MTR Corporation Limited

Shatin to Central Link –
Tai Wai to Hung Hom Section and
MongKok East to Hung Hom Section

Monthly EM&A Report No. 102

[Period from 1 to 31 August 2023]

(September 2023)

Verified by: Claudine LEE

Position: Independent Environmental Checker

Date: 12 September 2023

MTR Corporation Limited

Shatin to Central Link –
Tai Wai to Hung Hom Section

Monthly EM&A Report No. 102

[Period from 1 to 31 August 2023]

(September 2023)

Certified by	:	Alex Siu
Position	:	Environmental Team Leader
Date	:	12 September 2023

MTR Corporation Limited

Shatin to Central Link –
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1 INTRODUCTION

1.1 Background

1.1.1 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 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 – Tai Wai to Hung Hom Section [SCL (TAW-HUH)] and Shatin to Central Link – Mong Kok East to Hung Hom Section [SCL (MKK-HUH) (hereafter referred to as "the Project") are parts of the SCL. Shatin to Central Link – Stabling Sidings at Hung Hom Freight Yard [SCL (HHS)] is a proposed stabling sidings option for SCL (TAW – HUH) at the former freight yard in Hung Hom.

1.1.3 The Environmental Impact Assessment (EIA) Reports for SCL (TAW-HUH) (Register No.: AEIAR-167/2012), SCL (MKK-HUH) (Register No.: AEIAR-165/2012) and SCL (HHS) (Register No.: AEIAR-164/2012) were approved on 17 February 2012 under the Environmental Impact Assessment Ordinance (EIAO). Following the approval of the EIA Reports, two Environmental Permits (EPs) were granted on 22 March 2012, one covers SCL (TAW-HUH) and SCL (HHS) (EP No: EP-438/2012) and the other covers SCL (MKK-HUH) and SCL (HHS) (EP No.: EP-437/2012), for their construction and operation. Variations of environmental permit (VEP) were subsequently applied for EP-438/2012 and EP-437/2012. The latest Environmental Permits (EP Nos.: EP-438/2012/K and EP-437/2012/A) were issued by Director of Environmental Protection (DEP) on 4 October 2016 and 28 November 2017, respectively.

1.2 Project Programme

1.2.1 Twelve civil construction works contracts of the Project have been awarded since July 2012. The construction of the Project commenced in September 2012. **Table 1.1** summarises the information of the awarded Works Contracts. All major construction works under these twelve civil construction works contracts have been completed.

Table 1.1 Summary of Awarded Works Contracts

Works Contract	Description	Construction Start Date	Contractor	Environmental Team
1101(1)	Ma On Shan Line Modification Works	December 2012	Sun Fook Kong Joint Venture (SFKJV)	ANewR Consulting Ltd. (ANewR)
1102(6)	Hin Keng Station and Approach Structures	October 2013	Penta-Ocean Construction Co. Ltd.	Wellab Limited (Wellab)
1103(7)	Hin Keng to Diamond Hill Tunnels	February 2013	Vinci Construction Grands Projets	Ove Arup & Partners Hong Kong Ltd. (Arup)
		October 2019	Wing Ho Yuen Landscaping Co. Ltd.	MTR Co. Limited
1106(8)	Diamond Hill Station	March 2013	Leader Joint Venture	Cinotech Consultants Ltd. (Cinotech)
1107(4)	Diamond Hill to Kai Tak Tunnels	May 2013	Chun Wo - SELI Joint Venture	Cinotech Consultants Ltd. (Cinotech)
1108(5)	Kai Tak Station and Associated Tunnels	June 2013	Kaden -Chun Wo Joint Venture	Environmental Pioneers & Solutions Ltd.

Works Contract	Description	Construction Start Date	Contractor	Environmental Team
1108A(2)	Kai Tak Barging Point Facilities	September 2012	Concentric – Hong Kong River Joint Venture (CCL-HKR JV)	Cinotech Consultants Ltd. (Cinotech)
1109(10)	Stations and Tunnels of Kowloon City Section	September 2012	Samsung-Hsin Chong JV (SSHCJV)	ERM-Hong Kong Limited (ERM)
1111(9)	Hung Hom North Approach Tunnels	January 2013	Gammon-Kaden SCL1111 JV	AECOM Asia Co. Ltd.
1112(11)	Hung Hom Station and Stabling Sidings	June 2013	Leighton Contractors (Asia) Limited	SMEC Asia Ltd., HK
11240(3)	Excavation, Sorting and Disposal of Stockpiled Spoils to Approved Receptor Site	October 2017	Crown Asia Engineering Limited (CAEL)	MTR Co. Limited
11286	Pedestrian Link Connecting Pak Tai Street and Sung Wong Toi Station	17 July 2023	Paul Y. Engineering	ERM-Hong Kong Limited (ERM)

Notes:

(1) All construction works (works areas at Tai Wai Mei Tin Road and the offsite temporary storage areas) under Works Contract 1101 were completed on 29 February 2016.

(2) All construction works (Kai Tak Barging Point Facilities) under Works Contract 1108A were completed on 29 September 2016.

(3) All construction works (Excavation, Sorting and Disposal of Stockpiled Spoils to Approved Receptor Site) under Works Contract 11240 were completed on 3 January 2018.

(4) All construction works (Diamond Hill to Kai Tak Tunnels) under Works Contract 1107 were completed on 22 February 2018.

(5) All construction works (Kai Tak Station and associated tunnels) under Works Contract 1108 were completed in July 2018.

(6) All construction works (Hin Keng Station and Approach Structures) under Works Contract 1102 were completed in December 2018. The Environmental Team was taken over by Wellab Limited starting from 1 January 2019.

(7) All construction works (Hin Keng to Diamond Hill Tunnels) under Works Contract 1103 were completed in June 2019. Minor landscaping works at Fung Tak had been commenced in mid-October and all the works were completed at the end of October 2019.

(8) All construction works (Diamond Hill Station) under Works Contract 1106 with significant environmental impacts were substantially completed by 25 June 2019.

(9) All major construction works (Hung Hom North Approach Tunnels) under Works Contract 1111 have been substantially completed since 18 November 2018.

(10) All construction works (Stations and Tunnels of Kowloon City Section) under Works Contract 1109 have been substantially completed on 12 August 2020.

(11) All major construction works (Hung Hom Station and Stabling Sidings) under Works Contract 1112 have been substantially completed by 17 September 2020.

1.2.2 All major construction works for SCL (TAW-HUH) and SCL (HHS) covered by EP No. EP-438/2012/K was completed. Moreover, several remaining works, including provision of recreational facilities at Ma Chai Hang and outstanding works of access in Sung Wong Toi area for pedestrian link connecting Sung Wong Toi Station to Pak Tai Street, would be carried out in later stage and undertaken by another works contracts in 2023 -2024 tentatively, subject to further liaison with Railway Development Office (RDO), relevant government departments and stakeholders. The tree planting works at Kai Tak Station Square (Phase 1) was carried out and completed in December 2021.

1.2.3 All major construction works for SCL (MKK-HUH) and SCL (HHS) covered by EP No. EP-437/2012/A was completed. Moreover, it is proposed to plant additional tree seedlings at the trackside area in Hung Hom as compensation for the shortfall of

compensatory planting. Such planting works would be carried out at later stage and undertaken by another works contract in 2023 tentatively, subject to further liaison with RDO, relevant government departments and stakeholders.

1.3 Purpose of the Report

1.3.1 The Environmental Monitoring and Audit (EM&A) programme for the Project commenced in September 2012. This is the one hundredth and two EM&A Report for the Project which summarises the EM&A works undertaken during the period from 1 to 31 August 2023.

2 ENVIRONMENTAL MONITORING AND AUDIT

2.1.1 The construction of SCL has been divided into different civil construction works contracts which are covered by EP No. EP-437/2012/A and/or EP-438/2012/K. As per the EP Conditions, EM&A Reports for the works contracts as shown in the table below have been prepared by the respective Contractor's ETs.

Table 2.1 Summary of Works Contracts and Respective EPs

Works Contract	Contract Title	Works Covered in Environmental Permit No.
1101	Ma On Shan Modification Works	EP-438/2012/K
1102	Hin Keng Station and Approach Structures	EP-438/2012/K
1103	Hin Keng to Diamond Hill Tunnels	EP-438/2012/K
1106	Diamond Hill Station	EP-438/2012/K
1107	Diamond Hill to Kai Tak Tunnels	EP-438/2012/K
1108	Kai Tak Station and Associated Tunnels	EP-438/2012/K
1108A	Kai Tak Barging Point Facilities	EP-438/2012/K
1109	Stations and Tunnels of Kowloon City Section	EP-438/2012/K
1111	Hung Hom North Approach Tunnels	EP-437/2012/A & EP-438/2012/K
1112	Hung Hom Station and Stabling Sidings	EP-437/2012/A & EP-438/2012/K
11240	Excavation, Sorting and Disposal of Stockpiled Spoils to Approved Receptor Site	EP-438/2012/K
11286	Pedestrian Link Connecting Pak Tai Street and Sung Wong Toi Station	EP-438/2012/K

2.1.2 The EM&A Reports for Works Contracts 11286 prepared by the respective Contractor's ETs are provided in **Appendices A**. The EM&A Report provide details of the project information, EM&A requirements, impact monitoring and audit results for the corresponding Contract.

2.1.3 A summary of the major construction activities undertaken by the respective Contractors of various Works Contracts during the reporting period are presented in **Table 2.2**.

Table 2.2 Summary of Major Construction Activities in the Reporting Period

Works Contract	Site	Construction Activities
11286	Works in Sung Wong Toi (SUW) (formerly named as To Kwa Wan (TKW))	Near Sung Wong Toi Exit D (W1) • Site Formation • Pre-drill • Site office erection Near Pak Tai Street (H2) • Site Formation • Pre-drill

2.1.4 Impact monitoring for air quality and construction noise were conducted in accordance with the EM&A Manual in the reporting period. Continuous noise monitoring was not required in the reporting period for the Works Contract according to the Continuous Noise Monitoring Plan (CNMP). The air quality and construction noise for this reporting period are summarised in **Tables 2.3** and **2.4**. Details of the monitoring requirements, locations, equipment, methodology and QA/QC procedures are presented in the EM&A Reports as provided in **Appendices A**.

2.1.5 Water quality monitoring was not carried out during this reporting period since no dredging activity was conducted in the reporting period.

2.1.6 No environmental complaint, exceedance of limit level, notification of summons or successful prosecutions was received during the reporting period. Log for environmental complaints, notification of summons and successful prosecutions are provided in **Table 2.5**.

2.1.7 Regular site inspections were conducted by the respective 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.

Table 2.3 Summary of TSP Monitoring Results in the Reporting Period

Monitoring Station ID	Location	TSP Concentration ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)	Exceedance due to the Project Construction (Yes/ No/ N/A)
Works Contracts 1102 and 1103					
DMS-1[11]	C.U.H.K.A.A. Thomas Cheung School	N/A	148.7	260	N/A
Works Contract 1103					
DMS-2[12]	Price Memorial Catholic Primary School	N/A	167.4	260	N/A
Works Contracts 1103 and 1106					
DMS-3[13]	Hong Kong S.K.H Nursing Home [1]	N/A	159.1	260	N/A
Works Contract 1106[10]					
DMS-4[13]	Block 1, Rhythm Garden	N/A	160.4	260	N/A
Works Contract 1108 [5]					
Works Contract 1109					
DMS-6	Katherine Building [2]	N/A	156.8	260	N/A
DMS-8	SKH Good Shepherd Primary School	N/A	152.2	260	N/A
DMS-9	No. 12 Pau Chung Street [4][9]	N/A	160.9	260	N/A
DMS-10	Chat Ma Mansion	N/A	170.4	260	N/A
Works Contract 1111					
AM1[6][14]	No. 234 – 238 Chatham Road North [7]	N/A	183.9	260	N/A
Works Contract 1112					
AM2	Site Boundary of Finger Pier Adjacent To Harbourfront Horizon [8]	N/A	182	260	N/A
Works Contract 11240 [5]					
Works Contract 11286					
DMS-7 [15]	Parc 22 [3]	19-55	289.7	500	No

Notes:
(1) Alternative monitoring location to Shek On House
(2) Alternative monitoring location to Prosperity House
(3) Alternative monitoring location to Skytower Tower 2
(4) Alternative monitoring location to Lucky Building
(5) No TSP monitoring is required under this contract
(6) AM1 named as HUH-1-3 in SCL(TAW-HUH) and SCL(HHS) EIA Reports.
(7) Alternative monitoring location to Wing Fung Building
(8) Alternative monitoring location to Harbourfront Horizon
(9) Alternative monitoring location of No. 26 Kowloon City Road
(10) The 24-hour TSP monitoring works would be taken up by Works Contract 1106 since the completion of Works Contract 1107 in Feb 2018.
(11) The cessation of monitoring works at DMS-1 was approved by EPD and the last monitoring was conducted on 16 Jul 2018.
(12) The temporary cessation of monitoring works at DMS-2 was approved by EPD in end-June 2019. The last monitoring date was 27 June 2019.
(13) The cessation of monitoring works at DMS-3 and DMS-4 was approved by EPD on 31 Jul 2019. The last monitoring was conducted on 30 Jul 2019.

(14) The cessation of monitoring works at AM1 was proposed on 25 Jul 2019 and EPD expressed no objection on 31 Jul 2019.

(15) According to the requirement stipulated in the EM&A Manual, 24-hour TSP monitoring using High Volume Sampler (HVS) should be carried out at the designated monitoring station. During the reporting period, the ET is in the process of testing the provision of electricity supply for the HVS operation using external batteries at DMS-7. As a temporary arrangement, it was proposed by the ET and agreed by the IEC to conduct 1-hour TSP monitoring in a frequency of 3 times every 6 days at DMS-7 using portable dust meters until the electricity supply for the HVS operation can be secured.

Table 2.4 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/N/A)
		Measured	Baseline	Corrected [7]		
Works Contracts 1102 and 1103						
NMS-CA-1[12]	C.U.H.K.A.A. Thomas Cheung School	N/A	57.0	N/A	70 (65 during examination period)	N/A
Works Contract 1103						
NMS-CA-2[13]	Price Memorial Catholic Primary School	N/A	66.0	N/A	70 (65 during examination period)	N/A
Works Contracts 1103 and 1106						
NMS-CA-3[14]	Hong Kong S.K.H Nursing Home [1]	N/A	73.0	N/A	70	N/A
Works Contracts 1106[11]						
NMS-CA-4[14]	Block 1, Rhythm Garden (north-eastern façade)	N/A	71.0	N/A	75	N/A
NMS-CA-5[14]	Block 1, Rhythm Garden (northern façade)[2]	N/A	74.0	N/A	70 (65 during examination period)	N/A
Works Contract 1108 [6]						
Works Contract 1109						
NMS-CA-6	No. 16-23 Nam Kok Road [3]	N/A	76.1	N/A	75	N/A
NMS-CA-8	SKH Good Shepherd Primary School	N/A	75.4	N/A	70 (65 during examination period) (79 during the period of conducting the continuous noise monitoring) [8]	N/A
NMS-CA-9	Kong Yiu Mansion [4]	N/A	69.2	N/A	75	N/A
NMS-CA-10	Chat Ma Mansion	N/A	76.6	N/A	75	N/A
Works Contract 1111						
NM1[15]	Carmel Secondary School (South Block)	N/A	68.0	N/A	70 (65 during examination period) (68 during the period of conducting the continuous noise monitoring) [9]	N/A
NM2[15]	No. 234 – 238 Chatham Road North [5]	N/A	79.0	N/A	75 (77) [10]	N/A
Works Contract 1112 [6]						
Works Contract 11240 [6]						

Monitoring Station ID	Location	Noise Level ($L_{Aeq,30mins}$, dB(A))			Limit Level (dB(A))	Exceedance due to the Project Construction (Yes/No/N/A)
		Measured	Baseline	Corrected (7)		
Works Contract 11286						
NMS-CA-7	Skytower Tower 2	67.0-69.3	70.0	< Baseline	75	No

Notes:
(1) Alternative monitoring location to Shek On House.
(2) Alternative monitoring location to Canossa Primary School (San Po Kong).
(3) Alternative monitoring location to Prosperity House.
(4) Alternative monitoring location to Lucky Building.
(5) Alternative monitoring location to Wing Fung Building.
(6) No construction noise monitoring is required under this contract.
(7) The measured noise levels are corrected against the corresponding baseline noise levels.
(8) The Limit Level of 79 dB(A) was updated on 22 Aug 2013 as per the latest Construction Noise Mitigation Measures Plan (CNMMP) and Continuous Noise Monitoring Plan (CNMP) which were approved by EPD.
(9) The Limit of 68 dB(A) was updated on 20 Jan 2014 as per the latest CNMMP and CNMP which were approved by EPD.
(10) Daytime noise Limit Level of 77 dB(A) applies during the continuous noise monitoring period.
(11) The construction noise monitoring works would be taken up by Works Contract 1106 since the completion of Works Contract 1107 in Feb 2018.
(12) The cessation of monitoring works at NMS-CA-1 was approved by EPD and the last monitoring was conducted on 17 Jul 2018.
(13) The temporary cessation of monitoring works at NMS-CA-2 was approved by EPD in end-June 2019. The last monitoring date was 24 Jun 2019.
(14) The cessation of monitoring works at NMS-CA-3, NMS-CA-4 and NMS-CA-5 was approved by EPD on 31 Jul 2019. The last monitoring proposed on 31 Jul 2019 was rescheduled to 1 Aug 2019 due to adverse weather and the hoist of Typhoon Signal No.8 (Typhoon “Wipha”).
(15) The cessation of monitoring works at NM1 and NM2 were proposed on 25 Jul 2019 and EPD expressed no objection on 31 Jul 2019.

Table 2.5 Log for Environmental Complaints, Notification of Summons and Successful Prosecutions for the Reporting Month

Works Contract	Environmental Complaints	Notification of Summons	Successful Prosecutions
11286	0	0	0

3 IMPLEMENTATION STATUS ON THE ENVIRONMENTAL PROTECTION REQUIREMENTS

3.1.1 The respective Contractors have implemented all mitigation measures and requirements as stated in the EIA Reports, EM&A Manuals and EPs (EP-437/2012/A and EP-438/2012/K). The status of required submissions under the EPs as of the reporting period are summarised in **Tables 3.1** and **3.2**.

Table 3.1 Summary of Status of Required Submissions for EP-437/2012/A

EP Condition (EP-437/2012/A)	Submission	Submission date
Condition 1.11	Notification of Commencement Date of Construction of the Project	30 Nov 2012
Condition 2.3	Notification of Information of Community Liaison Groups	30 Nov 2012
Condition 2.5	Management Organisation of Main Construction Companies	19 Dec 2012 (1st submission) 30 Apr 2013 (2nd submission)
Condition 2.6	Construction Programme and EP Submission Schedule	19 Dec 2012
Condition 2.7	Construction Noise Mitigation Measures Plan (CNMMP)	30 Nov 2012 (1st submission) 8 Feb 2013 (Approved) 26 Apr 2013 (2nd submission) 11 Jun 2013 (3rd submission) 27 Aug 2013 (Approved) 20 Jan 2014 (4th submission) 28 Apr 2016 (Approved)
Condition 2.8	Continuous Noise Monitoring Plan (CNMP)	30 Nov 2012 (1st submission) 11 Jan 2013 (2nd submission) 8 Feb 2013 (Approved) 20 Jan 2014 (3rd submission) 28 Apr 2016 (Approved)
Condition 2.9	Construction and Demolition Materials Management Plan (C&DMMP)	6 Jul 2012 (1st submission) 12 Sep 2012 (2nd submission) 15 Oct 2012 (Approved)
Condition 2.10	Sediment Management Plan	6 Jul 2012 (1st submission) 12 Sep 2012 (2nd submission) 5 Oct 2012 (3rd submission) 15 Oct 2012 (Approved)
Condition 2.11	Visual, Landscape, Tree Planting & Tree Protection Plan (VLTTP)	14 Nov 2012 (1st submission) 8 Feb 2013 (2nd submission) 4 Feb 2015 (3rd submission) 26 Jun 2015 (4th submission) 12 May 2017 (5th submission) 17 Apr 2018 (6th submission) 17 Apr 2019 (7th submission) 9 Apr 2020 (8th submission)
Condition 2.16	Operational Ground-borne Noise Mitigation Measures Plan	23 Mar 2017 (1st submission) 17 May 2017 (2nd submission) 28 Jun 2017 (3rd submission) 20 Jul 2017 (Approved)
Condition 2.19	As-built drawing(s) for Operation Air-borne Noise Mitigation Measure	10 Jan 2018 (1st submission) 9 Feb 2018 (Approved)
Condition 2.21	Proposal for Updating Maximum Allowable Sound Power Levels of Fixed Plant Sources	26 Jul 2019 (Batch 1 Version A submission) 14 Aug 2019 (Batch 1 Version A approved)

EP Condition (EP-437/2012/A)	Submission	Submission date
Condition 2.21	Fixed Plant Noise Audit Report	29 Aug 2019 (Batch 1 Version A submission) 11 Oct 2019 (Approved)
Condition 3.1	Proposal for Cessation of EM&A Programme at Hung Hom North Approach Tunnels	25 Jul 2019 (1st submission) 31 Jul 2019 (Approved)
Condition 3.1	Proposal for Cessation of EM&A Programme at Hung Hom Station and Stabling Sidings	21 Oct 2020 (1st submission) 29 Oct 2020 (Approved)
Condition 3.3	Baseline Monitoring Report (Works Contracts 1103, 1106 and 1111 – Hin Keng to Diamond Hill Tunnels, Diamond Hill Station, and Hung Hom North Approach Tunnels)	19 Oct 2012
Condition 3.4	Monthly EM&A Reports No. 5-98 Monthly EM&A Report No. 99	Reported in previous Monthly EM&A Reports 11 Dec 2020

Table 3.2 Summary of Status of Required Submissions for EP-438/2012/K

EP Condition (EP-438/2012/K)	Submission	Submission date
Condition 1.12	Notification of Commencement Date of Construction of the Project	1 Aug 2012
Condition 2.3	Notification of Information of Community Liaison Groups	13 Jul 2012 (1st submission) 31 Aug 2012 (2nd submission) 30 Nov 2012 (3rd submission)
Condition 2.7	Management Organisation of Main Construction Companies	27 Jul 2012 (1st submission) 21 Aug 2012 (2nd submission) 19 Dec 2012 (3rd submission) 22 Jan 2013 (4th submission) 30 Apr 2013 (5th submission) 21 May 2013 (6th submission)
Condition 2.8	Construction Programme and EP Submission Schedule	27 Jul 2012
Condition 2.9	Construction Noise Mitigation Measures Plan (CNMMP)	1 Aug 2012 (1st submission) 28 Sep 2012 (2nd submission) 30 Nov 2012 (3rd submission) 11 Jan 2013 (4th submission) 8 Feb 2013 (Approved) 8 Feb 2013 (5th submission) 26 Apr 2013 (6th submission) 11 Jun 2013 (7th submission) 12 Jul 2013 (Approved) 26 Jul 2013 (8th submission) 22 Aug 2013 (Approved) 23 Aug 2013 (9th submission) 13 Sep 2013 (Approved) 20 Jan 2014 (10th submission) 26 Feb 2014 (Approved) 31 Mar 2015 (Contract 1106 submission only) 13 Apr 2015 (Contract 1106 submission only) 15 Apr 2015 (Approved)
Condition 2.10	Continuous Noise Monitoring Plan (CNMP)	1 Aug 2012 (1st submission) 28 Sep 2012 (2nd submission) 30 Nov 2012 (3rd submission) 11 Jan 2013 (4th submission) 8 Feb 2013 (Approved) 8 Feb 2013 (5th submission) 26 Apr 2013 (6th submission)

EP Condition (EP-438/2012/K)	Submission	Submission date
		11 Jun 2013 (7th submission) 12 Jul 2013 (Approved) 26 Jul 2013 (8th submission) 22 Aug 2013 (Approved) 23 Aug 2013 (9th submission) 13 Sep 2013 (Approved) 20 Jan 2014 (10th submission) 26 Feb 2014 (Approved) 7 Oct 2014 (11th submission) 23 Oct 2014 (Approved)
Condition 2.11	Construction and Demolition Materials Management Plan (C&DMMP)	6 Jul 2012 (1st submission) 12 Sep 2012 (2nd submission) 10 Oct 2012 (Approved)
Condition 2.12	Sediment Management Plan	6 Jul 2012 (1st submission) 12 Sep 2012 (2nd submission) 5 Oct 2012 (3rd submission) 10 Oct 2012 (Approved) 4 Mar 2013 (4th submission) 9 May 2013 (5th submission) 24 Jul 2013 (6th submission) 26 Jul 2013 (Approved)
Condition 2.13	Visual, Landscape, Tree Planting & Tree Protection Plan	6 Jul 2012 (1st submission) 30 Aug 2012 (2nd submission) 3 Oct 2012 (3rd submission) 13 Nov 2013 (Approved) 14 Nov 2012 (4th submission) 8 Feb 2013 (5th submission) 18 Mar 2013 (6th submission) 18 Jun 2013 (7th submission) 12 Jul 2013 (Approved) 23 Mar 2017 (8th submission) 7 Mar 2018 (9th submission) 30 Jul 2018 (10th submission) 28 Feb 2019 (11th submission) 5 Mar 2019 (12th submission) 29 May 2019 (13th submission) 19 Jul 2019 (Approved)
Condition 2.14	Transplantation Proposal for Plant Species of Conservation Importance	22 Aug 2012 (1st submission) 5 Oct 2012 (2nd submission) 26 Nov 2012 (3rd submission) 4 Dec 2012 (Approved)
Condition 2.15	Conservation Plan	31 Jan 2013 (1st submission) 18 Mar 2013 (2nd submission) 24 Apr 2013 (Approved)
Condition 2.16	Archaeological Action Plan(s) (AAP(s)) for Works Contract 1109	10 Aug 2012 (1st submission) 3 Sep 2012 (2nd submission) 21 Sep 2012 (Approved) 11 Oct 2013 (3rd submission) 1 Nov 2013 (Approved)
Condition 2.16	Archaeological Action Plan(s) (AAP(s)) for Works Contract 1106	29 Jan 2013 (1st submission) 19 Mar 2013 (2nd submission) 8 Apr 2013 (Approved)
Condition 2.23	Supplementary Contamination Assessment Report for New Territories South Animal Centre	28 Sep 2012 25 Oct 2012 (Approved)
Condition 2.27	Operational Ground-borne Noise Mitigation Measures Plan	18 Mar 2016 (Batch 1 Version A submission) 28 Apr 2016 (Batch 1 Version B submission) 28 Apr 2016 (Batch 2 Version A submission) 1 Jun 2016 (Batch 1 Version C submission)

EP Condition (EP-438/2012/K)	Submission	Submission date
		1 Jun 2016 (Batch 2 Version B submission) 23 Jun 2016 (Batch 1 Version D submission) 23 Jun 2016 (Batch 2 Version C submission) 15 Jul 2016 (Batch 1 Version D approved) 15 Jul 2016 (Batch 2 Version C approved) 15 Sep 2016 (Batch 3 Version A submission) 4 Oct 2016 (Batch 3 Version A approved) 8 Mar 2017 (Batch 4 Version A) 7 Apr 2017 (Batch 4 Version A approved) 7 Jun 2017 (Final) 20 Jul 2017 (Approved)
Condition 2.28	As-built Drawings for Operational Ground-borne Noise Mitigation Measures	10 Aug 2017 (1st submission) 15 Sep 2017 (Approved)
Condition 2.30	As-built Drawings for Operational Air-borne Noise Mitigation Measures	4 Dec 2015 (1st submission) 28 Dec 2015 (2nd submission) 4 Feb 2016 (Approved) 20 Mar 2018 (3rd submission) 18 Jul 2018 (Approved) 4 May 2018 (4th submission) 23 Jul 2018 (Approved) 20 Feb 2020 (5th submission) 17 Mar 2020 (Approved)
Condition 2.31	Performance Test Report for Train Noise – Operational Airborne Railway and Ground-borne Noise	15 Nov 2018 (Batch 1 Version A submission) 30 Jan 2019 (Batch 2 Version A submission) 29 Mar 2019 (Batch 1 Version A & Batch 2 Version B submission) 15 April 2019 (Approved)
Condition 2.32	Proposal for Updating Maximum Allowable Sound Power Levels of Fixed Plant Sources	30 Jan 2019 (Batch 1 Version A submission) 27 Feb 2019 (Batch 1 Version B submission) 13 Mar 2019 (Batch 1 Version B approved) 15 Mar 2019 (Batch 2 Version A submission) 8 Apr 2019 (Batch 2 Version A approved) 24 April 2019 (Batch 3 & 4 Version A submission) 21 May 2019 (Batch 3 Version B submission) 11 Jun 2019 (Batch 3 Version B & Batch 4 Version A approved) 21 Jun 2019 (Batch 5 Version A submission) 17 Jul 2019 (Batch 5 Version A approved) 19 Jul 2019 (Batch 6 Version A submission) 26 Jul 2019 (Batch 7 Version A submission) 29 Jul 2019 (Batch 6 Version A approved)

EP Condition (EP-438/2012/K)	Submission	Submission date
		14 Aug 2019 (Batch 7 Version A approved)
Condition 2.32	Fixed Plant Noise Audit Report	30 Jan 2019 (Batch 1 Version A submission) 15 Mar 2019 (Batch 1 Version B submission) 4 Apr 2019 (Batch 1 Version B approved) 16 Apr 2019 (Batch 2 Version A submission) 7 May 2019 (Batch 2 Version A approved) 24 Jun 2019 (Batch 3 Version A and Batch 4 Version A submission) 6 Jul 2019 (Batch 3 Version A and Batch 4 Version A approved) 2 Aug 2019 (Batch 5 Version A submission) 27 Aug 2019 (Batch 6 Version A submission) 29 Aug 2019 (Batch 7 Version A submission) 3 Sep 2019 (Batch 5 Version A approved) 13 Sep 2019 (Batch 6 Version B approved) 23 Sep 2019 (Batch 7 Version B submission) 11 Oct 2019 (Batch 7 Version B approved)
Condition 2.33	As-built Drawings for Landscape and Visual Mitigation Measures	4 Dec 2015 (1st submission) 28 Dec 2015 (2nd submission) 4 Feb 2016 (Approved) 22 Aug 2018 (3rd submission) 5 Nov 2018 (4th submission) 6 Sep 2019 (5th submission) 11 Sep 2019 (Approved) 27 Sep 2019 (6th submission) 21 Feb 2020 (7th submission) 17 Sep 2020 (8th submission) 4 Nov 2020 (9th submission)
Condition 2.36	Contamination Assessment Plan (CAP) for the Temporary Magazine Site at TKO Area 137	23 Mar 2016 (1st submission) 20 Apr 2016 (2nd submission) 22 Apr 2016 (Approved)
Condition 2.36	Contamination Assessment Report (CAR) for the Temporary Magazine Site at TKO Area 137	19 May 2016 (1st submission) 3 Jun 2016 (2nd submission) 15 Jun 2016 (Approved)
Condition 3.1	Proposal for Termination of Environmental Monitoring and Audit (EM&A) Programme for Kai Tak Barging Point Facilities	7 Oct 2016 (Approved)
Condition 3.1	Proposal for Cessation of EM&A Works at Hin Keng	9 May 2018 (1st submission) 16 Jul 2018 (Approved)
Condition 3.1	Proposal for Cessation of EM&A Programme at Diamond Hill Station	25 Jul 2019 (1st submission) 31 Jul 2019 (Approved)
Condition 3.1	Proposal for Cessation of EM&A Programme at Hung Hom North Approach Tunnels	25 Jul 2019 (1st submission) 31 Jul 2019 (Approved)

EP Condition (EP-438/2012/K)	Submission	Submission date
Condition 3.1	Proposal for Cessation of EM&A Programme at Stations and Tunnels of Kowloon City Section	24 Aug 2020 (1st submission) 28 Aug 2020 (Approved)
Condition 3.1	Proposal for Cessation of EM&A Programme at Hung Hom Station and Stabling Sidings	21 Oct 2020 (1st submission) 29 Oct 2020 (Approved)
Condition 3.3	Baseline Monitoring Report (Works Contract 1109 - Stations and Tunnels of Kowloon City Section)	27 Jul 2012
Condition 3.3	Baseline Monitoring Report (Works Contract 1108A – Kai Tak Barging Point Facilities)	31 Jul 2012
Condition 3.3	Baseline Monitoring Report (Works Contracts 1103, 1106 and 1111 – Hin Keng to Diamond Hill Tunnels, Diamond Hill Station, and Hung Hom North Approach Tunnels)	19 Oct 2012
Condition 3.4	Monthly EM&A Reports No. 1-100 Monthly EM&A Report No. 101	Reported in previous Monthly EM&A Reports 11 August 2023
Condition 3.4	Monthly Operational Airborne Rail Noise Monitoring Report (Festival City) No. 1-6	Reported in previous Monthly EM&A Reports

Appendix A

Monthly EM&A Report for
SCL (TAW-HUH) and SCL(MKK-HUH) –
Pedestrian Link Connecting Pak Tai Street and Sung Wong Toi Station

MTR Corporation Limited

Shatin to Central Link –
Tai Wai to Hung Hom Section

Monthly EM&A Report

[Period from 1 to 31 August 2023]

Works Contract 11286 - Pedestrian Link Connecting
Pak Tai Street and Sung Wong Toi Station

(12 September 2023)

Certified by:  Mandy To

Position: Environmental Team Leader

Date: 12 September 2023

保 華 建 業
Paul Y. Engineering

Construction of Shatin to Central Link (SCL) Contract 11286 - Pedestrian Link Connecting Pak Tai Street and Sung Wong Toi Station

Monthly Environmental Monitoring and Audit Report No. 2 (1 August 2023 – 31 August 2023)

12 September 2023

Project No.: 0699635

The business of sustainability

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Document details	
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12 September 2023

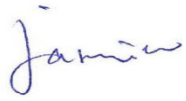
Construction of Shatin to Central Link (SCL) Contract 11286 - Pedestrian Link Connecting Pak Tai Street and Sung Wong Toi Station

Monthly Environmental Monitoring and Audit Report No. 2 (1 August 2023 – 31 August 2023)

Certified by:

Mandy To
Environmental Team Leader

Approved by:



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EXECUTIVE SUMMARY

The construction works of MTR Shatin to Central Link Works Contract 11286 – Pedestrian Link Connecting Pak Tai Street and Sung Wong Toi Station commenced on 17 July 2023. This is the 2nd monthly Environmental Monitoring and Audit (EM&A) report presenting the EM&A works carried out during the period from 1 Aug 2023 to 31 Aug 2023 in accordance with the approved EM&A Manuals and the Environmental Permit (EP-438/2012/K).

Summary of the Construction Activities Undertaken during the Reporting Period

The major construction activities undertaken during the reporting period include:

Construction Activities Undertaken During the Reporting Period
Near Sung Wong Toi Exit D (W1) ■ Site formation ■ Pre-drill ■ Site office erection Near Pak Tai Street (H2) ■ Site formation ■ Pre-drill

Construction Noise and Construction Dust Monitoring

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

Regular construction noise monitoring during normal working hours:

- Skytower Tower 2 (NMS-CA-7): 5 times

Construction dust (TSP) monitoring:

- Parc 22 (DMS-7): 5 times

Cultural Heritage

As there was no foundation work conducted during the reporting period, vibration monitoring has not been conducted during the reporting period.

Waste Management

Waste generated from this Works Contract typically includes inert construction and demolition materials and non-inert construction and demolition materials. 120m^3 of inert construction and demolition materials was generated from the Works Contract and disposed as public fill. No non-inert construction and demolition materials waste was generated during the reporting period.

Landscape and Visual

Bi-weekly inspections of the implementation of landscape and visual mitigation measures were conducted during the site inspections conducted by Contractor's ET. Details of the audit findings and the implementation status are presented in **Section 5**.

Environmental Site Inspection

Joint weekly site inspections were conducted by representatives of the Contractor, Engineer and Contractor's ET on 1, 10, 17, 24, and 31 Aug 2023. The representative of the IEC joined the site inspection on 24 Aug 2023. Details of the audit findings are presented in **Section 6**.

Environmental Exceedance/Non-conformance/Complaint/Summons and Prosecution

No exceedance of the Action and Limit Levels of the construction noise was recorded during the reporting period.

No exceedance of the Action and Limit Levels of construction dust monitoring was recorded during the reporting period.

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

No environmental complaint was received during the reporting period.

No summon or prosecution was received during the reporting period.

Upcoming Works for the Next Reporting Period

The major construction works to be undertaken in the next reporting period include:

Construction Activities Undertaken during the Next Reporting Period
Near Sung Wong Toi Exit D (W1) ■ Site formation ■ Pre-drill ■ Pre-grout ■ Sheet pile construction ■ Site office erection Near Pak Tai Street (H2) ■ Site formation ■ Pre-drill

1. INTRODUCTION

ERM-Hong Kong, Limited (ERM) was appointed by Paul Y Construction Company Limited as the Environmental Team (Contractor's ET) to undertake the Environmental Monitoring and Audit (EM&A) programme during the construction phase of the MTR Shatin to Central Link (SCL) Contract No. 11286 – Pedestrian Link Connecting Pak Tai Street and Sung Wong Toi Station (hereafter referred as the Works Contract).

1.1 Purpose of the Report

This is the 2nd EM&A report which summarises the monitoring results and audit findings during the reporting period from 1 Aug 2023 to 31 Aug 2023**.**

1.2 Structure of the Report

Following this introductory section, the remainder of this Monthly EM&A Report is organised as follows:

- Section 2: **Project Information**
  - It summarises the background and scope of the Works Contract, site description, Works Contract's organisation and contact details, construction programme, construction works undertaken and status of the Environmental Permits/Licenses during the reporting period.
- Section 3: **Environmental Monitoring Requirement**
  - It summarises the monitoring parameters, programmes, methodologies, frequency, locations, Action and Limit Levels, Event /Action Plans.
- Section 4: **Implementation Status of the Environmental Protection Requirements**
  - It summarises the implementation of environmental protection measures during the reporting period.
- Section 5: **Monitoring Results**
  - It summarises the monitoring results obtained in the reporting period.
- Section 6: **Environmental Site Inspection**
  - It summarises the audit findings of the weekly site inspections undertaken within the reporting period.
- Section 7: **Environmental Non-conformance**
  - It summarises any monitoring exceedance, environmental complaints and summons within the reporting period.
- Section 8: **Upcoming Works for the Next Reporting Period**
  - It summarises the upcoming construction activities and monitoring schedule for the next reporting period.
- Section 9: **Conclusions**
  - It provides the conclusion of this Monthly EM&A Report.

2. PROJECT INFORMATION

2.1 Background

The SCL – Tai Wai to Hung Hom Section (hereafter referred to as SCL (TAW-HUH)) is an extension of the Ma On Shan Line (MOL), linking up with the West Rail Line at Hung Hom forming a strategic east-west rail corridor. It is a Designated Project under the *Environmental Impact Assessment Ordinance* (Cap. 499) (EIAO).

EIA Report for SCL (TAW-HUH) (Register No AEIAR-167/2012) was approved on 17 February 2012 under EIAO. Following the approval of the EIA Report for SCL (TAW-HUH), the Environmental Permit (EP) (EP No: EP-438/2012) was issued, subsequent Variation of Environmental Permit (VEP) was applied and the latest EP (EP No. EP-438/2012/K) was issued by Director of Environmental Protection (DEP) in October 2016.

As part of the SCL, a Pedestrian Link (P-Link) as a direct dedicated connectivity for the railway passengers and pedestrians crossing between the existing Sung Wong Toi (SUW) Station and Pak Tai Street will be constructed.

The EM&A programme during the construction phase of the Works Contract has been performed during the reporting period in accordance with the relevant EM&A requirements stipulated in the EM&A Manual for SCL (TAW-HUH) (hereafter referred to as the approved EM&A Manual). The construction of the Works Contract commenced on 17 July 2023.

2.2 General Site Description

The Works Contract mainly comprises of two works areas, namely W1 and H2. W1 is the works area near the Exit D of the existing SUW Station, whereas H2 is the works area near Pak Tai Street. The works areas for the Works Contract are shown in **Appendix A**.

2.3 Construction Programme and Activities

A summary of the major construction activities undertaken in this reporting period is shown in **Table 2.1**. The construction programme is presented in **Appendix B**.

Table 2.1 Summary of the Construction Activities Undertaken during the Reporting Period

Construction Activities Undertaken During the Reporting Period
Near Sung Wong Toi Exit D (W1) ■ Site formation ■ Pre-drill ■ Site office erection Near Pak Tai Street (H2) ■ Site formation ■ Pre-drill

2.4 Works Contract Organization

The Works Contract organizational chart and contact details are shown in **Appendix C**.

2.5 Status of Environmental Licences, Notification and Permits

A summary of the valid permits, licences, and/or notifications on environmental protection for this Works Contract is presented in **Table 2.2**.

Table 2.2 Summary of the Status of Valid Environmental Licence, Notification, Permit and Documentations

Permit/ Licences/ Notification	Reference	Validity Period	Remarks
Environmental Permit	EP-438/2012/K	Throughout the Contract	Permit granted on 4 October 2016
Notification of Construction Works under the Air Pollution Control (Construction Dust) Regulation (Form NA)	493887	-	-
Construction Noise Permit	Application number: 496569		Application was made in August 2023 and is pending EPD's approval.
Wastewater Discharge Licence	Application number: 495035	-	Application was made in July 2023 and is pending EPD's approval.
Chemical Waste Producer Licence	WPN 5213-242-P2973-12	-	-
Billing Account for Disposal of Construction Waste	7048028	Throughout the Contract	-

3. ENVIRONMENTAL MONITORING REQUIREMENT

3.1 Regular Construction Noise Monitoring

3.1.1 Monitoring Location

The proposed construction noise monitoring location for the construction phase of the Project, as recommended in the approved EM&A Manual, is listed in **Table 3.1** and shown in **Appendix D**. The proposed location has been agreed with the ER, EPD and IEC.

Table 3.1 Regular Construction Noise Monitoring Location

Monitoring Station	Description	Type of Measurement
NMS-CA-7 [(a)]	Skytower Tower 2 (at Podium Level)	Façade

Note:
(a) Noise monitoring station with reference to the *SCL (TAW-HUH) Baseline Monitoring Report for Works Contract 1109 – To Kwa Wan and Ma Tau Wai Stations and Tunnels, July 2012*.

3.1.2 Monitoring Parameter and Frequency

Weekly construction noise monitoring was conducted in accordance with the requirements stipulated in the approved EM&A Manual. If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the Noise Control Authority have to be followed. The monitoring schedule for this reporting period is shown in **Appendix E**.

The construction noise levels were measured in terms of the A-weighted equivalent continuous sound pressure level (L_{Aeq}) in decibels dB(A). L_{Aeq} (30min) was used as the monitoring metric for the time period between 0700 – 1900 hours on normal weekdays. The measured noise levels were logged every 5 minutes throughout the monitoring period.

3.1.3 Monitoring Equipment and Methodology

Construction noise monitoring was performed using sound level meter at the designated monitoring station NMS-CA-7. Construction noise measurements were conducted in accordance with the calibration and measurement procedures as stated in *Annex – General Calibration and Measurement Procedures of Technical Memorandum on Noise from Construction Work other than Percussive Piling (GW-TM)* issued under the *Noise Control Ordinance (NCO)* (Cap 400).

The sound level meter and calibrator used for the noise measurement, as listed in **Table 3.2**, comply with the IEC 651: 1979 and 804:1985 (Type 1) specification. The calibration certificates of the sound level meter and sound level calibrator are presented in **Appendix F**.

Table 3.2 Noise Monitoring Equipment

Monitoring Station	Noise Monitoring Equipment
NMS-CA-7	■ Sound Level Meter – Rion NL-52 (00643049) ■ Precision Acoustic Calibrator – Larson Davis CAL200 (15678)

Immediately prior to and following the noise measurements, the accuracy of the measurement equipment was checked using an acoustic calibrator generating a known sound pressure level at a known frequency.

Measurements were accepted when the calibration level from before and after the noise measurement agreed to be within 1.0 dB(A).

3.1.4 Action and Limit Levels

The Action and Limit Levels are presented in **Table 3.3** and the Event / Action Plan for construction noise monitoring is presented in **Appendix G**.

Table 3.3 Action and Limit Levels for Construction Noise Monitoring

Time Period	Monitoring Location	Action Level	Limit Level
0700-1900 hours on normal weekdays	NMS-CA-7	When one documented valid complaint is received	75 dB(A)

Note:
(a) If works are to be carried out during restricted hours (ie, outside 0700 – 1900 from Monday to Saturday), the conditions stipulated in the construction noise permit issued by the Noise Control Authority have to be followed.

3.2 Construction Dust Monitoring

3.2.1 Monitoring Location

The proposed dust monitoring station for the construction phase of the Project, as recommended in the approved EM&A Manual, is listed in **Table 3.4** and shown in **Appendix D**. The proposed location has been agreed with the ER, EPD and IEC.

Table 3.4 Construction Dust Monitoring Location

Monitoring Station	Description
DMS-7 [(a)]	Parc 22 roof level

Note:
(a) Noise monitoring station with reference to the *SCL (TAW-HUH) Baseline Monitoring Report for Works Contract 1109 – To Kwa Wan and Ma Tau Wai Stations and Tunnels, July 2012*.

3.2.2 Monitoring Parameter and Frequency

TSP monitoring [(1)] was conducted in a frequency of once every 6 days throughout the reporting period. The monitoring schedule for this reporting period is shown in **Appendix E**.

3.2.3 Monitoring Equipment

Portable direct reading dust meters were used to measure 1-hour TSP levels at the designated monitoring station. With the use of direct reading dust meter, it can allow prompt and direct results for the EM&A reporting and the implementation of the event and action plan. The portable dust meter used for the construction dust monitoring is listed in **Table 3.5**.

Table 3.5 Construction Dust Monitoring Equipment

Monitoring Station	Dust Monitoring Equipment
DMS-7	■ Laser Dust Monitor – Sibata LD – 3B (326285)

3.2.4 Monitoring Methodology

The measuring procedures of the 1-hour TSP dust meter in accordance with the Manufacturer's Instruction Manual are as follows:

(1) According to the requirement stipulated in the EM&A Manual for SCL (TAW-HUH), 24-hour TSP monitoring using High Volume Sampler (HVS) should be carried out at the designated monitoring station. During the reporting period, the ET is in the process of testing the provision of electricity supply for the HVS operation using external batteries at DMS-7. As a temporary arrangement, it was proposed by the ET and agreed by the IEC to conduct 1-hour TSP monitoring in a frequency of 3 times every 6 days at DMS-7 using portable dust meters until the electricity supply for the HVS operation can be secured.

- Turn the power on.
- Close the air collecting opening cover.
- Push the "TIME SETTING" switch to [BG].
- Push "START/STOP" switch to perform background measurement for 6 seconds.
- Turn the knob at SENSI ADJ position to insert the light scattering plate.
- Leave the equipment for 1 minute upon "SPAN CHECK" is indicated in the display.
- Push "START/STOP" switch to perform automatic sensitivity adjustment. This measurement takes 1 minute.
- Pull out the knob and return it to MEASURE position.
- Setting time period of 1 hour for the 1-hour TSP measurement

The portable direct reading dust meter would be calibrated every year against High Volume Sampler (HVS) to check the validity and accuracy of the results measured by direct reading method. The calibration certificate of the portable dust meter is presented in **Appendix F**.

3.2.5 Wind Data Monitoring

Wind data (wind speed and direction) at the Kai Tak meteorological station during the monitoring period were obtained from the Hong Kong Observatory (HKO) and presented in **Appendix K**.

3.2.6 Action and Limit Levels

The Action and Limit levels have been established and are presented in **Table 3.6**. The Event / Action Plan for dust monitoring is presented in **Appendix G**.

Table 3.6 Action and Limit Levels for Construction Dust Monitoring

Monitoring Location	Action Level, µg/m^3 [(a)]	Limit Level, µg/m^3
DMS-7	289.7	500

Note:
(a) Reference to *SCL (TAW-HUH) Baseline Monitoring Report for Works Contract 1109 – To Kwa Wan and Ma Tau Wai Stations and Tunnels, July 2012*.

3.3 Cultural Heritage

In accordance with the approved EM&A Manual, appropriate vibration monitoring on the identified built heritage shall be agreed with the Building Department (BD)/Geotechnical Engineering Office (GEO) under the requirement of Buildings Ordinance as appropriate. Vibration levels shall be controlled to appropriate levels. Vibration monitoring shall be carried out by the Contractor.

As there was no foundation work conducted during the reporting period, vibration monitoring has not been conducted during the reporting period.

3.4 Landscape and Visual Mitigation Measures

In accordance with the approved EM&A Manual, the landscape and visual mitigation measures shall be implemented and site inspection shall be conducted once every two weeks throughout the construction period. The implementation status is given in **Appendix H**.

4. IMPLEMENTATION STATUS OF THE ENVIRONMENTAL PROTECTION REQUIREMENTS

The Contractor has implemented all the environmental mitigation measures and requirements as stated in the approved EIA Report, EP, approved EM&A Manual. The implementation status of the environmental mitigation measures for this Works Contract during the reporting period is summarised in **Appendix H**. The status of the required submissions under the EP for this Works Contract during this reporting period is presented in **Table 4.1**.

Table 4.1 Status of Required Submission under the Works Contract during the Reporting Period

EP Condition	Submission	Submission Date
3.4	Monthly EM&A Report (July 2023)	11 August 2023

5. MONITORING RESULTS

5.1 Regular Construction Noise Monitoring

Construction noise monitoring was carried out at the monitoring station during normal weekdays of the reporting period. The monitoring results together with their graphical presentations are presented in **Appendix I** and a summary of the construction noise monitoring results in this reporting period is given in **Table 5.1**.

Table 5.1 Summary of the Construction Noise Monitoring Results during the Reporting Period

Monitoring Station	Noise Monitoring Results		Limit Level
	Average (dB(A), $L_{eq\ (30mins)}$)	Range (dB(A), $L_{eq\ (30mins)}$)	dB(A), $L_{eq\ (30mins)}$
NMS-CA-7	68.6	67.0 – 69.3	75

No exceedance of the Action and Limit Levels of construction noise was recorded during the reporting period.

5.2 Construction Dust Monitoring

Construction dust monitoring was carried out at the designated monitoring station during the reporting period. The monitoring results together with their graphical presentations are presented in **Appendix J** and a summary of the construction dust monitoring results in this reporting period is given in **Table 5.2**.

Table 5.2 Summary of the Construction Dust Monitoring Results during the Reporting Period

Monitoring Station	TSP Monitoring Results (μgm^{-3})		Action Level	Limit Level
	Average (μgm^{-3})	Range (μgm^{-3})	(μgm^{-3})	(μgm^{-3})
DMS-7	40	19 – 55	289.7	500

No exceedance of the Action and Limit Levels of construction dust was recorded during the reporting period.

5.3 Cultural Heritage

As there was no foundation work conducted during the reporting period, vibration monitoring has not been conducted during the reporting period.

5.4 Waste Management

The waste generated from this Works Contract generally includes inert construction and demolition (C&D) materials, and non-inert C&D materials. Non-inert C&D materials are made up of general refuse, vegetative wastes and recyclable wastes such as plastics and paper/cardboard packaging waste. No waste was generated during the reporting period, are summarised in **Table 5.3**. Details of waste management data are presented in **Appendix L.**

Table 5.3 Quantities of Waste Generated from the Works Contract

Reporting Period	Quantity					
	Inert C&D Materials	Chemical Waste	Non-inert C&D Materials			
			General Refuse/Vegetative Waste	Recycled materials		
				Paper/ cardboard	Plastics	Metals
August 2023	120 m^3	0 kg	0 m^3	0 kg	0 kg	0 kg

5.5 Landscape and Visual Mitigation Measures

Bi-weekly inspection of the implementation of landscape and visual mitigation measures was conducted on 10 and 24 Aug 2023. Relevant mitigation measures given in **Appendix H** have been implemented. Required actions that were found are listed below:

10 August 2023

There was no major observation during the site inspection.

24 August 2023

During the regular site inspection on 17 August 2023, the Contractor was reminded to have a proper separation distance to fence off the tree as the “no-intrusion zone”, in order to avoid damage to the tree due to construction activities/operation of PMEs.

The “no-intrusion zone” of the tree was observed to be enlarged to properly avoid the disturbance from construction activities/ operation of PMEs during the inspection on 24 August 2023.

6. ENVIRONMENTAL SITE INSPECTION

Joint weekly site inspections were conducted by representatives of the Contractor, Engineer and Contractor's ET on 1, 10, 17, 24, and 31 Aug 2023. The representative of the IEC joined the site inspection on 24 Aug 2023. No non-compliance was recorded during the site inspections. Findings and recommendations for the site inspection in this reporting month are summarised below:

1 August 2023

- As a general reminder, the height of drip tray for chemical containers should be increased to further prevent potential chemical leakage.

10 August 2023

- As a general reminder, in accordance with Part C of Environmental permit (EP-438/2012/K), a copy of the Permit should be displayed at Area H2 – Pak Tai Street.

17 August 2023

- An excavator in Area H2 – Pak Tai Street was observed without any NRMM label. The Contractor was reminded to display and attach the NRMM label to the excavator.
- Site runoff was observed seeping out at the bottom of the hoarding. The Contractor was recommended to seal the bottom of the hoarding to prevent site runoff seepage to the outside of site area.
- The Contractor was reminded to have a proper separation distance to fence off the tree as the "no-intrusion zone", in order to avoid damage to the tree due to construction activities/ operation of PMEs.
- Impervious sheet or water spray should be provided to the stockpiles to prevent potential fugitive dust generation.

24 August 2023

- Muddy tracks have been observed at the public road around the site entrance. The area should be kept clean and free from silt and mud.
- The Contractor was reminded to avoid placing PMEs and construction materials close to the archaeological site to avoid potential disturbance or damage to the archaeological site.

31 August 2023

- There was no major observation/reminder during the site inspection.

All follow-up actions requested by Contractor's ET and IEC during the site inspections were undertaken as reported by the Contractor.

7. ENVIRONMENTAL NON-CONFORMANCE

7.1 Summary of Monitoring Exceedance

No exceedance of the Action and Limit Levels of the construction noise was recorded during the reporting period.

No exceedance of the Action and Limit Levels of construction dust monitoring was recorded during the reporting period.

7.2 Summary of Environmental Non-compliance

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

7.3 Summary of Environmental Complaint

No environmental complaint was received during the reporting period. The cumulative environmental complaint log is shown in **Appendix M**.

7.4 Summary of Environmental Summons and Successful Prosecution

No summon or prosecution was received during the reporting period. The cumulative summon/prosecution log is shown in **Appendix M**.

8. UPCOMING WORKS FOR THE NEXT REPORTING PERIOD

8.1 Construction Activities for the Coming Month

Works to be undertaken in the next reporting period are summarised in **Table 8.1**.

Table 8.1 Construction Activities to be Undertaken during the Next Reporting Period

Construction Activities Undertaken during the Next Reporting Period
Near Sung Wong Toi Exit D (W1) ■ Site formation ■ Pre-drill ■ Pre-grout ■ Sheet pile construction ■ Site office erection Near Pak Tai Street (H2) ■ Site formation ■ Pre-drill

8.2 Monitoring Schedule for the Next Month

The tentative schedule of construction noise monitoring and construction dust monitoring in the next reporting period is presented in **Appendix E**.

8.3 Construction Programme for the Next Month

The construction programme for the Project for the next reporting period is presented in **Appendix B.**

9. CONCLUSIONS

This is the 2nd EM&A Report presenting the EM&A works undertaken during the period from 1 Aug 2023 to 31 Aug 2023 in accordance with the approved EM&A Manual, the requirements under Environmental Permit EP-438/2012/K.

No exceedance of the Action and Limit Levels of the construction noise was recorded during the reporting period.

No exceedance of the Action and Limit Levels of construction dust monitoring was recorded during the reporting period.

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

No environmental complaint was received during the reporting period.

No summon or prosecution was received during the reporting period.

The Contractor has implemented possible and feasible mitigation measures to mitigate the potential environmental impacts during construction. The Contractor's ET will continue to keep track of the EM&A programme to ensure compliance of environmental requirements and the effectiveness and efficiency of the mitigation measures implemented. If necessary, the Contractor will provide more mitigation measures to further alleviate the impacts.

APPENDIX A SITE LAYOUT PLAN FOR THE WORKS CONTRACT

Legend

Site Boundary

N

W1 - Near SUW Station Exit

H2 - Near Pak Tai Street

0 25 50 75 100 m

Appendix A

Site Layout Plan for the Works Contract No. 11286

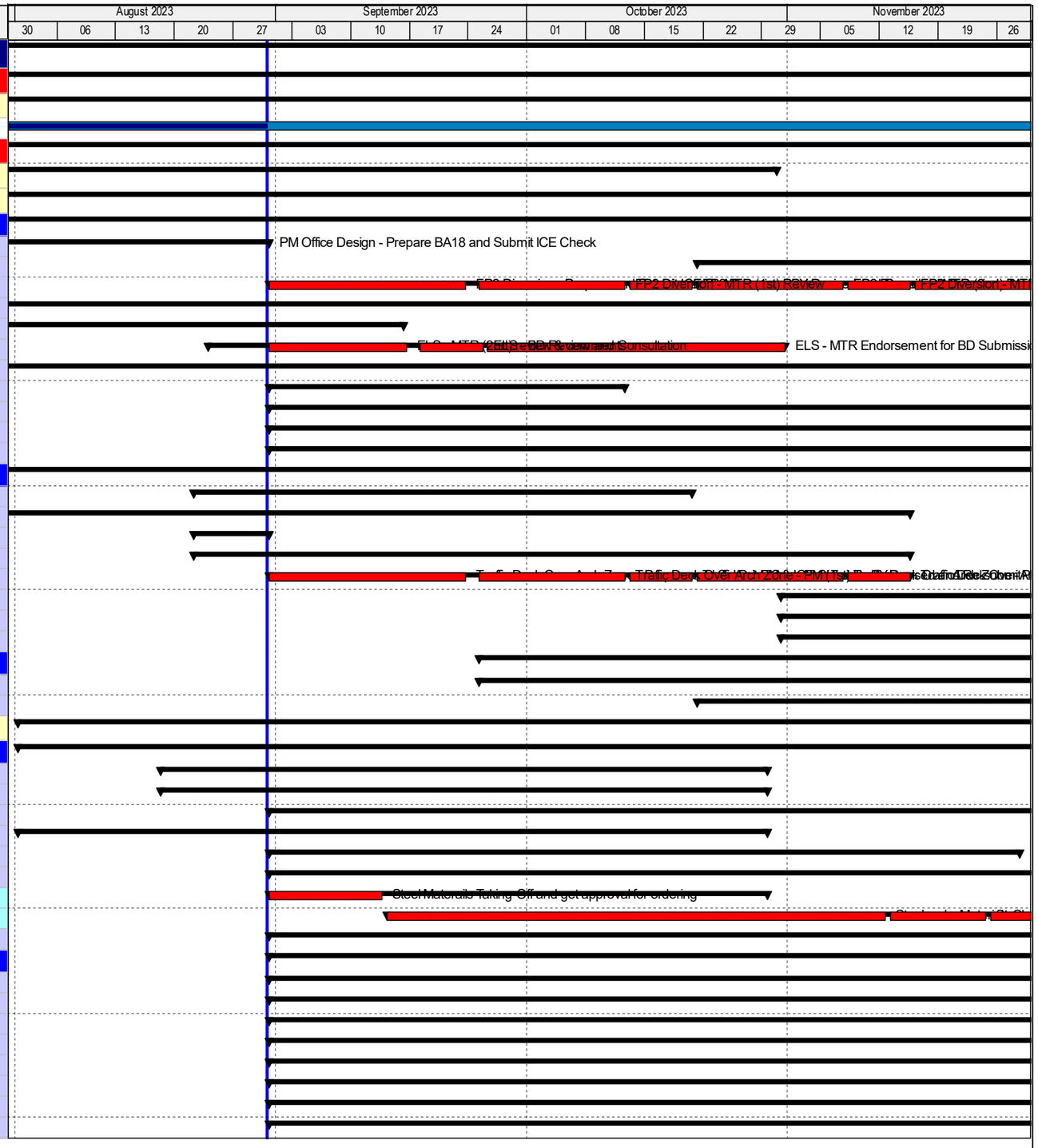
File: P:\Projects\0699635 Paul Y SCL C11286 ET.CH\08 GIS\11286.qgz
Date: 8/7/2023

Environmental Resources Management

ERM

APPENDIX B CONSTRUCTION PROGRAMME FOR THE REPORTING MONTH AND COMING MONTHS

Activity ID	Activity Name	Dur.	Start	Finish	Activity % Complete	Total Float
CONTRACT NO. 11286 Revised Programme for Accepta		761	12-Jun-23 A	20-Jun-26		0
CONTRACT DATES		1004	12-Jun-23 A	30-May-26		0
The Whole of the Works		1004	12-Jun-23 A	30-May-26		0
11286-#PD-01010	Duration for the whole of the Works (36-Months)	1004	12-Jun-23 A	30-May-26	0%	0
Cost Centre A: PRELIMINARIES, EDOC and STATUTORY SUBMISS		761	23-Jun-23 A	20-Jun-26		-16
Management Plan Submission Schedule		44	13-Jul-23 A	30-Oct-23		49
Design, Review and Approvals		98	28-Jun-23 A	28-Dec-23		300
Temporary Works Design (Required BD Submission)		91	28-Jun-23 A	18-Dec-23		307
PM Office Design Submission and Approvals		0	28-Jun-23 A	31-Aug-23		77
Approach Lobby - Concourse Hoarding Design Submission and Approvals		35	21-Oct-23	01-Dec-23		230
Approach Lobby - FP2 Diversion Submission and Approvals		91	31-Aug-23	18-Dec-23		-9
Entrance C - Hoarding Plan Submission and Approvals		78	28-Jun-23 A	02-Dec-23		4
Entrance C - Demolition Plan Submission and Approvals		14	28-Jun-23 A	16-Sep-23		135
ELS (Sheet Piles, Pipepile Walls) & Instrumentation Monitoring Submission &		50	24-Aug-23 A	31-Oct-23		-9
ELS Support for Approach Lobby Design & ICE Check		70	26-Jul-23 A	18-Oct-23		104
Foundations / Piling Works Design Submission and Approvals		35	31-Aug-23	12-Oct-23		20
External Cladding (Aluminum / Glass Wall) Design Submission and Approvals		77	31-Aug-23	01-Dec-23		321
External Aluminum Louvres / Doors Design Submission and Approvals		77	31-Aug-23	01-Dec-23		321
Civil Drainage Design Submission and Approvals		77	31-Aug-23	01-Dec-23		282
Temporary Works Design (Non-BD Submission)		91	28-Jun-23 A	18-Dec-23		195
CNP Application and Approval		42	22-Aug-23 A	20-Oct-23		39
Footbridge - (TTMS) Application and Approval for (Bridge Erection)		63	28-Jun-23 A	15-Nov-23		223
Entrance C - (TTMS) Application and Approval		0	22-Aug-23 A	31-Aug-23		81
Excavation Permit Submission and Approval by PM		63	22-Aug-23 A	15-Nov-23		114
Traffic Deck Over Archeological Zone Design & ICE Check		63	31-Aug-23	15-Nov-23		-8
Temporary Bridge Tower Design & ICE Check		42	31-Oct-23	18-Dec-23		114
Bridge Bearing Plate Design & ICE Check		42	31-Oct-23	18-Dec-23		97
Bridge Assembly Trestle Design & ICE Check + Testing		42	31-Oct-23	18-Dec-23		114
EDOC Submission and Approval		77	25-Sep-23	28-Dec-23		225
Hoarding Installation & ABWF Removal		56	25-Sep-23	01-Dec-23		246
Civil Breaktrough (Appoach Lobby / ADIT Area)		56	21-Oct-23	28-Dec-23		186
Procurement, Manufacturing and Delivery, Including Off-Site Fabri		369	01-Aug-23 A	02-Sep-24		371
(Major) Civil Procurement, Manufacture and Delivery		226	01-Aug-23 A	12-Apr-24		38
Subletting for Rebar Material, Ordering and Delivery		60	18-Aug-23 A	29-Oct-23		29
Subletting for Concrete Material, Ordering and Schedule Delivery		60	18-Aug-23 A	29-Oct-23		29
Subletting for Formworks, Material Ordering and Delivery		114	31-Aug-23	22-Dec-23		147
Subletting for Bored Pile, Material Ordering Fabrication and Delivery		60	01-Aug-23 A	29-Oct-23		8
Subletting for Socket H-Pile, Material Ordering, Fabrication and Delivery		90	31-Aug-23	28-Nov-23		58
Subletting for Structural Steelworks for FootBridge / Approach Lobby / Entrar		146	31-Aug-23	23-Jan-24		-18
Shop Drawings Submission and Approvals		60	31-Aug-23	29-Oct-23		8
Materials Ordering, Off-Site Fabrication and Delivery		132	14-Sep-23	23-Jan-24		-18
Bridge Bearing Material Ordering, Fabrication and Delivery		226	31-Aug-23	12-Apr-24		38
(Major) ABWF Procurement, Manufacture and Delivery		102	31-Aug-23	10-Dec-23		537
Subletting for External Glazing / Curtain Wall, Material Ordering and Delivery		102	31-Aug-23	10-Dec-23		166
Subletting for External Aluminum Wall Cladding, Material Ordering, Fabricatio		102	31-Aug-23	10-Dec-23		194
Subletting for Aluminum Louvre & Doors, Material Ordering, Fabrication and I		102	31-Aug-23	10-Dec-23		185
Subletting for Mosaic Wall Tiles, Material Ordering, Fabrication and Delivery		102	31-Aug-23	10-Dec-23		397
Subletting for Acoustic Perforated Metal Ceiling, Material Ordering, Fabricatio		102	31-Aug-23	10-Dec-23		397
Subletting for Floor Tile, Ordering, Fabrication and Delivery		102	31-Aug-23	10-Dec-23		411
Subletting for Balustrade, Steel Handrills, Material Ordering, Fabrication and I		102	31-Aug-23	10-Dec-23		537
Subletting for Internal Paint Finish, Material Ordering, Fabrication and Deliver		102	31-Aug-23	10-Dec-23		397



◆ Milestone
Overall Summary Bar
Sub-Summary Bar
Critical Bar
Non-Critical Bar
Actual Level of Effort

MTR 11286 Pedestrian Link Connecting Pak Tai Street and Sung Wong Toi Station

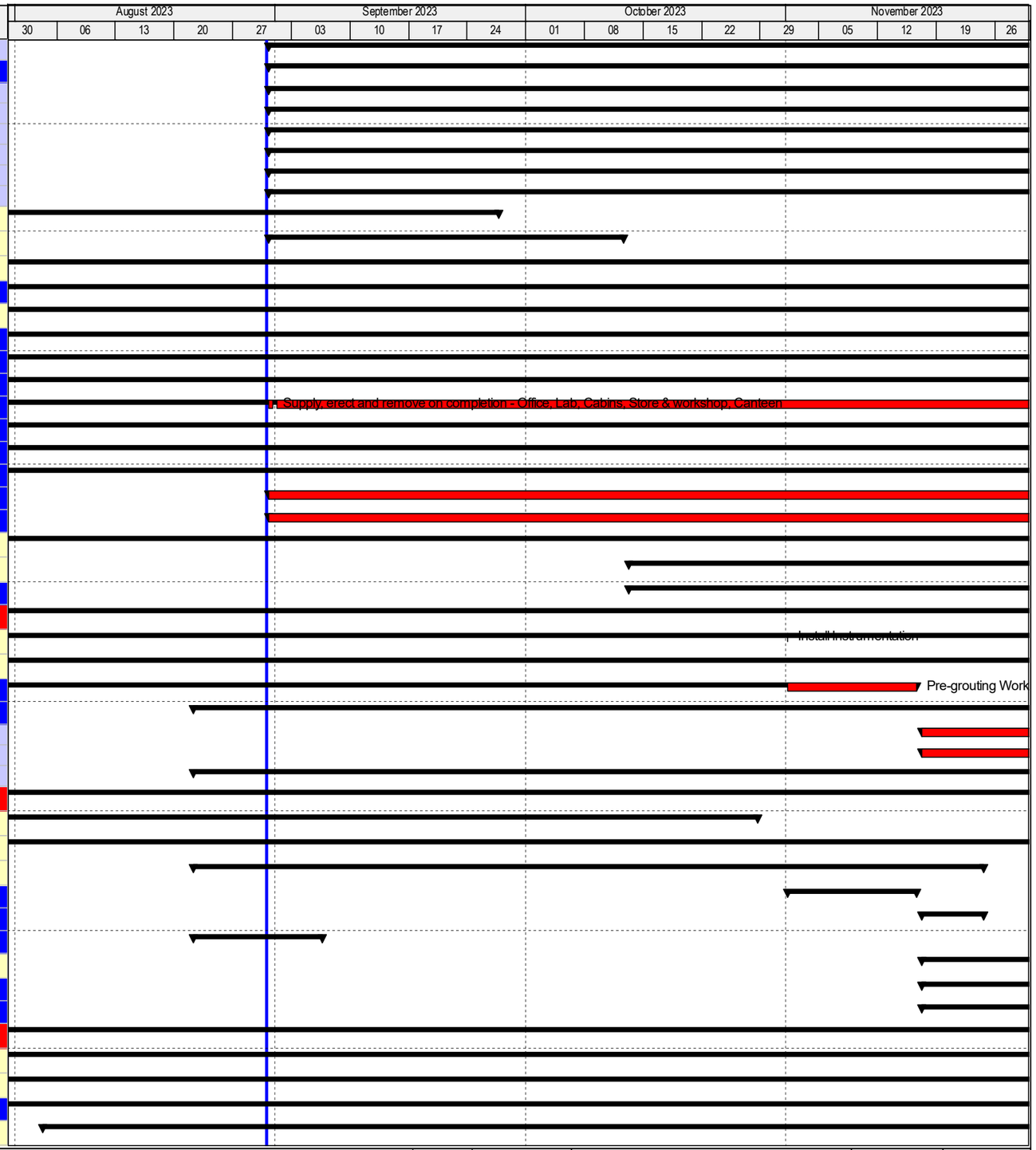
3 Months Rolling Programme (DD: 31 Aug 2023)

(based on Revised Programme for Acceptance (Aug-23))

(1 of 3)

Date	Revision	Checked	Approved
31-Jul-23	11286 3 months rolling programme		

Activity ID	Activity Name	Dur.	Start	Finish	Activity % Complete	Total Float
	Subletting for Metalworks and Sundries for ABWF Works	102	31-Aug-23	10-Dec-23		170
	Building Services Procurement, Manufacture and Delivery (Long Le	369	31-Aug-23	02-Sep-24		371
	Subletting for Plumbing & Drainage (P & D), Material Ordering, Fabrication an	279	31-Aug-23	04-Jun-24		59
	Subletting for ECS (MVAC), Material Ordering, Fabrication and Delivery	279	31-Aug-23	04-Jun-24		402
	Subletting for Electrical, Material Ordering, Fabrication and Delivery	279	31-Aug-23	04-Jun-24		402
	Subletting for Fire Services (FS), Material Ordering, Fabrication and Delivery	300	31-Aug-23	25-Jun-24		397
	Subletting for ELV, Material Ordering, Fabrication and Delivery	300	31-Aug-23	25-Jun-24		440
	Subletting for Lift (2-nos) and Escalators (4-nos), Materials for Building Servic	369	31-Aug-23	02-Sep-24		211
	Office Containers Set-up at Works Area (11286.W1)	24	23-Jun-23 A	27-Sep-23		31
	Project Manager's Staff Accommodation Installation at Works Area	32	31-Aug-23	12-Oct-23		69
	Maintain and Operate Project Managers Accommodation	137	26-Jun-23 A	14-Jan-24		1
	Setting-Out / Site Establishment (30% to 50%)	137	26-Jun-23 A	14-Jan-24		1
	Provisional Items for PM	829	23-Jun-23 A	20-Jun-26		-17
	Provision of Site Transportation	801	23-Jun-23 A	16-May-26		11
	Provision of Telephone, IT Facilities and PABX System Services	803	27-Jun-23 A	19-May-26		9
	Provision of Survey Equipment and Facilities	801	26-Jun-23 A	16-May-26		11
	Supply, erect and remove on completion - Office, Lab, Cabins, Stor	829	17-Jul-23 A	20-Jun-26		-17
	Supply, erect and remove on completion - Electricity & Water Supp	801	26-Jun-23 A	16-May-26		11
	Provision of General Items - Contractor Requirements - Worker's Ur	800	26-Jun-23 A	15-May-26		12
	Provision of General Items - Other Specified Reqiuirements A790.1-	801	28-Jun-23 A	16-May-26		11
	Provision of Partnering (S1010.1)	829	31-Aug-23	20-Jun-26		-17
	Provision of NEC4 ECC External Facilitator (S1010.2)	829	31-Aug-23	20-Jun-26		-17
	Contractors Superintendence	798	23-Jun-23 A	13-May-26		14
	Optional Works (By Main Contractor's)	518	13-Oct-23	13-Mar-25		189
	Option 1: Maintenance and Operation of Hung Hom Site Office (HU	518	13-Oct-23	13-Mar-25		189
	Cost Centre B: FOOTBRIDGE PIER 1 to 4 (HKAC & Sung Wong Toi	612	23-Jun-23 A	09-Dec-25		149
	Site Clearance & Mobilization & Establishment	612	20-Jul-23 A	09-Dec-25		149
	Foundation & Substructure for P2 & P3	169	23-Jun-23 A	19-Apr-24		-9
	Pre-drilling / G.I Works, ELS Works	64	23-Jun-23 A	16-Nov-23		-9
	Piling Works	112	22-Aug-23 A	19-Apr-24		-9
	Piling Works at Pier 2 - Bored Piles (4-Nos) (22d/pile/rig)	22	17-Nov-23	12-Dec-23		-9
	Piling Works at Pier 3 - Bored Piles (4-Nos) (22d/pile/rig)	22	17-Nov-23	12-Dec-23		-9
	Pile Testing (8-nos) @ GL P2 & P3	7	22-Aug-23 A	19-Apr-24		-11
	Cost Centre C: APPROACH LOBBY at CONCOURSE LEVEL of SUI	605	23-Jun-23 A	29-Nov-25		43
	Archeological Relics Items	48	03-Jul-23 A	28-Oct-23		55
	Site Clearance & Mobilization & Establishment	626	23-Jun-23 A	29-Nov-25		45
	Approach Lobby - Foundation / Piling Works	64	22-Aug-23 A	24-Nov-23		45
	G.I. / Pre-drilling Works	14	01-Nov-23	16-Nov-23		9
	Piling Works (Socket H-Piles) (32-nos)	7	17-Nov-23	24-Nov-23		50
	Pile Test at Approach Lobby and Pier 1 (32-nos)	7	22-Aug-23 A	06-Sep-23		82
	Approach Lobby - Substructure / Pilecaps	18	17-Nov-23	07-Dec-23		39
	Pier 1 - Excavation, ELS Works (S1) & Pilecap @ Deck Lvl (+13.112	18	17-Nov-23	07-Dec-23		39
	Approach Lobby - Pipe Pile Walls	13	17-Nov-23	01-Dec-23		9
	Cost Centre D: Entrance C at Pak Tai Street	674	23-Jun-23 A	06-Dec-25		39
	Site Clearance & Mobilization & Establishment	624	26-Jun-23 A	06-Dec-25		39
	Entrance C - Utilities Diversion	114	23-Jun-23 A	17-Jan-24		17
	Utilities Diversion & Removal Underground Structure	114	23-Jun-23 A	17-Jan-24		17
	Entrance C - Foundation & Substructure	32	04-Aug-23 A	23-Dec-23		35



◆ Milestone
Overall Summary Bar
Sub-Summary Bar
Critical Bar
Non-Critical Bar
Actual Level of Effort

MTR 11286 Pedestrian Link Connecting Pak Tai Street and Sung Wong Toi Station

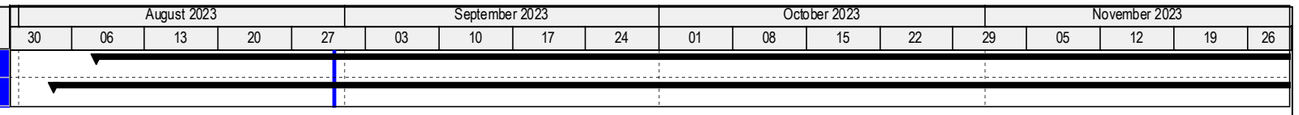
3 Months Rolling Programme (DD: 31 Aug 2023)

(based on Revised Programme for Acceptance (Aug-23))

(2 of 3)

Date	Revision	Checked	Approved
31-Jul-23	11286 3 months rolling programme		

Activity ID	Activity Name	Dur.	Start	Finish	Activity % Complete	Total Float
G.I. / Pre-drilling Works		14	08-Aug-23 A	02-Dec-23		35
Pile Cap		18	04-Aug-23 A	23-Dec-23		35



- Milestone
- Overall Summary Bar
- Sub-Summary Bar
- Critical Bar
- Non-Critical Bar
- Actual Level of Effort

MTR 11286 Pedestrian Link Connecting Pak Tai Street and Sung Wong Toi Station

3 Months Rolling Programme (DD: 31 Aug 2023)

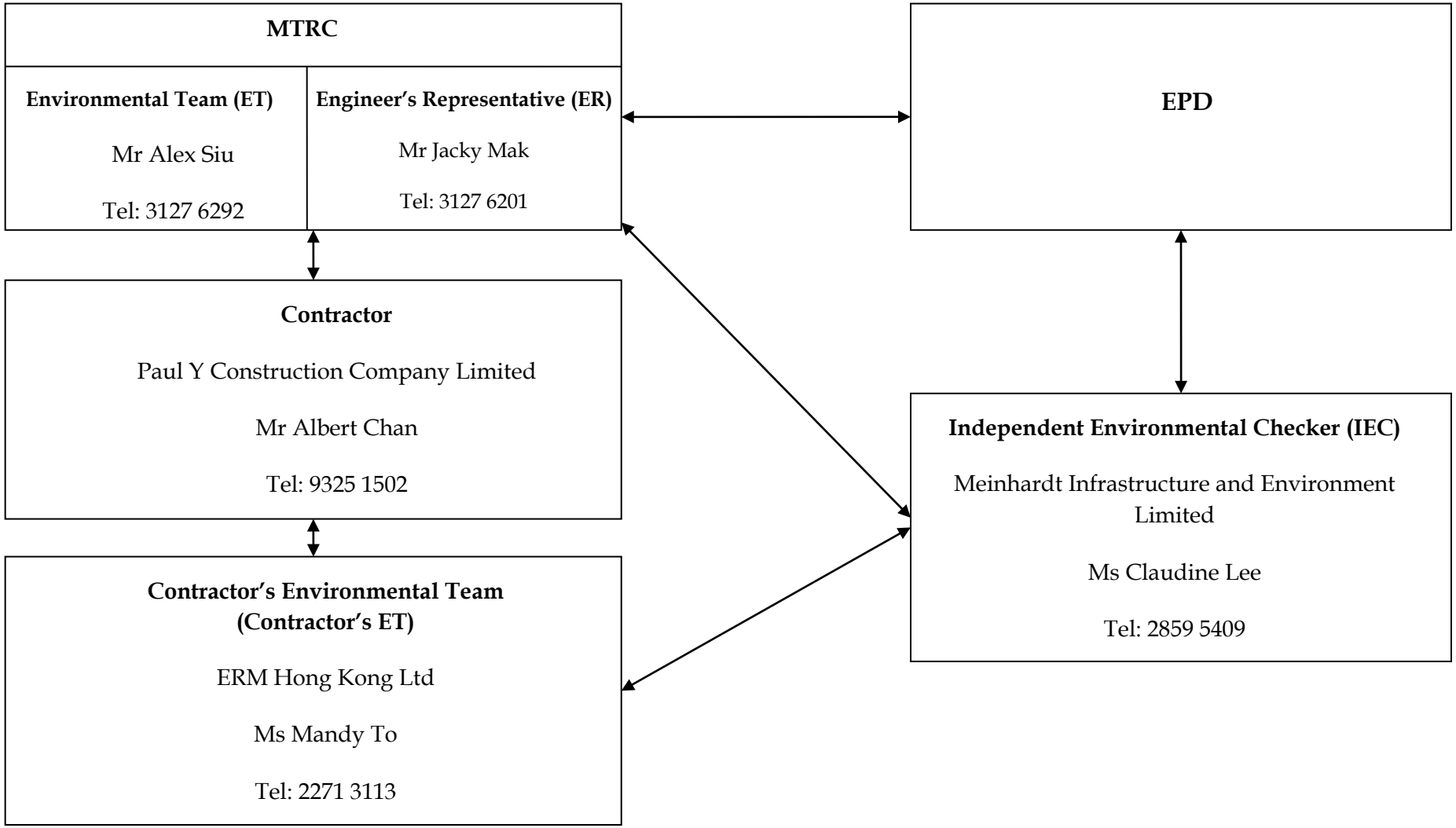
(based on Revised Programme for Acceptance (Aug-23))

(3 of 3)

Date	Revision	Checked	Approved
31-Jul-23	11286 3 months rolling programme		

APPENDIX C PROJECT ORGANIZATION CHART AND CONTACT DETAILS

Appendix C – Organization Chart of SCL Works Contract 11286



APPENDIX D LOCATIONS OF NOISE AND DUST MONITORING STATION

Legend

- Site Boundary
- Dust Monitoring Station
- Noise Monitoring Station

N

DMS-7 (Parc22 Rooftop)

NMS-CA-7 (Skytower Tower 2 Podium)

0 25 50 75 100 m

Appendix D

Locations of Dust and Noise Monitoring Stations

File: P:\Projects\0699635 Paul Y SCL C11286 ET.CH\08 GIS\11286.qgz
Date: 8/7/2023

Environmental Resources Management

ERM

APPENDIX E MONITORING SCHEDULE OF THE REPORTING MONTH AND THE NEXT MONTH

Monitoring Schedule in August 2023

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		1-Aug	2-Aug	3-Aug	4-Aug	5-Aug
					- Noise Monitoring (NMS-CA-7) - 1-hour TSP x 3 (DMS-7)	
6-Aug	7-Aug	8-Aug	9-Aug	10-Aug	11-Aug	12-Aug
				- Noise Monitoring (NMS-CA-7) - 1-hour TSP x 3 (DMS-7)		
13-Aug	14-Aug	15-Aug	16-Aug	17-Aug	18-Aug	19-Aug
			- Noise Monitoring (NMS-CA-7) - 1-hour TSP x 3 (DMS-7)			
20-Aug	21-Aug	22-Aug	23-Aug	24-Aug	25-Aug	26-Aug
		- Noise Monitoring (NMS-CA-7) - 1-hour TSP x 3 (DMS-7)				
27-Aug	28-Aug	29-Aug	30-Aug	31-Aug		
	- Noise Monitoring (NMS-CA-7) - 1-hour TSP x 3 (DMS-7)					

Tentative Monitoring Schedule in September 2023

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					1-Sep	2-Sep
					- Noise Monitoring - 1-hour TSP * 3	
3-Sep	4-Sep	5-Sep	6-Sep	7-Sep	8-Sep	9-Sep
				- Noise Monitoring - 1-hour TSP * 3		
10-Sep	11-Sep	12-Sep	13-Sep	14-Sep	15-Sep	16-Sep
			- Noise Monitoring - 1-hour TSP * 3			
17-Sep	18-Sep	19-Sep	20-Sep	21-Sep	22-Sep	23-Sep
		- Noise Monitoring - 1-hour TSP * 3				
24-Sep	25-Sep	26-Sep	27-Sep	28-Sep	29-Sep	30-Sep
	- Noise Monitoring - 1-hour TSP * 3				- 1-hour TSP * 3	

APPENDIX F CALIBRATION REPORTS

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

Certificate of Calibration
校正證書

Certificate No. : C227323
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC22-2398) Date of Receipt / 收件日期 : 24 November 2022

Description / 儀器名稱 : Precision Acoustic Calibrator
Manufacturer / 製造商 : LARSON DAVIS
Model No. / 型號 : CAL200
Serial No. / 編號 : 15678
Supplied By / 委託者 : Envirotech Services Co.
Room 712, 7/F, My Loft, 9 Hoi Wing Road, Tuen Mun,
New Territories, Hong Kong

TEST CONDITIONS / 測試條件

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

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 18 December 2022

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
The results are detailed in the subsequent page(s).

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

Tested By 測試 : H T Wong
Assistant Engineer

Certified By 核證 : K C Lee
Engineer

Date of Issue 簽發日期 : 19 December 2022

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

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

Certificate of Calibration
校正證書

Certificate No. : C227323
證書編號

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

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

3. Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C223647
CL281	Multifunction Acoustic Calibrator	AV210017
TST150A	Measuring Amplifier	C221750

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	93.9	± 0.2	± 0.2
114 dB, 1 kHz	113.9		

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	1.000	1 kHz ± 1 %	± 1

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

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

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

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

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

Certificate of Calibration
校正證書

Certificate No. : C232965
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC23-0878) Date of Receipt / 收件日期 : 4 May 2023

Description / 儀器名稱 : Sound Level Meter
Manufacturer / 製造商 : Rion
Model No. / 型號 : NL-52
Serial No. / 編號 : 00643049
Supplied By / 委託者 : Envirotech Services Co.
Room 712, 7/F, My Loft, 9 Hoi Wing Road, Tuen Mun,
New Territories, Hong Kong

TEST CONDITIONS / 測試條件

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

TEST SPECIFICATIONS / 測試規範

Calibration

DATE OF TEST / 測試日期 : 27 May 2023

TEST RESULTS / 測試結果

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

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

Tested By 測試 : H T Wong
Assistant Engineer

Certified By 核證 : K C Lee
Engineer

Date of Issue 簽發日期 : 29 May 2023

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

Certificate of Calibration
校正證書

Certificate No. : C232965
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

2. Self-calibration using the internal standard (After Adjustment) was performed before the test 6.1.1.2 to 6.3.2.

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

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C230306
CL281	Multifunction Acoustic Calibrator	CDK2302738

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

6.1.1.1 Before Adjustment

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Limit (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L_A	A	Fast	94.00	1	* 95.5	± 1.1

* Out of IEC 61672 Class 1 Limit

6.1.1.2 After Adjustment

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Limit (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L_A	A	Fast	94.00	1	94.0	± 1.1

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
30 - 130	L_A	A	Fast	94.00	1	94.0 (Ref.)
				104.00		104.0
				114.00		114.1

IEC 61672 Class 1 Limit : ± 0.6 dB per 10 dB step and ± 1.1 dB for overall different.

Certificate of Calibration
校正證書

Certificate No. : C232965
證書編號

6.2 Time Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Limit (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L_A	A	Fast	94.00	1	94.0	Ref.
			Slow			94.0	± 0.3

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Limit (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L_A	A	Fast	94.00	63 Hz	67.7	-26.2 ± 1.5
					125 Hz	77.8	-16.1 ± 1.5
					250 Hz	85.3	-8.6 ± 1.4
					500 Hz	90.8	-3.2 ± 1.4
					1 kHz	94.0	Ref.
					2 kHz	95.2	+1.2 ± 1.6
					4 kHz	95.0	+1.0 ± 1.6
					8 kHz	92.9	-1.1 (+2.1 ; -3.1)
					16 kHz	86.0	-6.6 (+3.5 ; -17.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Limit (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L_C	C	Fast	94.00	63 Hz	93.1	-0.8 ± 1.5
					125 Hz	93.8	-0.2 ± 1.5
					250 Hz	94.0	0.0 ± 1.4
					500 Hz	94.0	0.0 ± 1.4
					1 kHz	94.0	Ref.
					2 kHz	93.8	-0.2 ± 1.6
					4 kHz	93.2	-0.8 ± 1.6
					8 kHz	91.0	-3.0 (+2.1 ; -3.1)
					16 kHz	84.1	-8.5 (+3.5 ; -17.0)

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c/o 香港新界屯門興安里 1號四樓
Tel/電話: (852) 2927 2606 Fax/傳真: (852) 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

Certificate of Calibration
校正證書

Certificate No. : C232965
證書編號

Remarks : - UUT Microphone Model No. : UC-59 & S/N : 12128

- Mfr's Limit : IEC 61672 Class 1

- Uncertainties of Applied Value :

94 dB	: 63 Hz - 125 Hz	: ± 0.35 dB
	250 Hz - 500 Hz	: ± 0.30 dB
	1 kHz	: ± 0.20 dB
	2 kHz - 4 kHz	: ± 0.35 dB
	8 kHz	: ± 0.45 dB
	16 kHz	: ± 0.70 dB
104 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)
114 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)

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

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

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

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Tel/電話: (852) 2927 2606 Fax/傳真: (852) 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	: MR MAGNUM FAN	WORK ORDER	: HK2312358
CLIENT	: ENVIROTECH SERVICES CO.		
ADDRESS	: RM 712, 7/F, MY LOFT 9 HOI WING ROAD, TUEN MUN, N.T., HK	SUB-BATCH	: 1
		DATE RECEIVED	: 31-MAR-2023
		DATE OF ISSUE	: 11-APR-2023
PROJECT	: ----	NO. OF SAMPLES	: 1
		CLIENT ORDER	: ----

General Comments

- Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.
- Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.
- Result(s) of sample(s) is/are reported on as received basis, unless otherwise specified.
- Calibration was subcontracted to and analysed by Envirotech Services Company

Signatories

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

Signatories	*Position*
Richard Fung	Managing Director

This report supersedes any previous report(s) with the same work order number.

All pages of this report have been checked and approved for release.

ALS Technichem (HK) Pty Ltd
Part of the **ALS Laboratory Group**

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Tel. +852 2610 1044 Fax. +852 2610 2021 www.alsglobal.com

WORK ORDER : HK2312358
SUB-BATCH : 1
CLIENT : ENVIROTECH SERVICES CO.
PROJECT : ----

ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK2312358-001	Sibata (326285)	Equipments	18-Mar-2023	S/N: 326285

Envirotech Services Co.
Rm. 712, 7/F
My Loft,
9 Hoi Wing Road,
Tuen Mun, H.K
Tel : 2560 8450
Fax : 2560 6553
E-mail: envirotech@netvigator.com

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust Monitor
Manufacturer:	Sibata LD-3B
Serial No.:	326285
Equipment Ref.:	N/A
Job Order:	HK2311344

Standard Equipment

Standard Equipment:	High Volume Sampler (TSP)
Location & Location ID:	Envirotech Room (Calibration Room)
Equipment Ref.:	HVS 8162
Last Calibration Date:	28-Feb-2023

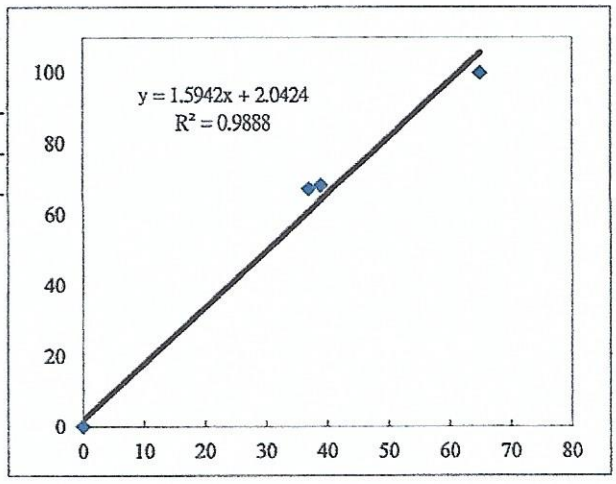
Equipment Verification Results:

Verification Date: 17 & 18 March 2023

Hour	Time	Mean Temp °C	Mean Pressure (hpa)	Concentration in µg/m³ (Standard Equipment)	Total Count (Calibrated Equipment)	Count /Minute (Total Count/min)
1hr 00mins	1410-1510	24.2	1018.2	100	3910	65
1hr 00mins	0810-0910	22.2	1021.5	67	2218	37
1hr 00mins	1510-1610	25.0	1022.4	68	2350	39

Linear Regression of Y or X

Slope (K-factor):	1.5942(µg/m³)/CPM
Correlation Coefficient (R):	0.9944
Date of Issue:	29-Mar-2023



Remarks:

1 . Strong Correlation (>0.8)

2. Factor 1.5942 (µg/m³)/CPM should be applied for TSP monitoring

*If R<0.5, repair or verification is required for the equipment

Operator: P.F.Yeung Signature Fai Date: 29 March 2023

QC Reviewer: K.F.Ho Signature Fat Date: 29 March 2023

TSP SAMPLER CALIBRATION CACULATION SPREADSHEET

Location :	Rm. 712, My Loft, Tuen Mun	Date of Calibration:	28-Feb-23
HVS ID:	8162	Next Calibration Date:	28-Apr-23
Name and Model :	TISCH HVS Model TE-5170	Operator:	K.F.Ho

CONDITIONS

Sea Level Pressure (hpa)	1021	Corrected Pressure (mm Hg)	764.3
Temperature (°C)	22.0	Temperature (K)	295

CALIBRATION ORIFICE

Make:	TISCH	Qstd Slope	2.06918
Model:	TE-5025A	Qstd Intercept	-0.04220
Serial#:	2454		

CALIBRATION

Plate No.	H2O(L) (in)	H20(R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC (corrected)	LINEAR REGRESSION
18	6.7	6.6	13.3	1.797	62	62.51	Slope= 31.428
13	5.2	5.1	10.3	1.584	55	55.45	Intercept= 5.569
10	4.0	3.9	7.9	1.390	48	48.39	Corr. Coeff.= 0.9990
7	2.5	2.5	5.0	1.110	40	40.33	
5	1.4	1.4	2.8	0.836	32	32.26	

Calulations:

Qstd = 1/m[Sqrt(H2O(Pa/Pstd)(Tstd/Ta))-b]

IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate

IC = corrected chart response

I = actual chart response

m = calibrator Qstd slope

b = calibrator Qstd intercept

Ta = actual temperature during calibration (deg K)

Pa = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

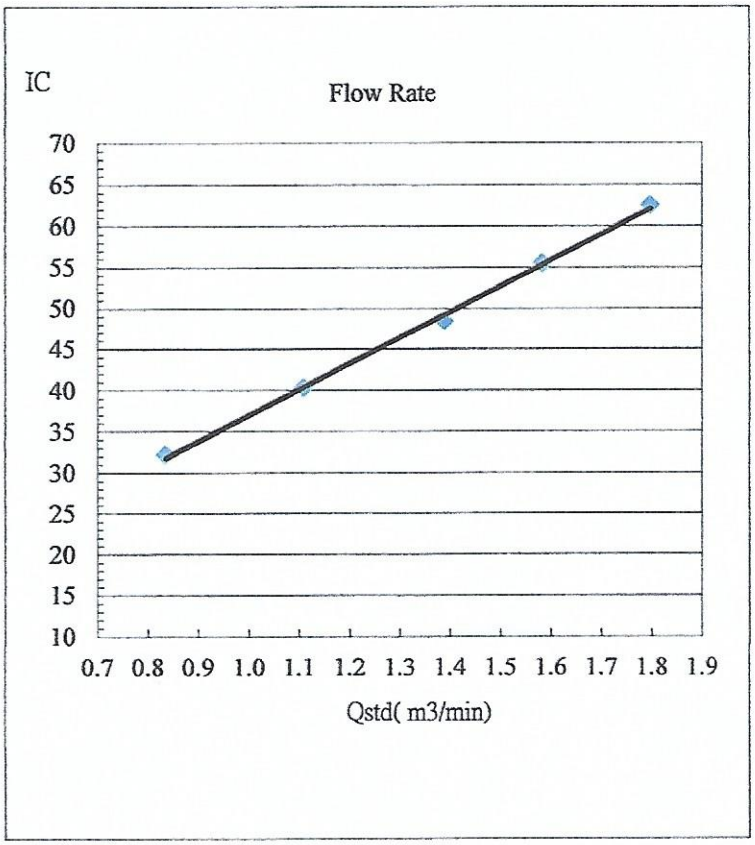
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



TISCH Environmental

RECALIBRATION DUE DATE:
December 15, 2023

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	December 15, 2022	**Rootsmeter S/N:** 438320	**Ta:** 295	°K
Operator:	Jim Tisch		**Pa:** 748.0	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **4064**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4430	3.2	2.00
2	3	4	1	1.0210	6.4	4.00
3	5	6	1	0.9170	7.9	5.00
4	7	8	1	0.8730	8.8	5.50
5	9	10	1	0.7210	12.8	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
0.9900	0.6861	1.4101	0.9957	0.6900	0.8881
0.9858	0.9655	1.9943	0.9914	0.9711	1.2560
0.9838	1.0728	2.2296	0.9894	1.0790	1.4042
0.9826	1.1255	2.3385	0.9882	1.1320	1.4728
0.9772	1.3554	2.8203	0.9829	1.3632	1.7762
QSTD	**m=**	**2.10977**	**QA**	**m=**	**1.32110**
	b=	**-0.03782**		**b=**	**-0.02382**
	r=	**0.99998**		**r=**	**0.99998**

Calculations

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

For subsequent flow rate calculations:

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

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

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

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

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

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

www.tisch-env.com
TOLL FREE: (877)263-7610
FAX: (513)467-9000

APPENDIX G SUMMARY OF EVENT / ACTION PLANS

Appendix G1 – Event and Action Plan for Regular Construction Noise Monitoring

EVENT	Action			
	Contractor's Environmental Team (Contractor's ET)	Independent Environmental Checker (IEC)	Engineer Representative (ER)	The Contractor
Exceeding Action Level	1. Notify the IEC, Contractor and ER; 2. Discuss with the ER, IEC and Contractor on the remedial measures required; 3. Increase the monitoring frequency to check mitigation effectiveness.	1. Review the investigation results submitted by the contractor; 2. Review and advise the ET and ER on the effectiveness of the remedial measures proposed by the Contractor.	1. Confirm receipt of notification of complaint in writing ; 2. Notify the Contractor, IEC and ET; 3. Review and agree on the remedial measures proposed by the Contractor; 4. Supervise the implementation of remedial measures.	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; 4. Implement noise mitigation proposals.
Exceeding Limit Level	1. Notify the IEC, Contractor and EPD; 2. Repeat measurement to confirm findings; 3. Increase the monitoring frequency; 4. Carry out analysis of the Contractor's working procedures to determine possible mitigation to be implemented; 5. Arrange meeting with the IEC, Contractor and ER to discuss the remedial measures to be taken; 6. Inform the IEC, ER and EPD the causes and actions taken for the exceedances 7. Assess the effectiveness of the Contractor's remedial measures and keep the IEC, ER and EPD informed of the results	1. Check the monitoring data submitted by the ET; 2. Check the Contractor's working method; 3. Discuss with the ET, ER, and Contractor on the potential remedial measures; 4. Review and advise the ET and ER on the effectiveness of the remedial measures proposed by the Contractor	1. Confirm receipt of notification of exceedance in writing; 2. Notify the Contractor, IEC and ET; 3. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures; 5. 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 reason(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 is still not under control; 6. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Appendix G2 – Event and Action Plan for Regular Construction Dust Monitoring

Event	Action			
	Contractor's Environmental Team (Contractor's ET)	Independent Environmental Checker (IEC)	Engineer Representative (ER)	The Contractor
Action Level				
Exceedance for one sample	1. Inform the IEC, Contractor and ER; 2. Discuss with the Contractor, IEC and ER on the remedial measures required; 3. Repeat measurement to confirm findings; 4. Increase the monitoring frequency	1. Check the monitoring data submitted by the ET; 2. Check the Contractor's working method; 3. Review and advise the ET and ER on the effectiveness of the proposed remedial measures.	1. Confirm receipt of notifications of exceedance in writing;	1. Identify reason(s), investigate the causes of exceedance and propose remedial measures; 2. Implement remedial measures; 3. Amend working methods and agree them with the ER as appropriate.
Exceedance for two or more consecutive samples	1. Inform the IEC, Contractor and ER; 2. Discuss with the ER, IEC and Contractor on the remedial measures required; 3. Repeat measurements to confirm findings; 4. Increase the monitoring frequency to daily; 5. If exceedance continues, arrange meeting with the IEC, ER and Contractor; 6. If exceedance stops, the monitoring frequency will resume normal.	1. Check the monitoring data submitted by the ET; 2. Check the Contractor's working method; 3. Review and advise the ET and ER on the effectiveness of the proposed remedial measures.	1. Confirm receipt of notification of exceedance in writing; 2. Notify the Contractor, IEC and ET; 3. Review and agree on the remedial measures proposed by the Contractor; 4. Supervise the Implementation of remedial measures.	1. Identify reasons and investigate the causes of exceedance; 2. Submit proposals of remedial measures to the ER with a copy to the ET and IEC within three working days of notification; 3. Implement the agreed proposals; 4. Amend the proposal as appropriate.

Event	Action			
	Contractor's Environmental Team (Contractor's ET)	Independent Environmental Checker (IEC)	Engineer Representative (ER)	The Contractor
Limit Level				
Exceedance for one sample	1. Inform the IEC, Contractor and ER; 2. Repeat measurement to confirm findings; 3. Increase the monitoring frequency to daily; 4. Discuss with the ER, IEC and contractor on the remedial measures and assess the effectiveness.	1. Check the 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.	1. Confirm receipt of notification of exceedance in writing; 2. Notify the Contractor, IEC and ET; 3. Review and agree on the remedial measures proposed by the Contractor; 4. Supervise the implementation of remedial measures.	1. Identify reason(s) and investigate the causes of exceedance; 2. Take immediate action to avoid further exceedance; 3. Submit proposals of remedial measures to ER with a copy to the 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	1. Notify the IEC, Contractor and EPD; 2. Repeat measurement to confirm findings; 3. Increase the 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, Contractor and ER to discuss the remedial measures to be taken; 6. Review the effectiveness of the Contractor's remedial measures and keep the IEC, EPD and ER informed of the results; 7. If exceedance stops, the monitoring frequency will return to normal.	1. Check the monitoring data submitted by the ET; 2. Check the Contractor's working method; 3. Discuss with the 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.	1. Confirm receipt of notification of exceedance in writing; 2. Notify the Contractor, IEC and ET; 3. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures; 5. 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 reason(s) and investigate the causes of exceedance; 2. Take immediate actions to avoid further exceedance; 3. Submit proposals of 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 G3 – Event and Action Plan for Landscape and Visual Impacts during the construction phase

Event	Action			
	Contractor's Environmental Team (Contractor's ET)	**Independent Environmental Checker (IEC)**	**Engineer Representative (ER)**	**The Contractor**
Non-conformity on one occasion	1. Inform the Contractor, the IEC and the ER. 2. Discuss remedial actions with the IEC, ER and Contractor. 3. Monitor remedial actions until rectification has been completed.	1. Check the inspection report. 2. Check the Contractor's working method. 3. Discuss with the ET, ER and Contractor on possible remedial measures. 4. Advise the ER on the effectiveness of proposed remedial measures.	1. Confirm receipt of notifications of nonconformity in writing. 2. Review and agree on the remedial measures proposed by the Contractor. 3. Supervise the implementation of remedial measures.	1. Identify reasons and investigate the non-conformity. 2. Implement remedial measures 3. Amend working methods and agree them with the ER as appropriate. 4. Rectify the damage and undertake any necessary replacement.
Repeated Nonconformity	1. Identify Reasons. 2. Inform the Contractor, IEC and ER. 3. Increase the inspection frequency. 4. Discuss remedial actions with the IEC, ER and Contractor. 5. Monitor remedial actions until rectification has been completed. 6. If non-conformity stops, the inspection frequency return to normal (ie,. Once every two weeks)	1. Check the inspection report. 2. Check the Contractor's working method. 3. Discuss with the ET and Contractor on possible remedial measures. 4. Advise the ER on the effectiveness of proposed remedial measures.	1. Notify the Contractor. 2. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented. 3. Supervise the implementation of remedial measures.	1. Identify Reasons and investigate the non-conformity. 2. Implement remedial measures. 3. Amend working methods and agree them with the ER as appropriate. 4. Rectify the damage and undertake any necessary replacement. 5. Stop relevant works as determined by the ER until the non-conformity is abated.

APPENDIX H SUMMARY OF IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION

Appendix H Environmental Mitigation Implementation Status – SCL Works Contract 11286 (Pedestrian Link Connecting Pak Tai Street and Sung Wong Toi Station)

Note:

*	Reference has been made to the approved SCL (TAW-HUH) EM&A Manual.
√	Compliance of Mitigation Measures
<>	Compliance of Mitigation but need improvement
x	Non-compliance of Mitigation Measures
▲	Non-compliance of Mitigation Measures but rectified by the Contractor
∆	Deficiency of Mitigation Measures but rectified by the Contractor
N/A	Not Applicable in Reporting Period

EIA Ref.	EM&A Log Ref* / ERR Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
Cultural Heritage Impact							
-	Table 3.3 of Works Contract's ERR	Special attention should be paid to avoid adverse physical impact arising from the proposed works to the buildings of the School. Design proposal, method of works and choice of machinery should be targeted to minimize adverse impacts to the heritage sites. Works boundary should be set away from the historic buildings of the School as far as practical and physical barrier should be provided to fence off historic buildings from the works site of the Project.	Minimise built heritage impacts	Contractor	Old Far East Flying Training School (existing HKAC)	During foundation works of construction stage	N/A
-	Table 3.3 of Works Contract's ERR	Detailed design proposal, impact assessment and precautionary measures of the footbridge (including but not limited to piling, ELS and footbridge deck construction) and entrance lobbies should be submitted for AMO's consideration.	Minimise built heritage impacts	Contractor	Old Far East Flying Training School (existing HKAC)	During foundation works of construction stage	N/A
-	Table 3.3 of Works Contract's ERR	Foundation information of the historic buildings should be verified on site if needed and sufficient lateral support should be provided and de-watering (if required) should be carried out with great caution to control ground movement and change of groundwater regime during the excavation works in close vicinity to the historic	Minimise built heritage impacts	Contractor	Old Far East Flying Training School (existing HKAC)	During foundation works of construction stage	N/A

EIA Ref.	EM&A Log Ref* / ERR Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		buildings.					
-	Table 3.3 of Works Contract's ERR	Pre- and post-construction condition survey of the historical buildings should be carried out to record their conditions. The survey reports should be submitted to AMO for record	Minimise built heritage impacts	Contractor	Old Far East Flying Training School (existing HKAC)	During foundation works of construction stage	N/A
-	Table 3.3 of Works Contract's ERR	Any vibration and building movement induced from the proposed works should be closely monitored to ensure no disturbance and physical damages made to the heritage sites during the course of works. Monitoring proposal for the heritage sites, including checkpoint locations, installation details, response actions for each of the Alert/ Alarm/ Action (3As) levels and frequency of monitoring should be submitted for AMO's consideration.	Minimise built heritage impacts	Contractor	Old Far East Flying Training School (existing HKAC)	During foundation works of construction stage	N/A
-	Section 3.6 of Works Contract's ERR	As a precautionary measure, vibration and settlement monitoring is recommended during foundation works of the construction phase of the Project.	Minimise archaeological impacts	Contractor	All construction sites	During foundation works of construction stage	N/A
Ecology (Construction Phase)							
S5.7	E5	Good Site Practices Impact on any habitats or local fauna should be avoided by implementing good site practices, including the containment of silt runoff within the site boundary, containment of contaminated soils for removal from the site, appropriate storage of chemicals and chemical waste away from sites of ecological value and the provision of sanitary facilities for on-site workers. Adoption of such measures should permit waste to be suitably contained within the site for subsequent removal and appropriate disposal. The following good site practices should also be implemented:	Minimise ecological impacts	Contractor	All construction sites	Construction Stage	N/A

EIA Ref.	EM&A Log Ref* / ERR Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		• Erection of temporary geotextile silt or sediment fences/oil traps around earth-moving works to trap sediments and prevent them from entering watercourses; • Avoidance of soil storage against trees or close to water bodies; • Delineation of works site by erecting hoardings to prevent encroachment onto adjacent habitats and fence off areas which have some ecological value e.g. tunnel on hill at top of slope stabilisation works; • No on-site burning of waste; • Store waste and refuse in appropriate receptacles.					
Landscape & Visual (Construction Phase)							
S6.12	LV2 / Table 5.4 of Works Contract's ERR	<u>Decorative Hoarding</u> • Erection of decorative screen in visual and landscape sensitive areas during the construction stage to screen off undesirable views of the construction site . Hoarding should be designed to be compatible with the existing urban context.	Minimize visual & landscape impact	Contractor	Within Project Site	Construction Stage	√
S6.12	LV2 / Table 5.4 of Works Contract's ERR	<u>Management of facilities on work sites</u> • To provide proper management of the on-site facilities, control the height and disposition/ arrangement of all facilities on the works site to minimize visual impact to adjacent Visual Sensitive Receivers (VSRs).	Minimize visual & landscape impact	Contractor	Within Project Site	Construction Stage	√
S6.12	LV2 / Table 5.4 of Works Contract's ERR	<u>Aesthetic landscape and architectural treatment on Station/ Entrance/ ventilation shaft/ portal</u> • All station entrances, ventilation shafts and all aboveground structures shall be sensitively designed to ensure that suitable architectural design and the constraints.	Minimize visual & landscape impact	MTRC	Within Project Site	Construction Stage	N/A
S6.12	LV2 /	<u>Re-instatement of excavated area</u>	Minimize visual &	MTRC	Within Project Site	Construction Stage	N/A

EIA Ref.	EM&A Log Ref* / ERR Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
	Table 5.4 of Works Contract's ERR	• All excavated area and disturbed area for temporary works utilities diversion, temporary road diversion, and pipeline works shall be reinstated to former conditions or better, to the satisfaction of the relevant Government departments.	landscape impact				
Construction Dust							
S7.6.5	D1	The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation.	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	√
S7.6.5	D2	Mitigation measures in form of regular watering under a good site practice should be adopted. Watering once per hour on exposed worksites and haul roads in the Kowloon area should be conducted to achieve dust removal efficiencies of 91.7%. While the above watering frequencies are 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 1.8 l/m^2 to achieve the dust removal efficiency	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	√
S7.6.5	D3	• Proper watering of exposed spoil should be undertaken throughout the construction phase; • Any excavated or stockpile of dusty material should be covered entirely by an impervious sheeting or sprayed with water to maintain an entirely wet surface and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; • Any dusty materials remaining after a stockpile has been removed should be wetted with water and cleared from the surface of roads; • A stockpile of dusty materials should not be extended beyond the pedestrian barriers,	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	<>

EIA Ref.	EM&A Log Ref* / ERR Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		fencing or traffic cones. • The load of dusty materials on a vehicle leaving a construction site should be covered entirely by an impervious sheeting to ensure that the dusty materials do not leak from the vehicle; • Where practicable, vehicle washing facilities with high pressure water jet should be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the road section between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores; • When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided and properly maintained as far as practicable along the site boundary with provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period; • The portion of any road which leads only to construction site and is within 30m of a vehicle entrance or exit should be kept clear of dusty materials; • Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operations take place should be sprayed with water or a dust suppression chemical continuously; • Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain an entirely wet surface				

EIA Ref.	EM&A Log Ref* / ERR Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		• Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building upward, or a canopy should be provided from the first floor level up to the highest level of the scaffolding; • Any skip hoist for material transport should be totally enclosed by an impervious sheeting; • Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by an impervious sheeting or placed in an area sheltered on the top and 3 sides; • Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed; • Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system; and • Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shotcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies.					
S7.6.5	D6	Implement regular dust monitoring under EM&A programme during the construction stage.	Monitoring of dust impact	Contractor's ET	Selected representative dust monitoring station	Construction stage	√

EIA Ref.	EM&A Log Ref* / ERR Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
EP Condition 2.18(a)	D7	Watering once every working hour for active works areas, exposed areas and paved haul roads shall be provided in Kowloon area to keep these active works areas, exposed areas and paved haul roads wet.	Minimize construction dust impact	Contractor	All construction sites	Construction stage	√
EP Condition 2.19	D8	All diesel fuelled construction plant, including marine vessels if possible, used by the contractors within the works areas of the Project shall be powered by ultra low sulphur diesel fuel.	Minimize aerial emissions of sulphur dioxide from construction plant	Contractor	All construction sites	Construction stage	√
Construction Noise (Airborne)							
S8.3.6	N1	Implement the following good site practices: • only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme; • machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; • plant known to emit noise strongly in one direction, where possible, should be orientated so that the noise is directed away from nearby NSRs; • silencers or mufflers on construction equipment should be properly fitted and maintained during the period of construction works; • mobile plant should be sited as far away from NSRs as possible and practicable; • material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.	Control construction airborne noise	Contractor	All construction sites	Construction stage	√
S8.3.6	N2	Install temporary hoarding located on the site boundaries between noisy construction activities and NSRs. The conditions of the hoardings shall be properly maintained throughout the	Reduce the construction noise levels at low-level zone of NSRs through partial screening.	Contractor	All construction sites	Construction stage	N/A

EIA Ref.	EM&A Log Ref* / ERR Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		construction period.					
S8.3.6	N3	Install movable noise barriers (typical design is wooden framed barrier with a small-cantilevered on a skid footing with 25mm thick internal sound absorptive lining), acoustic mat or full enclosure, screen the noisy plants including air compressor, generators and saw.	Screen the noisy plant items to be used at all construction sites	Contractor	All construction sites where practicable	Construction stage	N/A
S8.3.6	N4	Use "Quiet plants"	Reduce the noise levels of plant items	Contractor	All construction sites where practicable	Construction stage	√
S8.3.6	N5	Sequencing operation of construction plants where practicable.	Operate sequentially within the same work site to reduce the construction airborne noise	Contractor	Contractor All construction sites where practicable	Construction stage	N/A
S8.3.6	N6	Implement noise monitoring under EM&A programme.	Monitor the construction noise levels at the selected representative locations	Contractor's ET	Selected representative noise monitoring station	Construction stage	√
-	Section 4.5.12 of Works Contract's ERR	Noise insulating fabric (the Fabric) would be installed for PME such as vibratory hammers, drill rigs and piling rigs. The Fabric should be lapped such that there would be no opening or gaps on the joints.	Reduce the noise levels of plant items	Contractor	All construction sites where practicable	Construction stage	N/A
Water Quality							
S10.7.1	W1	In accordance with the Practice Note for Professional Persons on Construction Site Drainage, Environmental Protection Department, 1994 (ProPECC PN1/94), construction phase mitigation measures shall include the following: <u>Construction Runoffs and Site Drainage</u> • At the start of the site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilities.	To minimise water quality impact from construction site runoffs and general construction activities	Contractor	All construction sites where practicable	Construction stage	<>

EIA Ref.	EM&A Log Ref* / ERR Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		The design of the temporary on-site drainage system will be undertaken by the Contractor prior to the commencement of construction. • The dikes or embankments for flood protection should be implemented around the boundaries of earthwork areas. Temporary ditches should be provided to facilitate the runoff discharge into an appropriate watercourse, through a site/sediment trap. The sediment/silt traps should be incorporated in the permanent drainage channels to enhance deposition rates. • The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94, which states that the retention time for silt/sand traps should be 5 minutes under maximum flow conditions. Sizes may vary depending upon the flow rate, but for a flow rate of 0.1 m^3/s, a sedimentation basin of $30m^3$ would be required and for a flow rate of 0.5 m^3/s the basin would be 150 m^3. The detailed design of the sand/silt traps shall be undertaken by the Contractor prior to the commencement of construction. • All exposed earth areas should be completed and vegetated as soon as possible after earthworks have been completed, and definitely, within 14 days of the cessation of earthworks where practicable. Exposed slope surfaces should be covered by tarpaulin or other means. • The overall slope of the site should be kept to a minimum to reduce the erosive potential of surface water flows, and all traffic areas and access roads protected by coarse stone ballast. An additional advantage from the use of crushed stone is the positive traction					

EIA Ref.	EM&A Log Ref* / ERR Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		gained during prolonged periods of inclement weather and the reduction of surface sheet flows. • All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operations at all times and particularly following rainstorms. Deposited silts and grits should be removed regularly and disposed of by spreading them evenly over stable, vegetated areas. • Measures should be taken to minimise the ingress of site drainage into excavations. If the excavation of trenches in wet periods is necessary, trenches should be dug and backfilled in short sections wherever practicable. Water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities. • Open stockpiles of construction materials (for example, aggregates, sand and fill material) of more than 50m^3 should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system. • Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers. • Precautions should be taken at any time of year when rainstorms are likely. Actions to be taken when a rainstorm is imminent or forecasted, and actions to be taken during or					

EIA Ref.	EM&A Log Ref* / ERR Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoffs during storm events, especially for areas located near steep slopes. • All vehicles and plant should be cleaned before leaving a construction site to ensure that no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facilities should be provided at every construction site exit where practicable. Wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains. • Oil interceptors should be provided in the drainage system downstream of any oil/fuel pollution sources. The oil interceptors should be emptied and cleaned regularly to prevent the release of oil and grease into the storm water drainage system after accidental spillage. A bypass should be provided for the oil interceptors to prevent flushing during heavy rain. • Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts. • All fuel tanks and storage areas should be provided with locks and sited in sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to					

EIA Ref.	EM&A Log Ref* / ERR Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		prevent spilled fuel oils from reaching nearby water sensitive receivers. • All the earth works should be conducted sequentially to limit the amount of construction runoffs generated from exposed areas during the wet season (April to September) as far as practicable. • Adopt best management practices					
S10.7.1	W2	<u>Tunnelling Works</u> • Uncontaminated discharge should pass through sedimentation tanks prior to off-site discharge. • The wastewater with a high concentration of suspended solids should be treated (e.g. by sedimentation tanks with sufficient retention time) before discharge. Oil interceptors would also be required to remove oil, lubricants and grease from the wastewater. • Direct discharge of the bentonite slurry (as a result of D-wall and bored tunnelling construction) is not allowed. The slurry should be reconditioned and reused wherever practicable. Temporary storage locations (typically a properly closed warehouse) should be provided on site for any unused bentonite that needs to be transported away after all the related construction activities have been completed. The requirements in ProPECC PN 1/94 should be adhered to in the handling and disposal of bentonite slurries.	To minimize construction water quality impact from tunnelling works	Contractor	All tunnelling portion	Construction stage	N/A
S10.7.1	W3	<u>Sewage Effluent</u> Portable chemical toilets and sewage holding tanks are recommended for handling the construction sewage generated by the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for their	To minimize water quality from sewage effluent	Contractor	All construction sites where practicable	Construction stage	√

EIA Ref.	EM&A Log Ref* / ERR Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		appropriate disposal and maintenance.					
S10.7.1	W4	<u>Groundwater from Contaminated Area in case contamination is found:</u> • No direct discharge of groundwater from contaminated areas is allowed. Prior to the excavation works within potentially contaminated areas, the groundwater quality should be reviewed with reference to the site investigation data in the EIA report for compliance and the Technical Memorandum on Standards for Effluents Discharged into Drainage on Sewerage Systems, Inland and Coastal Waters (TM-Water). The existence of prohibited substance should be confirmed. The review results should be submitted to EPD for examination if the review results indicate that the groundwater to be generated from the excavation works would be contaminated. The contaminated groundwater should be either properly treated in compliance with the requirements of the TM-Water or properly recharged into the ground. • If wastewater treatment is deployed, the wastewater treatment unit shall deploy suitable treatment process (e.g. oil interceptor / activated carbon) to reduce the pollution level to an acceptable standard and remove any prohibited substances (e.g. total petroleum hydrocarbon (TPH)) to undetectable range. All treated effluent from the wastewater treatment plant shall meet the requirements as stated in TM Water and should be discharged into the foul sewers. • If groundwater recharging wells are deployed, recharging wells should be installed as appropriate for recharging the contaminated groundwater back into the ground. The	To minimize groundwater quality impact from contaminated area	Contractor	Excavation areas where contamination is found.	Construction stage	N/A

EIA Ref.	EM&A Log Ref* / ERR Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		recharging wells should be selected at places where the groundwater quality will not be affected by the recharge operation as indicated in the Section 2.3 of TM-Water. The baseline groundwater quality shall be determined prior to the selection of the recharge wells. It is necessary to 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 the pollutant levels of ambient groundwater at the recharge well. Prior to recharge, any prohibited substances such as TPH products should be removed as necessary by installing the petrol interceptor. The Contractor should apply for a discharge licence under the Water Pollution Control Ordinance (WPCO) through the Regional Office of EPD for groundwater recharge operation or discharge of treated groundwater.					
S10.7.1	W7	In order to prevent accidental spillage of chemicals, the following is recommended: • All the tanks, containers, storage area should be bunded and the locations should be locked as far as possible from the sensitive watercourse and stormwater drains. • The Contractor should register as a chemical waste producer if chemical wastes would be generated. Storage of chemical waste arising from the construction activities should be stored with suitable labels and warnings. • Disposal of chemical wastes should be conducted in compliance with the requirements as stated in the Waste disposal	To minimize water quality impact from accidental spillage	Contractor	All construction sites where practicable	Construction stage	√

EIA Ref.	EM&A Log Ref* / ERR Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		(Chemical Waste) (General) Regulation.					
Waste Management (Construction Waste)							
S11.4.1.1	WM1	<u>On-site sorting of C&D (Construction and Demolition) material</u> • Geological assessment should be carried out by competent persons on site during excavation to identify materials which are not suitable to use as aggregate in structural concrete (e.g. volcanic rock, Aplite dyke rock, etc). Volcanic rock and Aplite dyke rock should be separated at the source sites as far as practicable and stored in the designated stockpile areas avoiding delivering them to crushing facilities. The crushing plant operator should also be reminded to set up measures to prevent unsuitable rock from being ended up at concrete batching plants and turned into concrete for structural use. Details regarding control measures at source sites and crushing facilities should be submitted by the Contractors for the Engineer to review and agree. In addition, site records should also be kept for the types of rock materials excavated. The traceability of delivery will be ensured via the implementation of Trip Ticket System and enforcement by site supervisory staff as stipulated under DEVB TC(W) No. 6/2010 for tracking of the correct delivery to the rock crushing facilities for processing into aggregates. Alternative disposal option for the reuse of volcanic rock and Aplite Dyke rock, etc should also be explored.	Separation of unsuitable rock from ending up at Concrete batching plants and be turned into concrete for structural use	Contractor	All construction sites	Construction stage	N/A
S11.5.1	WM2	<u>Construction and Demolition (C&D) Material</u> • Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement;	Good site practice to minimize waste generation and recycle C&D materials as far as	Contractor	All construction sites	Construction stage	N/A

EIA Ref.	EM&A Log Ref* / ERR Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		• Carry out on-site sorting; • Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate; • Adopt 'Selective Demolition' technique to demolish the existing structures and facilities with a view to recovering broken concrete effectively for recycling purpose, where possible; • Implement a trip-ticket system for each works contract to ensure that the disposal of C&D materials are properly documented and verified; • Implement an enhanced Waste management Plan similar to ETWBTC (Works) No. 19/2005 – "Environmental Management on Construction Sites" to encourage on-site sorting of C&D materials and minimize waste generation during the course of construction. • Disposal of the C&D materials to any sensitive locations such as agricultural lands, etc. should be avoided. The Contractor shall propose the final disposal sites to the Project Proponent and get his approval before implementation	practicable so as to reduce the amount for final disposal				
S11.5.1	WM3	<u>C&D Waste</u> • Standard formwork or pre-fabrication should be used as far as practicable in order to minimise the arising of C&D materials. The use of more durable formwork or plastic facing for the construction works should be considered. Use of wooden hoardings should not be used. Metal hoarding should be used to enhance the possibility of recycling. The purchase of construction materials will be carefully planned in order to avoid over ordering and wastage.	Good site practice to minimize waste generation and recycle C&D materials as far as practicable so as to reduce the amount for final disposal	Contractor	All construction sites	Construction stage	N/A

EIA Ref.	EM&A Log Ref* / ERR Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		• The Contractor should recycle as much of the C&D materials as possible on-site. Public fill and C&D waste should be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. Where practicable, concrete and masonry can be crushed and used as fill. Steel reinforcement bar can be used by scrap steel mills. Different areas of the sites should be considered for such segregation and storage.					
S11.5.1	WM4	<u>General Refuse</u> • General refuse generated on-site should be stored in enclosed bins or compaction units separately from construction and chemical wastes. • A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimize odour, pest and litter impacts. Burning of refuse on construction sites is prohibited by law. • Aluminium cans are often recovered from the waste stream by individual collectors if they are segregated and made easily accessible. Separate labelled bins for their deposit should be provided if feasible. • Office wastes can be reduced through the recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme should be considered by the Contractor.	Minimize the production of general refuse and minimise odour, pest and litter impacts	Contractor	All construction sites	Construction stage	√
S11.5.1	WM7	<u>Chemical Waste</u> • Chemical waste as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, that is produced should	Control the chemical waste and ensure proper storage, handling and disposal.	Contractor	All construction sites	Construction stage	N/A

EIA Ref.	EM&A Log Ref* / ERR Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. • Containers used for the storage of chemical wastes should be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed. They should have a capacity of less than 450 litres unless the specification has been approved by the EPD. A label in English and Chinese should be displayed in accordance with instructions prescribed in Schedule 2 of the regulation. • The storage area for chemical wastes should be clearly labelled and used solely for the storage of chemical waste; enclosed on at least 3 sides. It should also have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20 % of the total volume of waste stored in that area, whichever is the greatest. It should have adequate ventilation and be covered to prevent rainfall entering; and arranged so that incompatible materials are adequately separated. • Disposal of chemical waste should be via a licensed waste collector; to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Centre (which also offers a chemical waste collection service and can supply the necessary storage containers); or to a reuser of the waste, under the approval from the EPD.				

APPENDIX I REGULAR NOISE MONITORING RESULTS

Appendix I - Regular Noise Monitoring Results

Station NMS-CA-7 Skytower Tower 2

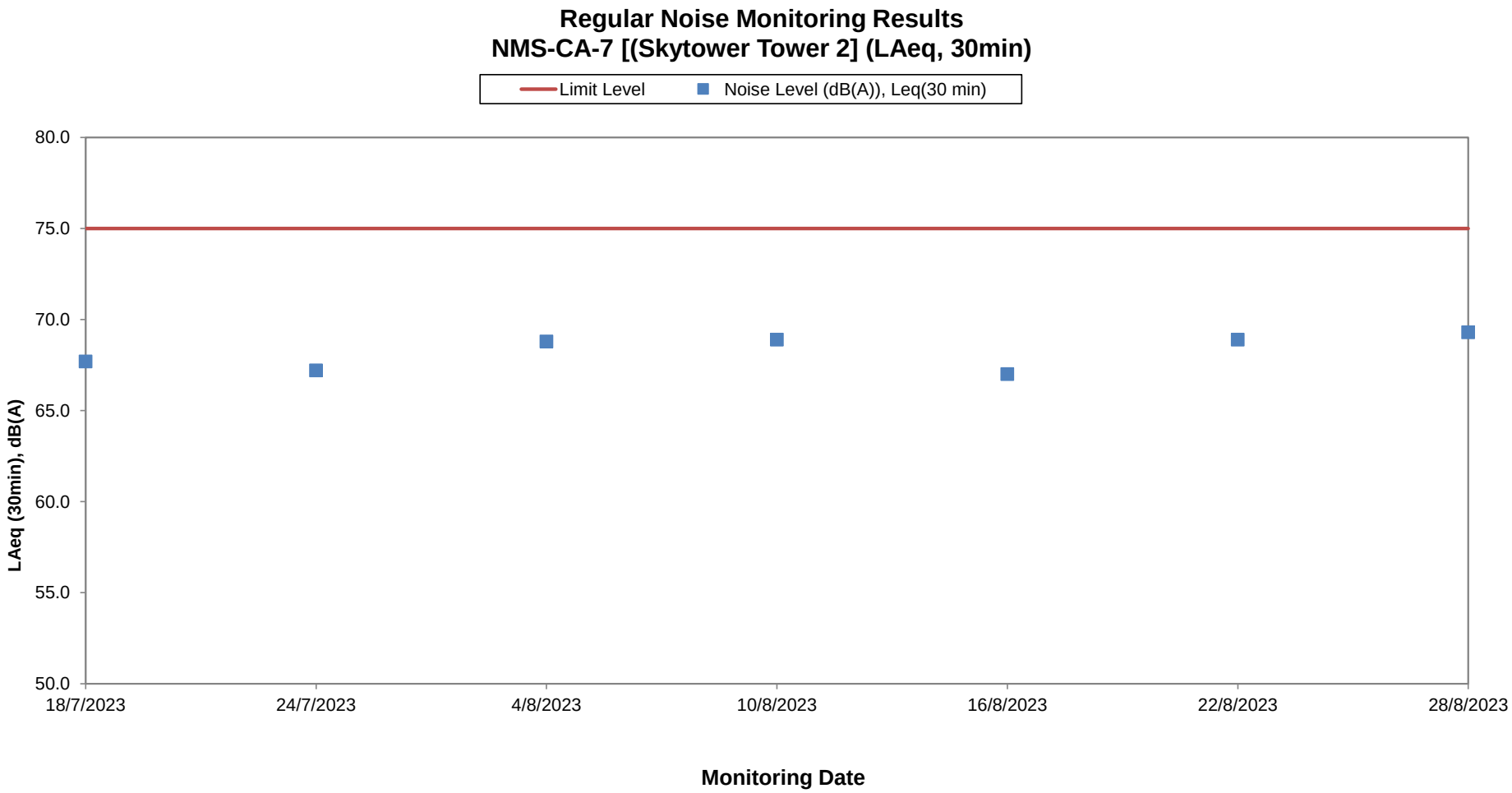
Date	Start Time	End Time	Weather	Measured Noise level (dB(A)), L_{Aeq}(30 min)	Baseline (dB(A)), L_{Aeq}(30 min)	Corrected LAeq(dBA) [a]	Major Construction Noise Source(s) Observed	Other Noise Source(s) Observed	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
4-Aug-23	8:36	9:06	Sunny	68.8	70.0	-(b)	Excavator	Traffic noise	31	0.3	NL-52 00643049	CAL200 15678
10-Aug-23	9:08	9:38	Cloudy	68.9	70.0	-(b)	Excavator	Traffic noise	31	0.5	NL-52 00643049	CAL200 15678
16-Aug-23	8:17	8:47	Fine	67.0	70.0	-(b)	-	Traffic noise	30	0.5	NL-52 00643049	CAL200 15678
22-Aug-23	9:12	9:42	Fine	68.9	70.0	-(b)	Excavator	Traffic noise	30	0.5	NL-52 00643049	CAL200 15678
28-Aug-23	8:25	8:55	Cloudy	69.3	70.0	-(b)	-	Traffic noise	28	0.5	NL-52 00643049	CAL200 15678

Remarks:

(a) The Measured LAeq is corrected against the corresponding Baseline Level.

(b) No correction was made as the measured noise levels were equal to or below the baseline noise levels.

Appendix I - Regular Noise Monitoring Results



Remark:
- The presented noise level has been corrected, if the measured noise level is higher than the baseline noise level.

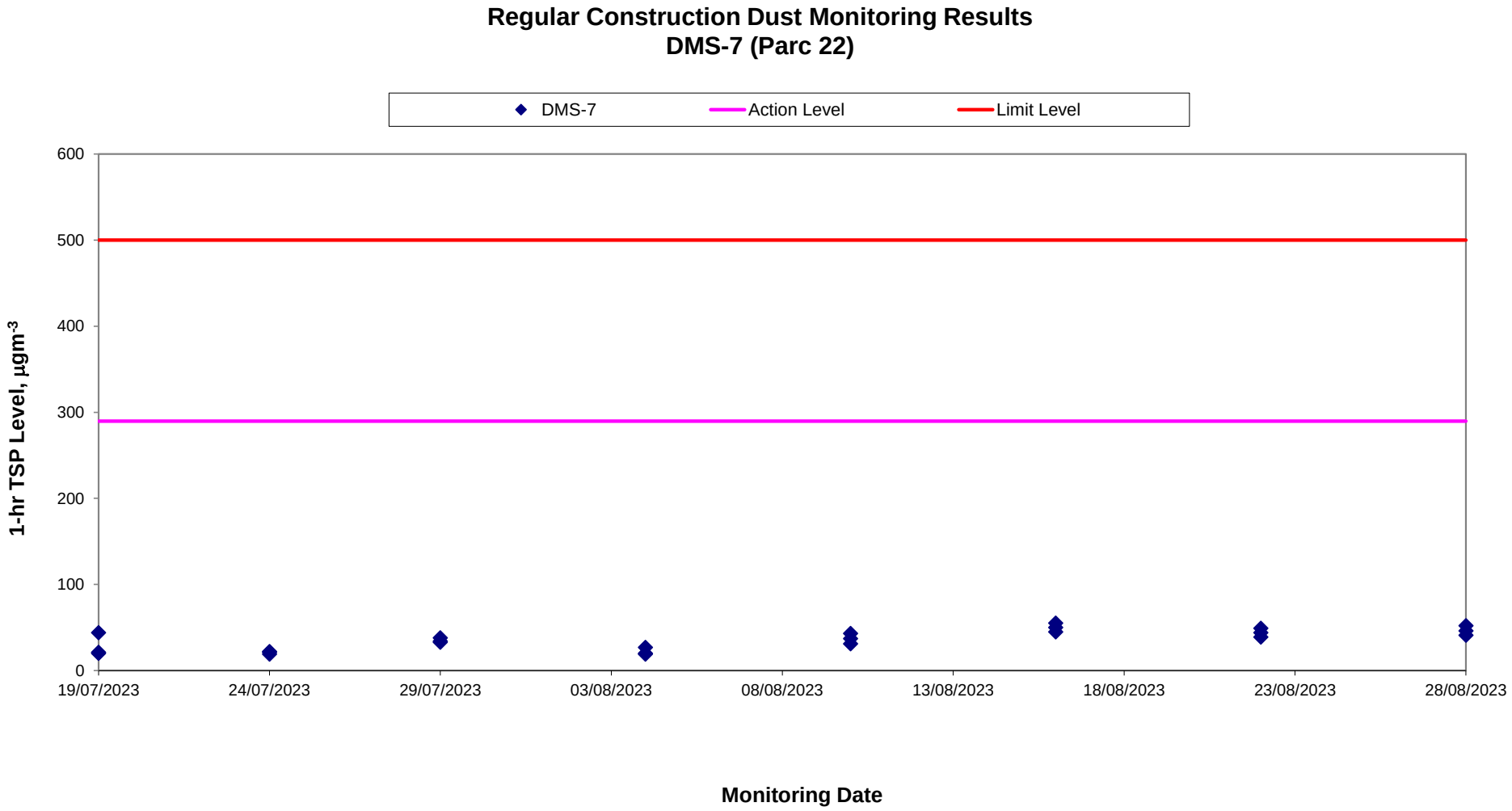
APPENDIX J REGULAR DUST MONITORING RESULTS

Appendix J - Construction Dust Monitoring Results

Station DMS-7 Parc 22

Start		Finish		Weather	Sampling Time	Measurement			Action Level	Limit Level	Observations / Remarks	Dust Meter Model / ID
Date	Time	Date	Time		(hrs)	1st Hour	2nd Hour	3rd Hour	(µg/m3)	(µg/m3)		
4-Aug-23	8:24	4-Aug-23	11:24	Sunny	3.00	20	27	19	289.7	500	-	Sibata 326285
10-Aug-23	9:00	10-Aug-23	12:00	Cloudy	3.00	31	37	43	289.7	500	-	Sibata 326285
16-Aug-23	8:05	16-Aug-23	11:05	Fine	3.00	45	50	55	289.7	500	-	Sibata 326285
22-Aug-23	10:25	22-Aug-23	13:25	Fine	3.00	39	44	49	289.7	500	-	Sibata 326285
28-Aug-23	8:20	28-Aug-23	11:20	Cloudy	3.00	41	46	52	289.7	500	-	Sibata 326285

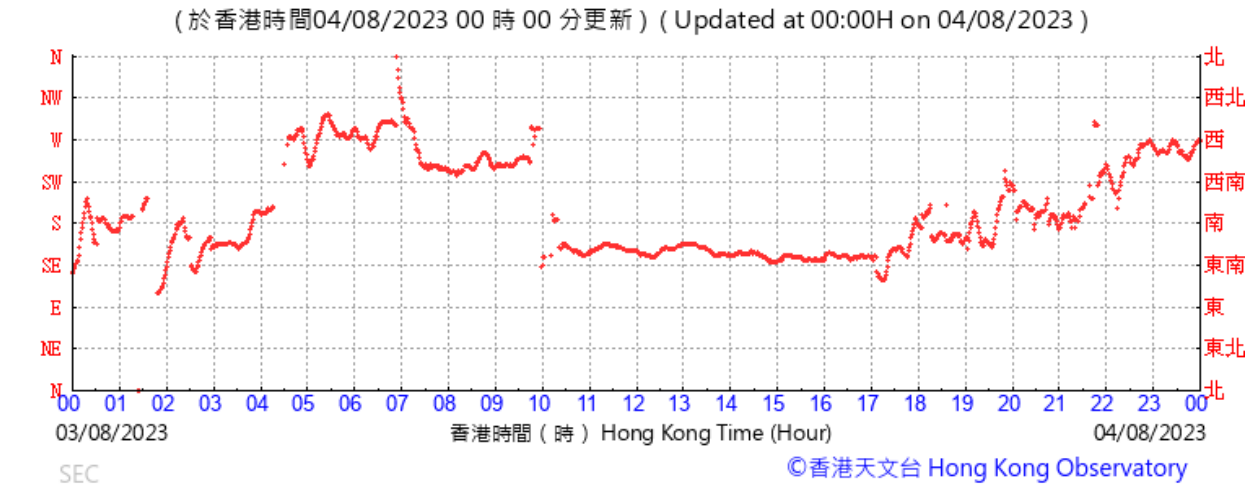
Appendix J - Construction Dust Monitoring Results



APPENDIX K WIND DATA FROM HONG KONG OBSERVATORY

Appendix K – Wind data obtained from the Kai Tak meteorological station from the Hong Kong Observatory

Wind Direction:



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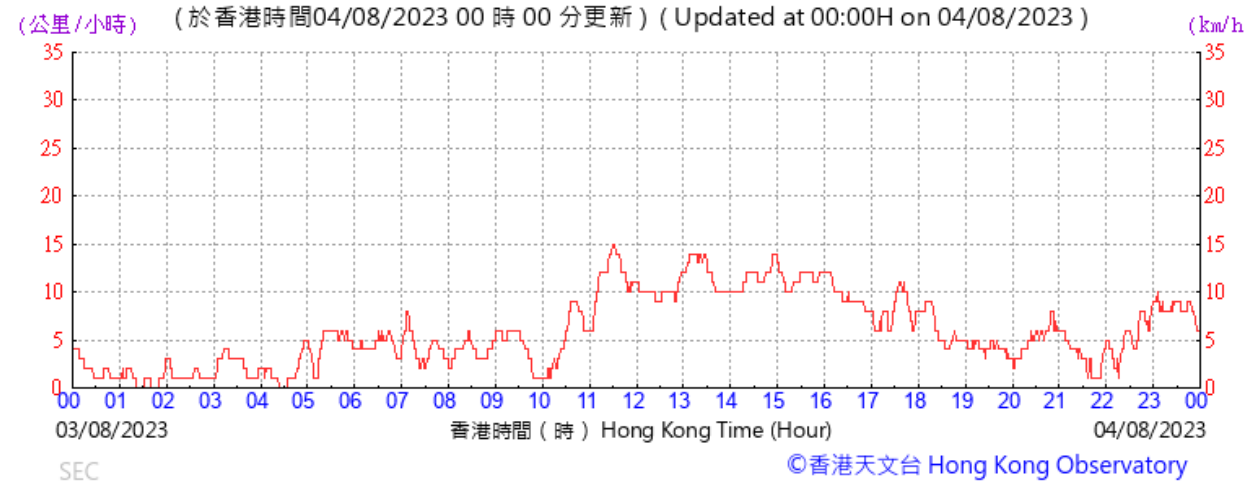

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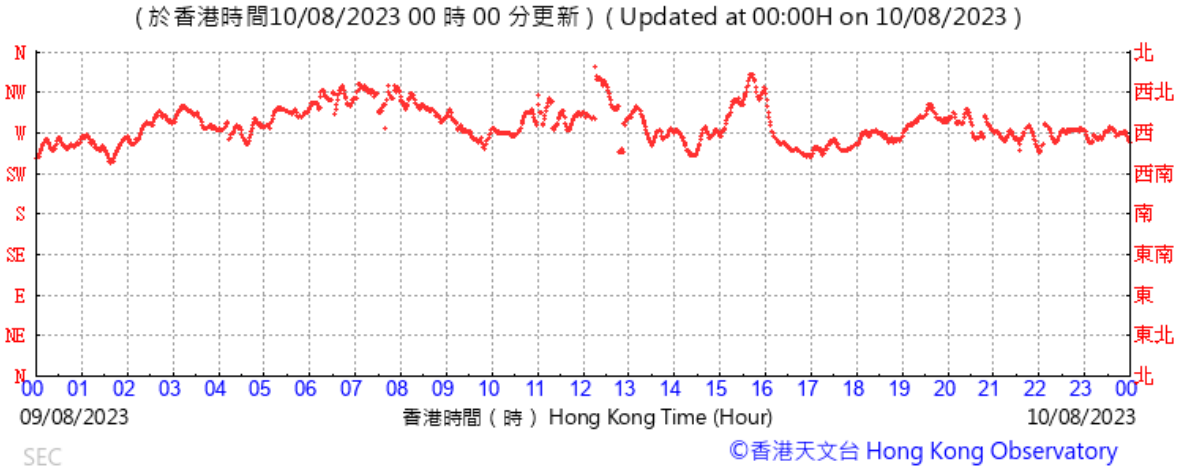

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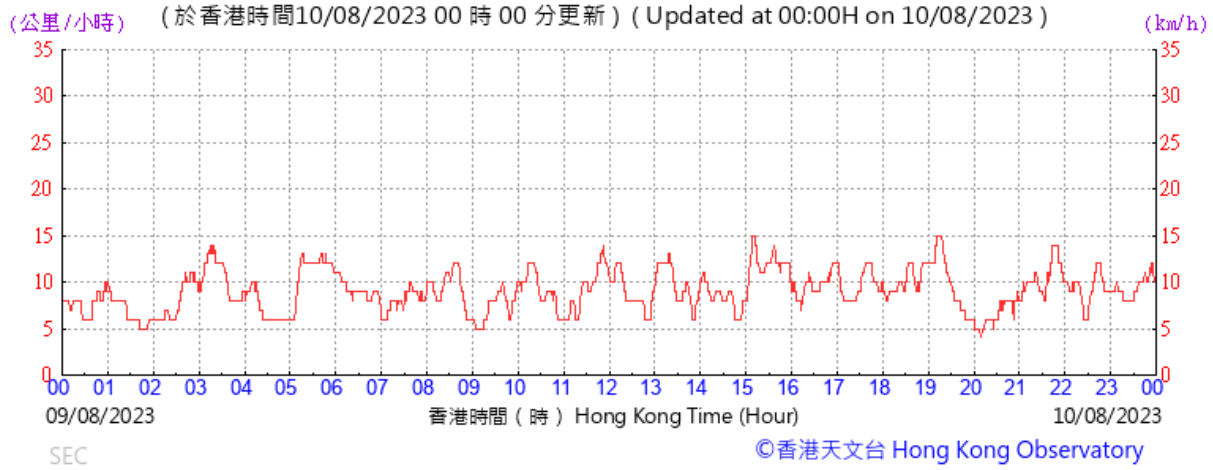

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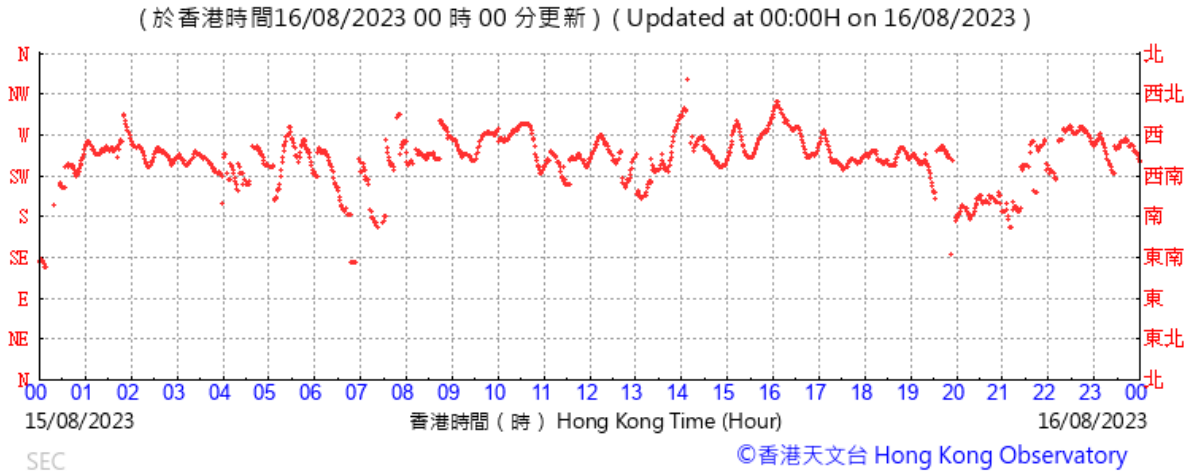
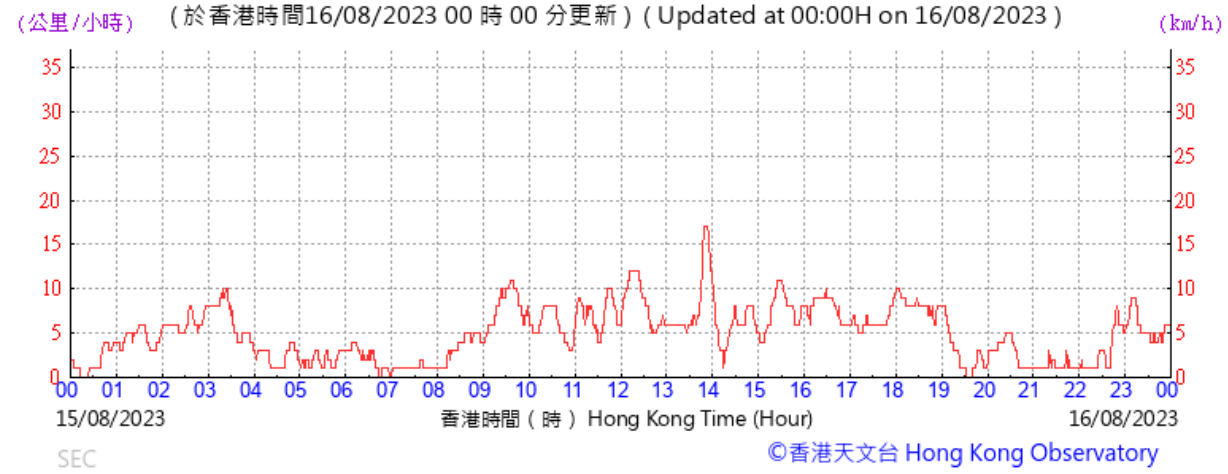
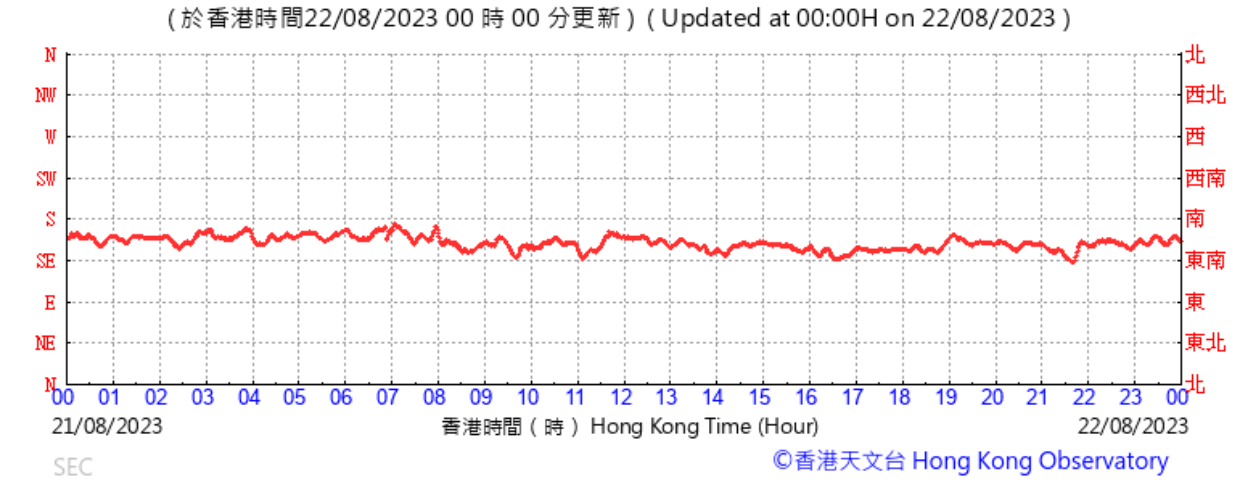


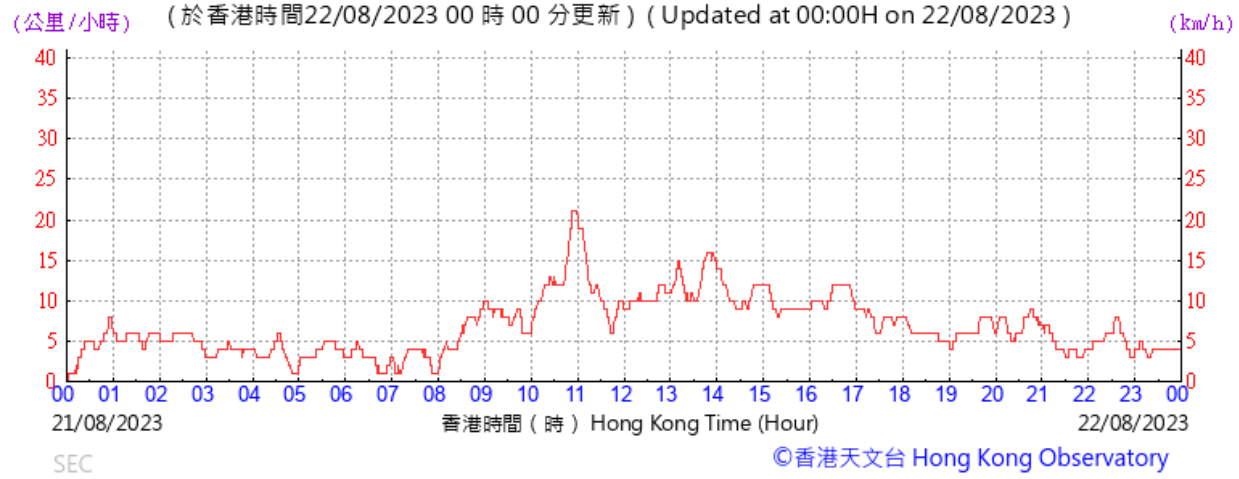
Wind Speed:



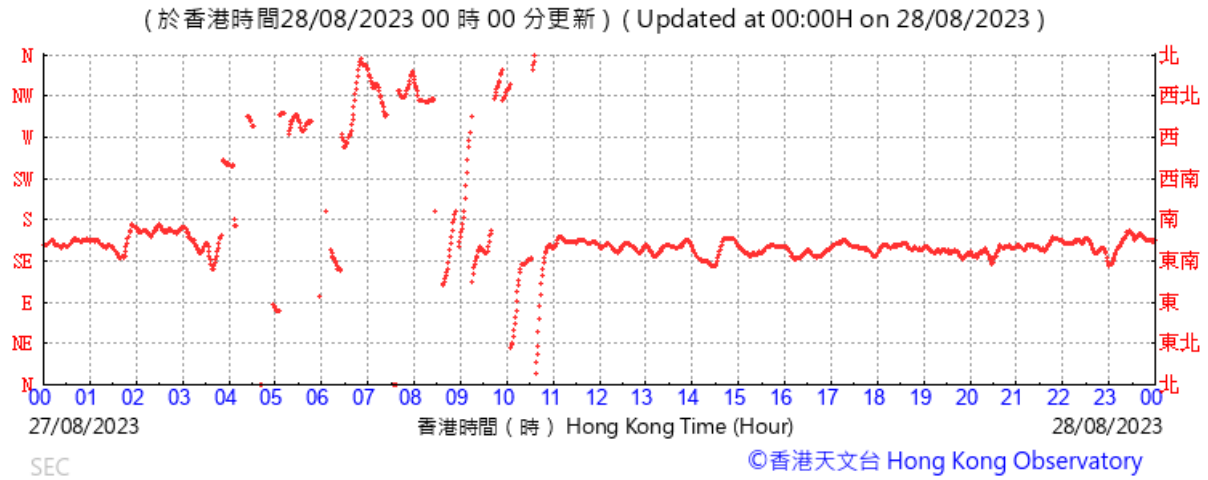
Wind Direction:



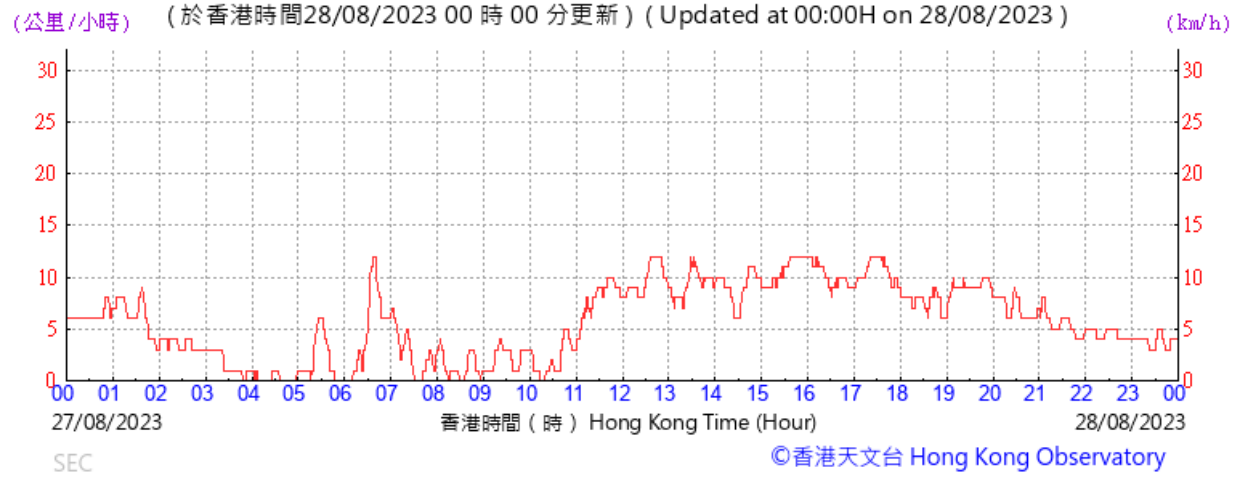
Wind Speed:



Wind Direction:



Wind Speed:



APPENDIX L WASTE FLOW TABLE

CONTRACT 11286 –
PEDESTRIAN LINK CONNECTING PAK TAI STREET AND SUNG WONG TOI STATION

Month	Actual Quantities of Inert C&D Material Generated						Actual Quantities of Non-Inert C&D Material Generated				
	Total Quantity Generated	**Hard Rock and Large Broken Concrete**	**Reused in the Contract**	**Reused in other Projects**	**Disposed as Public Fill**	**Imported Fill**	**Metal (Note 1)**	**Paper / carboard packing (Note 1)**	**Plastic (Note 1,2)**	**Chemical Waste**	**Other, e.g. general refuse**
	(in '000 m^3)	**(in '000 m^3)**	**(in '000 m^3)**	**(in '000 m^3)**	**(in '000m^3)**	**(in '000m^3)**	**(in '000 kg)**	**(in '000 kg)**	**(in '000 kg)**	**(in '000 kg)**	**(in '000kg)**
Jan	/	/	/	/	/	/	/	/	/	/	/
Feb	/	/	/	/	/	/	/	/	/	/	/
Mar	/	/	/	/	/	/	/	/	/	/	/
Apr	/	/	/	/	/	/	/	/	/	/	/
May	/	/	/	/	/	/	/	/	/	/	/
Jun	/	/	/	/	/	/	/	/	/	/	/
Jul	0	0	0	0	0	0	0	0	0	0	0
Aug	0.12	0	0	0	0.12	0	0	0	0	0	0
Sep											
Oct											
Nov											
Dec											
Grand Total	0.12	0	0	0	0.12	0	0	0	0	0	0

Year	Actual Quantities of Inert C&D Material Generated						Actual Quantities of Non-Inert C&D Material Generated				
	Total Quantity Generated	**Hard Rock and Large Broken Concrete**	**Reused in the Contract**	**Reused in other Projects**	**Disposed as Public Fill**	**Imported Fill**	**Metal (Note 1)**	**Paper / carboard packing (Note 1)**	**Plastic (Note 1,2)**	**Chemical Waste**	**Other, e.g. general refuse**
	(in '000 m^3)	**(in '000 m^3)**	**(in '000 m^3)**	**(in '000 m^3)**	**(in '000m^3)**	**(in '000m^3)**	**(in '000 kg)**	**(in '000 kg)**	**(in '000 kg)**	**(in '000 kg)**	**(in '000kg)**
2023	0.12	0	0	0	0.12	0	0	0	0	0	0
2024											
2025											
2026											

Note: (1) Metal, paper & platic were collected by recycler
(2) Plastic refer to plastic bottles / containers, plastic sheets / foam from packaging
(3) Use the conversion factor, density of general refues (0.75 tonne / m3), soft inert C&D materials (2 tonnes/m3) and hard rocks / big boulders (2.5 tonne/m3).
Also, 1 full load of dumping truck being equivalent to 6.5 m3 by volume
(4) 1 tonne = 1000 kg

APPENDIX M ENVIRONMENTAL COMPLAINT, ENVIRONMENTAL SUMMON AND PROSECUTION LOG

Appendix M Environmental Complaint, Environmental Summon and Prosecution Log

Reporting Period	Number of Complaints in Reporting Period	Number of Summons/Prosecutions in Reporting Period
15 – 30 July 2023	0	0
August 2023	0	0
Overall Total	0	0

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