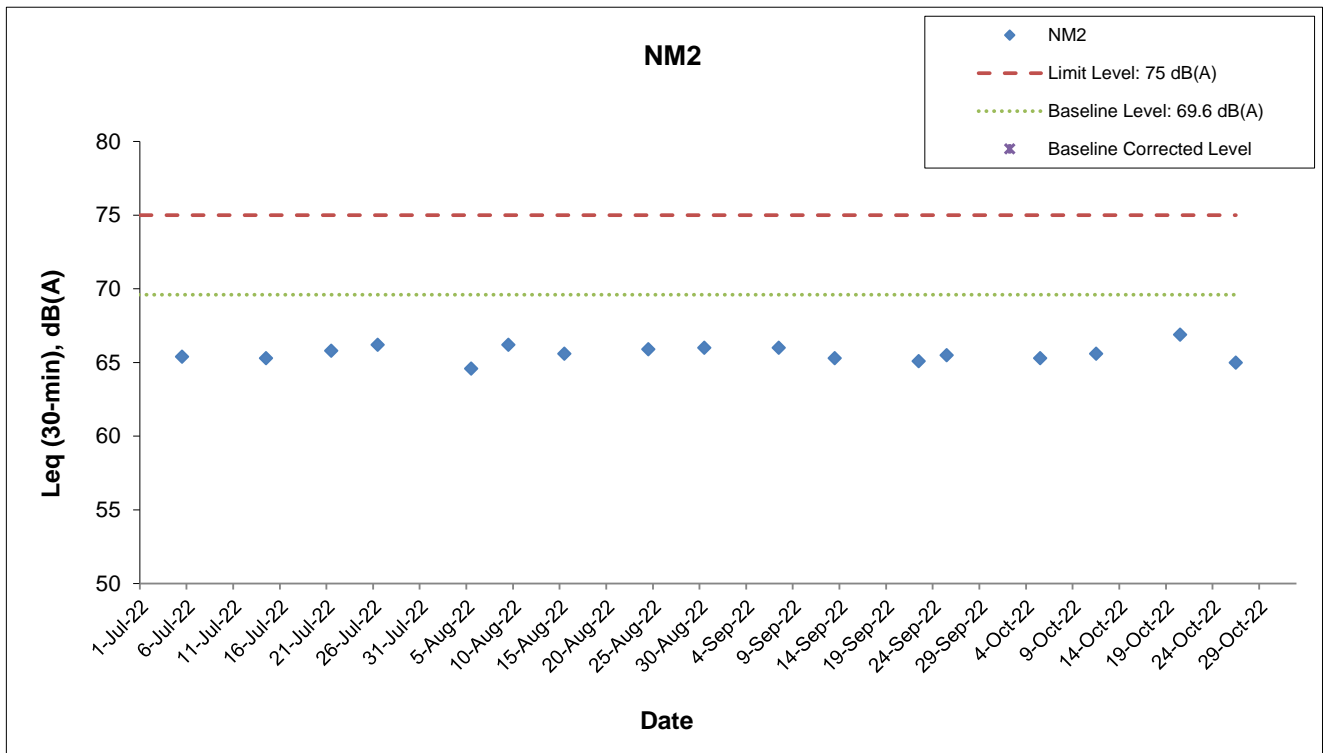
Appendix H Regular Construction Noise Monitoring Results

Daytime Noise Monitoring Results at Station NM2 (Harbour Centre)

| Date | Weather Condition | Noise Level for 30-min, dB(A) ⁺ | | | | Baseline Corrected Level, dB(A) | Baseline Noise Level, dB(A) | Limit Level, dB(A) | Exceedance (Y/N) |
|-----------|-------------------|--|------|------|------|---------------------------------|-----------------------------|--------------------|------------------|
| | | Time | L90 | L10 | Leq | | | | |
| 5-Oct-22 | Sunny | 14:00 | 63.8 | 66.0 | 65.3 | <Baseline | 69.6 | 75 | N |
| 11-Oct-22 | Sunny | 14:00 | 63.2 | 66.9 | 65.6 | <Baseline | 69.6 | 75 | N |
| 20-Oct-22 | Sunny | 10:40 | 64.5 | 67.7 | 66.9 | <Baseline | 69.6 | 75 | N |
| 26-Oct-22 | Sunny | 11:40 | 63.6 | 66.2 | 65.0 | <Baseline | 69.6 | 75 | N |

⁺ - Façade measurement

Appendix H Regular Construction Noise Monitoring Results



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Shatin Central Link Contract No. 1123
Exhibition Station and Western Approach Tunnel

Graphical Presentation of Impact Noise Monitoring Results

Date: November-2022

Appendix H

APPENDIX I

Event Action Plan

Appendix I Event Action Plan

Event / Action Plan for Construction Dust Monitoring

| EVENT | ACTION | | | |
|--|---|--|---|---|
| | ET | IEC | ER | Contractor |
| ACTION LEVEL | | | | |
| Exceedance for one sample | <ol style="list-style-type: none"> 1. Inform the Contractor, IEC and ER; 2. Discuss with the Contractor and IEC on the remedial measures required; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency | <ol style="list-style-type: none"> 1. Check monitoring data submitted by the ET; 2. Check Contractor's working method; 3. Review and advise the ET and ER on the effectiveness of the proposed remedial measures. | <ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing. | <ol style="list-style-type: none"> 1. Identify source(s), investigate the causes of exceedance and propose remedial measures; 2. Implement remedial measures; 3. Amend working methods agreed with the ER as appropriate. |
| Exceedance for two or more consecutive samples | <ol style="list-style-type: none"> 1. Inform the Contractor, IEC and ER; 2. Discuss with the ER, IEC and Contractor on the remedial measures required; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency to daily; 5. If exceedance continues, arrange meeting with the IEC, ER and Contractor; 6. If exceedance stops, cease additional monitoring. | <ol style="list-style-type: none"> 1. Check monitoring data submitted by the ET; 2. Check Contractor's working method; 3. Review and advise the ET and ER on the effectiveness of the proposed remedial measures. | <ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing; 2. Review and agree on the remedial measures proposed by the Contractor; 3. Supervise Implementation of remedial measures. | <ol style="list-style-type: none"> 1. Identify source and investigate the causes of exceedance; 2. Submit proposals for remedial measures to the ER with a copy to ET and IEC within three working days of notification; 3. Implement the agreed proposals; 4. Amend proposal as appropriate. |

Appendix I Event Action Plan

| EVENT | ACTION | | | |
|--|--|--|---|---|
| | ET | IEC | ER | Contractor |
| LIMIT LEVEL | | | | |
| Exceedance for one sample | <ol style="list-style-type: none"> 1. Inform the Contractor, IEC, EPD and ER; 2. Repeat measurement to confirm findings; 3. Increase monitoring frequency to daily; 4. Discuss with the ER, IEC and contractor on the remedial measures and assess the effectiveness. | <ol style="list-style-type: none"> 1. Check monitoring data submitted by the ET; 2. Check the Contractor’s working method; 3. Discuss with the ET, ER and Contractor on possible remedial measures; 4. Review and advise the ER and ET on the effectiveness of Contractor’s remedial measures. | <ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing; 2. Review and agree on the remedial measures proposed by the Contractor; 3. Supervise implementation of remedial measures. | <ol style="list-style-type: none"> 1. Identify source(s) and investigate the causes of exceedance; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial measures to ER with a copy to ET and IEC within three working days of notification; 4. Implement the agreed proposals; 5. Amend proposal if appropriate. |
| Exceedance for two or more consecutive samples | <ol style="list-style-type: none"> 1. Notify Contractor, IEC, EPD and ER ; 2. Repeat measurement to confirm findings; 3. Increase monitoring frequency to daily; 4. Carry out analysis of the Contractor’s working procedures with the ER to determine possible mitigation to be implemented; 5. Arrange meeting with the IEC and ER to discuss the remedial measures to be taken; 6. Review the effectiveness of the Contractor’s remedial measures and keep IEC, EPD and ER informed of the results; 7. If exceedance stops, cease additional monitoring. | <ol style="list-style-type: none"> 1. Check monitoring data submitted by the ET; 2. Check the Contractor’s working method; 3. Discuss with ET, ER, and Contractor on the potential remedial measures; 4. Review and advise the ER and ET on the effectiveness of Contractor’s remedial measures. | <ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing; 2. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented; 3. Supervise the implementation of remedial measures; 4. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated. | <ol style="list-style-type: none"> 1. Identify source(s) and investigate the causes of exceedance; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial measures to the ER with a copy to the IEC and ET within three working days of notification; 4. Implement the agreed proposals; 5. Revise and resubmit proposals if problem still not under control; 6. Stop the relevant portion of works as determined by the ER until the exceedance is abated. |

Appendix I Event Action Plan

Event and Action Plan for Construction Noise Monitoring

| EVENT | ACTION | | | |
|----------------------------|--|---|---|--|
| | ET | IEC | ER | Contractor |
| Exceedance of Action Level | <ol style="list-style-type: none"> 1. Notify the Contractor, IEC and ER; 2. Discuss with the ER, IEC and Contractor on the remedial measures required; and 3. Increase monitoring frequency to check mitigation effectiveness. | <ol style="list-style-type: none"> 1. Review the investigation results submitted by the contractor; and 2. Review and advise the ET and ER on the effectiveness of the remedial measures proposed by the Contractor. | <ol style="list-style-type: none"> 1. Confirm receipt of notification of complaint in writing; 2. Review and agree on the remedial measures proposed by the Contractor; and 3. Supervise implementation of remedial measures. | <ol style="list-style-type: none"> 1. Investigate the complaint and propose remedial measures; 2. Report the results of investigation to the IEC, ET and ER; 3. Submit noise mitigation proposals to the ER with copy to the IEC and ET within 3 working days of notification; and 4. Implement noise mitigation proposals. |
| Exceedance of Limit Level | <ol style="list-style-type: none"> 1. Notify the Contractor, IEC, EPD and ER ; 2. Repeat measurement to confirm findings; 3. Increase monitoring frequency; 4. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 5. Arrange meeting with the IEC and ER to discuss the remedial measures to be taken; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances; 7. Review the effectiveness of Contractor's remedial measures and keep IEC, EPD and ER informed of the results; and 8. If exceedance stops, cease additional monitoring. | <ol style="list-style-type: none"> 1. Check monitoring data submitted by the ET; 2. Check the Contractor's working method; 3. Discuss with the ER, ET and Contractor on the potential remedial measures; and 4. Review and advise the ET and ER on the effectiveness of the remedial measures proposed by the Contractor. | <ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing; 2. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented; 3. Supervise the implementation of remedial measures; and 4. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated. | <ol style="list-style-type: none"> 1. Identify source and investigate the causes of exceedance; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial measures to the ER with copy to the IEC and ET within 3 working days of notification; 4. Implement the agreed proposals; 5. Revise and resubmit proposals if problem still not under control; and 6. Stop the relevant portion of works as determined by the ER until the exceedance is abated. |

Appendix I Event Action Plan

Event and Action Plan for Continuous Noise Monitoring

| EVENT | ACTION | | | |
|---------------------------|--|---|---|--|
| | ET | IEC | ER | CONTRACTOR |
| Action/Limit Level | 1. Identify source ; 2. Repeat measurement. If two consecutive measurements exceed Action/Limit Level, the exceedance is then confirmed; 3. If exceedance is confirmed, notify IEC, ER and Contractor; 4. Investigate the cause of exceedance and check Contractor’s working procedures to determine possible mitigation to be implemented; 5. Discuss jointly with the IEC, ER and Contractor and formulate remedial measures; and 6. Assess effectiveness of Contractor’s remedial actions and keep IEC and ER informed of the results. | 1. Check monitoring data submitted by the Works Contract 1123 ET; 2. Check the Contractor’s working method; 3. Discuss with the ER, Works Contract 1123 ET and Contractor on the potential remedial measures; and 4. Review and advise the Works Contract 1123 ET and ER on the effectiveness of the remedial measures proposed by the Contractor. | 1. Confirm receipt of notification of exceedance in writing; 2. In consultation with the Works Contract 1123 ET and IEC, agree with the Contractor on the remedial measures to be implemented; 3. Ensure the proper implementation of remedial measures; and 4. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated. | 1. Identify source with the Works Contract 1123 ET; 2. If exceedance is confirmed, investigation the cause of exceedance and take immediate action to avoid further exceedance; 3. Submit proposals for remedial measures to the ER with copy to the IEC and ET of notification; 4. Implement the agreed proposals; 5. Liaise with ER to optimize the effectiveness of the agreed mitigation; 6. Revise and resubmit proposals if problem still not under control; and 7. Stop the relevant portion of works as determined by the ER until the exceedance is abated. |

APPENDIX J

**Cumulative Statistics of Exceedances, Complaints,
Notification of Summons and Successful Prosecutions**

Appendix J**Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions**

| | Date Received | Subject | Status | Total no. received in this month | Total no. received since project commencement |
|-------------------------------------|----------------------|----------------|---------------|---|--|
| Environmental complaints | - | - | - | 0 | 17 |
| Notification of summons | - | - | - | 0 | 2 |
| Successful Prosecutions | - | - | - | 0 | 0 |

APPENDIX K

Waste Flow Table

MONTHLY SUMMARY WASTE FLOW TABLE

Contract No.:MTR SCL 1123 - Exhibition Station and Western Approach
Reporting Month: October 2022

Monthly Summary Waste Flow Table for 2022

| Month | Actual Quantities of Inert C&D Materials Generated Monthly | | | | | | Actual Quantities of C&D Wastes Generated Monthly | | | | | Actual Quantities of Marine Dumping 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 | Chemical Waste | Others, e.g. general refuse | Type 1 | Type 2 |
| | (in '000m ³) | (in '000m ³) | (in '000m ³) | (in '000m ³) | (in '000m ³) | (in '000m ³) | (in '000kg) | (in '000kg) | (in '000kg) | (in '000kg) | (in '000m ³) | (in '000m ³) | (in '000m ³) |
| Jan | 1.394 | 0.000 | 0.000 | 0.000 | 1.394 | 0.000 | 4.125 | 1.650 | 0.580 | 0.000 | 0.290 | 0.000 | 0.000 |
| Feb | 1.145 | 0.000 | 0.000 | 0.000 | 1.145 | 0.000 | 31.710 | 0.000 | 0.000 | 0.000 | 0.191 | 0.000 | 0.000 |
| Mar | 1.930 | 0.000 | 0.000 | 0.000 | 1.930 | 0.000 | 0.010 | 0.390 | 0.080 | 0.000 | 0.197 | 0.000 | 0.000 |
| Apr | 0.826 | 0.000 | 0.000 | 0.000 | 0.826 | 0.000 | 0.005 | 0.245 | 0.060 | 0.000 | 0.230 | 0.000 | 0.000 |
| May | 0.948 | 0.000 | 0.000 | 0.000 | 0.948 | 0.000 | 0.005 | 0.300 | 0.045 | 0.000 | 0.289 | 0.000 | 0.000 |
| Jun | 0.220 | 0.000 | 0.000 | 0.000 | 0.220 | 0.000 | 0.034 | 2.255 | 0.211 | 0.000 | 0.266 | 0.000 | 0.000 |
| Sub-total | 6.462 | 0.000 | 0.000 | 0.000 | 6.462 | 0.000 | 35.889 | 4.840 | 0.976 | 0.000 | 1.463 | 0.000 | 0.000 |
| July | 0.307 | 0.000 | 0.000 | 0.000 | 0.307 | 0.000 | 0.015 | 0.720 | 0.145 | 0.000 | 0.031 | 0.000 | 0.000 |
| August | 0.164 | 0.000 | 0.000 | 0.000 | 0.164 | 0.000 | 167.525 | 0.310 | 0.035 | 0.000 | 0.055 | 0.000 | 0.000 |
| September | 0.071 | 0.000 | 0.000 | 0.000 | 0.071 | 0.000 | 11.408 | 0.680 | 0.122 | 0.000 | 0.032 | 0.000 | 0.000 |
| October | 0.123 | 0.000 | 0.000 | 0.000 | 0.123 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.042 | 0.000 | 0.000 |
| November | | | | | | | | | | | | | |
| December | | | | | | | | | | | | | |
| Total | 7.127 | 0.000 | 0.000 | 0.000 | 7.127 | 0.000 | 214.837 | 6.550 | 1.278 | 0.000 | 1.623 | 0.000 | 0.000 |

Comments:

- 1) Assumption: The densities of Rock, Soil, Mixed Rock and Soil, and Regular Spoil are 2.0 ton/m³; the density of general refuse is 1.0 ton/m³; the density of waste oil is 1.0 kg/L.
- 2) The cut-off date of waste amount in October is 30/10/2022 for Public Fill Facilities and Landfill.
- 3) The amounts of waste in October are 83.01 tons for Landfill and 245.37 tons for Public Fill.
- 4) The amount of import fill in October is 0 tons, for cut-off date as 30/10/2022.
- 5) The amount of metal waste generated in October is 11 kg, for cut-off date as 30/10/2022.
- 6) The amount of paper waste generated in October is 630 kg, for cut-off date as 30/10/2022.
- 7) The amount of plastic waste generated in October is 119 kg, for cut-off date as 30/10/2022.